

In the opinion of Bond Counsel for the Series 2013 Bonds and the Series 2013A Tax-Exempt Subordinate Notes, based upon an analysis of laws, regulations, rulings and judicial decisions, and assuming continuing compliance with certain covenants made by the Authority, and subject to the conditions and limitations set forth herein under the caption "TAX MATTERS," interest on the Series 2013 Bonds and the Series 2013A Tax-Exempt Subordinate Notes is excludible from gross income for Federal income tax purposes and is not a specific item of tax preference for purposes of the Federal individual or corporate alternative minimum taxes. In the opinion of Bond Counsel for the Series 2013B Taxable Subordinate Notes, interest on the Series 2013B Taxable Subordinate Notes is includible in gross income for Federal income tax purposes. Interest on the Series 2013 Obligations is exempt from Commonwealth income tax and the Series 2013 Obligations are exempt from ad valorem taxation by the Commonwealth and any of its political subdivisions.



KENTUCKY PUBLIC TRANSPORTATION INFRASTRUCTURE AUTHORITY

\$275,670,369.25

First Tier Toll Revenue Bonds, Series 2013 (Downtown Crossing Project)

consisting of

\$174,865,000
First Tier Toll Revenue Bonds,
Series 2013A
(Current Interest Bonds)

\$27,476,179.95
First Tier Toll Revenue Bonds,
Series 2013B
(Capital Appreciation Bonds)

\$73,329,189.30
First Tier Toll Revenue Bonds,
Series 2013C
(Convertible Capital Appreciation Bonds)

and

\$452,200,000

Subordinate Toll Revenue Bond Anticipation Notes, Series 2013 (Downtown Crossing Project)

consisting of

\$426,045,000
Subordinate Toll Revenue Bond Anticipation Notes,
Tax-Exempt Series 2013A

\$26,155,000
Subordinate Toll Revenue Bond Anticipation Notes,
Taxable Series 2013B

Dated: Date of Delivery

Due: Shown on the inside cover page

The Kentucky Public Transportation Infrastructure Authority (the "Authority") will issue three series of First Tier Toll Revenue Bonds (the "Series 2013 Bonds") and two series of Subordinate Toll Revenue Bond Anticipation Notes (the "Series 2013 Subordinate Notes") in order to finance a portion of the costs of the Downtown Crossing Segment (as herein defined). The Series 2013 Bonds and the Series 2013 Subordinate Notes are referred to collectively herein as the "Series 2013 Obligations."

Each subseries of the Series 2013 Obligations will be issued under the General Trust Indenture, dated as of December 1, 2013 (the "General Indenture"), and a separate supplemental trust indenture relating to each subseries, each by and between the Authority and The Bank of New York Mellon Trust Company, N.A., as the trustee (the "Trustee"). The General Indenture and the supplemental indentures are collectively referred to herein as the "Indenture."

The Series 2013A Bonds and the Series 2013 Subordinate Notes will be issued as current interest bonds or notes, as the case may be, and offered in authorized denominations of \$5,000 or integral multiples thereof. Interest on the Series 2013A Bonds and the Series 2013 Subordinate Notes will accrue from their date of issuance and be paid semi-annually on each January 1 and July 1, commencing July 1, 2014.

The Series 2013B Bonds will be issued as capital appreciation bonds and offered in authorized denominations of \$5,000 in maturity amount or any integral multiples thereof. Interest on the Series 2013B Bonds will not be paid currently, but will accrete from the date of issuance and be compounded semi-annually on each January 1 and July 1, commencing January 1, 2014, and will be paid as part of the Accreted Value (as defined herein) payable at maturity.

The Series 2013C Bonds will be issued as convertible capital appreciation bonds and will be offered in authorized denominations of \$5,000 in Accreted Value at July 1, 2023 (the "Conversion Date") or any integral multiples thereof. Prior to the Conversion Date, interest on the Series 2013C Bonds will not be paid currently, but will accrete from the date of issuance and be compounded semi-annually on each January 1 and July 1, commencing January 1, 2014. After the Conversion Date, interest on the Series 2013C Bonds will be paid semi-annually on each January 1 and July 1, commencing January 1, 2024.

The Series 2013 Obligations will be issued as fully registered bonds or notes, as the case may be, registered in the name of Cede & Co., as nominee of The Depository Trust Company, New York, New York ("DTC"), to which payments of principal, Accreted Value and interest will be made. Purchasers will acquire beneficial interests in the Series 2013 Obligations in book-entry form only. DTC will remit such payments to its participants who will be responsible for remittance to beneficial owners. See "THE SERIES 2013 OBLIGATIONS – Book-Entry Only System."

As more fully described herein, proceeds of the Series 2013 Obligations will be used to (i) pay a portion of the costs of the Downtown Crossing Segment, (ii) fund the Proceeds Account of the First Tier Common Debt Service Reserve Account for the Series 2013 Bonds at the requirement therefor and a TIFIA Bonds Series Debt Service Reserve Account at the requirement therefor, (iii) pay interest capitalized on the Series 2013 Bonds to and including January 1, 2018, and on the Series 2013 Subordinate Notes to and including their maturity date, (iv) fund certain operating reserves relating to the Downtown Crossing Segment and (v) pay the costs of issuance of the Series 2013 Obligations.

Except to the extent payable from the proceeds of a Series of Bonds and any other moneys available for such payment, the Series 2013 Bonds and any additional First Tier Toll Revenue Bonds issued by the Authority under the General Indenture are payable from, and secured by a first pledge of, the Trust Estate, as more fully described herein, which includes the Pledged Receipts, as more fully described herein. The Authority's 50% share of the toll revenues derived from the System ("Authority Toll Revenues") constitute the principal portion of the "Pledged Receipts."

Except to the extent payable from the proceeds of a Series of Bonds and any other moneys available for such payment, the Series 2013 Subordinate Notes and any additional Subordinate Bonds issued by the Authority under the General Indenture are payable from, and secured by a pledge of, the Trust Estate, subordinate to the payment of First Tier, Second Tier and Third Tier Bonds, including the Series 2013 Bonds, issued by the Authority under the General Indenture. Capitalized interest on the Series 2013 Subordinate Notes to maturity has been funded from the proceeds of the Series 2013 Subordinate Notes. It is expected that principal on the Series 2013 Subordinate Notes at maturity will be paid from a single disbursement made to the Authority, subject to the satisfaction of certain conditions, under the TIFIA Loan Agreement (as defined herein). The repayment by the Authority of draws under the TIFIA Loan Agreement will be secured by the issuance of Third Lien Bonds as described herein, which are generally subordinate to the Series 2013 Bonds.

The Series 2013 Obligations will not be subject to acceleration upon an event of default or otherwise. The Series 2013 Bonds are subject to optional and mandatory redemption prior to maturity, as more fully described herein. See "THE SERIES 2013 OBLIGATIONS – Redemption Provisions." The Series 2013 Subordinate Notes are not subject to redemption prior to maturity.

As more fully described herein, the Transportation Cabinet has, under the Lease (as defined herein), agreed to request appropriations from the General Assembly of the Commonwealth to (i) complete the Downtown Crossing Segment if amounts available that are described herein are not sufficient and (ii) make certain rent payments to fund certain deficiencies in the Tolling from the General Assembly of the Commonwealth O&M Reserve Fund, the General O&M Reserve Fund and the M&R Reserve Fund under the Indenture. The General Assembly of the Commonwealth is not obligated to make such appropriations.

The Series 2013 Obligations shall not constitute a debt of the Commonwealth of Kentucky (the "Commonwealth") or any of its political subdivisions, or a pledge of the faith and credit of the Commonwealth or any of its political subdivisions. Neither the Commonwealth nor the Authority shall be obligated to pay the Series 2013 Obligations or the interest thereon, other than from the Trust Estate pledged therefor, and neither the faith and credit nor the taxing power of the Commonwealth is pledged to the payment of the principal of or the interest on the Series 2013 Obligations.

The Series 2013 Obligations are offered when, as and if issued and received by the Underwriters. Legal matters with respect to the issuance of the Series 2013 Obligations are subject to the approval of Bond Counsel to the Authority, Peck, Shaffer & Williams LLP, Covington, Kentucky. Certain legal matters will be passed upon for the Authority by its counsel, Wyatt, Tarrant & Combs, LLP, Louisville, Kentucky, and for the Underwriters by their counsel, Nixon Peabody LLP, New York, New York. It is expected that the Series 2013 Obligations will be available for delivery in book-entry form only through the facilities of DTC in New York, New York, on or about December 20, 2013.

Citigroup

**Goldman, Sachs & Co.
J.J.B. Hilliard, W.L. Lyons, LLC
First Kentucky Securities Corp.**

**Raymond James
Fifth Third Securities**

**J.P. Morgan
PNC Capital Markets LLC
Sterne, Agee & Leach, Inc.**

This cover page contains certain information for quick reference only. It is not a summary of this Official Statement. Investors must read the entire Official Statement, including the Appendices hereto, to obtain information essential to making an informed investment decision, paying particular attention to the matters discussed in the sections entitled "INVESTMENT CONSIDERATIONS."

\$275,670,369.25
KENTUCKY PUBLIC TRANSPORTATION INFRASTRUCTURE AUTHORITY
First Tier Toll Revenue Bonds, Series 2013 (Downtown Crossing Project)

\$174,865,000 First Tier Toll Revenue Bonds, Series 2013A
(Downtown Crossing Project)
(Current Interest Bonds)

\$76,975,000 5.75% Term Bonds due July 1, 2049, Yield 5.950%, CUSIP No.† 491397AB1
 \$97,890,000 6.00% Term Bonds due July 1, 2053, Yield 6.125%, CUSIP No.† 491397AC9

\$27,476,179.95 First Tier Toll Revenue Bonds, Series 2013B
(Downtown Crossing Project)
(Capital Appreciation Bonds)

<u>Maturity Date</u> <u>(July 1)</u>	<u>Initial</u> <u>Principal Amount</u>	<u>Accreted Value</u> <u>Due at Maturity</u>	<u>Approximate</u> <u>Yield to Maturity</u>	<u>Price</u>	<u>CUSIP No.</u> †
2019	\$ 451,914.30	\$ 555,000	3.750%	81.426%	491397AN5
2020	3,005,167.20	3,955,000	4.250	75.984	491397AD7
2021	4,196,100.00	5,910,000	4.600	71.000	491397AE5
2022	4,793,541.00	7,305,000	5.000	65.620	491397AF2
2023	5,038,307.40	8,180,000	5.150	61.593	491397AG0
2025	533,521.20	1,020,000	5.700	52.306	491397AR6
2026	1,078,566.30	2,235,000	5.900	48.258	491397AH8
2027	1,492,411.15	3,365,000	6.100	44.351	491397AJ4
2028	1,607,016.30	3,930,000	6.250	40.891	491397AK1
2029	1,484,793.55	3,935,000	6.375	37.733	491397AL9
2030	1,365,085.50	3,930,000	6.500	34.735	491397AM7
2031	1,258,975.50	3,930,000	6.600	32.035	491397AP0
2032	1,170,780.55	3,935,000	6.650	29.753	491397AQ8

† Copyright, American Bankers Association. CUSIP data herein are provided by Standard & Poor's CUSIP Service Bureau, a division of The McGraw-Hill Companies, Inc. The CUSIP numbers listed above are being provided solely for the convenience of holders only at the time of issuance of the Series 2013 Obligations and the Authority and the Underwriters do not make any representation with respect to such numbers or undertake any responsibility for their accuracy now or at any time in the future. The CUSIP number for a specific maturity is subject to being changed after the issuance of the Series 2013 Obligations as a result of various subsequent actions including, but not limited to, a refunding in whole or in part of such maturity or as a result of the procurement of secondary market portfolio insurance or other similar enhancement by investors that is applicable to all or a portion of certain maturities of the Series 2013 Obligations.

**\$73,329,189.30 First Tier Toll Revenue Bonds, Series 2013C
(Downtown Crossing Project)
(Convertible Capital Appreciation Bonds)**

Maturity Date (July 1)	Initial Principal Amount	Accreted Value as of July 1, 2023 and Amount Due at Maturity	Rate	Price	CUSIP No.[†]
2033	\$ 3,168,107.25	\$ 5,775,000	6.400%	54.859%	491397AV7
2034	3,415,605.30	6,255,000	6.450	54.606	491397AW5
2039*	22,621,792.75	42,005,000	6.600	53.855	491397AT2
2043*	27,242,683.50	51,290,000	6.750	53.115	491397AU9
2046*	16,881,000.50	32,150,000	6.875	52.507	491397AS4

*Term Bond

\$452,200,000

**KENTUCKY PUBLIC TRANSPORTATION INFRASTRUCTURE AUTHORITY
Subordinate Toll Revenue Bond Anticipation Notes, Series 2013 (Downtown Crossing Project)**

**\$426,045,000 Subordinate Toll Revenue Bond Anticipation Notes, Tax-Exempt Series 2013A
(Downtown Crossing Project)**

\$4,700,000 3.00% Series 2013A Notes due July 1, 2017, Price: 102.960%, CUSIP No.[†] 491397AX3
\$421,345,000 5.00% Series 2013A Notes due July 1, 2017, Price: 109.728%, CUSIP No.[†] 491397AY1

**\$26,155,000 Subordinate Toll Revenue Bond Anticipation Notes, Taxable Series 2013B
(Downtown Crossing Project)**

\$26,155,000 3.22% Series 2013B Notes due July 1, 2017, Price: 100%, CUSIP No.[†] 491397AA3

[†] Copyright, American Bankers Association. CUSIP data herein are provided by Standard & Poor's CUSIP Service Bureau, a division of The McGraw-Hill Companies, Inc. The CUSIP numbers listed above are being provided solely for the convenience of holders only at the time of issuance of the Series 2013 Obligations and the Authority and the Underwriters do not make any representation with respect to such numbers or undertake any responsibility for their accuracy now or at any time in the future. The CUSIP number for a specific maturity is subject to being changed after the issuance of the Series 2013 Obligations as a result of various subsequent actions including, but not limited to, a refunding in whole or in part of such maturity or as a result of the procurement of secondary market portfolio insurance or other similar enhancement by investors that is applicable to all or a portion of certain maturities of the Series 2013 Obligations.

**LOUISVILLE, KENTUCKY METROPOLITAN AREA
OHIO RIVER BRIDGES SYSTEM AREA REGIONAL MAP**



Downtown Crossing

1. Kennedy Interchange (KYTC Maintenance Post-Construction)
2. New I-65 Ohio River Bridge & Existing Kennedy Bridge (KYTC Maintenance Post-Construction)
3. Indiana I-65 Approach (INDOT Maintenance Post-Construction)

East End Crossing

- 4A. Kentucky Approach (KYTC Maintenance Post-Construction)
- 4B. Kentucky Approach (INDOT Maintenance Post-Construction)
5. New Ohio River Bridge (INDOT Maintenance Post-Construction)
6. Indiana Approaches (INDOT Maintenance Post-Construction)

KENTUCKY PUBLIC TRANSPORTATION INFRASTRUCTURE AUTHORITY

200 Mero Street
Frankfort, Kentucky 40622

MEMBERS OF THE AUTHORITY

<u>Member</u>	<u>Expiration of Term</u>
Mike Hancock, Chair	<i>Ex-Officio</i>
Charles Buddeke*	<i>Ex-Officio</i>
Lori Flanery, Vice Chair	<i>Ex-Officio</i>
Charlie W. Johnson, Secretary	October 1, 2015
Steve Austin	October 1, 2017
Don C. Kelly	October 1, 2016
Joseph Hubert Mattingly	October 1, 2017
Dana B. Mayton	October 1, 2016
Glenn B. Mitchell	October 1, 2017
Michael Robert Walker	October 1, 2015
James Tyler Ward	October 1, 2017

* Non-voting member

CONSULTANTS

Bond Counsel Peck, Shaffer & Williams LLP
Financial Advisor Public Financial Management, Inc.
Consulting Engineer Community Transportation Solutions
Traffic and Revenue Consultant Steer Davies Gleave

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This Official Statement is provided in connection with the issuance of the Series 2013 Obligations referred to herein and may not be reproduced or be used, in whole or in part, for any other purpose. The information contained in this Official Statement has been derived from information provided by the Authority and other sources which are believed to be reliable. The Underwriters have provided the following sentence for inclusion in this Official Statement. The Underwriters have reviewed the information in this Official Statement in accordance with, and as part of, their respective responsibilities to investors under the federal securities law as applied to the facts and circumstances of this transaction, but the Underwriters do not guarantee the accuracy or completeness of such information.

If and when included in this Official Statement, the words “expects,” “forecasts,” “projects,” “intends,” “anticipates,” “estimates” and analogous expressions are intended to identify forward-looking statements as defined in the Securities Act of 1933, as amended, and any such statements inherently are subject to a variety of risks and uncertainties that could cause actual results to differ materially from those projected. Such risks and uncertainties include, among others, general economic and business conditions, changes in political, social and economic conditions, regulatory initiatives and compliance with governmental regulations, litigation and various other events, conditions and circumstances, many of which are beyond the control of the Authority. These forward-looking statements speak only as of the date of this Official Statement. The Authority disclaims any obligation or undertaking to release publicly any updates or revisions to any forward-looking statement contained herein to reflect any change in the Authority’s expectations with regard thereto or any change in events, conditions or circumstances on which any such statements are based.

No dealer, broker, salesman or other person has been authorized by the Authority or the Underwriters to give any information or to make any representations other than those contained in this Official Statement, and, if given or made, such information or representations must not be relied upon as having been authorized by any of the foregoing. This Official Statement does not constitute an offer to sell or the solicitation of an offer to buy, nor shall there be any sale of, the Series 2013 Obligations by any person in any jurisdiction in which it is unlawful for such person to make such offer, solicitation or sale. The information and expressions of opinion herein speak as of their date unless otherwise noted and are subject to change without notice. Neither the delivery of this Official Statement nor any sale made hereunder shall under any circumstances create any implication that there has been no change in the affairs of the Authority since the date hereof.

The Series 2013 Obligations have not been registered with the Securities and Exchange Commission under the Securities Act of 1933, as amended. Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of the Series 2013 Obligations or passed upon the adequacy or accuracy of this Official Statement. Any representation to the contrary is a criminal offense.

The order and placement of information in this Official Statement, including the appendices, are not an indication of relevance, materiality or relative importance, and this Official Statement, including the appendices, must be read in its entirety. The captions and headings in this Official Statement are for convenience only and in no way define, limit or describe the scope or intent, or affect the meaning or construction, of any provision or section in this Official Statement.

THIS OFFICIAL STATEMENT IS BEING PROVIDED TO PROSPECTIVE PURCHASERS EITHER IN BOUND PRINTED FORM (“ORIGINAL BOUND FORMAT”) OR IN ELECTRONIC FORMAT ON THE FOLLOWING WEBSITE: WWW.MUNIOS.COM. THIS OFFICIAL STATEMENT MAY BE RELIED UPON ONLY IF IT IS IN ITS ORIGINAL BOUND FORMAT OR AS PRINTED IN ITS ENTIRETY DIRECTLY FROM SUCH WEBSITE.

IN CONNECTION WITH THIS OFFERING, THE UNDERWRITERS MAY OVER ALLOT OR EFFECT TRANSACTIONS WHICH STABILIZE OR MAINTAIN THE MARKET PRICE OF THE SERIES 2013 OBLIGATIONS AT A LEVEL ABOVE THAT WHICH OTHERWISE MIGHT PREVAIL IN THE OPEN MARKET. SUCH STABILIZING, IF COMMENCED, MAY BE DISCONTINUED AT ANY TIME.

SUMMARY

The following information is a brief summary of the information contained in this Official Statement and is qualified in its entirety by reference to the more detailed information and descriptions appearing elsewhere in this Official Statement and should be read together therewith. The terms used in this Summary and not otherwise defined shall have the respective meanings assigned to them elsewhere in this Official Statement. The offering of the Series 2013 Obligations is made only by means of the entire Official Statement, including the Appendices hereto. No person is authorized to make offers to sell, or solicit offers to buy, the Series 2013 Obligations unless the entire Official Statement is delivered in connection therewith.

The Authority..... The Kentucky Public Transportation Infrastructure Authority (“Authority”) is an independent de jure municipal corporation and political subdivision of the Commonwealth of Kentucky (the “Commonwealth”), constituting a governmental agency and instrumentality of the Commonwealth. The Authority was established by the Commonwealth pursuant to the provisions of KRS Chapter 175B, as amended (the “Act”) to review, approve and monitor certain significant transportation projects within the Commonwealth and between the Commonwealth and the State of Indiana and, if necessary, to assist with the operation, financing and management of those projects. See “THE AUTHORITY” herein.

Series 2013 Obligations The Series 2013 Obligations consist of the Series 2013 Bonds and the Series 2013 Subordinate Notes.

Series 2013 Bonds..... The Authority is offering the following First Tier Toll Revenue Bonds:

- \$174,865,000 First Tier Toll Revenue Bonds, Series 2013A (Downtown Crossing Project) (Current Interest Bonds) (the “Series 2013A Bonds”);
- \$27,476,179.95 First Tier Toll Revenue Bonds, Series 2013B (Downtown Crossing Project) (Capital Appreciation Bonds) (the “Series 2013B Bonds”); and
- \$73,329,189.30 First Tier Toll Revenue Bonds, Series 2013C (Downtown Crossing Project) (Convertible Capital Appreciation Bonds) (the “Series 2013C Bonds”).

The Series 2013A Bonds, the Series 2013B Bonds and the Series 2013C Bonds are referred to collectively herein as the “Series 2013 Bonds.”

Series 2013 Subordinate Notes... The Authority is also offering the following Subordinate Toll Revenue Bond Anticipation Notes:

- \$426,045,000 Subordinate Toll Revenue Bond Anticipation Notes, Tax-Exempt Series 2013A (Downtown Crossing Project) (the “Series 2013A Tax-Exempt Notes”); and
- \$26,155,000 Subordinate Toll Revenue Bond Anticipation Notes, Taxable Series 2013B (Downtown Crossing Project) (the “Series 2013B Taxable Notes”).

The Series 2013A Tax-Exempt Notes and the Series 2013B Taxable Notes are referred to collectively herein as the “Series 2013 Subordinate Notes.”

Use of Proceeds..... As more fully described herein, proceeds of the Series 2013 Obligations will be used to (i) pay a portion of the costs of the Downtown Crossing Segment, (ii) fund the Proceeds Subaccount of the First Tier Common Debt Service Reserve Account for the Series 2013 Bonds at the requirement therefor and a TIFIA Bonds Series Debt Service Reserve Account at the requirement therefor, (iii) pay interest capitalized on the Series 2013 Bonds to and including January 1, 2018, and on the Series 2013 Subordinate Notes to and including their maturity date, (iv) fund certain operating reserves relating to the Downtown Crossing Segment and (v) pay the costs of issuance of the Series 2013 Obligations. See “SOURCES AND USES OF PROCEEDS” herein.

Nature of Series 2013

Obligations..... The Series 2013A Bonds and the Series 2013 Subordinate Notes will be issued as current interest bonds and will bear interest at the rates set forth on the inside cover page of this Official Statement.

The Series 2013B Bonds will be issued as capital appreciation bonds and will have the Accreted Value (as defined herein) set forth in APPENDIX N to this Official Statement.

The Series 2013C Bonds will be issued as convertible capital appreciation bonds and will have the Accreted Value set forth in APPENDIX N to this Official Statement until July 1, 2023 (the “Conversion Date”), after which the Series 2013C Bonds will bear interest at the rates set forth on the inside cover of this Official Statement.

Redemption..... The Series 2013 Bonds are subject to optional and mandatory redemption prior to maturity as described herein. See “THE SERIES 2013 OBLIGATIONS – Redemption Provisions.”

The Series 2013 Subordinate Notes are not subject to redemption prior to maturity.

General Indenture and

Supplemental Indentures..... Each subseries of the Series 2013 Obligations will be issued under the General Trust Indenture, dated as of December 1, 2013 (the “General Indenture”), and a separate supplemental trust indenture relating to each subseries, each by and between the Authority and The Bank of New York Mellon Trust Company, N.A., as the trustee (the “Trustee”). The General Indenture and the supplemental indentures are collectively referred to herein as the “Indenture.”

Limited Obligations..... The Series 2013 Bonds and any additional First Tier Bonds issued by the Authority under the General Indenture are payable from, and secured by a first pledge of, the Trust Estate, as more fully described herein, which includes the Pledged Receipts, as more fully described herein. The Authority’s 50% share of the toll revenues derived from the System (“Authority Toll Revenues”) constitute the principal portion of the “Pledged Receipts.”

The Series 2013 Subordinate Notes and any additional Subordinate Bonds issued by the Authority under the General Indenture are payable from, and secured by a pledge of, the Trust Estate, subordinate to the payment of First Tier, Second Tier and Third Tier Bonds, including the Series 2013 Bonds, issued by the Authority under the General Indenture. Capitalized interest on the Series 2013 Subordinate Notes to maturity has been funded from the proceeds of the Series 2013 Subordinate Notes. It is expected that principal on the Series 2013 Subordinate Notes at maturity will be paid from a single disbursement made to the Authority, subject to the satisfaction of certain conditions, under the TIFIA Loan Agreement (as defined herein). The repayment by the Authority of draws under the TIFIA Loan Agreement will be secured by the issuance of Third Lien Bonds as described herein, which are generally subordinate to the Series 2013 Bonds.

See “SECURITY AND SOURCES OF PAYMENT FOR THE SERIES 2013 OBLIGATIONS – Pledge of Authority System Revenue.”

As more fully described herein under “SECURITY AND SOURCES OF PAYMENT FOR THE SERIES 2013 OBLIGATIONS,” the Series 2013 Bonds are being issued under the Indenture as First Tier Bonds secured by a first priority lien on the Trust Estate (as hereinafter defined), including the Pledged Receipts (as hereinafter defined). The TIFIA Bonds are being issued under the Indenture as

Third Tier Bonds secured by a second lien on the Trust Estate (there is no current plan to issue Second Tier Bonds). The TIFIA Bonds may become First Tier Bonds having an equal first priority lien with other First Tier Bonds upon the occurrence of certain events described herein. The Series 2013 Subordinate Notes are secured by a pledge of the proceeds of the TIFIA Bonds and a lien on Trust Estate that is subordinate to the Series 2013 Bonds and the TIFIA Bonds.

The LSIORB Project and the

System..... The Louisville-Southern Indiana Ohio River Bridges Project (the “LSIORB Project”) is comprised of two segments – the Downtown Crossing Segment and the East End Crossing Segment. The LSIORB Project is being coordinated between the Commonwealth and the State of Indiana and involves a bi-state construction, reconstruction and rehabilitation project that is expected to address cross-river transportation needs in the greater Louisville-Southern Indiana region.

Upon completion of the LSIORB Project, the “System” will consist of the Downtown Bridge, the Kennedy Bridge and the East End Bridge, all of which will be tolled, as well as the Kennedy Interchange and all related highway interchanges and roadways.

The “Authority System” refers to, during the period of construction, the Downtown Crossing Segment and, after completion of the initial construction, the part of the System that is operated and maintained by the Authority under the terms of the Development Agreement (as defined herein), as well as any Additional Projects (as defined herein).

For more information relating to the System, see “THE SYSTEM.” For more information relating to the maintenance of the System, see “THE SYSTEM – Maintenance of the System.” For a more detailed description of the Downtown Crossing Segment being financed in part by the proceeds of the Series 2013 Obligations, see “THE DOWNTOWN CROSSING SEGMENT.” For a more detailed description of the East End Crossing Segment being constructed by the Indiana Department of Transportation and the Indiana Finance Authority, see “THE SYSTEM – East End Crossing.”

The Downtown Crossing

Segment..... As more fully described herein, the Downtown Crossing Segment consists of three principal components: (1) the procuring, financing and construction of a bridge across the Ohio River, from downtown Louisville, Kentucky to Jeffersonville, Indiana (the “Downtown Bridge”) and the reconstruction and reconfiguration of the existing Kennedy Bridge (the “Kennedy Bridge”); (2) the modernization of the existing Kennedy Interchange; and (3) the reconfiguration of the Indiana approach to the Downtown Bridge.

For a more complete description of the Downtown Crossing Segment, see “THE DOWNTOWN CROSSING SEGMENT.”

Financing Plan..... The total cost of the Downtown Crossing Segment from Fiscal Year 2013 to Fiscal Year 2019, including financing costs and reserves, is currently estimated to be approximately \$1.3 billion and is expected to be funded from (i) the proceeds of the Series 2013 Obligations, (ii) certain federal highway trust funds and the required related Commonwealth match, (iii) the proceeds of project notes issued by the Kentucky Asset/Liability Commission that are secured by certain federal highway trust funds, and (iv) the proceeds of a loan from the United States Department of Transportation, acting by and through the Federal Highway Administrator (the “TIFIA Lender”), under the TIFIA program (as hereinafter described), which loan is authorized as “TIFIA Bonds” under the Indenture and is generally secured as Third Tier Bonds, which are generally subordinate to the Series 2013 Bonds, but will be secured on a parity basis with the Series 2013 Bonds upon the occurrence of certain events. In conjunction with the issuance of the Series 2013 Obligations, the Authority and the TIFIA Lender have entered into a not to exceed \$452.2 million loan agreement under the TIFIA program. The Authority expects to draw down the TIFIA loan and use the proceeds to pay the Series 2013 Subordinate Notes at maturity. For a more complete description of the expected funding sources, see “DEVELOPMENT AND FINANCING PLAN – Sources of Funding for the Downtown Crossing Segment.”

Interlocal Agreement..... The Authority, the Commonwealth of Kentucky Transportation Cabinet (the “Transportation Cabinet”), the Indiana Department of Transportation (“INDOT”) and the Indiana Finance Authority (the “IFA”) have entered into an Interlocal Agreement (the “Interlocal Agreement”) to coordinate various aspects of the construction, maintenance and operation of the LSIORB Project. See “THE SYSTEM – Bi-State Coordination - *The Interlocal Agreement*” and APPENDIX D.

Development Agreement..... The Authority, the Transportation Cabinet, the INDOT, the IFA and the Louisville and Southern Indiana Bridges Authority (the “Bridges Authority”) have entered into a Bi-State Development Agreement Concerning the Louisville Southern Indiana Ohio River Bridges Project effective December 20, 2012, as amended (the “Development Agreement”) which allocates responsibility for the development of the various components of the LSIORB Project among the parties and sets forth methods by which tolls will be established. Under the Development Agreement, the Commonwealth is generally responsible for the financing of the construction of the Downtown Crossing Segment and the State of Indiana is generally responsible for the financing of construction of the East End Crossing Segment. After construction of the Downtown Crossing Segment and the East End Crossing Segment, the Commonwealth and the State of Indiana

also share responsibility for operations and maintenance of different components of the System. See “THE SYSTEM – Bi-State Coordination - *The Development Agreement*” and APPENDIX E.

Sharing of Toll Revenues..... Under the Development Agreement, the Authority and the IFA will each receive an equal share of the gross amount of (i) all toll receipts payable to or collected in respect of the System, (ii) administrative fees, (iii) violation charges, (iv) incidental charges, (v) penalties, and (vi) other charges collected through a collection process with respect to the System (collectively, such amounts are defined in the Development Agreement as the “Toll Revenues”). The Authority’s 50% share of the Toll Revenues (the “Authority Toll Revenues”) constitute the principal portion of the “Pledged Receipts” and are pledged to the payment of principal and interest on the Series 2013 Obligations, the TIFIA Bonds and any Additional Bonds hereafter issued under the General Indenture. See “SECURITY AND SOURCES OF PAYMENT FOR THE SERIES 2013 OBLIGATIONS – Pledge of Authority System Revenue.”

Debt Service Reserve Accounts... Payment of principal, Accreted Value and interest on the Series 2013 Bonds when due are secured by amounts on deposit in the First Tier Common Debt Service Reserve Account established therefor. The 2013 Supplemental Indentures require that the First Tier Common Debt Service Reserve Account be funded in an amount equal to the Debt Service Reserve Requirement therefor, as defined herein under “SECURITY AND SOURCES OF PAYMENT FOR THE SERIES 2013 OBLIGATIONS – Debt Service Reserve Accounts.”

Payment of principal and interest on the TIFIA Bonds when due will be secured by amounts on deposit in the TIFIA Bonds Series Debt Service Reserve Account funded from the proceeds of the Series 2013B Taxable Subordinate Notes. See “SECURITY AND SOURCES OF PAYMENT FOR THE SERIES 2013 OBLIGATIONS – Debt Service Reserve Accounts.”

Upon the occurrence of a Bankruptcy Related Event (as herein defined), certain amounts on deposit in the Revenue Subaccount of the First Tier Common Debt Service Reserve Account (but not the Proceeds Subaccount) may be available to the TIFIA Lender to pay debt service on the TIFIA Bonds. See “SECURITY AND SOURCES OF PAYMENT FOR THE SERIES 2013 OBLIGATIONS – Debt Service Reserve Accounts.”

The Lease and Operation and Maintenance.....

The Authority and the Transportation Cabinet have entered into a Lease, dated as of December 1, 2013 (the “Lease”), pursuant to which the Transportation Cabinet leases from the Authority, and the Authority leases to the Transportation Cabinet, all of the properties, facilities and appurtenances constituting the Authority System, for an initial term ending June 30, 2014, with the right and privilege of the Transportation Cabinet to continue to lease and have the Authority System for biennial periods if the Transportation Cabinet exercises

its option to renew the Lease. The Lease is automatically renewed for successive biennial periods, subject to the right of the Transportation Cabinet to notify the Authority of its election not to renew.

Upon written notice from the Trustee that deposits from Pledged Receipts to the Tolling O&M Reserve Fund, the General O&M Reserve Fund and the M&R Reserve Fund required by the Indenture have not been made, the Transportation Cabinet agrees to pay “Rent” to enable the Trustee to make the required deposits in such Funds, as more fully described herein under “SECURITY AND SOURCES OF PAYMENT FOR THE SERIES 2013 OBLIGATIONS – The Lease.”

Pursuant to the Lease, the Transportation Cabinet covenants and agrees that on each and every occasion when appropriations bills are prepared for introduction in the various successive Sessions of the General Assembly of the Commonwealth after a request for Rent or Additional Rent, as each is herein defined, is made under the Indenture but no later than October 1 of the next odd numbered year, the Transportation Cabinet will cause to be included in the appropriations proposed to be made for the Transportation Cabinet an amount sufficient to cover such request. The payment of Rent by the Cabinet is subject to appropriation by the General Assembly of the Commonwealth. Historically, appropriations for the benefit of the Transportation Cabinet have been funded from the Road Fund. See APPENDIX J – CERTAIN INFORMATION RELATING TO THE TRANSPORTATION CABINET AND THE COMMONWEALTH.

The Transportation Cabinet has also agreed in the Lease to seek additional capital funding for the Project in the event other funding sources are not sufficient. See “SECURITY AND SOURCES OF PAYMENT FOR THE SERIES 2013 OBLIGATIONS – The Lease.”

A summary of certain provisions of the Lease is set forth in APPENDIX C – SUMMARY OF LEASE.

Additional Bonds..... The Indenture authorizes the issuance of obligations ranking on a parity with the security and source of payment with the Series 2013 Bonds or subordinate thereto, which may be additional bonds issued in accordance with the requirements of the Indenture (the “Additional Bonds”). See “SECURITY AND SOURCES OF PAYMENT FOR THE SERIES 2013 OBLIGATIONS – Financial Covenants - *Additional Bonds.*”

Investment Considerations..... The Series 2013 Obligations may not be suitable for all investors. Prospective purchasers of the Series 2013 Obligations should read this entire Official Statement and give careful consideration to certain investment considerations including those affecting the funding and construction of the LSIORB Project, the collection of Toll Revenues, the agreement of the Commonwealth and the State of Indiana to share the Toll Revenues collected and the operation and maintenance of the System. See “INVESTMENT CONSIDERATIONS.”

- Book-Entry Only System.....** The Series 2013 Obligations will be issued as fully registered bonds or notes, as the case may be, registered in the name of Cede & Co., as nominee of The Depository Trust Company, New York, New York (“DTC”), to which payments of principal, Accreted Value and interest will be made. Purchasers will acquire beneficial interests in the Series 2013 Obligations in book-entry form only. DTC will remit such payments to its participants, who will be responsible for remittance to the beneficial owners. See “THE SERIES 2013 OBLIGATIONS – Book-Entry Only System” and APPENDIX K – DESCRIPTION OF BOOK-ENTRY ONLY SYSTEM.
- Tax Status.....** Subject to compliance by the Authority with certain covenants, in the opinion of Peck, Shaffer & Williams LLP, Bond Counsel, under present law, interest on the Series 2013 Bonds and the Series 2013A Tax-Exempt Subordinate Notes (including original issue discount treated as interest) is excluded from gross income of the owners thereof for federal income tax purposes, and is not included as an item of tax preference in computing the federal alternative minimum tax for individuals and corporations, except that such interest must be included in the “adjusted current earnings” of certain corporations for purposes of calculating alternative minimum taxable income. In the further opinion of Bond Counsel, interest on the Series 2013B Taxable Subordinate Notes is includible in gross income for Federal income tax purposes. It is also the opinion of Bond Counsel, under the laws of the Commonwealth, as presently enacted and construed, that interest on the Series 2013 Obligations is excluded from the gross income of the recipients thereof for Commonwealth income tax purposes and the Series 2013 Obligations are exempt from ad valorem taxes by the Commonwealth and all political subdivisions thereof. See “TAX MATTERS” for a more complete discussion and APPENDIX M for the form of approving opinion of Bond Counsel.
- General.....** The Official Statement speaks only as of its date, and the information contained herein is subject to change. All summaries of documents and agreements in the Official Statement are qualified in their entirety by reference to such documents and agreements, copies of which are available as described below from the Office of Financial Management.

Further Information..... Information regarding the Series 2013 Obligations is available by contacting:

- Office of Financial Management – Finance and Administration Cabinet, Commonwealth of Kentucky, 702 Capitol Avenue, Suite 76, Frankfort, Kentucky 40601, Attention: Executive Director (502) 564-2924;
- the Authority’s Financial Advisor, Public Financial Management, 300 South Orange Avenue, Suite 1170, Orlando, Florida 32801, Attention: Mr. David Miller (407) 648-2208 ext. 5752; and
- the Representative of the Underwriters, Citigroup Global Markets Inc., 390 Greenwich Street, 2nd Floor, New York, New York 10013, Attention: Syndicate (212) 723-7093.

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OFFICIAL STATEMENT
relating to

\$275,670,369.25

KENTUCKY PUBLIC TRANSPORTATION INFRASTRUCTURE AUTHORITY
First Tier Toll Revenue Bonds, Series 2013 (Downtown Crossing Project)

and

\$452,200,000

KENTUCKY PUBLIC TRANSPORTATION INFRASTRUCTURE AUTHORITY
Subordinate Toll Revenue Bond Anticipation Notes, Series 2013 (Downtown Crossing Project)

INTRODUCTION

General

This Official Statement is furnished in connection with the issuance by the Kentucky Public Transportation Infrastructure Authority (the “Authority”) of the following Bonds and Notes:

- \$174,865,000 First Tier Toll Revenue Bonds, Series 2013A (Downtown Crossing Project) (Current Interest Bonds) (the “Series 2013A Bonds”);
- \$27,476,179.95 First Tier Toll Revenue Bonds, Series 2013B (Downtown Crossing Project) (Capital Appreciation Bonds) (the “Series 2013B Bonds”);
- \$73,329,189.30 First Tier Toll Revenue Bonds, Series 2013C (Downtown Crossing Project) (Convertible Capital Appreciation Bonds) (the “Series 2013C Bonds”);
- \$426,045,000 Subordinate Toll Revenue Bond Anticipation Notes, Tax-Exempt Series 2013A (Downtown Crossing Project) (the “Series 2013A Tax-Exempt Subordinate Notes”); and
- \$26,155,000 Subordinate Toll Revenue Bond Anticipation Notes, Taxable Series 2013B (Downtown Crossing Project) (the “Series 2013B Taxable Subordinate Notes”).

The Series 2013A Bonds, the Series 2013B Bonds and the Series 2013C Bonds are referred to collectively herein as the “Series 2013 Bonds.” The Series 2013A Tax-Exempt Subordinate Notes and the Series 2013B Taxable Subordinate Notes are referred to collectively herein as the “Series 2013 Subordinate Notes”. The Series 2013 Bonds and the Series 2013 Subordinate Notes are referred to collectively herein as the “Series 2013 Obligations.” Unless otherwise defined in this Official Statement, all terms used herein shall have the meanings set forth in APPENDIX A – Definitions.

The Series 2013A Bonds will be issued under and secured by the General Trust Indenture (the “General Indenture”) and Supplemental Trust Indenture, Number 2013-1 (the “First Supplemental Indenture”), each dated as of December 1, 2013, and each by and between the Authority and The Bank of New York Mellon Trust Company, N.A., as trustee (the “Trustee”). The Series 2013B Bonds will be issued under and secured by the General Indenture and Supplemental Trust Indenture, Number 2013-2 (the “Second Supplemental Indenture”), dated as of December 1, 2013, by and between the Authority and the Trustee. The Series 2013C Bonds will be issued under and secured by the General Indenture and Supplemental Trust Indenture, Number 2013-3 (the “Third Supplemental Indenture”). The Series 2013A Tax-Exempt Subordinate Notes and the Series 2013B Taxable Subordinate Notes will be issued under and secured by the General Indenture and Supplemental Trust Indenture, Number 2013-4 (the “Fourth Supplemental Indenture”), dated as of December 1, 2013, by and between the Authority and the Trustee. The TIFIA Bonds (as hereinafter defined) will be issued under and secured by the General Indenture and

Supplemental Trust Indenture, Number 2013-5 (the “Fifth Supplemental Indenture”), dated as of December 1, 2013, by and between the Authority and the Trustee. The First Supplemental Indenture, the Second Supplemental Indenture, the Third Supplemental Indenture, the Fourth Supplemental Indenture and the Fifth Supplemental Indenture are referred to collectively herein as the “2013 Supplemental Indentures.” The General Indenture and the 2013 Supplemental Indentures are collectively referred to herein as the “Indenture.”

As more fully described herein under “SECURITY AND SOURCES OF PAYMENT FOR THE SERIES 2013 OBLIGATIONS,” the Series 2013 Bonds are secured by the Trust Estate (as hereinafter defined), including by the Pledged Receipts (as hereinafter defined), under the Indenture as First Tier Bonds, the TIFIA Bonds are secured by the Trust Estate, including by the Pledged Receipts, under the Indenture as Third Tier Bonds, subject to the ability to become First Tier Bonds upon the occurrence of certain events, and the Series 2013 Subordinate Notes are secured by the Trust Estate, including by the Pledged Receipts, under the Indenture as Subordinate Bonds.

The LSIORB Project and the System

The Commonwealth and the State of Indiana have been working for more than 40 years to develop an improved cross-river mobility project between Jefferson County, Kentucky, including the former City of Louisville (now part of the merged Louisville/Jefferson County Metro Government), and Clark County, Indiana, to improve transportation needs in the Louisville metropolitan area. The current plan in general terms and as more fully described herein provides for the construction of two new bridges (the “Downtown Bridge” and the “East End Bridge”) and the reconstruction and reconfiguration of an existing bridge in downtown Louisville (the “Kennedy Bridge”). As more fully described herein, the Commonwealth has primary responsibility for the construction of the Downtown Crossing Segment (as defined herein), which includes the construction of a new Downtown Bridge and the reconstruction and reconfiguration of the Kennedy Bridge and the Kennedy Interchange, and the State of Indiana has primary responsibility for the construction of the East End Segment (as defined herein), which includes the construction of the East End Bridge.

In addition, as more fully described herein, tolls will be imposed on all three bridges and the Commonwealth and the State of Indiana have agreed to share the toll and certain other revenues to secure bonds and other obligations issued to finance the construction of the projects and related costs. The Commonwealth and the State of Indiana have also agreed to equally share the costs of toll collection, operation and maintenance expenses of the System, as defined below under “The LSIORB Project and the System.”

The Louisville-Southern Indiana Ohio River Bridges Project (the “LSIORB Project”) is comprised of two segments – the Downtown Crossing Segment and the East End Crossing Segment. The LSIORB Project is being coordinated between the Commonwealth and the State of Indiana and involves a bi-state construction, reconstruction and rehabilitation project that is expected to address cross-river transportation needs in the greater Louisville-Southern Indiana region.

Upon completion of the LSIORB Project, the “System” will consist of the Downtown Bridge, the Kennedy Bridge and the East End Bridge, all of which will be tolled, as well as the Kennedy Interchange and all related highway interchanges and roadways.

As used herein, the “Authority System” refers to, during the period of construction, the Downtown Crossing Segment and, after completion of the initial construction, the part of the System that is operated and maintained by the Authority under the terms of the Development Agreement (generally, the portions of the System located in the Commonwealth), as well as any Additional Projects (as defined herein).

For more information relating to the System, see “THE SYSTEM.” For more information relating to the maintenance of the System, see “THE SYSTEM – Maintenance of the System.” For a more detailed description of the Downtown Crossing Segment being financed in part by the proceeds of the Series 2013 Obligations, see “THE DOWNTOWN CROSSING SEGMENT.” For a more detailed description of the East End Crossing Segment being constructed by the Indiana Department of Transportation and the Indiana Finance Authority, see “THE SYSTEM – East End Crossing.”

Downtown Crossing Segment

As more fully described herein, the Downtown Crossing Segment consists of three principal components:

- the procuring, financing and construction of a new Downtown Bridge across the Ohio River, from downtown Louisville, Kentucky to Jeffersonville, Indiana and the reconstruction and reconfiguration of the existing Kennedy Bridge (the “Kennedy Bridge”), also from downtown Louisville, Kentucky to Jeffersonville, Indiana;
- the modernization of the existing Kennedy Interchange adjacent to the Downtown Bridge and the Kennedy Bridge; and
- the reconfiguration of the Indiana approach to the Downtown Bridge.

For a more complete description of the Downtown Crossing Segment, see “THE DOWNTOWN CROSSING SEGMENT.”

The acquisition, construction, renovation, rehabilitation and equipping of the Downtown Crossing Segment, together with the costs that are necessary for and that benefit the LSIORB Project as a whole and that are not specifically attributable to the East End Crossing or the Downtown Crossing, are referred to in this Official Statement as the “Project.”

Trust Estate and Debt Service Reserve Account

Under the General Indenture, the Authority has granted to the Trustee, for the benefit of the owners (the “Bondholders”) of the Series 2013 Obligations and any additional bonds (the “Additional Bonds,” the Series 2013 Obligations and the Additional Bonds being herein referred to collectively as the “Bonds”) that may be issued under the provisions of the General Indenture, a pledge of the “Trust Estate,” which consists of (i) all right, title and interest of the Authority in and to the Pledged Receipts (as defined below), (ii) all moneys and securities on deposit from time to time in the Funds and Accounts established under the Indenture which permit the application thereof for the purposes and on the terms and conditions set forth in the Indenture other than moneys and securities on deposit in the Rebate Fund, the General O&M Reserve Fund, the M&R Reserve Fund, the Tolling O&M Reserve Fund and the General Reserve Fund, as each is hereinafter described, (iii) all right, title and interest of the Authority in and to the Lease (as hereinafter defined); and (iv) any and all other property of every kind and nature from time to time hereafter, by delivery or by writing of any kind pledged, assigned or transferred as additional security.

The Pledged Receipts consist almost exclusively of the Authority’s 50% share of the Toll Revenues from the System (the Authority’s 50% share being referred to herein as “Authority Toll Revenues”) and certain investment earnings (the Authority Toll Revenues and such investment earnings being referred to herein as the “Authority System Revenue”).

For a more detailed description of the Pledged Receipts and the Trust Estate, see “SECURITY AND SOURCES OF PAYMENT FOR THE SERIES 2013 OBLIGATIONS – Pledge of Authority System Revenue.”

Additionally, payment of principal, Accreted Value and interest on the Series 2013 Bonds when due are secured by amounts on deposit in the First Tier Common Debt Service Reserve Account established therefor under the Indenture. The 2013 Supplemental Indentures relating to the Series 2013 Bonds require that the First Tier Common Debt Service Reserve Account be funded in an amount equal to the Debt Service Reserve Requirement therefor. Payment of principal of and interest on the TIFIA Bonds, when due, will be secured by amounts on deposit in the TIFIA Bonds Series Debt Service Reserve Account established therefor under the Fifth Supplemental Indenture in an amount equal to the requirement therefor established in the TIFIA Loan Agreement (as hereinafter defined). Upon the occurrence of a Bankruptcy Related Event (as herein defined), certain amounts on deposit in the Revenue Account of the First Tier Common Debt Service Reserve Account (but not the Proceeds Subaccount) may be available to the TIFIA Lender to pay debt service on the TIFIA Bonds. For more details on the amounts on deposit in the First Tier Common Debt Service Reserve Account and the uses of the moneys on deposit in the First Tier Common Debt Service Reserve Account and the TIFIA Bonds Series Debt Service Reserve Account, see “SECURITY AND SOURCES OF PAYMENT FOR THE SERIES 2013 OBLIGATIONS – Debt Service Reserve Accounts.”

DEVELOPMENT AND FINANCING PLAN

General

The Commonwealth, acting by and through the Kentucky Transportation Cabinet (the “Transportation Cabinet”), the Authority, the State of Indiana, acting by and through the Indiana Department of Transportation (“INDOT”), the Indiana Finance Authority (the “IFA”) and the Louisville and Southern Indiana Bridges Authority (the “Bridges Authority”) have entered into a Bi-State Development Agreement Concerning the Louisville Southern Indiana Ohio River Bridges Project, effective December 20, 2012, as amended (the “Development Agreement”), to provide for, among other things, the financing of the construction and maintenance of the LSIORB Project.

Under the Development Agreement, the Commonwealth is responsible for the procurement, financing, and construction of the Downtown Crossing Segment and the State of Indiana is responsible for financing the East End Crossing Segment. The Commonwealth and the State of Indiana have also agreed to share the responsibility for operating and maintaining the System, as described more fully herein under “THE SYSTEM – Maintenance of the System.” Together the Authority, the Transportation Cabinet, INDOT and IFA, via the Joint Board and the Tolling Body, as each is hereinafter described, are responsible for setting the toll rates and collecting the tolls for the System. For more information regarding the Development Agreement, see “THE SYSTEM – Bi-State Coordination – *Development Agreement*” and APPENDIX E hereto.

In addition, in order to coordinate the various aspects of the construction, tolling, maintenance and operation of the System, the IFA, the Authority, INDOT and the Transportation Cabinet have entered into an Interlocal Agreement for the Design, Procurement, Construction, Financing, Tolling, Operation and Maintenance for the Louisville-Southern Indiana Ohio River Bridges System, effective as of December 17, 2012 (the “Interlocal Agreement”).

Pursuant to the Interlocal Agreement, the parties agreed to establish the Joint Board and the Tolling Board in December 2012 as follows:

- The Joint Board is composed of the Chairman of the Authority, the Secretary of the Kentucky Transportation Cabinet, the Public Finance Director of the State of Indiana (who is the chief administrative officer of the IFA), and the Commissioner of INDOT and administers the Interlocal Agreement and exercises other powers and authorities in the Interlocal Agreement and the Development Agreement. The primary function of the Joint Board is to procure and oversee a toll system integrator and toll collection operations.

- The Tolling Body is composed of the members of the Joint Board plus an additional representative of each of the Authority and IFA and is responsible for toll policy development and the establishment of toll rates (the “Toll Rate Schedule”). **The Tolling Body established initial toll rates for the System by its adoption of a resolution on September 11, 2013 (the “Initial Toll Rate Resolution”).**

For more information on the Interlocal Agreement, see “THE SYSTEM – Bi-State Coordination – *Interlocal Agreement*” and APPENDIX D hereto. For more information relating to the Initial Toll Rate Schedule adopted by the Tolling Body, see “THE SYSTEM – Toll Policy Agreement and Initial Toll Rate Resolution – *Initial Toll Rates*” herein and APPENDIX F – Initial Toll Rate Resolution.

Sources of Funding for the Downtown Crossing Segment

The total cost of the Downtown Crossing Segment from Fiscal Year 2013 to Fiscal Year 2019, including financing costs and reserves, is currently estimated to be approximately \$1.3 billion and is expected to be funded from (i) the proceeds of the Series 2013 Obligations, (ii) certain federal highway trust funds, (iii) the proceeds of project notes already issued by the Kentucky Asset/Liability Commission (“ALCo”) that are secured by certain federal highway trust funds and the required related Commonwealth match, and (iv) the proceeds of a loan from the United States Department of Transportation, acting by and through the Federal Highway Administrator (the “TIFIA Lender”), under the TIFIA program. In conjunction with the issuance of the Series 2013 Obligations, the Authority and the TIFIA Lender have entered into a not to exceed \$452.2 million loan agreement under the TIFIA program. The Authority expects to draw down the TIFIA loan in a single disbursement in connection with construction completion and use the proceeds to pay the Series 2013 Subordinate Notes at maturity.

The following are the funding sources, as described in more detail below the table, and the annual estimated funding from each source expected to be available for the construction of the Downtown Crossing Segment. Total may not add due to rounding.

Estimated Annual Fund Allocation (in \$ thousands)						
Sources:	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Total
ALCo Project Notes						
Series 2010	29,147					29,147
Series 2013 ¹		237,302				237,302
First Tier Toll Revenue Bonds ^{2,3}		106,190	95,074	54,736	15,730	271,730
Tax-Exempt BANs ³		182,677	163,554	94,161	27,059	467,451
Taxable BANs		26,155				26,155
Highway Plan ^{4,5}	50,000	50,000	50,000	50,000	50,000	250,000
Total⁶	<u>79,147</u>	<u>602,324</u>	<u>308,628</u>	<u>198,897</u>	<u>92,789</u>	<u>1,281,781</u>
Uses:						
Construction Costs						
Design-Build Costs	113,435	312,114	257,183	151,651	66,616	901,000
Non-Design Build Costs	32,405	43,679	41,100	36,900	21,000	175,084
Sub-Total⁶	<u>145,840</u>	<u>355,793</u>	<u>298,283</u>	<u>188,551</u>	<u>87,616</u>	<u>1,076,084</u>
Financing Costs and Reserves ⁷		179,834	10,345	10,345	5,173	205,697
Total¹	<u>145,840</u>	<u>535,627</u>	<u>308,628</u>	<u>198,897</u>	<u>92,789</u>	<u>1,281,781</u>

¹ The Series 2013 Trust Fund Notes were issued on August 8, 2013. Includes net original premium.

² The Transportation Cabinet temporarily used the Road Fund to pay costs prior to the issuance of the First Tier Bonds. The First Tier Bonds will be used to reimburse the Road Fund. As a result, the Sources and Uses in FY 2013 and FY 2014 do not match.

³ Includes net original premium and construction fund earnings.

⁴ The interest incurred on the 2013 Trust Fund Notes through August 31, 2016 will be paid with the Highway Plan funds.

⁵ Includes 20% (\$50 million in total) of State Fund Match.

⁶ Design-Build Costs include the Walsh Team bid of \$860 million, a \$40 million contingency and a \$1 million repair contingency. Costs in FY 2018 and FY 2019 are rolled into FY2017.

⁷ Includes costs of issuance, First Tier and TIFIA Debt Service Reserve Fund initial deposits, capitalized interest funds, Tolling O&M Reserve Fund initial deposits, and 2013 Trust Fund Notes' interest through August 31, 2016.

ALCo Project Notes. On March 10, 2010, ALCo issued its \$89,710,000 Project Notes, 2010 Federal Highway Trust Fund First Series A (the "2010 Trust Fund Notes"). The net proceeds of the 2010 Trust Fund Notes, together with original issue premium paid by the initial purchasers thereof, in a total amount equal to \$100 million was reserved by the Transportation Cabinet for the payment of preconstruction project development activities related to the Project. A portion of the proceeds of the 2010 Trust Fund Notes were used to reimburse the Kentucky Road Fund administered by the Transportation Cabinet (the "Road Fund") for moneys that were applied to the Project prior to the issuance of the 2010 Trust Fund Notes that are not reflected in the above-table. On August 8, 2013, ALCo issued its \$212,545,000 Project Notes, 2013 Federal Highway Trust Fund First Series A (the "2013 Trust Fund Notes"). The net proceeds of the 2013 Trust Fund Notes, together with original issue premium paid by the initial purchasers thereof, in a total amount equal to \$236 million was reserved by the Transportation Cabinet for the payment of project development activities related to the Project. Through November 30, 2013, approximately \$165.9 million of the proceeds of the 2010 and 2013 Trust Fund Notes have been expended.

Series 2013 Bonds. From the net proceeds of the Series 2013 Bonds, approximately \$201,401,589 will be deposited into the Project Fund established under the General Indenture to be applied to fund the various costs of the Downtown Crossing Segment. The amount reflected in the above table also includes projected investment earnings thereon. The definition of “Costs” set forth in APPENDIX A hereto sets forth a more detailed list of the various costs that may be funded from the proceeds of the Series 2013 Bonds.

Series 2013A Tax-Exempt Subordinate Notes. From the net proceeds of the Series 2013A Tax-Exempt Subordinate Notes, including original issue premium, approximately \$390,813,621 will be deposited into the Project Fund established under the General Indenture to be applied to fund the various costs of the Downtown Crossing Segment. The amount reflected in the above table also includes projected investment earnings thereon. It is expected that the principal of the Series 2013A Tax-Exempt Subordinate Notes will be paid at maturity from moneys drawn by the Authority under the TIFIA Loan hereinafter described.

Series 2013B Taxable Subordinate Notes. From the net proceeds of the Series 2013B Taxable Subordinate Notes, approximately \$18,545,360 will be deposited into the TIFIA Bonds Series Debt Service Reserve Account to secure the TIFIA Bonds, and \$4,404,500 will be used to provide initial funding for the Tolling O&M Reserve Fund. It is expected that the principal of the Series 2013B Taxable Subordinate Notes will be paid at maturity from moneys drawn by the Authority under the TIFIA Loan hereinafter referred to.

TIFIA Loan. The Authority and the TIFIA Lender entered into the TIFIA Loan Agreement, dated as of December 12, 2013 (the “TIFIA Loan Agreement”), related to the TIFIA Bonds (the “TIFIA Loan”). Subject to the satisfaction of the conditions set forth in the TIFIA Loan Agreement, some of which conditions are summarized herein under “SECURITY AND SOURCES OF PAYMENT FOR THE SERIES 2013 OBLIGATIONS – Conditions to Requisition and Disbursement Under TIFIA Loan Agreement,” the TIFIA Loan will be funded in the amount not to exceed \$452.2 million on a date that is no later than the maturity date of the Series 2013 Subordinate Notes. The TIFIA Bonds will be subordinate to the lien and pledge securing the Series 2013 Bonds. However, upon the occurrence of a Bankruptcy Related Event (as hereinafter defined) of the Authority, and for so long as the TIFIA Bonds are held by the TIFIA Lender or another federal governmental entity, the TIFIA Bonds will be of equal rank with the Series 2013 Bonds (and other First Tier Bonds) and the lien securing the TIFIA Bonds will have *pari passu* status with the lien securing the Series 2013 Bonds (and other First Tier Bonds hereafter issued), all in accordance with and subject to the terms of the Indenture, the terms of which are summarized in “SECURITY AND SOURCES OF PAYMENT FOR THE SERIES 2013 OBLIGATIONS – Liens of the Indenture – *Potential Parity First Priority Lien for TIFIA Bonds.*” The Authority expects to make a single requisition under the TIFIA Loan Agreement upon the maturity of the Series 2013 Subordinate Notes in an amount sufficient to reimburse it for eligible Project Costs in order to pay the principal of the Series 2013 Subordinate Notes.

Kentucky Highway Plan Funds. The Transportation Cabinet is expected to fund the amount set forth in the above table to pay for costs of the Downtown Crossing Project from (i) the same federal highway trust fund moneys payable by the Federal Highway Administration to the Commonwealth that secure the 2010 and 2013 Trust Funds Notes and (ii) moneys available to it and more fully described in APPENDIX J under the caption “KENTUCKY TRANSPORTATION CABINET – Revenues Sources of the Transportation Cabinet” which are deposited in the Commonwealth’s “Road Fund,” including motor vehicle usage taxes, motor fuel taxes, weight distance taxes, truck licenses and fees, passenger vehicle licenses and fees and motor vehicle operator licenses. Of the total amount that the Transportation Cabinet expects to make available, approximately \$141.3 million from the proceeds of the 2010 Trust Fund Notes and the 2013 Trust Fund Notes has been expended through the fiscal year ended June 30, 2013, and the remainder must be appropriated during future sessions of the Kentucky General Assembly. The amount

that the Transportation Cabinet is expected to fund from the Highway Fund includes interest incurred on the 2013 Trust Fund Notes to, but not including, September 1, 2016.

THE AUTHORITY

General

The Authority is an independent de jure municipal corporation and political subdivision of the Commonwealth constituting a governmental agency and instrumentality of the Commonwealth. The Authority was established by the Commonwealth pursuant to the provisions of the Act to review, approve and monitor all significant transportation projects within the Commonwealth and between the Commonwealth and the State of Indiana, including the LSIORB Project, and, if necessary, to assist with the operation, financing and management of those projects. The Authority is a party to the Interlocal Agreement and the Development Agreement and is the issuer of the Series 2013 Obligations. In addition, its Chairman is a member of the Joint Board and its Chairman and an additional representative of the Authority are members of the Tolling Body.

The Authority is attached for administrative purposes to the Transportation Cabinet. The records of the Authority are considered open records pursuant to Kentucky law and the meetings of the Authority are considered open meetings in accordance with Kentucky law. The Authority has the powers and authority set forth in the Act. The Authority has no taxing power.

Members

The Authority is governed by a board composed of the following eleven (11) voting members: the Secretary of the Finance and Administration Cabinet, or the secretary's designee; the Secretary of the Transportation Cabinet; a representative of the Kentucky Association of Counties, appointed by the Governor of Kentucky; a representative of the Kentucky County Judge/Executives Association, appointed by the Governor of Kentucky; a representative of the Kentucky League of Cities, appointed by the Governor of Kentucky; and six (6) citizen members (at least two (2) of whom shall be familiar with road and bridge design or the financing and administration of transportation infrastructure projects) appointed by the Governor of Kentucky and confirmed by the Kentucky Senate. The Chairman of the Authority shall be the Secretary of the Transportation Cabinet. There is currently one vacancy. Authority members whose terms have expired continue serving on the Authority until reappointed or a replacement is appointed.

Each Kentucky member who shares duties as a presiding officer of a bi-state authority shall also serve as a non-voting *ex officio* member. *Ex officio* members serve for the terms of their respective offices and other members serve for their respective terms set forth in the Act.

The current members of the Authority are:

<u>Member</u>	<u>Expiration of Term</u>
Mike Hancock, Chair	<i>Ex-Officio</i>
Charles Buddeke*	<i>Ex-Officio</i>
Lori Flanery, Vice Chair	<i>Ex-Officio</i>
Charlie W. Johnson, Secretary	October 1, 2015
Steve Austin	October 1, 2017
Don C. Kelly	October 1, 2016
Joseph Hubert Mattingly	October 1, 2017
Dana B. Mayton	October 1, 2016
Glenn B. Mitchell	October 1, 2017
Michael Robert Walker	October 1, 2015
James Tyler Ward	October 1, 2017

* Non-voting member

KENTUCKY TRANSPORTATION CABINET

General

The Department of Highways was established as an agency of the Commonwealth by the 1912 General Assembly. Pursuant to Executive Orders 72-288 and 73-543, confirmed by the Kentucky General Assembly by legislation enacted in 1974, the Department of Transportation (the “Department”), predecessor to the Transportation Cabinet, was created as the successor to, and represented a reorganization and consolidation of, the Departments of Highways, Motor Transportation and Aeronautics. The Department also succeeded to certain specific functions and responsibilities of the Department of Public Safety and the Department of Revenue as such functions and responsibilities related to transportation. Pursuant to legislation enacted in 1982, the Transportation Cabinet was created as a successor to and succeeded to all duties of the Department.

The Transportation Cabinet is responsible for the construction, reconstruction and maintenance of the Commonwealth’s primary road system, which carries an estimated 85% of the Commonwealth’s motor vehicle traffic, representing nearly 40.8 billion vehicle miles of travel. The system consists of some 28,237 miles of parkways, interstate highways, the economic development road system, primary roads, secondary roads, rural secondary roads and supplemental roads, and includes nearly 9,000 bridges. Additionally, the Transportation Cabinet provides direction for licensed airports and heliports throughout the Commonwealth.

The Transportation Cabinet also regulates the operation of motor vehicles upon Kentucky’s public highways and registers approximately 4.0 million vehicles and licenses 3.0 million drivers. The Transportation Cabinet is also responsible for administratively enforcing Kentucky and federal laws and regulations pertaining to commercial vehicles in regard to weight and size limits, operating authority, safety, and tax compliance.

As more fully described under “SECURITY AND SOURCES OF PAYMENT FOR THE SERIES 2013 OBLIGATIONS – The Lease,” the Transportation Cabinet and the Authority have entered into a Lease, dated as of December 1, 2013 (the “Lease”) with respect to the Authority System pursuant to which the Transportation Cabinet has agreed to pay Rent (as defined therein) to the Trustee upon written notification to replenish amounts on deposit in the Tolling O&M Reserve Fund, the General O&M Reserve Fund and the M&R Reserve Fund. The initial term of the Lease is for the biennial period ending

June 30, 2014, but the Lease is subject to automatic renewal, subject to the right of the Transportation Cabinet in each biennial period to terminate the Lease.

Pursuant to Kentucky statutes, the Transportation Cabinet is authorized and empowered to enter into agreements and leases for various types of highway projects. As more fully described in APPENDIX J – CERTAIN INFORMATION RELATING TO THE TRANSPORTATION CABINET AND THE COMMONWEALTH – Historical Available Road Fund Revenues, Expenses and Lease Rentals,” the Transportation Cabinet has used the Road Fund to support lease rental obligations, including Economic Development Road Projects for The Turnpike Authority of Kentucky (“Turnpike”) and projects of the State Property and Buildings Commission (“SPBC”). Currently, The Turnpike has approximately \$1.5 billion of bonds outstanding and SPBC has approximately \$69.5 million in obligations outstanding that have debt service payable by Transportation Cabinet leases.

Under the provisions of the Constitution of the Commonwealth, the Transportation Cabinet is prohibited from entering into financing obligations extending beyond the biennial budget. The proposed budgets for the Transportation Cabinet are submitted to the General Assembly of the Commonwealth every two years and are subject to the discretion and approval at each successive regular or extraordinary session of the General Assembly of the Commonwealth. There can be no assurance (i) that the Transportation Cabinet will include Rent payments in future budgets submitted to the General Assembly, (ii) that the General Assembly will approve appropriations in amounts sufficient to enable the Transportation Cabinet to make Rent payments under the Lease or (iii) that the Governor, in the performance of his or her obligation to balance the Commonwealth’s annual budget, will not reduce or eliminate any such appropriations. Historically, appropriations for the benefit of the Transportation Cabinet have been funded from the Road Fund.

THE GENERAL ASSEMBLY OF THE COMMONWEALTH IS UNDER NO OBLIGATION TO MAKE APPROPRIATIONS FOR RENTAL PAYMENTS TO THE TRANSPORTATION CABINET NOR IS THE TRANSPORTATION CABINET UNDER ANY OBLIGATION TO RENEW THE LEASE.

Additional Information

For additional information relating to the Transportation Cabinet, see APPENDIX J – CERTAIN INFORMATION RELATING TO THE TRANSPORTATION CABINET AND THE COMMONWEALTH – Kentucky Transportation Cabinet.

THE COMMONWEALTH

General

The Commonwealth of Kentucky, nicknamed the Bluegrass State, was the first state west of the Alleghenies to be settled by pioneers. Kentucky is bounded by the Ohio River to the north and the Mississippi River to the west, and is bordered by the States of Illinois, Indiana, Ohio, West Virginia, Tennessee, Missouri and the Commonwealth of Virginia.

The Kentucky economy, once dominated by coal, horses, bourbon and tobacco, has become a diversified, modern, international economy -- illustrated by the fact that Kentucky’s manufacturing employment concentration as a percentage of non-farm employment is now higher than the national average, and recessionary employment declines in the manufacturing sector was more muted in Kentucky than in the nation as a whole. The Commonwealth’s parks, horse breeding and racing industry, symbolized by the Kentucky Derby, play an important role in expanding the tourism industry in the Commonwealth.

Budget and Appropriation

The General Assembly is required by the Kentucky Constitution to adopt measures providing for the state's revenues and appropriations for each fiscal year. The Governor is required by law to submit a biennial State Budget (the "State Budget") to the General Assembly during the legislative session held in each even numbered year. State Budgets have generally been adopted by the General Assembly during those legislative sessions, which end in mid-April, to be effective upon the Governor's signature for appropriations commencing for a two year period beginning the following July 1.

In the absence of a legislatively enacted budget, the Kentucky Supreme Court has ruled that the Governor has no authority to spend money from the state treasury except where there is a statutory, constitutional or federal mandate and the Commonwealth may be prevented from expending funds for certain state governmental functions, including the ability to pay principal of and interest, when due, on obligations that are subject to appropriation.

As more fully set forth under "SECURITY AND SOURCES OF PAYMENT FOR THE SERIES 2013 OBLIGATIONS – The Lease," the Transportation Cabinet has agreed to timely request appropriations from the Legislature in amounts sufficient to fulfill its obligations under the Lease.

For more a more detailed description of the Commonwealth and the Transportation Cabinet, see APPENDIX J – CERTAIN INFORMATION RELATING TO THE TRANSPORTATION CABINET AND THE COMMONWEALTH.

SOURCES AND USES OF PROCEEDS

The proceeds of the Series 2013 Bonds are expected to be applied in the following manner:

SOURCES OF FUNDS:

Initial Par of Series 2013 Bonds	\$275,670,369
Less Original Issue Discount	(4,084,522)
Par of Series 2013 Subordinate Notes	452,200,000
Plus Original Issue Premium	<u>41,127,562</u>
Total Sources of Funds	<u>\$764,913,409</u>

USES OF FUNDS:

Project Costs	\$592,215,210
Deposit to Proceeds Subaccount of the First Tier Common Debt	
Service Reserve Account	27,567,037
Deposit to TIFIA Bonds Series Debt Service Reserve Account	18,545,360
Deposit to Tolling O&M Reserve Fund	4,404,500
Capitalized interest on the Series 2013A Bonds	40,941,189
Capitalized interest on the Series 2013 Subordinate Notes	77,112,380
Costs of Issuance ⁽¹⁾	4,127,733
Total Uses of Funds	<u>\$764,913,409</u>

⁽¹⁾ Includes underwriters' discount, consultants' fees, fees and expenses of counsel and counsel to the underwriters, rating agency fees, printing expenses, Trustee fees, and other miscellaneous costs and expenses.

THE SERIES 2013 OBLIGATIONS

The following summary describes certain provisions of the Series 2013 Obligations. This summary does not purport to be complete and is subject to, and qualified in its entirety by reference to, the provisions of the Indenture and the Series 2013 Obligations.

Series 2013 Bonds

General. The Series 2013 Bonds will be dated their date of delivery and will bear interest at the rates and mature on the maturity dates as set forth on the inside front cover page of this Official Statement.

For purposes of this Official Statement, except where specifically noted to the contrary, references to “principal” means, in the case of the Series 2013B Bonds and the Series 2013C Bonds at any time, the Accreted Value (as defined below) thereof at such time.

Series 2013A Bonds. The Series 2013A Bonds are being issued as current interest bonds and will bear interest at the rates and mature on the maturity dates as set forth on the inside front cover page of this Official Statement. Interest on the Series 2013A Bonds will accrue from their date of delivery and will be payable semi-annually on each January 1 and July 1 (each, an “Interest Payment Date”), commencing July 1, 2014. The Series 2013A Bonds will be issued in authorized denominations of \$5,000 or any integral multiples thereof. Interest shall accrue based upon the basis of a year of twelve 30-day months.

Series 2013B Bonds. The Series 2013B Bonds are being issued as capital appreciation bonds. Interest on the Series 2013B Bonds will compound from their date of delivery. Interest on the Series 2013B Bonds will not be paid on a current basis, but will be added to the principal amount of such Series 2013B Bonds on each January 1 and July 1, commencing on January 1, 2014 (each an “Interest Accretion Date” with respect to the Series 2013B Bonds) (such principal amount, plus the amount of interest on such Series 2013B Bonds accumulated, compounded and unpaid thereon being, with respect to the Series 2013B Bonds at any particular time, the “Accreted Value” thereof at such time), and will be treated as if accruing in equal daily amounts between Interest Accretion Dates on the basis of a year of twelve 30-day months, until payable at maturity or upon prior redemption. See APPENDIX N – ACCRETED VALUE TABLES FOR THE SERIES 2013B AND THE SERIES 2013C BONDS. The Series 2013B Bonds will be issued in authorized denominations of \$5,000 in maturity amount or any integral multiples thereof.

Series 2013C Bonds. The Series 2013C Bonds are being issued as convertible capital appreciation bonds. Interest on the Series 2013C Bonds will compound from their date of delivery to July 1, 2023 (the “Conversion Date”). Prior to the Conversion Date, interest will not be paid on a current basis, but will be added to the principal on each January 1 and July 1, commencing on January 1, 2014 (each an “Interest Accretion Date” with respect to the Series 2013C Bonds) (such principal amount, plus the amount of interest on such Series 2013C Bonds accumulated, compounded and unpaid thereon being, with respect to the Series 2013C Bonds at any particular time, the “Accreted Value” thereof at such time, and, on and after the Conversion Date, the “Conversion Value”), and will be treated as if accruing in equal daily amounts between Interest Accretion Dates on the basis of a year of twelve 30-day months, until payable at maturity or upon prior redemption. See APPENDIX N – ACCRETED VALUE TABLES FOR THE SERIES 2013B AND THE SERIES 2013C BONDS. After the Conversion Date, interest on the Series 2013C Bonds will be payable on a current basis semi-annually on each January 1 and July 1, commencing on January 1, 2024. The Series 2013C Bonds will be issued in authorized denominations of \$5,000 in Accreted Value at the Conversion Date or any integral multiples thereof.

Series 2013 Subordinate Notes

The Series 2013 Subordinate Notes will be dated their date of delivery and will bear interest (based upon a year of twelve 30-day months) at the rates and mature on the date as set forth on the inside front cover page of this Official Statement. Interest on the Series 2013 Subordinate Notes will accrue from their date of delivery and will be payable semi-annually on each January 1 and July 1 (each, an “Interest Payment Date”), commencing July 1, 2014. The Series 2013 Subordinate Notes will be issued in authorized denominations of \$5,000 or any integral multiples thereof.

Book-Entry Only System

The Series 2013 Obligations, when issued, will be registered in the name of Cede & Co., the partnership nominee of The Depository Trust Company, New York, New York (“DTC”), or such other name as may be requested by an authorized representative of DTC. When the Series 2013 Obligations are issued, ownership interests will be available to purchasers only through a book-entry system maintained by DTC (the “Book-Entry Only System”). So long as Cede & Co. is the registered owner of the Series 2013 Obligations as nominee of DTC, references herein to the holders or registered owners of the Series 2013 Obligations will mean Cede & Co. and will not mean the beneficial owners of the Series 2013 Obligations. See APPENDIX K – DESCRIPTION OF BOOK-ENTRY ONLY SYSTEM.

None of the Authority, the Trustee or the Underwriters will have any responsibility or obligation to the Participants, DTC or the persons for whom they act with respect to (i) the accuracy of any records maintained by DTC or by a Direct or Indirect Participant of DTC, (ii) payments or the providing of notice to Direct Participants, the Indirect Participants or the beneficial owners, (iii) the selection by DTC or by any Direct or Indirect Participant of any beneficial owner to receive payment in the event of a partial redemption of the Series 2013 Obligations or (iv) any other action taken by DTC or its partnership nominee as owner of the Series 2013 Obligations. For more information on DTC and the Book-Entry Only System, see APPENDIX K – DESCRIPTION OF BOOK-ENTRY ONLY SYSTEM.

Redemption Provisions

Optional Redemption.

Series 2013A Bonds. The Series 2013A Bonds are subject to optional redemption prior to maturity by the Authority on and after July 1, 2023, in whole or in part at any time, at 100% of the principal amount of the Series 2013A Bonds to be redeemed plus interest accrued to the date fixed for redemption.

Series 2013B Bonds. The Series 2013B Bonds maturing July 1, 2019 through July 1, 2023 are not subject to optional redemption prior to maturity.

The Series 2013B Bonds maturing July 1, 2025 through July 1, 2028 are subject to optional redemption prior to maturity by the Authority on and after July 1, 2023, in whole or in part at any time, at 100% of the Accreted Value of the Series 2013B Bonds to be redeemed to the date fixed for redemption.

The Series 2013B Bonds maturing July 1, 2029 through July 1, 2032 are subject to optional redemption prior to maturity by the Authority on and after July 1, 2028, in whole or in part at any time, at 100% of the Accreted Value of the Series 2013B Bonds to be redeemed to the date fixed for redemption.

Series 2013C Bonds. The Series 2013C Bonds are subject to optional redemption prior to maturity by the Authority on and after July 1, 2031, in whole or in part at any time, at 100% of the Conversion Value of the Series 2013C Bonds to be redeemed plus interest accrued to the date fixed for redemption.

Series 2013 Subordinate Notes. The Series 2013 Subordinate Notes are not subject to optional redemption prior to maturity.

Mandatory Sinking Fund Redemption.

Series 2013A Bonds. The Series 2013A Bonds maturing on July 1, 2049 and July 1, 2053 are subject to mandatory sinking fund redemption in part prior to maturity on July 1, in the years set forth below, at a redemption price equal to the principal amount of the Series 2013A Bonds called for redemption, as set forth in the following table:

Series 2013A Bonds Maturing July 1, 2049

<u>Year</u>	<u>Principal Amount</u>
2046	\$16,880,000
2047	18,925,000
2048	20,010,000
2049 [†]	21,160,000

[†] Final maturity.

Series 2013A Bonds Maturing July 1, 2053

<u>Year</u>	<u>Principal Amount</u>
2050	\$22,375,000
2051	23,720,000
2052	25,145,000
2053 [†]	26,650,000

[†] Final maturity.

Series 2013C Bonds. The Series 2013C Bonds maturing on July 1, 2039, July 1, 2043 and July 1, 2046 are subject to mandatory sinking fund redemption in part prior to maturity on July 1, in the years set forth below, at a redemption price equal to the principal amount of the Series 2013C Bonds called for redemption, as set forth in the following table:

Series 2013C Bonds Maturing July 1, 2039

<u>Year</u>	<u>Principal Amount</u>
2035	\$ 6,660,000
2036	7,100,000
2037	7,570,000
2038	9,795,000
2039 [†]	10,880,000

[†] Final maturity.

Series 2013C Bonds Maturing July 1, 2043

<u>Year</u>	<u>Principal Amount</u>
2040	\$11,595,000
2041	12,375,000
2042	13,215,000
2043 [†]	14,105,000

[†] Final maturity.

Series 2013C Bonds Maturing July 1, 2046

<u>Year</u>	<u>Principal Amount</u>
2044	\$15,055,000
2045	16,095,000
2046 [†]	1,000,000

[†] Final maturity.

Notice of Redemption. When the Trustee receives notice from the Authority of its election to redeem Bonds, or in order to carry out any Sinking Fund Installments or other mandatory redemption provisions of any Series Trust Indenture, the Trustee shall give notice of call for redemption, which notice shall identify (i) by designation, letters, numbers or other distinguishing marks of the Bonds or portions thereof to be redeemed, (ii) the Redemption Price to be paid, (iii) the date fixed for redemption and (iv) the place or places where the amounts due upon redemption are payable. The notice shall be given by the Trustee on behalf of the Authority by mailing a copy of the redemption notice by first class mail, postage prepaid, at least 30 days prior to the date fixed for redemption (or such shorter period as shall be acceptable to a Bondholder) to the Bondholder of each Bond subject to redemption in whole or in part at the Bondholder's address shown on the Register on the fifteenth day preceding that mailing date; provided, that failure to receive notice by mailing, or any defect in that notice, as to any Bond shall not affect the validity of the proceedings for the redemption of any Bond. The Authority may direct the Trustee to give notice of such redemption that is conditioned upon the occurrence of an event or events.

Notice of any redemption with respect to Bonds held under a Book Entry System shall be given by the Registrar or the Trustee only to the Depository, or its nominee, as the Bondholder of such Bonds. Selection of book entry interests in the Bonds called for redemption is the responsibility of the Depository and any failure of any Direct Participant, Indirect Participant or Beneficial Owner to receive such notice and its contents or effect will not affect the validity of such notice or any proceedings for the redemption of such Bonds.

Partial Redemption. If fewer than all of the Outstanding Bonds of a Series that are stated to mature on different dates are called for redemption at one time, those Bonds which are called shall be called in such order as the Authority shall determine without regard to order of the maturities or the numbering of the Bonds of that Series to be redeemed. If fewer than all of the Bonds of a single maturity are to be redeemed, the selection of Bonds to be redeemed, or portions thereof, shall be made by lot by the Trustee in any manner which the Trustee or the Depository, if applicable, may determine. In the case of a partial redemption of Bonds by lot when Bonds of denominations greater than the minimum authorized denomination are then Outstanding, each minimum authorized denomination thereof shall be treated as though it were a separate Bond of the minimum authorized denomination. If it is determined that one or more, but not all of the minimum authorized denominations represented by a Bond are to be called for redemption, then upon notice of redemption of an authorized denomination, the Bondholder of the Bond shall surrender the Bond to the Trustee (a) for payment of the Redemption Price of such authorized denomination or face value called for redemption (including without limitation the interest accrued to the date fixed for redemption and any premium) and (b) for issuance, without charge to the Bondholder, of a new Bond or Bonds of the same Series, in an aggregate principal amount equal to the unmatured and unredeemed portion of, and bearing interest at the same rate and maturing on the same date as, the Bond surrendered.

SECURITY AND SOURCES OF PAYMENT FOR THE SERIES 2013 OBLIGATIONS

General

The Series 2013 Bonds are being issued as First Tier Bonds and are the first three Series of First Tier Bonds issued by the Authority under the General Indenture. Payment of principal of, Accreted Value and interest on the Series 2013 Bonds are payable from, and secured by a first pledge of, the Trust Estate, as more fully described below. The Trust Estate consists primarily of the Authority's 50% share of the toll revenues derived from the System ("Authority Toll Revenues"). As more fully described under "SOURCES AND USES OF PROCEEDS," capitalized interest on the Series 2013A Bonds through January 1, 2018 has been funded from the proceeds of the Series 2013 Bonds.

The Series 2013 Subordinate Notes are being issued as Subordinate Bonds and are the first two Series of Subordinate Bonds issued by the Authority under the General Indenture. Payment of principal or and interest on the Series 2013 Subordinate Notes are payable from, and secured by a pledge of, the Trust Estate, subordinate to the payment of principal of and interest on the First Tier, Second Tier and Third Tier Bonds, including the Series 2013 Bonds, issued by the Authority under the General Indenture. Capitalized interest on the Series 2013 Subordinate Notes to maturity has been funded from the proceeds of the Series 2013 Subordinate Notes. It is expected that principal on the Series 2013 Subordinate Notes at maturity will be paid from a disbursement made to the Authority, subject to the satisfaction of certain conditions, under the TIFIA Loan Agreement. See "Conditions to Requisition and Disbursement Under TIFIA Loan Agreement" below.

The Series 2013 Obligations shall not constitute a debt of the Commonwealth or any of its political subdivisions, or a pledge of the faith and credit of the Commonwealth or any of its political subdivisions. Neither the Commonwealth nor the Authority shall be obligated to pay the Series 2013 Obligations or the interest thereon, other than from the Trust Estate pledged therefor, and neither the faith and credit nor the taxing power of the Commonwealth is pledged to the payment of the principal of or the interest on the Series 2013 Obligations.

On December 12, 2013, the Authority delivered to the TIFIA Lender the TIFIA Bonds as Third Tier Bonds to evidence the Authority's obligation to repay the TIFIA Loan. The principal amount of the TIFIA Bonds increases in an amount equal to the advances made by the TIFIA Lender to the Authority under the TIFIA Loan Agreement. The Authority expects to make a single requisition under the TIFIA Loan in connection with the maturity of the Series 2013 Subordinate Notes and apply the amount requisitioned under the TIFIA Loan Agreement for eligible Project Costs to the payment of principal on the Series 2013 Subordinate Notes. Prior to such requisition, the Authority expects to use the proceeds of the Series 2013A Tax-Exempt Subordinate Notes to fund Project Costs and to use the proceeds of the Series 2013B Taxable Subordinate Notes to make deposits to the TIFIA Bonds Series Debt Service Reserve Account and the Tolling O&M Reserve Fund.

Pledge of Authority System Revenue

Pledged Receipts. The "Pledged Receipts" consist of (i) the Authority System Revenue (i.e., the Authority's 50% share of the Toll Revenue, as defined below, plus investment earnings required to be deposited (or if related to a calculation with respect to future deposits, as reasonably estimated by the Authority to be deposited) in the Authority System Revenue Fund under the terms of the Indenture, (ii) certain payments received from counterparties in connection with variable rate hedging transactions, if any hedging transactions are entered into by the Authority in the future, and (iii) Rent under the Lease Payments (but only for application in accordance with the requirements of the Indenture for the Fund or Account into which any Lease Payment or portion thereof is deposited).

Under the Development Agreement, the Authority and the IFA will each receive an equal share of the gross amount of (i) all toll receipts payable to or collected in respect of the System, (ii) administrative fees, (iii) violation charges, (iv) incidental charges, (v) penalties, and (vi) other charges collected through a collection process with respect to the System (collectively, such amounts are defined in the Development Agreement as the “Toll Revenues” and in the Indenture as “Tolls”).

Trust Estate. Under the Indenture, the Authority has granted to the Trustee, for the benefit of the Bondholders, a pledge of the Trust Estate, which consists of (i) all right, title and interest of the Authority in and to the Pledged Receipts, (ii) all moneys and securities on deposit from time to time in the Funds and Accounts established under the Indenture which permit the application thereof for the purposes and on the terms and conditions set forth in the Indenture other than moneys and securities on deposit in the Rebate Fund, the General O&M Reserve Fund, the M&R Reserve Fund, the Tolling O&M Reserve Fund and the General Reserve Fund, as each is hereinafter described, (iii) all right, title and interest of the Authority in and to the Lease; and (iv) any and all other property of every kind and nature from time to time hereafter, by delivery or by writing of any kind pledged, assigned or transferred as additional security.

Conditions to Requisition and Disbursement Under TIFIA Loan Agreement

The Authority expects to pay the principal of the Series 2013 Subordinate Notes by requisitioning the full amount of the TIFIA Loan in connection with the maturity of the Series 2013 Subordinate Notes. As more fully described herein under “TIFIA LOAN AGREEMENT,” there are numerous conditions that must be satisfied by the Authority in connection with the requisitioning of moneys under the TIFIA Loan Agreement, including certain conditions relating to third parties, such as INDOT, the IFA, the Toll System Integrator and the Revenue Control Manager, over whom the Authority has no control. In addition, the TIFIA Lender may refuse to honor a requisition if, among other things, an event of default under the TIFIA Loan Agreement or certain other material contracts has occurred and is continuing, or if the Authority or certain other parties are not in compliance with federal law or their obligations under certain material contracts. See “TIFIA LOAN AGREEMENT” herein.

The Authority has covenanted in the Indenture to take all actions necessary to ensure that it can requisition sufficient moneys under the TIFIA Loan Agreement to pay the principal of the Series 2013 Subordinate Notes on their maturity date.

Liens of the Indenture

First Tier, Second Tier, Third Tier and Subordinate Bonds Authorized. The Indenture creates four separate liens on the Trust Estate:

- First Tier Bonds are secured by a first priority security interest in the Trust Estate;
- Second Tier Bonds are secured by a security interest in the Trust Estate that is subordinate to the lien securing the First Tier Bonds and, if a Bankruptcy Related Event relating to the Authority occurs, the resulting first priority lien securing Third Tier Bonds that are TIFIA Bonds;
- Third Tier Bonds are secured by a security interest in the Trust Estate that is subordinate to the lien securing the First Tier Bonds and Second Tier Bonds; and
- Subordinate Bonds, including the Series 2013 Subordinate Notes, are secured by a security interest in the Trust Estate that is payable from the General Reserve Fund.

Potential Parity First Priority Lien for TIFIA Bonds. The Indenture provides that upon the occurrence of a Bankruptcy Related Event (as hereinafter defined) of the Authority, the TIFIA Bonds will have a first priority lien on parity with the First Tier Bonds and that debt service on the TIFIA Bonds may be payable from certain amounts on deposit in the Revenue Subaccount of the First Tier Common Debt Service Reserve Account (but not the Proceeds Subaccount).

“Bankruptcy Related Event” means (a) an involuntary proceeding shall be commenced or an involuntary petition shall be filed seeking (i) liquidation, reorganization or other relief in respect of the Authority or any of its debts, or of a substantial part of the assets of the Authority relating to the Authority System, under any Insolvency Law, or (ii) the appointment of a receiver, trustee, liquidator, custodian, sequestrator, conservator or similar official for the Authority or for a substantial part of the assets of the Authority relating to the Authority System, and, in any case referred to in the foregoing subclauses (i) and (ii), such proceeding or petition shall continue undismissed for 60 days or an order or decree approving or ordering any of the foregoing shall be entered; or (b) the Authority shall (i) apply for or consent to the appointment of a receiver, trustee, liquidator, custodian, sequestrator, conservator or similar official for the Authority or for a substantial part of the assets of the Authority relating to the Authority System, (ii) generally not be paying its debts as they become due unless such debts are the subject of a bona fide dispute, or become unable to pay its debts generally as they become due, (iii) fail to make two (2) consecutive payments of debt service on a TIFIA Bond when due, or (iv) make a general assignment for the benefit of creditors, or (v) consent to the institution of, or fail to contest in a timely and appropriate manner, any proceeding or petition with respect to it described in clause (a) of this definition, or (vi) commence a voluntary proceeding under any Insolvency Law, or file a voluntary petition seeking liquidation, reorganization, an arrangement with creditors or an order for relief under any Insolvency Law, or (vii) file an answer admitting the material allegations of a petition filed against it in any proceeding referred to in the foregoing subclauses (i) through (vi), inclusive, of this clause (b), or (viii) take any action for the purpose of effecting any of the foregoing.

“Insolvency Laws” means the United States Bankruptcy Code, 11 U.S.C. §101 et seq., as from time to time amended and in effect, and any state bankruptcy, insolvency, receivership or similar law now or hereafter in effect in the Commonwealth.

Flow of Funds

Except as provided in the next sentence with respect to investment earnings, all Pledged Receipts shall be deposited in the Authority System Revenue Fund. Investment earnings from the investment of moneys in any Fund and Account shall be transferred to the Authority System Revenue Fund; provided that

- investment earnings from the investment of moneys in a Project Fund and the Rebate Fund shall be deemed at all times to be a part of such Funds and the income or interest earned, gains realized or losses suffered by such Funds due to the investment thereof shall be retained in, credited or charged thereto;
- the First Supplemental Indenture creates a First Tier 2013 Series A Bonds Capitalized Interest Fund and provides that investment earnings on amounts on deposit in the First Tier 2013 Series A Bonds Capitalized Interest Fund shall be retained therein and applied to the payment of interest on the First Tier 2013 Series A Bonds, when due;
- the Fourth Supplemental Indenture creates a 2013 Series A Notes Capitalized Interest Fund and a 2013 Series Notes B Capitalized Interest Fund and provides that investment earnings on amounts on deposit in the 2013 Series A Notes Capitalized Interest Fund and the 2013 Series B Notes Capitalized Interest Fund shall be retained therein and applied to

the payment of interest on the Series 2013A Tax-Exempt Notes and the Series 2013B Taxable Notes, as applicable, when due;

- the Supplemental Indentures relating to the Series 2013 Bonds provide that investment earnings on amounts on deposit in the First Tier Common Debt Service Reserve Account shall be transferred to the First Tier Debt Service Account to pay principal of and interest on the Series 2013 Bonds;
- amounts required to be transferred to the Rebate Fund shall be transferred thereto at the times and in the amounts, from the applicable Funds or Accounts, to comply with the requirements of the Code; and
- with respect to Bonds other than the Series 2013 Obligations, earnings on any Fund created for the payment of capitalized interest may be retained in such Fund, or as otherwise provided in a Series Trust Indenture, and earnings on a Debt Service Reserve Account may be applied as otherwise provided in the Series Trust Indenture creating that Debt Service Reserve Account.

Amounts in the Authority System Revenue Fund shall be applied on the 25th day of each month (or, if such 25th day is not a Business Day, on the next Business Day), in the order of priority set forth below, but as to each purpose, only within the limitations with respect thereto and only after payment has been brought current for every preceding purpose described in the following listing.

(a) To the Debt Service Fund for deposit in the following Accounts in the amounts and in the following order of priority (to the extent that amounts available in the Authority System Revenue Fund are sufficient only to partially provide for one of the purposes described in (i) - (vi) below, the available amount shall be allocated on a pro rata basis among the Series of Bonds in the applicable Tier):

(i) First Tier Debt Service Account, (A) if interest (or Hedge Payments) is payable monthly, an amount equal to the interest (or Hedge Payments) coming due on the next Bond Interest Payment Date, (B) if interest (or Hedge Payments) is payable other than monthly, an amount equal to the amount of interest coming due on the next Bond Interest Payment Date divided by the number of months to and including the next Bond Interest Payment Date (i.e., if semi-annual payments, then $1/6^{\text{th}}$), and (C) an amount equal to the amount of principal coming due on the next principal payment date divided by the number of months to and including the next principal payment date (i.e., if annual payments, then $1/12^{\text{th}}$); provided that, upon the occurrence of a Bankruptcy Related Event, referenced to First Tier in this paragraph shall also include TIFIA Bonds;

(ii) In priority order, first to the Revenue Subaccount of the First Tier Debt Service Reserve Account and second in each Series Debt Service Reserve Account, the amount necessary to cause the amount on deposit therein to equal the applicable Debt Service Reserve Requirement, or to reimburse a Credit Provider for a draw on a Credit Facility; provided that such amount shall be deposited in 12 equal, consecutive, monthly installments, the first such installment to be due in the calendar month next succeeding the month in which the deficiency exists;

(iii) Second Tier Debt Service Account, (A) if interest (or Hedge Payments) is payable monthly, an amount equal to the interest (or Hedge Payments) coming due on the next Bond Interest Payment Date, (B) if interest (or Hedge Payments) is payable other than monthly, an amount equal to the amount of interest coming due on the next Bond Interest Payment Date divided by the number of months to and including the next Bond

Interest Payment Date, and (C) an amount equal to the amount of principal coming due on the next principal payment date divided by the number of months to and including the next principal payment date;

(iv) Second Tier Debt Service Reserve Accounts, the amount, if any, necessary to restore the amounts on deposit therein to the applicable Debt Service Reserve Requirement(s), or to reimburse a Credit Provider for a draw on a Credit Facility in the Second Tier Debt Service Reserve Account; provided that such amount shall be deposited in 12 equal, consecutive, monthly installments, the first such installment to be due in the calendar month next succeeding the month in which the applicable deficiency arose;

(v) Third Tier Debt Service Account, and to the TIFIA Bonds subaccount and Non-TIFIA Bonds subaccount therein, as applicable, (A) if interest (or Hedge Payments) is payable monthly, an amount equal to the interest (or Hedge Payments) coming due on the next Bond Interest Payment Date, (B) if interest (or Hedge Payments) is payable other than monthly, an amount equal to the amount of interest coming due on the next Bond Interest Payment Date divided by the number of months to and including the next Bond Interest Payment Date, and (C) an amount equal to the amount of principal coming due on the next principal payment date divided by the number of months to and including the next principal payment date; and

(vi) Third Tier Debt Service Reserve Accounts, the amount, if any, necessary to restore the amounts on deposit therein to the applicable Debt Service Reserve Requirement(s), or to reimburse a Credit Provider for a draw on a Credit Facility in the Third Tier Debt Service Reserve Account; provided that such amount shall be deposited in 12 equal, consecutive, monthly installments, the first such installment to be due in the calendar month next succeeding the month in which the applicable deficiency arose. Upon the occurrence of a Bankruptcy Related Event, unless to reimburse a Credit Provider for a draw on a Credit Facility in the Third Tier Debt Service Reserve Account, no further deposits need be made.

(b) To the Tolling O&M Reserve Fund, an amount necessary to maintain a balance therein equal to the Tolling O&M Reserve Fund Requirement (as defined below under “Operating Reserve Funds – *Tolling O&M Reserve Fund*”).

(c) To the General O&M Reserve Fund, an amount necessary to maintain a balance therein equal to the General O&M Reserve Fund Requirement (as defined below under “Operating Reserve Funds – *General O&M Reserve Fund*”).

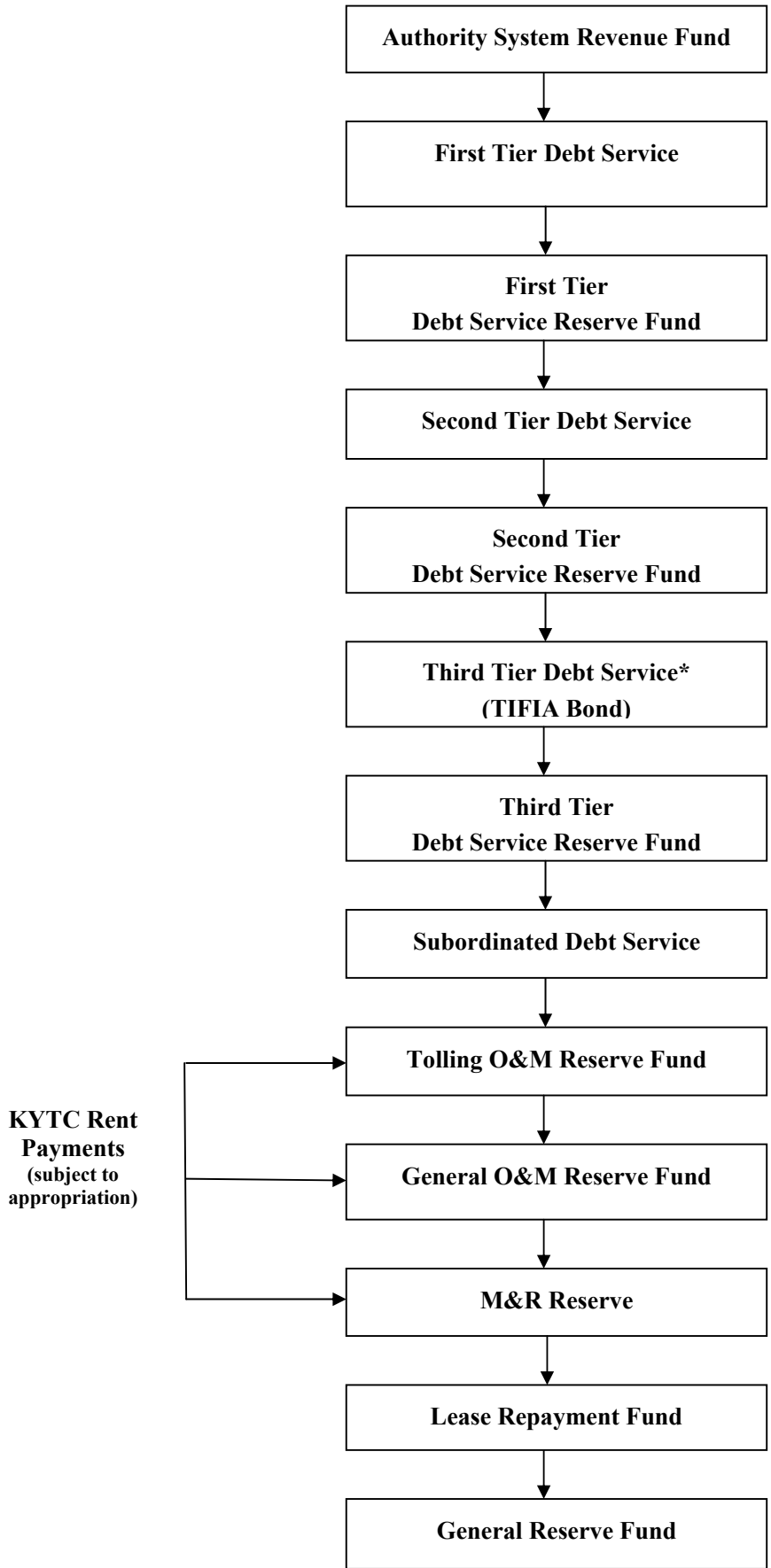
(d) To the M&R Reserve Fund, an amount necessary to maintain a balance therein equal to the M&R Reserve Fund Requirement (as defined below under “Operating Reserve Funds – *M&R Reserve Fund*”).

(e) To the Lease Payment Fund, the amount, if any, required to fund or repay Lease Payments, as provided in each Lease then in force and effect.

(f) To the General Reserve Fund, all remaining amounts.

For more information on the flow of funds, see APPENDIX B – SUMMARY OF GENERAL TRUST INDENTURE.

A chart showing the flow of funds under the Indenture is set forth on the following page.



* As described under “SECURITY AND SOURCES OF PAYMENT FOR THE SERIES 2013 OBLIGATIONS – Liens of the Indenture,” the TIFIA Bonds under certain limited circumstances could become First Tier Bonds.

Debt Service Reserve Accounts

First Tier Debt Service Reserve Account. First Tier Bonds may be secured by a common debt service reserve account (the “First Tier Common Debt Service Reserve Account”) or by a separate and distinct debt service reserve account related solely to such Series (a “Series Debt Service Reserve Account”). The First Tier Common Debt Service Reserve Account and the Series Debt Service Reserve Accounts related to First Tier Bonds are collectively referred to herein as the “First Tier Debt Service Reserve Accounts.” Each Series Trust Indenture authorizing the issuance of a Series of First Tier Bonds shall establish the Debt Service Reserve Requirement with respect to the First Tier Bonds being authorized thereby or provide that such First Tier Bonds will not be secured by any Debt Service Reserve Account.

The Series 2013 Bonds will be secured by the First Tier Common Debt Service Reserve Account. Within the First Tier Common Debt Service Reserve Account, there are established a Proceeds Subaccount and a Revenue Subaccount.

The Debt Service Reserve Requirement for the Series 2013 Bonds is defined in the First Supplemental Indenture as the least of (i) the Maximum Annual Debt Service for the Outstanding First Tier Bonds for any Fiscal Year; (ii) 125% of the average Annual Debt Service for the Outstanding First Tier Bonds for any Fiscal Year; and (iii) 10% of the stated principal amount of all Tax-Exempt Bonds and Tax-Advantaged Bonds being issued within 15 days of the sale date of the Series 2013A Bonds, provided, that if any First Tier Bonds have original issue discount or premium that exceeds 2% of the stated redemption price at maturity, the initial offering prices to the public shall be used in lieu of the stated principal amount for purposes of determining the 10% amount; which Debt Service Reserve Requirement shall be adjusted annually on the first day of each Fiscal Year to equal the Maximum Annual Debt Service for the Outstanding First Tier Bonds for any Fiscal Year within the prospective five Fiscal Years during which the amount is to be calculated.

Upon the issuance of the Series 2013 Bonds, the initial Debt Service Reserve Requirement for the First Tier Common Debt Service Reserve Account, which will be funded from the proceeds of the Series 2013 Bonds, will be deposited into the Proceeds Subaccount of the First Tier Common Debt Service Reserve Account in the amount of \$27,567,036.93. The Authority will fund periodic increases in the Debt Service Reserve Requirement into the Revenue Subaccount of the First Tier Common Debt Service Reserve Account from Pledged Receipts. No further deposits will be made in the Proceeds Subaccount of the First Tier Common Debt Service Reserve Account.

Moneys in the Proceeds Subaccount of the First Tier Common Debt Service Reserve Account will be used only to pay principal and interest on First Tier Bonds secured thereby, and not TIFIA Bonds that become First Tier Bonds upon the occurrence of a Bankruptcy Related Event.

Moneys in the Revenue Subaccount of the First Tier Common Debt Service Reserve Account may be used to pay principal and interest on First Tier Bonds and, upon the occurrence of a Bankruptcy Related Event, TIFIA Bonds that become First Tier Bonds. Following the occurrence of a Bankruptcy Related Event, all amounts on deposit in the TIFIA Bonds Series Debt Service Reserve Account shall be transferred to the Revenue Subaccount of the First Tier Common Debt Service Account and no further deposits will be made in the TIFIA Bonds Series Debt Service Reserve Account. Following the occurrence of a Bankruptcy Related Event, amounts in the Proceeds Subaccount will be used to pay deficient amounts relating to the First Tier Bonds that are not TIFIA Bonds prior to using amounts in the Revenue Subaccount for such purpose. If no amounts remain in the Proceeds Subaccount, amounts in the Revenue Subaccount will be used to pay deficient amounts relating to the First Tier Bonds that are not TIFIA Bonds.

TIFIA Bonds Debt Service Reserve Account. The TIFIA Bonds will be secured by a separate subaccount within the Third Tier Debt Service Reserve Account (the “TIFIA Bonds Series Debt Service Reserve Account”). The TIFIA Debt Service Reserve Requirement for the TIFIA Bonds is defined in the TIFIA Loan Agreement and the Fifth Supplemental Indenture as the initial amount deposited therein and, as of any date after the date of the disbursement of the TIFIA Loan, an amount equal to the Maximum Annual Debt Service with respect to the TIFIA Bonds for any Fiscal Year within the prospective five (5) Fiscal Year period.

Upon the issuance of the Series 2013 Obligations, the initial TIFIA Debt Service Reserve Requirement will be \$18,545,360, which will be funded from the proceeds of the Series 2013B Taxable Subordinate Notes. The Authority will fund periodic increases in the TIFIA Debt Service Reserve Requirement from Pledged Receipts.

As described above under “*First Tier Debt Service Reserve Account,*” TIFIA Bonds will also be secured by the Revenue Subaccount of the First Tier Common Debt Service Reserve Account upon the occurrence of a Bankruptcy Related Event

Use of Credit Facility to Fund Debt Service Reserve Requirement. The Authority may provide a Credit Facility to maintain all or a portion of the Debt Service Reserve Requirement. The consent of the TIFIA Lender to use such a Credit Facility is required while TIFIA Bonds are Outstanding.

Additional Information. For additional information relating to the Debt Service Reserve Accounts for Bonds issued under the Indenture, see APPENDIX B – SUMMARY OF GENERAL TRUST INDENTURE – Establishment of Funds and Accounts; Application of Pledge Receipts.

Operating Reserve Funds

General. The Indenture creates the operating reserve funds: the Tolling O&M Reserve Fund, the General O&M Reserve Fund and the M&R Reserve Fund (collectively, the “Operating Reserve Funds”). Amounts on deposit in each of the Operating Reserve Funds are not pledged to the payment of debt service on the Bonds and do not constitute a part of the Trust Estate, except that amounts that are in excess of the applicable requirement for any Operating Reserve Fund may be transferred to the Debt Service Fund and applied in accordance with the priority set forth in the “Flow of Funds.”

Tolling O&M Reserve Fund. Upon issuance of the Series 2013B Taxable Subordinated Notes, the Authority will deposit \$4,404,500 from the proceeds thereof into the Tolling O&M Reserve Fund. Upon receipt of Authority Toll Revenues, the deposits to the Tolling O&M Reserve Fund required by the Flow of Funds shall commence and shall be in an amount equal to the amount estimated by the Authority as being at least sufficient to pay Toll System Collection Expenses for the month following each such deposit (the “Monthly Tolling O&M Expense”), which estimate shall be provided by the Authority to the Trustee. In addition to the amount required by the preceding sentence, if the amount on deposit in the Tolling O&M Reserve Fund is less than the Tolling System Reserve Fund Requirement (without regard to the Monthly Tolling O&M Expense), the Trustee shall deposit into the Tolling O&M Reserve Fund the amount required for the balance therein (without regard to the Monthly Tolling O&M Expense) to equal the Tolling O&M Reserve Fund Requirement divided by the number of months to the end of the first full Fiscal Year after the first deposit of such additional funds in the Tolling O&M Reserve Fund. If in any month there are insufficient amounts available in the Authority System Revenue Fund to make such deposit, the Trustee shall request the payment of Rent in an amount equal to the amount that could not be deposited, which request shall be withdrawn (or deemed withdrawn) when the amount on deposit in the Tolling O&M Reserve Fund is restored to the Tolling O&M Reserve Fund Requirement.

Amounts in the Tolling O&M Reserve Fund shall be (i) used by the Authority to pay Toll System Collection Expenses for the current Fiscal Year as reflected in the Authority System Budget, with

disbursements made upon receipt of a written request by the Trustee that includes payment instructions, and (ii) transferred to the applicable account of the Debt Service Fund in accordance with the priorities and provisions of the Flow of Funds, but only if after such transfer, the amount on deposit in the Tolling O&M Reserve Fund will be no less than the Tolling System Reserve Fund Requirement plus the Monthly Tolling O&M Expense for the following month.

“Tolling System Reserve Fund Requirement” means, initially, \$4,404,500, and after the first full Fiscal Year after the first deposit of Authority System Revenues in the Tolling O&M Reserve Fund, an amount equal to the budgeted Toll System Collection Expenses for the then current Fiscal Year as reflected in the Authority System Budget.

General O&M Reserve Fund. Upon receipt of Authority Toll Revenues, the deposits to the General O&M Reserve Fund required by the Flow of Funds shall commence and shall be in an amount equal to the amount estimated by the Authority as being at least sufficient to pay General O&M Expenses for the month following each such deposit (the “Monthly General O&M Expense”), which estimate shall be provided by the Authority to the Trustee. In addition to the amount required by the preceding sentence, there shall be deposited in the General O&M Reserve Fund monthly an amount equal to the General O&M Reserve Fund Requirement divided by 60 so that sixty months after the first deposit of funds in the General O&M Reserve Fund, the amount on deposit therein will equal the General O&M Reserve Fund Requirement (without regard to the Monthly General O&M Expense). Once the amount in the General O&M Reserve Fund is at least equal to the General O&M Reserve Fund Requirement (without regard to the Monthly General O&M Expense), the Trustee shall deposit into the General O&M Reserve Fund the amount required for the balance therein (without regard to the Monthly General O&M Expense) to equal the General O&M Reserve Fund Requirement divided by the number of months to the end of the first full Fiscal Year after the first deposit of such additional funds in the General O&M Reserve Fund. If in any month there are insufficient amounts available in the Authority System Revenue Fund to make such deposit, the Trustee shall request from the Transportation Cabinet the payment of Rent under the Lease in an amount equal to the amount that could not be deposited, which request shall be withdrawn (or deemed withdrawn) when the amount on deposit in the General O&M Reserve Fund is restored to the General O&M Reserve Fund Requirement.

Amounts in the General O&M Reserve Fund shall be (i) used by the Authority to pay General O&M Expenses for the current Fiscal Year as reflected in the Authority System Budget, with disbursements made upon receipt of a written request by the Trustee that includes payment instructions, and (ii) transferred to the applicable account of the Debt Service Fund in accordance with the priorities and provisions of the Flow of Funds, but only if after such transfer, the amount on deposit in the General O&M Reserve Fund will be no less than the General O&M Reserve Fund Requirement plus the Monthly General O&M Expense for the following month.

“General O&M Expenses” means, to the extent permitted by the Act, (i) except for any Toll System Collection Expenses or M&R Expenses, all actual cash maintenance and operation costs (excluding costs of capital expenditures) incurred and paid (or if applicable forecast to be incurred and paid) in connection with the operation and maintenance of the Project and the Authority System in any particular calendar year, Fiscal Year or other period to which said term is applicable, including payments made pursuant to the Development Agreement (in each case excluding expenditures that constitute Costs related to the Project), payments for taxes (excluding income taxes), insurance, consumables, advertising, marketing, payments under real property agreements pursuant to which the Authority has rights in the Project and the Authority System, payments pursuant to the agreements for the management, operation or maintenance of the Project and the Authority System, reasonable legal fees and expenses paid by the Authority in connection with the management, maintenance or operation of the Project and the Authority System, fees paid in connection with obtaining, transferring, maintaining or amending any approvals from any Governmental Authority, costs incurred in connection with the performance of environmental mitigation work to be carried out by the Authority, amounts required for the acquisition of any Qualified

Hedge or for deposits into any account maintained in accordance with the General Trust Indenture for such purposes and reasonable general and administrative expenses, but exclusive in all cases of noncash charges, including depreciation or obsolescence charges or reserves therefor, amortization of intangibles or other bookkeeping entries of a similar nature; (ii) fees and expenses under a Reimbursement Agreement or Credit Facility that are not reimbursements for draws under a Credit Facility and (iii) TIFIA Servicing Fees.

“General O&M Reserve Fund Requirement” means an amount equal to the highest consecutive four months of budgeted General O&M Expenses for the current Fiscal Year as reflected in the Authority System Budget.

M&R Reserve Fund. Upon receipt of Authority Toll Revenues, the deposits to the M&R Reserve Fund required by the Flow of Funds shall commence and shall be in an amount equal to the amount estimated by the Authority as being at least sufficient to pay M&R Expenses anticipated by the Authority to be paid from the M&R Reserve Fund for the month following each such deposit (the “Monthly M&R Expense”), which estimate shall be provided by the Authority to the Trustee. In addition to the amount required by the preceding sentence, there shall be deposited in the M&R Reserve Fund an amount equal to the M&R Reserve Fund Requirement divided by 60 so that sixty months after the first deposit of funds in the M&R Reserve Fund, the amount on deposit therein will equal the M&R Reserve Fund Requirement (without regard to the Monthly M&R Expense). Once the amount in the M&R Reserve Fund is at least equal to the M&R Reserve Fund Requirement (without regard to the Monthly M&R Expense), the Trustee shall deposit into the M&R Reserve Fund the amount required for the balance therein (without regard to the Monthly M&R Expense) to equal the M&R Reserve Fund Requirement divided by the number of months to the end of the first Fiscal Year after the first deposit of such additional funds in the M&R Reserve Fund. If in any month there are insufficient amounts available in the Authority System Revenue Fund to make such deposit, the Trustee shall request from the Transportation Cabinet the payment of Rent under the Lease in an amount equal to the amount that could not be deposited, which request shall be withdrawn (or deemed withdrawn) when the amount on deposit in the M&R Reserve Fund is restored to the M&R Reserve Fund Requirement.

Amounts in the M&R Reserve Fund shall be (i) used by the Authority to pay M&R Expenses for the current Fiscal Year as reflected in the then-current capital improvement program and Authority System Budget and to pay any other M&R Expenses that must be incurred to restore or maintain any portion of the Authority System in a safe operating condition due to damage as a result of fire, flood, earthquake, other disaster, or otherwise, with disbursements made upon receipt of a written request by the Trustee that includes payment instructions; (ii) transferred to the applicable account of the Debt Service Fund in accordance with the priorities and provisions of the Flow of Funds, but only if after such transfer, the amount on deposit in the M&R Reserve Fund will be no less than the M&R Reserve Fund Requirement plus the Monthly M&R Expense for the following month; and (iii) to the extent not required by the preceding clause (ii), transferred to the Authority System Revenue Fund or General Reserve Fund in amounts determined by the Authority, if the amount in the M&R Reserve Fund exceeds the M&R Reserve Fund Requirement plus the Monthly M&R Expense for the following month.

“M&R Reserve Fund Requirement” means an amount determined by the Authority based on its projected long-term M&R Expense needs, in consultation with a Consulting Engineer.

General Reserve Fund

Amounts in the General Reserve Fund shall be used by the Authority to pay expenses relating to the Authority System, providing for debt service on Bonds or as may otherwise be permitted by the Act or required by the Development Agreement, the Lease Agreement or the Interlocal Agreement, including, but not limited to, fees and expenses of Credit Providers, Hedge Termination Payments and the payment of the debt service (or Hedge Payments) on any Subordinate Bonds. Amounts withdrawn from the

General Reserve Fund and deposited in the Authority System Revenue Fund in any Fiscal Year shall not be treated as Authority System Revenue received in that Fiscal Year.

In addition, on each July 1 that TIFIA Bonds remain Outstanding, after the payment of principal and interest due on such date and the deposit and application of Authority System Revenues required by the Indenture, the Trustee shall determine the amount on deposit in the General Reserve Fund that exceeds the amounts projected in the base case provided to the TIFIA Lender at the time of the execution of the TIFIA Loan Agreement to be on deposit in the General Reserve Fund on that July 1 (the "General Reserve Annual Surplus"). One-half of the General Reserve Annual Surplus shall be transferred to a special account of the Redemption Fund to be established for the redemption of TIFIA Bonds and the remaining General Reserve Annual Surplus shall be transferred to a special account of the General Reserve Fund to be established (the "Surplus Account"). Amounts transferred to the Redemption Fund shall be applied to the redemption of TIFIA Bonds on the earliest date permitted for redemption of TIFIA Bonds. Amounts on deposit in the Surplus Account may be applied in the same manner as other amounts on deposit in the General Reserve Fund but will not be used to determine the amount on deposit in the General Reserve Fund for purposes the determining General Reserve Annual Surplus.

The Lease

General. The Authority and the Transportation Cabinet have entered into a Lease, dated as of December 1, 2013 (the "Lease"), pursuant to which the Transportation Cabinet leases from the Authority, and the Authority leases to the Transportation Cabinet, all of the properties, facilities and appurtenances constituting the Authority System, for an initial term ending June 30, 2014, with the right and privilege by the Transportation Cabinet to continue to lease and have the Authority System for biennial periods if the Transportation Cabinet exercises its option to renew the Lease.

Automatically Renewable Lease. The option of the Transportation Cabinet to renew the Lease is deemed automatically exercised for the succeeding renewal term of two years coinciding with the fiscal biennium of the Commonwealth, unless the Secretary of the Transportation Cabinet delivers a written notice of its election not to renew before the close of business on the last business day in April preceding the beginning of the succeeding renewal term.

Rent. Upon written notice from the Trustee that deposits to the Tolling O&M Reserve Fund, the General O&M Reserve Fund or the M&R Reserve Fund required by the Flow of Funds have not been made as summarized above under "Operating Reserve Funds," the Transportation Cabinet agrees to pay "Rent" to the Trustee as follows:

- No later than 180 days after a request therefor has been provided to the Transportation Cabinet, the amount required to permit the Trustee to make the deposits in the Tolling O&M Reserve Fund so that after any such payment of Rent and deposit, the balance in the Tolling O&M Reserve Fund will be no less than the Tolling O&M Reserve Fund Requirement;
- No later than 120 days after a request therefor has been provided to the Transportation Cabinet, the amount required to permit the Trustee to make the deposits in the General O&M Reserve Fund so that after any such payment of Rent and deposit, the balance in the General O&M Reserve Fund will be no less than the General O&M Reserve Fund Requirement; and
- No later than August 1 of the next even numbered year after a request therefor has been provided to the Transportation Cabinet, the amount required to permit the Trustee to make the deposits in the M&R Reserve Fund so that after any such payment of Rent and

deposit, the balance in the M&R Reserve Fund will be no less than the M&R Reserve Fund Requirement.

Any amounts payable by the Transportation Cabinet as Rent and Additional Rent shall constitute a loan to the Authority from the Transportation Cabinet in an amount equal to such additional payments. Such loan is payable to the Transportation Cabinet with interest thereon at the rate of five percent per annum. The amounts payable by the Authority shall be payable solely from the Lease Payment Fund. See “Flow of Funds” above.

Transportation Cabinet Covenant to Complete and Maintain Authority System. The Transportation Cabinet has also agreed in the Lease to the following:

- The Transportation Cabinet acknowledges that the Authority System is a part of the Kentucky state primary road system to be maintained by the Transportation Cabinet with the assistance of the Department of Highways and that, in the event that Authority Toll Revenues are insufficient to maintain the Authority System, the Transportation Cabinet will maintain it in compliance with its obligation under Commonwealth law to investigate all problems relating to the construction and maintenance of roads in the Commonwealth.
- Based upon the estimates of its engineers and the contract prices proposed to the Transportation Cabinet, the Transportation Cabinet and the Authority believe that sufficient funds will be available to complete the Project with (i) funds included in the Highway Plan through Fiscal Year 2018 in the amount of \$50 million per annum, (ii) proceeds of bonds payable from federal highway trust funds (“GARVEE bonds”), (iii) proceeds of the TIFIA Loan and (iv) proceeds of the Series 2013 Bonds (all the foregoing, collectively, the “Current Funding Sources”). Nevertheless, the Transportation Cabinet and the Authority acknowledge that unexpected or unforeseen circumstances could result in additional unanticipated costs (the “Additional Costs”) that exceed amounts available from the Current Funding Sources. If the Current Funding Sources are not sufficient to complete the Downtown Crossing Segment in a timely manner, then, until the Downtown Crossing Segment is complete, the Transportation Cabinet, on each and every occasion when appropriations bills are prepared for introduction in the various successive Sessions of the General Assembly of the Commonwealth, cause to be included in the appropriations proposed to be made for the Transportation Cabinet, (i) authorization for the issuance of additional GARVEE bonds to pay the Additional Costs or (ii) sufficient amounts (over and above all other requirements of the Transportation Cabinet), which will enable the Transportation Cabinet to pay the Additional Costs anticipated to be incurred during the applicable budget period (not funded by the proceeds of GARVEE bonds) and thereby provide to the Authority moneys sufficient for the payment of the Additional Costs to be incurred during such budget period (the proceeds of GARVEE bonds, authorized but unissued GARVEE bonds and additional appropriations hereafter being referred to as “Additional Funding Sources”). The Additional Funding Sources may include any of the following: GARVEE bonds; federal highway funds; and amounts available in the Road Fund of the Commonwealth. The Authority shall provide notice and documentation of the need for Additional Funding Sources as soon as such need comes to the attention of the Authority and in any event no later than October 1 of the year prior to the effective date of the Budget Act that is to include authorization of the Additional Funding Sources. Any such request shall be accompanied by a certificate of a Consulting Engineer stating that in its opinion, the Additional Funding Sources are reasonably necessary in order to assure that funds will be available, as needed, to complete the Project in a timely manner.

Any amounts from the Road Fund that are applied as additional funding under the Lease shall constitute a loan to the Authority from the Transportation Cabinet in an amount equal to such additional funding. Such loan is payable to the Transportation Cabinet with interest thereon at the rate of five percent per annum. The amounts payable by the Authority shall be payable solely from the Lease Payment Fund. See “Flow of Funds” above.

Covenant to Seek Appropriation for Rent and Additional Rent. The Transportation Cabinet covenants and agrees that (i) on each and every occasion when appropriations bills are prepared for introduction in the various successive Sessions of the General Assembly of the Commonwealth after a request therefor has been provided to the Transportation Cabinet in relation to the Tolling O&M Reserve Fund and the General O&M Reserve Fund and (ii) no later than October 1 of the next odd numbered year after a request therefor has been provided to the Transportation Cabinet in relation to the M&R Reserve Fund, the Transportation Cabinet will cause to be included in the appropriations proposed to be made for the Transportation Cabinet, an amount sufficient (over and above all other requirements of the Transportation Cabinet), to enable the Transportation Cabinet to pay the Rent and Additional Rent (relating to Trustee’s fees and other costs and expenses) due or to become due during the effective period of the applicable Budget Act, and thereby provide to the Authority moneys sufficient for the deposit of amounts required by the applicable sections of the General Indenture (the “Required Deposits”); provided that, so long as the Authority System Budget for the applicable period does not identify Rent as a source of the Required Deposits or the Transportation Cabinet has not determined to pay Rent, the Transportation Cabinet shall not be required to include amounts related to Rent in the appropriations proposed to be made for the Transportation Cabinet unless, notwithstanding such Authority System Budget, the Authority or the Transportation Cabinet has determined that the Trustee will not have sufficient funds to make the Required Deposits if Rent is not paid.

If the Transportation Cabinet shall give written notice to the Authority of the Transportation Cabinet’s election not to renew the Lease for any Renewal Term, prior to the automatic renewal hereinabove provided for, the Transportation Cabinet shall not become obligated to pay rentals beyond the last day of the then current term, and the Transportation Cabinet shall thereby forfeit all of its future options to renew and shall peacefully surrender to the Authority possession of the Authority System on or prior to the last day of the then current term; provided, however, an election on the part of the Transportation Cabinet not to renew for a future term shall not in any manner alter or diminish any obligation of the Transportation Cabinet for the then current term; and shall not preclude subsequent reinstatement of the Lease for any future Renewal Term, if agreed to by the Authority upon the same terms and conditions as would have been applicable if the Lease had been renewed according to the provisions thereof, except that if such reinstatement is sought when one or more installments of Rent or Additional Rent for such Renewal Term are overdue and unpaid, it shall be a condition of such reinstatement that such overdue Rent or Additional Rent be tendered.

The payment of Rent by the Cabinet is subject to appropriation by the General Assembly of the Commonwealth. Historically, appropriations for the benefit of the Transportation Cabinet have been funded from the Road Fund. See APPENDIX J – CERTAIN INFORMATION RELATING TO THE TRANSPORTATION CABINET AND THE COMMONWEALTH. The General Assembly of the Commonwealth is not obligated to make such appropriations.

Financial Covenants

With respect to portions of this section that summarize provisions of the Development Agreement, all capitalized terms used herein that are not otherwise defined herein shall have the meanings set forth in the Development Agreement, as set forth in APPENDIX E.

Rate Covenants. Under the Development Agreement, the Authority and the IFA have agreed, so long as either party has outstanding financial obligations relating to the construction or financing of the

LSIORB Project, to set and maintain toll rates and charges so as to comply with each of the rate covenants of the Authority and IFA set forth below. In addition, the Development Agreement provides that the toll operations agreement entered into with the Toll Operator shall provide for a mechanism for annual or more frequent periodic review of the adequacy of existing toll schedules and adjustment mechanisms to produce Toll Revenues to support the respective payment and covenant obligations of the Authority and IFA relating to the financing of the Downtown Crossing Segment and the East End Crossing Segment.

The Development Agreement further provides that, if (a) the actual or projected Indiana Revenue Share or Kentucky Revenue Share of Toll Revenues (defined as “Authority Toll Revenue” in the Indenture) for the then current Fiscal Year is less than the amount required to pay the respective payment obligations or to satisfy the respective financial covenants (including but not limited to rate covenants and additional indebtedness tests) related to financing the East End Crossing and the Downtown Crossing, respectively, or (b) the Indiana Revenue Share or the Kentucky Revenue Share for the next Fiscal Year is forecasted to be less than required to satisfy the same, then IFA or the Authority shall engage a qualified traffic and revenue consultant, acceptable to both parties, to provide a report recommending the adjustments to the toll rates and charges necessary to increase the forecasted Indiana Revenue Share and Kentucky Revenue Share to an amount forecasted to be sufficient to satisfy all applicable payment and covenant requirements for the next Fiscal Year and each of the four (4) succeeding Fiscal Years. In the selection of such consultant, the party whose share of Toll Revenues was insufficient to enable it to meet its payment and covenant requirements with respect to the Downtown Crossing or the East End Crossing, as the case may be, shall have the final decision, and the consent of the other party to the selection of such consultant shall not be unreasonably withheld. The appropriate States’ Parties shall immediately implement the recommended toll adjustments and engage the qualified traffic and revenue consultant to monitor actual cash flow and to submit reports comparing to the forecasted Indiana Revenue Share and Kentucky Revenue Share not less than quarterly for a minimum period of one year after delivery of such report.

Neither the Bondholders nor the Trustee is a third party beneficiary of the Development Agreement and neither can enforce the provisions of the Development Agreement against the parties thereto.

Authority Rate Covenant.

The Authority, in accordance with the Development Agreement and the Toll Policy Agreement, shall use its best efforts to provide for the establishment, and shall charge and collect, Tolls for the privilege of traveling on the System, at rates sufficient so that Total System Revenue are in an amount at least equal to (i), (ii), (iii), (iv) and (v):

- (i) 150% of the Annual Debt Service with respect to all Outstanding First Tier Bonds;
- (ii) 135% of the Annual Debt Service with respect to all Outstanding First Tier Bonds and Second Tier Bonds;
- (iii) 125% of the Annual Debt Service with respect to all Outstanding First Tier Bonds, Second Tier Bonds and Third Tier Bonds;
- (iv) 110% of the Annual Debt Service with respect to all Outstanding Bonds; and
- (v) 100% of the aggregate amount of the required payments described in subsections (a) through (d) of the Flow of Funds described above to the extent such payments have not been otherwise paid or provided for from Bond proceeds.

The Authority will at least annually, prior to June 30 of each Fiscal Year, review the financial condition of the System, the anticipated Total System Expenses, Debt Service Requirements, various reserves and other costs of the Authority System, and proceed in a timely fashion to recommend to the Tolling Body any required adjustment to the Toll Rate Schedule it determines is necessary to comply with the Rate Covenant to provide sufficient Authority System Revenue to fund amounts required to be deposited and maintained in the Funds and Accounts and comply with other relevant covenants in the Indenture.

Prior to recommending any revision in the Toll Rate Schedule, the Authority shall obtain: (i) a certificate of the Traffic Consultant stating, based upon reasonable assumptions and applying the revised Toll Rate Schedule, the projected Authority System Revenue for the then-current Fiscal Year and each subsequent Fiscal Year through the last scheduled maturity of all then-Outstanding Bonds, (ii) a certificate of the Consulting Engineer stating, based upon reasonable assumptions, the projected Total System Expenses for the then-current Fiscal Year and each subsequent Fiscal Year through the last scheduled maturity of all Outstanding Bonds, and (iii) a certificate of an Authorized Representative stating that, based upon the information contained in the certificates described in (i) and (ii) above, the adoption of the revised Toll Rate Schedule will not cause Authority System Revenue to decrease to an amount that will cause the Authority to fail to comply with the Rate Covenant.

Any certificate delivered by the Traffic Consultant shall be based on the opinion of the Traffic Consultant as to Authority System Revenue to be derived by the Authority from the System under the terms of the Development Agreement and the Toll Policy Agreement (provided that investment and other income not related to Tolls shall be estimated by an Authorized Representative), and a certificate of an Authorized Representative stating the opinion of the Authority as to the amount of Total System Expenses paid or accrued during any pertinent Fiscal Year, assuming that the proposed Toll Rate Schedule had been in effect during the pertinent Fiscal Year.

The failure in any Fiscal Year to obtain Authority System Revenue in the amounts sufficient to enable the Authority to comply with the Rate Covenant, which failure may continue during the succeeding Fiscal Year, shall not, in and of itself, constitute an Event of Default under the Indenture if (i) the Authority within 60 days after the end of the Fiscal Year requests the written recommendations of the Traffic Consultant as to how to increase Authority System Revenues and/or the written recommendations of a Consulting Engineer as to how to reduce Total System Expenses in the following Fiscal Year to the level required to comply with the Rate Covenant, (ii) within 60 days of the date of the request from the Authority, the Traffic Consultant and/or the Consulting Engineer provide to the Authority the written recommendations described in clause (i), and (iii) the Authority takes steps to implement those recommendations within 60 days after receipt thereof and diligently proceeds to substantially comply with the recommendations of the Traffic Consultant and/or the Consulting Engineer.

IFA Rate Covenant. The Tolling Body has agreed in the Initial Toll Rate Resolution adopted on September 11, 2013, that Toll Rates shall be set so that Indiana's 50% share of Toll Revenues is in an amount at least equal to 100% of the aggregate amount of availability payments and other financial obligations due and payable during the following year under the Public-Private Agreement entered into by the IFA and WVB East End Partners, LLC, dated as of December 27, 2012 (the "Public-Private Agreement"), or, in the event that IFA also borrows funds pursuant to an East End Crossing TIFIA loan, shall be no less than the greater of (a) the sum of 100% of the aggregate amount of availability payments and other financial obligations due and payable during the following year under the Public-Private Agreement and 1.25 times the aggregate debt service requirements for any East End Crossing TIFIA loans for such period and (b) the sum of the aggregate amount of availability payments and other financial obligations due and payable during the following year under the Public-Private Agreement and all debt service and other funding obligations of IFA under any East End Crossing TIFIA loan for such period; provided that, under the Development Agreement, during the first two (2) full fiscal years following tolling commencement, no revision of Toll Rates is required by the IFA Rate Covenant unless actual Toll

Revenues are materially less than Toll Revenues projected in the Traffic and Revenue Study presented to the Tolling Body at the time the Initial Toll Rate Resolution was adopted.

Additional Bonds. The Indenture permits the Authority to issue additional Bonds from time to time to pay or provide for the payments of Costs of the Authority System, to refund all or a portion of a Series of Bonds, or for any combination of such purposes.

New Money Bonds. Under the Indenture, prior to the issuance of any new money Bonds or refunding Bonds that cannot satisfy the conditions set forth below under “Refunding Bonds,” either of the following series of certificates must be delivered to the Trustee:

- a certificate of the Authority (the “Authority ABT Certificate”) stating the Authority System Revenue for (i) the most recent Fiscal Year for which audited financial statements are available or (ii) any 12 consecutive month period in the immediately prior 18 months; or
- (1) a certificate of the Traffic Consultant (the “Traffic Consultant ABT Certificate”) stating, based upon reasonable assumptions, the projected Authority System Revenue for the then-current Fiscal Year and each subsequent Fiscal Year through the last scheduled maturity of all Outstanding Bonds following the issuance of the additional Bonds, and (2) a certificate of the Consulting Engineer (the “Consulting Engineer ABT Certificate”) stating, based upon reasonable assumptions, the projected Total System Expenses for the then-current Fiscal Year and each subsequent Fiscal Year through the last scheduled maturity of all Outstanding Bonds following the issuance of the additional Bonds.

First Tier Bonds. If the proposed additional Bonds are First Tier Bonds, there shall be on file with the Trustee:

- the Authority ABT Certificate, and
- a certificate of the Authority stating that the Authority System Revenue shown in the Authority ABT Certificate was at least equal to the following:
 - 175% of the Maximum Annual Debt Service for all then-Outstanding First Tier Bonds,
 - 150% of Maximum Annual Debt Service for all then-Outstanding First Tier and Second Tier Bonds,
 - 125% of Maximum Annual Debt Service for all then-Outstanding First Tier, Second Tier and Third Tier Bonds,
 - 110% of Maximum Annual Debt Service for all then-Outstanding First Tier, Second Tier, Third Tier and Subordinate Bonds, and
 - 100% of the aggregate amount of required payments described in subsection (a) through (d) under “Flow of Funds” above in the applicable Fiscal Year (taking into account the Bonds proposed to be issued and excluding any Bonds being refunded);

OR

- the Traffic Consultant ABT Certificate, and
- a certificate of the Authority stating that, based upon the information contained in the Traffic Consultant ABT Certificate, the projected Authority System Revenue for the then-current

Fiscal Year and each subsequent Fiscal Year through the last scheduled maturity of all Outstanding Bonds following the issuance of the First Tier Bonds will be equal to or greater than the following:

- 175% of Annual Debt Service on First Tier Bonds,
- 150% of Annual Debt Service on First Tier and Second Tier Bonds,
- 125% of Annual Debt Service on First Tier, Second Tier and Third Tier Bonds,
- 110% of Annual Debt Service on First Tier, Second Tier, Third Tier and Subordinate Bonds, and
- 100% of the aggregate amount of required payments described in subsection (a) through (d) under “Flow of Funds” above in the applicable Fiscal Year (taking into account the Bonds proposed to be issued and excluding any Bonds being refunded).

Second Tier Bonds. If the proposed additional Bonds are Second Tier Bonds, there shall be on file with the Trustee:

- the Authority ABT Certificate, and
- a certificate of the Authority stating that the Authority System Revenue shown in the Authority ABT Certificate was at least equal to the following:
 - 150% of Maximum Annual Debt Service for all then-Outstanding First Tier and Second Tier Bonds,
 - 125% of Maximum Annual Debt Service for all then-Outstanding First Tier, Second Tier and Third Tier Bonds,
 - 110% of Maximum Annual Debt Service for all then-Outstanding First Tier, Second Tier, Third Tier and Subordinate Bonds, and
 - 100% of the aggregate amount of required payments described in subsection (a) through (d) under “Flow of Funds” above in the applicable Fiscal Year (taking into account the Bonds proposed to be issued and excluding any Bonds being refunded);

OR

- the Traffic Consultant ABT Certificate, and
- a certificate of the Authority stating that, based upon the information contained in the Traffic Consultant ABT Certificate, the projected Authority System Revenue for the then-current Fiscal Year and each subsequent Fiscal Year through the last scheduled maturity of all Outstanding Bonds following the issuance of the First Tier Bonds will be equal to or greater than the following:
 - 150% of Annual Debt Service on First Tier and Second Tier Bonds,
 - 125% of Annual Debt Service on First Tier, Second Tier and Third Tier Bonds,

- 110% of Annual Debt Service on First Tier, Second Tier, Third Tier and Subordinate Bonds, and
- 100% of the aggregate amount of required payments described in subsection (a) through (d) under “Flow of Funds” above in the applicable Fiscal Year (taking into account the Bonds proposed to be issued and excluding any Bonds being refunded).

Third Tier Bonds. If the proposed additional Bonds are Third Tier Bonds, there shall be on file with the Trustee:

- the Authority ABT Certificate, and
- a certificate of the Authority stating that the Authority System Revenue shown in the Authority ABT Certificate was at least equal to the following:
 - 125% of Maximum Annual Debt Service for all then-Outstanding First Tier, Second Tier and Third Tier Bonds,
 - 110% of Maximum Annual Debt Service for all then-Outstanding First Tier, Second Tier, Third Tier and Subordinate Bonds, and
 - 100% of the aggregate amount of required payments described in subsection (a) through (d) under “Flow of Funds” above in the applicable Fiscal Year (taking into account the Bonds proposed to be issued and excluding any Bonds being refunded);

OR

- the Traffic Consultant ABT Certificate, and
- a certificate of the Authority stating that, based upon the information contained in the Traffic Consultant ABT Certificate, the projected Authority System Revenue for the then-current Fiscal Year and each subsequent Fiscal Year through the last scheduled maturity of all Outstanding Bonds following the issuance of the First Tier Bonds will be equal to or greater than the following:
 - 125% of Annual Debt Service on First Tier, Second Tier and Third Tier Bonds,
 - 110% of Annual Debt Service on First Tier, Second Tier, Third Tier and Subordinate Bonds, and
 - 100% of the aggregate amount of required payments described in subsection (a) through (d) under “Flow of Funds” above in the applicable Fiscal Year (taking into account the Bonds proposed to be issued and excluding any Bonds being refunded).

Subordinate Bonds. Except if provided in a related Series Indenture, as in the case of the Series 2013 Subordinate Notes, if the proposed additional Bonds are Subordinate Bonds, there shall be on file with the Trustee:

- the Authority ABT Certificate, and
- a certificate of the Authority stating that the Authority System Revenue shown in the Authority ABT Certificate was at least equal to the following:

- 110% of Maximum Annual Debt Service for all then-Outstanding First Tier, Second Tier, Third Tier and Subordinate Bonds, and
- 100% of the aggregate amount of required payments described in subsection (a) through (d) under “Flow of Funds” above in the applicable Fiscal Year (taking into account the Bonds proposed to be issued and excluding any Bonds being refunded);

OR

- the Traffic Consultant ABT Certificate, and
- a certificate of the Authority stating that, based upon the information contained in the Traffic Consultant ABT Certificate, the projected Authority System Revenue for the then-current Fiscal Year and each subsequent Fiscal Year through the last scheduled maturity of all Outstanding Bonds following the issuance of the First Tier Bonds will be equal to or greater than the following:
 - 110% of Annual Debt Service on First Tier, Second Tier, Third Tier and Subordinate Bonds, and
 - 100% of the aggregate amount of required payments described in subsection (a) through (d) under “Flow of Funds” above in the applicable Fiscal Year (taking into account the Bonds proposed to be issued and excluding any Bonds being refunded).

Completion Bonds. If the proposed Bonds are Completion Bonds, there shall be on file with the Trustee:

(A) a certificate of the Authority stating that the principal amount of such Completion Bonds does not exceed 10% of the aggregate principal amount of Bonds originally issued to finance the Project or the Additional Project, if applicable;

(B) a certificate of the Consulting Engineer setting forth the amount estimated to be needed to complete the Project to be financed with the Completion Bonds; and

(C) a certificate of the Authority stating that issuance of the Completion Bonds is necessary for the completion of the Project identified in the certificate delivered pursuant to (B) above, and that the proceeds of the Completion Bonds, together with other funds available therefor, will provide sufficient money for the completion of that Project.

Emergency Repair Bonds. If the proposed Bonds are Emergency Repair Bonds, there shall be on file with the Trustee a certificate of (A) the Consulting Engineer stating that (1) the Costs for which those Emergency Repair Bonds are to be issued are necessary to restore a portion of the Authority System to a safe operating condition, and (2) the net proceeds of those Emergency Repair Bonds are not in excess of the amount necessary to pay the Costs of the emergency repairs, and (B) the Transportation Cabinet that funds are otherwise not available to the Transportation Cabinet or the Authority to pay the Costs of the emergency repairs.

Variable Rate Bonds. If the proposed Bonds are to bear interest payable pursuant to a variable interest rate, so long as TIFIA Bonds are Outstanding, the requirements of the TIFIA Loan Agreement related to variable interest rate indebtedness, such as hedging the variable interest rate exposure, must be satisfied.

Refunding Bonds. Under the Indenture, the Authority may issue Refunding Bonds to refund all or any portion of the Outstanding Bonds or any other bonds or obligations of the Authority without satisfying the test set forth above for new money Bonds so long as (i) such Series of Refunding Bonds are being issued for the purpose of refunding all or a portion of one or more Series of Bonds of the same Tier as the Series of Refunding Bonds to be issued, or a Tier senior to the Tier of the Series of Refunding Bonds and (ii) the Authority delivers to the Trustee evidence that the Annual Debt Service (taking into account debt service on the Refunding Bonds and excluding debt service on the Bonds to be refunded) will not increase by more than \$5,000 in any Fiscal Year through the last scheduled maturity of Outstanding Bonds following the issuance of the Series of Refunding Bonds.

Inclusion of Additional Project Revenues. With the consent of TIFIA under the TIFIA Loan Agreement, when Bonds are to be issued after the date that an Additional Project has been or will be added to the System, the Authority System Revenue derived or to be derived from such Additional Project may be included in the calculation of compliance with the additional Bonds test noted above.

A more complete description of the covenants referred to above, as well as additional covenants relating to the Bonds, is set forth in APPENDIX B – SUMMARY OF GENERAL TRUST INDENTURE – Particular Covenants of the Authority.”

Covenants of the Commonwealth and the State of Indiana

The States’ Parties (consisting of the State of Indiana acting by and through the INDOT and IFA, and the Commonwealth acting by and through the Transportation Cabinet and the Authority), have agreed in the Development Agreement that the toll revenue payable to the Authority under the Development Agreement (i.e., the Tolls as defined in the Indenture) shall be no less than the amount necessary to meet the requirements described under “SECURITY AND SOURCES OF PAYMENT FOR THE SERIES 2013 OBLIGATIONS – Financial Covenants – *Rate Covenants* – Authority Rate Covenant.” Neither the Bondholders nor the Trustee is a third party beneficiary of the Development Agreement and neither can enforce the provisions of the Development Agreement against the parties thereto.

In addition, the Tolling Body has stated in the Initial Toll Rate Resolution adopted on September 11, 2013, that it resolves, pledges to and agrees with the Authority and the holders of all Bonds or other obligations authorized by the General Indenture that are related to the Project, including TIFIA, that the Tolling Body will (a) take all actions necessary and convenient to permit the Authority to fulfill the terms of the Authority’s Rate Covenant and (b) not limit or alter the rights and powers vested in the Authority to fulfill the terms of the Authority’s Rate Covenant.

TIFIA LOAN AGREEMENT

General

The Authority and the TIFIA Lender entered into the TIFIA Loan Agreement effective December 12, 2013. Pursuant to the TIFIA Loan Agreement, the TIFIA Lender agreed to extend a loan to the Authority, drawn down in a single disbursement in connection with the maturity of the Series 2013 Subordinate Notes, in an aggregate principal amount of \$452.2 million (the “TIFIA Loan”). The obligations of the Authority to repay the TIFIA Loan, as well as to pay all other obligations of the Authority under the TIFIA Loan Agreement, are referred to herein as the “TIFIA Obligations.” The proceeds of the TIFIA Loan may be disbursed by the Authority for reimbursement of certain Project Costs which are eligible to be financed with the proceeds of the TIFIA Loan pursuant to federal law, provided that total disbursements under the TIFIA Loan cannot exceed 33% of all such eligible Project

Costs and total federal assistance (including federal highway reimbursement funds) provided to the Project cannot exceed 80% of all such eligible Project Costs.

The Authority issued the TIFIA Bonds to the TIFIA Lender to evidence its repayment obligations under the TIFIA Loan. The interest rate on the TIFIA Bonds is 3.88% computed on the basis of a 365- or 366-day year, as appropriate, for the actual number of days elapsed, except that, upon the occurrence and during the continuance of a payment default, the interest rate with respect to any overdue principal amount shall bear interest at the foregoing rate plus 2.00% per annum. The TIFIA Loan starts to amortize annually beginning July 1, 2018, with a final maturity on July 1, 2051.

The TIFIA Bonds are issued as Third Tier Bonds, subject to becoming First Tier Bonds as described herein under “SECURITY AND SOURCES OF PAYMENT FOR THE SERIES 2013 OBLIGATIONS – Liens of the Indenture – Potential Parity First Priority Lien for TIFIA Bonds.” A projected amortization of the TIFIA Bonds is set forth under the column entitled “TIFIA Net Repayment” in the table entitled “Estimated Downtown Crossing Cash Flow” under the caption “PROSPECTIVE FINANCIAL INFORMATION.”

Certain provisions of the TIFIA Loan Agreement relating to conditions precedent to requisitioning moneys and events of default are summarized below.

Disbursement Request

A request for a disbursement of the TIFIA Loan by the Authority will be made to the TIFIA Lender by submission of a requisition in the form attached to the TIFIA Loan Agreement, which form contains certain representations to be made by the Authority.

Certain conditions precedent to a disbursement that were satisfied in connection with the execution and delivery of the TIFIA Loan Agreement must continue to remain in place at the time of disbursement. Other than the delivery of customary certificates as to representations and warranties, no defaults and other corporate matters, the following, among others, are additional conditions to the TIFIA Lender’s obligation to fund the requisition request:

- compliance with statutes and regulations relating to projects funded by the TIFIA Lender;
- the litigation referred to herein under “LITIGATION” shall have been finally adjudicated or dismissed in a manner that does not result in a material adverse effect on the TIFIA Lender under the TIFIA Loan Agreement;
- evidence that the TIFIA Loan proceeds do not exceed 33% of eligible Project Costs and that total federal funding does not exceed 80% of eligible Project Costs;
- all applicable insurance policies are in full force and effect and all permits and governmental approvals necessary to complete construction of the Project have been obtained;
- no event of default under the TIFIA Loan Agreement, the Indenture or other material contracts, or event which with the giving of notice or the passage of time or both under such documents would result in an event of default has occurred and is continuing; and
- since the date the Authority submitted the application to the TIFIA Lender, (A) there shall not have occurred a material adverse change in (1) the legality, validity or enforceability of any material provision of any TIFIA Loan Document or Principal Project Contract, (2) the validity, perfection or priority of the Liens provided under the

Indenture on the Trust Estate in favor of the Secured Parties, (3) the TIFIA Lender's rights or remedies available under any TIFIA Loan Document, (4) the right or authority of the Tolling Body or the States' Parties to set, charge and collect tolls on the LSIORB Project or (5) the right or authority of the States' Parties, whether directly or indirectly through contract with a third party, to construct or operate and maintain the LSIORB Project.

The TIFIA Lender shall be entitled to withhold approval of the disbursement of TIFIA Loan proceeds if:

- an event of default under the TIFIA Loan Agreement shall have occurred and be continuing; or
- the Authority
 - fails to pay any principal or interest on the TIFIA Loan when the same is due and payable; or
 - knowingly takes any action, or omits to take any action, amounting to fraud or violation of any applicable federal or local criminal law, in connection with the transactions contemplated by the TIFIA Loan Agreement; or
 - fails to construct the Project in a manner consistent with plans, specifications, engineering reports or facilities plans previously submitted to and approved by the TIFIA Lender, or with good engineering practices, where such failure prevents or materially impairs the Project from fulfilling its intended purpose, or prevents or materially impairs the ability of the TIFIA Lender to monitor compliance by the Authority with applicable federal or local law pertaining to the Project, or with the terms and conditions of the TIFIA Loan Agreement; or
 - fails to observe or comply with any applicable federal or local law, or any term or condition of the TIFIA Loan Agreement; or
 - fails to deliver documentation evidencing eligible Project Costs claimed for disbursement at the times and in the manner specified by the TIFIA Loan Agreement; and such failure continues for a period of more than thirty (30) days following written notice from the TIFIA Lender to the Authority, the TIFIA Lender shall be entitled to withhold, from any Requisition received after such thirty (30) day period has expired, and until such failure is cured or corrected, an amount determined by the TIFIA Lender (in its sole discretion) to be adequate for the cure or correction of such failure, which amount shall be stated in such notice; provided, that if the nature of the failure is such that it cannot reasonably be cured or corrected within such thirty (30) day period, the TIFIA Lender shall not withhold any disbursement by reason of such failure if the Authority commences cure or correction within such thirty (30) day period and thereafter diligently completes such cure or correction within a further reasonable time period.

Events of Default under TIFIA Loan Agreement

The following events constitute events of default under the TIFIA Loan Agreement:

- *Payment Default.* The Authority shall fail to pay any of the principal amount of or interest on the TIFIA Loan when and as the payment thereof shall be required under the TIFIA Loan

Agreement or the TIFIA Bonds or on the final maturity date (each such failure, a “Payment Default”);

- *Covenant Default.* Either Borrower Related Party (the Authority or the Transportation Cabinet) shall fail to observe or perform any covenant, agreement or obligation of the such Borrower Related Party under the TIFIA Loan Agreement, the TIFIA Bonds or any other TIFIA Loan Document (other than in the case of any Payment Default or any Development Default), and such failure shall not be cured within thirty (30) days after receipt by the Authority from the TIFIA Lender of written notice thereof; provided, however, that if such failure is capable of cure but cannot reasonably be cured within such thirty (30) day period, then no Event of Default shall be deemed to have occurred or be continuing if and so long as within such thirty (30) day period the Authority shall commence actions reasonably designed to cure such failure and shall diligently pursue such actions until such failure is cured; provided such failure is cured within one hundred eighty (180) days of the first occurrence of such failure;
- *Development Default.* A Development Default (i.e., the Authority or the Transportation Cabinet shall not diligently pursue or complete the Project) shall occur;
- *Misrepresentation Default.* Any of the representations, warranties or certifications of either Borrower Related Party made in or delivered pursuant to the TIFIA Loan Documents (or in any certificates delivered by such Borrower Related Party in connection with the TIFIA Loan Documents) shall prove to have been false or misleading in any material respect when made;
- *Acceleration of Senior Obligations or Other Material Indebtedness.* Any acceleration shall occur of the maturity of the Senior Obligations or of any other indebtedness of the Authority in an aggregate principal amount equal to or greater than \$1,000,000 that is senior to, or in parity with, the TIFIA Loan in right of payment or in right of security (“Other Material Indebtedness”), or any such Senior Obligations or Other Material Indebtedness shall not be paid in full upon the final maturity thereof;
- *Cross Default.* (A) Any of the representations, warranties or certifications of the Authority made in or delivered pursuant to any Indenture Document (i.e., the General Indenture and all Supplemental Indentures) shall prove to be false or misleading in any material respect (each a “Misrepresentation Default”), or any default shall occur in respect of the performance of any covenant, agreement or obligation of the Authority under any Indenture Document, and such default shall be continuing after the giving of any applicable notice and the expiration of any applicable grace period specified in such Indenture Document with respect to such default (each a “Covenant Default”), and, in the case of any such Misrepresentation Default or Covenant Default, the Authority shall have failed to cure such Misrepresentation Default or Covenant Default or to obtain an effective written waiver thereof in accordance with the terms of the applicable Indenture Document; or (B) the Authority or the Transportation Cabinet shall default in the timely performance of any covenant, agreement or obligation under any Related Document (Indenture Document, TIFIA Loan Agreement or certain other material contracts, including the Development Agreement, the Lease, the Interlocal Agreement, the Design Build Agreement, the Toll Policy Agreement, the Toll Operations Agreement and the Toll System Integrator Agreement) to which either entity is a party or by which it is bound or any Related Document shall be terminated prior to its scheduled expiration (unless in any case such default or termination could not reasonably be expected to have a Material Adverse Effect), and the Authority or the Transportation Cabinet shall have failed to cure such default or to obtain an effective written waiver thereof, or to obtain an effective revocation of such termination (as the case may be) within the cure periods, if any,

provided under any such Related Document; provided, however, that no Event of Default shall be deemed to have occurred or be continuing under this clause if, in the case of any termination of a Tolling Related Agreement, such Tolling Related Agreement is replaced with a replacement agreement (1) entered into with another counterparty that (I) is of similar or greater creditworthiness and experience as the counterparty being replaced (or otherwise reasonably acceptable to the TIFIA Lender) and (II) is not, at the time of such replacement, suspended or debarred or subject to a proceeding to suspend or debar from bidding, proposing or contracting with any federal or state department or agency, (2) on substantially the same terms and conditions as the Tolling Related Agreement being replaced (or otherwise reasonably acceptable to the TIFIA Lender) and (3) effective as of the date of termination of the Tolling Related Agreement being replaced or, if earlier, the date on which the predecessor entity ceases performance under such Tolling Related Agreement;

- *Judgments.* One or more judgments for the payment of money in an aggregate amount in excess of \$1,000,000 (inflated annually by CPI) and not otherwise covered by insurance shall be rendered against a Borrower Related Party in respect of the Project and the same shall remain undischarged for a period of thirty (30) consecutive days during which execution shall not be effectively stayed, or any action shall be legally taken by a judgment creditor to attach or levy upon the Project or any other assets of the Authority to enforce any such judgment;
- *Failure to Maintain Existence.* The Authority shall be in breach its obligations to maintain its existence as required under the TIFIA Loan Agreement.
- *Occurrence of a Bankruptcy Related Event.* (A) A Bankruptcy Related Event shall occur with respect to the Authority or (B) a bankruptcy related event shall occur with respect to any Borrower Related Party (other than the Authority) or any Principal Project Party (certain parties to other material contracts);
- *Project Abandonment.* The Authority or the Transportation Cabinet shall abandon the construction, maintenance or operation of the Project;
- *Expiration or Termination of Development Agreement or Lease Agreement.* The Development Agreement or the Lease Agreement shall expire or be terminated (whether by reason of a default thereunder, non-renewal by the Transportation Cabinet, or by mutual agreement of the parties thereto or otherwise), or for any reason shall cease to be in full force and effect at any time;
- *Cessation of Operations.* Operation of either bridge within the Project shall cease for a continuous period of not less than one hundred eighty (180) days unless such cessation of operations shall occur by reason of an uncontrollable force and the Authority shall have in force an insurance policy or policies under which the Authority is entitled to recover substantially all Annual Debt Service in respect of all Bonds (including TIFIA Debt Service) and costs and expenses of the Authority during such cessation of operations; or
- *Adverse Amendments or Other Events.* Any Tolling Related Agreement (other than the Toll Policy Agreement, to the extent the Authority and the Transportation Cabinet are direct parties to such agreement) after initial execution and delivery thereof or any Organizational Document of the Authority, the Joint Board or Tolling Body (or other committee established thereunder or pursuant to the Development Agreement or Interlocal Agreement) shall be amended, modified, supplemented or terminated, or (as applicable) compliance by a counterparty thereto shall be waived or not enforced, in a manner that could reasonably be expected to result in a Material Adverse Effect, in each case without the prior written consent

of the TIFIA Lender and the Authority fails to cure and eliminate such adverse consequence within thirty (30) days after receipt by the Authority from the TIFIA Lender of written notice thereof; provided, however, that if such failure is capable of cure but cannot reasonably be cured within such thirty (30) day period, then no Event of Default shall be deemed to have occurred or be continuing under this clause if and so long as within such thirty (30) day period the Authority shall commence actions reasonably designed to cure such failure and shall diligently pursue such actions until such failure is cured; provided such failure is cured within one hundred eighty (180) days of the first occurrence of such failure.

Upon the occurrence of a Development Default or a Bankruptcy Related Event relating to the Authority, all obligations of the TIFIA Lender under the TIFIA Loan Agreement with respect to the disbursement of any undisbursed amounts of the TIFIA Loan shall immediately be deemed terminated.

Upon the occurrence of any other event of default, the TIFIA Lender, by written notice to the Authority, may suspend or terminate all of its obligations under the TIFIA Loan Agreement with respect to the disbursement of any undisbursed amounts of the TIFIA Loan.

Whenever any event of default shall have occurred and be continuing, the TIFIA Lender shall be entitled and empowered to institute any actions or proceedings at law or in equity for the collection of any sums due and unpaid under the TIFIA Loan Agreement or under the TIFIA Bonds or the other TIFIA Loan Documents, and may prosecute any such judgment or final decree against the Authority and collect in the manner provided by law out of the property of the Authority the moneys adjudged or decreed to be payable, and the TIFIA Lender shall have all of the rights and remedies of a secured creditor under the Uniform Commercial Code and may take such other actions at law or in equity as may appear necessary or desirable to collect all amounts payable by Authority under the TIFIA Loan Agreement, the TIFIA Bonds or the other TIFIA Loan Documents then due and thereafter to become due, or to enforce performance and observance of any obligation, agreement or covenant of the Authority under the TIFIA Loan Agreement, the TIFIA Bond or the other TIFIA Loan Documents.

PROSPECTIVE FINANCIAL INFORMATION

The tables that follow set forth the First Tier Toll Revenue Bonds Net Debt Service requirements, the Debt Coverage Ratios for the First Tier Toll Revenue Bonds and the TIFIA Loan and the Downtown Crossing Cash Flow. The tables were prepared by the Financial Advisor based on information furnished by the Authority, Steer Davies Gleave (“SDG”), acting as the Traffic and Revenue Consultant, and Community Transportation Solutions, acting as the General Engineering Consultant (“GEC”). The debt service on the Series 2013 Subordinate Notes is not reflected in the following tables due to the fact that interest thereon is fully funded through maturity from the proceeds of the Series 2013 Subordinate Notes and principal thereof is expected to be paid from the proceeds of the TIFIA Loan when received by the Authority at the maturity of the Series 2013 Subordinate Notes.

The Louisville-Southern Indiana Ohio River Bridges Traffic & Revenue Study, dated October 24, 2013 (the “Traffic and Revenue Study”), included in APPENDIX H of this Official Statement was prepared by SDG and contains prospective financial information. This prospective financial information was not prepared with a view toward compliance with the guidelines established by the American Institute of Certified Public Accountants for preparation and presentation of prospective financial information. Other prospective financial information included in this Official Statement, including summaries of prospective financial information from the Traffic and Revenue Study and funding information (see “DEVELOPMENT AND FINANCING PLAN”) has been prepared by, and is the responsibility of, the Authority’s management.

The Louisville-Southern Indiana Ohio River Bridges Project Kentucky Public Transportation Infrastructure Authority (KPTIA) Final Engineering Report, dated October 31, 2013 (the “Engineer’s Report”), included in APPENDIX I of this Official Statement was prepared by the GEC. This Engineer’s

Report documents and describes the location, preliminary engineering features, construction cost estimate, projected operation and maintenance expenses and a construction schedule for the Project.

None of the Authority, the Financial Advisor, the Underwriters, SDG or the GEC warrants or represents that the estimates and projections in the tables will be met. In addition, the Authority gives no assurances that the actual financial results of the System will meet or exceed the estimates and projections set forth in the tables, and, other than as provided in the Continuing Disclosure Undertaking, assumes no obligation to update any of the information in the tables. See “INVESTMENT CONSIDERATIONS – Forward-Looking Statements and Forecasts.”

Estimated First Tier Bonds Net Debt Service

Fiscal Year	First Tier Toll Revenue Bonds, Series 2013A ¹			First Tier Toll Revenue Bonds, Series 2013B ²		First Tier Toll Revenue Bonds, Series 2013C ³			First Tier Total Gross Debt Service	First Tier Capitalized Interest Fund ⁴	First Tier Debt Service Reserve Fund Interest Earnings ⁴	First Tier Net Debt Service
	Principal	Interest	Debt Service	Principal	Debt Service	Principal at Maturity	Interest	Debt Service				
2014	\$ -	\$ 5,464,437	\$ 5,464,437	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,464,437	\$ (5,464,437)	\$ -	\$ -
2015	-	10,299,463	10,299,463	-	-	-	-	-	10,299,463	(10,299,463)	-	-
2016	-	10,299,463	10,299,463	-	-	-	-	-	10,299,463	(10,299,463)	-	-
2017	-	10,299,463	10,299,463	-	-	-	-	-	10,299,463	(10,299,463)	-	-
2018	-	10,299,463	10,299,463	-	-	-	-	-	10,299,463	(5,149,731)	(275,670)	4,874,061
2019	-	10,299,463	10,299,463	451,914	555,000	-	-	-	10,854,463	-	(551,341)	10,303,122
2020	-	10,299,463	10,299,463	3,005,167	3,955,000	-	-	-	14,254,463	-	(551,341)	13,703,122
2021	-	10,299,463	10,299,463	4,196,100	5,910,000	-	-	-	16,209,463	-	(551,341)	15,658,122
2022	-	10,299,463	10,299,463	4,793,541	7,305,000	-	-	-	17,604,463	-	(551,341)	17,053,122
2023	-	10,299,463	10,299,463	5,038,307	8,180,000	-	-	-	18,479,463	-	(551,341)	17,928,122
2024	-	10,299,463	10,299,463	-	-	-	9,217,765	9,217,765	19,517,228	-	(551,341)	18,965,887
2025	-	10,299,463	10,299,463	533,521	1,020,000	-	9,217,765	9,217,765	20,537,228	-	(551,341)	19,985,887
2026	-	10,299,463	10,299,463	1,078,566	2,235,000	-	9,217,765	9,217,765	21,752,228	-	(551,341)	21,200,887
2027	-	10,299,463	10,299,463	1,492,411	3,365,000	-	9,217,765	9,217,765	22,882,228	-	(551,341)	22,330,887
2028	-	10,299,463	10,299,463	1,607,016	3,930,000	-	9,217,765	9,217,765	23,447,228	-	(551,341)	22,895,887
2029	-	10,299,463	10,299,463	1,484,794	3,935,000	-	9,217,765	9,217,765	23,452,228	-	(551,341)	22,900,887
2030	-	10,299,463	10,299,463	1,365,086	3,930,000	-	9,217,765	9,217,765	23,447,228	-	(551,341)	22,895,887
2031	-	10,299,463	10,299,463	1,258,976	3,930,000	-	9,217,765	9,217,765	23,447,228	-	(551,341)	22,895,887
2032	-	10,299,463	10,299,463	1,170,781	3,935,000	-	9,217,765	9,217,765	23,452,228	-	(551,341)	22,900,887
2033	-	10,299,463	10,299,463	-	-	5,775,000	9,217,765	14,992,765	25,292,228	-	(551,341)	24,740,887
2034	-	10,299,463	10,299,463	-	-	6,255,000	8,848,165	15,103,165	25,402,628	-	(551,341)	24,851,287
2035	-	10,299,463	10,299,463	-	-	6,660,000	8,444,718	15,104,718	25,404,180	-	(551,355)	24,852,825
2036	-	10,299,463	10,299,463	-	-	7,100,000	8,005,158	15,105,158	25,404,620	-	(551,399)	24,853,221
2037	-	10,299,463	10,299,463	-	-	7,570,000	7,536,558	15,106,558	25,406,020	-	(551,399)	24,854,621
2038	-	10,299,463	10,299,463	-	-	9,795,000	7,036,938	16,831,938	27,131,400	-	(551,399)	26,580,001
2039	-	10,299,463	10,299,463	-	-	10,880,000	6,390,468	17,270,468	27,569,930	-	(551,399)	27,018,531
2040	-	10,299,463	10,299,463	-	-	11,595,000	5,672,388	17,267,388	27,566,850	-	(551,399)	27,015,451
2041	-	10,299,463	10,299,463	-	-	12,375,000	4,889,725	17,264,725	27,564,188	-	(551,399)	27,012,789
2042	-	10,299,463	10,299,463	-	-	13,215,000	4,054,413	17,269,413	27,568,875	-	(554,790)	27,014,085
2043	-	10,299,463	10,299,463	-	-	14,105,000	3,162,400	17,267,400	27,566,863	-	(564,993)	27,001,870
2044	-	10,299,463	10,299,463	-	-	15,055,000	2,210,313	17,265,313	27,564,775	-	(565,077)	26,999,698
2045	-	10,299,463	10,299,463	-	-	16,095,000	1,175,281	17,270,281	27,569,744	-	(565,077)	27,004,667
2046	16,880,000	10,299,463	27,179,463	-	-	1,000,000	68,750	1,068,750	28,248,213	-	(565,077)	27,683,135
2047	18,925,000	9,328,863	28,253,863	-	-	-	-	-	28,253,863	-	(565,077)	27,688,785
2048	20,010,000	8,240,675	28,250,675	-	-	-	-	-	28,250,675	-	(565,077)	27,685,598
2049	21,160,000	7,090,100	28,250,100	-	-	-	-	-	28,250,100	-	(565,077)	27,685,023
2050	22,375,000	5,873,400	28,248,400	-	-	-	-	-	28,248,400	-	(565,077)	27,683,323
2051	23,720,000	4,530,900	28,250,900	-	-	-	-	-	28,250,900	-	(565,077)	27,685,823
2052	25,145,000	3,107,700	28,252,700	-	-	-	-	-	28,252,700	-	(565,077)	27,687,623
2053	26,650,000	1,599,000	28,249,000	-	-	-	-	-	28,249,000	-	(565,077)	27,683,923
Total	\$174,865,000	\$374,817,875	\$549,682,875	\$27,476,180	\$52,185,000	\$137,475,000	\$159,672,921	\$297,147,921	\$899,015,796	-41,512,556	-19,727,424	\$837,775,816

Note:

1. Yields range from 5.95% in 2046 to 6.125% in 2053.
2. Yields range from 3.75% in 2019 to 6.65% in 2032.
3. Yields range from 6.40% in 2033 to 6.875% in 2046.
4. First Tier Capitalized Interest Fund proceeds are invested in SLGs; assume 2.00% earning rate for First Tier Debt Service Reserve Fund starting 7/1/2018.

Estimated Debt Coverage Ratios

Fiscal Year	Authority System Revenue ¹	Interest Earnings ²	Pledged Receipts	First Tier Bonds Net Debt Service	First Tier Bonds Coverage Ratios	TIFIA Net Repayment ^{3,4}	Aggregate Debt Service	Aggregate Debt Service Coverage Ratios
2017	\$ 16,920,374	\$ 216,763	\$ 17,137,136	\$ -		\$ -		
2018	39,625,864	401,622	40,027,486	4,874,061	8.21x	18,174,453	23,048,514	1.74x
2019	49,079,052	489,692	49,568,744	10,303,122	4.81x	18,135,653	28,438,775	1.74x
2020	55,124,109	559,070	55,683,179	13,703,122	4.06x	18,120,912	31,824,034	1.75x
2021	58,610,841	593,364	59,204,204	15,658,122	3.78x	18,034,047	33,692,169	1.76x
2022	61,264,744	617,024	61,881,768	17,053,122	3.63x	18,019,253	35,072,375	1.76x
2023	63,082,251	633,048	63,715,299	17,928,122	3.55x	18,034,314	35,962,436	1.77x
2024	65,047,927	650,883	65,698,810	18,965,887	3.46x	17,959,713	36,925,600	1.78x
2025	67,140,406	748,787	67,889,193	19,985,887	3.40x	18,013,214	37,999,101	1.79x
2026	69,351,436	948,297	70,299,733	21,200,887	3.32x	17,985,935	39,186,821	1.79x
2027	71,688,491	1,147,603	72,836,095	22,330,887	3.26x	18,101,369	40,432,256	1.80x
2028	74,098,825	1,329,695	75,428,520	22,895,887	3.29x	18,804,018	41,699,905	1.81x
2029	76,648,275	1,580,092	78,228,367	22,900,887	3.42x	20,176,484	43,077,370	1.82x
2030	79,345,523	1,528,733	80,874,256	22,895,887	3.53x	21,452,982	44,348,869	1.82x
2031	82,492,275	1,076,085	83,568,360	22,895,887	3.65x	22,745,782	45,641,669	1.83x
2032	86,039,495	847,128	86,886,622	22,900,887	3.79x	24,368,356	47,269,243	1.84x
2033	89,690,524	881,272	90,571,797	24,740,887	3.66x	24,332,281	49,073,168	1.85x
2034	93,497,052	917,308	94,414,360	24,851,287	3.80x	26,102,024	50,953,311	1.85x
2035	97,465,726	954,467	98,420,193	24,852,825	3.96x	28,054,700	52,907,525	1.86x
2036	101,386,382	991,417	102,377,799	24,853,221	4.12x	29,966,152	54,819,373	1.87x
2037	105,248,619	1,028,297	106,276,916	24,854,621	4.28x	31,831,866	56,686,488	1.87x
2038	109,258,364	1,067,602	110,325,966	26,580,001	4.15x	32,034,354	58,614,355	1.88x
2039	113,421,267	1,107,031	114,528,298	27,018,531	4.24x	32,038,103	59,056,634	1.94x
2040	117,743,192	1,146,690	118,889,882	27,015,451	4.40x	32,041,912	59,057,363	2.01x
2041	121,968,142	1,187,292	123,155,435	27,012,789	4.56x	32,046,119	59,058,908	2.09x
2042	126,083,486	1,226,933	127,310,419	27,014,085	4.71x	32,050,245	59,064,330	2.16x
2043	130,337,890	1,267,758	131,605,648	27,001,870	4.87x	32,054,614	59,056,484	2.23x
2044	134,736,060	1,309,821	136,045,882	26,999,698	5.04x	32,059,091	59,058,788	2.30x
2045	139,282,863	1,353,488	140,636,350	27,004,667	5.21x	32,063,919	59,068,585	2.38x
2046	143,983,327	1,398,583	145,381,911	27,683,135	5.25x	32,068,765	59,751,900	2.43x
2047	148,842,656	1,444,900	150,287,556	27,688,785	5.43x	32,073,855	59,762,640	2.51x
2048	153,866,224	1,494,858	155,361,083	27,685,598	5.61x	32,079,142	59,764,740	2.60x
2049	159,059,593	1,543,647	160,603,239	27,685,023	5.80x	32,084,820	59,769,843	2.69x
2050	164,428,509	1,592,653	166,021,163	27,683,323	6.00x	32,090,637	59,773,960	2.78x
2051	169,978,917	1,645,293	171,624,210	27,685,823	6.20x	32,096,706	59,782,529	2.87x
2052	175,716,960	1,699,225	177,416,184	27,687,623	6.41x	-	27,687,623	
2053	181,648,990	1,754,992	183,403,982	27,683,923	6.62x	-	27,683,923	

Note:

1. The Authority Toll Revenues are based on the Traffic & Revenue Study prepared by SDG dated 10/24/2013.
2. Include earnings from Authority System Revenue Fund, Tolling O&M Reserve Fund, General O&M Reserve Fund, and M&R Reserve Fund. Assume a 1.50% earning rate for Authority System Revenue Fund, an escalating rate for Tolling O&M Reserve Fund (0.10% in CY 2013, 0.25% in CY 2014, 0.75% in CY 2015, and 2.00% thereafter; earnings from 12/20/2013 to 1/1/2018 are kept in the Fund), and 2.00% for General O&M Reserve Fund and M&R Reserve Fund.
3. Based on 3.88% TIFIA loan interest rate
4. TIFIA repayment is net of interest earnings from TIFIA Debt Service Reserve Fund. Assume 2.00% earning rate starting 1/1/2018.

Estimated Downtown Crossing Cash Flow

Fiscal Year	Pledged Receipts	First Tier Bonds Net Debt Service	First Tier Debt Service Reserve Fund Annual (Deposit) / Release	TIFIA Net Repayment	Debt Service Reserve Fund Annual (Deposit) / Release	Tolling O&M Expense & Reserve Fund Deposit ¹	General O&M Expense & Reserve Fund Deposit ²	M&R Reserve Fund Deposit ³	Deposits to General Reserve Fund	General Reserve Fund Ending Balance ⁴
2017	\$ 17,137,136	\$ -	\$ -	\$ -	\$ -	\$ (2,196,500)	\$ (2,598,116)	\$ (392,104)	\$ 11,950,417	\$ 11,950,417
2018	40,027,486	(4,874,061)	-	(18,174,453)	-	(4,416,000)	(5,185,073)	(771,871)	6,606,028	18,556,445
2019	49,568,744	(10,303,122)	-	(18,135,653)	-	(6,618,319)	(5,226,516)	(769,029)	8,516,106	27,072,551
2020	55,683,179	(13,703,122)	-	(18,120,912)	-	(6,313,500)	(5,267,991)	(919,595)	11,358,059	38,430,610
2021	59,204,204	(15,658,122)	-	(18,034,047)	-	(6,256,000)	(5,382,050)	(939,302)	12,934,684	51,365,294
2022	61,881,768	(17,053,122)	-	(18,019,253)	-	(6,261,750)	(5,517,637)	(1,514,029)	13,515,977	64,881,271
2023	63,715,299	(17,928,122)	-	(18,034,314)	(1,878)	(6,405,500)	(5,654,193)	(1,534,733)	14,156,559	79,037,830
2024	65,698,810	(18,965,887)	-	(17,959,713)	(730,900)	(6,560,750)	(5,793,799)	(1,930,634)	13,757,128	92,794,959
2025	67,889,193	(19,985,887)	-	(18,013,214)	(1,397,397)	(6,716,000)	(5,938,209)	(1,179,651)	4,658,834	97,453,793
2026	70,299,733	(21,200,887)	-	(17,985,935)	(1,285,521)	(6,871,250)	(6,084,882)	(13,437,480)	3,433,778	100,887,571
2027	72,836,095	(22,330,887)	-	(18,101,369)	(1,329,560)	(7,078,250)	(6,454,492)	(13,985,635)	3,555,902	104,443,473
2028	75,428,520	(22,895,887)	-	(18,804,018)	(1,661,467)	(7,348,500)	(6,554,118)	(14,485,138)	3,679,392	108,122,865
2029	78,228,367	(22,900,887)	-	(20,176,484)	(1,927)	(7,572,750)	(6,497,493)	(17,272,477)	3,806,349	111,929,214
2030	80,874,256	(22,895,887)	-	(21,452,982)	(1,798,743)	(7,843,000)	(6,710,143)	(16,236,463)	3,937,037	115,866,252
2031	83,568,360	(22,895,887)	-	(22,745,782)	(1,955,734)	(8,067,250)	(6,879,476)	(16,960,410)	4,063,821	119,930,073
2032	86,886,622	(22,900,887)	-	(24,368,356)	(1,911,529)	(8,395,000)	(7,049,571)	(7,974,706)	4,286,573	134,216,646
2033	90,571,797	(24,740,887)	-	(24,332,281)	(1,865,795)	(8,745,750)	(7,225,522)	(3,649,033)	20,012,530	154,229,175
2034	94,414,360	(24,851,287)	-	(26,102,024)	(202,573)	(9,050,500)	(7,404,228)	(7,704,955)	19,098,793	173,327,968
2035	98,420,193	(24,852,825)	(2,893)	(28,054,700)	(3,835)	(9,372,500)	(7,589,086)	(12,847,878)	15,696,475	189,024,443
2036	102,377,799	(24,853,221)	-	(29,966,152)	(3,899)	(9,723,250)	(7,776,840)	(13,974,164)	16,080,273	205,104,716
2037	106,276,916	(24,854,621)	-	(31,831,866)	(4,301)	(10,045,250)	(8,249,971)	(24,064,275)	7,226,631	212,331,347
2038	110,325,966	(26,580,001)	-	(32,034,354)	(4,225)	(10,407,500)	(8,377,501)	(23,578,520)	9,343,865	221,675,213
2039	114,528,298	(27,018,531)	-	(32,038,103)	(4,469)	(10,787,000)	(8,305,016)	(9,700,115)	26,675,063	248,350,276
2040	118,889,882	(27,015,451)	-	(32,041,912)	(4,582)	(11,183,750)	(8,577,227)	(5,451,324)	34,615,637	282,965,913
2041	123,155,435	(27,012,789)	-	(32,046,119)	(4,937)	(11,540,250)	(8,793,987)	(6,861,971)	36,895,382	319,861,294
2042	127,310,419	(27,014,085)	(678,283)	(32,050,245)	(4,960)	(11,919,750)	(9,011,724)	(8,917,403)	37,713,969	357,575,263
2043	131,605,648	(27,001,870)	(5,650)	(32,054,614)	(5,208)	(12,305,000)	(9,236,955)	(8,322,090)	42,674,262	400,249,525
2044	136,045,882	(26,999,698)	-	(32,059,091)	(5,378)	(12,730,500)	(9,465,715)	(6,211,635)	48,573,865	448,823,390
2045	140,636,350	(27,004,667)	-	(32,063,919)	(5,679)	(13,156,000)	(9,702,348)	(5,528,747)	53,174,991	501,998,381
2046	145,381,911	(27,683,135)	-	(32,068,765)	(5,817)	(13,570,000)	(9,942,689)	(11,065,287)	51,046,218	553,044,599
2047	150,287,556	(27,688,785)	-	(32,073,855)	(6,069)	(14,041,500)	(10,548,337)	(15,751,151)	50,177,858	603,222,458
2048	155,361,083	(27,685,598)	-	(32,079,142)	-	(14,415,250)	(10,711,586)	(10,474,847)	59,994,660	663,217,118
2049	160,603,239	(27,685,023)	-	(32,084,820)	-	(14,881,000)	(10,618,799)	(6,688,620)	68,644,976	731,862,094
2050	166,021,163	(27,683,323)	-	(32,090,637)	-	(15,375,500)	(10,967,252)	(7,429,266)	72,475,185	804,337,279
2051	171,624,210	(27,685,823)	-	(32,096,706)	32,751,741	(15,818,250)	(11,244,723)	(12,965,039)	104,565,409	908,902,689
2052	177,416,184	(27,687,623)	-	-	-	(16,307,000)	(11,523,444)	(15,568,323)	106,329,794	1,015,232,482
2053	183,403,982	(27,683,923)	28,253,863	-	-	(16,859,000)	(11,811,760)	(9,742,936)	145,560,225	1,160,792,708

- Note:
1. Tolling O&M Expense estimates were prepared by Atkins on 10/31/2013 and are shown in the Engineer's Report.
 2. General O&M Expenses estimates were prepared by CTS on 10/31/2013 and are shown in the Engineer's Report. \$44,000 annual TIFIA service fee and rating agency surveillance fee are included.
 3. M&R Reserve Fund Deposits are based on long term M&R Expenses estimates prepared by CTS on 10/31/2013 and are shown in the Engineer's Report. The Reserve Fund Balance meets the requirements set forth in the Engineer's Report.
 4. No General Reserve Fund interest earnings are included.

THE DOWNTOWN CROSSING SEGMENT

The Authority and the Transportation Cabinet are primarily responsible for procuring, financing and constructing the Downtown Crossing Segment, which generally consists of the following three sections, designated as Sections 1, 2 and 3, which are described below. Sections 1, 2 and 3 are identified on the Location Map for the Overall LSIORB Project (the “Location Map”) set forth following the inside cover of this Official Statement.

Section 1 – The Kentucky Approaches to the Downtown and Kennedy Bridges

The juncture of Interstates 64, 65 and 71 in downtown Louisville is locally known as the “Kennedy Interchange.” It includes the approaches to the new Downtown Bridge and the adjacent existing Kennedy Bridge. This element of the Downtown Crossing Segment provides for the reconfiguration and rebuilding of the Kennedy Interchange and is designed to eliminate tight weaving conditions, provide sufficient capacity to meet rush hour demands, add emergency pull-off areas and soften the curves throughout the Kennedy Interchange to improve safety and meet drivers’ expectations. For additional detail about this Section of the Downtown Crossing Segment, see page 23 of 82 of APPENDIX I – ENGINEER’S REPORT – SECTION 3 – PROJECT DESCRIPTION – Section 1 – The Kentucky Approaches to the Downtown Ohio River Bridges.

Section 2 – The Construction of the New Downtown Bridge and the Reconfiguration of the Existing Kennedy Bridge

The new Downtown Bridge crossing between downtown Louisville, Kentucky and Jeffersonville, Indiana will be configured to carry northbound I-65 traffic across the Ohio River. The newly constructed bridge will extend from the northern end of the Kennedy Interchange from the south in Kentucky to the newly constructed approach spans in Indiana. The new main structure will be a three tower cable stay bridge. The new bridge and approach structures will cross both Waterfront Park in Kentucky and the Ohio River Greenway in Indiana and are within the western portion of the Old Jeffersonville Historic District. This new northbound structure will be located just upstream of the existing Kennedy Bridge and will carry six 12-foot lanes and two 12-foot shoulders. To the south, the cable stay bridge connects with new approach spans that are a part of the reconstructed Kennedy Interchange. To the north, approach spans will be needed to span over part of the Ohio River, the flood wall and local streets in Jeffersonville.

The existing Kennedy Bridge will be re-decked and reconfigured to carry southbound traffic utilizing six 12-foot travel lanes and approximately two 9.5-foot shoulders. Some structural improvements will also be required. On the north end of the Kennedy Bridge, the existing Indiana bridge approaches will be replaced.

For additional detail about this Section of the Downtown Crossing Segment, see page 24 of 82 of APPENDIX I – ENGINEER’S REPORT – SECTION 3 – PROJECT DESCRIPTION – Section 2 – The New I-65 Northbound Ohio River Bridge and Existing JFK Bridge.

Section 3 – The Indiana Approaches to the Downtown and Kennedy Bridges

Changes to I-65 in southern Indiana will include reconstruction to accommodate the additional capacity provided by the new Downtown Bridge, modernizing a collector-distributor road system to improve ingress and egress from Clarksville and Jeffersonville, Indiana, and improving connections between these two communities that have been separated since the Interstate was originally built through this area. The Indiana approaches to the Downtown Bridge include the realignment and widening of southbound I-65 to the current Kennedy Bridge and the construction of a new segment of northbound I-65 from the new Downtown Bridge. In addition, I-65 will be expanded from the existing three lane

configuration to four lanes in both the northbound and southbound directions. For additional detail about this Section of the Downtown Crossing Segment, see page 25 of 82 of APPENDIX I – ENGINEER’S REPORT – SECTION 3 – PROJECT DESCRIPTION – Section 3 – The Indiana Approaches to the Downtown Ohio River Bridges.

Construction Progress to Date

The Transportation Cabinet awarded the Downtown Crossing Segment to the Walsh Team (as hereinafter defined) on December 6, 2012. The Transportation Cabinet issued the notice to proceed on December 28, 2012. Since that date, the Walsh Team has been actively executing the terms of the Design Build Agreement and RFP requirements.

As of November 1, 2013, the Walsh Team’s design effort was approximately 60% complete. Jacobs Engineering Group is the design lead for the Walsh Team. Weekly joint Walsh Team and Transportation Cabinet focus group meetings serve to keep the design effort on schedule. The submittal and review process has been established and is being implemented. Design for the project is scheduled to be complete by July 2014.

As of November 1, 2013, the Walsh Team’s construction effort was approximately 15% complete. A ceremonial groundbreaking occurred on June 18, 2013, and actual construction activities commenced on July 7, 2013. All project sections are presently under construction.

Construction in Section 1, the Kennedy Interchange, is focused on sections west of I-65, south of I-64 and on I-71 east of I-64. The Walsh Team has constructed piers and retaining walls that will support Ramp 3 which will carry the collector distributor west of southbound I-65. They are presently constructing the subgrade for Ramp 2 which will carry the realigned eastbound I-64. Ramp 18 is being widened from I-71 to I-64.

Section 2 is the cable stayed bridge and redecking of the Kennedy Bridge. The approaches from both the Kentucky and Indiana river banks have been constructed. Work has progressed on two of the three river towers. Walsh has completed excavating the drilled shafts for towers 3 and 5. Concrete for the shafts and footing of Tower 5 have been placed. Tower 3 is nearly ready for concrete. Work at Tower 4 will commence once the excavating equipment from Tower 5 is relocated.

Work in Section 3 is focused on what will become the new alignment of northbound I-65. New retaining walls have been erected on the eastern boundary in Jeffersonville south of Exit 0. Subgrade and drainage structures have been placed. In addition, temporary pavement widening on US 31 at Stansifer Avenue has occurred in anticipation of the next phase of construction.

All rights of way have been acquired or rights of entry obtained. Parcel 118, Wayside Christian Mission, has been acquired by the Transportation Cabinet, but the parcel will not be available to the Walsh Team until March 1, 2015 per the RFP. Utility relocation is advancing in front of construction phases and is approximately 60% complete for the Project. All permits necessary for construction have been issued.

The Transportation Cabinet has paid the Walsh Team \$169,372,434 through Pay Application 10. Three changes to the contract have been executed as of this pay application. Two of the changes adjusted the contract price. These two changes were the addition of the full allowance amount of \$1,000,000 for structural steel repairs on the Kennedy Bridge in anticipation of the work to be done and \$448,053 for additional Builders Risk Insurance. There have been no adjustments to the Substantial Completion Date of December 9, 2016. Real time project progress may be viewed via interactive webcams on the project website: <http://kyinbridges.com/live-downtown-crossing-construction-cameras>.

DEVELOPMENT AND CONSTRUCTION OF THE DOWNTOWN BRIDGE SEGMENT

Procurement

The Downtown Crossing Segment procurement process administered by the Transportation Cabinet resulted in the selection of the Walsh Design Build Team (the “Walsh Team”), which consists of the Walsh Construction Co. (“Walsh Construction”), Milestone Construction and Jacobs Engineering. The procurement process evaluated the Technical Proposals, the Disadvantaged Business Enterprise Plans (the “DBE Plans”) and the Price Proposals. The Price Proposal is the sum of the costs to fulfill the terms of the request for proposal (“RFP”) and the number of days to reach substantial completion. The Technical Proposal and DBE Plan were received on October 1, 2012 and evaluated and scored prior to receiving the Price Proposals on November 15, 2012. The best value was determined by the highest composite score of the Technical Proposal, the DBE Plan and the Price Proposal. Based on this evaluation, the Walsh Team was chosen in December 2012.

The Price Proposal submitted by the Walsh Team and accepted by the Transportation Cabinet set forth a bid of \$860,000,000 and 1,380 calendar days to reach substantial completion from the date of the commencement of work. Based upon the notice to proceed sent by the Transportation Cabinet to the Walsh Team on December 28, 2012, identifying a commencement of work on March 1, 2013, the substantial completion date is projected to be **December 9, 2016**, subject to extensions of time permitted under the Design Build Agreement.

Design Build Agreement

General. All capitalized terms used in this section and not otherwise defined herein have the meanings set forth in the Design Build Agreement, a summary of which is set forth in APPENDIX G hereto.

A lump sum price (the “Contract Price”) of \$860,000,000 was bid for the design and delivery of the Downtown Crossing Segment. Payment of this Contract Price will be made over the life of the project based upon applications for payment submitted to the Transportation Cabinet by the Walsh Team. The invoiced payments will be justified by the Critical Path Method (“CPM”) schedule. At the beginning of the project, Walsh submitted a Schedule of Values which is the breakdown cost of individual Buildable Units on the project. These Buildable Units include structures, mainline and ramp pavements, retaining walls and other related components. The Walsh Team was also required to establish a CPM Schedule that lists the Buildable Units and their associated activities in the schedule. Costs for the activities are determined as follows:

- costs for incremental design preparation will be assigned to the respective design phase submittal milestone(s);
- equipment costs will be assigned to their respective procurement activities (i.e., the delivery milestone activity);
- costs for installation of the material/equipment (labor, construction equipment, mobilization, and temporary materials) will be assigned to their respective construction activities; and
- the Walsh Team will evenly disperse overhead and profit to each activity over the duration of the Project.

The total of all cost loaded activities, including costs for material and equipment delivered for installation on the Downtown Crossing Segment, and labor and construction equipment loaded

construction activities, total to 100% of the value of the Design Build Agreement. When an invoice is submitted, the CPM is updated showing the completion of the activities in the Buildable Unit.

Adjustments to Contract Price and Contract Time. As more fully described in APPENDIX G – SUMMARY OF CERTAIN PROVISIONS OF THE DESIGN BUILD AGREEMENT, if the risk has not been shifted to Walsh Construction under the Design Build Agreement as described below, the Contract Price and the Contract Time (i.e., the date by which Substantial Completion must be obtained) can be adjusted by the following factors: (a) Change Orders, (b) Construction Change Directives, (c) differing geotechnical/hydrological subsurface conditions, (d) contaminated materials, (e) utilities locations, (f) historic and archeological materials, (g) Force Majeure, (h) concurring work by the Transportation Cabinet or other Transportation Cabinet contractors, (i) value engineering change proposals (“VECPs”), and (j) suspensions for convenience.

Change Orders and Construction Change Directives can be initiated by either the Transportation Cabinet or Walsh Construction and generally relate to changes in the scope of the Project. See APPENDIX G – SUMMARY OF CERTAIN PROVISIONS OF THE DESIGN BUILD AGREEMENT – “CONTRACT CHANGES – Change Orders” and “CONTRACT CHANGES – Construction Change Directives.”

Walsh Construction was responsible for doing a reasonable and prudent site investigation before making its proposal. Walsh Construction investigated geotechnical, environmental or other site information available due to prior design or construction in the vicinity. Failure by Walsh Construction to perform its own testing, or to make itself aware of already-existing subsurface information, precludes Walsh Construction from presenting any claim for conditions that such preparation and measures might have revealed, or that might have been reasonably anticipated after such review. Consequently, its ability to request Contract Price and Contract Time changes due to differing geotechnical/hydrological subsurface conditions, contaminated materials, utilities locations, and historic and archeological materials is limited. See APPENDIX G – SUMMARY OF CERTAIN PROVISIONS OF THE DESIGN BUILD AGREEMENT – “CONTRACT CHANGES – Site Conditions.”

Walsh Construction is entitled to relief for its failure to perform its Design Build Agreement obligations if such failure is due to certain circumstances or events that are beyond Walsh Construction’s control (“Force Majeure”), including, but are not limited to, Acts of God (which includes floods, fires, earthquakes, tornados, or other natural disasters), wars, hostilities (regardless of whether war is declared), terrorist activities, strikes that materially impact the work, or interruption or failure of critical utilities that are not wholly or partially attributable to the Walsh Team. If Walsh Construction asserts Force Majeure as an excuse for failure to perform its obligations, then Walsh Construction must prove that it took reasonable steps to minimize the delay or damages caused by the foreseeable events flowing from the Force Majeure event, substantially fulfilled all non-excused obligations, and that the Transportation Cabinet was timely notified of the likelihood or actual occurrence of the Force Majeure event. In the event of a Force Majeure event, Walsh Construction is entitled only to an extension of the Contract Time associated with the Force Majeure event and not to any adjustment of the Contract Price. In order for Walsh Construction to be granted an extension of the Contract Time, Walsh Construction must follow the Change Order procedures, and prove that the Force Majeure event delays activities on the Critical Path. See APPENDIX G – SUMMARY OF CERTAIN PROVISIONS OF THE DESIGN BUILD AGREEMENT – “CONTRACT CHANGES – Force Majeure.”

If Walsh Construction’s prosecution of the work is delayed through the sole fault of the Transportation Cabinet or a contractor under contract with the Transportation Cabinet, then Walsh Construction may submit a proposed Change Order. If the Transportation Cabinet or a Transportation Cabinet contractor is the sole source of the delay to Walsh Construction’s prosecution of the work, Walsh Construction is entitled to an adjustment in the Contract Time, provided that the affected portion of Walsh

Construction's work is shown as a Critical Path task on Walsh Construction's most recent schedule. In such cases, Walsh Construction shall also be entitled to an increase in the Contract Price to compensate Walsh Construction for its extended on-site overhead for the period of delay caused solely by the Transportation Cabinet or a Transportation Cabinet contractor, as well as Walsh Construction's costs for idle equipment and idle manpower, provided that such costs cannot be mitigated, such as by use of such manpower and equipment elsewhere on the Project or on other projects. See APPENDIX G – SUMMARY OF CERTAIN PROVISIONS OF THE DESIGN BUILD AGREEMENT – “CONTRACT CHANGES – Time Extensions and Damages for Delay.”

A Value Engineering Change Proposal (“VECP”) is a cost reduction plan that is initiated, developed, and submitted by Walsh Construction to the Transportation Cabinet for modifying the Design Build Agreement requirements after award. A VECP requires changes in the Design Build Agreement that result in savings to the Transportation Cabinet without impairing essential functions and characteristics of the facility while maintaining and meeting all design and the Transportation Cabinet policies, environmental requirements, and project commitments. Essential functions and characteristics include but are not limited to service life, reliability, economy of operation, ease of maintenance, standardized features, safety, satisfaction of customer needs, and special design requirements. A VECP proposing a total savings of less than \$250,000 will normally not be considered unless there are additional non-monetary benefits to the Transportation Cabinet. Generally, Walsh Construction and the Transportation Cabinet would share in the savings 50%/50%. See APPENDIX G – SUMMARY OF CERTAIN PROVISIONS OF THE DESIGN BUILD AGREEMENT – “VALUE ENGINEERING CHANGES PROPOSALS.”

The Transportation Cabinet may, at any time and for any reason, by written notice, order Walsh Construction to suspend all or any part of the Work for the period of time that the Transportation Cabinet deems appropriate for the convenience of the Transportation Cabinet. Walsh Construction's sole remedy for such suspensions cumulatively totaling 30 days or less shall be an extension of the Substantial Completion date, but only to the extent that the suspensions delay the critical path and Walsh Construction has properly notified the Transportation Cabinet in writing. Adjustments of the Contract Price and the Substantial Completion date shall be available for any such suspensions cumulatively totaling more than 30 days, but only to the extent that such suspensions delay the critical path and Walsh Construction has properly notified the Transportation Cabinet in writing as required by the Design Build Agreement. Any adjustment to the Contract Price shall be limited to actual direct costs reasonably incurred. See APPENDIX G – SUMMARY OF CERTAIN PROVISIONS OF THE DESIGN BUILD AGREEMENT – “SUSPENSIONS, TERMINATION FOR CONVENIENCE, AND DEFAULT - Suspensions.”

Three changes to the Design Build Agreement have been executed to date. Two of the changes adjusted the Contract Price. These two changes were the addition of the full allowance amount of \$1,000,000 for structural steel repairs on the Kennedy Bridge in anticipation of the work to be done and \$448,052 for additional Builders Risk Insurance. There have been no adjustments to the Substantial Completion Date of December 9, 2016.

Performance and Payment Bonds. As a part of the consideration and to assure the faithful performance of the Design Build Agreement in every respect, the Walsh Team has provided a performance bond and a payment bond each with surety or sureties approved by the Transportation Cabinet in a sum not less than 100% of the Contract Price. Such bonds, when approved by the Transportation Cabinet, are for the use and benefit of the Transportation Cabinet, and each person furnishing materials, labor and supplies for use in the performance of the Design Build Agreement. The bonds remain in effect at least until one year after the date when final payment becomes due, except as provided otherwise by applicable laws or regulations or as required by the Contract Documents. See

APPENDIX G – SUMMARY OF CERTAIN PROVISIONS OF THE DESIGN BUILD AGREEMENT – “INSURANCE AND BONDING REQUIREMENTS – Payment and Performance Bonds.”

Liquidated Damages. The Walsh Team is liable to the Transportation Cabinet for Liquidated Damages in the amount of \$80,000 for each and every Calendar Day after **December 9, 2016** that the Walsh Team fails to achieve Substantial Completion, unless such extension is permitted under the terms of the Design Build Agreement. Any accrued liquidated damages may be deducted from any current or final estimate after the day the liquidated damages begin to accrue. Liquidated damages continue until the Walsh Team achieves Substantial Completion as determined by the Transportation Cabinet. See APPENDIX G – SUMMARY OF CERTAIN PROVISIONS OF THE DESIGN BUILD AGREEMENT – “SUBSTANTIAL AND FINAL COMPLETION – Liquidated Damages.”

Liquidated damages are also charged to the Walsh Team when they fail to meet the Traffic Control requirements of the Design Build Agreement in the Project Scope. The value of these damages is based upon user costs and liquidated damage values that have been assigned to these roadways in the past for failure to open the roadway on time.

Capital Costs. The following table breaks down the Capital Costs set forth in the Design Build Agreement by Section of the Project.

<u>Design and Construction Cost Table</u>	
<u>Cost Category</u>	<u>Costs</u>
Project Wide Items	\$ 72,600,000
Section 1	
Design/ Environmental	59,000,000
Utilities	7,500,000
Roadway	145,500,000
Structures	202,100,000
Section 2	
Design/ Environmental	35,000,000
Downtown Crossing Structure	183,000,000
Kennedy Rehabilitation	30,000,000
Section 3	
Design/ Environmental	18,500,000
Utilities	3,500,000
Roadway	76,800,000
Structures	<u>26,500,000</u>
 TOTAL	 <u>\$860,000,000</u>

The \$860 million shown in the above chart is reflective of the bid received from the Walsh Team for the Downtown Crossing Segment and as awarded in December 2012. The Transportation Cabinet has established a contingency account of \$40 million and a \$1 million repair allowance in addition to this amount that is to provide for financial considerations not included in the Walsh Team’s bid. Some potential areas are further elaborated in “Risk Analysis” below. \$1 million has specifically been set aside for rehabilitation work on the Kennedy Bridge.

The following table reconciles the \$1,076,084,000 construction costs line item in the table entitled “Annual Fund Allocation” under the caption “DEVELOPMENT AND FINANCING PLAN – Sources of Funding for the Downtown Crossing Segment” and the \$901,000,000 construction cost bid submitted by the Walsh Team, together with \$41 million in contingencies and allowance described in the preceding paragraph.

Total Project Cost (in \$ thousands)

	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Total</u>
Design-Build Costs ¹	113,435	312,114	257,183	151,651	66,616	901,000
Non-Design Build Costs	<u>32,405</u>	<u>43,679</u>	<u>41,100</u>	<u>36,900</u>	<u>21,000</u>	175,084
Total	<u>145,840</u>	<u>355,793</u>	<u>298,283</u>	<u>188,551</u>	<u>87,616</u>	<u>1,076,084</u>

¹ Design-Build Costs include the Walsh Team bid of \$860 million, a \$40 million contingency and a \$1 million repair contingency. Costs in FY 2018 and FY 2019 are rolled into FY2017.

Delays caused by factors outside of the contractor's responsibility will be funded by the Transportation Cabinet. General cost overruns are part of the Lump Sum Bid received from the Walsh Team for the construction of the project. Items that occur that were not covered in the bid will be dealt with on a case-by-case basis. If determined to be outside of the contract and not incidental to other items that might have been reduced in cost, then costs would be borne by the Transportation Cabinet, unless it is an item that was specifically requested by INDOT as an addition to the project. In the latter case, INDOT would provide the increased funds necessary.

The contractor is required to be fully bonded. If the contractor defaults, the bond company would be required to find a contractor to complete the work. Should the work be delayed, the bonding company is also responsible for the \$80,000/day liquidated damages charged for every day that the project is delayed.

The only section of the Downtown Crossing Segment that is somewhat specialized is the construction of the cable-stay bridge. As evidenced by the procurement process, there are multiple teams capable of delivering that construction. All other aspects of the Downtown Crossing Segment are routine roadway construction, although with complex maintenance of traffic issues. No techniques or approaches are new technology. Some materials or process might be used that are outside of the normal process for the Transportation Cabinet, but all have been demonstrated as effective processes on other projects of similar nature. Similarly all products that will be used on the project are nationally recognized and tested.

Permits and Approvals

The number of permits and approvals that must be obtained prior to the construction and operation of the Downtown Crossing Segment are extensive, all of which have been issued or granted. For a comprehensive list of such permits and approvals, see APPENDIX I – ENGINEER'S REPORT – "SECTION 4 – ENVIRONMENTAL CONSIDERATIONS – Section 4.A – Permits" at page 28 of 82.

Mitigation Plan

A mitigation plan was developed for unavoidable impacts, including conceptual measures that will be considered during the development of the construction plans. For a comprehensive list of such mitigation measures, see APPENDIX I – ENGINEER'S REPORT – "SECTION 4 – ENVIRONMENTAL CONSIDERATIONS – Section 4.B – Mitigation Plan" at page 32 of 82.

Risk Analysis

Article 4 of the Design Build Agreement between Walsh Construction and the Transportation Cabinet establishes certain items of risk that have been shifted from the Transportation Cabinet to the Walsh Team and is included within the project cost estimate as bid by the Walsh Team, including the following items: site condition; differing geotechnical/hydrological subsurface conditions; contaminated materials; utilities; historic and archaeological materials; force majeure and time extensions and delays.

A more complete explanation of these items is set forth in APPENDIX I – ENGINEER’S REPORT – “SECTION 11 – RISK ANALYSIS – Section 11.B – Design-Build Agreement” at page 76 of 82.

Project Contingency; Other Available Funds. The Project Financial Plan includes \$41 million funded for contingencies associated with risks in the Downtown Crossing Segment, including \$1 million for additional rehabilitation that might be needed for work on the Kennedy Bridge. The additional \$40 million that is identified for contingency costs is basically a 5% contingency over the estimated cost of the contract to cover other potential project costs. In the opinion of the GEC, this amount of contingency backed by the other funds cited to be available to the project appears to be well within industry standards for this type of project. In addition, the Transportation Cabinet adopted Highway Plan includes \$50 million in Fiscal Year 2018 for the Downtown Crossing Segment that can be made available, if needed.

As discussed more fully under “SECURITY AND SOURCES OF PAYMENT FOR THE SERIES 2013 OBLIGATIONS – The Lease,” the Transportation Cabinet has agreed that (i) if Current Funding Sources are not sufficient to complete the Downtown Crossing Segment in a timely manner, the Transportation Cabinet will seek additional funding to complete the Downtown Crossing Segment, and (ii) in the event that Authority Toll Revenues are insufficient to maintain the Authority System, the Transportation Cabinet will maintain it in compliance with its obligation under Commonwealth law to investigate all problems relating to the construction and maintenance of roads in the Commonwealth.

As discussed more fully in APPENDIX I – ENGINEER’S REPORT – “SECTION 11 – RISK ANALYSIS – Section 11.C – Risk Considerations” at page 78 of 82, certain risks have been transferred to the Walsh Team and were included in its bid. Few implications for the Transportation Cabinet from those risks are carried forward with the construction of the project. However, a few identified elements do still have potential risks for the Transportation Cabinet and are discussed in the “Risk Considerations” portion of APPENDIX I. Any specific delays claimed by the contractor would have to be analyzed for the actual impact to its schedule and costs, but for the purposes of the GEC Report, the potential risks have been established at the rate of \$80,000/day per the Design Build Agreement. A list of those risks identified in APPENDIX I – ENGINEER’S REPORT – “SECTION 11 – RISK ANALYSIS – Section 11.C – Risk Considerations,” as of the date of the Engineer’s Report, are the following: right of way completion; hazardous materials; condition of existing Kennedy Bridge; utilities; and environmental challenges.

Engineer’s Conclusions

In the opinion of the GEC, there are no permitting, environmental or mitigation measures that were determined during the development of the Downtown Crossing Segment that would cause a delay in the construction of the Downtown Crossing Segment. In addition, the GEC concluded as follows in its report attached hereto as APPENDIX I:

“The GEC has prepared this document [APPENDIX I] in accordance with the best current information available and is accurate within acceptable parameters. Cost estimates are provided in accordance with bids received from the associated design-build team bids. Other costs have been developed in accordance with acceptable practices for estimating those financial elements. The mitigation plan and contingencies are reasonable and adequate for projects of this type. The construction schedule provided is in accordance with the schedule provided with the design-build team’s proposal. Failure to meet the completion date will result in substantial financial penalties to the design-build contractor.”

THE SYSTEM

Bi-State Coordination

General. The Commonwealth and the State of Indiana have been working cooperatively for decades to address long-term cross-river transportation needs in the Louisville metropolitan area. Most recently, the Commonwealth and the State have begun implementing their agreement that the Commonwealth will sponsor the Downtown Crossing Segment and Indiana will sponsor the East End Crossing Segment. For purposes of the Traffic and Revenue Study set forth in APPENDIX H hereto, the construction of the Downtown Crossing Segment and the East End Crossing Segment is referred to as the “Louisville – Southern Indiana Ohio River Bridges Project” or the “LSIORB Project.”

Development Agreement. The States’ Parties have agreed in the Development Agreement that the System is a single project comprising an integrated cross-river transportation system that requires close coordination to ensure unified and viable tolling operations. In accordance with the Development Agreement, the States’ Parties entered into the Interlocal Agreement, as more fully summarized below. In the Development Agreement, the Commonwealth also agreed to take sole responsibility for the procurement, financing and construction of the Downtown Crossing Segment and Indiana agreed to take responsibility for the procurement, financing and construction of the East End Crossing Segment. The Development Agreement further directed the States’ Parties to enter into a toll policy agreement, to conduct a procurement for a toll system integrator and to procure a toll operator. The toll policy agreement is not expected to be finalized prior to the date of issuance of the Series 2013 Obligations.

While the States’ Parties have agreed in the Development Agreement to use their best efforts to accomplish substantial completion of the East End Crossing Segment and the Downtown Crossing Segment by July 1, 2018, both Segments are currently expected to accomplish substantial completion during 2016 – the East End Crossing Segment by October 31, 2016 and the Downtown Crossing Segment by December 2016.

A copy of the Development Agreement is included in this Official Statement as APPENDIX E.

Interlocal Agreement. In furtherance of the objectives of the Development Agreement, the States’ Parties entered into the Interlocal Agreement for the design, procurement, construction, financing, tolling, operation and maintenance of the Project, which provided, among other things, for the establishment of the Joint Board and the Tolling Body.

A copy of the Interlocal Agreement is included in this Official Statement as APPENDIX D.

Existing Ohio River Crossings

There are currently three bridges crossing the Ohio River from the Louisville metropolitan area into southern Indiana:

I-65 Kennedy Bridge. I-65 is a major north-south highway connecting Louisville with Indianapolis in the north and Nashville in the south. Currently, the Kennedy Bridge contains four northbound lanes and three southbound lanes. Movement along I-65 is complicated in this area due to the convergence of I-64, I-65 and I-71. Peak period traffic exceeds the design capacity of the Kennedy Bridge. Upon completion of the Downtown Crossing Segment, the Kennedy Bridge will be reconstructed and reconfigured and have six southbound only lanes. The Kennedy Bridge will be tolled following its reconstruction and reconfiguration.

I-64 Sherman Minton Bridge. I-64 is an east-west highway connecting Louisville with Lexington in the east and St. Louis in the west. The Sherman Minton Bridge contains three lanes in each direction. Vehicles seeking to detour around the I-65 Ohio River crossing would incur approximately six miles of additional travel. The Sherman Minton Bridge is not part of the Project or the System and is not expected to be tolled.

US 31 Clark Memorial Bridge. The Clark Memorial Bridge is an undivided four-lane facility with a 35 mile per hour posted speed limit located just west of the Kennedy Bridge. The route to and from the Clark Memorial Bridge is through local streets with traffic signals, making it unattractive to truck traffic. The Clark Memorial Bridge is at capacity during peak periods. The Clark Memorial Bridge is not part of the Project or the System and is not expected to be tolled.

Downtown Crossing

The Downtown Crossing Segment is more fully described above under “THE DOWNTOWN CROSSING SEGMENT.”

East End Crossing

INDOT and IFA are primarily responsible for procuring, financing and constructing the East End Crossing, which generally consists of the following three sections, designated as Sections 4, 5 and 6, which are described below. Sections 4, 5 and 6 are identified on the Location Map.

East End Crossing Bridge – The East End Crossing Bridge is comprised of construction of an approximately 2,500 foot long 4-lane bridge (which can accommodate 6 lanes) over the Ohio River with a 13-foot wide pedestrian and bicycle pathway on the southwesterly side of the bridge.

Kentucky Approach to the East End Crossing Bridge – The Kentucky approach includes a four-lane reconstruction and extension of KY 841 from I-71 to the new East End Crossing Bridge, two lanes in each direction, for a distance of approximately 3.4 miles. This includes reconstruction of the two-lane section of KY 841 between I-71 and US 42 to four lanes, an approximately 1,700-foot long tunnel beneath US 42 and the historic Drumanard Estate, with two tunnel bores, each carrying two lanes with shoulders, one for northbound, one for southbound, and then continuing with four-lanes continuing northwesterly across Harrods Creek, River Road and Transylvania Beach Road to the East End Crossing Bridge.

Indiana Approach to the East End Crossing Bridge – The Indiana approach comprises a four-lane extension of SR 265 from SR 62 to the East End Crossing Bridge, two lanes in each direction, a distance of approximately 4.1 miles. This includes reconstruction of the SR 265/SR 62/Port Road interchange and construction of a full-diamond interchange at an extension of Old Salem Road.

Construction Contract for the East End Crossing Segment – Pursuant to the Public-Private Agreement (The East End Crossing (Louisville-Southern Indiana Ohio River Bridges Project)), dated December 27, 2012 (the “Public-Private Agreement”), between IFA, in its capacity as party to the Public-Private Agreement (the “Contracting Party”), and WVB East End Partners, LLC, a Delaware limited liability company (the “Company”), the Contracting Party granted the Company the exclusive right to design, construct and finance the East End Crossing Segment and to operate and maintain a portion of the East End Crossing Segment.

Substantially all of the construction work relating to the East End Crossing Segment is being undertaken by Walsh Construction Company / VINCI Construction Grands Projets JV, an unincorporated

joint venture (the “East End Design-Build Contractor”) comprising Walsh Construction Company, an Illinois corporation (“Walsh Construction”), and VINCI Construction Grands Projets, a French company.

Additional information relating to the Indiana financing of the East End Crossing Segment, including information relating to the construction contract for the East End Crossing Segment, is set forth in the official statement, dated March 13, 2013, of IFA relating to its \$676,805,000 Tax-Exempt Private Activity Bonds (Ohio River Bridges East End Crossing Segment), Series 2013A and Series 2013B (the “IFA Official Statement”), a copy of which is available on the website of the Electronic Municipal Market Access (“EMMA”) system of the Municipal Securities Rulemaking Board (“MSRB”) at <http://emma.msrb.org/ER661167-ER513087-ER915758.pdf>. Additional information is also available at www.eastendcrossing.com (the “East End Website”). The information in the IFA Official Statement and on the East End Website is generally current as of its date, unless otherwise specified therein. The information in the IFA Official Statement and on the East End Website is not incorporated herein by reference and none of the Commonwealth, the Authority, the Transportation Cabinet, the Financial Advisor or the Underwriters takes responsibility for the information in, or for updating the information in, the IFA Official Statement or the East End Website.

A summary of the design-build contract relating to the East End Crossing Segment, including references to compensation and payments, limitation on design-build contractor’s liability, completion deadlines and recovery plans, liquidated damages and termination rights, is set forth in the IFA Official Statement under “DESIGN-BUILD CONTRACT AND PARENT GUARANTY.” A more complete summary of the design-build contract is set forth in APPENDIX E to the IFA Official Statement. Both summaries are dated as of the date of the IFA Official Statement and have not been updated since such date.

The System

Upon completion of the Downtown Crossing Segment and the East End Crossing Segment, the System that will be tolled will initially consist of the Downtown Bridge, the adjacent Kennedy Bridge and the East End Bridge. Additional projects (“Additional Projects”) may be added to the System from time to time if authorized under the Act and under the Interlocal Agreement. If an Authorized Officer notifies the Trustee in writing that an Additional Project has been or will be added to the System, the Authority Toll Revenues projected to result from such Additional Project may be taken into consideration in calculating the Additional Bonds Test. See “SECURITY AND SOURCES OF PAYMENT FOR THE SERIES 2013 OBLIGATIONS – Financial Covenants – *Additional Bonds* – Additional Project Bonds.” The TIFIA Loan Agreement provides that no Additional Projects can be added to the System without the consent of the TIFIA Lender while any TIFIA Bonds remain Outstanding.

Costs of Administration of the System

The Transportation Cabinet and the Authority entered into a Memorandum of Agreement, dated October 16, 2012 (the “MOA”), pursuant to which the Transportation Cabinet agreed to ensure that the Authority has sufficient funds available to cover its administrative costs as defined in the Act by requesting appropriation and allotment authority, and initiating cash transfers, in accordance with the MOA. The Transportation Cabinet can only make requests for appropriations and the decision to grant or deny those requests rests solely with the Kentucky General Assembly. The Transportation Cabinet agrees in the MOA, subject to the availability of appropriations, to transfer to the Authority an amount of cash sufficient to meet the expenditure needs of the Authority into an account established in the statewide accounting system for the exclusive use of the Authority (“KPTIA’s Account”). The Transportation Cabinet may not transfer, or cause to be transferred, any funds from KPTIA’s Account. The Authority can use the funds in KPTIA’s Account only for staff salaries, fees and expenses paid to financial consultants and other professional service contractors employed by, or on behalf of, the Authority, and

any other expenses directly related to the functioning of the Authority. The MOA will be modified by the Transportation Cabinet and the Authority once Authority Toll Revenue becomes available to offset some or all of those expenses.

Maintenance of the System

The Authority, in cooperation with the Transportation Cabinet, is responsible for maintaining and the Authority is responsible for funding the Downtown Bridge, the Kennedy Bridge and a portion of the Kentucky approach to the East End Crossing Bridge, including associated roadways and interchanges, as noted on the Location Map as sections 1, 2 and 4A. The Indenture provides for the funding of the obligations to operate and maintain the facilities with Pledged Receipts from the General O&M Reserve Fund and the M&R Reserve Fund, as more fully described herein under “SECURITY AND SOURCES OF PAYMENT FOR THE SERIES 2013 OBLIGATIONS – Operating Reserve Funds.” In the event moneys in such Funds are not sufficient to fully pay the costs and expenses required to be paid from such Funds, the Transportation Cabinet has agreed to pay Rent, or cause Rent to be paid, under the Lease in an amount sufficient to pay such costs and expenses. See “SECURITY AND SOURCES OF PAYMENT FOR THE SERIES 2013 OBLIGATIONS – The Lease” herein.

Pursuant to the Public-Private Agreement, the Company is responsible for the operations and maintenance of the Indiana I-65 approach to the Downtown Bridge, a portion of the Kentucky approach to the East End Crossing Bridge, the East End Crossing Bridge and the Indiana approaches to the East End Crossing Bridge, as noted on the Location Map as sections 3, 4B, 5 and 6.

The Development Agreement provides that the operation and maintenance expenses incurred by the Toll Operator (“Toll System Collection Expenses”) and paid from Toll Revenues and other sources available to the Authority and the IFA will be divided equally between the IFA and the Authority and the respective share of Toll System Collection Expenses will be payable from the Indiana Revenue Share and the Kentucky Revenues Share, respectively, as more fully described below under “THE SYSTEM – Toll Policy Agreement and Initial Toll Rate Resolution – *Sharing of Tolls*.” The Indenture provides for the funding of the Toll System Collection Expenses with Pledged Receipts from the Tolling O&M Reserve Fund, as more fully described herein under “SECURITY AND SOURCES OF PAYMENT FOR THE SERIES 2013 OBLIGATIONS – Operating Reserve Funds.” In the event moneys in the Tolling O&M Reserve Fund are not sufficient to fully pay the costs and expenses required to be paid from the Tolling O&M Reserve Fund, the Transportation Cabinet has agreed to pay Rent, or cause Rent to be paid, under the Lease in an amount sufficient to pay such costs and expenses. See “SECURITY AND SOURCES OF PAYMENT FOR THE SERIES 2013 OBLIGATIONS – The Lease” herein.

Permission from FHWA to Impose Tolls on the System

The Federal Highway Administration of the United States Department of Transportation (“FHWA”), the Transportation Cabinet, the Authority, INDOT and IFA have entered into an agreement (the “Section 129 Toll Agreement”), in accordance with the provisions of Section 129(a) of Title 23 of the United States Code (“Section 129(a)”), wherein the Transportation Cabinet, the Authority, INDOT and IFA agree that toll revenues from the operation of the System will be used first for debt service (including financing payments and the funding of reasonable reserves), for reasonable return on investment of any private person financing the System or any portion thereof, and for the costs necessary for the proper operation and maintenance of the System, including reconstruction, resurfacing, restoration, and rehabilitation, as provided in paragraph 3 of Section 129(a). The Authority or the Transportation Cabinet, and IFA or INDOT, as the case may be, may be reimbursed, out of its State’s share of the toll revenues related to the System, for any payments made from highway transportation appropriations (whether transferred to it or received directly by it) to satisfy any of the permissible uses of toll revenues set forth in the first sentence of this paragraph, including, in the case of IFA, any payments made by IFA to the

developer under the public-private partnership agreement relating to the East End Crossing that satisfy any such permissible uses of toll revenues. The Authority, the Transportation Cabinet, INDOT and IFA have agreed in the Section 129 Toll Agreement to certify annually that the System is being adequately maintained. Consequently, under the Section 129 Toll Agreement, the System may be tolled at any time and the revenues therefrom may be applied as provided in the Development Agreement.

Commencement of Tolling

In accordance with the Development Agreement, the States' Parties have agreed as follows:

- the tolling operations for the Downtown Bridge will commence as soon as it is open to traffic, which is currently projected for December 2016;
- the tolling operations for the East End Crossing Bridge will commence as soon as it is open to traffic, which is currently projected for October 31, 2016; and
- tolling operations for the Kennedy Bridge will commence upon the earliest to occur of (1) the date when the Downtown Bridge is sufficiently complete to open to traffic; (2) the date of East End Crossing substantial completion; or (3) June 30, 2018.

The primary method of collecting tolls will be through the use of a prepaid transponder through electronic toll collection or, if the vehicle does not have a transponder, the license plate will be read through a video collection system.

Toll Policy Agreement and Initial Toll Rate Resolution

Toll Policy Agreement. The Development Agreement also provides, consistent with the Record of Decision, that the States' Parties will develop a tolling policy (the "Toll Policy Agreement") that is sensitive and responsive to low-income and minority populations ("economic justice populations"). The States' Parties, acting with and through the Tolling Body, agree in the Development Agreement, to conduct a detailed assessment of the potential economic effects of tolls on environmental justice populations, make the results of that study publicly available, identify and evaluate a range of measures for mitigating the effects of tolling on low-income and minority populations, and provide an opportunity for additional public input on those potential measures. The States' Parties have agreed that the Toll Policy Agreement will comply with FHWA policy relating to environmental justice. The Record of Decision requires that the Toll Policy Agreement be completed before tolling is allowed to be initiated on the Project. The Commonwealth and the State of Indiana are working on the Toll Policy Agreement, but such Agreement will not be completed prior to the issuance and delivery of the Series 2013 Obligations. The Transportation Cabinet does not expect that the Toll Policy Agreement will materially adversely affect the Toll Revenues projected in the Traffic and Revenue Study. As described below under "-Initial Toll Rates," the Tolling Body has agreed to establish tolls at rates expected to be sufficient to meet the Authority's Rate Covenant.

Initial Toll Rates. The Tolling Body adopted an initial toll rate resolution (the "Initial Toll Rate Resolution") on September 11, 2013, providing for an initial toll rate schedule consistent with the projections set forth in the Traffic and Revenue Study (as hereinafter defined). The following is the initial Toll Rate Schedule:

	<u>2-Axle Vehicles</u>	<u>Medium Trucks</u>	<u>Heavy Trucks</u>
Discount Program	\$1.00	N/A	N/A
Transponder	2.00	\$ 5.00	\$10.00
Registered Video	3.00	6.00	11.00
Other Video	4.00	7.00	12.00

The Initial Toll Rate Resolution also provides that such initial rates will increase annually, beginning July 1 of the year following the commencement of toll collection and thereafter on each July 1 for as long as tolls are in force, by the greater of inflation as measured by the Consumer Price Index or 2.5%.

The Tolling Body, in accordance with the Development Agreement, the General Indenture and the Indiana Public-Private Agreement, as well as the TIFIA Loan Agreement, agreed that, as long as either the Authority or IFA has outstanding payment obligations related to the design, construction, financing, operation and maintenance of the System, including obligations of the Authority and IFA under the General Indenture, TIFIA loan agreements or the Indiana Public-Private Agreement, to establish tolls at rates expected to be sufficient to meet each of the IFA Rate Covenant and the Authority's Rate Covenant.

In connection with the Authority's Rate Covenant, the Tolling Body has stated in the Initial Toll Rate Resolution that it resolves, pledges to and agrees with the Authority and the holders of all Bonds or other obligations authorized by the General Indenture that are related to the Project, including TIFIA, that the Tolling Body will (a) take all actions necessary and convenient to permit the Authority to fulfill the terms of the Authority's Rate Covenant and (b) not limit or alter the rights and powers vested in the Authority to fulfill the terms of the Authority's Rate Covenant.

Sharing of Tolls. All Toll Revenues received shall be allocated equally between the Authority (the "Kentucky Revenue Share") and IFA (the "Indiana Revenue Share"). Likewise, as more fully described above, the Toll Collection System Expenses will be divided equally and payable from the Kentucky Revenue Share and the Indiana Revenue Share.

The Joint Board, through the IFA, will engage the services of a Toll System Integrator ("TSI") to provide for the collection of Toll Revenues. The TSI will be required to maintain a lockbox on behalf of the Joint Board, which will be held in trust and exempt from the bankruptcy estate of the TSI. System users will send all toll related payments, including prepaid toll balances, to the TSI for deposit to the lockbox. It is the expectation of the Authority that such deposits will be made each business day. The TSI will be required to reconcile the amount of funds available in the lockbox with the traffic that has travelled the three tolled bridges. This reconciliation will result in a portion of the funds in the lockbox being recognized as "Toll Revenue," as that term is defined in the Development Agreement.

The portion of lockbox funds recognized as Toll Revenue will be transferred on a daily basis from the TSI to a custodian, who will be hired by the IFA on behalf of the Joint Board. The custodian will be responsible for evenly dividing the Toll Revenues and holding them in trust for, and promptly distributing the moneys to, IFA and the Authority.

The daily reconciliation of lockbox funds to bridge traffic will be overseen by, and subject to adjustment by, a revenue control manager (the "Revenue Control Manager") hired on behalf of the Joint Board separate and apart from the TSI. The Revenue Control Manager will be responsible for auditing the reconciliation, and ordering adjustments when necessary, to ensure that Toll Revenue is accurately reported and transferred in accordance with the TSI's contractual obligations.

Methods of Paying Tolls. The primary method of collecting tolls will be through the use of a prepaid transponder through electronic toll collection (“ETC”). Frequent two-axle vehicle transponder travelers are expected to be offered a discount from the then current transponder rate. If the vehicle does not have a transponder, the license plate will be read through a video collection system. Owners of vehicles without a transponder can elect to pre-register their license plates, in which case bills will be sent and a surcharge will be added. If owners without transponders do not preregister, the owner’s address will be obtained through Department of Motor Vehicles records and bills will be sent to that address and an additional surcharge will be added.

Enforcement of Toll Violations. Most of the enforcement decisions will be made through business rules for the toll system and through administrative rules and regulations which have not yet been adopted. Both the Commonwealth and the State of Indiana have broad rulemaking authority under their respective statutes to enforce toll violators. There is a direct correlation between how strict the enforcement mechanisms are and the level of “leakage” or toll violations, as discussed in this last paragraph of this subsection.

In 2013, the General Assembly of the Commonwealth enacted legislation (13 RS HB 441, the “Kentucky Enforcement Act”) to provide for the enforcement of toll collection in the Commonwealth. The Kentucky Enforcement Act authorizes the Transportation Cabinet to suspend or withhold the annual registration of a vehicle used in the commission of a toll violation until (a) the fine, charge or assessment has been paid, or (b) the violation has been determined not to have occurred.

The Indiana legislature enacted legislation (Chapter 3.5 of Indiana Code Title 9, Article 21) that makes a toll violation a Class C infraction under Indiana law and authorizes the IFA and INDOT to adopt and enforce rules concerning the collection and enforcement of unpaid amounts, including fines, charges and assessments for toll violations, including contracting with collection agencies and authorizing the collection agencies to impose on and collect from the violator an additional collection fee.

Since the System will be operated using open road tolling exclusively, toll leakage to some degree will occur. Among the reasons for toll leakage are the following: the license plate of a non-transponder vehicle is unable to be identified; the license plate can be identified, but it is from a state for which there is no agreement to obtain information; and the identified owner of the vehicle does not pay. Atkins North America, Inc. (“Atkins”) conducted a study that is used in the Traffic and Revenue Study to estimate leakage rates for the System. The results of the Atkins study are set forth in Section 5.50 of the Traffic and Revenue Study.

RFPs for Toll System Integrator and Toll System Operator. The Kentucky Transportation Cabinet, on behalf of the Joint Board, has contracted with Computer Aid Incorporated (“CAI”), a toll consulting firm, to assist with the procurement and oversight of a toll system provider for the LSIORB project. Representatives from both states continue to work closely with CAI to ensure that the Joint Board engages a toll system provider capable of delivering a proven, state-of-the-art, all electronic toll collection system for the System. The Joint Board intends to hire a toll system provider that can process transactions through an existing toll system, rather than build an entirely new toll system from the ground up. This strategy decreases the risk that the toll system will not perform as required when tolling commences, and allows the Joint Board to capture economy of scale discounts by consolidating LSIORB transactions into a much larger existing back-office operation.

By resolution adopted on September 11, 2013, the Joint Board authorized (a) IFA to undertake procurements for the services of toll system integrator contractor(s) and an initial toll system operator on behalf of the Joint Board prior to April 30, 2014, and (b) INDOT to undertake the procurement for an ETC contractor on behalf of the Joint Board prior to December 31, 2014, each pursuant to a request for

proposal process. IFA and INDOT are each directed by the resolution to include the other States' Parties as equal partners in the procurements.

IFA released a request for qualifications ("RFQ") for toll system providers on October 18, 2013. The Joint Board will qualify vendors to bid on a request for proposal ("RFP") based on their demonstrated ability to meet minimum requirements in their Statements of Qualification ("SOQ"), due on December 10, 2013. The Joint Board anticipates releasing a draft RFP to qualified vendors in January, 2014. Evaluation committee members will engage in vendor discussions and participate in site visits to existing all electronic tolling facilities in an effort to inform the best possible final RFP, which is anticipated to be issued in April, 2014. After RFP responses are received in late May, the evaluation committee will select a preferred vendor and execute a contract, currently expected in July, 2014.

In recognition of the importance of tolling interoperability, including mandates set forth in the Federal MAP-21 Act, the Joint Board has begun discussions with the E-ZPass interagency group, an association of 25 toll agencies in 15 states that operates the E-ZPass electronic toll collection program. E-ZPass enjoys tremendous brand recognition and high levels of customer satisfaction, and is the world leader in toll interoperability, with more than 24 million E-ZPass devices in circulation. The toll system provider RFQ contemplates that Joint Board tolling system will join E-ZPass in some capacity to further the goal of interoperability.

The Authority participates in the oversight and approval on all contracts entered into on behalf of the Joint Board, regardless of the procuring entity. With respect to the TSI, the custodian and the Revenue Control Manager, the Joint Board must give formal approval to commence the approval process, and must ratify the selection that ultimately results from the procurement process. In addition, the Authority staff is involved in the drafting of the RFP documents, reviewing responses, and enjoy equal representation on the committees responsible for vendor selection.

TRAFFIC AND REVENUE STUDY

General

SDG prepared the Louisville-Southern Indiana Ohio River Bridges Traffic & Revenue Study dated October 24, 2013 (the “Traffic and Revenue Study”). The Traffic and Revenue Study presents the traffic and revenue forecasts for the System and describes the development of a custom toll forecasting model.

SDG began the development of the forecasting model with a review of the study area existing conditions, which included a large data collection effort. This data collection included collection of traffic counts and travel times for the existing river crossings and surrounding roadways. SDG also designed and conducted a travel survey which it used to identify trip characteristics, travel patterns and value of time information for potential System users. SDG conducted future levels of demand based upon a combination of a cross-river growth model and running the independent socio-economic forecasts through the time of day model. SDG represented the future supply of transportation to reflect planned projects in the travel network area, together with the System improvements funded in part by the Series 2013 Obligations. SDG input the demand and supply into the toll forecasting model to then determine the amount of traffic that would use the System. The methodology is more fully described in “Article 5 – Forecasting Methodology” at page 55 of the Traffic and Revenue Study set forth as APPENDIX H hereto.

In connection with the Traffic and Revenue Study, SDG developed base case traffic and revenue estimates for the years 2018, 2023 and 2030. For traffic and revenue of non-modeled years, SDG assumed compounded growth between modeled years. SDG established the revenue base by using the initial toll rates set forth under “THE SYSTEM – Toll Policy Agreement and Initial Toll Rate Resolution” and increased the rates by 2.5% annually, which is consistent with the inflation rate assumption used for preparing the revenue stream. In preparing the revenue estimates, SDG multiplied the daily traffic and revenue forecasts by 315 to convert them into annual forecasts, consistent with the assumption that each weekend day and holiday provides approximately 55% of weekday revenue. SDG then applied leakage and “ramp-up” factors. This process is more fully described in the Traffic and Revenue Study at page 87.

In connection with the Traffic and Revenue Study, SDG also performed a series of sensitivity tests to measure the potential impacts on revenue associated with hypothetical changes in certain assumptions or basic study inputs. The results of the toll rate sensitivity analyses indicated that the projected toll rates for the System are well below the estimated theoretical revenue maximization point, which demonstrates that there would be potential for revenue enhancement through toll increases above assumed toll rates, if needed. The sensitivity analysis is more fully described in the Traffic and Revenue Study at page 92.

Basic Assumptions of the Traffic and Revenue Study

The Traffic and Revenue Study's estimates of traffic and revenue for the System are predicated on the following assumptions:

1. The LSIORB Project will be built as described in APPENDIX H – TRAFFIC AND REVENUE STUDY.
2. The LSIORB Project will be opened to traffic beginning in January 2017.
3. Toll rates will be implemented as listed in “THE SYSTEM – Toll Policy Agreement and Initial Toll Rate Resolution” and increase 2.5% annually.
4. The transponder and video toll collection market share will be at the levels specified in APPENDIX H – TRAFFIC AND REVENUE STUDY.
5. The percentage of trucks crossing the Ohio River remain similar to the levels that have been observed.
6. The LSIORB Project traffic and revenue will ramp up as described in APPENDIX H – TRAFFIC AND REVENUE STUDY.
7. The socioeconomic conditions and associated growth will occur as described in APPENDIX H – TRAFFIC AND REVENUE STUDY.
8. Highway network improvements will occur as described in the Regional Transportation Plan and listed in APPENDIX H – TRAFFIC AND REVENUE STUDY.
9. Inflation will occur at 2.5% annually.
10. The LSIORB Project will be efficiently maintained and operated.
11. The levels of toll leakage will occur as described in APPENDIX H – TRAFFIC AND REVENUE STUDY.
12. Motor fuel will remain in adequate supply during the forecast period, with fuel prices, including Federal and State fuel taxes, not to exceed \$4.50 per gallon adjusted for inflation.
13. No new transit service will be introduced that would radically change travel mode during the forecast period.
14. Normal economic conditions will occur in the Louisville-Southern Indiana area and the United States, without a major depression or national or regional emergency that would restrict the use of motor vehicles.

For more information, see APPENDIX H – TRAFFIC AND REVENUE STUDY.

The following table sets forth, for the years 2017 through 2049, projected data set forth in the Traffic and Revenue Study relating to toll rates by vehicle type, daily traffic, traffic shares by vehicle type and by toll collection method, ramp-up factors (i.e., travelers becoming accustomed to the new toll facilities), leakage rate (i.e., violators) and annual revenue after ramp-up and leakage. The Authority Toll Revenues are equal to 50% of the Annual Revenue After Ramp-up and Leakage.

Fiscal Year	Toll Rates ¹										Daily Traffic ²	Traffic Shares - Vehicle Classification			Traffic Shares - Collection Method				Ramp-up Factors	Leakage Rate	Annual Revenue After Ramp-Up and Leakage (000s Nominal \$)
	Discount	Auto			Medium Truck			Heavy Truck				Auto	Medium Truck	Heavy Truck	Discount Program	ETC	Registered Video	Other Video			
		ETC	Registered Video	Other Video	ETC	Registered Video	Other Video	ETC	Registered Video	Other Video											
2017	\$1.0	\$2.0	\$3.0	\$4.0	\$5.0	\$6.0	\$7.0	\$10.0	\$11.0	\$12.0	102,844	84.1%	3.8%	12.1%	40.2%	26.6%	4.7%	28.4%	69.2%	7.0%	\$33,841
2018	\$1.0	\$2.1	\$3.1	\$4.1	\$5.1	\$6.2	\$7.2	\$10.3	\$11.3	\$12.3	106,676	84.6%	3.7%	11.7%	40.3%	26.5%	4.7%	28.4%	73.6%	5.0%	\$79,252
2019	\$1.1	\$2.1	\$3.2	\$4.2	\$5.3	\$6.3	\$7.4	\$10.5	\$11.6	\$12.6	111,171	85.0%	3.6%	11.3%	40.4%	27.3%	4.6%	27.7%	86.7%	4.6%	\$98,158
2020	\$1.1	\$2.2	\$3.2	\$4.3	\$5.4	\$6.5	\$7.5	\$10.8	\$11.8	\$12.9	112,506	85.2%	3.6%	11.2%	40.4%	28.7%	4.4%	26.5%	95.0%	4.3%	\$110,248
2021	\$1.1	\$2.2	\$3.3	\$4.4	\$5.5	\$6.6	\$7.7	\$11.0	\$12.1	\$13.2	113,860	85.3%	3.6%	11.1%	40.3%	30.2%	4.2%	25.3%	98.3%	4.0%	\$117,222
2022	\$1.1	\$2.3	\$3.4	\$4.5	\$5.7	\$6.8	\$7.9	\$11.3	\$12.4	\$13.6	114,801	85.5%	3.5%	10.9%	40.2%	31.7%	4.0%	24.1%	100.0%	3.7%	\$122,529
2023	\$1.2	\$2.3	\$3.5	\$4.6	\$5.8	\$7.0	\$8.1	\$11.6	\$12.8	\$13.9	116,453	85.7%	3.5%	10.8%	40.0%	33.3%	3.8%	22.9%	100.0%	3.5%	\$126,165
2024	\$1.2	\$2.4	\$3.6	\$4.8	\$5.9	\$7.1	\$8.3	\$11.9	\$13.1	\$14.3	118,215	85.8%	3.5%	10.7%	40.0%	34.5%	3.6%	21.9%	100.0%	3.3%	\$130,096
2025	\$1.2	\$2.4	\$3.7	\$4.9	\$6.1	\$7.3	\$8.5	\$12.2	\$13.4	\$14.6	120,036	86.0%	3.5%	10.5%	40.0%	35.4%	3.5%	21.1%	100.0%	3.1%	\$134,281
2026	\$1.2	\$2.5	\$3.7	\$5.0	\$6.2	\$7.5	\$8.7	\$12.5	\$13.7	\$15.0	121,962	86.1%	3.5%	10.4%	40.1%	36.3%	3.4%	20.3%	100.0%	2.9%	\$138,703
2027	\$1.3	\$2.6	\$3.8	\$5.1	\$6.4	\$7.7	\$9.0	\$12.8	\$14.1	\$15.4	123,995	86.3%	3.5%	10.3%	40.1%	37.2%	3.2%	19.5%	100.0%	2.7%	\$143,377
2028	\$1.3	\$2.6	\$3.9	\$5.2	\$6.6	\$7.9	\$9.2	\$13.1	\$14.4	\$15.7	126,138	86.4%	3.4%	10.1%	40.0%	38.1%	3.1%	18.7%	100.0%	2.6%	\$148,198
2029	\$1.3	\$2.7	\$4.0	\$5.4	\$6.7	\$8.1	\$9.4	\$13.4	\$14.8	\$16.1	128,396	86.6%	3.4%	10.0%	40.0%	39.0%	3.0%	18.0%	100.0%	2.5%	\$153,297
2030	\$1.4	\$2.8	\$4.1	\$5.5	\$6.9	\$8.3	\$9.6	\$13.8	\$15.2	\$16.5	130,773	86.7%	3.4%	9.9%	39.9%	40.0%	2.9%	17.3%	100.0%	2.4%	\$158,691
2031	\$1.4	\$2.8	\$4.2	\$5.7	\$7.1	\$8.5	\$9.9	\$14.1	\$15.5	\$17.0	133,112	86.8%	3.4%	9.8%	39.9%	40.4%	2.8%	16.9%	100.0%	2.4%	\$164,985
2032	\$1.4	\$2.9	\$4.3	\$5.8	\$7.2	\$8.7	\$10.1	\$14.5	\$15.9	\$17.4	135,374	86.8%	3.4%	9.8%	39.8%	40.4%	2.8%	16.9%	100.0%	2.4%	\$172,079
2033	\$1.5	\$3.0	\$4.5	\$5.9	\$7.4	\$8.9	\$10.4	\$14.8	\$16.3	\$17.8	137,675	86.8%	3.4%	9.8%	39.8%	40.4%	2.8%	16.9%	100.0%	2.4%	\$179,381
2034	\$1.5	\$3.0	\$4.6	\$6.1	\$7.6	\$9.1	\$10.7	\$15.2	\$16.7	\$18.3	140,016	86.8%	3.4%	9.8%	39.8%	40.4%	2.8%	16.9%	100.0%	2.4%	\$186,994
2035	\$1.6	\$3.1	\$4.7	\$6.2	\$7.8	\$9.4	\$10.9	\$15.6	\$17.2	\$18.7	142,397	86.8%	3.4%	9.8%	39.8%	40.4%	2.8%	16.9%	100.0%	2.4%	\$194,931
2036	\$1.6	\$3.2	\$4.8	\$6.4	\$8.0	\$9.6	\$11.2	\$16.0	\$17.6	\$19.2	144,515	86.8%	3.4%	9.8%	39.8%	40.4%	2.8%	16.9%	100.0%	2.4%	\$202,773
2037	\$1.6	\$3.3	\$4.9	\$6.6	\$8.2	\$9.8	\$11.5	\$16.4	\$18.0	\$19.7	146,359	86.8%	3.4%	9.8%	39.8%	40.4%	2.8%	16.9%	100.0%	2.4%	\$210,497
2038	\$1.7	\$3.4	\$5.0	\$6.7	\$8.4	\$10.1	\$11.8	\$16.8	\$18.5	\$20.2	148,228	86.8%	3.4%	9.8%	39.8%	40.4%	2.8%	16.9%	100.0%	2.4%	\$218,517
2039	\$1.7	\$3.4	\$5.2	\$6.9	\$8.6	\$10.3	\$12.1	\$17.2	\$18.9	\$20.7	150,122	86.8%	3.4%	9.8%	39.8%	40.4%	2.8%	16.9%	100.0%	2.4%	\$226,843
2040	\$1.8	\$3.5	\$5.3	\$7.1	\$8.8	\$10.6	\$12.4	\$17.6	\$19.4	\$21.2	152,040	86.8%	3.4%	9.8%	39.8%	40.4%	2.8%	16.9%	100.0%	2.4%	\$235,486
2041	\$1.8	\$3.6	\$5.4	\$7.2	\$9.0	\$10.9	\$12.7	\$18.1	\$19.9	\$21.7	153,657	86.8%	3.4%	9.8%	39.8%	40.4%	2.8%	16.9%	100.0%	2.4%	\$243,936
2042	\$1.9	\$3.7	\$5.6	\$7.4	\$9.3	\$11.1	\$13.0	\$18.5	\$20.4	\$22.2	154,966	86.8%	3.4%	9.8%	39.8%	40.4%	2.8%	16.9%	100.0%	2.4%	\$252,167
2043	\$1.9	\$3.8	\$5.7	\$7.6	\$9.5	\$11.4	\$13.3	\$19.0	\$20.9	\$22.8	156,287	86.8%	3.4%	9.8%	39.8%	40.4%	2.8%	16.9%	100.0%	2.4%	\$260,676
2044	\$1.9	\$3.9	\$5.8	\$7.8	\$9.7	\$11.7	\$13.6	\$19.5	\$21.4	\$23.4	157,619	86.8%	3.4%	9.8%	39.8%	40.4%	2.8%	16.9%	100.0%	2.4%	\$269,472
2045	\$2.0	\$4.0	\$6.0	\$8.0	\$10.0	\$12.0	\$14.0	\$20.0	\$22.0	\$24.0	158,963	86.8%	3.4%	9.8%	39.8%	40.4%	2.8%	16.9%	100.0%	2.4%	\$278,566
2046	\$2.0	\$4.1	\$6.1	\$8.2	\$10.2	\$12.3	\$14.3	\$20.5	\$22.5	\$24.6	160,319	86.8%	3.4%	9.8%	39.8%	40.4%	2.8%	16.9%	100.0%	2.4%	\$287,967
2047	\$2.1	\$4.2	\$6.3	\$8.4	\$10.5	\$12.6	\$14.7	\$21.0	\$23.1	\$25.2	161,686	86.8%	3.4%	9.8%	39.8%	40.4%	2.8%	16.9%	100.0%	2.4%	\$297,685
2048	\$2.2	\$4.3	\$6.5	\$8.6	\$10.8	\$12.9	\$15.1	\$21.5	\$23.7	\$25.8	163,066	86.8%	3.4%	9.8%	39.8%	40.4%	2.8%	16.9%	100.0%	2.4%	\$307,732
2049	\$2.2	\$4.4	\$6.6	\$8.8	\$11.0	\$13.2	\$15.4	\$22.0	\$24.2	\$26.4	164,457	86.8%	3.4%	9.8%	39.8%	40.4%	2.8%	16.9%	100.0%	2.4%	\$318,119

Note:

1. Toll rates as of January 1 each calendar year

2. Traffic before ramp-up adjustments

INVESTMENT CONSIDERATIONS

THE PURCHASE OF THE SERIES 2013 OBLIGATIONS IS SUBJECT TO CERTAIN RISKS. EACH PROSPECTIVE INVESTOR IN THE SERIES 2013 OBLIGATIONS IS ENCOURAGED TO READ THIS OFFICIAL STATEMENT IN ITS ENTIRETY, INCLUDING ALL APPENDICES HERETO. PARTICULAR ATTENTION SHOULD BE GIVEN TO THE FACTORS DESCRIBED BELOW, WHICH, AMONG OTHERS, COULD AFFECT THE PAYMENT OF PRINCIPAL OF AND INTEREST ON THE SERIES 2013 OBLIGATIONS AND WHICH COULD ALSO AFFECT THE MARKET PRICE OF THE SERIES 2013 OBLIGATIONS TO AN EXTENT THAT CANNOT BE DETERMINED.

General

The following discussion is not meant to be an exhaustive list of the risks and other factors that should be considered in connection with the purchase of the Series 2013 Obligations and does not necessarily reflect the relative importance of the various risks and other factors. Any one or more of the risks discussed, and others, could adversely affect the Authority or the Transportation Cabinet and could adversely affect the Authority's ability to make timely payment of the principal of and interest on the Series 2013 Obligations and/or lead to decreases in the market value and/or the liquidity of the Series 2013 Obligations. There can be no assurance that other risk factors will not become material in the future.

Series 2013 Obligations are Special, Limited Obligations

The Series 2013 Obligations are special and limited obligations of the Authority, payable solely from and secured exclusively by the Trust Estate under the Indenture. See "SECURITY AND SOURCES OF PAYMENT FOR THE SERIES 2013 OBLIGATIONS" herein. Payment of principal of and interest on the TIFIA Bonds, until the occurrence of a Bankruptcy Related Event, is subordinate to the payment of principal of and interest on the First Tier Bonds, including the Series 2013 Bonds, and any Second Tier Bonds hereafter issued. Payment of principal of and interest on the Series 2013 Subordinate Notes is subordinate to the payment of principal of and interest on the First Tier Bonds, including the Series 2013 Bonds, and all Second Tier Bonds and Third Tier Bonds, including the TIFIA Bonds issued under the General Indenture.

THE SERIES 2013 OBLIGATIONS SHALL NOT CONSTITUTE A DEBT OF THE COMMONWEALTH OR ANY OF ITS POLITICAL SUBDIVISIONS, OR A PLEDGE OF THE FAITH AND CREDIT OF THE COMMONWEALTH OR ANY OF ITS POLITICAL SUBDIVISIONS. NEITHER THE COMMONWEALTH NOR THE AUTHORITY SHALL BE OBLIGATED TO PAY THE SERIES 2013 OBLIGATIONS OR THE INTEREST THEREON, EXCEPT FROM THE TRUST ESTATE PLEDGED THEREFOR, AND NEITHER THE FAITH AND CREDIT NOR THE TAXING POWER OF THE COMMONWEALTH IS PLEDGED TO THE PAYMENT OF THE PRINCIPAL OF OR THE INTEREST ON THE SERIES 2013 OBLIGATIONS

No Right to Accelerate Debt Service

The Indenture does not permit the Trustee or Bondholders, upon the occurrence of an Event of Default under the Indenture or for any other reason, to accelerate the maturity of the Series 2013 Obligations or the payment of principal of and interest due on the Series 2013 Obligations. Bondholders will be able to collect principal and interest that become due after an Event of Default only from the Pledged Receipts or other property included in the Trust Estate and only when such principal and interest are scheduled to be paid.

Forward-Looking Statements and Forecasts

The statements contained in this Official Statement, and in other information provided by the Authority, that are not purely historical, are forward-looking statements, including statements regarding the Authority's expectations, hopes, intentions or strategies regarding the future and the projections in the Traffic and Revenue Study. All forward-looking statements included in this Official Statement are based on information available to the Authority as of the date hereof, and the Authority assumes no obligation to update any such forward-looking statements, other than as set out in the Continuing Disclosure Undertaking.

The forward-looking statements herein are based on various assumptions, forecasts and estimates that are inherently subject to numerous risks and uncertainties, including the possible invalidity of underlying assumptions, forecasts and estimates, possible changes or developments in social, economic, business, industry, market, legal and regulatory circumstances and conditions, and actions taken or not taken by third parties, including customers, suppliers, business partners and competitors, and legislative, judicial and other governmental authorities and officials. In addition, these assumptions, forecasts and estimates involve judgments regarding, among other things, future economic, competitive and market conditions, future actions by third parties, the level of enforcement of violations that can affect "leakage" as described under "THE SYSTEM" – Toll Policy Agreement and Initial Toll Rate Resolution – Enforcement of Toll Violations," and future events and decisions, all of which are difficult, if not impossible, to predict accurately. Therefore, there can be no assurance that the forward-looking statements in this Official Statement will prove to be accurate.

No representation is made or intended, nor should any representation be inferred, with respect to the likely existence of any particular future set of facts or circumstances, and prospective purchasers of the Series 2013 Obligations are cautioned not to place undue reliance upon the projections contained in this Official Statement or in the Traffic and Revenue Study or upon requirements for future projections. If actual results are less favorable than the results projected or if the assumptions used in preparing the projections prove to be incorrect, the Authority's ability to make timely payment of the principal of and interest on the Series 2013 Obligations may be materially and adversely affected.

Decrease in Projected Debt Service Coverage of Bonds Upon Issuance of Additional Bonds

The Indenture permits the Authority to issue Additional Bonds payable from, and secured by a pledge of, Pledged Receipts that are (i) on a parity with or subordinate to the pledge of the Pledged Receipts to the payment of First Tier Bonds, (ii) senior to, on a parity with or subordinate to the pledge of the Pledged Receipts to the payment of Second Tier Bonds, (iii) senior to, on a parity with or subordinate to the pledge of the Pledged Receipts to the payment of Third Tier Lien Bonds, and (iv) senior to or on a parity with the pledge of the Pledged Receipts to the payment of Subordinate Bonds. See "SECURITY AND SOURCES OF PAYMENT FOR THE SERIES 2013 OBLIGATIONS – Financial Covenants – Additional Bonds." The issuance by the Authority of additional First Tier Bonds is likely to increase debt service and decrease the projected debt service coverage of the Series 2013 Obligations, but should in all events be consistent with the debt service coverage requirements of the Indenture.

Enforceability of Rights and Remedies, including Bankruptcy Ramifications

Judicial Discretion. Upon a default under the Indenture or the Lease, the remedies available to the Authority and the Trustee may depend upon judicial actions that may be subject to substantial discretion and delay. Some of these remedies may in fact turn out not to be enforceable at all. The rights of the owners of the Series 2013 Obligations and the enforceability of the Authority's and the other parties' obligations will be subject to the exercise of judicial discretion under a variety of circumstances. The enforceability of governmental obligations is also subject to constitutional, statutory and public

policy limitations and to other considerations that do not limit enforcement of obligations of private parties.

Effects of Bankruptcy on Rights and Remedies. The rights and remedies available to the owners of the Series 2013 Obligations under the Indenture and the Lease, and of the Transportation Cabinet under the Design Build Agreement and related agreements relating to the construction of the Downtown Crossing Segment, and the enforceability of the liens, security interest and pledges created by the Indenture in favor of the owners of the Series 2013 Obligations, may be subject to the provisions of the United States Bankruptcy Code (the “Bankruptcy Code”), to other bankruptcy, insolvency, reorganization, moratorium or similar laws affecting creditor’s rights generally and equitable principles that may limit enforcement of such remedies. Under existing constitutional and statutory law and judicial decisions, including specifically the Bankruptcy Code, the remedies provided in federal bankruptcy laws, the Indenture, the Lease and the various related documents may not be readily available or may be limited. No assurances can be given that a court or regulatory agency would enforce the rights or types of remedies available under the Indenture, the Lease or the other agreements described herein, including any rights and remedies with respect to the continued operation of the System and the pledge of Pledged Receipts.

The various legal opinions to be delivered concurrently with the delivery of the Series 2013 Obligations, including the opinion of Bond Counsel, will be qualified as to the enforceability of these rights and remedies, for example, by limitations imposed by bankruptcy, reorganization, insolvency or other similar laws affecting the rights of creditors generally and by principles of equity. In addition, the rights and remedies available to the IFA and the Company in connection with the Public-Private Agreement and the construction of the East End Crossing Segment may be similarly adversely affected, resulting in a delay in construction of the East End Crossing Segment and, consequently, a delay in the collection of Pledged Receipts with respect to the East End Crossing Segment.

Enforcement of Rights and Remedies by TIFIA Lender Under TIFIA Loan Agreement. The TIFIA Lender is authorized to enforce rights and remedies against the Authority based on events of default by the Authority under the TIFIA Loan Agreement, without the knowledge or consent of the Trustee or any Bondholders.

Surety and Performance Bonds. The enforceability of the performance bonds required by the construction contracts relating to the Downtown Crossing Segment or the East End Crossing Segment may be limited not only by the legal matters described above, but also by various provisions of suretyship and insurance law. The sureties providing the performance bonds are not waiving their respective rights to assert the construction contractors’ defenses to payment, nor are the sureties waiving their suretyship defenses. The obligations of the sureties under their respective performance bonds to complete construction or to pay damages thus are limited, and no assurances can be given that the surety will honor a claim under the performance bonds.

No Third Party Beneficiary Status. Neither the Trustee nor the Bondholders are parties to, nor third party beneficiaries of, various contracts and agreement, including the Development Agreement and the Interlocal Agreement, and neither cannot enforce the provisions thereof.

Bankruptcy Filing by the Authority and Other Parties

Authority and IFA. Under the Bankruptcy Code and current Kentucky law, the Authority, but not the Transportation Cabinet, may file for bankruptcy protection under Chapter 9 of the Bankruptcy Code. Under the Bankruptcy Code and current Indiana law, neither the State nor the IFA may file for bankruptcy protection under Chapter 9 of the Bankruptcy Code. There can be no assurance, however, that the Bankruptcy Code or Kentucky and/or Indiana law will not be amended in the future to permit the

Transportation Cabinet, the State of Indiana and/or the IFA to file for bankruptcy protection, and such a filing could, under certain circumstances, subject all or a portion of their respective revenues and/or assets to the jurisdiction of the bankruptcy court.

A Bankruptcy Related Event relating to the Authority will cause the TIFIA Bonds to become First Lien Toll Revenue Bonds as described herein under “SECURITY AND SOURCES OF PAYMENT FOR THE SERIES 2013 OBLIGATIONS – Liens of the Indenture – *Potential Parity First Priority Lien for TIFIA Bonds.*”

Other Parties. The contractors with respect to the Project and their respective members, guarantors and sureties are involved in or affiliates of companies that are involved in many businesses and are entities that can become debtors under the Bankruptcy Code. If one of the contractors (or its guarantors or sureties) became a debtor under the Bankruptcy Code, the ability to substitute a new contractor, to obtain funds under the guarantees or surety bonds or to exercise other remedies may be delayed or not be available at all. Substantial delays or losses could result.

Series 2013 Subordinate Notes – Requisition from TIFIA Lender

It is expected that the principal of the Series 2013 Subordinate Notes will be payable at maturity from the proceeds of a single requisition under the TIFIA Loan Agreement. In the event that the conditions to a requisition under the TIFIA Loan Agreement cannot be satisfied on or before the maturity of the Series 2013 Subordinate Notes, the Authority will be required to find an alternative method of repaying the Series 2013 Subordinate Notes at maturity, which could include issuing renewal notes or Additional Bonds under the Indenture. See “SECURITY AND SOURCES OF PAYMENT FOR THE SERIES 2013 OBLIGATIONS – Conditions to Requisition and Disbursement Under TIFIA Loan Agreement.” No assurance can be given that the Authority will be able to access the credit markets in the event it cannot requisition moneys under the TIFIA Loan Agreement.

Potential Parity Lien for TIFIA

As more fully described herein under “SECURITY AND SOURCES OF PAYMENT FOR THE SERIES 2013 OBLIGATIONS – Liens of the Indenture – *Potential Parity First Priority Lien for TIFIA Bonds,*” upon the occurrence of a Bankruptcy Related Event, the obligations of the Authority to pay the TIFIA Bonds and to fund any deficiencies in the debt service reserve fund relating thereto will become *pari passu* with the obligations of the Authority to pay the Outstanding First Tier Bonds and to fund the Revenue Subaccount of the First Tier Debt Service Reserve Account.

Political Risk and Community Risk

As in any commercial arrangement, parties may disagree about the appropriate course of action to be taken, particularly if adverse events occur. The Commonwealth and the State of Indiana may have different priorities and interests and may have difficulty in resolving disputes should their interests diverge, which could include differences in resolving tolling policies and agreements. Similarly, in the case of the Downtown Crossing Segment, the Authority and the Trustee, on behalf of the owners of the Bonds, or the TIFIA Lender, and, in the case of the East End Crossing Segment, the IFA, as both the issuer of the Indiana bonds and the Contracting Authority, and its bond trustee, on behalf of the owners of the Indiana bonds, may have different interests and priorities following a default or other adverse event under the Indenture or the Public-Private Agreement, respectively, and no assurance can be given that the Authority or the IFA, as the case may be, will be willing or able to take into account the interests of the owners of the Series 2013 Obligations or the TIFIA Lender or the Indiana bonds, as the case may be, if an event occurs that would entitle the Authority to take remedial action under the Indenture or the Contracting Authority to terminate or to take other remedial action under the Public-Private Agreement.

The States' Parties are in the process of negotiating a Toll Policy Agreement, including provisions relating to economic justice populations. See "THE SYSTEM – Toll Policy Agreement and Initial Toll Rate Resolution." No assurances can be given that the final Toll Policy Agreement will not contain provisions, including provisions relating to measures for mitigating the effects of tolling on economic justice populations that could materially adversely affect the collection of toll revenues on the System.

Construction, operation and maintenance of the Downtown Crossing Segment could have considerable local business and community impacts, such as noise, dust, vibrations and increased traffic congestion during the construction period and/or the period after the commencement of operations. Addressing these impacts to the satisfaction of local residents and businesses could result in delays and/or in increased costs. To the extent these delays or increased costs are not reimbursed by the construction contractor under the respective construction contracts, it could result in loss of revenues or additional debt, which could impact the Authority's ability to satisfy its payment obligations with respect to the Series 2013 Obligations.

While the State of Indiana and the Commonwealth share the Toll Revenues, each of the bridges has its own independent financial requirements. It is possible that the financial requirements of one of the bridges may be substantially higher than the other and that the requirement to raise tolls on all bridges in the System to meet the requirements of one bridge may adversely affect traffic on both bridges, thereby reducing Pledged Receipts.

Risks Relating to the Downtown Crossing Segment

Completion of the System. The projections set forth in the Traffic and Revenue Study assume that the construction of the Downtown Crossing Bridge and the East End Crossing Bridge, and the modernization and reconfiguration of the Kennedy Bridge, will be substantially completed and open to traffic timely as set forth in the Traffic and Revenue Study. No assurances can be given that such projections can be met if any of the segments is not timely completed or completed at all.

The Development Agreement provides that, in the event that unexpected state, federal, local or other conditions of extraordinary significance occur that are beyond the control of one or more of the States' Parties, causing the States' Parties or any of them to believe that (a) the Downtown Crossing Segment or the East End Segment in general cannot or will not proceed to completion as contemplated in the Development Agreement and that (b) termination, modification, suspension, interruption or amendment of the Development Agreement, the Design Build Agreement and/or the Public-Private Agreement is necessary, then the States' Parties will use their best efforts and work together in good faith to address fairly and equitably, for all States' Parties, the changed conditions and to the extent reasonably practicable to identify measures by which construction may be completed and the requirements of the Development Agreement may be satisfied, including consideration of any adjustment to the Toll Revenue share allocation that may be equitably required under the changed circumstances.

Construction Risks. As with any major construction project, the construction of the Downtown Crossing Segment involves many risks that could result in cost overruns, in delays or in a failure to complete the Project at all. The Design Build Agreement for the Downtown Crossing Segment requires Walsh Construction to achieve certain construction milestones and ultimately substantial completion by the date required in the Design Build Agreement. As more fully described above under "DEVELOPMENT AND CONSTRUCTION OF THE DOWNTOWN BRIDGE SEGMENT – Design Build Agreement – *Adjustments to Contract Price and Contract Time*," the Contract Price may be increased and the Contract Time may be extended under certain circumstances as provided in the Design Build Agreement, though Walsh Construction's required diligence of the site conditions minimizes certain of those circumstances.

Walsh Construction is liable to the Transportation Cabinet for Liquidated Damages in the amount of \$80,000 for each and every Calendar Day after **December 9, 2016** that Walsh Construction fails to achieve Substantial Completion and that is not permitted under the Design Build Agreement. Liquidated Damages continue until Walsh Construction achieves Substantial Completion as determined by the Transportation Cabinet. Delays caused by factors outside of the contractor's responsibility will be funded by the Transportation Cabinet in accordance with the Lease.

Environmental Risks. The Transportation Cabinet has passed some, but not all, of the environmental risk to the Walsh Team under the Design Build Agreement, as more fully described under "DEVELOPMENT AND CONSTRUCTION OF THE DOWNTOWN BRIDGE SEGMENT – Design Build Agreement – *Adjustments to Contract Price and Contract Time.*" The Transportation Cabinet has agreed to pick up the costs of certain environmental risks as described in APPENDIX G – SUMMARY OF CERTAIN PROVISIONS OF THE DESIGN BUILD AGREEMENT – "Contract Changes – Site Conditions" and "Indemnification – Indemnification by the Transportation Cabinet Regarding Contaminated Materials."

Changes in environmental laws may result in increased construction costs, delays in construction, or increased compliance costs. The laws and regulations governing environmental protection have changed significantly over the years. Regulations governing, among other things, air pollution, noise abatement and control, wetlands mitigation, hazardous waste, solid waste, water quality and endangered species may become more stringent in the future, possibly requiring additional compliance and conceivably having a material and adverse effect on the design, construction, or operation of the Downtown Crossing Segment.

Permitting Risks. The inability to obtain required permits or material changes in permitting requirements may adversely affect the Contract Price and/or Contract Time relating to the Downtown Crossing Segment. Governmental approvals of many kinds are required to be obtained for the construction and operation of the Downtown Crossing Segment. The issuance of such governmental approvals may include public notice and comment, hearings, or administrative or judicial appeals. Governmental approvals may be appealed if they have not been issued in compliance with law, and there are various remedies available to governmental agencies and to the public if the Downtown Crossing Segment is constructed without appropriate governmental approvals or is constructed other than in compliance with the governmental approvals.

All of the material governmental approvals and permits have been obtained. However, no assurances can be given that future changes in circumstances will not require additional governmental approvals or permits.

Operational Risks. Any factor that adversely affects the receipt of Pledged Receipts creates a risk that debt service on the Series 2013 Obligations will not be paid when due. The principal source of Pledged Receipts will be Authority Toll Revenues. The primary risk associated with the receipt of Toll Revenues is the level of traffic on the System. Other risks associated with the receipt of Toll Revenues include the effectiveness of the toll collection system and toll collection enforcement. Some of the factors that may adversely affect the receipt of Pledged Receipts are discussed below.

Traffic and Revenue Study. The plan of finance pursuant to which the Series 2013 Obligations are being issued (see "PROSPECTIVE FINANCIAL INFORMATION") is based on the level of Authority Toll Revenues projected in the Traffic and Revenue Study attached as APPENDIX H prepared by the Traffic and Revenue Consultant. See "TRAFFIC AND REVENUE STUDY." Because a portion of the System is a start-up project with no history on which to base projections of future toll revenues, the Traffic and Revenue Study necessarily is based on numerous assumptions, some or all of which may not prove to be correct. If any one or more of such assumptions is proved to be incorrect, the toll revenues

projected in the Traffic and Revenue Study may not be achieved and the Authority Toll Revenues may not be sufficient to pay the debt service on the Series 2013 Obligations when due. Each prospective investor must read the Traffic and Revenue Study in full and reach his or her own conclusion regarding the reasonableness of the assumptions on which it is based. Some of the events or conditions that could adversely affect the projections in the Traffic and Revenue Study are discussed below. The material below should be read in conjunction with the Traffic and Revenue Study.

Competing Highways or Other Transportation Improvements. The Traffic and Revenue Study assumes that no competing major highway or other transportation improvements, other than those currently scheduled in the Kentuckiana Regional Planning & Development Agency's Regional Transportation Plan and described in the Traffic and Revenue Study, and no new competing bridges across the Ohio River, will be constructed during the forecast period. Construction or implementation of highway or other transportation improvements that compete with the System could reduce the amount of Toll Revenues and, consequently Authority Toll Revenues, available to pay debt service on the Series 2013 Obligations.

Toll Rates. The Traffic and Revenue Study assumes that toll rates for the System will be set at the levels as set forth in the Traffic and Revenue Study and in the Initial Toll Rate Resolution. While the Initial Toll Rate Resolution specifies that toll rates will be increased at the level assumed in the Traffic and Revenue Study, there can be no assurances that toll rates will continue to be fixed at the levels assumed in the Traffic and Revenue Study or that the toll rates that are fixed (whether at the levels assumed in the Traffic and Revenue Study or otherwise) will produce sufficient Authority Toll Revenues to permit the payment of debt service on the Series 2013 Obligations. An increase in Toll rates may, for example, result in reduced traffic and a consequent reduction in Authority Toll Revenues available to pay debt service on the Series 2013 Obligations.

Toll Collection System. The Traffic and Revenue Study assumes that the System will have electronic toll collection ("ETC") options for patrons; that the ETC system will be highly reliable and will include sufficient enforcement equipment and techniques to ensure capture of revenue potential. There can be no assurance that the System's ETC system will operate efficiently, will achieve acceptance by users of the System or will ensure full capture of revenue potential.

Fuel Supply and Pricing. Over the past 25 years, the price and availability of crude oil has been negatively impacted several times to the point of disrupting normal travel patterns on the nation's highways. There can be no assurances that the supply and/or price of motor fuel during the period the Series 2013 Obligations are outstanding will not change, either temporarily or permanently, in a manner that would result in a reduction of traffic on the System and a consequent reduction in the Authority Toll Revenues available to pay debt service on the Series 2013 Obligations.

Obligations of Transportation Cabinet Under Lease Are Subject to Appropriation and Non-Renewal

The obligation of the Transportation Cabinet under the Lease to make Rent payments sufficient to fund certain deficiencies in the Tolling O&M Reserve Fund, the General O&M Reserve Fund and the M&R Reserve Fund in the event Pledged Receipts are insufficient therefor is subject to appropriation. See "SECURITY AND SOURCES OF PAYMENT FOR THE SERIES 2013 OBLIGATIONS – The Lease." A failure by the Kentucky General Assembly to appropriate adequate funds for the Transportation Cabinet to fulfill its obligations under the Lease may adversely impact the Authority's ability to operate and maintain the toll collection system and the portion of the Authority System for which it has operations and maintenance responsibilities. The obligation of the Transportation Cabinet to make the Rent payments does not constitute an indebtedness of the Transportation Cabinet or the Commonwealth or any political subdivision thereof within the meaning or application of any

constitutional provision or limitation. The obligation of the Transportation Cabinet to make the Rent payments does not constitute a pledge of the faith, credit or taxing power of the Commonwealth or any political subdivision thereof within the meaning or application of any constitutional provision or limitation. The Transportation Cabinet has no taxing power.

If the Transportation Cabinet gives written notice to the Authority of the Transportation Cabinet's election not to renew the Lease for any renewal term, the Transportation Cabinet is not obligated to pay rentals beyond the last day of the then current biennial term, and the Transportation Cabinet will thereby forfeit all of its future options to renew. If the Transportation Cabinet decides not to renew a biennial term, its obligation to fund certain deficiencies in the Tolling O&M Reserve Fund, the General O&M Reserve Fund and the M&R Reserve Fund will cease. The termination of the Lease may adversely impact the Authority's ability to operate and maintain the toll collection system and the portion of the Authority System for which it has operations and maintenance responsibilities.

Ratings of Series 2013 Obligations

Two credit rating agencies have assigned credit ratings to the Series 2013 Obligations. The ratings of the Series 2013 Obligations are not a recommendation to purchase, hold or sell the Series 2013 Obligations, and the ratings do not comment on the market price or suitability of the Series 2013 Obligations for a particular investor. The ratings of the Series 2013 Obligations may not remain for any given period of time and may be lowered or withdrawn depending on, among other things, each rating agency's assessment of the Authority's financial strength.

Market Liquidity

The Series 2013 Obligations constitute a new issue with no established trading market. Although the Underwriters have informed the Authority that the Underwriters currently intend to make a market for the Series 2013 Obligations, the Underwriters are not obligated to do so, and they may discontinue any such market-making at any time without prior notice. No assurance can be given as to the development or liquidity of any market for the Series 2013 Obligations. If an active public market does not develop, the market price and liquidity of the Series 2013 Obligations may be adversely affected.

Risks Relating to Judicial Challenge

Except as described herein under "LITIGATION," no proceedings are currently pending in relation to the Project or the Series 2013 Obligations. There is no assurance that judicial or administrative actions or investigations challenging the issuance of the Series 2013 Obligations, the construction or financing of the Project, the operation and maintenance of the Project, the granting of any permits and approvals required in connection therewith or any of the other transactions contemplated by this Official Statement will not be filed or commenced in the future or, if they are filed or commenced, that they will not adversely affect the timely completion of the Project, or the ability of the Authority to pay principal and interest on the Series 2013 Obligations.

TAX MATTERS

General

In the opinion of Bond Counsel for the Series 2013 Obligations, based upon an analysis of existing laws, regulations, rulings and court decisions, interest on the Series 2013 Bonds and the Series 2013A Tax-Exempt Subordinate Notes is excludible from gross income for federal income tax purposes and interest on the Series 2013 Bonds and the Series 2013A Tax-Exempt Subordinate Notes is not a specific item of tax preference under Section 57 of the Internal Revenue Code of 1986 (the "Code") for

purposes of the federal individual or corporate alternative minimum taxes. Interest on the Series 2013B Taxable Subordinate Notes is not excludable from gross income for Federal income tax purposes. Furthermore, Bond Counsel for the Series 2013 Obligations is of the opinion that interest on the Series 2013 Obligations is exempt from income taxation by the Commonwealth and the Series 2013 Obligations are exempt from ad valorem taxation by the Commonwealth and any of its political subdivisions.

A copy of the opinion of Bond Counsel for the Series 2013 Obligations is set forth in APPENDIX M.

The Code imposes various restrictions, conditions, and requirements relating to the exclusion from gross income for Federal income tax purposes of interest on obligations such as the Series 2013 Bonds and the Series 2013A Tax-Exempt Subordinate Notes. The Commission has covenanted to comply with certain restrictions designed to ensure that interest on the Series 2013 Bonds and the Series 2013A Tax-Exempt Subordinate Notes will not be includable in gross income for Federal income tax purposes. Failure to comply with these covenants could result in interest on the Series 2013 Bonds and the Series 2013A Tax-Exempt Subordinate Notes being includable in gross income for Federal income tax purposes and such inclusion could be required retroactively to the date of issuance of the Series 2013 Bonds and the Series 2013A Tax-Exempt Subordinate Notes. The opinion of Bond Counsel assumes compliance with these covenants. However, Bond Counsel has not undertaken to determine (or to inform any person) whether any actions taken (or not taken) or events occurring (or not occurring) after the date of issuance of the Series 2013 Bonds and the Series 2013A Tax-Exempt Subordinate Notes may adversely affect the Federal tax status of the interest on the Series 2013 Bonds and the Series 2013A Tax-Exempt Subordinate Notes.

Certain requirements and procedures contained or referred to in the Indenture and other relevant documents may be changed and certain actions (including, without limitation, defeasance of the Series 2013 Bonds and the Series 2013A Tax-Exempt Subordinate Notes) may be taken or omitted under the circumstances and subject to the terms and conditions set forth in such documents. Bond Counsel expresses no opinion as to any Series 2013 Bonds, the Series 2013A Tax-Exempt Subordinate Notes or the interest thereon if any such change occurs or action is taken or omitted upon the advice or approval of bond counsel other than Peck, Shaffer & Williams LLP.

Although Bond Counsel has rendered an opinion that interest on the Series 2013 Bonds and the Series 2013A Subordinate Notes is excludible from gross income for Federal income tax purposes and that interest on the Series 2013 Obligations is excludible from gross income for Kentucky income tax purposes, the ownership or disposition of, or the accrual or receipt of interest on, the Series 2013 Obligations may otherwise affect a Bondholder's Federal, state or local tax liabilities. The nature and extent of these other tax consequences may depend upon the particular tax status of the Bondholder or the Bondholder's other items of income or deduction. For example, such effects may include, without limitation, increasing the federal tax liability of certain foreign corporations subject to the branch profits tax imposed by Section 884 of the Code, increasing the federal tax liability of certain insurance companies, under Section 832 of the Code, increasing the federal tax liability and affecting the status of certain S Corporations subject to Sections 1362 and 1375 of the Code, increasing the federal tax liability of certain individual recipients of Social Security or the Railroad Retirement benefits under Section 86 of the Code and limiting the amount of the Earned Income Credit under Section 32 of the Code that might otherwise be available. Ownership of any of the Series 2013 Bonds and the Series 2013A Tax-Exempt Subordinate Notes may also result in the limitation of interest and certain other deductions for financial institutions and certain other taxpayers, pursuant to Section 265 of the Code. Finally, residence of the holder of the Series 2013 Obligations in a state other than Kentucky or being subject to tax in a state other than Kentucky may result in income or other tax liabilities being imposed by such states or their political subdivisions based on the interest or other income from the Series 2013 Obligations. Bond Counsel expresses no opinions regarding any tax consequences other than what is set forth in its opinion and each

Bondholder or potential Bondholder is urged to consult with tax counsel with respect to the effects of purchasing, holding or disposing of the Series 2013 Obligations on the tax liabilities of the individual or entity.

Tax Treatment of Original Issue Discount

The Series 2013 Obligations that have an interest rate that is lower than the yield on the Series 2013 Obligations and Series 2013 Obligations that have a maturity amount that is greater than their initial principal amount, all as shown on the inside cover page hereto (the “Discount Bonds”), are being offered and sold to the public at an original issue discount (“OID”). OID is the excess of the stated redemption price of a bond at maturity (the face amount) over the “issue price” of such bond. The issue price is the initial offering price to the public (other than to bond houses, brokers or similar persons acting in the capacity of underwriters or wholesalers) at which a substantial amount of bonds of the same maturity are sold pursuant to that initial offering. For federal income tax purposes, OID on each bond will accrue over the term of the bond, and for the Discount Bonds, the amount of accretion will be based on a single rate of interest, compounded semiannually (the “yield to maturity”). The amount of OID that accrues during each semi-annual period will do so ratably over that period on a daily basis. With respect to an initial purchaser of a Discount Bond at its issue price, the portion of OID that accrues during the period that such purchaser owns the Discount Bond is added to such purchaser’s tax basis for purposes of determining gain or loss at the maturity, redemption, sale or other disposition of that Discount Bond and thus, in practical effect, is treated as stated interest, which is (with respect to Series 2013 Bonds and the Series 2013A Tax-Exempt Subordinate Notes) excludable from gross income for federal income tax purposes.

Holders of Discount Bonds should consult their own tax advisors as to the treatment of OID and the tax consequences of the purchase of such Discount Bonds other than at the issue price during the initial public offering and as to the treatment of OID for state tax purposes.

Tax Treatment of Original Issue Premium

“Acquisition Premium” is the excess of the cost of a bond over the stated redemption price of such bond at maturity or, for bonds that have one or more earlier call dates, the amount payable at the next earliest call date. The Series 2013 Obligations that have an interest rate that is greater than the yield, as shown on the inside cover page hereto (the “Premium Bonds”), are being initially offered and sold to the public at an Acquisition Premium. For federal income tax purposes, the amount of Acquisition Premium on the Series 2013 Bonds and the Series 2013A Tax-Exempt Subordinate Notes must be amortized and will reduce the Bondholder’s adjusted basis in those Series 2013 Bonds and Series 2013A Tax-Exempt Subordinate Notes. However, no amount of amortized Acquisition Premium on Series 2013 Bonds or Series 2013A Tax-Exempt Subordinate Notes may be deducted in determining Bondholder’s taxable income for federal income tax purposes. The amount of any Acquisition Premium paid on the Premium Bonds, or on any of the Series 2013 Obligations, that must be amortized during any period will be based on the “constant yield” method, using the original Bondholder’s basis in such bonds and compounding semiannually. This amount is amortized ratably over that semiannual period on a daily basis.

Holders of any Series 2013 Obligations, including any Premium Bonds, purchased at an Acquisition Premium should consult their own tax advisors as to the actual effect of such Acquisition Premium with respect to their own tax situation and as to the treatment of Acquisition Premium for state tax purposes.

CONTINUING DISCLOSURE

The Authority has delivered a Continuing Disclosure Undertaking (the “Continuing Disclosure Undertaking”) to assist the Underwriters in complying with the requirements of Rule 15c2-12 (the “Rule”) promulgated by the SEC pursuant to the Securities Exchange Act of 1934, as amended. The Continuing Disclosure Undertaking requires the Authority to file with EMMA (i) certain annual financial information and operating data and (ii) certain event notices. The form of the Continuing Disclosure Undertaking is attached as APPENDIX L. The Authority may amend the Continuing Disclosure Undertaking in the future so long as such amendments are consistent with the Rule as then in effect.

The Continuing Disclosure Undertaking requires the Authority to provide limited information at specified times. A default by the Authority under the Continuing Disclosure Undertaking is not an Event of Default with respect to the Series 2013 Obligations. The Continuing Disclosure Undertaking permits any Bondholder to seek specific performance of the Authority’s obligations thereunder after 30 days prior written qualifying notice to the Authority and 30 days to cure, but no assurance can be given as to the outcome of any such proceeding.

Since this is the first issuance of bonds by the Authority subject to the Rule, the Authority has no history of having filed under the Rule.

The Commonwealth has recently learned that in some instances prior rating changes on certain securities issued by the Commonwealth and its agencies, resulting from rating downgrades on certain bond insurers, were not the subject of material event notices, due, in part, to the lack of any direct notification to the Commonwealth of the specific rating impact on such particular securities of the Commonwealth and its agencies. The Commonwealth and the Authority have taken necessary actions to assure compliance with the Rule with respect to such events. Additionally, the Commonwealth and the Authority are putting procedures in place to assure the future material event notices will be timely filed with respect to such events.

LEGAL MATTERS

Certain legal matters relating to the issuance of the Series 2013 Obligations are subject to the approving opinion of Bond Counsel to the Authority, Peck, Shaffer & Williams LLP, Covington, Kentucky, which will be furnished upon the issuance of the Series 2013 Obligations. The form of such opinion is set forth in APPENDIX M of this Official Statement (the “Bond Opinion”). The Bond Opinion is limited to matters relating to the issuance of the Series 2013 Obligations and to the status of interest on the Series 2013 Obligations as described in “TAX MATTERS.”

Certain legal matters will be passed upon for the Authority by its counsel, Wyatt, Tarrant & Combs, LLP, Louisville, Kentucky, and for the Underwriters by their counsel, Nixon Peabody LLP, New York, New York.

LITIGATION

No litigation is currently pending or, to the knowledge of the Authority, threatened against the Authority (i) seeking to restrain or enjoin the issuance of the Series 2013 Obligations or the TIFIA Bonds or the collection of Pledged Revenues pledged under the Indenture, (ii) in any way contesting or affecting any authority for the issuance of the Series 2013 Obligations or the TIFIA Bonds or the validity or binding effect of the Series 2013 Obligations or the TIFIA Bonds, of the resolutions of the Authority authorizing and implementing the Series 2013 Obligations or the TIFIA Bonds or of the Indenture, or (iii) in any way contesting the creation, existence, powers or jurisdiction of the Authority, or the validity

or effect of the TIFIA Loan Agreement, the Interlocal Agreement, the Development Agreement, the Act or any provision thereof, or the application of the proceeds of the Series 2013 Obligations.

On September 4, 2009, The National Trust for Historic Preservation (“The National Trust”) and River Fields, Inc. (“River Fields”) filed a complaint against the Federal Highway Administration related to the National Environmental Protection Act process for the Project in the Western District of Kentucky 3:10-CV-00007. The Coalition for the Advancement of Regional Transportation (“CART”) was allowed to intervene on July 26, 2010. The Transportation Cabinet and INDOT were allowed to intervene as defendants on September 12, 2011. The Authority was not a party to this litigation.

The Federal Highway Administration, the Transportation Cabinet and INDOT settled with the National Trust and River Fields and the suit as to those plaintiffs was dismissed with prejudice on January 8, 2013. CART continued as the sole plaintiff until the Court granted the defendants’ motions for summary judgment on January 8, 2013.

CART appealed all counts of the Federal District Court’s decision to the Sixth Circuit Court of Appeals, Case No. 13-6214. The current briefing schedule contemplates all briefs and replies being filed before the end of the year. It is the opinion of the Authority and the Transportation Cabinet that the resolution of this matter will have no material adverse effect on the Project.

RATINGS

The Series 2013 Bonds and the Series 2013 Subordinate Notes have been assigned the long-term ratings of “BBB-” by Fitch and “Baa3” by Moody’s.

The Authority furnished the rating agencies with information contained in this Official Statement and certain other materials and information about the Authority. Generally, rating agencies base their ratings on such materials and information, as well as investigations, studies and assumptions developed by the rating agencies.

A rating, including any related outlook with respect to potential changes in such ratings, reflects only the view of the agency giving such rating and is not a recommendation to buy, sell or hold the Series 2013 Obligations. An explanation of the significance of a rating may be obtained only from the rating agency furnishing the same. The ratings of the Series 2013 Obligations may be changed at any time, and no assurance can be given that they will not be revised downward or withdrawn entirely by the rating agencies if, in the judgment of any of them, circumstances so warrant. Any such downward revision or withdrawal of any such ratings is likely to have an adverse effect on the market price of the Series 2013 Obligations.

UNDERWRITING

The underwriters of the Series 2013 Obligations listed on the cover of this Official Statement (the “Underwriters”), for whom Citigroup Global Markets Inc. (the “Representative”) has agreed to act as representative, have agreed to purchase the Series 2013 Obligations.

The Series 2013A Bonds are being sold at a price of \$169,864,101.14 (which is equal to the principal amount of such Series 2013A Bonds less original issue discount of \$4,084,521.90 and less underwriting discount of \$916,376.96). The Series 2013B Bonds are being sold at a price of \$27,318,453.43 (which is equal to the principal amount of such Series 2013B Bonds less underwriting discount of \$157,726.52). The Series 2013C Bonds are being sold at a price of \$72,944,908.97 (which is equal to the principal amount of such Series 2013C Bonds less underwriting discount of \$384,280.33).

The Series 2013A Tax-Exempt Notes are being sold at a price of \$465,425,657.22 (which is equal to the principal amount of such Series 2013A Tax-Exempt Notes plus an original issue premium of \$41,127,561.60 and less underwriting discount of \$1,746,904.38). The Series 2013B Taxable Notes are being sold at a price of \$26,046,758.68 (which is equal to the principal amount of such Series 2013B Taxable Notes less underwriting discount of \$108,241.32).

The Underwriters will be obligated to purchase all of the Series 2013 Obligations if any Series 2013 Obligations are purchased. The Underwriters reserve the right to join with other underwriters in offering each of the Series 2013 Obligations. The obligations of the Underwriters to accept the delivery of the Series 2013 Obligations are subject to various conditions set forth in the Bond Purchase Agreement.

The Representative, one of the underwriters of the Series 2013 Obligations, has entered into an agreement (the "Distribution Agreement") with TMC Bonds L.L.C. ("TMC") for the distribution to retail investors of certain municipal securities offerings. In connection with the Distribution Agreement, TMC has established an electronic primary offering application through which certain broker-dealers and municipal securities dealers approved by the Representative and TMC (each an "Approved Party") can submit orders for, and receive allocations of, new issue municipal securities for retail investors, and the Representative may share with TMC a portion of its underwriting compensation, which TMC may share with each Approved Party, with respect to Series 2013 Obligations that are allocated to such retail orders. Any such sharing will not affect the aggregate underwriting compensation set forth above or the Representative's share of such compensation. Citigroup Financial Products Inc., the Representative's parent company, owns a 31.35% equity interest in TheDebtCenter L.L.C., the parent company of TMC.

J.P. Morgan Securities LLC ("JPMS"), one of the underwriters of the Series 2013 Obligations, has entered into negotiated dealer agreements (each, a "Dealer Agreement") with each of UBS Financial Services Inc. ("UBSFS") and Charles Schwab & Co., Inc. ("CS&Co.") for the retail distribution of certain securities offerings, including the Series 2013 Obligations, at the original issue prices. Pursuant to each Dealer Agreement (if applicable to this transaction), each of UBSFS and CS&Co. will purchase Series 2013 Obligations from JPMS at the original issue price less a negotiated portion of the selling concession applicable to any Series 2013 Obligations that such firm sells.

The Underwriters and their affiliates are full service financial institutions engaged in various activities, which may include securities trading, commercial and investment banking, financial advisory, investment management, principal investment, hedging, financing, market making, and brokerage activities. Citigroup Inc. and its affiliates may have, from time to time, performed, and may in the future perform, various investment banking services for the Authority for which they received or will receive customary fees and expenses.

In the ordinary course of its various business activities, the Underwriters and their affiliates, officers, directors, and employees may make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities) and financial instruments (which may include bank loans and/or credit default swaps) for their own account and for the accounts of their customers (which may include persons or entities with relationships with the issuer) and may at any time hold long and short positions in such securities and instruments. Such investment and securities activities may involve securities and instruments of the Authority. The Underwriters and their affiliates may also communicate independent investment recommendations, market trading ideas and/or publish or express independent research views in respect of such assets, securities or instruments and may at any time hold, or recommend to clients that they should acquire, long and/or short positions in such assets, securities and instruments.

FINANCIAL ADVISOR

Public Financial Management, Inc. (the “Financial Advisor”) serves as financial advisor to the Authority in connection with the issuance of the Series 2013 Obligations. The Financial Advisor has assisted in the preparation of the debt issuance plan for funding of the Project based on information provided by the Authority. In addition, they have assisted in the preparation of this Official Statement. The Financial Advisor has not undertaken to make an independent verification of, or to assume responsibility for, the accuracy, completeness or fairness of the information contained in this Official Statement.

MISCELLANEOUS

Neither of the Commonwealth or the Trustee has participated in the preparation of this Official Statement and therefore takes no responsibility for its content. All of the appendices are an integral part of this Official Statement and must be read together with this Official Statement. The description of the Indenture does not purport to be comprehensive or definitive, and prospective purchasers of the Series 2013 Obligations are referred to the Indenture for the complete terms thereof. Copies of the Indenture may be obtained from the Authority. So far as any statements made in this Official Statement involve matters of opinion, forecasts or estimates, whether or not expressly stated, they are set forth as such and not as representations of fact. Historical data is presented for information purposes only and is not intended to be a projection of future results.

KENTUCKY PUBLIC TRANSPORTATION INFRASTRUCTURE AUTHORITY

By: /s/ Michael W. Hancock
Michael W. Hancock, Chair

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APPENDIX A

DEFINITIONS

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DEFINITIONS OF CERTAIN TERMS

The following are definitions of certain terms used in the General Trust Indenture, the Lease, and this Official Statement.

“Accreted Value” means, with respect to any Capital Appreciation Bonds or Convertible Capital Appreciation Bonds, as of any date of calculation, the sum of the amount set forth in a Series Trust Indenture as the amount representing the initial principal amount of those Capital Appreciation Bonds or Convertible Capital Appreciation Bonds plus the interest accumulated, compounded and unpaid thereon as of the most recent compounding date, determined in accordance with the provisions of the Series Trust Indenture authorizing the issuance of the applicable Capital Appreciation Bonds or Convertible Capital Appreciation Bonds.

“Act” means KRS Chapter 175B, as amended.

“Additional Project” means any project that is not initially part of the System that the Authority is authorized under the Act and permitted under the Interlocal Agreement to undertake and finance, subject to the requirements of Section 204(b)(vi) (“Conditions to Issuance of Bonds,” as described in Appendix B) of the General Trust Indenture.

“Additional Rent” means Additional Rent as set forth in Section 4.05 of the Lease.

“Annual Debt Service” means for any Fiscal Year, as computed in accordance with paragraph (d) of this definition, the sum (without duplication) of the aggregate amount of principal and interest scheduled to become due and payable in that Fiscal Year on all Bonds then Outstanding (by scheduled maturity, mandatory redemption or otherwise); provided that if a Hedge Facility has been entered into with respect to any Bond, interest on that Bond shall be included in the calculation of Annual Debt Service by including for each Fiscal Year an amount equal to the amount of interest payable on those Bonds at the rate or rates stated in that Bond plus any Hedge Payments paid or reasonably estimated to be paid by the Authority in such Fiscal Year minus any Hedge Receipts receivable by the Authority in that Fiscal Year (provided that in no event shall the calculation made pursuant to this clause result in a number less than zero being included in the calculation of Annual Debt Service); and further provided that for the purposes of calculating Annual Debt Service:

(a) In determining the amount of principal to be funded in each year, payment shall (unless a different subsection of this definition applies for purposes of determining principal maturities or amortization) be assumed to be made on Outstanding Bonds in accordance with any amortization schedule or amortization calculations established by the Series Trust Indenture setting forth the terms of those Bonds, including, as a principal payment, the Accreted Value of any Capital Appreciation Bonds or Convertible Capital Appreciation Bonds maturing or scheduled for redemption in that year; and in determining the amount of interest to be funded in each year, interest payable at a fixed rate shall (except to the extent any other subsection of this definition applies) be assumed to be made at that fixed rate and on the required funding dates.

(b) Except for any historical period for which the actual rate or rates are determinable, if interest on Bonds is payable pursuant to a variable interest rate (or if Hedge Payments or Hedge Receipts are determined pursuant to a variable rate formula), the Certified Interest Rate shall be used.

(c) Unless otherwise provided in a Supplemental Trust Indenture, (i) Bond Anticipation Obligations shall be treated as if they were to be amortized at the Certified Interest Rate with substantially level debt service over a period of 30 years from the date that the Bond Anticipation Obligations were issued and (ii) any Balloon Maturity shall be treated as if it were to be amortized at the Certified Interest Rate from the maturity date of the Balloon Maturity to a date not later than 30 years from the date the Bonds having the Balloon Maturity were issued.

(d) In any computation relating to the issuance of Bonds required by Section 204 of the General Trust Indenture and any computation required by Section 708 (“Rate Covenant,” as further described in Appendix B) of the General Trust Indenture, there shall be excluded from the computation of Annual Debt Service principal of and interest on Bonds for which funds are, or are reasonably expected to be, available for and which are irrevocably committed to make those payments, including without limitation (i) any such funds in an escrow account, (ii) any such funds constituting capitalized interest held in any account created by the General Trust Indenture, (iii) investment earnings from Investment Obligations which are estimated by the Authority to be retained in the Debt Service Fund during the applicable period, and (iv) any Federal Credit Payments.

“Authority” means the Kentucky Public Transportation Infrastructure Authority created by the Act, an independent de jure municipal corporation and political subdivision of the Commonwealth constituting a governmental agency and instrumentality of the Commonwealth, or such other designation as may be effected by future amendments to the Act.

“Authority System” means (i) during the period of initial construction, the Project (other than any Additional Project) and; (ii) after completion of the initial construction, the part of the System that is operated and maintained by the Authority under the terms of the Development Agreement and identified therein as the “Sections 1, 2 and 4A,” and (iii) any Additional Projects.

“Authority System Budget” has the meaning set forth in Section 709 (“Operating and Capital Budgets for the System,” as further described in Appendix B) of the General Trust Indenture.

“Authority System Revenue” means (i) Authority Toll Revenue plus (ii) investment earnings required to be deposited (or if related to a calculation with respect to future deposits, as reasonably estimated by the Authority to be deposited) in the Authority System Revenue Fund under the terms of the General Trust Indenture.

“Authority System Revenue Fund” means the Authority System Revenue Fund designated as such and established and created by Section 502 (“Establishment of Funds and Accounts,” as further described in Appendix B) of the General Trust Indenture.

“Authority Toll Revenue” means the amount payable to the Authority under the Development Agreement from the gross amount of all Tolls, administrative fees, violation charges, incidental charges, penalties and other charges collected through a collection process with respect to the System.

“Authorized Officer” means the chairman, vice chairman or secretary of the Authority, and any other of its members, officers, agents, or employees duly authorized by resolution of the Authority to perform the act or sign the document in question.

“Balloon Maturity” means, except in the case of Bond Anticipation Obligations, a principal amount payable on a Principal Installment Date (reduced by the amount scheduled to be retired by prepayment or mandatory sinking fund redemption prior to such Principal Installment Date) that is 50% or more of the aggregate principal amount of the related Series of Bonds.

“Bankruptcy Related Event” means (a) an involuntary proceeding shall be commenced or an involuntary petition shall be filed seeking (i) liquidation, reorganization or other relief in respect of the Authority or any of its debts, or of a substantial part of the assets of the Authority relating to the Authority System, under any Insolvency Law, or (ii) the appointment of a receiver, trustee, liquidator, custodian, sequestrator, conservator or similar official for the Authority for a substantial part of the assets of the Authority relating to the Authority System, and, in any case referred to in the foregoing subclauses (i) and (ii), such proceeding or petition shall continue undismissed for 60 days or an order or decree approving or ordering any of the foregoing shall be entered; or (b) the Authority shall (i) apply for or consent to the appointment of a receiver, trustee, liquidator, custodian, sequestrator, conservator or similar official for the Authority or for a substantial part of the assets of the Authority System, (ii) generally not be paying its debts as they become due unless such debts are the subject of a bona fide dispute, or become unable to pay its debts generally as they become due, (iii) fail to make two (2) consecutive payments of debt service on a TIFIA Bond when due, or (iv) make a general assignment for the benefit of creditors, or (v) consent to the institution of, or fail to contest in a timely and appropriate manner, any proceeding or petition with respect to it described in clause (a) of this definition, or (vi) commence a voluntary proceeding under any Insolvency Law, or file a voluntary petition seeking liquidation, reorganization, an arrangement with creditors or an order for relief under any Insolvency Law, or (vii) file an answer admitting the material allegations of a petition filed against it in any proceeding referred to in the foregoing subclauses (i) through (vi), inclusive, of this clause (b), or (viii) take any action for the purpose of effecting any of the foregoing.

“Biennium” means the fiscal period beginning on July 1 of an even-numbered year and ending on June 30 of the next following even-numbered year.

“Bond” or “Bonds” means any bonds or any other evidences of the obligation to repay borrowed money issued or incurred by the Authority from time to time pursuant to Article II of the General Trust Indenture and the terms of the Series Trust Indentures. The term “Bond” or “Bonds” includes, without limitation, notes, Bond Anticipation Obligations, Hedge Payments, and other securities, contracts or obligations incurred through lease, installment purchase or other agreements, including any Reimbursement Agreements, or certificates of participation therein, in each case to the extent secured by the General Trust Indenture. The terms “Bond” and “Bonds” includes First Tier Bonds, Second Tier Bonds, Third Tier Bonds, TIFIA Bonds and Subordinate Bonds and may, if provided in a Series Trust Indenture, include Credit Provider Bonds.

“Bond Anticipation Obligations” means Bonds issued in anticipation of the sale of a Series of Bonds in a principal amount not exceeding the principal amount of such Series of Bonds and payable from the proceeds of the sale of the Series of Bonds in anticipation of which such Bond Anticipation Obligations are issued, which may be payable, in whole or in part, from Pledged Receipts, at the discretion of the Authority, as set forth in a Supplemental Trust Indenture.

“Bond Counsel” means an attorney or firm or firms of attorneys of national recognition, selected or employed by the Authority, experienced in the field of municipal bonds whose opinions are generally accepted by purchasers of municipal bonds.

“Bond Interest Payment Date” means, with respect to each Series of Bonds, each date set forth in the applicable Series Trust Indenture with respect to that Series of Bonds on which interest is payable.

“Bond Payment Date” means any Bond Interest Payment Date or Bond Principal Payment Date.

“Bond Principal Payment Date” means, with respect to each Series of Bonds, each date set forth in the applicable Series Trust Indenture with respect to that Series of Bonds on which principal is payable by reason of Sinking Fund Installments or maturity.

“Bondholder” or “Holder” means the person in whose name a Bond is registered; provided that a Series Trust Indenture may provide that other persons may be deemed to be the Bondholder of all or a portion of the Series of Bonds authorized thereby, including but not limited to the Credit Provider for those Bonds. A Hedge Provider shall only be considered a Bondholder to the extent specified in a Series Trust Indenture.

“Business Day” means, unless specified otherwise in the applicable Series Trust Indenture, any day of the week other than Saturday, Sunday or a day on which commercial banks located in the Commonwealth or in the jurisdiction in which the principal office of the Trustee, any Fiduciary, the Credit Provider or the Hedge Provider, if applicable, is located are required or authorized to remain closed or on which the New York Stock Exchange is closed.

“Capital Appreciation Bonds” means any Series of Bonds all the interest on which is compounded and accumulated at the rates and on the dates set forth in a Series Trust Indenture and is payable only upon redemption or on the maturity date of those Bonds.

“Certified Interest Rate” means a fixed rate of interest, determined by an investment banking or financial advisory firm selected by the Authority, as the rate of interest (i) Bonds having interest payable at a variable interest rate (or Hedge Payments or Hedge Receipts determined pursuant to a variable rate formula) would bear if such Bonds (or Hedge Payments or Hedge Receipts) had interest payable at a fixed rate of interest, assuming the same maturities, terms and provisions (other than interest rate) as the proposed Bonds (or Hedge Payments or Hedge Receipts) or (ii) Bonds would bear if issued on the date of issuance of Bond Anticipation Obligations or Bonds having a Balloon Maturity as provided under the definition of Annual Debt Service.

“Code” means the Internal Revenue Code of 1986, as amended from time to time, together with all applicable rulings and regulations promulgated thereunder.

“Commonwealth” means the Commonwealth of Kentucky.

“Completion Bonds” means any Bonds issued for the purpose of financing the completion of the acquisition, construction, or equipping of the Project to the extent necessary to provide a completed and fully equipped Project (which may include, but shall not be limited to, capitalized interest, required reserves, and/or costs of issuing those Completion Bonds).

“Consulting Engineer” means an independent engineer or engineering firm, or an affiliate thereof, nationally recognized as being experienced with determining the costs of construction, operation, maintenance, repair, and/or replacement of facilities similar to the Authority System.

“Convertible Capital Appreciation Bonds” means Bonds which initially are issued as Capital Appreciation Bonds, but later convert to Bonds on which interest is paid periodically. Convertible Capital Appreciation Bonds shall be Capital Appreciation Bonds until the conversion date and from and after that conversion date shall no longer be Capital Appreciation Bonds but shall be treated as having a principal amount equal to their Accreted Value on the conversion date.

“Cost” means:

(a) The cost of construction of the Project, including the acquisition of land, rights-of-way, property, rights in land, easements, and interests acquired by the Authority for construction of the Project;

(b) The cost of preparing land or property, including demolishing or removing any buildings or structures, and the cost of acquiring any lands to which those buildings or structures may be moved;

(c) The pro-rata value of all machinery and equipment used in construction of the Project;

(d) Financing charges and provisions for working capital in an amount the Authority determines to be reasonable;

(e) Interest prior to and during construction and, if approved by the Authority, for a period up to two (2) years after completion of construction;

(f) The cost of traffic estimates and of engineering, financial and legal services, plans, specifications, surveys, estimates of cost and revenues, or other expenses necessary or incidental to determining the feasibility or practicability of constructing any Project;

(g) The cost and expense of the relocation or removal of public utilities impacted by the Project, including the cost of installing the facilities in a new location, the cost of any lands or any rights or interests in lands, and the cost of any other rights acquired to accomplish the relocation or removal;

(h) Administrative expenses and any other expenses that are necessary for or incidental to the construction of the Project, the financing of the construction, and the placing of the Project in operation;

(i) The cost of maintenance of the completed Authority System; and

(j) Any other “cost,” as defined in the Act.

Any obligation or expense incurred by and reimbursed to the Authority in connection with any of the items of cost set out in this subsection may be regarded as a part of Cost.

“Counsel Opinion” or “Counsel’s Opinion” shall mean an opinion of Bond Counsel.

“Credit Facility” or “Credit Facilities” means, with respect to a Series of Bonds, a letter of credit, line of credit, municipal bond insurance, surety policy, standby bond purchase agreement, direct purchase or similar agreement or other form of credit enhancement and/or liquidity support, which may include self-liquidity provided by the Authority, if any, for that Series of Bonds, provided for in the applicable Series Trust Indenture, including any alternate Credit Facility with respect to that Series of Bonds delivered in accordance with provisions of the Series Trust Indenture providing for the issuance of that Series of Bonds.

“Credit Provider” means, with respect to a Series of Bonds, the provider of a Credit Facility, which may be the Commonwealth.

“Credit Provider Bonds” means any Bonds purchased with funds provided under a Credit Facility for so long as those Bonds are held by or for the account of, or are pledged to, the applicable Credit Provider in accordance with the applicable Series Trust Indenture.

“Debt Service Accounts” means the First Tier Debt Service Account, the Second Tier Debt Service Account, the Third Tier Debt Service Account and any Debt Service Account established for Subordinate Bonds.

“Debt Service Fund” means the Fund so designated and established and created by Section 502 (“Establishment of Funds and Accounts”) of the General Trust Indenture.

“Debt Service Reserve Accounts” means the First Tier Common Debt Service Reserve Account, the Second Tier Common Debt Service Reserve Account, the Third Tier Common Debt Service Reserve Account and any Series Debt Service Reserve Accounts.

“Debt Service Reserve Requirement” means the amount or amounts, if any, required to be on deposit in the First Tier Common Debt Service Reserve Account, the Second Tier Common Debt Service Reserve Account, the Third Tier Common Debt Service Reserve Account or any Series Debt Service Reserve Account, as applicable, specified in the Series Trust Indenture governing the issuance of and securing the related Series of Bonds.

“Default” means any occurrence, circumstance or event, or any combination thereof, which, with the lapse of time and/or giving of notice, would constitute an Event of Default.

“Defeasance Obligations” means any of the following:

(a) non-callable direct obligations of the United States of America, non-callable and non prepayable direct federal agency obligations the timely payment of principal of and interest on which is fully and unconditionally guaranteed by the United States of America, non-callable direct obligations of the United States of America which have been stripped by the United States Treasury itself or by any Federal Reserve Bank (not including “CATS,” “TIGRS” and “TRS” unless the Authority obtains a confirmation that the Bonds defeased thereby shall be rated in the highest rating category by the Rating Agencies then rating the Bonds to be defeased) and the interest components of REFCORP bonds for which the underlying bond is non-callable (or non-callable before the due date of such interest component) for which separation of principal and interest is

made by request to the Federal Reserve Bank of New York in book entry form, and shall exclude investments in mutual funds and unit investment trusts;

(b) non-callable obligations, timely maturing and bearing interest, to the extent that the full faith and credit of the United States of America are pledged to the timely payment thereof;

(c) certificates rated in the highest category by the Rating Agencies then rating the Bonds to be defeased evidencing ownership of the right to the payment of the principal of and interest on obligations described in clause (b), provided that such obligations are held in the custody of a bank or trust company satisfactory to the Trustee in a segregated trust account in the trust department separate from the general assets of such custodian; and

(d) bonds or other obligations of any state of the United States of America or of any agency, instrumentality or local governmental unit of any such state (i) which are not callable at the option of the obligor or otherwise prior to maturity or as to which irrevocable notice has been given by the obligor to call such bonds or obligations on the date specified in the notice, (ii) timely payment of which is fully secured by a fund consisting only of cash or obligations of the character described in clause (a), (b) or (c) which fund may be applied only to the payment when due of such bonds or other obligations and (iii) which are rated in the highest category by the Rating Agencies then rating the Bonds to be defeased.

“Development Agreement” means the Bi-State Development Agreement effective December 20, 2012 among the Authority, the Transportation Cabinet, INDOT and IFA, as amended and supplemented from time to time.

“Downtown Crossing” has the meaning set forth in the Development Agreement, as more fully described in Appendix A to the Development Agreement.

“DTC” means The Depository Trust Company, a limited purpose trust company, New York, New York.

“Emergency Repair Bonds” means any Bonds issued for the purpose of financing Costs of repairs to any portion of the Authority System if the Transportation Cabinet has determined that an emergency exists or is threatened which makes those repairs necessary to restore that portion of the Authority System to a safe operating condition due to damage as a result of fire, flood, earthquake, other disaster, or otherwise.

“Event of Default” means any one or more of those events set forth in Section 1002 of the General Trust Indenture.

“First Tier Bonds” means Bonds payable from and secured by the First Tier Debt Service Account.

“First Tier Common Debt Service Reserve Account” means the account of that name created by the General Trust Indenture in the Debt Service Fund.

“First Tier Debt Service Account” means the account of that name created in the Debt Service Fund.

“First Tier Debt Service Reserve Accounts” means the First Tier Common Debt Service Reserve Account and any Series Debt Service Reserve Account securing the payment of First Tier Bonds.

“Fiscal Year” means each annual period which begins on July 1 in any calendar year and ends on June 30 in the following calendar year, or such other period as may be designated from time to time in writing by an Authorized Officer of the Authority.

“Fitch” means Fitch, Inc., and its successors, if any, and if that corporation shall no longer perform the functions of a securities rating agency, “Fitch” means any other nationally recognized securities rating agency (other than Moody’s and S&P) designated by the Authority.

“Funds and Accounts” means the funds and accounts established by the General Trust Indenture or any Series Trust Indenture.

“General O&M Expenses” means, to the extent permitted by the Act, (i) except for any Toll System Collection Expenses or M&R Expenses, all actual cash maintenance and operation costs (excluding costs of capital expenditures) incurred and paid (or if applicable forecast to be incurred and paid) in connection with the operation and maintenance of the Project and the Authority System in any particular calendar year, Fiscal Year or other period to which said term is applicable, including payments made pursuant to the Development Agreement (in each case excluding expenditures that constitute Costs related to the Project), payments for taxes (excluding income taxes), insurance, consumables, advertising, marketing, payments under real property agreements pursuant to which the Authority has rights in the Project and the Authority System, payments pursuant to the agreements for the management, operation or maintenance of the Project and the Authority System, reasonable legal fees and expenses paid by the Authority in connection with the management, maintenance or operation of the Project and the Authority System, fees paid in connection with obtaining, transferring, maintaining or amending any approvals from any Governmental Authority, costs incurred in connection with the performance of environmental mitigation work to be carried out by the Authority, amounts required for the acquisition of any Qualified Hedge or for deposits into any account maintained in accordance with the General Trust Indenture for such purposes and reasonable general and administrative expenses, but exclusive in all cases of noncash charges, including depreciation or obsolescence charges or reserves therefor, amortization of intangibles or other bookkeeping entries of a similar nature;; (ii) fees and expenses under a Reimbursement Agreement or Credit Facility that are not reimbursements for draws under a Credit Facility and (iii) TIFIA Servicing Fees.

“General O&M Reserve Fund” means the General O&M Reserve Fund so designated and established and created by Section 502 (“Establishment of Funds and Accounts”) of the General Trust Indenture.

“General O&M Reserve Fund Requirement” means an amount equal to the highest consecutive four months of budgeted General O&M Expenses for the current Fiscal Year as reflected in the Authority System Budget.

“General Reserve Fund” means the General Reserve Fund so designated and established and created by Section 502 (“Establishment of Funds and Accounts”) of the General Trust Indenture.

“General Trust Indenture” means the General Trust Indenture, dated as of December 1, 2013, and entered into between the Authority and the Trustee, as amended or supplemented from time to time.

“Ground Lease Agreements” means the ground lease agreements relating to certain properties that are a part of the System, between the Commonwealth, acting by and through its Governor and Finance and Administration Cabinet, and IFA, as amended and supplemented from time to time.

“Hedge Facility” means any payment agreement entered into by or for the Authority to effect any rate swap transaction, basis swap transaction, cap transaction, floor transaction, collar transaction, or similar transaction, which is intended to convert or limit the interest rate payable with respect to any Bonds, and which (i) is designated as a Hedge Facility to relate to all or part of one or more Series of Bonds; (ii) is with a Hedge Provider; and (iii) has a term not greater than the term of the designated Bonds or a specified date for mandatory tender or redemption of the designated Bonds.

“Hedge Payments” means the regularly scheduled payments to be paid to a Hedge Provider by the Authority under the terms of a Hedge Facility absent any termination, default or dispute in connection with that Hedge Facility.

“Hedge Provider” means an entity that is a party to a Hedge Facility with the Authority.

“Hedge Receipts” means regularly scheduled payments required to be paid to the Authority by a Hedge Provider under the terms of a Hedge Facility absent any termination, default or dispute in connection with that Hedge Facility.

“IFA” means the Indiana Finance Authority.

“INDOT” means the Indiana Department of Transportation.

“Insolvency Laws” means the United States Bankruptcy Code, 11 U.S.C. §101 et seq., as from time to time amended and in effect, and any state bankruptcy, insolvency, receivership or similar law now or hereafter in effect in the Commonwealth.

“Interlocal Agreement” means the Interlocal Cooperation Agreement for the Design, Procurement, Construction, Financing, Tolling, Operation and Maintenance for the Louisville-Southern Indiana Ohio River Bridges Project, effective as of December 17, 2012, among the Authority, the Transportation Cabinet, INDOT and IFA, as amended and supplemented from time to time.

“Investment Obligations” means any investment authorized by KRS 42.500, as amended; provided that for proceeds of Bonds deposited in a Project Fund, Investment Obligations means investments authorized by KRS 175B.075; provided further that, so long as any TIFIA Bonds are Outstanding, Investment Obligations shall be limited (to the extent permitted by KRS 42.500 or KRS 175B.075, as applicable) to the following:

- (a) Government Obligations;
- (b) certificates of deposit where the certificates are collaterally secured by securities of the type described in clause (a) of this definition and held by a third party as

escrow agent or custodian, of a market value not less than the amount of the certificates of deposit so secured, including interest, but this collateral is not required to the extent the certificates of deposit are insured by an agency of the United States of America;

(c) repurchase agreements, when collateralized by securities of the type described in clause (a) of this definition and held by a third party as escrow agent or custodian, of a market value not less than the amount of the repurchase agreement so collateralized, including interest;

(d) investment agreements or guaranteed investment contracts rated, or with any financial institution whose senior long-term debt obligations are rated, or guaranteed by a financial institution whose senior long-term debt obligations are rated, at the time such agreement or contract is entered into, in one of the two (2) highest rating categories for comparable types of obligations by any Rating Agency; and

(e) money market funds that invest solely in obligations of the United States of America, its agencies and instrumentalities, and having a rating by a Rating Agency equal to the then applicable rating of the United States of America by such Rating Agency.

“Issue Date” means, with respect to Bonds of a particular Series, the date of the Bonds of such Series specified and determined by the Series Trust Indenture and Series Resolution authorizing such Bonds.

“Lease Agreement” means a Lease Agreement with the Authority, as lessor and the Transportation Cabinet, as lessee entered into in accordance with the Act and the Development Agreement, as amended and supplemented from time to time.

“Lease Payment Fund” means the Lease Payment Fund so designated and established and created by Section 502 (“Establishment of Funds and Accounts”) of the General Trust Indenture.

“Lease Payments” means payments from the Transportation Cabinet to the Authority under a Lease Agreement.

“M&R Expenses” means lifecycle costs and/or capital costs necessary to continue to maintain the Authority System in good operating order and that are not normally recurring costs.

“M&R Reserve Fund” means the M&R Reserve Fund so designated and established and created by Section 502 (“Establishment of Funds and Accounts”) of the General Trust Indenture.

“M&R Reserve Fund Requirement” means an amount determined by the Authority based on its projected long-term M&R Expense needs, in consultation with a Consulting Engineer.

“Maximum Annual Debt Service” means the maximum Annual Debt Service with respect to any Bonds for any Fiscal Year during the term of those Bonds.

“Moody’s” means Moody’s Investors Service, Inc., and its successors, if any, and if that corporation shall no longer perform the functions of a securities rating agency, “Moody’s” means any other nationally recognized securities rating agency (other than Fitch and S&P) designated by the Authority.

“Outstanding” when used with reference to Bonds means, as of any date of determination, all Bonds that have been authenticated and delivered except: (a) Bonds that have been canceled by the Trustee or delivered to the Trustee for cancellation; (b) Bonds which are deemed paid and no longer Outstanding as provided in the General Trust Indenture; (c) Bonds in lieu of which other Bonds have been issued pursuant to the provisions of the General Trust Indenture relating to Bonds destroyed, stolen or lost; (d) after any tender date as may be provided for in the applicable Series Trust Indenture, any Bond held by a Bondholder who has given a tender notice or was required to tender that Bond in accordance with the provisions of the applicable Series Trust Indenture and which was not so tendered and for which sufficient funds for the payment of the purchase price of which have been deposited with the Trustee, or any tender agent appointed under the applicable Series Trust Indenture; and (e) for purposes of any consent or other action to be taken under the General Trust Indenture by the Holders of a specified percentage of principal amount of Bonds, Bonds held by or for the account of the Authority (unless all Bonds that would be “Outstanding” but for the provisions of this clause (e) are so held by or for the account of the Authority).

“Paying Agent” means any bank or trust company so designated, and its successor or successors hereafter appointed, as paying agent for the Bonds of any Series in the manner provided in the General Trust Indenture or any Series Trust Indenture.

“Pledged Receipts” means:

- (a) Authority System Revenue;
- (b) Hedge Receipts; and
- (c) Lease Payments (but only for application in accordance with the requirements of the General Trust Indenture for the Fund or Account into which any Lease Payment or portion thereof is deposited).

“Principal Installment” for any Fiscal Year means, as of any date of calculation and with respect to any Series so long as any Bonds thereof are Outstanding:

- (a) the principal amount of the Outstanding Bonds of said Series which mature in such Fiscal Year, reduced by the aggregate principal amount of such Bonds which would before such Fiscal Year be retired by reason of the payment when due and application in accordance with the General Trust Indenture of Sinking Fund Installments for the retirement of such Bonds; plus
- (b) the unsatisfied balance of the Sinking Fund Installment, if any, due during such Fiscal Year for the Bonds of such Series.

“Principal Installment Date” means, for each Series, the date upon which each Principal Installment on the Bonds of such Series shall be payable pursuant to a Series Trust Indenture.

“Project” means, collectively, the acquisition, construction, renovation, rehabilitation and equipping of (a) the Downtown Crossing and the Project Wide Costs, as defined in the Development Agreement, and (b) each Additional Project.

“Project Fund” means a Project Fund so designated and established for a Series of Bonds in accordance with the General Trust Indenture and a Series Trust Indenture.

“Projected Toll Rate Schedule” means the projection of future Tolls periodically prepared in accordance with the General Trust Indenture.

“Rating Agency” means Fitch, Moody’s or S&P.

“Rebate Fund” means the Rebate Fund so designated and established and created by Section 502 (“Establishment of Funds and Accounts”) of the General Trust Indenture for the purpose of complying with the provisions of Section 148 of the Code.

“Redemption Date” means the date set forth in a Series Trust Indenture on which Bonds of a Series authorized by such Series Trust Indenture may be called for redemption.

“Redemption Fund” means the Redemption Fund so designated and established and created by Section 502 (“Establishment of Funds and Accounts”) of the General Trust Indenture.

“Redemption Price” means, with respect to any Bond, the principal amount thereof plus the applicable premium, if any, payable upon redemption thereof pursuant to any Series Trust Indenture pursuant to which the same was issued.

“Refunding Bonds” means all Bonds, whether issued in one or more Series, authenticated and delivered on original issuance pursuant to Section 206 (“Provisions for Refunding Bonds,” as further described in Appendix B) of the General Trust Indenture in lieu of or in substitution for Bond Anticipation Obligations and Bonds theretofore issued by the Authority.

“Reimbursement Agreement” means, with respect to a Series of Bonds, any agreement or agreements relating to the issuance by the Credit Provider or Credit Providers of a letter of credit, in each case between a Credit Provider or Credit Providers and the Authority under or pursuant to which a Credit Facility for that Series of Bonds is issued that sets forth the obligations of the Authority to the Credit Provider or Credit Providers and the obligations of the Credit Provider or Credit Providers to the Authority, and any agreement that replaces a Reimbursement Agreement.

“Renewal Term” means a period of two (2) years coinciding with the fiscal biennium of the Commonwealth, which commences on July 1 in each even-numbered year and ends on June 30 of the next ensuing even-numbered year unless hereafter modified by statute.

“Rent” means Rent as defined in the Lease Agreement.

“Responsible Officer” means, when used with respect to the Trustee, any vice president, assistant vice president, senior associate, associate or other officer of the Trustee within the corporate trust office specified in Section 1101 (“Trustee,” as further described in Appendix B) of the General Trust Indenture (or any successor corporate trust office) customarily performing functions similar to those performed by the persons who at the time shall be such officers, respectively, or to whom any corporate trust matter is referred at the corporate trust office specified in Section 1101 of the General Trust Indenture because of such person’s knowledge of and familiarity with the particular subject and having direct responsibility for the administration of the Indenture.

“S&P” means Standard & Poor’s Ratings Services, a Standard & Poor’s Financial Services LLC business, and its successors, if any, and if that company shall no longer perform

the functions of a securities rating agency, “S&P” means any other nationally recognized securities rating agency (other than Fitch and Moody’s) designated by the Authority.

“Second Tier Bonds” means Bonds payable from and secured by the Second Tier Debt Service Account.

“Second Tier Common Debt Service Reserve Account” means the account of that name created by the General Trust Indenture in the Debt Service Fund.

“Second Tier Debt Service Account” means the account of that name created by the General Trust Indenture in the Debt Service Fund to secure payment of Second Tier Bonds.

“Second Tier Debt Service Reserve Accounts” means the Second Tier Common Debt Service Reserve Account and any Series Debt Service Reserve Account securing the payment of Second Tier Bonds.

“Section 129 Agreement” means the Agreement executed in July of 2012 by and among the Federal Highway Administration, the Transportation Cabinet, the Authority, INDOT and IFA, as amended and supplemented from time to time.

“Series” means all of the Bonds authenticated and delivered on original issuance in a simultaneous transaction under a particular Series Trust Indenture, and any Bonds thereafter authenticated and delivered in lieu of or in substitution for such Bonds pursuant to the General Trust Indenture, regardless of variations in maturity, interest rate, Sinking Fund Installments or other provisions.

“Series Debt Service Reserve Account” means an Account for a Series of Bonds so designated and established and created in accordance with the provisions of Sections 502 (“Establishment of Funds and Accounts”) and 507 (“Debt Service Fund”) of the General Trust Indenture and a Series Trust Indenture.

“Series of Bonds” or “Bonds of a Series” or words of similar import, means the Series of Bonds issued pursuant to a particular Series Trust Indenture.

“Series Resolution” means a resolution of the Authority authorizing the issuance of a Series of Bonds in accordance with the terms and provisions of the General Trust Indenture, adopted by the Authority in accordance with Section 203 (“Authorization For Bonds In Series; Contents of Series Trust Indentures”) of the General Trust Indenture.

“Series Trust Indenture” means a trust indenture providing for the issuance of a particular Series of Bonds, including, with respect to TIFIA Bonds, the related TIFIA Loan Agreement.

“SIFMA Index” means, on any date, a rate determined on the basis of the seven-day high grade market index of tax-exempt variable rate demand obligations, as produced by Municipal Market Data and published or made available by the Securities Industry & Financial Markets Association (“SIFMA”) or any person acting in cooperation with or under the sponsorship of SIFMA, or if such index is no longer available “SIFMA Index” shall refer to a comparable index identified as being comparable by the Authority .

“Sinking Fund Installments” means the scheduled payments of installments of principal established for Bonds by redemption; and for any Fiscal Year, means as of any date of

calculation and with respect to the Outstanding Bonds of any Series, the amount of money required by a Series Trust Indenture to be paid for the redemption of Bonds scheduled to occur in such Fiscal Year.

“Subordinate Bonds” shall mean any bond or bonds issued by the Authority pursuant to Section 205 (“Conditions to Issuance of Subordinate Bonds and Bond Anticipation Obligations,” as further described in Appendix B) of the General Trust Indenture and a Series Trust Indenture secured by the Pledged Receipts, including bonds issued to refund or advance refund any other obligations of the Authority and may include bonds, notes, certificates of indebtedness, installment sales contracts, capitalized leases, bond or grant anticipation notes, trust units, certificates of participation, or scheduled payments under a Credit Facility or Hedge Facility.

“Supplemental Trust Indenture” means any trust indenture supplemental to or amendatory of the General Trust Indenture or any Series Trust Indenture adopted by the Authority in accordance with Article VIII (“Supplemental Trust Indentures”) and Article IX (“Amendments of General Trust Indenture and Series Trust Indentures”) of the General Trust Indenture.

“System” means the bridge and highway system identified as the Louisville-Southern Indiana Ohio River Bridges Project in the Development Agreement and any improvements or additions thereto, including any Additional Project.

“Tax-Advantaged Bonds” means any Bonds that are designated by the Authority as Bonds with respect to which the Authority is eligible to receive Federal Credit Payments or the holders of which are eligible to receive a federal tax credit under any federal subsidy or credit program available under the Code.

“Tax-Exempt Bonds” means any Bond the interest on which is excludable from gross income of the Beneficial Owner for purposes of federal income tax.

“Taxable Bonds” means Bonds, the interest on which is includable in gross income of the Bondholders thereof for purposes of federal income taxation.

“Third Tier Bonds” means Bonds payable from and secured by the Third Tier Debt Service Account.

“Third Tier Common Debt Service Reserve Account” means the account of that name created by the General Trust Indenture in the Debt Service Fund.

“Third Tier Debt Service Account” means the account of that name created by the General Trust Indenture in the Debt Service Fund to secure payment of Third Tier Bonds.

“Third Tier Debt Service Reserve Accounts” means the Third Tier Common Debt Service Reserve Account and any Series Debt Service Reserve Account securing the payment of Third Tier Bonds.

“Tier” means the level of security and pledge preference with respect to Pledged Receipts applicable to a Series of Bonds as provided in a Series Trust Indenture.

“TIFIA” means the Transportation Infrastructure Finance and Innovation Act of 1998, as amended, or any other legislation pursuant to which the United States provides loans or other forms of credit assistance similar to that available under TIFIA.

“TIFIA Bond” means any Bond that may be issued pursuant to a Series Trust Indenture to evidence a TIFIA Loan to the Authority. Except as otherwise provided in Section 1012 (“TIFIA Bond Default Remedy”) of the General Trust Indenture, any TIFIA Bond shall be a Third Tier Bond.

“TIFIA Bondholder” means the United States Department of Transportation, acting by and through the Federal Highway Administrator, and its successors and assigns.

“TIFIA Loan” means the loan or credit support provided pursuant to a TIFIA Loan Agreement.

“TIFIA Loan Agreement” means a loan agreement or other agreement that shall be entered into by and between the TIFIA Bondholder and the Authority in the event the Authority issues a TIFIA Bond, as amended and supplemented from time to time.

“TIFIA Servicing Fees” means any fees payable to TIFIA under the TIFIA Loan Agreement.

“Toll Operator” means the toll operator selected to run the toll operations of the System.

“Toll Policy Agreement” means the Toll Policy Agreement relating to Tolls, among the Authority, the Transportation Cabinet, INDOT and IFA, as amended and supplemented from time to time.

“Toll Rate Resolution” means any resolution of the Tolling Body adopting a Toll Rate Schedule.

“Toll Rate Schedule” means the schedules of Tolls adopted from time to time by the Tolling Body by a Toll Rate Resolution or otherwise.

“Toll System Collection Expenses” means operation and maintenance expenses incurred by the Toll Operator that are allocable to the Authority under the Development Agreement and paid from toll revenues and other sources available to IFA and the Authority.

“Tolling Body” means the Tolling Body under the Toll Policy Agreement.

“Tolling O&M Reserve Fund” means the Tolling O&M Reserve Fund so designated and established and created by Section 502 (“Establishment of Funds and Accounts”) of the General Trust Indenture.

“Tolling System Reserve Fund Requirement” means, initially, \$4,404,500, and after the first full Fiscal after the first deposit of Authority System Revenues in the Tolling O&M Reserve Fund, an amount equal to the budgeted Toll System Collection Expenses for the then current Fiscal Year as reflected in the Authority System Budget.

“Tolls” means all toll receipts payable to or collected by the Authority in respect of the System, as provided in the Development Agreement.

“Treasurer” means the Treasurer of the Commonwealth of Kentucky.

“Trustee” means the Trustee as defined in the General Trust Indenture.

APPENDIX B

SUMMARY OF GENERAL TRUST INDENTURE

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The General Trust Indenture contains various covenants, security provisions, terms and conditions, certain of which are summarized below. The descriptions in this Appendix B do not purport to be comprehensive or definitive. Reference is made to the General Trust Indenture for a full and complete statement of its provisions. All references herein to the various financing documents are qualified in their entirety by reference to each such document, copies of which are available for review prior to the issuance and delivery of the Bonds at the offices of the Authority and thereafter at the offices of the Trustee.

AUTHORIZATION AND ISSUANCE OF BONDS

Authorization for Trust Indenture. The General Trust Indenture has been adopted pursuant to the Act and a resolution of the members of the Authority.

Authorization of Bonds. For the purpose of providing funds to finance or refinance Costs of the Project, Bonds of the Authority have been authorized to be issued from time to time without limitation as to amount except as provided in the General Trust Indenture and as may be limited by law, and such Bonds shall be issued subject to the terms, conditions and limitations established in the General Trust Indenture and in one or more Series Trust Indentures. No Bonds shall be issued secured by the Pledged Receipts or the Trust Estate except in accordance with the provisions of the General Trust Indenture. The Bonds have been authorized shall be special obligations of the Authority, payable only from revenues and funds specifically pledged by the Authority for the payment of the principal of or Redemption Price, and interest on said Bonds. The Bonds shall contain on their face a statement as required by KRS 175B.065 that neither the Commonwealth nor the Authority is obligated to pay the Bonds or the interest thereon except from the Pledged Receipts and that neither the faith and credit nor the taxing power of the Authority is pledged to the payment of the principal of or the interest on the Bonds.

Authorization for Bonds In Series; Contents of Series Trust Indentures. From time to time when authorized by the General Trust Indenture and subject to the terms, limitations and conditions established in the General Trust Indenture, the Authority may authorize the issuance of a Series of Bonds upon adoption of a Series Resolution and execution of a Series Trust Indenture, and the Bonds of any such Series may be issued and delivered upon compliance with the provisions of Article II (“Authorization and Issuance of Bonds”) and Article VIII (“Supplemental Trust Indentures”) of the General Trust Indenture. The Bonds of each Series shall bear the title “Kentucky Public Transportation Infrastructure Authority Toll Revenue Bonds (Downtown Crossing Project)” and, at the option of the Authority, such other designation as may be necessary to distinguish them from the Bonds of another Tier, Series and treatment for federal income tax purposes. Bonds of any Series may be authorized to be issued in the form provided by the Series Trust Indenture.

Conditions to Issuance of Bonds. The Authority has been authorized to issue Bonds in one or more Series upon satisfaction of the conditions set forth in Sections 202 (“Authorization of Bonds”) and 203 (“Authorization for Bonds in Series; Contents of Series Trust Indentures”) of the General Trust Indenture as well as the additional conditions set forth in the Section 204 (“Conditions to Issuance of Bonds”) of the General Trust Indenture.

The following conditions shall be met and complied with at the time of issuance of a Series of Bonds.

(a) The Trustee shall certify that, as of the date of issuance of the Series of Bonds, there is no deficiency in the Debt Service Fund and the Authority shall certify that no Default or Event of Default has occurred and is continuing, unless such Default or Event of Default will be cured by the issuance of the Series of Bonds; and

(b) Except for the issuance of Refunding Bonds which satisfy the test in Section 206 (“Provisions for Refunding Bonds”) of the General Trust Indenture, there shall be on file with the Trustee a certificate(s) or report(s) of the Traffic Consultant, Consulting Engineer and Transportation Cabinet, as applicable, evidencing that, based upon reasonable assumptions, after the issuance of the proposed Bonds, at least one of the following tests shall be satisfied with respect to the proposed Bonds:

(i) If the proposed Bonds are First Tier Bonds, there shall be on file with the Trustee:

(A) (1) a certificate of the Authority stating the Authority System Revenue for (i) the most recent Fiscal Year for which audited financial statements are available or (ii) any 12 consecutive month period in the immediately prior 18 months, and (2) a certificate of the Authority stating that the Authority System Revenue shown in the certificate of the Authority described in (1) above was at least equal to (i) 175% of the Maximum Annual Debt Service for all then-Outstanding First Tier Bonds, (ii) 150% of the Maximum Annual Debt Service for all then-Outstanding First Tier Bonds and Second Tier Bonds, (iii) 125% of the Maximum Annual Debt Service for all then-Outstanding First Tier Bonds, Second Tier Bonds and Third Tier Bonds, (iv) 110% of the Maximum Annual Debt Service for all then Outstanding First Tier Bonds, Second Tier Bonds, Third Tier Bonds and Subordinate Bonds, and (v) 100% of the aggregate amount of the required payments described in subsections (a) through (j) of Section 504 (“Application of Amounts in the Authority System Revenue Fund”) of the General Trust Indenture in the applicable Fiscal Year (taking into account the First Tier Bonds proposed to be issued and excluding any Bonds being refunded); or

(B) (1) a certificate of the Traffic Consultant stating, based upon reasonable assumptions, the projected Authority Toll Revenue for the then-current Fiscal Year and each subsequent Fiscal Year through the last scheduled maturity of all Outstanding Bonds following the issuance of the additional First Tier Bonds, (2) a certificate of the Consulting Engineer stating, based upon reasonable assumptions, the projected Total System Expenses for the then-current Fiscal Year and each subsequent Fiscal Year through the last scheduled maturity of all Outstanding Bonds following the issuance of the additional First Tier Bonds, and (3) a certificate of the Authority stating that, based upon the information contained in the

certificates described in (1) and (2) above, the projected Authority System Revenue for the then-current Fiscal Year and each subsequent Fiscal Year through the last scheduled maturity of all Outstanding Bonds following the issuance of the proposed First Tier Bonds will be equal to or greater than (i) 175% of Annual Debt Service on First Tier Bonds, (ii) 150% of Annual Debt Service on First Tier Bonds and Second Tier Bonds, (iii) 125% of Annual Debt Service on First Tier Bonds, Second Tier Bonds and Third Tier Bonds, (iv) 110% of Annual Debt Service on First Tier Bonds, Second Tier Bonds, Third Tier Bonds and Subordinate Bonds, and (v) 100% of the aggregate amount of the required payments described in subsections (a) through (j) of Section 504 (“Application of Amounts in the Authority System Revenue Fund”) of the General Trust Indenture in the applicable Fiscal Year (taking into account the First Tier Bonds proposed to be issued and excluding any Bonds being refunded).

(ii) If the proposed Bonds are Second Tier Bonds, there shall be on file with the Trustee:

(A) (1) a certificate of the Authority stating the Authority System Revenue for (i) the most recent Fiscal Year for which audited financial statements are available or (ii) any 12 consecutive month period in the immediately prior 18 months, and (2) a certificate of the Authority stating that the Authority System Revenue shown in the certificate of the Authority described in (1) above, was at least equal to (i) 150% of the Maximum Annual Debt Service for all then-Outstanding First Tier Bonds and Second Tier Bonds, (ii) 125% of the Maximum Annual Debt Service for all then-Outstanding First Tier Bonds, Second Tier Bonds and Third Tier Bonds, (iii) 110% of the Maximum Annual Debt Service for all then Outstanding First Tier Bonds, Second Tier Bonds, Third Tier Bonds and Subordinate Bonds, and (iv) 100% of the aggregate amount of the required payments described in subsections (a) through (j) of Section 504 (“Application of Amounts in the Authority System Revenue Fund”) of the General Trust Indenture in the applicable Fiscal Year (taking into account the Second Tier Bonds proposed to be issued and excluding any Bonds being refunded); or

(B) (1) a certificate of the Traffic Consultant stating, based upon reasonable assumptions, the projected Authority Toll Revenue for the then-current Fiscal Year and each subsequent Fiscal Year through the last scheduled maturity of all Outstanding Bonds following the issuance of the additional First Tier Bonds, (2) a certificate of the Consulting Engineer stating, based upon reasonable assumptions, the projected Total System Expenses for the then-current Fiscal Year and each subsequent Fiscal Year through the last scheduled maturity of all Outstanding Bonds following the issuance of the additional Second Tier Bonds, and (3) a certificate of the Authority stating that, based upon the information contained in the certificates described in (1) and (2) above, the projected Authority System

Revenue for the then-current Fiscal Year and each subsequent Fiscal Year through the last scheduled maturity of all Outstanding Bonds following the issuance of the proposed Second Tier Bonds will be equal to or greater than (i) 150% of Annual Debt Service on First Tier Bonds and Second Tier Bonds, (ii) 125% of Annual Debt Service on First Tier Bonds, Second Tier Bonds and Third Tier Bonds, (iii) 110% of Annual Debt Service on First Tier Bonds, Second Tier Bonds, Third Tier Bonds and Subordinate Bonds, and (iv) 100% of the aggregate amount of the required payments described in subsections (a) through (j) of Section 504 (“Application of Amounts in the Authority System Revenue Fund”) of the General Trust Indenture in the applicable Fiscal Year (taking into account the Second Tier Bonds proposed to be issued and excluding any Bonds being refunded).

(iii) If the proposed Bonds are Third Tier Bonds, there shall be on file with the Trustee:

(A) (1) a certificate of the Authority stating the Authority System Revenue for (i) the most recent Fiscal Year for which audited financial statements are available or (ii) any 12 consecutive month period in the immediately prior 18 months, and (2) a certificate of the Authority stating that the Authority System Revenue shown in the certificate of the Authority described in (1) above, was at least equal to (i) 125% of the Maximum Annual Debt Service for all then-Outstanding First Tier Bonds, Second Tier Bonds and Third Tier Bonds, (ii) 110% of the Maximum Annual Debt Service for all then Outstanding First Tier Bonds, Second Tier Bonds, Third Tier Bonds and Subordinate Bonds, and (iii) 100% of the aggregate amount of the required payments described in subsections (a) through (j) of Section 504 (“Application of Amounts in the Authority System Revenue Fund”) of the General Trust Indenture in the applicable Fiscal Year (taking into account the Third Tier Bonds proposed to be issued and excluding any Bonds being refunded); or

(B) (1) a certificate of the Traffic Consultant stating, based upon reasonable assumptions, the projected Authority Toll Revenue for the then-current Fiscal Year and each subsequent Fiscal Year through the last scheduled maturity of all Outstanding Bonds following the issuance of the additional Third Tier Bonds, (2) a certificate of the Consulting Engineer stating, based upon reasonable assumptions, the projected Total System Expenses for the then-current Fiscal Year and each subsequent Fiscal Year through the last scheduled maturity of all Outstanding Bonds following the issuance of the additional Third Tier Bonds, and (3) a certificate of the Authority stating that, based upon the information contained in the certificates described in (1) and (2) above, the projected Authority System Revenue for the then-current Fiscal Year and each subsequent Fiscal Year through the last scheduled maturity of all Outstanding Bonds following the issuance of the proposed Third Tier

Bonds will be equal to or greater than (i) 125% of Annual Debt Service on First Tier Bonds, Second Tier Bonds and Third Tier Bonds, (ii) 110% of Annual Debt Service on First Tier Bonds, Second Tier Bonds, Third Tier Bonds and Subordinate Bonds, and (iii) 100% of the aggregate amount of the required payments described in subsections (a) through (j) of Section 504 (“Application of Amounts in the Authority System Revenue Fund”) of the General Trust Indenture in the applicable Fiscal Year (taking into account the Third Tier Bonds proposed to be issued and excluding any Bonds being refunded).

(iv) If the proposed Bonds are Completion Bonds, there shall be on file with the Trustee:

(A) a certificate of the Authority stating that the principal amount of such Completion Bonds does not exceed 10% of the aggregate principal amount of Bonds originally issued to finance the Project or the Additional Project, as applicable;

(B) a certificate of the Consulting Engineer setting forth the amount estimated to be needed to complete the Project to be financed with the Completion Bonds; and

(C) a certificate of the Authority stating that issuance of the Completion Bonds is necessary for the completion of the Project identified in the certificate delivered pursuant to (B) above, and that the proceeds of the Completion Bonds, together with other funds available therefor, will provide sufficient money for the completion of that Project.

(v) If the proposed Bonds are Emergency Repair Bonds, there shall be on file with the Trustee a certificate of (A) the Consulting Engineer stating that (1) the Costs for which those Emergency Repair Bonds are to be issued are necessary to restore a portion of the Authority System to a safe operating condition, and (2) the net proceeds of those Emergency Repair Bonds are not in excess of the amount necessary to pay the Costs of the emergency repairs and (B) of the Transportation Cabinet that funds are otherwise not available to the Transportation Cabinet or the Authority to pay the Costs of the Emergency Repairs.

(vi) When (i) Bonds are to be issued after the date that an Authorized Officer notifies the Trustee in writing that an Additional Project has been or will be added to the Authority System and (ii) the Authority System Revenue is not sufficient to satisfy the requirements of subsection (b)(i)(A), (b)(ii)(A) or (b)(iii)(A) above, as applicable, then the certificate of the Traffic Consultant set forth in subsection (b)(i)(B)(1), (b)(ii)(B)(1) or (b)(iii)(B)(1) above, as applicable, may include the Authority Toll Revenue projected to result from such Additional Project. In addition, prior to the issuance of Bonds to pay the Costs of an Additional Project, the Authority shall deliver to the Trustee an amendment or

supplement to the Lease Agreement providing that the Additional Project will be subject to the Lease Agreement under the same terms and conditions as the then existing Project.

(vii) If the proposed Bonds are to bear interest payable pursuant to a variable interest rate, so long as TIFIA Bonds are Outstanding, the requirements of the TIFIA Loan Agreement related to variable interest rate indebtedness shall be satisfied.

Conditions to Issuance of Subordinate Bonds and Bond Anticipation Obligations. The Authority has been authorized to issue Subordinate Bonds for any Project upon satisfaction of the conditions set forth in Sections 202 (“Authorization of Bonds”) and 203 (“Authorization For Bonds In Series; Contents of Series Trust Indentures”) of the General Trust Indenture as well as the additional conditions set forth in Section 205 (“Conditions to Issuance of Subordinate Bonds and Bond Anticipation Obligations”) of the General Trust Indenture.

Subordinate Bonds shall only be issued under the General Trust Indenture if (i) the Series Trust Indenture authorizing the issuance of such Subordinate Bonds expressly provides that such Subordinate Bonds are secured by the Trust Estate on a basis subordinate and inferior to the pledges made to the Holders of First Tier Bonds, Second Tier Bonds and Third Tier Bonds, (ii) no Default or Event of Default under the General Trust Indenture shall have occurred and be continuing, unless such Default or Event of Default will be cured by the issuance of such Series of Subordinate Bonds, and (iii) there shall have been first delivered to the Trustee (A) a certificate setting forth the Authority System Revenue for the most recent Fiscal Year for which audited financial statements are available or any 12 consecutive month period in the immediately prior 18 months, and (B) a certificate of the Authority demonstrating that the Authority System Revenue shown in the certificate of the Authority described in (A) above, was at least equal to (i) 110% of the Maximum Annual Debt Service for all then Outstanding First Tier Bonds, Second Tier Bonds and Third Tier Bonds and Subordinate Bonds (taking into account the Subordinate Bonds proposed to be issued and excluding any Bonds being refunded) and (ii) 100% of the aggregate amount of the required payments described in subsections (a) through (j) of Section 504 (“Application of Amounts in the Authority System Revenue Fund) of the General Trust Indenture in the applicable Fiscal Year. Each Series of Subordinate Bonds issued under authority of Section 205 (“Conditions to Issuance of Subordinate Bonds and Bond Anticipation Obligations”) of the General Trust Indenture shall state on their face that such Series of Subordinate Bonds is being issued on a basis subordinate and inferior as to the pledge of Pledged Receipts to all Outstanding First Tier Bonds, Second Tier Bonds and Third Tier Bonds and all Series of First Tier Bonds, Second Tier Bonds and Third Tier Bonds which may thereafter be issued in compliance with the General Trust Indenture.

No payment on Subordinate Bonds shall be made from the Trust Estate during any period in which any Event of Default under Section 1002(a), (b) or (c) (“Events of Default”) of the General Trust Indenture shall have occurred and be continuing.

Notwithstanding any provision of Section 204 (“Conditions to Issuance of Bonds”) of the General Trust Indenture, and as additional authority, whenever the Authority shall have authorized or made provision for the issuance of a Series of Bonds that satisfies the requirements

of Section 204 (“Conditions to Issuance of Bonds”) of the General Trust Indenture, the Authority may by resolution authorize the issuance of Bond Anticipation Obligations in a principal amount not exceeding the principal amount of such Series. Upon the issuance of Bond Anticipation Obligations in compliance with the provisions of this paragraph, proceeds of the Series of Bonds in anticipation of which such Bond Anticipation Obligations are issued may be pledged for the payment of the principal of such Bond Anticipation Obligations and any such pledge shall have priority over any other pledge created by the General Trust Indenture or any Series Trust Indenture. Furthermore, the Series Trust Indenture authorizing the issuance of such Bond Anticipation Obligations may provide that such Bond Anticipation Obligations are secured by the Trust Estate on a basis subordinate and inferior to the pledges made to the Holders of Outstanding Bonds without meeting the requirements of clause (iii) in the first paragraph of this Section. The proceeds of sale of such Bond Anticipation Obligations shall be applied to the purposes for which the related Series of Bonds are authorized, and, if the resolution or resolutions authorizing such Bond Anticipation Obligations so provides, to the payment of interest and other costs in connection with the sale and issuance of such Bond Anticipation Obligations.

Provisions for Refunding Bonds.

(a) One or more Series of Refunding Bonds may be authenticated and delivered to refund all Outstanding Bonds or any Series of Outstanding Bonds or any part of one or more Series of Outstanding Bonds or any other bonds or obligations of the Authority. If a Series of Refunding Bonds are being issued for the purpose of refunding all or a portion of one or more Series of Bonds of the same Tier as the Series of Refunding Bonds to be issued, or a senior Tier (i.e., the number of the Tier of the Series of Refunding Bonds is equal to or greater than the number of the Tier of the Bonds to be refunded), the Authority shall deliver to the Trustee evidence that the Annual Debt Service (taking into account the issuance of the proposed Bonds, but excluding the Bonds to be refunded with the proceeds of the proposed Refunding Bonds) will not increase by more than \$5,000 in any Fiscal Year through the last scheduled maturity of Outstanding Bonds following the issuance of the Series of Refunding Bonds. Any Series of Refunding Bonds shall be issued in a principal amount sufficient, together with other moneys available therefor, to accomplish such refunding and to make such deposits required by the provisions of the Act, Section 206 (“Provisions for Refunding Bonds”) of the General Trust Indenture and of the Series Resolution and Series Trust Indenture authorizing said Series of Refunding Bonds.

A Series of Refunding Bonds may be issued without meeting the requirements of the preceding paragraph so long as the requirements of Section 204 (“Conditions to Issuance of Bonds”) of the General Trust Indenture are satisfied.

(b) The Bonds of the Series of Refunding Bonds may be authenticated and delivered only upon receipt by the Trustee (in addition to the receipt by it of the documents required by Article II (“Authorization and Issuance of Bonds”) of the General Trust Indenture) of:

(i) irrevocable instructions to the Trustee, satisfactory to it, to give due notice of redemption of all the Bonds to be refunded on the Redemption Date specified in such instructions;

(ii) instructions to the Trustee, satisfactory to it to provide the notice as required in Section 603 (“Notice of Redemption”) of the General Trust Indenture to the Holders of Outstanding Bonds being refunded;

(iii) Either:

(A) moneys in an amount sufficient to effect payment at the applicable Redemption Price of the Bonds to be refunded, together with accrued interest on such Bonds to the Redemption Date, shall be held by the Trustee or any one or more of the Paying Agents in a separate account irrevocably in trust for the payment of the Bonds being refunded, or

(B) Defeasance Obligations in such principal amounts, having such maturities, bearing such interest, and otherwise having such terms and qualifications as shall be necessary to comply with the provisions of subsection (b) of Section 1201 (“Defeasance”) of the General Trust Indenture and any moneys required pursuant to said subsection (with respect to all Outstanding Bonds or any part of one or more Series of Outstanding Bonds being refunded) shall be held by the Trustee or any one or more of the Paying Agents in a separate account irrevocably in trust and used only as provided in said subsection; and

(iv) A certificate of an Authorized Officer containing such additional statements as may be reasonably necessary to show compliance with the requirements of this subsection, and the Trustee shall be entitled to rely on such certificate.

(c) The Trustee shall furnish to the Authority at the time and delivery of the Series of Refunding Bonds a certificate stating that it holds in trust the moneys and/or Defeasance Obligations required to effect such redemption on the date specified in such certificate, which moneys and/or Defeasance Obligations have been determined to be sufficient to effect the redemption at the stated time and prices as set forth in a verification report.

(d) Any balance of the proceeds of the Bonds of each such Series shall be deposited in such Funds or Accounts as shall be specified in a certificate of an Authorized Officer specifying such deposits.

(e) Any moneys received from any source upon the condition that the Authority use such moneys for the redemption of any Outstanding Bonds shall be deemed to be and treated as the proceeds of a Series of Refunding Bonds and the Authority shall deliver to the Trustee the documents and moneys or obligations required by the provisions of subsections (i), (ii) and (iii) of subsection (b) of Section 206 (“Provisions for Refunding Bonds”) of the General Trust Indenture and shall do all other

acts and things necessary to accomplish the redemption of such Bonds, in accordance with applicable provisions described above.

**ESTABLISHMENT OF FUNDS AND ACCOUNTS;
APPLICATION OF PLEDGED RECEIPTS**

The Pledge Effected By The General Trust Indenture. Subject to the Granting Clauses,

(a) There has been pledged for the payment of the principal of, interest on, Redemption Price of, and purchase price of the Bonds, and obligations due under Credit Facilities, Reimbursement Agreements and Hedge Facilities, in accordance with their terms and the provisions of the General Trust Indenture subject only to the provisions of the General Trust Indenture permitting the application thereof for or to the purposes and on the terms and conditions set forth in the General Trust Indenture, (i) the proceeds of sale of the Bonds to the extent not required to be utilized for payment of Bond Anticipation Obligations or otherwise as provided in the General Trust Indenture, (ii) Investment Obligations acquired from Bond proceeds or by application of moneys in Funds and Accounts (subject to the limitations of (iv) below), (iii) the Pledged Receipts, (iv) all Funds and Accounts created and established pursuant to the General Trust Indenture and any Series Trust Indenture, except for the Rebate Fund, the General O&M Reserve Fund, the M&R Reserve Fund, the Tolling O&M Reserve Fund and the General Reserve Fund, (v) amounts paid to or for the Authority pursuant to any Credit Facility, and (vi) such other funds and moneys, including Federal Credit Payments, as are pledged to the payment of Bonds or a Series of Bonds under the provisions of any Series Trust Indenture.

(b) Except as otherwise provided for in Section 1012 (“TIFIA Bond Default Remedy”) of the General Trust Indenture or in a Series Trust Indenture, all Bonds issued under the General Trust Indenture and at any time Outstanding shall be equally and ratably secured, with the same right, pledge and preference with all other Outstanding Bonds of the same Tier, without preference, priority or distinction on account of the date or dates or the actual time or times of the issuance or maturity of the Bonds of the same Tier. Bonds issued under the General Trust Indenture shall have a right, pledge and preference to payment from Pledged Receipts in the following order of priority: (1) First Tier Bonds; (2) Second Tier Bonds; and (3) Third Tier Bonds. Section 1012 (“TIFIA Bond Default Remedy”) of the General Trust Indenture describes the circumstances under which TIFIA Bonds will be deemed to be and will automatically become First Tier Bonds. Subordinate Bonds issued under the General Trust Indenture shall have rights, pledges and preferences to payment from Pledged Receipts that are subordinate to First Tier Bonds, Second Tier Bonds and Third Tier Bonds. The fees and expenses under a Reimbursement Agreement or Credit Facility that are not reimbursements of draws under the Credit Facilities shall be payable as General O&M Expenses and Hedge Termination Payments shall be secured solely from the General Reserve Fund. Nothing in the General Trust Indenture shall be construed to preclude the creation of separate reserve funds or the obtaining of separate surety bonds, insurance policies and other Credit Facilities and Hedge Facilities for any Series of Bonds in accordance with the terms of the General

Trust Indenture, which may or may not be pledged to the payment of other Series of Bonds.

(c) Except as otherwise provided for in Section 1012 (“TIFIA Bond Default Remedy”) of the General Trust Indenture, all Bonds of a particular Series shall in all respects be equally and ratably secured and shall have the same right and pledge preference established for the benefit of that Series of Bonds, including, without limitation, rights to the Funds and Accounts securing payment of that Series of Bonds. Amounts drawn under a Credit Facility and Hedge Payments with respect to a particular Series and all other amounts held in accounts established with respect to that Series pursuant to the provisions of the General Trust Indenture and the Series Resolution and Series Trust Indenture providing for the terms of that Series shall be applied solely to make payments on that Series of Bonds.

(d) The proceeds of the Bonds, the Investment Obligations, the Pledged Receipts and all Funds and Accounts created and established pursuant to the General Trust Indenture and any Series Trust Indenture, except as provided in subsection (a) above, and moneys and securities therein, have been pledged, as well as other funds and moneys pledged pursuant to Series Trust Indentures, including Federal Credit Payments, shall immediately be subject to the lien of the pledge of Section 501 (“The Pledge Effected by the General Trust Indenture”) of the General Trust Indenture without any physical delivery thereof or further act, and the lien of said pledge shall be valid and binding as against all parties having claims of any kind in tort, contract or otherwise against the Authority, irrespective of whether such parties have notice thereof.

Notwithstanding the pledges set forth in the General Trust Indenture, only Pledged Receipts that are not Federal Credit Payments shall be applied to the payment of the principal of or interest on TIFIA Bonds.

Nothing contained in the General Trust Indenture shall prevent the Authority from issuing additional obligations in accordance with the requirements described above under “Conditions to Issuance of Subordinate Bonds and Bond Anticipation Obligations,” with a pledge position that is subordinate to the pledge position of the Third Tier Bonds.

In accordance with the requirements of the Development Agreement, it has been acknowledged that no amounts of principal and interest on the Bonds are payable from the Indiana Revenue Share, as defined in the Development Agreement.

Establishment of Funds and Accounts. The Authority under the terms of the General Trust Indenture upon the effective date of the General Trust Indenture has formally established and affirmed, separate and apart from all other funds and accounts of the Authority, the following special trust funds and the following Accounts within such Funds:

- (a) Authority System Revenue Fund, to be held by the Trustee
- (b) Project Funds, to be held by the Authority
- (c) Cost of Issuance Fund, to be held by the Trustee
- (d) Debt Service Fund, to be held by the Trustee

- (i) First Tier Debt Service Account
- (ii) First Tier Common Debt Service Reserve Account and within such Account, a "Proceeds Subaccount" and a "Revenue Subaccount"
- (iii) Second Tier Debt Service Account
- (iv) Second Tier Common Debt Service Reserve Account
- (v) Third Tier Debt Service Account and a TIFIA Bonds subaccount and Non TIFIA Bonds subaccount thereof
- (vi) Third Tier Common Debt Service Reserve Account
- (e) Redemption Fund, to be held by the Trustee
- (f) Tolling O&M Reserve Fund, to be held by the Trustee
- (g) General O&M Reserve Fund, to be held by the Trustee
- (h) M&R Reserve Fund, to be held by the Trustee
- (i) Lease Payment Fund, to be held by the Trustee
- (j) General Reserve Fund, to be held by the Trustee
- (k) Rebate Fund, to be held by the Trustee
- (l) Such other Funds and Accounts as are created by a Series Trust Indenture not inconsistent with the requirements of the General Trust Indenture, including without limitation a Series Debt Service Reserve Account and Funds and Accounts relating to the purchase and payment of Bonds secured by Credit Facilities.

Each of the above Funds and Accounts, in addition to other Accounts from time to time established, shall be held and maintained by the Trustee or the Authority, as applicable, pursuant to the provisions of the General Trust Indenture and any Series Trust Indenture.

Deposit and Application of Funds. Pledged Receipts and other moneys received by the Authority shall be deposited in the Funds and Accounts, as follows:

(a) Except as provided in Subsections (b), (c), (d), (e) and (f) below or not otherwise required to be deposited in another Fund or Account by the terms of the General Trust Indenture, all Pledged Receipts and other moneys received by the Authority shall be deposited in the Authority System Revenue Fund.

(b) Rent received with respect to the Tolling O&M Reserve Fund Requirement under Section 4.02(i) ("Rent") of the Lease Agreement shall be deposited, when received, in the Tolling O&M Reserve Fund.

(c) Rent received with respect to the General O&M Reserve Fund Requirement under Section 4.02(ii) ("Rent") of the Lease Agreement shall be deposited, when received, in the General O&M Reserve Fund.

(d) Rent received with respect to the M&R Reserve Fund Requirement under Section 4.02(iii) ("Rent") of the Lease Agreement shall be deposited, when received, in the M&R Reserve Fund.

(e) Investment earnings from the investment of moneys in any Fund and Account shall be transferred to the Authority System Revenue Fund; provided that (i)

investment earnings from the investment of moneys in a Project Fund and the Rebate Fund shall be deemed at all times to be a part of such Funds and the income or interest earned, gains realized or losses suffered by such Funds due to the investment thereof shall be retained in, credited or charged thereto as the case may be and (ii) amounts required to be transferred to the Rebate Fund shall be transferred thereto at the times and in the amounts, from the applicable Funds or Accounts, to comply with the requirements of the Code; provided that earnings on any Fund created for the payment of capitalized interest may be retained in such Fund, or as otherwise provided in a Series Trust Indenture and earnings on a Debt Service Reserve Account may be applied as otherwise provided in the Series Trust Indenture creating that Debt Service Reserve Account.

(f) Pledged Receipts and amounts to be deposited in Funds and Accounts created by a Series Trust Indenture, including Federal Credit Payments, may be deposited and transferred in accordance with the requirements of such Series Trust Indenture.

(g) Amounts in the Tolling O&M Reserve Fund, the General O&M Reserve Fund, the M&R Reserve Fund and the General Reserve Fund (subject to the requirements regarding transfers set forth in Sections 509 (“Tolling O&M Reserve Fund”) of the General Trust Indenture, 510 (“General O&M Reserve Fund”) of the General Trust Indenture, 511 (“M&R Reserve Fund”) of the General Trust Indenture and 513 (“General Reserve Fund”) of the General Trust Indenture, respectively) shall be transferred to the Debt Service Fund.

Application of Amounts in the Authority System Revenue Fund. Amounts in the Authority System Revenue Fund shall be applied on the 25th day of each month (or, if such 25th day is not a Business Day, on the next Business Day) solely for the purposes, in the amounts, and at the times set forth in this Section. The Trustee shall make payments and transfer to reserve funds, as applicable, in the order of priority set forth below, but as to each purpose, only within the limitations with respect thereto and only after payment has been brought current for every preceding purpose described in the following listing. To the extent that amounts available in the Authority System Revenue Fund are sufficient only to partially provide for one of the purposes described in (a) - (f), the available amount shall be allocated on a pro rata basis among the Series of Bonds in the applicable Tier. For purposes of the Section 504 (“Application of Amounts in the Authority System Revenue Fund”) of the General Trust Indenture, Accreted Value shall be treated as “principal” in the amount of incremental Accreted Value accrued since the most recent allocation of an amount of Accreted Value as principal. With respect to individual Series of Bonds, each related Series Trust Indenture shall specify the month in which the deposits required by Section 504 (“Application of Amounts in the Authority System Revenue Fund”) of the General Trust Indenture into the respective Debt Service Accounts are to commence.

(a) To the First Tier Debt Service Account, the following amounts with respect to each Series of First Tier Bonds, taking into account amounts already on deposit therein:

(i) If interest (or Hedge Payments) on the Series of First Tier Bonds is payable monthly, an amount equal to the interest (or Hedge Payments) coming

due on that Series of First Tier Bonds on the next succeeding Bond Interest Payment Date for that Series;

(ii) If interest (or Hedge Payments) on the Series of First Tier Bonds is payable other than monthly, an amount equal to the amount of interest coming due on that Series of First Tier Bonds on the next Bond Interest Payment Date divided by the number of months to and including such Bond Interest Payment Date (for example, if interest is payable semiannually, 1/6th of the next interest payment shall be deposited each month beginning in the month that the preceding Bond Interest Payment Date occurred); and

(iii) The principal of the Series of First Tier Bonds coming due on the next date for payment of principal of that Series of First Tier Bonds divided by the number of months to and including such principal payment date (for example, if principal is payable annually, 1/12th of the next principal payment shall be deposited each month beginning in the month that the preceding Bond Principal Payment Date occurred); provided that required deposits with respect to a Balloon Maturity shall be adjusted as provided under the definition of Annual Debt Service and no such deposits shall be required for Bond Anticipation Obligations; provided that, upon and during the continuance of a Bankruptcy Related Event, references to First Tier in this paragraph shall also include Third Tier (with respect to TIFIA Bonds only) so that amounts in the Authority System Revenue Fund will be applied to TIFIA Bonds in the same manner as First Tier Bonds, as if TIFIA Bonds were First Tier Bonds.

(b) In priority order, first to the Revenue Subaccount of the First Tier Common Debt Service Reserve Account and second in each Series Debt Service Reserve Account, the amount necessary to cause the amount on deposit therein to equal the applicable Debt Service Reserve Requirement, or to reimburse a Credit Provider for a draw on a Credit Facility; provided that such amount shall be deposited in 12 equal, consecutive, monthly installments, the first such installment to be due in the calendar month next succeeding the month in which the deficiency exists; provided, that from and after the occurrence of a Bankruptcy Related Event affecting the Authority, the Debt Service Reserve Requirement for the First Tier Common Debt Service Reserve Account shall be increased by the amount of the Debt Service Reserve Requirement in respect of the TIFIA Bond. If in any month amounts are not available in the Authority System Revenue Fund to make such deposit, the Trustee shall so notify the Authority.

(c) To the Second Tier Debt Service Account, the following amounts with respect to each Series of Second Tier Bonds, taking into account amounts already on deposit therein:

(i) If interest (or Hedge Payments) on the Series of Second Tier Bonds is payable monthly, an amount equal to the interest (or Hedge Payments) coming due on that Series of Second Tier Bonds on the next succeeding Bond Interest Payment Date for that Series;

(ii) If interest (or Hedge Payments) on the Series of Second Tier Bonds is payable other than monthly, an amount equal to the amount of interest coming due on that Series of Second Tier Bonds on the next Bond Interest Payment Date divided by the number of months to and including such Bond Interest Payment Date; and

(iii) The principal of the Series of Second Tier Bonds coming due on the next date for payment of principal of that Series of Second Tier Bonds divided by the number of months to and including such principal payment date); provided that required deposits with respect to a Balloon Maturity shall be adjusted as provided under the definition of Annual Debt Service and no such deposits shall be required for Bond Anticipation Obligations.

(d) To the Second Tier Debt Service Reserve Accounts the amount, if any, necessary to restore the amounts on deposit therein to the applicable Debt Service Reserve Requirement(s), or to reimburse a Credit Provider for a draw on a Credit Facility in the Second Tier Debt Service Reserve Account; provided that such amount shall be deposited in 12 equal, consecutive, monthly installments, the first such installment to be due in the calendar month next succeeding the month in which the applicable deficiency arose. If in any month amounts are not available in the Authority System Revenue Fund to make such deposit, the Trustee shall so notify the Transportation Cabinet.

(e) To the Third Tier Debt Service Account and to the TIFIA Bonds subaccount and Non TIFIA Bonds subaccount, as applicable, the following amounts with respect to each Series of Third Tier Bonds, taking into account amounts already on deposit therein:

(i) If interest (or Hedge Payments) on the Series of Third Tier Bonds is payable monthly, an amount equal to the interest (or Hedge Payments) coming due on that Series of Third Tier Bonds on the next succeeding Bond Interest Payment Date for that Series;

(ii) If interest (or Hedge Payments) on the Series of Third Tier Bonds is payable other than monthly, an amount equal to the amount of interest coming due on that Series of Third Tier Bonds on the next Bond Interest Payment Date divided by the number of months to and including such Bond Interest Payment Date; and

(iii) The principal of the Series of Third Tier Bonds coming due on the next date for payment of principal of that Series of Third Tier Bonds divided by the number of months to and including such principal payment date); provided that required deposits with respect to a Balloon Maturity shall be adjusted as provided under the definition of Annual Debt Service and no such deposits shall be required for Bond Anticipation Obligations;

provided further that, only Pledged Receipts that are not Federal Credit Payments shall be deposited in the TIFIA Bonds subaccount and applied to the payment of the principal of or interest on TIFIA Bonds.

(f) To the Third Tier Debt Service Reserve Accounts the amount, if any, necessary to restore the amounts on deposit therein to the applicable Debt Service Reserve Requirement(s), or to reimburse a Credit Provider for a draw on a Credit Facility in the Third Tier Debt Service Reserve Account; provided that such amount shall be deposited in 12 equal, consecutive, monthly installments, the first such installment to be due in the calendar month next succeeding the month in which the applicable deficiency arose. If in any month amounts are not available in the Authority System Revenue Fund to make such deposit, the Trustee shall so notify the Transportation Cabinet; provided that, after a Bankruptcy Related Event in accordance with Section 1012 of the General Trust Indenture, unless a deposit in the Third Tier Debt Service Reserve Account is required to reimburse a Credit Provider for a draw on a Credit Facility, no further deposits shall be made to a Third Tier Debt Service Reserve Account established for the purpose of paying the principal of and interest on TIFIA Bonds.

(g) To the Tolling O&M Reserve Fund, an amount necessary to maintain a balance therein equal to the amount determined in accordance with Section 509 (“Tolling O&M Reserve Fund”) of the General Trust Indenture.

(h) To the General O&M Reserve Fund, an amount necessary to maintain a balance therein equal to the amount determined in accordance with Section 510 (“General O&M Reserve Fund”) of the General Trust Indenture.

(i) To the M&R Reserve Fund, an amount necessary to maintain a balance therein equal to the amount determined in accordance with Section 511 (“M&R Reserve Fund”) of the General Trust Indenture.

(j) To the Lease Payment Fund, the amount, if any, required to fund or repay Lease Payments, as provided in each Lease Agreement then in force and effect.

(k) To the General Reserve Fund, all remaining amounts.

Cost of Issuance Fund. The Trustee has established and created a Cost of Issuance Fund for each Series of Bonds and shall identify each such separate Fund by inserting in the designation therefor the year, letter or other designation of the Bonds of such Series. There shall be deposited from time to time in the Cost of Issuance Fund established for each Series the amount of moneys necessary to pay the Costs of Issuance of such Series specified and determined in the Series Trust Indenture authorizing the issuance of such Series. The Trustee shall from time to time pay out moneys from the Cost of Issuance Fund to pay any Costs of Issuance, free and clear of any lien or pledge or assignment in trust created by Article V (“Establishment of Funds and Accounts; Application of Pledged Receipts”) of the General Trust Indenture, for the purpose of paying in the manner authorized in the General Trust Indenture any Costs of Issuance of the Series for which such Fund was established. The Trustee shall keep and

maintain complete and detailed records with respect to each Cost of Issuance Fund, which shall include a separate accounting with respect to funds and moneys in each Cost of Issuance Fund.

At such time as all moneys due to be disbursed from a Cost of Issuance Fund have been so disbursed and paid, and the Trustee has received a certificate executed by an Authorized Officer of the Authority to such effect, any balance in such Fund shall be transferred by the Trustee to the Account of the Redemption Fund or the Account of the Debt Service Fund established for the Series of Bonds issued to fund such Account, as directed by an Authorized Officer.

Project Fund.

(a) The Authority has established and created a Project Fund for each Series of Bonds, which may be a single Project Fund for Bonds issued on the same date, and shall identify each such separate Fund by inserting in the designation therefor the year, letter or other designation of the Bonds of such Series. Each Project Fund shall be held by the Authority in accordance with the provisions of KRS Section 175B.075.

(b) Moneys credited to a Project Fund shall be expended only for the purpose of paying Costs of the Project, subject to the provisions and restrictions of this Section and the particular Series Trust Indenture. The Authority shall from time to time pay out moneys from a Project Fund to pay any Costs of the Project, free and clear of any lien or pledge or assignment in trust created by the General Trust Indenture, for the purpose of paying in the manner authorized in the General Trust Indenture any Costs of the Project:

(c) The Authority shall keep and maintain complete and detailed records with respect to each Project Fund.

(d) The Authority shall invest and reinvest the moneys in a Project Fund as provided in Section 515 (“Investment of Funds”) of the General Trust Indenture. All Investment Obligations purchased shall be held by the Authority and shall be deemed at all times to be part of the applicable Project Fund.

Debt Service Fund. There shall be deposited in the Debt Service Fund the amounts required by Sections 503 (“Deposit and Application of Funds”), 504 (“Application of Amounts in the Authority System Revenue Fund”), 505 (“Cost of Issuance Fund”), 509 (“Tolling O&M Reserve Fund”), 510 (“General O&M Reserve Fund”), 511 (“M&R Reserve Fund”), 512 (“Lease Payment Fund”), 513 (“General Reserve Fund”) and 515 (“Investment of Funds”) of the General Trust Indenture.

(a) First Tier Debt Service Account.

(i) Amounts in the First Tier Debt Service Account shall be used to pay the principal of and interest on the First Tier Bonds (or Hedge Payments, as applicable) when due in accordance with the terms of the related Series Trust Indenture, subject to the limitations on the use of amounts in the First Tier Debt Service Reserve Account set forth in paragraph (b)(ii) below. However, if so provided in the Series Trust Indenture creating a Series of First Tier Bonds, while

there is a Credit Facility in effect with respect to that Series of First Tier Bonds, amounts in the First Tier Debt Service Account may be used to reimburse the Credit Provider of that Credit Facility for interest, principal or Redemption Price, respectively, made to Holders of those First Tier Bonds with funds provided by that Credit Provider to the extent that those reimbursement obligations of the Authority are secured as First Tier Bonds by this General Trust Indenture. Amounts in the First Tier Debt Service Account shall be pledged to Holders of First Tier Bonds.

(ii) In the event that on the Business Day preceding any Bond Payment Date the amount in the First Tier Debt Service Account shall be less than the amount required for payment of the interest on and the principal of the Outstanding First Tier Bonds due and payable on that Bond Payment Date, the Trustee shall withdraw (to the extent permitted with respect to each Fund or Account) the amount necessary to increase the amount on deposit in the First Tier Debt Service Account to the requirement therefor from, in the following order: (1) the General Reserve Fund; (2) the Lease Payment Fund; (3) the M&R Reserve Fund; (4) the General O&M Reserve Fund; (5) the Tolling O&M Reserve Fund (but only to the extent provided in Section 509 (“Tolling O&M Reserve Fund”) of the General Trust Indenture; (6) the First Tier Debt Service Reserve Account, if any, that secures the applicable Series of Bonds; and (7) any other money of the Authority legally available therefor.

(iii) When First Tier Bonds are redeemed or purchased, the amount, if any, in the First Tier Debt Service Account that has been deposited to pay interest thereon shall be applied to the payment of accrued interest in connection with that redemption or purchase. Whenever the aggregate amount in the First Tier Debt Service Account and the First Tier Debt Service Reserve Accounts is sufficient to redeem all of the Outstanding First Tier Bonds and to pay interest accrued to the Redemption Date, the Authority shall redeem all First Tier Bonds on the applicable Redemption Date at the applicable Redemption Price. Any amounts remaining in the First Tier Debt Service Account and the First Tier Debt Service Reserve Accounts after payment in full of the principal or Redemption Price, and interest on the First Tier Bonds (or provision for payment thereof) shall be transferred to the Authority System Revenue Fund.

(b) First Tier Debt Service Reserve Accounts.

(i) Pursuant to any Series Trust Indenture providing for the issuance of a Series of First Tier Bonds, the Authority may:

(A) provide that the Series will be secured by the First Tier Common Debt Service Reserve Account and within such Account, a Proceeds Subaccount and a Revenue Subaccount,

(B) establish a Series Debt Service Reserve Account, which shall have its own Debt Service Reserve Requirement, and provide that the Series will be secured by that Series Debt Service Reserve Account, or

(C) provide that the Series will not be secured by any Debt Service Reserve Account.

(ii) Subject to the requirements and limitations of this subsection (ii), amounts in a First Tier Debt Service Reserve Account shall be used to pay debt service on the First Tier Bonds secured by that First Tier Debt Service Reserve Account on the date such debt service is due, including debt service on TIFIA Bonds that have become First Tier Bonds due to the occurrence of a Bankruptcy Related Event of the Authority, when sufficient funds for that purpose are not available in the First Tier Debt Service Account. Amounts on deposit in the Revenue Subaccount of the First Tier Debt Service Reserve Account shall be applied to the payment of debt service on all First Tier Bonds, including TIFIA Bonds, and amounts in the Proceeds Subaccount of the First Tier Common Debt Service Reserve Account shall be used only for the payment of debt service on First Tier Bonds that are not TIFIA Bonds (the "Original First Tier Bonds"); provided that, any amounts remaining in a Third Tier Debt Service Reserve Account related to TIFIA Bonds (a "TIFIA Debt Service Reserve Account") shall be used to pay debt service on TIFIA Bonds prior to using amounts in the Revenue Subaccount of the First Tier Debt Service Reserve Account. Following the occurrence of a Bankruptcy Related Event of the Authority, if amounts in the First Tier Debt Service Account are not sufficient to pay all amounts then due on all First Tier Bonds (including the TIFIA Bond), amounts shall be drawn first from the Proceeds Subaccount of the First Tier Debt Service Reserve Account to pay amounts then due on the Original First Tier Bonds until no funds remain in such Proceeds Subaccount prior to using amounts in the Revenue Subaccount of the First Tier Debt Service Reserve Account for such purpose. If amounts in the Proceeds Subaccount of the First Tier Debt Service are not sufficient to pay the full amount then due on the Original First Tier Bonds as of any Bond Payment Date, amounts on deposit in the Revenue Subaccount of the First Tier Debt Service Reserve Fund shall be allocated between the Original First Tier Bonds and the TIFIA Bond ratably on the basis of the aggregate amounts payable as of such Bond Payment Date on all First Tier Bonds (including the TIFIA Bond) after the application of any remaining amounts in the Proceeds Subaccount of the First Tier Debt Service Reserve Fund to payments in respect of the Original First Tier Bonds.

(iii) In lieu of or in addition to cash or investments, at any time the Authority may cause to be deposited to the credit of a First Tier Debt Service Reserve Account any form of Credit Facility, in an amount up to the related Debt Service Reserve Requirement, irrevocably payable to the Authority as beneficiary for the Holders of the First Tier Bonds secured by that First Tier Debt Service Reserve Account, provided that the Authority has received evidence satisfactory to it that (1) at the time of the initial delivery of the Credit Facility the Credit

Provider has a credit rating in one of the two highest credit rating categories by two Rating Agencies then rating the Bonds of such Series, (2) the obligation of the Authority to reimburse the Credit Provider is secured in the same manner as withdrawals from the First Tier Debt Service Reserve Accounts and payment of fees and ordinary expenses of the Credit Provider that are not reimbursements for draws are subordinate to its obligation to pay debt service on the First Tier Bonds, (3) the term of the Credit Facility is at least 24 months, (4) except as provided in the next sentence of this subsection, the only condition to a drawing under the Credit Facility is insufficient amounts in the First Tier Debt Service Account when needed to pay debt service on the First Tier Bonds secured by that First Tier Debt Service Reserve Account or the expiration of the Credit Facility, and (5) the Credit Provider shall notify the Authority at least six months prior to expiration of the Credit Facility. If (A) the Authority receives an expiration notice with respect to the Credit Facility and the Credit Provider does not extend the expiration date of the Credit Facility or (B) the Authority receives notice of the termination of the Credit Facility, the Authority shall (X) provide a substitute Credit Facility that meets the requirements set forth in the foregoing sentences, (Y) deposit the applicable Debt Service Reserve Requirement to that First Tier Debt Service Reserve Account (1) in the manner provided in the Series Trust Indenture pursuant to which the relevant First Tier Bonds are issued, or (2) prior to the termination date in the case of receipt of a termination notice, or (Z) draw on the Credit Facility in the amount of the related Debt Service Reserve Requirement (1) in the manner provided in the Series Trust Indenture pursuant to which the relevant First Tier Bonds are issued, or (2) prior to the termination date in the case of receipt of a termination notice, and deposit those draw proceeds in the First Tier Debt Service Reserve Account.

(iv) Amounts, if any, released from a First Tier Debt Service Reserve Account upon deposit to the credit of that First Tier Debt Service Reserve Account of a Credit Facility pursuant to subsection (iii) above shall, upon designation by the Authority, accompanied by a Counsel's Opinion that such use will not adversely affect the exclusion from gross income for federal income tax purposes of interest on any Bonds secured by the relevant First Tier Debt Service Reserve Account that are Tax-Exempt Bonds or the receipt of Federal Credit Payments by the Authority or federal tax credits by the Beneficial Owners in respect of any Bonds secured by the relevant First Tier Debt Service Reserve Account that are Tax-Advantaged Bonds, be transferred (1) to the First Tier Debt Service Account and used to pay principal of or to redeem those First Tier Bonds or (2) to the Project Fund with respect to the applicable Series of First Tier Bonds, and used for payment of Costs of the Project financed by that Series.

(v) In the event that amounts have been withdrawn from, or drawn on a Credit Facility in, a First Tier Debt Service Reserve Account for the purpose of paying principal and interest on the First Tier Bonds when due, the Authority shall replenish the amount on deposit, or reinstate the Credit Facility, in the applicable First Tier Debt Service Reserve Account in accordance with Section 504 ("Application of Amounts in the Authority System Revenue Fund") of the

General Trust Indenture until the amount therein is equal to the Debt Service Reserve Requirement for First Tier Bonds to which that First Tier Debt Service Reserve Account is pledged, which amount shall include the amount of the Debt Service Reserve Requirement in respect of the TIFIA Bond from and after a Bankruptcy Related Event affecting the Authority.

(c) Second Tier Debt Service Account.

(i) Amounts in the Second Tier Debt Service Account shall be used to pay the principal of and interest on the Second Tier Bonds (or Hedge Payments, as applicable) when due in accordance with the terms of the related Series Trust Indenture. However, if so provided in the Series Trust Indenture creating a Series of Second Tier Bonds, while there is a Credit Facility in effect with respect to that Series of Second Tier Bonds, amounts in the Second Tier Debt Service Account may be used to reimburse the Credit Provider of that Credit Facility for interest, principal or Redemption Price, respectively, made to Holders of those Second Tier Bonds with funds provided by that Credit Provider to the extent that those reimbursement obligations of the Authority are secured as Second Tier Bonds by the General Trust Indenture. Amounts in the Second Tier Debt Service Account shall be pledged to Holders of Second Tier Bonds.

(ii) In the event that on the Business Day preceding any Bond Payment Date the amount in the Second Tier Debt Service Account shall be less than the amount required for payment of the interest on and the principal of the Outstanding Second Tier Bonds due and payable on that Bond Payment Date, the Trustee shall withdraw (to the extent permitted with respect to each Fund or Account) the amount necessary to increase the amount on deposit in the Second Tier Debt Service Account to the requirement therefor from, in the following order: (1) the General Reserve Fund; (2) the Lease Payment Fund (but only to the extent provided in Section 512 (“Lease Payment Fund”) of the General Trust Indenture); (3) the M&R Reserve Fund (but only to the extent provided in Section 511 (“M&R Reserve Fund”) of the General Trust Indenture); (4) the General O&M Reserve Fund (but only to the extent provided in Section 510 (“General O&M Reserve Fund”) of the General Trust Indenture); (5) the Tolling O&M Reserve Fund (but only to the extent provided in Section 509 (“Tolling O&M Reserve Fund”) of the General Trust Indenture); (6) the Second Tier Debt Service Reserve Account, if any, that secures the applicable Series of Bonds; and (7) any other money of the Authority legally available therefor.

(iii) When Second Tier Bonds are redeemed or purchased, the amount, if any, in the Second Tier Debt Service Account that has been deposited to pay interest thereon shall be applied to the payment of accrued interest in connection with that redemption or purchase. Whenever the aggregate amount in the Second Tier Debt Service Account and the Second Tier Debt Service Reserve Accounts is sufficient to redeem all of the Outstanding Second Tier Bonds and to pay interest accrued to the Redemption Date at the applicable Redemption Price, the Authority shall redeem all Second Tier Bonds on the applicable Redemption Date. Any

amounts remaining in the Second Tier Debt Service Account and the Second Tier Debt Service Reserve Accounts after payment in full of the principal or Redemption Price, and interest on the Second Tier Bonds (or provision for payment thereof) shall be transferred to the Authority System Revenue Fund.

(d) Second Tier Debt Service Reserve Accounts.

(i) Pursuant to any Series Trust Indenture providing for the issuance of a Series of Second Tier Bonds, the Authority may:

(A) provide that the Series will be secured by the Second Tier Common Debt Service Reserve Account,

(B) establish a Series Debt Service Reserve Account, which shall have its own Debt Service Reserve Requirement, and provide that the Series will be secured by that Series Debt Service Reserve Account, or

(C) provide that the Series will not be secured by any Debt Service Reserve Account.

(ii) Subject to the provisions of subsection (i) above, amounts in a Second Tier Debt Service Reserve Account shall be used to pay debt service on the Second Tier Bonds secured by that Second Tier Debt Service Reserve Account on the date such debt service is due when sufficient funds for that purpose are not available in the Second Tier Debt Service Account. Amounts in a Second Tier Debt Service Reserve Account shall be pledged to Holders of Second Tier Bonds in accordance with subsection (i) above and as set forth in the applicable Series Trust Indenture for each Series of Second Tier Bonds.

(iii) In lieu of or in addition to cash or investments, at any time the Authority may cause to be deposited to the credit of a Second Tier Debt Service Reserve Account any form of Credit Facility, in an amount up to the related Debt Service Reserve Requirement, irrevocably payable to the Authority as beneficiary for the Holders of the Second Tier Bonds secured by that Second Tier Debt Service Reserve Account, provided that the Authority has received evidence satisfactory to it that (1) at the time of the initial delivery of the Credit Facility the Credit Provider has a credit rating in one of the two highest credit rating categories by two Rating Agencies then rating the Bonds of such Series, (2) the obligation of the Authority to reimburse the Credit Provider is secured in the same manner as withdrawals from the Second Tier Debt Service Reserve Accounts and payment of fees and ordinary expenses of the Credit Provider that are not reimbursements for draws are subordinate to its obligation to pay debt service on the Second Tier Bonds, (3) the term of the Credit Facility is at least 24 months, (4) except as provided in the next sentence of this subsection, the only condition to a drawing under the Credit Facility is insufficient amounts in the Second Tier Debt Service Account when needed to pay debt service on the Second Tier Bonds secured by that Second Tier Debt Service Reserve Account or the expiration of

the Credit Facility, and (5) the Credit Provider shall notify the Authority at least six months prior to expiration of the Credit Facility. If (A) the Authority receives an expiration notice with respect to the Credit Facility and the Credit Provider does not extend the expiration date of the Credit Facility or (B) the Authority receives notice of the termination of the Credit Facility, the Authority shall (X) provide a substitute Credit Facility that meets the requirements set forth in the foregoing sentences, (Y) deposit the applicable Debt Service Reserve Requirement to that Second Tier Debt Service Reserve Account (1) in the manner provided in the Series Trust Indenture pursuant to which the relevant Second Tier Bonds are issued, or (2) prior to the termination date in the case of receipt of a termination notice, or (Z) draw on the Credit Facility in the amount of the related Debt Service Reserve Requirement (1) in the manner provided in the Series Trust Indenture pursuant to which the relevant Second Tier Bonds are issued, or (2) prior to the termination date in the case of receipt of a termination notice, and deposit those draw proceeds in the Second Tier Debt Service Reserve Account.

(iv) Amounts, if any, released from a Second Tier Debt Service Reserve Account upon deposit to the credit of that Second Tier Debt Service Reserve Account of a Credit Facility pursuant to subsection (iii) above shall, upon designation by the Authority, accompanied by a Counsel's Opinion that such use will not adversely affect the exclusion from gross income for federal income tax purposes of interest on any Bonds secured by the relevant Second Tier Debt Service Reserve Account that are Tax-Exempt Bonds or the receipt of Federal Credit Payments by the Authority or federal tax credits by the Beneficial Owners in respect of any Bonds secured by the relevant Second Tier Debt Service Reserve Account that are Tax-Advantaged Bonds, be transferred (1) to the Second Tier Debt Service Account and used to pay principal of or to redeem those Second Tier Bonds or (2) to the Project Fund with respect to the applicable Series of Second Tier Bonds, and used for payment of Costs of the Project financed by that Series.

(v) In the event that amounts have been withdrawn from, or drawn on a Credit Facility in, a Second Tier Debt Service Reserve Account for the purpose of paying principal and interest on the Second Tier Bonds when due, the Authority shall replenish the amount on deposit, or reinstate the Credit Facility, in the applicable Second Tier Debt Service Reserve Account in accordance with Section 504 ("Application of Amounts in the Authority System Revenue Fund") of the General Trust Indenture until the amount therein is equal to the Debt Service Reserve Requirement for Second Tier Bonds to which that Second Tier Debt Service Reserve Account is pledged.

(e) Third Tier Debt Service Account.

(i) Amounts in the Third Tier Debt Service Account shall be used to pay the principal of and interest on the Third Tier Bonds (or Hedge Payments, as applicable) when due in accordance with the terms of the related Series Trust Indenture, provided that amounts in the TIFIA Bond subaccount shall be used solely to repay amounts in respect of the TIFIA Bond. However, if so provided in

the Series Trust Indenture creating a Series of Third Tier Bonds, while there is a Credit Facility in effect with respect to that Series of Third Tier Bonds, amounts in the Third Tier Debt Service Account may be used to reimburse the Credit Provider of that Credit Facility for interest, principal or Redemption Price, respectively, made to Holders of those Third Tier Bonds with funds provided by that Credit Provider to the extent that those reimbursement obligations of the Authority are secured as Third Tier Bonds by the General Trust Indenture. Amounts in the Third Tier Debt Service Account shall be pledged to Holders of Third Tier Bonds, provided that amounts in the TIFIA Bond subaccount shall be pledged solely to the TIFIA Bondholder.

(ii) In the event that on the Business Day preceding any Bond Payment Date the amount in the Third Tier Debt Service Account shall be less than the amount required for payment of the interest on and the principal of the Outstanding Third Tier Bonds due and payable on that Bond Payment Date, the Trustee shall withdraw (to the extent permitted with respect to each Fund or Account) the amount necessary to increase the amount on deposit in the Third Tier Debt Service Account to the requirement therefor from, in the following order: (1) the General Reserve Fund; (2) the Lease Payment Fund (but only to the extent provided in Section 512 (“Lease Payment Fund”) of the General Trust Indenture); (3) the M&R Reserve Fund (but only to the extent provided in Section 511 (“M&R Reserve Fund”) of the General Trust Indenture); (4) the General O&M Reserve Fund (but only to the extent provided in Section 510 (“General O&M Reserve Fund”) of the General Trust Indenture); (5) the Tolling O&M Reserve Fund (but only to the extent provided in Section 509 (“Tolling O&M Reserve Fund”) of the General Trust Indenture); (6) the Third Tier Debt Service Reserve Account; and (7) any other money of the Authority legally available therefor.

(iii) When Third Tier Bonds are redeemed or purchased, the amount, if any, in the Third Tier Debt Service Account that has been deposited to pay interest thereon shall be applied to the payment of accrued interest in connection with that redemption or purchase. Whenever the aggregate amount in the Third Tier Debt Service Account and the Third Tier Debt Service Reserve Accounts is sufficient to redeem all of the Outstanding Third Tier Bonds and to pay interest accrued to the Redemption Date at the applicable Redemption Price, the Authority shall redeem all Third Tier Bonds on the applicable Redemption Date. Any amounts remaining in the Third Tier Debt Service Account and the Third Tier Debt Service Reserve Accounts after payment in full of the principal or Redemption Price, and interest on the Third Tier Bonds (or provision for payment thereof) shall be transferred to the Authority System Revenue Fund.

(f) Third Tier Debt Service Reserve Accounts.

(i) Pursuant to any Series Trust Indenture providing for the issuance of a Series of Third Tier Bonds, the Authority may:

(A) provide that the Series will be secured by the Third Tier Common Debt Service Reserve Account,

(B) establish a Series Debt Service Reserve Account, which shall have its own Debt Service Reserve Requirement, and provide that the Series will be secured by that Series Debt Service Reserve Account, or

(C) provide that the Series will not be secured by any Debt Service Reserve Account.

(ii) Subject to the provisions of subsection (i) above, amounts in a Third Tier Debt Service Reserve Account shall be used to pay debt service on the Third Tier Bonds secured by that Third Tier Debt Service Reserve Account on the date such debt service is due when sufficient funds for that purpose are not available in the Third Tier Debt Service Account. Amounts in a Third Tier Debt Service Reserve Account shall be pledged to Holders of Third Tier Bonds in accordance with subsection (i) above and as set forth in the applicable Series Trust Indenture for each Series of Third Tier Bonds.

(iii) In lieu of or in addition to cash or investments, at any time the Authority may cause to be deposited to the credit of a Third Tier Debt Service Reserve Account any form of Credit Facility, in an amount up to the related Debt Service Reserve Requirement, irrevocably payable to the Authority as beneficiary for the Holders of the Third Tier Bonds secured by that Third Tier Debt Service Reserve Account, provided that the Authority has received evidence satisfactory to it that (1) at the time of the initial delivery of the Credit Facility the Credit Provider has a credit rating in one of the two highest credit rating categories by two Rating Agencies then rating the Bonds of such Series, (2) the obligation of the Authority to reimburse the Credit Provider is secured in the same manner as withdrawals from the Third Tier Debt Service Reserve Accounts and payment of fees and ordinary expenses of the Credit Provider that are not reimbursements for draws are subordinate to its obligation to pay debt service on the Third Tier Bonds, (3) the term of the Credit Facility is at least 24 months, (4) except as provided in the next sentence of this subsection, the only condition to a drawing under the Credit Facility is insufficient amounts in the Third Tier Debt Service Account when needed to pay debt service on the Third Tier Bonds secured by that Third Tier Debt Service Reserve Account or the expiration of the Credit Facility, and (5) the Credit Provider shall notify the Authority at least six months prior to expiration of the Credit Facility. If (A) the Authority receives an expiration notice with respect to the Credit Facility and the Credit Provider does not extend the expiration date of the Credit Facility or (B) the Authority receives notice of the termination of the Credit Facility, the Authority shall (X) provide a substitute Credit Facility that meets the requirements set forth in the foregoing sentences, (Y) deposit the applicable Debt Service Reserve Requirement to that Third Tier Debt Service Reserve Account (1) in the manner provided in the Series Trust Indenture pursuant to which the relevant Third Tier Bonds are issued, or (2) prior to the termination date in the case of receipt of a termination notice, or (Z) draw

on the Credit Facility in the amount of the related Debt Service Reserve Requirement (1) in the manner provided in the Series Trust Indenture pursuant to which the relevant Third Tier Bonds are issued, or (2) prior to the termination date in the case of receipt of a termination notice, and deposit those draw proceeds in the Third Tier Debt Service Reserve Account.

(iv) Amounts, if any, released from a Third Tier Debt Service Reserve Account upon deposit to the credit of that Third Tier Debt Service Reserve Account of a Credit Facility pursuant to subsection (iii) above shall, upon designation by the Authority, accompanied by a Counsel's Opinion that such use will not adversely affect the exclusion from gross income for federal income tax purposes of interest on any Bonds secured by the relevant Third Tier Debt Service Reserve Account that are Tax-Exempt Bonds or the receipt of Federal Credit Payments by the Authority or federal tax credits by the Beneficial Owners in respect of any Bonds secured by the relevant Third Tier Debt Service Reserve Account that are Tax-Advantaged Bonds, be transferred (1) to the Third Tier Debt Service Account and used to pay principal of or to redeem those Third Tier Bonds or (2) to the Project Fund with respect to the applicable Series of Third Tier Bonds, and used for payment of Costs of the Project financed by that Series.

(v) In the event that amounts have been withdrawn from, or drawn on a Credit Facility in, a Third Tier Debt Service Reserve Account for the purpose of paying principal and interest on the Third Tier Bonds when due, the Authority shall replenish the amount on deposit, or reinstate the Credit Facility, in the applicable Third Tier Debt Service Reserve Account in accordance with Section 504 ("Application of Amounts in the Authority System Revenue Fund") of the General Trust Indenture until the amount therein is equal to the Debt Service Reserve Requirement for Third Tier Bonds to which that Third Tier Debt Service Reserve Account is pledged.

Redemption Fund. The Trustee has established and created within the Redemption Fund such Accounts thereof as may be appropriate for the redemption of Outstanding Bonds or Bond Anticipation Obligations. There may be deposited in the applicable Account, proceeds of Refunding Bonds, as provided in the Series Trust Indenture authorizing their issuance, allocated to the payment of the principal or Redemption Price, and interest, or purchase price of the Bonds or Bond Anticipation Obligations to be refunded, funded or retired through the issuance of such Refunding Bonds; amounts to be transferred thereto from any applicable Debt Service Reserve Account by order of an Authorized Officer and permitted under the General Trust Indenture; and any other amounts made available by the Authority for the purposes of the Redemption Fund. Amounts for the redemption of Bonds to be provided pursuant to Sinking Fund Installments set forth in a Series Trust Indenture authorizing such Series of Bonds shall not be deposited to the credit of the Redemption Fund, but shall be deposited to the credit of the applicable Account of the Debt Service Fund.

Any amounts in the Redemption Fund may be committed, by written instructions of an Authorized Officer, for the retirement of and for the redemption or purchase of particular Series of Bonds and, so long as so committed, shall be used solely for such purposes whether directly or

through transfer to the applicable Account of the Debt Service Fund established for such Series of Bonds. Subject to the foregoing provisions of this Section, an Authorized Officer may cause moneys in the Redemption Fund to be used to purchase any Bonds at a price not greater than the principal amount (or Accreted Value) thereof plus accrued interest for cancellation and to redeem any Bonds in accordance with the redemption provisions of the applicable Series Trust Indenture. From moneys in the Redemption Fund, the Trustee shall transmit or otherwise disburse such amounts at such times as are required for the redemption or purchase for cancellation of Bonds. Any amounts in the Redemption Fund not required for the purposes thereof pursuant to a commitment theretofore made, may be transferred to the related Account of the Debt Service Fund or other related Account established for such Series of Bonds upon order of an Authorized Officer.

Tolling O&M Reserve Fund. Upon receipt of Authority Toll Revenue, the deposits to the Tolling O&M Reserve Fund required by Section 504 (“Application of Amounts in the Authority System Revenue Fund”) of the General Trust Indenture shall commence and shall be in an amount equal to the amount estimated by the Authority as being at least sufficient to pay Toll System Collection Expenses for the month following each such deposit (the “Monthly Tolling O&M Expense”), which estimate shall be provided by the Authority to the Trustee. In addition to the amount required by the preceding sentence, if the amount on deposit in the Tolling O&M Reserve Fund is less than the Tolling System Reserve Fund Requirement (without regard to the Monthly Tolling O&M Expense), the Trustee shall deposit into the Tolling O&M Reserve Fund the amount required for the balance therein (without regard to the Monthly Tolling O&M Expense) to equal the Tolling O&M Reserve Fund Requirement divided by the number of months to the end of the first full Fiscal Year after the first deposit of such additional funds in the Tolling O&M Reserve Fund. If in any month there are insufficient amounts available in the Authority System Revenue Fund to make such deposit, the Trustee shall request the payment of Rent in an amount equal to the amount that could not be deposited, which request shall be withdrawn (or deemed withdrawn) when the amount on deposit in the Tolling O&M Reserve Fund is restored to the Tolling O&M Reserve Fund Requirement.

Amounts in the Tolling O&M Reserve Fund shall be (i) used by the Authority to pay Toll System Collection Expenses for the current Fiscal Year as reflected in the Authority System Budget, with disbursements made upon receipt of a written request by the Trustee that includes payment instructions and is signed by an Authorized Officer of the Authority, and (ii) transferred to the applicable account of the Debt Service Fund in accordance with the priorities established by Section 504 (“Application of Amounts in the Authority System Revenue Fund”) of the General Trust Indenture, but only if after such transfer, the amount on deposit in the Tolling O&M Reserve Fund will be no less than the Tolling System Reserve Fund Requirement plus the Monthly Tolling O&M Expense for the following month. The Trustee shall rely fully on disbursement requests delivered pursuant to this Section and the Trustee shall not be required to make any investigation in connection therewith.

The Trustee shall keep an accurate accounting of Lease Payments deposited in the Tolling O&M Reserve Fund in accordance with this Section and the repayment of such Lease Payments in accordance with Section 504(k) (“Application of Amounts in the Authority System Revenue Fund”) of the General Trust Indenture.

General O&M Reserve Fund. Upon receipt of Authority Toll Revenue, the deposits to the General O&M Reserve Fund required by Section 504 (“Application of Amounts in the Authority System Revenue Fund”) of the General Trust Indenture shall commence and shall be in an amount equal to the amount estimated by the Authority as being at least sufficient to pay General O&M Expenses for the month following each such deposit (the “Monthly General O&M Expense”), which estimate shall be provided by the Authority to the Trustee. In addition to the amount required by the preceding sentence, there shall be deposited in the General O&M Reserve Fund an amount equal to the General O&M Reserve Fund Requirement divided by sixty (60) so that sixty months after the first deposit of funds in the General O&M Reserve Fund, the amount on deposit therein will equal the General O&M Reserve Fund Requirement (without regard to the Monthly General O&M Expense). Once the amount in the General O&M Reserve Fund is at least equal to the General O&M Reserve Fund Requirement (without regard to the Monthly General O&M Expense), the Trustee shall deposit into the General O&M Reserve Fund the amount required for the balance therein (without regard to the Monthly General O&M Expense) to equal the General O&M Reserve Fund Requirement divided by the number of months to the end of the first full Fiscal Year after the first deposit of such additional funds in the General O&M Reserve Fund. If in any month there are insufficient amounts available in the Authority System Revenue Fund to make such deposit, the Trustee shall request the payment of Rent in an amount equal to the amount that could not be deposited, which request shall be withdrawn (or deemed withdrawn) when the amount on deposit in the General O&M Reserve Fund is restored to the General O&M Reserve Fund Requirement.

Amounts in the General O&M Reserve Fund shall be (i) used by the Authority to pay General O&M Expenses for the current Fiscal Year as reflected in the Authority System Budget, with disbursements made upon receipt of a written request by the Trustee that includes payment instructions and is signed by an Authorized Officer of the Authority, and (ii) transferred to the applicable account of the Debt Service Fund in accordance with the priorities established by Section 504 (“Application of Amounts in the Authority System Revenue Fund”) of the General Trust Indenture, but only if after such transfer, the amount on deposit in the General O&M Reserve Fund will be no less than the General O&M Reserve Fund Requirement plus the Monthly General O&M Expense for the following month. The Trustee shall rely fully on disbursement requests delivered pursuant to this Section and the Trustee shall not be required to make any investigation in connection therewith.

The Trustee shall keep an accurate accounting of Lease Payments deposited in the General O&M Reserve Fund in accordance with this Section and the repayment of such Lease Payments in accordance with Section 504(k) (“Application of Amounts in the Authority System Revenue Fund”) of the General Trust Indenture.

M&R Reserve Fund. Upon receipt of Authority Toll Revenue, the deposits to the M&R Reserve Fund required by Section 504 (“Application of Amounts in the Authority System Revenue Fund”) of the General Trust Indenture shall commence and shall be in an amount equal to the amount estimated by the Authority as being at least sufficient to pay M&R Expenses anticipated by the Authority to be paid from the M&R Reserve Fund for the month following each such deposit (the “Monthly M&R Expense”), which estimate shall be provided by the Authority to the Trustee. In addition to the amount required by the preceding sentence, there shall be deposited in the M&R Reserve Fund an amount equal to the M&R Reserve Fund

Requirement divided by sixty (60) so that sixty months after the first deposit of funds in the M&R Reserve Fund, the amount on deposit therein will equal the M&R Reserve Fund Requirement (without regard to the Monthly M&R Expense). Once the amount in the M&R Reserve Fund is at least equal to the M&R Reserve Fund Requirement (without regard to the Monthly M&R Expense), the Trustee shall deposit into the M&R Reserve Fund the amount required for the balance therein (without regard to the Monthly M&R Expense) to equal the M&R Reserve Fund Requirement divided by the number of months to the end of the first full Fiscal Year after the first deposit of such additional funds in the M&R Reserve Fund. If in any month there are insufficient amounts available in the Authority System Revenue Fund to make such deposit, the Trustee shall request the payment of Rent in an amount equal to the amount that could not be deposited, which request shall be withdrawn (or deemed withdrawn) when the amount on deposit in the M&R Reserve Fund is restored to the M&R Reserve Fund Requirement.

Amounts in the M&R Reserve Fund shall be (i) used by the Authority to pay M&R Expenses for the current Fiscal Year as reflected in the then-current capital improvement program and Authority System Budget and to pay any other M&R Expenses that must be incurred to restore or maintain any portion of the Authority System in a safe operating condition due to damage as a result of fire, flood, earthquake, other disaster, or otherwise, with disbursements made upon receipt of a written request by the Trustee that includes payment instructions and is signed by an Authorized Officer of the Authority, and; (ii) transferred to the applicable account of the Debt Service Fund in accordance with the priorities established by Section 504 (“Application of Amounts in the Authority System Revenue Fund”) of the General Trust Indenture, but only if after such transfer, the amount on deposit in the M&R Reserve Fund will be no less than the M&R Reserve Fund Requirement plus the Monthly M&R Expense for the following month; and (iii) to the extent not required by the preceding clause (ii), transferred to the Authority System Revenue Fund or General Reserve Fund in amounts determined by the Authority, if the amount in the M&R Reserve Fund exceeds the M&R Reserve Fund Requirement plus the Monthly M&R Expense for the following month. The Trustee shall rely fully on disbursement requests delivered pursuant to this Section and the Trustee shall not be required to make any investigation in connection therewith.

The Trustee shall keep an accurate accounting of Lease Payments deposited in the M&R Reserve Fund in accordance with this Section and the repayment of such Lease Payments in accordance with Section 504 (k) (“Application of Amounts in the Authority System Revenue Fund”) of the General Trust Indenture.

Lease Payment Fund. Amounts in the Lease Payment Fund shall be used to pay amounts then due from the Authority to the Transportation Cabinet under the Lease Agreement. Any amounts on deposit in the Lease Payment Fund that are not then required to make such payments to the Transportation Cabinet may be transferred to the Debt Service Fund in accordance with the provisions of Section 507 (“Debt Service Fund”) of the General Trust Indenture.

General Reserve Fund. Amounts in the General Reserve Fund shall be used by the Authority to pay expenses relating to the Authority System, providing for debt service on Bonds or as may otherwise be permitted by the Act or required by the Development Agreement, the Lease Agreement or the Interlocal Agreement, including, but not limited to, fees and expenses of

Credit Providers, Hedge Termination Payments and the payment of the debt service (or Hedge Payments) on any Subordinate Bonds. Amounts withdrawn from the General Reserve Fund and deposited in the Authority System Revenue Fund in any Fiscal Year shall not be treated as Authority System Revenue received in that Fiscal Year.

In addition, on each July 1 that TIFIA Bonds remain Outstanding, after the payment of principal and interest due on such date and the deposit and application of Authority System Revenues required by Sections 503 and 504 of the General Trust Indenture, the Trustee shall determine the amount on deposit in the General Reserve Fund that exceeds the amount set forth in the following table corresponding to such July 1 (the "General Reserve Annual Surplus"):

<u>Date</u>	<u>Amount</u>	<u>Date</u>	<u>Amount</u>
July 1, 2018	\$18,556,445	July 1, 2035	\$189,024,443
July 1, 2019	27,072,551	July 1, 2036	205,104,716
July 1, 2020	38,430,610	July 1, 2037	212,331,347
July 1, 2021	51,365,294	July 1, 2038	221,675,213
July 1, 2022	64,881,271	July 1, 2039	248,350,276
July 1, 2023	79,037,830	July 1, 2040	282,965,913
July 1, 2024	92,794,959	July 1, 2041	319,861,294
July 1, 2025	97,453,793	July 1, 2042	357,575,263
July 1, 2026	100,887,571	July 1, 2043	400,249,525
July 1, 2027	104,443,473	July 1, 2044	448,823,390
July 1, 2028	108,122,865	July 1, 2045	501,998,381
July 1, 2029	111,929,214	July 1, 2046	553,044,599
July 1, 2030	115,866,252	July 1, 2047	603,222,458
July 1, 2031	119,930,073	July 1, 2048	663,217,118
July 1, 2032	134,216,646	July 1, 2049	731,862,094
July 1, 2033	154,229,175	July 1, 2050	804,337,279
July 1, 2034	173,327,968		

One-half of the General Reserve Annual Surplus shall immediately be transferred to a special account of the Redemption Fund to be established for the redemption of TIFIA Bonds and the remaining General Reserve Annual Surplus shall be transferred to a special account of the General Reserve Fund to be established (the "Surplus Account"). Amounts transferred to the Redemption Fund shall be applied to the redemption of TIFIA Bonds on the date required for prepayment of the TIFIA Loan under the TIFIA Loan Agreement.

Amounts on deposit in the Surplus Account may be applied in the same manner as other amounts on deposit in the General Reserve Fund but shall not be used to determine the amount on deposit in the General Reserve Fund for purposes the determining General Reserve Annual Surplus.

Rebate Fund. Any earnings on any trust fund or account established under the terms of said General Trust Indenture or any Series Trust Indenture determined to be subject to the "rebate" requirements in favor of the United States of America imposed by Section 148 of the Code shall be paid as required by the Code to the United States, and the Trustee shall establish a separate trust account under the General Trust Indenture for the benefit of the United States of America designated as the "Rebate Fund", which shall be utilized for the collection and payment

of earnings from “non-purpose investments” in excess of the amount which said investments would have earned at a rate equal to the “yield” on the applicable Bonds, plus any income attributable to such excess. The amounts deposited in the Rebate Fund are not pledged to Bondholders.

To the extent that any investment earnings are generated from any Fund or Account subject to said “rebate” requirements of the Code, the Authority shall calculate the excess income generated over the permitted “yield” and advise and direct the Trustee to remit any such excess to the United States of America on or before a date five years and thirty days from the date any Series of Bonds is delivered, and once every five years thereafter until the final maturity of the respective Series of Bonds; the last installment of rebate, to the extent required, to be made no later than sixty days following the date on which funds sufficient for the complete retirement of the last remaining Series of outstanding Bonds are deposited with the Paying Agent or any escrow agent if and to the extent required by the Code.

Investment of Funds.

(a) Amounts on deposit in any Fund or Account shall be invested in Investment Obligations at the written direction of the Authority or its designee. The Trustee may conclusively rely upon the Authority’s written instructions as to both the suitability and legality of the directed investments. Ratings of Investment Obligations shall be determined at the time of purchase of such Investment Obligations and without regard to ratings subcategories. The Trustee shall not be liable for losses on investments made in compliance with the provisions of the General Trust Indenture. In the absence of investment instructions from the Authority, the Trustee shall not be responsible or liable for keeping the moneys held by it under the General Trust Indenture fully invested in Investment Obligations. The Trustee may make any and all such investments through its own investment department or that of its affiliates or subsidiaries, and may charge its ordinary and customary fees for such trades, including investment maintenance fees.

(b) Investment of moneys in the Debt Service Fund (other than in a Debt Service Reserve Account, which shall be invested as provided in the applicable Series Trust Indenture) shall mature or be redeemable at the times and in the amounts necessary to provide moneys to pay the principal of, and interest on, Bonds as they become due, whether at stated maturity, by redemption, pursuant to any Sinking Fund Installments or otherwise. Each investment of moneys in the Cost of Issuance Fund, each Project Fund, the Authority System Revenue Fund, the General O&M Reserve Fund, the M&R Reserve Fund, the Tolling O&M Reserve Fund, the General Reserve Fund and the Rebate Fund, shall mature or be redeemable without penalty at such time as may be necessary to make payments when necessary from such Fund.

(c) Except as otherwise provided for in the General Trust Indenture or any Series Trust Indenture:

(i) Investment Obligations purchased as an investment of moneys in any Fund and Account held by the Authority or the Trustee under the provisions

of the General Trust Indenture and shall be applied as provided in Section 503(e) (“Deposit and Application of Funds”) of the General Trust Indenture.

(ii) In computing the amount in all Funds, including the Accounts thereof, Investment Obligations purchased as an investment of moneys therein shall be valued at cost.

(iii) The Trustee shall sell at the best price reasonably obtainable, or present for redemption or exchange, any Investment Obligation purchased by it as an investment pursuant to the General Trust Indenture or any Series Trust Indenture whenever it shall be necessary in order to provide moneys to meet any payment or transfer from the Fund or Account from which such investment was made. The Trustee shall advise the Authority in writing, on or before the last Business Day of each calendar month, of the details of all Investment Obligations held for the credit of each Fund or Account in its custody under the provisions of the General Trust Indenture or any Series Trust Indenture as of the end of the preceding month.

(iv) The Trustee shall keep the Authority fully advised as to the details of all such investments and shall comply with any directions of the Authority with respect to investments in Investment Obligations. Except as otherwise provided in the General Trust Indenture or any Series Trust Indenture, earnings and losses on Investment Obligations shall be credited to the Fund or Account with respect to which such investments were made (or pro-rated thereto) and shall become a part thereof for all purposes.

(d) It shall not be necessary for any Paying Agent to give security for the deposit of any moneys with it held in trust for the payment of principal of or Redemption Price, if any, or interest on any Bonds.

(e) Although the Authority recognizes that it may obtain a broker confirmation or written statement containing comparable information at no additional cost, the Authority has agreed that confirmations of permitted investments are not required to be issued by the Trustee for each month in which a monthly statement is rendered. No statement need be rendered for any Fund or Account if no activity occurred in such Fund or Account during such month.

PARTICULAR COVENANTS OF THE AUTHORITY

Payment of Bonds. The Authority shall duly and punctually pay or cause to be paid the principal of, or Redemption Price or purchase price, if any, of every Bond and the interest thereon, any Hedge Payments, and any reimbursement obligations in respect of a Credit Facility, in each case at the date and places in the manner provided in the General Trust Indenture, and solely and only from the Pledged Receipts; provided, that the Authority’s payment obligations under the General Trust Indenture, the Bonds, any Credit Facilities, any Reimbursement Agreements and any Hedge Facilities shall be solely from Pledged Receipts and other funds and accounts constituting part of the Trust Estate.

Powers as to Bonds and Pledge. The Authority may issue the Bonds and execute and deliver the General Trust Indenture and any Series Trust Indenture and pledge the income, revenues and assets pledged by the General Trust Indenture or any Series Trust Indenture in the manner and to the extent provided in the General Trust Indenture. The income, revenues and assets so pledged are and will be free and clear of any pledge, lien, charge or encumbrance thereon or with respect thereto prior to, or of equal rank with, the pledge created by the General Trust Indenture or any Series Trust Indenture, and all official action on the part of the Authority to that end has been or will be duly and validly taken. The Bonds and the provisions of the General Trust Indenture or any Series Trust Indenture are and will be the valid and legally enforceable obligations of the Authority in accordance with their terms and the terms of the General Trust Indenture or any Series Trust Indenture. The Authority shall at all times, to the extent permitted by law, defend, preserve and protect the pledge of the income, revenues and assets pledged under the General Trust Indenture or any Series Trust Indenture and all the rights of the Bondholders under the General Trust Indenture or any Series Trust Indenture against all claims and demands therefor of all persons whomsoever.

Authority to Comply with and Require Compliance with Certain Agreements. The Authority shall comply in all material respects with the terms of the Development Agreement, the Interlocal Agreement, the Section 129 Agreement, the Toll Policy Agreement, the Ground Lease Agreements and all other material agreements of the Authority relating to the Project and the Authority System.

To the extent necessary for the Authority to comply with the provisions of the General Trust Indenture and each Series Trust Indenture, the Authority shall, to the fullest extent provided and permitted by law, by legal action, mandamus, suit in equity, demand for specific performance, or otherwise, require the other parties to such Agreements to comply with the material terms of such Agreements. The Authority will not agree to the amendment of the Development Agreement, the Interlocal Agreement, the Section 129 Agreement, the Toll Policy Agreement or the Ground Lease Agreements if such amendment will impair the Authority's ability to comply with its obligations under the General Trust Indenture or any Series Trust Indenture.

Furthermore, the Authority covenants that it will continuously enforce the Lease Agreement to the maximum extent permitted by law, and will not consent to any modification of the Lease Agreement which would impair, in any material respect, the security created for the owners of the Bonds under the Lease Agreement, the General Trust Indenture or any Series Trust Indenture.

The Authority shall give the Trustee prompt notice of the occurrence of any event of default under the Development Agreement, the Interlocal Agreement, the Section 129 Agreement, the Toll Policy Agreement, the Ground Lease Agreements or the Lease Agreement.

Establishment and Collection of Tolls. The Authority covenants to take any and all actions, to the full extent such actions are not in violation of the Development Agreement or the Toll Policy Agreement, to provide for (i) the setting and adjustment of the Toll Rate Schedule and maintenance of Tolls on the System at rates that will generate Authority System Revenue sufficient to comply with the requirements of Section 708(a) ("Rate Covenant") of the General

Trust Indenture, (ii) Toll Rate Schedules, Tolls and Toll collection systems that maintain travel time, speed, and reliability and (iii) Tolls that maintain and optimize System performance, recognizing the need to maintain a financially prudent balance between System performance and the generation of revenue required for the purposes specified in Section 708 (“Rate Covenant”) of the General Trust Indenture. The Authority may allow for Tolls that (i) are adjusted to reflect inflation as measured by the consumer price index or as necessary to comply with Section 708 (“Rate Covenant”) of the General Trust Indenture and with other requirements of the General Trust Indenture, (ii) provide for other Costs of the Project; (iii) vary for type of vehicle, time of day, traffic conditions, or other factors designed to improve performance of the System; and (iv) include practicable means for minimizing impact of tolling on low income and minority populations consistent with the terms of the Development Agreement.

Rate Covenant.

(a) The Authority, in accordance with the Development Agreement and the Toll Policy Agreement, shall use its best efforts to provide for the establishment, and shall charge and collect, Tolls for the privilege of traveling on the System, at rates sufficient so that Total System Revenue are in an amount at least equal to (i), (ii), (iii), (iv) and (v):

(i) 150% of the Annual Debt Service with respect to all Outstanding First Tier Bonds;

(ii) 135% of the Annual Debt Service with respect to all Outstanding First Tier Bonds and Second Tier Bonds;

(iii) 125% of the Annual Debt Service with respect to all Outstanding First Tier Bonds, Second Tier Bonds and Third Tier Bonds;

(iv) 110% of the Annual Debt Service with respect to all Outstanding Bonds; and

(v) 100% of the aggregate amount of the required payments described in subsections (a) through (j) of Section 504 (“Application of Amounts in the Authority System Revenue Fund”) of the General Trust Indenture to the extent such payments have not been otherwise paid or provided for from Bond proceeds.

(b) The Authority will at least annually, prior to June 30 of each Fiscal Year, review the financial condition of the System, the anticipated Total System Expenses, Debt Service Requirements, various reserves and other costs of the Authority System, and proceed in a timely fashion to recommend to the Tolling Body any required adjustment to the Toll Rate Schedule it determines is necessary to comply with subsection (a) above to provide sufficient Authority System Revenue to fund amounts required to be deposited and maintained in the Funds and Accounts and to comply with other relevant covenants in the General Trust Indenture.

(c) Prior to recommending any revision in the Toll Rate Schedule, the Authority, shall obtain: (i) a certificate of the Traffic Consultant stating, based upon

reasonable assumptions and applying the revised Toll Rate Schedule, the projected Authority System Revenue for the then-current Fiscal Year and each subsequent Fiscal Year through the last scheduled maturity of all then-Outstanding Bonds, (ii) a certificate of the Consulting Engineer stating, based upon reasonable assumptions, the projected Total System Expenses for the then-current Fiscal Year and each subsequent Fiscal Year through the last scheduled maturity of all Outstanding Bonds, and (iii) a certificate of an Authorized Representative stating that, based upon the information contained in the certificates described in (i) and (ii) above, the adoption of the revised Toll Rate Schedule will not cause Authority Toll Revenue to decrease to an amount that will cause the Authority to fail to comply with the requirements of (a) above. Any certificate delivered by the Traffic Consultant pursuant to this subsection shall be based on the opinion of the Traffic Consultant as to Authority System Revenue to be derived by the Authority from the System under the terms of the Development Agreement and the Toll Policy Agreement (provided that investment and other income not related to Tolls shall be estimated by an Authorized Representative), and a certificate of an Authorized Representative stating the opinion of the Authority as to the amount of Total System Expenses paid or accrued during any pertinent Fiscal Year, assuming that the proposed Toll Rate Schedule had been in effect during the pertinent Fiscal Year.

(d) The failure in any Fiscal Year to obtain Authority System Revenue in the amounts sufficient to enable the Authority to comply with subsection (a) above, which failure may continue during the succeeding Fiscal Year, shall not, in and of itself, constitute an Event of Default under the General Trust Indenture if (i) the Authority, within 60 days after the end of each Fiscal Year, requests the written recommendations of the Traffic Consultant as to how to increase Authority Toll Revenue and/or the written recommendations of a Consulting Engineer as to how to reduce Total System Expenses in the following Fiscal Year to the level required to comply with subsection (a) above, (ii) within 60 days of the date of the request from the Authority, the Traffic Consultant and/or the Consulting Engineer provide to the Authority the written recommendations described in clause (i), and (iii) the Authority takes steps to implement those recommendations within 60 days after receipt thereof and diligently proceeds to substantially comply with the recommendations of the Traffic Consultant and/or the Consulting Engineer.

Operating and Capital Budgets for the System.

(a) The Authority covenants that it will, for each Fiscal Year in each Biennium, prepare and adopt a Authority System Budget for Total System Expenses, Annual Debt Service, any required deposits to the Debt Service Reserve Accounts, capital repairs and replacements, and for other costs of the Authority System, and that the Authority System Budget shall be prepared in consultation with the Transportation Cabinet and shall provide for amounts sufficient to comply with the covenants in the Article VII (“Covenants of the Authority”) of the General Trust Indenture. To the extent practicable, each Authority System Budget shall separately identify:

- (i) the Tolling System Reserve Fund Requirement;
- (ii) the General O&M Reserve Fund Requirement;

(iii) the M&R Reserve Fund Requirement;

(iv) monthly deposit requirements into the Funds and Accounts to be made in accordance with Section 504 (“Application of Amounts in the Authority System Revenue Fund”) of the General Trust Indenture; and

(v) the source of funds for such deposits from (i) Authority System Revenue, (ii) the General Reserve Fund, if any, and (ii) Lease Payments, if any; and

(b) In conjunction with the preparation of each Authority System Budget, the Authority shall use the existing Toll Rate Schedule, or, in consultation with the Traffic Consultant, cause the preparation of a Projected Toll Rate Schedule for the purpose of setting and adjusting Tolls. Any Projected Toll Rate Schedule shall include but not be limited to (1) an estimate of the Authority System Revenue that will be required under the Authority System Budget; (2) an estimate of the projected increases in Authority System Revenue that will be required as the result of estimated future changes in Total System Expenses and scheduled or anticipated future changes in Annual Debt Service requirements; and (3) the related proposed schedule or schedules (which may include alternative schedules) of Toll rates that are projected to be necessary to produce Authority System Revenue required for the Authority System Budget, it being understood that the adoption of any revised Toll Rate Schedule may not cause Authority Toll Revenue to decrease to an amount that will cause the Authority to fail to comply with the requirements of Section 708(a) (“Rate Covenant”) of the General Trust Indenture.

(c) The Authority shall provide to the Trustee a copy of each Authority System Budget and any amendments thereto, promptly after adoption.

Operation and Maintenance of the System. The Authority covenants that it will (a) maintain and operate the Authority System in an efficient and economical manner, (b) maintain the Authority System in good repair and will make all necessary repairs, renewals and replacements, to the extent funds are available therefor; and (c) comply with laws and all rules, regulations, orders and directions of any legislative, executive, administrative or judicial body applicable to the Authority System, subject to the right of the Authority to contest the same in good faith and by appropriate legal proceedings. The Authority further covenants that it will use its best efforts to permit the operators of the System that are not part of the Authority System to maintain and operate that portion of the System in the same manner that is required for the Authority System by this Section.

Construction and Completion of Authority System. The Authority covenants that it will proceed with diligence to (a) construct and complete each part of the Authority System that it is required to construct and complete under the Development Agreement in accordance with the Development Agreement and any other Project financed with Bonds to the extent authorized by applicable law, and in conformity with law, with all requirements of governmental authorities having jurisdiction and the policies, rules and regulations of the Commonwealth and (b) enforce any contracts relating to the construction of the Authority System and any other Project financed with Bonds.

Engagement of Consultants. The Authority covenants to employ or cause the employment of a traffic and revenue consultant or firm of traffic and revenue consultants of national recognition with expertise and experience in the operation, management and financing of, and collection of revenues from, toll bridges and roads to perform any functions of the Traffic Consultant, as provided in the General Trust Indenture. The Authority further covenants to employ an independent engineer or engineering firm, in each case experienced in determining the costs of operations and maintenance and costs of repair and replacement of facilities similar to the System to perform any functions of the Consulting Engineer, as provided in the General Trust Indenture.

Insurance. The Authority covenants that it will keep or cause to keep those portions of the Project in which it or the Transportation Cabinet has an insurable interest and the use and operation thereof insured (including through self-insurance pool insurance) at all times in such amounts, subject to such exceptions and deductibles and against such risks, as are customary for similar facilities, including business interruption insurance providing for coverage of the loss of Pledged Receipts for a period of at least twelve (12) months, but in no event at levels less than required by Appendix G to the Development Agreement. Business interruption insurance is not required to replace more than the Authority Toll Revenue. Coverage limits for business interruption insurance shall be set at levels deemed appropriate by the Authority's insurance advisors. All insurance policies shall be carried with a responsible insurance company or companies authorized to do business in the Commonwealth or shall be provided under a self-insurance program; any self-insurance program shall be actuarially sound in the written opinion of an accredited actuary, which opinion shall be filed with the Authority at least annually. At any time and from time to time, the Authority may elect to terminate any and all of its self-insurance programs. Upon making such election, the Authority shall obtain and maintain comparable commercial insurance meeting the standards described above prior to terminating any such self-insurance.

The Authority covenants that it will take actions as it deems necessary to demand, collect and sue for any proceeds that may become due and payable to it under any insurance policy. To the extent that the Authority receives insurance payments under a business interruption insurance policy, those amounts shall be deposited into the Authority System Revenue Fund. To the extent that the Authority receives or is entitled to receive liquidated damages for delayed completion under a construction contract relating to the acquisition or construction of the Project, unless otherwise needed to complete the construction of the Project, those amounts shall be deposited into the Authority System Revenue Fund or the Redemption Fund, as directed by an Authorized Officer.

Damage or Destruction. Immediately after any damage to or destruction of any part of the Authority System that materially adversely affects the Authority System Revenue, the Authority will promptly cause the repair, reconstruction or replacement of the damaged or destroyed property or to otherwise ameliorate the adverse impact on Authority System Revenue; provided, however, nothing in this Section shall require the Authority to expend, for that repair, reconstruction or replacement, amounts other than Authority System Revenue, insurance proceeds and Bond proceeds available therefor, and any other funds available for those purposes under the General Trust Indenture.

Financial Records and Statements. The Authority covenants that it will maintain books and accounts reflecting the operations of the Authority System separately from other accounts, in accordance with Accounting Principles. The books and records of the Authority System may form a part of the books and records of the Commonwealth but shall be maintained as separate accounts. The Authority shall maintain accurate records showing all collections of Tolls and all payments made into and out of the Funds and Accounts, and those records shall be made available for inspection at any reasonable time by the Holders of not less than 25% in principal amount of the Outstanding Bonds with Accreted Value being treated as “principal” for purposes of making such determination.

In addition, the Authority covenants that, subject to any applicable requirements of KRS 175B.100, as amended, as soon as practicable, but in no event more than two hundred ten (210) days after the last day of each Fiscal Year, beginning with the Fiscal Year ending June 30, 2014, it will prepare or cause to be prepared a financial report of the results of operations of the Authority System for that Fiscal Year (all or a portion of which may be part of the Commonwealth’s comprehensive annual financial report) in accordance with Accounting Principles, containing independently audited financial statements and the independent auditor’s report on the financial statements for the end of that Fiscal Year.

The Authority shall deliver to the Trustee within 90 days after the close of each Fiscal Year, a certificate signed by an Authorized Officer stating that during such Fiscal Year, and as of the date of such certificate, no Default or Event of Default has occurred and is continuing, or if such a Default or Event of Default is happening or existing, specifying the nature and period of such event or condition and what action the Authority has taken, is taking or proposes to take with respect thereto.

Sale, Lease or Other Disposition of Property Comprising Authority System.

(a) Except as provided in the Lease Agreement, the Authority covenants so long as any Bonds are Outstanding under the General Trust Indenture that it will not sell or otherwise dispose of any real estate or personal property comprising a portion of the Authority System (a “disposition”) unless:

(i) the Authority determines, as evidenced by a certificate filed with the Trustee, that such property (A) has become obsolete or worn out or is reasonably expected to become so within one year after the date of disposition, (B) is no longer used or useful in the operation of the System or in the generation of Authority Toll Revenue or (C) is to be or has been replaced by other property; or

(ii) the Authority determines, as evidenced by a certificate filed with the Trustee, that the disposition will not materially adversely affect the Authority System Revenue; or

(iii) there shall be on file with the Trustee:

(A) a certificate of the Traffic Consultant stating, based upon reasonable assumptions, the projected Authority Toll Revenue following

the proposed disposition (taking into account changes in Authority Toll Revenue, if any, expected as a result of the proposed disposition) for the then-current Fiscal Year and each subsequent Fiscal Year through the last scheduled maturity of all Outstanding Bonds;

(B) a certificate of the Consulting Engineer stating, based upon reasonable assumptions, the estimated Total System Expenses following the proposed disposition (taking into account any changes in Total System Expenses, if any, expected as a result of the proposed disposition) for the then-current Fiscal Year and each subsequent Fiscal Year through the last scheduled maturity of all Outstanding Bonds; and

(C) a certificate of the Authority stating that, based upon the information contained in the certificates described in (A) and (B) above, the projected Authority System Revenue following the proposed disposition for the then-current Fiscal Year and each subsequent Fiscal Year through the last scheduled maturity of all Outstanding Bonds will be equal to or greater than (i) 175% of Annual Debt Service on First Tier Bonds, (ii) 150% of Annual Debt Service on First Tier Bonds and Second Tier Bonds, (iii) 125% of Annual Debt Service on First Tier Bonds, Second Tier Bonds and Third Tier Bonds, (iv) 110% of Annual Debt Service on First Tier Bonds, Second Tier Bonds Bonds, Third Tier Bonds and Subordinate Bonds; and (v) 100% of the aggregate amount of the required payments described in subsections (a) through (j) of Section 504 (“Application of Amounts in the Authority System Revenue Fund”) of the General Trust Indenture in the applicable Fiscal Year.

The proceeds of the sale or disposition permitted by this Section shall be deposited in the Authority System Revenue Fund or in the Redemption Fund, as directed by an Authorized Officer, and any such proposed redemption shall be reflected in the certificate of the Authority described in clause (C) above.

(b) The Authority will not lease any real estate or personal property comprising a portion of the Authority System unless it determines, as evidenced by a certificate of an Authorized Officer filed with the Trustee, that the lease will not materially adversely affect its ability to comply with the requirements of Section 708 (“Rate Covenant”) of the General Trust Indenture.

(c) Without intending to limit the foregoing, but subject to the requirements of the Code with respect to Tax-Exempt Bonds or Tax Advantaged Bonds, the Authority also may enter into contracts or other forms of agreement for the use of any real estate comprising a portion of the Authority System including, but not limited to, rights-of-way for telephone, telegraph, optic fiber and other forms of communication, electric, gas transmission and other lines, towers, or facilities for utilities, and other uses that do not materially adversely affect the operation of the Authority System and the payments received in connection with the same shall, to the extent permitted by law, constitute Authority System Revenue. The Authority also covenants to ensure that all necessary real

property filings will be made in connection with any lease or other agreement relating to the use of real estate comprising a portion of the System to protect the interest of the Authority in that property.

Maintenance of Corporate Existence. To the extent permitted by law, the Authority covenants and agrees that it will maintain its corporate existence and will not merge with or into any other entity in a manner that will materially and adversely affect its ability to comply with its obligations under the General Trust Indenture, all Series Trust Indentures and all Supplemental Trust Indentures and, to the extent permitted by law, any successor entity must assume all of the obligations of the Authority under the General Trust Indenture, all Series Trust Indentures and all Supplemental Trust Indentures and all other applicable agreements, including, without limitation, the Lease Agreement, the Development Agreement and the Interlocal Agreement.

Tax Covenants. The Authority covenants that it shall not take any action, or fail to take any action, or permit any action to be taken on its behalf or cause or permit any circumstance within its control to arise or continue, if any such action or inaction would (i) adversely affect the exclusion from gross income for federal income tax purposes of the interest on the Tax-Exempt Bonds under Section 103 of the Code or (ii) would result in a failure to comply with any requirements of the Code with respect to any Tax Advantaged Bonds.

Covenants of Development Agreement. Unless consent to an amendment is obtained in the same manner provided, or as otherwise permitted, for the amendment of the General Trust Indenture under Article IX, the Authority shall not consent to any material modification to, permit any material failure to comply with, or fail to pursue any remedies available for any material failure of compliance with:

(a) the following provisions of the Development Agreement:

11.3.2. Toll Covenant. Subject to review by credit rating agencies, U.S. Department of Transportation (in connection with any TIFIA loans) and any provider of credit enhancement, KPTIA and IFA agree, so long as any Party shall have outstanding financial obligations related to the construction or financing of the Project (including any toll revenue bonds, TIFIA loans, availability payment obligations, or other financial obligations under a Public Private Agreement) to set and maintain toll rates and charges in each State fiscal year such that:

11.3.2.1 The Kentucky Revenue Share shall be not less than the amount required each year to pay all debt service and other funding obligations of KPTIA under the Kentucky Revenue Bond Indenture and to meet the Rate Covenant in the form of Section 708 of the Kentucky Revenue Bond Indenture.

(b) the following provision of Resolution TB-2013-2 of the Tolling Body adopted on September 11, 2013:

9. The Tolling Body does here by resolve, pledge to, and agree with KPTIA and the holders of any toll revenue bonds or other obligations authorized by the 2013 KPTIA Indenture including TIFIA, related to the Project, that the Tolling Body will (a) take all actions necessary and convenient to permit KPTIA

to fulfill the terms of Section 708 of the 2013 KPTIA Trust Indenture, and (b) not limit or alter the rights and powers vested in KPTIA to fulfill the terms of Section 708 of the KPTIA Trust Indenture.

SUPPLEMENTAL TRUST INDENTURES

Supplemental Trust Indentures Effective Without Consent of Bondholders. Notwithstanding any other provision of Article VIII of the General Trust Indenture (“Supplemental Trust Indentures”) of the General Trust Indenture, or Article IX (“Amendments of General Trust Indenture and Series Trust Indentures”) of the General Trust Indenture, the Authority may execute and deliver at any time from time to time Supplemental Trust Indentures for any one or more of the following purposes, and any such Supplemental Trust Indentures shall become effective in accordance with its terms upon the filing with the Trustee of a copy thereof certified by an Authorized Officer:

(a) To add additional covenants and agreements of the Authority for the purpose of further securing the payment of the Bonds, provided such additional covenants and agreements are not contrary to or inconsistent with the covenants and agreements of the Authority contained in the General Trust Indenture;

(b) To prescribe further limitations and restrictions upon the issuance of Bonds and the incurring of indebtedness by the Authority which are not contrary to or inconsistent with the limitations and restrictions thereon theretofore in effect;

(c) To surrender any right, power or privilege reserved to or conferred upon the Authority by the terms of the Trust Indenture, provided that the surrender of such right, power or privilege is not contrary to or inconsistent with the covenants and agreements of the Authority contained in the General Trust Indenture;

(d) To confirm as further assurance any pledge under and the subjection to any lien, claim or pledge created or to be created by the provisions of the General Trust Indenture;

(e) To obtain or maintain any ratings on any Bonds from any Rating Agency;

(f) To provide for the issuance of additional Bonds, including (without limitation) any modifications or amendments required to grant to or otherwise secure for the Holders of such Bonds a parity interest in the security granted to the Holders of any then Outstanding Bonds in accordance with Section 204 (“Conditions to Issuance of Bonds”) of the General Trust Indenture or to authorize any Subordinate Bonds in accordance with Section 205 (“Conditions to Issuance of Subordinate Bonds and Bond Anticipation Obligations”) of the General Trust Indenture;

(g) To modify any of the provisions of the General Trust Indenture or any Series Trust Indenture in any other respects, provided that such modifications shall not be effective until after all Bonds of any Series of Bonds Outstanding as of the date of execution and delivery of such Series Trust Indentures or Supplemental Trust Indenture shall cease to be Outstanding, and all Bonds issued under such Series Trust Indentures or

Supplemental Trust Indentures shall contain a specific reference to the modifications contained in such subsequent Series Trust Indentures or Supplemental Trust Indentures;

(h) To preserve the excludability from gross income for federal income tax purposes of the interest paid on any Tax-Exempt Bonds or the qualification of any Tax-Advantaged Bonds theretofore issued under the General Trust Indenture;

(i) With the consent of the Trustee, to cure any ambiguity or defect or inconsistent provision in the General Trust Indenture or to insert such provisions clarifying matters or questions arising under the General Trust Indenture or any Series Trust Indenture as are necessary or desirable in the event any such modifications are not contrary to or inconsistent with the General Trust Indenture or any Series Trust Indenture as theretofore in effect;

(j) For any other purpose provided that any such amendment or modification will not materially adversely affect the rights of any Bondholders and, if the modifications affect a holder of TIFIA Bonds, the Authority delivers to the Trustee a Counsel's Opinion or written report from the Traffic Consultant, which opinion or report confirms or demonstrates that such amendment or modification will not materially adversely affect the rights of such Bondholder; or

(k) To make any other change, provided that the Trustee shall have received (i) consent to such change from the TIFIA Bondholder and (ii) evidence satisfactory to the Trustee that such amendment or modification will not, in and of itself, cause any withdrawal or reduction in the ratings then borne by any Outstanding Bonds.

A Supplemental Trust Indenture for the purposes described above shall be effective upon the execution thereof by the Authority and the Trustee and delivery thereof to the Trustee.

Supplemental Trust Indentures Effective With Consent of Bondholders. In addition to modifications or amendments permitted by Section 801 ("Supplemental Trust Indentures Effective Without Consent of Bondholders") of the General Trust Indenture, the provisions of the General Trust Indenture or any Series Trust Indenture may also be modified or amended at any time or from time to time by a Supplemental Trust Indenture, subject to the consent of the Bondholders in accordance with and subject to the provisions of Article IX ("Amendments of General Trust Indenture and Series Trust Indentures") of the General Trust Indenture.

AMENDMENTS OF GENERAL TRUST INDENTURE AND SERIES TRUST INDENTURES

Powers of Amendment. Subject to the terms of the TIFIA Loan Agreement for so long as it remains in effect, any modification or amendment of the General Trust Indenture or any Series Trust Indenture and of the rights and obligations of the Authority and of the Holders of the Bonds in any particular Supplemental Trust Indenture pursuant to Section 802 ("Supplemental Trust Indentures Effective With Consent of Bondholders") of the General Trust Indenture, may be made by a Supplemental Trust Indenture, with the written consent given as provided in Section 902 ("Consent of Bondholders") of the General Trust Indenture, (a) of the Holders of at

least fifty-one percent (51%) in principal amount of the Bonds Outstanding at the time such consent is given, or (b) in case less than all of the several Series of Bonds then Outstanding are affected by the modification or amendment, of the Holders of a majority in principal amount of the Bonds of each Series so affected and Outstanding at the time such consent is given, with Accreted Value being treated as “principal” for purposes of making such determination; provided, however, that if such modification or amendment will, by its terms, not take effect so long as any Bonds of any specified Series and maturity remain Outstanding, the consent of the Holders of such Bonds shall not be required and such Bonds shall not be deemed to be Outstanding for the purpose of any calculation of Outstanding Bonds under this paragraph; and provided, further, no such modification or amendment (i) shall permit a change in the terms of redemption or maturity of the principal of any Outstanding Bond or of any installment of interest thereon or a reduction in the principal amount, the Accreted Value or the Redemption Price or purchase price thereof or in the rate of interest thereon without the written consent of such Bondholder, or (ii) shall reduce the percentages or otherwise affect the classes of Bonds the consent of the Holders of which is required to effect any such modification or amendment, or (iii) shall permit the creation of a claim or lien upon, or a pledge of, the Trust Estate ranking prior to or on a parity with the claim, lien and pledge created by the General Trust Indenture as security as to a particular Tier other than as provided in the General Trust Indenture or any Series Trust Indenture, or a preference or priority of the Bonds of any Tier over any other Bonds of that Tier or a reduction in the percentage of Bonds the consent of the Holders of which is required for any modification of the General Trust Indenture without the unanimous written consent of the Holders. For the purposes of this Section, a Series or Tier shall be deemed to be affected by a modification or amendment of the General Trust Indenture or any Series Trust Indenture if the same adversely affects or diminishes the rights of the Holders of the Bonds of such Series or Tier. The Trustee may in its discretion determine whether or not, in accordance with the foregoing provisions, Bonds of any particular Series or Tier or maturity would be adversely affected by any modification or amendment of the General Trust Indenture and any such determination shall be binding and conclusive on the Authority and all Holders. The Trustee may receive a Counsel’s Opinion as conclusive evidence as to whether Bonds of any particular Series or Tier or maturity would be so affected by any such modification or amendment of the General Trust Indenture or any Series Trust Indenture.

Consent of Bondholders. The Authority may at any time adopt a Supplemental Trust Indenture making a modification or amendment permitted by the provisions of Section 802 (“Supplemental Trust Indentures Effective With Consent of Bondholders”) of the General Trust Indenture to take effect when and as provided in this Section. A copy of such Supplemental Trust Indenture (or brief summary thereof or reference thereto in form approved by the Trustee) together with a request to Bondholders for their consent thereto in form satisfactory to the Trustee, shall promptly after adoption be mailed by the Authority to Bondholders (but failure to mail such copy and request shall not affect the validity of the Supplemental Trust Indenture when consented to as in this Section provided). Such Supplemental Trust Indenture shall not be effective unless and until (a) there shall have been filed with the Trustee (i) the written consents of Holders of the percentages of Outstanding Bonds specified in Section 901 (“Powers of Amendment”) of the General Trust Indenture and (ii) a Counsel’s Opinion stating that such Supplemental Trust Indenture has been duly and lawfully adopted and filed by the Authority in accordance with the provisions of the General Trust Indenture, is authorized or permitted by the General Trust Indenture, and is valid and binding upon the Authority and enforceable in

accordance with its terms, and (b) a notice thereof shall have been mailed to all Holders. A certificate of the Trustee that it has examined such proof and that such proof is sufficient in accordance with Section 1202 (“Evidence of Signatures of Bondholders and Ownership of Bonds”) of the General Trust Indenture shall be conclusive that the consents have been given by the Holders of the Bonds described in such certificate or certificates of the Trustee. Any such consent shall be binding upon the Bondholder of the Bonds giving such consent and, anything in Section 1202 (“Evidence of Signatures of Bondholders and Ownership of Bonds”) of the General Trust Indenture to the contrary notwithstanding, upon any subsequent Bondholder of such Bonds and of any Bonds issued in exchange therefor (whether or not such subsequent Bondholder has notice thereof), unless such consent is revoked in writing by the Bondholder giving such consent or a subsequent Bondholder thereof by filing with the Trustee, prior to the time when the written statement of the Trustee provided in this Section is filed, such revocation. The fact that a consent has not been revoked may likewise be proved by a certificate of the Trustee to the effect that no revocation thereof is on file with the Trustee. At any time after the Holders of the required percentages of Bonds shall have filed their consent to the Supplemental Trust Indenture, the Trustee shall make and file with the Authority a written statement that the Holders of such required percentages of Bonds have filed such consents. Such written statement shall be conclusive that such consents have been so filed. At any time thereafter, notice, stating in substance that the Supplemental Trust Indenture (which may be referred to as a Supplemental Trust Indenture adopted by the Authority on a stated date, a copy of which is on file with the Trustee) has been consented to in writing by the Holders of the required percentage of Bonds and will be effective as provided in this Section, shall be given to Bondholders by the Authority by mailing such notice to Bondholders. A transcript, consisting of the papers required or permitted by this paragraph to be filed with the Trustee, shall be proof of the matters therein stated. Such Supplemental Trust Indenture making such amendment or modification shall be deemed conclusively binding upon the Authority, the Fiduciaries and the Holders of all Bonds.

Modifications by Unanimous Action. Notwithstanding anything contained in Article VIII (“Supplemental Trust Indentures”) of the General Trust Indenture or in the foregoing provisions of Article IX (“Amendments of General Trust Indenture and Series Trust Indentures”) of the General Trust Indenture, the rights and obligations of the Authority and of the Holders of the Bonds and the terms and provisions of the Bonds or of the General Trust Indenture or any Series Trust Indenture may be modified or amended in any respect upon the adoption of a Supplemental Trust Indenture by the Authority and the consent of the Holders of all of the Bonds then Outstanding, such consent to be given as provided in Section 902 (“Consent of Bondholders”) of the General Trust Indenture except that no notice to Bondholders by mailing shall be required; provided, however, that no such modification or amendment shall change or modify any of the rights or obligations of any Fiduciary without its written assent thereto.

DEFAULT AND REMEDIES

Events of Default. In addition to any events declared in a Series Trust Indenture to be an “Event of Default” on the Bonds, each of the following events has been declared an “Event of Default” under the General Trust Indenture:

(a) The Authority shall default in the payment of any Principal Installment of or Redemption Price or purchase price, if any, on any Bond when and as the same shall become due, whether at maturity or upon call for redemption or otherwise;

(b) Payment of any installment of interest on any Bond shall not be made when and as the same shall become due;

(c) The Authority shall default in the payment of any Hedge Payment or any payment representing the reimbursement of a draw under a Credit Facility with respect to any Bond when and as the same shall become due;

(d) If the Authority defaults in the observance and performance of any other of the covenants, conditions and agreements on the part of the Authority set forth in the General Trust Indenture, or the Transportation Cabinet fails to pay Rent under the Lease Agreement when and as the same shall become due, and such default or defaults have continued for a period of 60 days after the Authority has received from the Holders of not less than 25% in principal amount of the Outstanding Bonds a written notice specifying and demanding the cure of that default, however, (i) if the default in the observance and performance of any other of the covenants, conditions and agreements is capable of cure but one which cannot be completely remedied within the 60 days after written notice has been given, it shall not be an Event of Default with respect to the Bonds as long as the Authority or the Transportation Cabinet, as the case may be, has taken active steps within the 60 days after written notice has been given to remedy the default and is diligently pursuing that remedy, provided such failure to comply is cured within 180 days of the first occurrence of such failure; and (ii) as provided in Section 708(d), the failure of the System in any Fiscal Year to produce Authority System Revenue in the amounts sufficient to enable the Authority to comply with Section 708(a) shall not, in and of itself, constitute an Event of Default under the General Trust Indenture if the Authority complies with the provisions set forth in Section 708(d);

(e) If the Transportation Cabinet defaults in the observance and performance of any other of the covenants, conditions and agreements on the part of the Transportation Cabinet set forth in the Lease Agreement and such default or defaults have continued for a period of 60 days after the Authority has received from the Holders of not less than 25% in principal amount of the Outstanding Bonds, a written notice specifying and demanding the cure of that default, however, if the default in the observance and performance of any other of the covenants, conditions and agreements is one which cannot be completely remedied within the 60 days after written notice has been given, it shall not be an Event of Default with respect to the Bonds as long as the Authority and the Transportation Cabinet have taken active steps within the 60 days after written notice has been given to remedy the default and are diligently pursuing that remedy; or

(f) The occurrence of a Bankruptcy Related Event.

Remedies.

(a) Unless otherwise provided in a Series Trust Indenture upon the happening and continuance of any Event of Default specified in subsections (a), (b), (c), or (f) of Section 1002 (“Events of Default”) of the General Trust Indenture, the Trustee shall proceed, or upon the happening and continuance of any Event of Default specified in subsection (d) or (e) of Section 1002 (“Events of Default”) of the General Trust Indenture, the Trustee may proceed, and upon the written request of the Holders of not less than twenty-five percent (25%) in principal amount of the Outstanding Bonds shall proceed, in its own name, subject to the provisions of Section 1003 (“Remedies”) of the General Trust Indenture, to protect and enforce its rights and the rights of the Bondholders by such suits, actions or special proceedings in equity or at law, or by proceedings in the office of any board or officer having jurisdiction, whether for the specific performance of any covenant or agreement contained in the General Trust Indenture or in aid of the execution of any power granted in the General Trust Indenture or in the Act or for the enforcement of any legal or equitable rights or remedies as the Trustee, being advised by its counsel, shall deem most effectual to protect and enforce such rights or to perform any of its duties under the General Trust Indenture or any Series Trust Indenture; provided that the exercise of any rights and remedies under the TIFIA Loan Agreement shall be directed solely by the TIFIA Bondholder.

(b) In the enforcement of any rights and remedies under the General Trust Indenture or any Series Trust Indenture, the Trustee shall be entitled to sue for, enforce payment on and receive any and all amounts then or during any default becoming, and at any time remaining, due and unpaid from the Authority for principal, Redemption Price, purchase price, interest or otherwise, under any provision of the General Trust Indenture or any Series Trust Indenture or of the Bonds, with interest on overdue payments at the rate or rates of interest specified in such Bonds, together with any and all costs and expenses of collection and of all proceedings under the General Trust Indenture and under the Bonds, without prejudice to any other right or remedy of the Trustee or of the Bondholders, and to recover and enforce a judgment or decree against the Authority, but solely as provided in the General Trust Indenture or the applicable Series Trust Indenture and in the Bonds for any portion of such amounts remaining unpaid, with interest, costs and expenses, and to collect (but solely from moneys in the Debt Service Fund) in any manner provided by law, the moneys adjudged or decreed to be payable.

(c) Upon the occurrence of any Event of Default under the General Trust Indenture, the Trustee may request the Authority to transfer to its custody (to be held in trust for the Bondholders) amounts on deposit in the Project Fund, and the Authority shall promptly provide for such transfer.

Priority of Payments After Default. In the event that upon the happening and continuance of any Event of Default, the funds held by the Fiduciaries shall be insufficient for the payment of any Principal Installment or Redemption Price or purchase price, if any, and interest then due on the Bonds, such funds (other than funds held for the payment or redemption of particular Bonds which have theretofore become due at maturity or by call for redemption) and any other moneys received or collected by the Trustee acting pursuant to the Act and the General Trust Indenture

(“Default and Remedies”) of the General Trust Indenture, after making provision for the payment of any expenses necessary in the opinion of the Trustee to protect the interests of the Holders of the Bonds, and for the payment of the fees, charges and expenses and liabilities incurred and advances made by the Fiduciaries in the performances of their respective duties under the General Trust Indenture or any Series Trust Indenture, shall be applied in the following order of priority:

FIRST, to the payment of the fees, charges, expenses, advances and compensation of the Trustee and the charges, expenses, counsel fees, disbursements and compensation of its agents and attorneys;

SECOND, to the payment to the persons entitled thereto of all installments of interest past due or coming due on the Outstanding First Tier Bonds in the following six months in the order of maturity of those installments within the First Tier Bonds and, if the amount available shall not be sufficient to pay in full any installment or installments maturing on the same date, then to the payment thereof ratably, according to the amounts due thereon to the persons entitled thereto, without any discrimination or preference within the First Tier Bonds;

THIRD, to the payment to the persons entitled thereto of the unpaid principal amounts of any Outstanding First Tier Bonds which shall have become due or which will become due in the following six months (other than Outstanding First Tier Bonds previously called for redemption for the payment of which sufficient money is held pursuant to the provisions hereto), whether at maturity or by proceedings for redemption or otherwise, in the order of their due dates and, if the amount available shall not be sufficient to pay in full the principal amounts due on the same date, then to the payment thereof ratably, according to the principal amounts due thereon to the persons entitled thereto, without any discrimination or preference;

FOURTH, to the payment to the persons entitled thereto of all installments of interest past due or coming due on the Outstanding Second Tier Bonds in the following six months in the order of maturity of those installments within the Second Tier Bonds and, if the amount available shall not be sufficient to pay in full any installment or installments maturing on the same date, then to the payment thereof ratably, according to the amounts due thereon to the persons entitled thereto, without any discrimination or preference within the Second Tier Bonds;

FIFTH, to the payment to the persons entitled thereto of the unpaid principal amounts of any Outstanding Second Tier Bonds which shall have become due or which will become due in the following six months (other than Outstanding Second Tier Bonds previously called for redemption for the payment of which sufficient money is held pursuant to the provisions hereto), whether at maturity or by proceedings for redemption or otherwise, in the order of their due dates and, if the amount available shall not be sufficient to pay in full the principal amounts due on the same date, then to the payment thereof ratably, according to the principal amounts due thereon to the persons entitled thereto, without any discrimination or preference;

SIXTH, to the payment to the persons entitled thereto of all installments of interest past due or coming due on the Outstanding Third Tier Bonds in the following six months in the order of maturity of those installments within the Third Tier Bonds and, if the amount available shall not be sufficient to pay in full any installment or installments maturing on the same date, then to the payment thereof ratably, according to the amounts due thereon to the persons entitled thereto, without any discrimination or preference within the Third Tier Bonds;

SEVENTH, to the payment to the persons entitled thereto of the unpaid principal amounts of any Outstanding Third Tier Bonds which shall have become due or which will become due in the following six months (other than Outstanding Third Tier Bonds previously called for redemption for the payment of which sufficient money is held pursuant to the provisions hereto), whether at maturity or by proceedings for redemption or otherwise, in the order of their due dates and, if the amount available shall not be sufficient to pay in full the principal amounts due on the same date, then to the payment thereof ratably, according to the principal amounts due thereon to the persons entitled thereto, without any discrimination or preference;

EIGHTH, to the payment of Subordinate Bonds coming due in the following six months;

NINTH, for continued application to the purposes and in the priority described in (FIRST) through (EIGHTH) above.

Whenever moneys are to be applied by the Trustee pursuant to the provisions of Section 1004 ("Priority of Payments After Default") of the General Trust Indenture, such moneys shall be applied by the Trustee at such times, and from time to time, as the Trustee in its sole discretion shall determine, having due regard to the amount of such moneys available for application and the likelihood of additional money becoming available for such application in the future. The deposit of such moneys with the Fiduciaries, or otherwise setting aside such moneys in trust for the proper purpose, shall constitute proper application by the Trustee, and the Trustee shall incur no liability whatsoever to the Authority, to any Bondholder or to any other person for any delay in applying any such moneys, so long as the Trustee acts with reasonable diligence, having due regard for the circumstances, and ultimately applies the same in accordance with such provisions of the General Trust Indenture as may be applicable at the time of application by the Trustee. Whenever the Trustee shall exercise such discretion in applying such moneys, it shall fix the date (which shall be a Bond Interest Payment Date unless the Trustee shall deem another date more suitable) upon which such application is to be made and upon such date interest on the amounts of principal to be paid on such date shall cease to accrue. The Trustee shall give such notice as it may deem appropriate for the fixing of any such date. The Trustee shall not be required to make payment to the Bondholder of any unpaid Bond other than a TIFIA Bond unless such Bond shall be presented to the Trustee for appropriate endorsement or for cancellation if fully paid.

Notice of Event of Default. The Trustee shall give to the Bondholders notice of each Event of Default under the General Trust Indenture known to the Trustee within thirty (30) days after knowledge of the occurrence thereof, unless such Event of Default shall have been remedied or cured before the giving of such notice; provided that, except in the case of default in

the payment of the Principal Installment of or Redemption Price, if any, or interest on any of the Bonds, the Trustee shall be protected in withholding such notice, if any, so long as the Trustee in good faith determines that the withholding of such notice is in the interest of the Bondholders; provided further, that no such notice shall be withheld with respect to the TIFIA Bondholder. Each such notice of Event of Default shall be given by the Trustee by mailing written notice thereof: (i) to all Holders, as the names and addresses of such Holders appear upon the books for registration and transfer of Bonds as kept by the Trustee; (ii) to such Bondholders as have filed their names and addresses with the Trustee for that purpose; and (iii) to such other persons as is required by law.

Limitation on Rights of Bondholders. No Bondholder shall have any right to institute any suit, action, mandamus or other proceeding in equity or at law hereunder, or for the protection or enforcement of any right under the General Trust Indenture or any Series Trust Indenture or any right under the law unless such Bondholder shall have given to the Trustee written notice of the Event of Default or breach of duty on account of which such suit, action or proceeding is to be taken, and unless the Holders of not less than twenty-five percent (25%) in principal amount of the Bonds then Outstanding shall have made written request of the Trustee after the right to exercise such powers or right of action, as the case may be, shall have occurred, and shall have afforded the Trustee a reasonable opportunity either to proceed to exercise the powers herein granted or granted under the law or to institute such action, suit or proceeding in its name and unless, also, there shall have been offered to the Trustee reasonable security and indemnity against the cost, expenses and liabilities to be incurred therein or thereby (provided that in any case where the TIFIA Bondholder would be required to provide indemnification in favor of the Trustee, such indemnification shall, to the extent permitted by law, be provided by the Authority), and the Trustee shall have refused or neglected to comply with such request within a reasonable time; and such notification, request and offer of indemnity are hereby declared in every such case, at the option of the Trustee, to be conditions precedent to the execution of the powers under the General Trust Indenture or any Series Trust Indenture or for any other remedy hereunder or under law; provided that the exercise of any rights and remedies under the TIFIA Loan Agreement shall be directed solely by the TIFIA Bondholder. Except and to the extent set forth in the preceding sentence with respect to the TIFIA Loan Agreement, it is understood and intended that no one or more Holders of Bonds shall have any right in any manner whatever by his or their action to affect, disturb or prejudice the security of the General Trust Indenture or any Series Trust Indenture, or to enforce any right hereunder or under law with respect to the Bond or the General Trust Indenture or any Series Trust Indenture, except in the manner herein provided, and that all proceedings at law or in equity shall be instituted, had and maintained in the manner herein provided and for the benefit of all Holders. Nothing in the General Trust Indenture contained shall affect or impair the right of any Bondholder to enforce the payment of the principal of and interest on its Bonds, or the obligation of the Authority to pay the principal of and interest on each Bond issued hereunder to the Bondholder thereof at the time and place stated in said Bond.

Anything to the contrary notwithstanding contained in this Section, or any other provision of the General Trust Indenture or any Series Trust Indenture, each Bondholder by their acceptance thereof shall be deemed to have agreed that any court in its discretion may require, in any suit for the enforcement of any right or remedy under the General Trust Indenture or any Series Trust Indenture or in any suit against the Trustee for any action taken or omitted by it as

Trustee, the filing by any party litigant in such suit of an undertaking to pay the reasonable cost of such suit, and that such court may in its discretion assess reasonable costs, including reasonable attorneys' fees, against any party litigant in any such suit, having due regard to the merits and good faith of the claims or defenses made by such party litigant; but the provisions of this paragraph shall not apply to any suit instituted by the Trustee or the TIFIA Bondholder, to any suit instituted by any Bondholder, or group of Bondholders, holding at least twenty-five percent (25%) in principal amount of the Bonds Outstanding, or to any suit instituted by any Bondholders for the enforcement of the payment of the principal of, Redemption Price of, purchase price of, or interest on any Bond on or after the respective due date thereof expressed in such Bond.

TIFIA Bond Default Remedy. Upon the occurrence of an Event of Default described in Section 1002(f) (“Events of Default”) of the General Trust Indenture, any then Outstanding TIFIA Bond will be deemed to be and will automatically become a First Tier Bond for all purposes of the General Trust Indenture, and, the TIFIA Bondholder will be deemed to be the Bondholder of a First Tier Bond for purposes of the pledge of the Trust Estate set forth herein; provided that amounts on deposit in the Proceeds Subaccount of the First Tier Debt Service Reserve Account shall continue to be applied only to the payment of First Tier Bonds that are not TIFIA Bonds. Thereafter, (i) amounts on deposit and to be deposited in the Revenue Subaccount of the First Tier Debt Service Account shall be applied to the payment of the principal of and interest on TIFIA Bonds on the same basis as payment of principal of and interest on other First Tier Bonds and (ii) any amounts on deposit for the payment of Second Tier Bonds, other Third Tier Bonds or Subordinate Bonds in the related Debt Service Account shall be used to pay, to the extent not otherwise paid, the scheduled payment of amounts then due (without regard to any acceleration) on the First Tier Bonds, including TIFIA Bonds, prior to the payment of amounts due on such Second Tier Bonds, other Third Tier Bonds or Subordinate Bonds. In addition, after TIFIA Bonds become First Tier Bonds, no further deposits shall be made to a Third Tier Debt Service Reserve Account established for the purpose of paying the principal of and interest such TIFIA Bonds unless a deposit to the Third Tier Debt Service Reserve Account is necessary to reimburse a Credit Provider for a draw on a Credit Facility.

CONCERNING THE FIDUCIARIES

Responsibility of Fiduciaries. The recitals of fact contained in the General Trust Indenture and in the Bonds shall be taken as the statements of the Authority and no Fiduciary assumes any responsibility for the correctness of the same. No Fiduciary makes any representations as to the validity or sufficiency of the General Trust Indenture or of any Bonds issued thereunder or in respect of the security afforded by the General Trust Indenture, and no Fiduciary shall incur any responsibility in respect thereof. The Trustee shall, however, be responsible for its representation contained in the Certificate of Authentication executed by it on the Bonds. No Fiduciary shall be under any responsibility or duty with respect to the issuance of the Bonds for value or the application of the proceeds thereof or the application of any moneys paid to the Authority. No Fiduciary shall be under any responsibility or duty with respect to the application of any moneys paid to any other Fiduciary. No Fiduciary shall be under any obligation or duty to perform any act which would involve it in expense or liability or to institute or defend any suit in respect hereof, or to advance any of its own moneys, unless properly

indemnified. No Fiduciary shall be liable in connection with the performance of its duties under the General Trust Indenture except for its own negligence or willful misconduct.

Resignation of Trustee. The Trustee may at any time resign and be discharged of the duties and obligations created by the General Trust Indenture or any Series Trust Indenture by giving not less than sixty (60) days' written notice to the Authority and by mailing notice (specifying the date such resignation is to take effect) through regular United States mail, postage prepaid, to each Bondholder, and such resignation shall take effect upon the day specified in such notice unless (i) no successor has been appointed as provided in Section 1109 ("Remedies Not Exclusive") of the General Trust Indenture, or (ii) previously a successor shall have been appointed, as provided in Section 1109 ("Remedies Not Exclusive") of the General Trust Indenture, in which event such resignation shall take effect immediately on the appointment of such successor.

Removal of Trustee. The Trustee may (so long as no Event of Default has occurred and is continuing) and, if at any time so requested by an instrument or concurrent instruments in writing, filed with the Trustee and the Authority, and signed by the Holders of a majority in principal amount of the Bonds then Outstanding or their attorneys-in-fact duly authorized, excluding any Bonds held by or for the account of the Authority, shall, be removed by the Authority by an instrument or concurrent instruments in writing, filed with the Trustee and the Authority and signed by the Authority or the Holders, as appropriate. The Trustee may also be removed at any time for any breach of trust or for acting or proceeding in violation of, or for failing to act or proceed in accordance with, any provision of the General Trust Indenture with respect to the duties and obligations of the Trustee by any court of competent jurisdiction upon the application of the Authority or the Holders of not less than ten percent (10%) in aggregate principal amount of Outstanding Bonds. No such removal will be effective until a successor Trustee has been appointed and assumed the duties of Trustee as provided in Section 1109 ("Remedies Not Exclusive") of the General Trust Indenture.

Appointment of Successor Trustee. In case at any time the Trustee shall resign or shall be removed or shall become incapable of acting, or shall be adjudged a bankrupt or insolvent, or if a receiver, liquidator or conservator of the Trustee, or of its property, shall be appointed, or if any public officer shall take charge or control of the Trustee, or of its property or affairs, the Authority covenants and agrees that it will thereupon appoint a successor Trustee. The Authority shall provide notice to the Bondholders of any such appointment made by it within twenty (20) days after such appointment.

If no appointment of a successor Trustee shall be made pursuant to the foregoing provisions of this Section within forty-five (45) days after the Trustee shall have given to the Authority written notice, as provided in Section 1107 ("Resignation of Trustee") of the General Trust Indenture, or after a vacancy in the office of the Trustee shall have occurred by reason of its removal or inability to act, the Trustee or the Bondholder of any Bond may apply to any court of competent jurisdiction to appoint a successor Trustee. Said court may thereupon, after such notice, if any, as such court may deem proper and prescribe, appoint a successor Trustee.

Any Trustee appointed under the provision of this Section 1109 ("Appointment of Successor Trustee") of the General Trust Indenture in succession to the Trustee shall be a trust

company or bank having the powers of a trust company within or outside the Commonwealth, having a capital and surplus aggregating at least One Hundred Million Dollars (\$100,000,000) if there be such a trust company or bank willing and able to accept the office on reasonable and customary terms and authorized by law to perform all duties imposed upon it by the General Trust Indenture or any Series Trust Indenture.

MISCELLANEOUS

Defeasance.

(a) If the Authority shall pay or cause to be paid, or there shall otherwise be paid, to Holders of the Bonds, such amounts as will, taking into account the investment earning therefrom, fully provide for all of the principal and interest and Redemption Price, if any, to become due on a particular Series of Bonds, at the times and the manner stipulated therein and in the General Trust Indenture or any Series Trust Indenture, and if the obligations of all Credit Providers under Credit Facilities and Reimbursement Agreements and Hedge Providers under Hedge Facilities related to those Series of Bonds have been fully paid and provided for, then and in that event as to that particular Series of Bonds the General Trust Indenture or any Series Trust Indenture shall cease, determine, and become null and void, and the covenants, agreements and other obligations of the Authority under the General Trust Indenture shall be satisfied and discharged for that particular Series of Bonds, and in such event, the Trustee shall, upon the request of the Authority, execute and deliver to the Authority all such instruments as may be desirable to evidence such discharge and satisfaction and the Fiduciaries shall pay over or deliver to the Authority all moneys or securities held by them pursuant to the General Trust Indenture or any Series Trust Indenture in respect of such Series of Bonds which are not required for the payment or redemption of such Series of Bonds not theretofore surrendered for such payment or redemption.

(b) Bonds or interest installments of a particular Series of Bonds for the payment or redemption of which moneys shall have been set aside and shall be held in trust by Fiduciaries (through deposit by the Authority of funds for such payment or redemption or otherwise) shall, at the maturity or Redemption Date thereof, be deemed to have been paid within the meaning and with the effect expressed in subsection (a) of this Section. Bonds of a particular Series shall, prior to the maturity or Redemption Date thereof, be deemed to have been paid within the meaning and with the effect expressed in subsection (a) of this Section (“Defeasance”) of the General Trust Indenture if (i) in case any of said Bonds are to be redeemed on any date prior to their maturity, the Authority shall have given to the Trustee in form satisfactory to it irrevocable instructions to provide notice of redemption in the manner prescribed in the applicable Series Trust Indenture, (ii) there shall have been deposited with the Trustee either moneys in an amount which shall be sufficient, or Defeasance Obligations, the principal of and the interest on which when due will provide moneys which, together with the moneys, if any, deposited with the Trustee at the same time, shall be sufficient to pay when due the principal or Redemption Price, if any, and interest due and to become due on said Bonds on and prior to the Redemption Date or maturity date thereof, as the case may be, and (iii) in the event said Bonds are not subject to redemption within the next 60 days, the

Authority shall have given the Trustee in form satisfactory to it irrevocable instructions to notify the Holders of such Bonds of such redemption in the manner provided in the applicable Series Trust Indenture for giving notice of redemption. Neither Defeasance Obligations or moneys deposited with the Trustee pursuant to this Section nor principal, Redemption Price or interest payments on any such Defeasance Obligations shall be withdrawn or used for any purpose other than, and shall be held in trust for, the payment of the principal, Redemption Price and interest on said Bonds.

(c) Anything in the General Trust Indenture or any Series Trust Indenture to the contrary notwithstanding, any moneys held by a Fiduciary in trust for the payment and discharge of any of the Bonds which remain unclaimed for four (4) years after the date when all of the Bonds have become due and payable, either at their stated maturity dates or by call for earlier redemption, if such monies were held by the Fiduciary at such date, or for four (4) years after the date of deposit of such monies with the Fiduciary after said date when all of the Bonds became due and payable, shall, subject to the provisions of Article VI (“Redemption of Bonds”) of the General Trust Indenture, at the written request of the Authority, be repaid by the Fiduciary to the Authority, as its absolute property and free from trust, and the Fiduciary shall thereupon be released and discharged.

Conflicts with Development Agreement. Should any conflict exist between the terms of the Development Agreement and the terms of the General Trust Indenture or any Series Trust Indenture, the Authority shall comply with the terms of the General Trust Indenture and the Series Trust Indenture and, in accordance with the terms of the Development Agreement, resolve such conflict by amending or supplementing the Development Agreement or, if necessary, pursuing the dispute resolution provisions of the Development Agreement.

No Recourse Under General Trust Indenture, any Series Trust Indenture or on Bonds. All covenants, stipulations, promises, agreements and obligations of the Authority contained in the General Trust Indenture shall be deemed to be the covenants, stipulations, promises, agreements and obligations of the Authority and not of any member, officer, director or employee of the Authority in his individual capacity, and no recourse shall be had for the payment of the principal or Redemption Price of or interest on the Bonds or for any claim based thereon or on the General Trust Indenture or any Series Trust Indenture against any member, officer, director or employee of the Authority or any natural person executing the Bonds.

Governing Law. The General Trust Indenture shall be deemed to be an agreement made under the laws of the Commonwealth and for all purposes shall be governed by and construed in accordance with the laws of the Commonwealth.

APPENDIX C

SUMMARY OF LEASE

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LEASE

The Lease contains various covenants, security provisions, terms and conditions, certain of which are summarized below. The descriptions in this Appendix C do not purport to be comprehensive or definitive. Reference is made to the Lease for a full and complete statement of its provisions. All references herein to the various financing documents are qualified in their entirety by reference to each such document, copies of which are available for review prior to the issuance and delivery of the Bonds at the offices of the Authority and thereafter at the offices of the Trustee.

LEASE OF AUTHORITY SYSTEM BY CABINET FROM AUTHORITY; INITIAL TERMS; OPTIONAL RENEWALS; RENT

Lease of Authority System by Cabinet From Authority; Optional Renewals. The Cabinet hereby leases from the Authority, and the Authority hereby leases to the Cabinet, all of the properties, facilities and appurtenances constituting the Authority System, for an initial term ending June 30, 2014, with the right and privilege by the Cabinet to continue to lease and have the Authority System for succeeding biennial periods if the Cabinet exercises its option to renew the Lease granted in the Lease.

Rent. The Cabinet covenants and agrees to pay, upon notice from the Trustee in accordance with Section 504 (“Application of Amounts in the Authority System Revenue Fund”) of the General Trust Indenture, “Rent” for the term of the Lease and during any Renewal Term, as follows:

(i) No later than 180 days after a request therefor has been provided to the Transportation Cabinet in accordance with Section 509 (“Tolling O&M Reserve Fund”) of the General Trust Indenture, the amount required to permit the Trustee to make the deposits in the Tolling O&M Reserve Fund required by Section 504(g) (“Application of Amounts in the Authority System Revenue Fund”) of the General Trust Indenture so that after any such payment of Rent and deposit, the balance in the Tolling O&M Reserve Fund will be no less than the Tolling O&M Reserve Fund Requirement; and

(ii) No later than 120 days after a request therefor has been provided to the Transportation Cabinet in accordance with Section 510 (“General O&M Reserve Fund”) of the General Trust Indenture, the amount required to permit the Trustee to make the deposits in the General O&M Reserve Fund required by Section 504(h) (“Application of Amounts in the Authority System Revenue Fund”) of the General Trust Indenture so that after any such payment of Rent and deposit, the balance in the General O&M Reserve Fund will be no less than the General O&M Reserve Fund Requirement; and

(iii) No later than August 1 of the next even numbered year after a request therefor has been provided to the Transportation Cabinet in accordance with Section 511 (“M&R Reserve Fund”) of the General Trust Indenture, the amount required to permit the Trustee to make the deposits in the M&R Reserve Fund required by Section 504(i) (“Application of Amounts in the Authority System Revenue Fund”) of the General Trust Indenture so that after any such payment of Rent and deposit, the balance in the M&R Reserve Fund will be no less than the M&R Reserve Fund Requirement.

Option to Renew. The Authority hereby grants unto the Cabinet an exclusive option to renew the Lease for successive ensuing Renewal Terms, commencing July 1 in each even-numbered year, and ending June 30 in the next ensuing even-numbered year, and the last Renewal Term shall end on the June 30 immediately following the final maturity date of the Bonds to be issued by Authority for the Project; and for each such Renewal Term, if renewed therefor, the Cabinet shall cause to be paid to the Authority, the Rent for such Renewal Term, payable from amounts budgeted, if any, in the Road Fund budget of the Commonwealth for such purpose.

Option to Renew Deemed Automatically Exercised; Election Not to Renew. Each of the successive options to renew may be exercised for the succeeding Renewal Term at any time after the adjournment of the Session of the General Assembly of the Commonwealth at which appropriations shall have been made for the operation of the state government for each succeeding Renewal Term by notifying the Authority in writing, signed by the Secretary of the Cabinet and delivered to the Authority; provided, however, that such option shall in each instance be deemed automatically exercised, and the Lease automatically renewed for the succeeding Renewal Term, effective on the first day thereof, unless a written notice of the election of the Cabinet not to renew, signed by the Secretary of the Cabinet shall have been delivered to the Authority before the close of business on the last business day in April, immediately preceding the beginning of such succeeding renewal term.

Additional Rent. The Cabinet covenants and agrees to pay “Additional Rent” for the term of the Lease and during any Renewal Term, as follows:

(i) To the Trustee, when due, all fees of the Trustee for services rendered, all fees and charges of any paying agent, counsel, accountants, and others incurred in the performance on request of the Trustee of services for which the Trustee and such other persons are entitled to payment or reimbursement; and

(ii) To the Authority, upon demand, all reasonable expenses incurred by it in relation to the Authority System which are not otherwise required to be paid by the Authority under the terms of the Lease.

Authority System as Part of the Commonwealth’s System of Highways. The Cabinet acknowledges that the Authority System is a part of the Kentucky state primary road system to be maintained by the Department of Highways as described in KRS 177.020(1) and that, in the event that Toll Revenue is insufficient to maintain the Authority System, the Cabinet will maintain it in compliance with its obligation under KRS 176.050(1)(a) to investigate all problems relating to the construction and maintenance of roads in the state.

Completion of Project. Based upon the estimates of its engineers and the contract prices proposed to the Transportation Cabinet, the Transportation Cabinet and the Authority believe that sufficient funds will be available to complete the Project with (i) appropriated funds, (ii) proceeds of bonds payable from federal highway trust funds (“GARVEE bonds”), (iii) proceeds of the TIFIA Loan and (iv) proceeds of the Bonds (all the foregoing, collectively, the “Current Funding Sources”). Nevertheless, the Transportation Cabinet and the Authority acknowledge that unexpected or unforeseen circumstances could result in additional unanticipated costs (the

“Additional Costs”) that exceed amounts available from the Current Funding Sources. If the Current Funding Sources are not sufficient to complete the Project in a timely manner, then, until the Project is complete, the Transportation Cabinet, on each and every occasion when appropriations bills are prepared for introduction in the various successive Sessions of the General Assembly of the Commonwealth, cause to be included in the appropriations proposed to be made for the Transportation Cabinet, (i) authorization for the issuance of additional GARVEE bonds to pay the Additional Costs or (ii) sufficient amounts (over and above all other requirements of the Transportation Cabinet), which will enable the Transportation Cabinet to pay the Additional Costs anticipated to be incurred during the applicable budget period (not funded by the proceeds of GARVEE bonds) and thereby provide to the Authority moneys sufficient for the payment of the Additional Costs to be incurred during such budget period (the proceeds of GARVEE bonds, authorized but unissued GARVEE bonds and additional appropriations hereafter being referred to as “Additional Funding Sources”).

The Additional Funding Sources may include any of the following:

- (i) GARVEE bonds;
- (ii) federal highway funds; and
- (iii) amounts available in the Road Fund of the Commonwealth.

The Authority shall provide notice and documentation of the need for Additional Funding Sources as soon as such need comes to the attention of the Authority and in any event no later than October 1 of the year prior to the effective date of the Budget Act that is to include authorization of the Additional Funding Sources. Any such request shall be accompanied by a certificate of a Consulting Engineer stating that in its opinion, the Additional Funding Sources are reasonably necessary in order to assure that funds will be available, as needed, to complete the Project in a timely manner.

Payments of Completion Costs Constitute Loans. Any amounts from the Road Fund that are applied as additional funding under Section 4.07 (“Completion of Project”) of the Lease shall constitute a loan to the Authority from the Transportation Cabinet in an amount equal to such additional funding. Such loan is payable to the Transportation Cabinet with interest thereon at the rate of annual interest equal to five percent. The amounts payable by the Authority in accordance with Article IV (“Application of Bond Proceeds”) of the General Trust Indenture shall be payable solely from the Pledged Receipts and shall be due in amounts available to make such payments in accordance with the provisions of Section 504 (“Application of Amounts in the Authority System Revenue Fund”) of the General Trust Indenture in the same manner as the repayment of Lease Payments; provided that, such loan repayment shall be reduced by any amounts received by the Transportation Cabinet from proceeds of claims made under performance bonds or other similar arrangements that are related to the Project.

**CABINET TO HAVE PEACEFUL POSSESSION SO
LONG AS THE LEASE IS IN FULL FORCE AND EFFECT**

Authority covenants that during the initial term of the Lease and during each successive optional Renewal Term for which the Lease may be renewed, provided no event of default shall

have occurred and be continuing under the Lease, the Authority shall maintain the Cabinet in peaceful possession and enjoyment of the Authority System.

**CABINET TO REQUIRE SUFFICIENT
AMOUNTS IN APPROPRIATIONS BILLS IN ORDER
FOR RENTAL PAYMENTS TO BE MADE**

The Cabinet has covenanted and agreed that (i) on each and every occasion when appropriations bills are prepared for introduction in the various successive Sessions of the General Assembly of the Commonwealth after a request therefor has been provided to the Transportation Cabinet in accordance with Sections 509 (“Tolling O&M Reserve Fund”) or 510 (“General O&M Reserve Fund”) of the General Trust Indenture and (ii) no later than October 1 of the next odd numbered year after a request therefor has been provided to the Transportation Cabinet in accordance with Sections 511 (“M&R Reserve Fund”) of the General Trust Indenture, the Lessee will cause to be included in the appropriations proposed to be made for the Cabinet, an amount sufficient (over and above all other requirements of the Cabinet), to enable the Cabinet to pay the Rent and Additional Rent due or to become due during the effective period of the applicable Budget Act, and thereby provide to the Authority moneys sufficient for the deposit of amounts required by Sections 504(g), (h) and (i) (“Application of Amounts in the Authority System Revenue Fund”) of the General Trust Indenture (the “Required Deposits”); provided that, so long as the Authority System Budget for the applicable period does not identify Rent as a source of the Required Deposits or the Cabinet has not determined to pay Rent, the Cabinet shall not be required to include amounts related to Rent in the appropriations proposed to be made for the Cabinet unless, notwithstanding such Authority System Budget, the Authority or the Cabinet has determined that the Trustee will not have sufficient funds to make the Required Deposits if Rent is not paid.

EVENTS OF DEFAULT AND REMEDIES

Each of the following events has been defined and shall constitute an “event of default” under the Lease:

(i) default in the due and punctual payment of any Rent, provided that failure to pay Rent shall not constitute an event of default if (a) the Budget Act then in effect does not include an appropriation to pay such Rent, (b) the Cabinet is in compliance with the requirements of Article VIII (“Cabinet to Require Sufficient Amounts in Appropriations Bills in Order For Rental Payments To Be Made”) of the Lease and (c) such payment of Rent is made within thirty (30) days of the effective date of the Budget Act appropriating such Rent, provided further that such failure to pay Rent shall be an event of default if the session of the General Assembly of the Commonwealth related to the requirements of Article VIII (“Cabinet to Require Sufficient Amounts in Appropriations Bills in Order For Rental Payments To Be Made”) of the Lease (has ended without adoption of a Budget Act including the appropriation required to pay Rent; or

(ii) default in the performance of any of the covenants, terms, and conditions of the Lease, other than as stated in clause (i) above, and failure to remedy such default

within thirty (30) days after written receipt thereof if the default relates to matters other than the payment of Rent (but the Cabinet shall not be deemed to be in default if Cabinet commences to remedy said defaults within said thirty (30) day period, and proceeds to and does remedy said default with due diligence).

If an event of default occurs, the Authority, in addition to all other remedies given to the Authority at law or in equity, may by written notice to the Cabinet terminate the Lease or, without terminating the Lease, take possession (actually or constructively) of the Authority System. In such event, the Authority may sublet the Authority System or portions thereof, and in the event of a reletting may apply the rent therefrom first to the payment of the Authority's expenses incurred by reason of the Cabinet's default, and the expense of reletting, including but not limited to any repairs, renovation or alteration of the Authority System, and then to the payment of Rent, Additional Rent and all other sums due from the Cabinet under the Lease; provided, that prior to any such subletting or reletting, the Authority shall deliver to the Trustee an opinion of nationally recognized bond counsel to the effect that such subletting or reletting does not cause the interest on any Outstanding Tax-Exempt Bonds, as defined in the General Trust Indenture, to be includible in gross income of the owners thereof for federal income tax purposes or would not result in a failure to comply with any requirements of the Code with respect to any Tax Advantaged Bonds, as defined in the General Trust Indenture. All remedies available to the Authority are declared to be cumulative and concurrent. No termination of the Lease nor any taking or recovering of possession of the Authority System shall deprive the Authority of any of its remedies or actions against the Cabinet.

TAX COVENANTS

Tax Covenants Generally. To the full extent that it has the legal right to do so, the Cabinet agrees to all of the provisions of the General Trust Indenture authorizing the Bonds; and agrees that it will neither take any action nor omit to take any action which taking or omission would result in the interest on any Tax-Exempt Bonds being or becoming includible in gross income for federal income tax purposes or would result in a failure to comply with any requirements of the Code with respect to any Tax Advantaged Bonds.

No Private Activity Bonds. It is agreed that nothing has been done or will be done by either the Authority or the Cabinet which will cause the Bonds to be private activity bonds within the meaning of Section 141 of the Code, including performance of any of the covenants contained in the Lease.

Permitted Private Use. To assure that interest on Tax-Exempt Bonds will be and remain excludible from gross income for federal income tax purposes and that the requirements of the Code with respect to any Tax Advantaged Bonds will continue to be satisfied, the Cabinet hereby represents and covenants, for the benefit of and reliance on by the Authority, the Trustee, and the owners of the Bonds, that no portion of the Project shall be used directly or indirectly in a trade or business carried on by a natural person or in any activity carried on by a person other than a natural person, excluding, however, use by a state or local governmental unit and use as a member of the general public ("private use"), unless (i) the private use was reasonably described or contemplated pursuant to the Federal tax certificate delivered by the Authority and the Cabinet in connection with the original issuance of such Tax-Exempt Bonds or Tax Advantaged Bonds or

(ii) the Trustee has received an opinion of nationally recognized bond counsel that the private use does not cause the interest on such Tax-Exempt Bonds to be includible in gross income of the owners thereof for federal income tax purposes or cause a failure to comply with the requirements of the Code with respect to any Tax Advantaged Bonds.

If private use of any portion of the Project is permitted under the preceding paragraph, the Cabinet shall not accept or receive any direct or indirect payment from any person, other than a state or local governmental unit (unless such payment is itself received from a person which is not a state or local governmental unit) or a member of the general public, unless (i) the payment was reasonably described or contemplated pursuant to the Federal tax certificate delivered by the Authority and the Cabinet in connection with the original issuance of such Tax-Exempt Bonds or (ii) the Trustee has received an opinion of nationally recognized bond counsel that the payment does not cause the interest on such Tax-Exempt Bonds to be includible in gross income of the owners thereof for federal income tax purposes.

SECURITY AND ASSIGNMENT

Security. The Lease secures the payment of all Rent and Additional Rent under the Lease and the application thereof as provided in the General Trust Indenture.

The Lease is given subject to all of the terms, conditions and provisions of the General Trust Indenture. If any conflict should exist between the provisions of the Lease and the General Trust Indenture, the provisions of the General Trust Indenture shall prevail.

Assignment. All right, title and interest of the Authority in and to the Lease and the Rent, if any, and the Additional Rent payable under the Lease, may be assigned and pledged by the Authority to the Trustee for the security and benefit of the owners of the Bonds.

PAYMENTS OF RENT CONSTITUTE LOANS

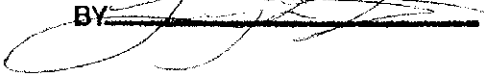
Each payment of Rent and Additional Rent by the Transportation Cabinet hereunder shall constitute a loan to the Authority from the Transportation Cabinet in an amount equal to such payment. Each such loan shall be repayable by the Authority to the Transportation Cabinet with interest thereon at the rate of annual interest equal to five percent. The amounts payable by the Authority shall be payable solely from the Pledged Receipts and shall be due in amounts available to make such payments in accordance with the provisions of Section 504 of the General Trust Indenture as repayment of Lease Payments.

AMENDMENT OF LEASE

The Lease may be amended or supplemented from time to time by a writing duly executed by the parties hereto with written notice to the Trustee; subject, however, to the condition that any such amendment or supplement shall be consistent with the terms and conditions of the General Trust Indenture and shall not diminish the Rent payable under the provisions of the Lease for so long as Bonds are Outstanding.

RECEIVED AND FILED

DATE 12/27/2017

ALISON LUNDERGAN GRIMES
 SECRETARY OF STATE
 COMMONWEALTH OF KENTUCKY
 BY 

**Interlocal Cooperation Agreement for the Design,
 Procurement, Construction, Financing, Tolling, Operation and
 Maintenance for the Louisville-Southern Indiana Ohio River Bridges Project**

This Interlocal Cooperation Agreement for the Design, Procurement, Construction, Financing, Tolling, Operation and Maintenance for the Louisville-Southern Indiana Ohio River Bridges Project ("Agreement") is made by and among the Indiana Finance Authority ("IFA"), the Kentucky Public Transportation Infrastructure Authority ("KPTIA"), the Indiana Department of Transportation ("INDOT"), and the Kentucky Transportation Cabinet ("KYTC"). IFA, INDOT, KYTC, and KPTIA are sometimes referred to individually herein as a "Party" or collectively as "the Parties". This Agreement shall, for purposes of Indiana law, constitute two separate interlocal agreements as described below and shall be effective as of December 17, 2012.

Recitals

A. WHEREAS, the Louisville-Southern Indiana Ohio River Bridges Project ("Project") is a construction and reconstruction project that is located within the Louisville metropolitan planning area, which includes portions of the Commonwealth of Kentucky ("Kentucky") and the State of Indiana ("Indiana") and is composed primarily of two elements: the Downtown Crossing (as defined herein) and the East End Crossing (as defined herein);

B. WHEREAS, the Project will provide additional capacity, improve transportation efficiency and reliability, expand travel choices, and deliver urgently needed performance and enhancements to existing infrastructure in the Louisville-Southern Indiana region;

C. WHEREAS, pursuant to Kentucky Revised Statutes ("KRS") 175B.030 and Senate Joint Resolution 169 (2010), the Louisville and Southern Indiana Bridges Authority (the "Bridges Authority") was created and ratified by the Kentucky General Assembly and given the primary task of developing a financial plan for the Project, which was to be submitted to KPTIA for approval;

D. WHEREAS, the State of Indiana's participation in the Bridges Authority was authorized by the Governor of Indiana pursuant to Executive Order 09-11 dated December 3, 2009 (the "Executive Order");

E. WHEREAS, the Bridges Authority has developed and approved a financial plan for the Project in accordance with KRS 175B.030(6), and such financial plan has also been approved by KPTIA as required by KRS 175B.030(6);

F. WHEREAS, in Part I. A., 4 (16) of Kentucky House Bill 2, 2012 Extraordinary Session, signed by the Governor of Kentucky on May 2, 2012 ("Kentucky H.B. 2"), the Kentucky General Assembly stipulated that the Bridges Authority has completed the tasks and duties assigned to it by KRS 175B.030 by adopting the aforementioned financial plan and submitting that plan to KPTIA and the Kentucky General Assembly;

G. WHEREAS, in late 2011, Kentucky and Indiana, in consultation with the Bridges Authority, determined that the preferred approach for delivery of the Project was for each state to take the lead in overseeing and financing construction of approximately one-half of the Project, with Kentucky being responsible for financing and constructing the Downtown Crossing and Indiana being responsible for financing and constructing the East End Crossing;

H. WHEREAS, this preferred approach has been memorialized in a term sheet adopted by the states pursuant to a Memorandum of Understanding signed by their respective Governors on March 5, 2012;

I. WHEREAS, the Federal Highway Administration ("FHWA") has issued an Amended Record of Decision ("ROD") for the Project, and FHWA has approved an Initial Financial Plan pursuant to its Financial Plans Guidance under Title 23, Section 106(h) of the United States Code;

J. WHEREAS, KPTIA is an independent de jure municipal corporation and political subdivision of Kentucky constituting a governmental agency and instrumentality of Kentucky;

K. WHEREAS, in Part I, A., 4., (16) of Kentucky H.B. 2, the Kentucky General Assembly has authorized KPTIA to participate as the developing and issuing authority for purposes of KRS Chapter 175B in the development, construction, financing, tolling, operations and maintenance of the Project, and has determined that, in carrying out its functions, powers and duties, KPTIA will be performing essential public and government functions that improve the public welfare and prosperity of the people of Kentucky;

L. WHEREAS, as the developing and issuing authority, KPTIA has the powers and authorities set forth in KRS175B.020 and KRS175B.025, including but not limited to the power to fix, revise, charge and collect tolls; to enforce rules and regulations for the use of a project; to directly or indirectly construct, reconstruct, maintain, repair, operate and regulate projects within Kentucky, or contract with another entity for these services; to acquire and hold real and personal property and rights-of-way; and to dispose of such property as KPTIA deems necessary;

M. WHEREAS, KYTC is a cabinet and public agency of Kentucky and is responsible for and has authority to direct and control the establishment, construction and maintenance of Kentucky's primary road system;

N. WHEREAS, the IFA is a body politic and corporate with authority to assist Indiana with, among other things, the financing, acquisition, building and equipping of structures for state use, including highways, toll roads and bridges;

O. WHEREAS, the Indiana General Assembly created the IFA for public purposes, and declared that the exercise by the IFA of its powers constitutes an essential governmental, public and corporate function;

P. WHEREAS, INDOT is an Indiana state agency responsible for planning, building and operating Indiana's transportation system, including the development and implementation of a strategic plan to meet the needs of Indiana and its stakeholders, and to enhance economic development;

Q. WHEREAS, IFA, KPTIA, INDOT and KYTC are each a state agency, political subdivision, public instrumentality and/or public corporate body within the meaning and usage of IC 36-1-7-1, as well as a public agency within the meaning and usage of KRS 65.230 and 65.240, and thus they possess the power and are authorized to enter into one or more interlocal agreements under their states' respective Interlocal Cooperation Acts (IC 36-1-7 et. seq. and KRS 65.210 to 65.300);

R. WHEREAS, IC 36-1-7-8 provides that, if any entities of other jurisdictions are parties to an interlocal agreement, the agreement constitutes an interstate compact;

S. WHEREAS, KYTC and KPTIA are entities of a jurisdiction other than Indiana, rendering this interlocal agreement an interstate compact pursuant to IC 36-1-7-8;

T. WHEREAS, KRS 65.290 provides that an agreement entered pursuant to Kentucky's Interlocal Cooperation Act that is between one or more public agencies of Kentucky and one or more public agencies of another state, shall have the status of an interstate compact;

U. WHEREAS, IFA and INDOT are public agencies of a state other than Kentucky, rendering this interlocal agreement an interstate compact pursuant to KRS 65.290;

V. WHEREAS, IFA, INDOT, KYTC and KPTIA are each authorized to participate in the design, procurement, construction, financing, tolling, operation and maintenance of the Project;

W. WHEREAS, KYTC has the power to utilize design-build procurement methods for the Project (Part I., A., 4., (12) of Kentucky H.B. 2);

X. WHEREAS, IFA has such powers and authorities set forth in IC 8-15.5, including the power to enter into one or more public-private agreements pursuant to which a private entity or entities will design, construct, finance, operate and maintain the East End Crossing portion of the Project, including the tolling development, tolling integration, and tolling operation functions;

Y. WHEREAS, pursuant to IC 8-15.5-1-2, IFA also has the power to authorize an operator to impose tolls for the operation of motor vehicles on all or part of the Project;

Z. WHEREAS, pursuant to IC 8-15.5-7-1, IFA may fix and revise the amounts of the tolls an operator may charge and collect for the use of any part of the Project, and pursuant to IC 9-21-3.5-10, IC 4-4-11-15, IC 4-22-2-37.1, and IC 8-15-2-17 and 17.2, *inter alia*, IFA may adopt rules and regulations regarding tolling of the Project, including toll collection and enforcement;

AA. WHEREAS, pursuant to IC 8-15.5-10-5, IFA also has the power to acquire such public or private lands as it may deem necessary for accomplishing the Project, and may sell, transfer and convey any such lands or interest therein as may be necessary or convenient for the construction and operation of any toll road project;

BB. WHEREAS, pursuant to IC 8-15.5-10-1, IFA may exercise any powers in participation or cooperation with INDOT or any other governmental entity and enter any contracts to facilitate that participation or cooperation;

CC. WHEREAS, pursuant to IC 8-15.5-5-6, INDOT has been authorized to and may perform duties and exercise powers delegated to it by the IFA with respect to the Project;

DD. WHEREAS, INDOT and IFA are entitled to tort claims protection under IC 34-13-3 et. seq. and as otherwise provided by law, and intend to share and retain such protection when acting in cooperation with the Kentucky Parties as provided herein and in the Bi-State Development Agreement;

EE. WHEREAS, KYTC and KPTIA are entitled to tort claims protection under Section 231 of the Kentucky Constitution, KRS 44.072 and as otherwise provided by law, and intend to share and retain such protection when acting in cooperation with the Indiana Parties as provided herein and in the Bi-State Development Agreement;

FF. WHEREAS, the States' Parties have exemptions from payment of state and local taxes, including but not limited to income and ad valorem property taxes, and intend to share and retain such exemptions when acting in cooperation with each other as provided herein and in the Bi-State Development Agreement;

GG. WHEREAS, the purposes of this Agreement are: (a) to establish joint boards composed of representatives of the Parties to this Agreement for each of the separate agreements contained herein under Indiana law, and on which all Parties hereto are represented; and (b) to facilitate and assist in the accomplishment of the Project through the delegation and sharing among the Parties all of their respective rights, powers, functions, duties, and privileges as necessary, useful or appropriate to develop, procure, design, construct, finance, toll, operate and maintain the Project;

HH. WHEREAS, KRS 175B.030(7)(a) contemplates that, upon the approval of the financial plan required by KRS 175B.030(6), a development agreement may be entered into establishing the duties, responsibilities, powers and authorities of the parties involved in delivering the Project;

II. WHEREAS, KRS 175B.030(7)(c) provides that, in addition to such development agreement, additional agreements may be executed, as necessary, to complete the Project;

JJ. WHEREAS, KRS 175B.025 provides that KPTIA, as the developing and issuing authority, has the power to enter into agreements as necessary to facilitate the development, construction, maintenance, operation, repair, tolling, or financing of the Project;

KK. WHEREAS, the Parties are entering the Bi-State Development Agreement, which defines their respective roles and responsibilities for the procurement, revenue-sharing, financing, constructing, tolling, operation and maintenance of the Project;

LL. WHEREAS, in connection with execution of the Bi-State Development Agreement, the performance of the Parties' obligations thereunder and the accomplishment of the Project as contemplated by the Bi-State Development Agreement, the Parties having determined it is in the best interests of the Parties, the citizens of Indiana and the citizens of Kentucky (including but not limited to those residing in the Louisville-Southern Indiana area) to enter into this Agreement to set forth the terms of such joint agreement as required by the Interlocal Cooperation Acts;

MM. WHEREAS, the Parties (as applicable) have conducted the appropriate meetings or hearings as required by law and have otherwise met all conditions precedent to entering this Agreement;

NN. WHEREAS, KYTC, KPTIA, IFA and INDOT have adopted resolutions authorizing the execution, delivery and performance of this Agreement;

OO. WHEREAS, the Secretary of KYTC has approved this Agreement;

PP. WHEREAS, this Agreement shall be submitted for approval to the Attorney General of Indiana, and the Attorney General of Kentucky;

QQ. WHEREAS, this Agreement will be filed with the County Recorder of Clark County, Indiana and with the Indiana State Board of Accounts; and

RR. WHEREAS, this Agreement will be filed with the County Clerk of Franklin County, Kentucky, and with the Secretary of State of Kentucky;

SS. WHEREAS, for purposes of Indiana law, this Agreement shall consist of two separate interlocal agreements within one document with certain common provisions---one interlocal agreement pertaining to the Joint Board and the responsibilities specified in Sections 3.01 and 3.03 hereof, and the other pertaining to the Tolling Body and the responsibilities specified in Sections 3.02 and 3.03 hereof, each of which agreements shall constitute and be considered an 'interlocal agreement' within the meaning of this Agreement and I.C. 36-1-7.

TT. Each of the Joint Board and the Tolling Body shall be considered "joint boards" under I.C. 36-1-7.

NOW, THEREFORE, in consideration of the premises and the representations, warranties, covenants and agreements contained herein, IFA, INDOT, KYTC and KPTIA agree as follows:

1.0 Purpose

In addition to the purposes set forth above in the Recitals, this Agreement provides for (a) the delegation, combination and/or sharing with the Joint Board, Tolling Body, and each of the Parties, to the extent such other Party is acting pursuant to an authorization set forth herein (or any supplement hereto) or in the Bi-State Development Agreement as applicable, of all powers that are useful, necessary, or appropriate, for the development, procurement, design, construction, financing, tolling, operation and maintenance of the Project as set forth in the Bi-State Development Agreement (while also retaining such powers for themselves); and (b) the exercise by the Joint Board, the Tolling Body, and the Parties of the powers delegated, combined and/or shared with them herein for the benefit of the citizens of Indiana and the citizens of Kentucky (including but not limited to those residing in the Louisville-Southern Indiana area).

2.0 Definitions and Acronyms

As used in this Agreement, the following terms shall have the meanings specified below:

- 2.01 *Agreement* means this Interlocal Cooperation Agreement for the Design, Procurement, Construction, Financing, Tolling, Operation and Maintenance for the Louisville-Southern Indiana Ohio River Bridges Project.
- 2.02 *Bi-State Development Agreement* means the agreement to which IFA, INDOT, KYTC, KPTIA and the Bridges Authority are parties which defines their respective roles and responsibilities for the procurement, revenue-sharing, financing, constructing, tolling, operation and maintenance of the Project.
- 2.03 *Custody Agreement* means the agreement entered among IFA, KPTIA, or the Joint Board (on behalf of such parties), the Toll Operator, and a bank or trust company as custodian which shall provide procedures for the deposit, division and transfer of toll revenues for the benefit of IFA and KPTIA.
- 2.04 *Downtown Crossing* means the portion of the Project that involves reconstruction and operational improvements to the Kennedy Interchange where I-64, I-65 and I-71 converge on the south side of the Kennedy Bridge in downtown Louisville (Section 1), reconstruction of the Kennedy Bridge along with construction of a New Downtown Bridge just east of the Kennedy Bridge (I-65) (Section 2), and reconstruction of the I-65 approach in Indiana, including modernization to improve ingress and egress and realignment and widening of the approaches (Section 3)
- 2.05 *East End Crossing* means the portion of the Project that involves construction of a new East End Bridge (Section 5) located about eight miles from downtown Louisville connecting the Gene Snyder Freeway (KY 841) to the Lee Hamilton Highway (S.R. 265) along with the approaches in Kentucky (Section 4) and Indiana (Section 6).

- 2.06 *IFA* means Indiana Finance Authority; a body politic and corporate created by Indiana pursuant to IC 4-4-11-4, which provides that the exercise of its powers constitutes an essential, governmental, public, and corporate function; the procuring entity for East End Crossing.
- 2.07 *Indiana Parties* means IFA and INDOT.
- 2.08 *Interlocal Cooperation Acts* means KRS 65.210 et.seq. and IC 36-1-7, respectively.
- 2.09 *INDOT* means Indiana Department of Transportation, an agency of Indiana.
- 2.10 *Joint Board* means a board created by this Agreement in Section 3.01.
- 2.11 *Kentucky H.B. 2* means Kentucky House Bill 2, 2012 Extraordinary Session, signed by the Governor of Kentucky on May 2, 2012.
- 2.12 *Kentucky Parties* means KYTC and KPTIA.
- 2.13 *KPTIA* means Kentucky Public Transportation Infrastructure Authority; the developing authority and issuing authority for the Downtown Crossing.
- 2.14 *KYTC* means Kentucky Transportation Cabinet, the procuring agency for the Downtown Crossing.
- 2.15 *Project* means the Louisville-Southern Indiana Ohio River Bridges Project
- 2.16 *Project Termination* means the later of the following dates: (i) the date when the Public-Private Agreement has concluded and been satisfied on the East End Crossing; and (ii) the date when bonds issued by KPTIA or any other entity to finance or refinance the Downtown Crossing have been satisfied.
- 2.17 *Project-Wide Costs* means costs that are necessary for and that benefit the Project as a whole and that are not specifically attributable to East End Crossing or Downtown Crossing.
- 2.18 *Toll Operations Agreement* means any agreement implementing this Agreement, in part, to be entered into among a toll operator and either (i) the Parties (or certain of them representing each State) and/or (ii) the Joint Board acting on behalf of such Parties, which will identify the duties and responsibilities of the toll operator with respect to the comprehensive electronic tolling system and, the collection and deposit of toll revenues and enforcement functions. The initial Toll Operations Agreement may be contained within the Toll System Integrator Agreement.
- 2.19 *Toll Policy Agreement* means an agreement implementing this Agreement, in part, to be entered among (i) the Parties (or certain of them representing each

State) and/or (ii) the Tolling Body acting on behalf of such Parties establishing a comprehensive toll policy for the Project.

2.20 *Toll System Integrator Agreement* means an agreement implementing this Agreement, in part, to be entered between the Parties (or certain of them representing each State and/or (ii) the Joint Board acting on behalf of such Parties) and a toll system integrator pursuant to which the toll system integrator will provide a comprehensive, electronic toll system for the Project and perform the role of the toll operator during a minimum initial period of one year.

2.21 *Tolling Body* means the board by that name established herein in Section 3.02.

3.0 Administration

3.01 Establishment of Joint Board

Pursuant to the Interlocal Cooperation Acts, the parties hereby establish the Joint Board composed of the following representatives of the Parties to this Agreement (or their respective designees who may serve in their stead from time to time):

Chairman of KPTIA

Public Finance Director of the State of Indiana, representative of the IFA

Secretary of KYTC

Commissioner of INDOT

The Joint Board shall administer this Agreement, and shall exercise such other powers and authorities for the purposes set forth herein and/or in the Bi-State Development Agreement (except for those responsibilities set forth in Section 3.02 and 3.03 to be carried out by the Tolling Body).

3.02 Establishment of Tolling Body

Pursuant to the Interlocal Cooperation Acts, the parties hereto establish the Tolling Body, composed of the members of the Joint Board, plus an additional representative each from the IFA and KPTIA. The Tolling Body shall be assigned responsibilities hereunder relating solely to toll policy development and the Toll Policy Agreement, as more fully described in Sections 11.4.2 and 11.5 of the Bi-State Development Agreement and in Sections 3.02 and 3.03 hereof.

3.03 Rules of Governance

The Joint Board and the Tolling Body each shall be governed by its own By-laws that it will adopt and which may be amended from time to time. The Joint Board and the Tolling Body each shall have the authority to amend its By-Laws in a

manner that is not inconsistent with this Agreement or with the Bi-State Development Agreement as it may determine to be in the best interest of the Joint Board or the Tolling Body, as the case may be, and its members. The Joint Board and the Tolling Body each may choose in its respective By-laws to operate under the applicable laws of Indiana or Kentucky or both states.

4.0 Financing, Staffing, Supplying and Budget

Pursuant to the Bylaws, the Joint Board and the Tolling Body shall each have the authority and responsibility for establishing and maintaining their respective budgets for Project-Wide Costs, which, unless otherwise agreed, shall be shared equally by the Indiana Parties and the Kentucky Parties. The Joint Board and the Tolling Body each shall have the authority to appoint or hire such consultants, agents or other persons, and to procure such supplies, as it may determine to be useful, appropriate or necessary to organize the respective operations and to implement the respective functions of the Joint Board and the Tolling Body.

5.0 Duration/Termination, Disposal of Property

5.01 The duration of this Agreement will be through and until termination of the Bi-State Development Agreement.

5.02 In the event this Agreement is terminated, the property shall be disposed of as provided in Article 5 of the Bi-State Development Agreement.

6.0 Real and Personal Property

The real and personal property shall be acquired, held and disposed of in the manner set forth in Article 5 of the Bi-State Development Agreement.

7.0 Powers, Privileges and Immunities

7.01 For the duration of this Agreement and without divesting itself of such powers, privileges and immunities, IFA delegates, combines and shares with, (i) the Joint Board, (ii) the Tolling Body and (iii) each other Party to the extent such other Party is acting pursuant to an authorization set forth herein (or any supplement hereto), in an implementing agreement described in Subsection 10.12 hereof, or in the Bi-State Development Agreement as applicable, the following powers, privileges and immunities, but only to the extent necessary, useful or appropriate for the respective duties of each for developing, procuring, designing, constructing, financing, tolling, operating and maintaining the Project in accordance with the purposes and terms set forth herein and the Bi-State Development Agreement:

7.01.01 to assist with the financing, acquisition, building and equipping of structures for state use, including highways, toll roads and bridges;

- 7.01.02 to enter contracts for the design, construction, financing, operation and maintenance of public works in Indiana;
- 7.01.03 to impose, fix and revise amounts, and collect user fees for use of any part of a toll road;
- 7.01.04 to acquire, sell, transfer and/or convey such public or private lands in Indiana, or any interest therein, as it deems necessary or convenient for accomplishing a toll road project;
- 7.01.05 to enter into one or more interlocal agreements under Indiana's Interlocal Cooperation Act (IC 36-1-7 et. seq.);
- 7.01.06 to participate in the design, procurement, construction, financing, tolling, operation and maintenance of the Project;
- 7.01.07 to exercise powers and authorities set forth in IC 8-15.5, including the power to enter into one or more public-private agreements pursuant to which a private entity or entities will design, construct, finance, operate and maintain the Project;
- 7.01.08 pursuant to IC 8-15.5-1-2, to authorize an operator to impose tolls for the operation of motor vehicles on all or part of the Project;
- 7.01.09 pursuant to IC 8-15.5-7-1, to fix and revise the amounts of the tolls an operator may charge and collect for the use of any part of the Project;
- 7.01.10 to acquire such public or private lands as IFA may deem necessary for accomplishing the Project, and sell, transfer and convey any such lands or interest therein as may be necessary or convenient for the construction and operation of a toll road project;
- 7.01.11 pursuant to IC 8-15-2-17.2(a)(10), to establish enforcement procedures and make assessment for the failure to pay required tolls;
- 7.01.12 tort claims protection under IC 34-13-3 et. seq. and as otherwise provided by law;
- 7.01.13 pursuant to IC 8-15.5-10-1, to exercise any powers in participation or cooperation with INDOT or any other governmental entity and enter any contracts to facilitate that participation or cooperation;
- 7.01.14 to be exempt from certain state and local taxes, including income and ad valorem property taxes; and

- 7.01.15 to exercise any other of its powers, rights, privileges and immunities consistent with the purposes set forth herein, including those identified in the Recitals.
- 7.02 For the duration of this Agreement and without divesting itself of such powers, privileges and immunities, INDOT delegates, combines and shares with, (i) the Joint Board, (ii) the Tolling Body and (iii) each other Party to the extent such other Party is acting pursuant to an authorization set forth herein (or any supplement hereto), in an implementing agreement described in Subsection 10.12 hereof, or in the Bi-State Development Agreement as applicable, the following powers, privileges and immunities, but only to the extent necessary, useful or appropriate for their respective responsibilities for developing, procuring, designing, constructing, financing, tolling, operating and maintaining the Project in accordance with the purposes and terms set forth herein and the Bi-State Development Agreement:
 - 7.02.01 To direct and control the establishment, construction and maintenance of that portion of Indiana's primary road system which is within the Project;
 - 7.02.02 to enter contracts for the design, construction, financing, operation and maintenance of public works in Indiana;
 - 7.02.03 to enter into one or more interlocal agreements under Indiana's Interlocal Cooperation Act (IC 36-1-7 et. seq.);
 - 7.02.04 pursuant to IC 8-15.5-5-6, to perform duties and exercise powers delegated to it by the IFA with respect to the Project;
 - 7.02.05 to participate in the design, procurement, construction, financing, tolling, operation and maintenance of the Project;
 - 7.02.06 tort claims protection under IC 34-13-3 et. seq. and as otherwise provided by law; and
 - 7.02.07 to be exempt from certain state and local taxes, including income and ad valorem property taxes; and
 - 7.02.08 to exercise any other of its powers, rights, privileges and immunities consistent with the purposes set forth herein, including those identified in the Recitals.
- 7.03 For the duration of this Agreement and without divesting itself of such powers, privileges and immunities, KYTC delegates, combines and shares with, (i) the Joint Board, (ii) the Tolling Body and (iii) each other Party to the extent such other Party is acting pursuant to an authorization set forth herein (or in any supplement hereto), in an implementing agreement described in Subsection 10.12

hereof, or in the Bi-State Development Agreement as applicable, the following powers, privileges and immunities, but only to the extent necessary, useful or appropriate for their respective responsibilities for developing, procuring, designing, constructing, financing, tolling, operating and maintaining the Project in accordance with the purposes and terms set forth herein and the Bi-State Development Agreement:

- 7.03.01 to enter contracts for the design, construction, financing, operation and maintenance of public works in Kentucky;
 - 7.03.02 to utilize design-build procurement methods for the Project pursuant to Part I, A., 4., (12) of Kentucky H.B. 2, notwithstanding any conflicting provisions of KRS Chapters 45A, 176 and 177;
 - 7.03.03 to direct and control the establishment, construction and maintenance of that portion of Kentucky's primary road system which is within the Project;
 - 7.03.04 to enter into one or more interlocal agreements under Kentucky's Interlocal Cooperation Act (KRS 65.210 to 65.300.);
 - 7.03.05 to participate in the design, procurement, construction, financing, tolling, operation and maintenance of the Project,
 - 7.03.06 tort claims protection under Section 231 of the Kentucky Constitution, KRS 44.072 and as otherwise provided by law;
 - 7.03.07 pursuant to KRS 175B.030, to enter into a development agreement establishing the duties, responsibilities, powers and authorities of the parties involved in the delivery of the Project; and
 - 7.03.08 to be exempt from certain state and local taxes, including income and ad valorem property taxes; and
 - 7.03.09 to exercise any other of its powers, rights, privileges and immunities consistent with the purposes set forth herein, including those identified in the Recitals.
- 7.04 For the duration of this Agreement and without divesting itself of such powers, privileges and immunities, KPTIA delegates, combines and shares with, (i) the Joint Board, (ii) the Tolling Body and (iii) each other Party to the extent such other Party is acting pursuant to an authorization set forth herein (or any supplement hereto), in an implementing agreement described in Subsection 10.12 hereof, or in the Bi-State Development Agreement as applicable, the following powers, privileges and immunities, but only to the extent necessary, useful or appropriate for their respective responsibilities for developing, procuring, designing, constructing, financing, tolling, operating and maintaining the Project

in accordance with the purposes and terms set forth herein and the Bi-State Development Agreement:

- 7.04.01 to enter contracts for the design, construction, financing, operation and maintenance of public works in Kentucky;
 - 7.04.02 to fix, revise, charge and collect tolls;
 - 7.04.03 to enforce rules and regulations for the use of the Project;
 - 7.04.04 to acquire, hold and dispose of real and personal property and rights-of-way in Kentucky;
 - 7.04.05 to directly or indirectly construct, reconstruct, maintain, repair, operate and regulate projects within Kentucky, or contract with another entity for these services;
 - 7.04.06 such other powers it has as the developing and issuing authority under KRS 175B.020, KRS 175.025 or otherwise, consistent with the purposes set forth herein;
 - 7.04.07 to enter into one or more interlocal agreements under Kentucky's Interlocal Cooperation Act (KRS 65.210 to 65.300);
 - 7.04.08 to participate in the design, procurement, construction, financing, tolling, operation and maintenance of the Project;
 - 7.04.09 tort claims protection under Section 231 of the Kentucky Constitution, KRS 44.072 and as otherwise provided by law,
 - 7.04.10 pursuant to KRS 175B.025 and 175B.030, to enter into such additional agreements necessary to facilitate the development, construction, maintenance, operation, repair, tolling, or financing of the Project; and
 - 7.04.11 to be exempt from certain state and local taxes, including income and ad valorem property taxes; and
 - 7.04.12 to exercise any other of its powers, rights, privileges and immunities consistent with the purposes set forth herein, including those identified in the Recitals.
- 7.05 The Parties shall each contribute and share the interlocal powers described herein, as well as such powers incidental thereto and necessarily implied therefrom in order to accomplish the Project and the purposes of the Agreement, an implementing agreement described in Subsection 10.12 hereof, and the Bi-State Development Agreement. Notwithstanding the foregoing delegations of powers, the Parties agree that the Bi-State Development Agreement assigns and allocates

specific duties and responsibilities among the Parties and to the Joint Board and the Tolling Body for the development, construction, maintenance, operation, repair, tolling, or financing of the Project. To the extent that the Bi-State Development Agreement contains provisions assigning or allocating such duties and responsibilities to particular Parties, the provisions of the Bi-State Development Agreement shall control over the more general delegations of powers set forth herein.

- 7.06 The States' Parties have exemptions from the payment of state and taxes, including but not limited to income and ad valorem property taxes.
- 7.07 To the fullest extent permitted by law, the States' Parties have entered into this Agreement as representatives of their respective sovereign states. The Indiana Parties shall be entitled to assert sovereign immunity and/or all other applicable protections against liability in Kentucky courts to the same extent Kentucky is able to assert sovereign immunity and all other such applicable protections against liability in Kentucky courts, and the Kentucky Parties shall be entitled to assert sovereign immunity and all other applicable protections against liability in Indiana courts to the same extent Indiana is able to assert sovereign immunity and/or all other such applicable protections against liability in Indiana courts.
- 7.08 Each Party has taken all necessary actions and received necessary approvals and consents to perform its obligations hereunder to delegate all powers as described herein.
- 7.09 Each Party confirms it has taken no action, nor has it entered any agreement, that would conflict with the rights delegated to any other Party hereunder.

8.0 Amendment and Termination

8.01 Amendment

This Agreement may only be changed, amended, modified, appended to or supplemented by a writing consented to as a change, amendment, modification, appendix or supplement to this Agreement by all of the Parties hereto.

8.02 Termination

8.02.01 This Agreement will terminate only upon termination of the Bi-State Development Agreement.

8.02.02 The following provisions shall survive termination of this Agreement: Subsection 5.02; Articles 9.0 and 10.0.

9.0 Dispute Resolution

Any dispute or claim arising out of or relating to this Agreement shall be governed by the dispute resolution procedures in the Bi-State Development Agreement.

10.0 General Matters

10.01 Counterparts

This Agreement may be executed in counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. An electronically transmitted duplicate signature of any Party shall be considered to have the same binding effect as an original signature.

10.02 Severability

If any provision of this Agreement shall be held invalid, illegal or unenforceable, the validity, legality or enforceability of the other provisions hereof shall not be affected thereby, and there shall be deemed substituted for the provision at issue a valid, legal and enforceable provision as similar as possible to the provision at issue. This provision shall not be interpreted to materially alter the relationships of the Parties as set forth in this Agreement or materially affect the ability of the Parties to achieve the purpose of this Agreement.

10.03 No Third Party Beneficiaries

This Agreement is solely for the benefit of the Parties hereto, and to the extent provided herein, their respective directors, officers, employees, agents and representatives; and no provision in this Agreement shall be deemed to confer upon other persons any remedy, claim, reimbursement, cause of action or other right.

10.04 Agreement and Sharing of Power

This Agreement is intended to be an interlocal agreement or contract pursuant to the Interlocal Cooperation Acts, in which the Parties have undertaken to provide that which is required by the Interlocal Cooperation Acts and it is intended that thereby the Parties shall share those powers as set forth herein. If and to the extent this Agreement is not such an interlocal agreement or contract or does not effectively delegate and share such powers, this Agreement shall be deemed to include such terms not otherwise included herein and to exclude such terms not otherwise excluded herefrom, as are necessary to cause this Agreement to be deemed a valid interlocal agreement or contract under Indiana and Kentucky law and to delegate, combine and share such powers pursuant to the laws of those states.

10.05 Reasonable Efforts; Cooperation

Subject to the terms and conditions of this Agreement, each Party will use its commercially reasonable efforts to take, or cause to be taken, all actions and to do, or cause to be done, all things necessary or desirable under the applicable laws

and regulations to consummate the transactions contemplated by this Agreement. In addition, the Parties each agree to cooperate and take such actions, including any necessary amendments hereto, as may be required in the judgment of the Joint Board, or the Tolling Body as circumstances require for the Joint Board, the Tolling Body or any of the Parties hereto to obtain all necessary qualifications and approvals, including any that may be required by any state or federal agencies, and to execute and deliver such other documents, certificates, agreements and/or other writings and to take such other actions as may be necessary or desirable in order to consummate or implement expeditiously the transactions contemplated by this Agreement, and from time to time, upon the request of another Party to this Agreement and without further consideration, to execute, acknowledge and deliver in proper form any further instruments, and take such other action as the other Parties may reasonably require, in order to effectively carry out the intent of this Agreement, including without limitation, the delegation of any further powers that may be necessary, useful or appropriate to permit the Joint Board, the Tolling Body or the Parties to carry out their purposes.

10.06 Relationship of the Parties

The Parties are independent parties and nothing contained herein shall be deemed to create a partnership, joint venture, or employer employee relationship for purposes of federal or state tax law, or otherwise. Notwithstanding the above, the Parties, the Tolling Body and the Joint Board, when exercising any powers delegated herein or in the Bi-State Development Agreement shall be exercising the sovereign powers of each State in the fulfillment of the Project, this Agreement and the Bi-State Development Agreement within the meaning of paragraphs AA and BB of the Recitals.

10.07 Immunity of Officers, Directors, Members, Employees and Agents

No recourse shall be had for any claim based upon any obligation in this Agreement against any past, present or future official, officer, director, member, employee or agent of the Parties, as such, under any rule of law or equity, statute or constitution.

10.08 No Assignment

Except as set forth herein, no party may sell, assign, pledge or otherwise transfer any of its rights or benefits under this Agreement to any other person, without the written consent of all other Parties, and any purported sale, assignment, pledge or other transfer without such consent shall be null and void.

10.09 Notice

10.09.01 Any notice required by this Agreement shall be made to the other Parties at the following addresses:

As to KPTIA: Michael W. Hancock
Chairman, KPTIA
Kentucky Transportation Cabinet
200 Mero Street
Frankfort, KY 40622

With a copy to: Todd Shipp
Office of Legal Services
Kentucky Transportation Cabinet
200 Mero Street
Frankfort, KY 40622
Todd.shipp@ky.gov

As to KYTC: Michael W. Hancock
Secretary
Kentucky Transportation Cabinet
200 Mero Street
Frankfort, KY 40622

With a copy to: Rebecca Goodman
Executive Director
Office of Legal Services
Kentucky Transportation Cabinet
200 Mero Street
Frankfort, KY 40622
rebecca.goodman@ky.gov

and

Timothy J. Hagerty
Frost Brown Todd LLC
400 West Market St., Suite 3200
Louisville, KY 40202
thagerty@fbtlaw.com

As to IFA: Kendra W. York
Public Finance Director of the State of Indiana
Indiana Finance Authority
One North Capitol Avenue, Suite 900
Indianapolis, Indiana 46204
kyork@ifain.gov

With a copy to: James McGoff
General Counsel
Indiana Finance Authority
One North Capitol Avenue, Suite 900

Indianapolis, Indiana 46204
jmcgoff@ifa.in.gov

and

Brenda Horn
ICE MILLER LLP
One American Square, Suite 2900
Indianapolis, IN 46282-0200
Brenda.Horn@icemiller.com

and

Scott Brinkman
Stoll Keenon Ogden PLLC
2000 PNC Plaza
500 West Jefferson Street
Louisville, KY 40202-2828
scott.brinkman@skofirm.com

As to INDOT:

Michael B. Cline
Commissioner
Indiana Department of Transportation
100 North Senate Avenue, IGCN 731
Indianapolis IN 46204-2216

With a copy to:

Mark Ahearn
Chief Legal Counsel and Deputy Commissioner
Indiana Department of Transportation
100 North Senate Avenue, IGCN 755
Indianapolis IN 46204
mahearn@indot.in.gov

and

William Malley
Perkins Coie, LLP
700 13th Street, NW, Suite 600
Washington, D.C. 20005-3960
WMalley@perkinscoie.com

10.09.02 Notice shall be by hand delivery, overnight delivery or electronic mail. If notice is sent by electronic mail, a copy shall be sent by overnight delivery or First Class U.S. Mail the same day.

10.10 Entire Agreement

Except as otherwise provided herein or in the Bi-State Development Agreement, this Agreement sets forth the entire understanding and agreement of the Parties hereto with respect to the transactions contemplated hereby and supersedes any and all prior agreements, arrangements, and understandings among the Parties relating to the subject matter hereof.

10.11 Relation to Bi-State Development Agreement

This Agreement shall be deemed to be an exhibit to the Bi-State Development Agreement.

10.12 Future Implementing Agreements

Pursuant to and in furtherance of the powers delegated herein, the Parties anticipate entering future agreements, as necessary, to implement the purposes of this Agreement and the Bi-State Development Agreement, including Toll System Integrator Agreement, Toll Operations Agreements, and Ground Lease Agreements, all with respect to the agreements herein related to the Joint Board, and the Toll Policy Agreement with respect to the Tolling Body.

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed by their duly authorized officers as of the respective dates set forth below.

INDIANA FINANCE AUTHORITY

BY: AM Horst

Adam M. Horst, Chairman

Date 12-14-2012

BY: KW York

Kendra W. York
Public Finance Director of the State of Indiana

Date 12-14-2012

INDIANA DEPARTMENT OF TRANSPORTATION

BY: Michael B. Cline
Michael B. Cline, Commissioner

Date 12-13-12

Attest:

BY: James Stark
James Stark, Deputy Commissioner

Date 12/13/2012

APPROVED AS TO FORM AND SUBSTANCE

STATE BUDGET AGENCY

By: *Adam M. Horst*

Adam M. Horst, State Budget Director

Date 12-14-2012

APPROVED

ATTORNEY GENERAL OF THE STATE
OF INDIANA

By: *Matt Rydell For*

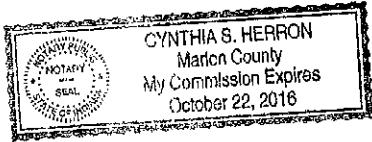
Gregory F. Zoeller, Attorney General

Date 12/17/12

(Interlocal Cooperation Agreement -- Ohio River Bridges)

STATE OF INDIANA)
) SS
COUNTY OF MARION)

The foregoing instrument was acknowledged before me this 14 day of December, 2012, by Adam M. Horst, the Chairman of the Indiana Finance Authority and Kendra W. York, the Public Finance Director of the State of Indiana.



Cynthia S Herron
Notary Public

Cynthia S Herron
(Printed Name)

My commission expires:
10-22-16

Resident of Marion County

Acknowledgment Page – Interlocal Cooperation Agreement

STATE OF INDIANA)
) SS
COUNTY OF MARION)

The foregoing instrument was acknowledged before me this 13th day of December, 2012, by Michael B. Cline, the Commissioner, and James Stark, the Deputy Commissioner, of the Indiana Department of Transportation.

Jenny B. Ziemer
Notary Public

Jenny B. Ziemer
(Printed Name)

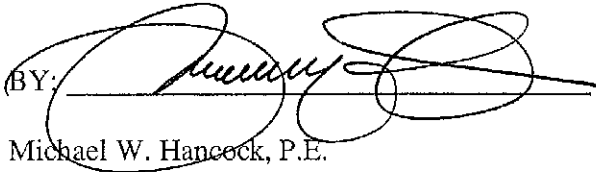
My commission expires:
October 31, 2019

Resident of Hendricks County

Acknowledgment Page – Interlocal Cooperation Agreement

(Interlocal Cooperation Agreement – Ohio River Bridges)

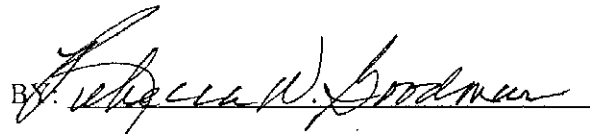
KENTUCKY TRANSPORTATION CABINET

BY: 

Michael W. Hancock, P.E.
Secretary of the Transportation Cabinet

Date 12/17/12

APPROVED AS TO FORM AND LEGALITY

BY: 

Rebecca Goodman
Executive Director of the Office of Legal Services
Transportation Cabinet

Date 12/17/12

KENTUCKY PUBLIC TRANSPORTATION INFRASTRUCTURE AUTHORITY

BY: Lori H. Flanery

Lori Flanery
Vice Chair of KPTIA

Date 12/17/2012

APPROVED AS TO FORM AND LEGALITY

BY: J. Todd Shipp

J. Todd Shipp
Special Assistant of the Office of Legal Services
Transportation Cabinet

Date 12/17/12

APPROVED

ATTORNEY GENERAL OF THE COMMONWEALTH OF
KENTUCKY

By: _____

Jack Conway, Attorney General

Date _____

KENTUCKY PUBLIC TRANSPORTATION INFRASTRUCTURE AUTHORITY

BY: _____

Lori Flanery
Vice Chair of KPTIA

Date _____

APPROVED AS TO FORM AND LEGALITY

BY: _____

J. Todd Shipp
Special Assistant of the Office of Legal Services
Transportation Cabinet

Date _____

APPROVED

ATTORNEY GENERAL OF THE COMMONWEALTH OF
KENTUCKY

By:  _____

Jack Conway, Attorney General

Date Nov. 13, 2012

This instrument was prepared by Brenda S. Horn, Ice Miller LLP, One American Square, Suite 2900, Indianapolis, Indiana 46282.

I affirm, under the penalties for perjury, that I have taken reasonable care to redact each Social Security number in this document, unless required by law. Brenda S. Horn, Esq.

Brenda S. Horn, Esq.

CERTIFICATION

The undersigned hereby certifies that he has compared the foregoing Interlocal Cooperation Agreement to an original thereof, and that the foregoing Interlocal Cooperation Agreement is a true copy of the original of such document.

The undersigned hereby further certifies that on December 27, 2012 he has caused the foregoing Interlocal Cooperation Agreement to be recorded/filed (i) in the records of the County Clerk of Jefferson County, Kentucky in Deed Book 1991, Page 844, (ii) in the records of the County Clerk of Franklin County, Kentucky in ~~Deed~~ Book MCH, Page 684, and (iii) in the records of the Kentucky Secretary of State. MISC.

John S. Egan
John S. Egan

COMMONWEALTH OF KENTUCKY)
) SS:
COUNTY OF JEFFERSON)

The foregoing instrument was acknowledged before me by John S. Egan on December 27, 2012.

My Commission expires: 2/26/2013

Brenda Norton
Notary Public, State at Large

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BI-STATE DEVELOPMENT AGREEMENT
CONCERNING
THE LOUISVILLE SOUTHERN INDIANA OHIO RIVER BRIDGES PROJECT

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BI-STATE DEVELOPMENT AGREEMENT

CONCERNING

THE LOUISVILLE SOUTHERN INDIANA OHIO RIVER BRIDGES PROJECT

This Bi-State Development Agreement (hereinafter "Agreement") is made by and among the State of Indiana (hereinafter "Indiana"), by and through the Indiana Department of Transportation (hereinafter "INDOT"), the Commonwealth of Kentucky (hereinafter "Kentucky"), by and through the Kentucky Transportation Cabinet (hereinafter "KYTC"), the Indiana Finance Authority (hereinafter "IFA"), the Kentucky Public Transportation Infrastructure Authority (hereinafter "KPTIA"), and the Louisville and Southern Indiana Bridges Authority (hereinafter "Bridges Authority"). IFA, INDOT, KYTC, KPTIA and the Bridges Authority are sometimes referred to individually herein as a "Party," or collectively as "the Parties." IFA, INDOT, KYTC, and KPTIA are sometimes referred to individually herein as a "State's Party," or collectively as the "States' Parties." This Agreement shall be effective as of _____, 2012.

WHEREAS, Kentucky and Indiana have agreed to pursue jointly certain needed improvements to better connect Louisville, Kentucky with Southern Indiana via Ohio River crossings;

WHEREAS, this joint pursuit resulted in the Federal Highway Administration ("FHWA") issuing a Record of Decision in September of 2003, officially approving the Louisville-Southern Indiana Ohio River Bridges Project ("Project");

WHEREAS, the Project is a construction and reconstruction project that is located within a metropolitan planning area that connects Kentucky and Indiana and is composed primarily of two elements: the Downtown Crossing (hereinafter defined), and the East End Crossing (hereinafter defined);

WHEREAS, the Project will provide additional capacity, improve transportation efficiency and reliability, expand travel choices, and deliver urgently needed performance and safety enhancements to existing infrastructure in the Louisville-Southern Indiana region;

WHEREAS, in 2008, the FHWA approved an Initial Financial Plan and a Project Management Plan ("PMP", hereinafter defined) for the Project;

WHEREAS, in 2011, at the direction of the Governor of Kentucky and the Governor of Indiana, the Parties identified certain design adjustments to reduce the cost while still meeting the purpose and needs of the Project;

WHEREAS, on November 10, 2011 and on April 20, 2012, the FHWA approved a Supplemental Draft Environmental Impact Statement and a Supplemental Final Environmental Impact Statement, respectively, which in each case evaluated, among other alternatives, certain cost-saving design adjustments and electronic tolling of the Project's bridge facilities;

WHEREAS, a revised Record of Decision (“ROD”) for the Project was issued by FHWA on June 20, 2012;

WHEREAS, pursuant to Kentucky Revised Statutes (“KRS”) 175B.030 and Senate Joint Resolution 169 (2010), the Bridges Authority was created and ratified by the Kentucky General Assembly and given the primary task of developing a new financial plan for the Project, which was to be submitted to KPTIA for approval;

WHEREAS, the State of Indiana’s participation in the Bridges Authority was authorized by the Governor of Indiana pursuant to Executive Order 09-11 dated December 3, 2009 (the “Executive Order”);

WHEREAS, the Bridges Authority has developed and approved a financial plan for the Project in accordance with KRS 175B.030(6), and such financial plan has also been approved by KPTIA as required by KRS 175B.030(6);

WHEREAS, in Part I, A., 4., (16) of Kentucky House Bill 2, 2012 Extraordinary Session, signed by the Governor of Kentucky on May 2, 2012 (“Kentucky H.B. 2”), the Kentucky General Assembly stipulated that the Bridges Authority has completed the tasks and duties assigned to it by KRS 175B.030 by adopting the aforementioned financial plan and submitting that plan to KPTIA and the Kentucky General Assembly;

WHEREAS, KRS 175B.030(7)(a) contemplates that, upon the approval of the aforementioned financial plan by KPTIA, a development agreement may be entered into establishing the duties, responsibilities, powers and authorities of the parties involved in delivering the Project;

WHEREAS, in late 2011, Kentucky and Indiana, in consultation with the Bridges Authority, determined that the preferred approach for delivery of the Project was for each state to take the lead in overseeing and financing construction of roughly one-half of the Project, with Kentucky being responsible for financing and constructing the Downtown Crossing, and Indiana being responsible for financing and constructing the East End Crossing;

WHEREAS, this preferred approach has been memorialized in a term sheet adopted by the states pursuant to a Memorandum of Understanding signed by their respective Governors and dated March 5, 2012 (the “MOU”);

WHEREAS, KPTIA, KYTC, IFA, and INDOT are authorized to participate in the Project;

WHEREAS, KPTIA is an independent de jure municipal corporation and political subdivision of Kentucky and has authority to participate in the construction, operation, financing and oversight of significant transportation projects connecting Kentucky and Indiana, and to review, approve and monitor all such projects, and to assist with the operation, financing and management thereof;

WHEREAS, KPTIA is authorized pursuant to Part I, A., 4., (16) of Kentucky H.B. 2 to participate as the developing and issuing authority as described in KRS 175B.025 in the development, construction, financing and operation and maintenance of the Downtown Crossing;

WHEREAS, KYTC is a department and agency of Kentucky and is responsible for and has authority to direct and control the establishment, construction and maintenance of Kentucky's primary road system;

WHEREAS, KYTC has been authorized by Part I, A., 4., (12) of Kentucky H.B. 2 to utilize design-build procurement methods for the Project;

WHEREAS, KYTC has proposed it will select and enter a design-build agreement with a design-build team that will design and build the Downtown Crossing as generally described in the term sheet attached to the MOU;

WHEREAS, the IFA is a body politic and corporate with authority to assist Indiana in the financing, acquisition, building and equipping of structures for state use, including highways, toll roads and bridges;

WHEREAS, IFA has been authorized by statute to solicit, evaluate, negotiate, enter into, and administer agreements for the Project;

WHEREAS, IFA has proposed it will select and enter into an agreement or agreements with one or more private sector entities that will develop, design, build, finance, and, for certain components, operate and maintain the East End Crossing through an availability payment concession, as generally described in the term sheet attached to the MOU;

WHEREAS, INDOT is an Indiana state agency responsible for planning, building and operating Indiana's transportation system, including the development and implementation of a strategic plan to meet the needs of Indiana and its stakeholders, and to enhance economic development;

WHEREAS, INDOT is authorized to and may perform duties and exercise powers delegated to it by IFA with respect to the Project, and may otherwise participate in the Project;

WHEREAS, IFA, KPTIA, INDOT and KYTC are entities described in IC 36-1-7-1, as well as public agencies within the meaning and usage of KRS 65.230 and 65.240, and thus possess the power and are authorized to enter into one or more interlocal agreements;

WHEREAS, the Ohio River bridge structures will ultimately be owned 50% by Indiana and 50% by Kentucky), consistent with the historic ownership of bridge structures between the two States, and ground leases of real property owned by Indiana and Kentucky will be entered into as appropriate and necessary in order to accomplish the purposes of the Project, in accordance with the terms set forth in this Agreement;

WHEREAS, a Bi-State Management Team ("BSMT"), composed of members from KYTC and INDOT, with representatives of the Federal Highway Administration ("FHWA") as

non-voting, ex-officio members, has participated in the coordination of project wide activities to date, and has created and continues to update the PMP;

WHEREAS the BSMT is to provide oversight by monitoring and reporting as to the progress of the Project;

WHEREAS, the Transportation Policy Committee of the Louisville (KY-IN) Metropolitan Planning Organization, which carries out key policy functions and directs the transportation planning process for the greater Louisville (KY-IN) Metropolitan Planning Area, has approved the Project for inclusion in its long-range metropolitan transportation plan (*Horizon 2030*) based on a financial demonstration for the Project adopted in 2010 and updated in 2011;

WHEREAS, this Agreement, as well as the obligations created hereunder or described herein, do not constitute a debt, liability or obligation of Indiana or Kentucky, or a pledge or lending of the faith and credit of either state;

WHEREAS, this Project is a public improvement, and this Agreement relates to the location, construction, and financing of this public improvement within the meaning of IC 34-6-2-124 and IC 34-13-5, "Public Lawsuits for Testing Public Improvements of Municipal Corporations";

WHEREAS, the Parties desire to document and define the respective roles and responsibilities for the procurement, revenue-sharing, financing, designing, constructing, tolling, operation and maintenance of the Project; and

WHEREAS the Parties (as applicable) have conducted the appropriate meetings or hearings as required by law and have otherwise met all conditions precedent to entering this Agreement;

NOW, THEREFORE, in consideration of the mutual agreements set forth herein, the Parties agree as follow:

Article 1. Definitions of Terms and List of Acronyms Used

- 1.1. Addendum means an addendum to this Agreement entered by the States' Parties.
- 1.2. Availability Payment Structure means the procurement provided for in Subsection 8.2.
- 1.3. Bridges Authority means the Louisville and Southern Indiana Bridges Authority and/or any successor entity.
- 1.4. BSMT means Bi-State Management Team, a team composed of representatives from KYTC and INDOT, as well as FHWA as a non-voting, ex-officio member.
- 1.5. Current Version of the Design-Build Agreement means the version of the Design-Build Agreement posted on the website of the Kentucky Transportation Cabinet as of the date hereof under the heading Design-Build Agreement.

- 1.6. Current Version of the Public-Private Agreement means the version of the Public-Private Agreement posted on the website of the Indiana Finance Authority on October 5, 2012 under the heading “Requests for Proposals Ohio River Bridges RFP Addenda – RFP Addendum No. 5.
- 1.7. Custody Agreement means the agreement entered by and among the Toll Operator and the States’ Parties (or certain of them representing each state) and/or the Joint Board on behalf of the States’ Parties, as described in Subsection 11.8.1 herein.
- 1.8. DBE means the Disadvantaged Business Enterprises program of the U.S. Department of Transportation.
- 1.9. Design-Build Agreement means the agreement or agreements entered between KYTC and the Design-Build Team for development of the Downtown Crossing. The term also includes design-bid-build agreements.
- 1.10. Design-Build Team means the design-builder(s) for development of the Downtown Crossing selected by KYTC as described in Subsection 10.3.1 herein.
- 1.11. Developer means the private entity or entities selected by IFA to develop the East End Crossing as described in Subsection 10.3.2 herein.
- 1.12. Downtown Crossing means the portion of the Project that involves reconstruction and operational improvements to the Kennedy Interchange where I-64, I-65 and I-71 converge on the south side of the Kennedy Bridge in downtown Louisville (Section 1), reconstruction of the Kennedy Bridge along with construction of a New Downtown Bridge just east of the Kennedy Bridge (I-65) (Section 2), and reconstruction of the I-65 approach in Indiana, including modernization to improve ingress and egress and realignment and widening of the approaches (Section 3), all as more fully described in Appendix A.
- 1.13. Downtown Crossing Bridges means, collectively, (i) the Kennedy Bridge structure and (ii) the New Downtown Bridge, each located in Section 2.
- 1.14. Downtown Crossing Final Acceptance means that all of the conditions to Formal Acceptance have been met as defined and described in Sections 7.6 and 8.6 of the Current Version of the Design-Build Agreement (a copy of which Sections are attached as **Appendix B**). No revision to Sections 7.6 and 8.6, as reflected in **Appendix B**, that affects Section 3 of the Downtown Crossing shall be made unless agreed to by the States’ Parties.
- 1.15. Downtown Crossing Substantial Completion means that all of the conditions to Substantial Completion have been met as defined and described in Section 8.1 of the Current Version of the Design-Build Agreement (a copy of which Section is attached as **Appendix C**). No revision to Section 8.1, as reflected in **Appendix C**, that affects Section 3 of the Downtown Crossing shall be made unless agreed to by the States’ Parties.

- 1.16. Downtown Crossing TIFIA Loan means any TIFIA loan to Kentucky Parties used to fund a portion of the costs of the Downtown Crossing.
- 1.17. Downtown Property means collectively the Kentucky Downtown Property and the Indiana Downtown Property.
- 1.18. DSRF means the debt service reserve fund to be established in the Kentucky Revenue Bond Indenture as described more fully in Subsection 8.3.5.1.
- 1.19. DSRF Replenishment Guarantee means the agreement of KYTC to replenish and restore the DSRF as provided in Subsection 8.3.5.1.
- 1.20. East End Crossing means the portion of the Project that involves construction of a new East End Bridge (Section 5) located about eight miles from downtown Louisville connecting the Gene Snyder Freeway (KY 841) to the Lee Hamilton Highway (S.R. 265) along with the approaches in Kentucky (Section 4) and Indiana (Section 6), all as more fully described in **Appendix D**.
- 1.21. East End Crossing Bridge means the new bridge structure to be constructed in Section 5.
- 1.22. East End Crossing Final Acceptance means that all of the conditions to Final Acceptance have been met as defined and described in Section 5.8.5.2 of the Current Version of the Public-Private Agreement (a copy of which is attached as **Appendix E**). No revision Section 5.8.5.2, as reflected in **Appendix E**, that affects Section 4 of the East End Crossing shall be made unless agreed to by the States' Parties.
- 1.23. East End Crossing Substantial Completion means that all of the conditions to DB Substantial Completion have been met as defined and described in Sections 5.8.2.1 and 5.8.2.2 of the Current Version of the Public-Private Agreement (a copy of which Sections are attached as **Appendix F**). No revision to Sections 5.8.2.1 and 5.8.2.2, as reflected in **Appendix F**, that affects Section 4 of the East End Crossing shall be made unless agreed to by the States' Parties.
- 1.24. East End Crossing TIFIA Loan means any TIFIA loan to the Indiana Parties or the Developer of the East End Crossing used to fund a portion of the costs of the East End Crossing.
- 1.25. East End Property means collectively the Kentucky East End Property and the Indiana East End Property.
- 1.26. Environmental Litigation means any lawsuit that is filed in a court of competent jurisdiction and seeks to overturn, set aside, enjoin, or otherwise inhibit the implementation of a federal, state, or local agency's approval of the Project based on the agency's alleged non-compliance with applicable laws, including but not limited to: the National Environmental Policy Act, 42 U.S.C. § 4321 *et seq.*; Section 4(f) of the Department of Transportation Act, 23 U.S.C. § 138; and 49

U.S.C. § 303; the National Historic Preservation Act, 16 U.S.C. § 470 *et seq.*; the Clean Air Act, 42 U.S.C. § 7401 *et seq.*; the Clean Water Act, 33 U.S.C. § 1251 *et seq.*; the Endangered Species Act, 16 U.S.C. § 1531 *et seq.*; and other federal, state, or local laws.

- 1.27. FHWA means the Federal Highway Administration.
- 1.28. Force Majeure Event means the occurrence of any of the following events that materially and adversely affects performance of a State's Party's obligations, provided that such events (or the effects of such events) are not caused, and could not have been avoided by the exercise of caution, due diligence, or reasonable efforts, by such State's Party or its representatives: (a) war (including civil war and revolution), invasion, armed conflict, violent act of foreign enemy, military or armed blockade, or military or armed takeover; (b) any act of terrorism, riot, insurrection, civil commotion or sabotage that causes direct physical damage to the East End Crossing or the Downtown Crossing; (c) nuclear explosion that causes direct physical damage to the East End Crossing or Downtown Crossing, or radioactive contamination of the East End Crossing or Downtown Crossing, (d) flood, fire, explosion, gradual inundation caused by natural events, a tornado with an enhanced Fujita Score Rating of EF2, sinkhole caused by natural events, or landslide caused by natural events, in each case directly impacting the physical improvements of, or the performance of work at, the East End Crossing or the Downtown Crossing, and (e) a seismic event causing trembling or shaking movement of the earth's surface that produces ground motions exceeding the design requirements and which directly impacts or causes damage to the physical improvements of the East End Crossing or the Downtown Crossing.
- 1.29. General O&M Expenses means expenses for the Kentucky O&M Portion (other than Toll System Collection Expenses).
- 1.30. General O&M Reserve Fund means the fund by that name to be established under the Kentucky Revenue Bond Indenture and described in Subsection 8.3.5.2.
- 1.31. IFA means Indiana Finance Authority, a body politic and corporate created by Indiana pursuant to IC 4-4-11-4, which provides that the exercise of its powers constitutes an essential governmental, public, and corporate function, the procuring entity for East End Crossing.
- 1.32. Indemnitors means the States' Parties' respective nonparty consultants, designers, developers, contractors, and other professionals (including the Developer and the Design-Build Team) involved in the design, construction, and O&M on the Project.
- 1.33. Indiana Access Rights shall have the meaning as described in Subsection 5.2.3.
- 1.34. Indiana Downtown Property means all real and personal property interests, including but not limited to such easements, licenses, leases or property rights, in

whatever form reasonably necessary to construct Section 3 of the Downtown Crossing.

- 1.35. Indiana Downtown Property Ground Lease means the ground lease described in Subsection 5.2.2.2.
- 1.36. Indiana East End Property means all real and personal property interests, including but not limited to such easements, licenses, leases or property rights, in whatever form reasonably necessary to construct Section 6 of the East End Crossing.
- 1.37. Indiana O&M Portion means Sections 3, 4B, 5, and 6.
- 1.38. Indiana Parties means IFA and INDOT.
- 1.39. Indiana Revenue Share means 50% of all Toll Revenues, subject to the adjustment described in Subsection 8.1.9.
- 1.40. INDOT means Indiana Department of Transportation, an agency of Indiana.
- 1.41. Interlocal Agreement means an agreement or agreements entered among IFA, INDOT, KPTIA and KYTC for the joint undertaking of facilitating the accomplishment of the Project.
- 1.42. Interstate Standards means standards required by FHWA for interstate construction.
- 1.43. Interlocal Statutes means IC 36-1-7 *et seq.* and KRS 65.210 to 65.300.
- 1.44. Joint Board means a board that will be created by the Interlocal Agreement that is composed of one representative of each of the States' Parties (or their successor entities) for the joint undertaking of facilitating the accomplishment of the Project.
- 1.45. Kennedy Bridge means the Kennedy Memorial Bridge, the existing I-65 bridge over the Ohio River connecting Louisville, Kentucky and Jeffersonville, Indiana which does not include the new I-65 bridge that will be constructed as part of the Downtown Crossing.
- 1.46. Kennedy Tolling Deadline shall have the meaning as described in Subsection 11.2.2.
- 1.47. Kentucky Access Rights shall have the meaning as described in Subsection 5.1.3.
- 1.48. Kentucky Downtown Property means all real and personal property interests, including but not limited to such easements, licenses, leases or property rights, in whatever form reasonably necessary to construct and operate Sections 1 and 2 of the Downtown Crossing.

- 1.49. Kentucky East End Property means all real and personal property interests, including but not limited to such easements, licenses, leases or property rights, in whatever form reasonably necessary to construct Sections 4 and 5 of the East End Crossing.
- 1.50. Kentucky East End Property Ground Lease means the ground lease described in Subsection 5.1.2.2.
- 1.51. Kentucky H.B. 2 means Kentucky House Bill 2, 2012 Extraordinary Session, signed by the Governor of Kentucky on May 2, 2012.
- 1.52. Kentucky O&M Portion means Sections 1, 2 and 4A.
- 1.53. Kentucky Parties means KYTC and KPTIA.
- 1.54. Kentucky Revenue Bonds means toll revenue bonds to be issued by KPTIA to fund a portion of the costs of the Downtown Crossing as described in Subsections 8.3.4, and 8.3.5.
- 1.55. Kentucky Revenue Bond Indenture means the indenture or similar instrument pursuant to which KPTIA will issue the Kentucky Revenue Bonds as described in Subsection 8.3.5.
- 1.56. Kentucky Revenue Share means 50% of all Toll Revenues, subject to the adjustment described in Subsection 8.1.9.
- 1.57. KPTIA means Kentucky Public Transportation Infrastructure Authority; the developing authority and issuing authority for the Downtown Crossing.
- 1.58. KYTC means Kentucky Transportation Cabinet, the procuring agency on the Downtown Crossing.
- 1.59. Louisville-Southern Indiana Ohio River Bridges Project means the Downtown Crossing, the East End Crossing and any related commitments contained in the ROD.
- 1.60. Major Projects Financial Plan means the financial plan required under 23 USC 106(h) developed by the Indiana Parties and the Kentucky Parties and approved by FHWA in 2012.
- 1.61. M&R Expenses means lifecycle costs and/or capital costs necessary to continue to maintain the Kentucky O&M Portion in good operating order and that are not normally recurring costs.
- 1.62. M&R Reserve Fund means the fund by that name to be created under the Kentucky Revenue Bond Indenture, and described in Subsection 8.3.5.2., pursuant to which lifecycle and capital costs will be funded for the Downtown Crossing.

- 1.63. MOU means the Memorandum of Understanding signed by the Governors of Indiana and Kentucky dated March 5, 2012.
- 1.64. NEPA means National Environmental Policy Act, 42 U.S.C. § 4321 et seq.
- 1.65. NEPA Documents means the Final Environmental Impact Statement dated April 8, 2003, the Record of Decision dated September 6, 2003, the Supplemental Final Environmental Impact Statement dated April 20, 2012, and the Revised Record of Decision dated June 19, 2012.
- 1.66. New Downtown Crossing Bridge means the new bridge structure being constructed as part of the Downtown Crossing just east of the Kennedy Bridge (I-65) and located in Section 2.
- 1.67. O&M means Operations and Maintenance, which are any and all recurring and nonrecurring costs, including M&R Expenses, necessary to maintain the Project (not including the Toll System Collection Expenses) in good operating order, including both regular and routine maintenance, lifecycle maintenance, and capital costs. O&M shall include, but not be limited to, compliance with applicable operations and maintenance standards.
- 1.68. Private Activity Bonds means private activity bonds issued under the Internal Revenue Code Sections 142(a)(15) and (m).
- 1.69. Project means the Louisville-Southern Indiana Ohio River Bridges Project.
- 1.70. PMP means the Major Projects Project Management Plan required under 23 U.S.C. 106(h) that has been developed by the States' Parties and submitted to FHWA.
- 1.71. Project Termination means the later of the following dates: (i) the date when the Public-Private Agreement has concluded and been satisfied on the East End Crossing; and (ii) the date when bonds issued by KPTIA or any other entity to finance or refinance the Downtown Crossing have been satisfied.
- 1.72. Project Wide Costs means costs that are necessary for and that benefit the Project as a whole and that are not specifically attributable to the East End Crossing or the Downtown Crossing.
- 1.73. Proposer(s) means any person or entity who submits a response to the request for proposals for the Downtown Crossing or the East End Crossing.
- 1.74. Public-Private Agreement means the agreement or agreements entered between IFA and the Developer for development of the East End Crossing.
- 1.75. Reserve Replenishment Guarantees means the guarantees by that name defined in Subsection 8.3.5.2.

- 1.76. ROD means the revised Record of Decision issued by FHWA for the Project on June 20, 2012.
- 1.77. ROD Requirements means the requirements as described in Subsection 9.1.
- 1.78. Section 1 means the Kennedy Interchange and the Kentucky approaches to the Downtown Crossing Bridges.
- 1.79. Section 2 means the Downtown Crossing Bridges.
- 1.80. Section 3 means the Indiana approaches to the Downtown Crossing Bridges.
- 1.81. Section 4 means the Kentucky approach to the East End Crossing Bridge.
- 1.82. Section 4A means that southern portion of Section 4 that is not part of Section 4B.
- 1.83. Section 4B means the portion of Section 4 beginning at a point on Proposed KY 841 north of the northerly abutment of the proposed Harrods Creek/River Road Bridge near Station 149+08 northbound and continuing north to the northerly limits of Section 4.
- 1.84. Section 5 means the East End Crossing Bridge.
- 1.85. Section 6 means the Indiana approach to the East End Crossing Bridge.
- 1.86. Section 129 Toll Agreement means the agreement with FHWA entered into pursuant to 23 U.S.C. § 129 regarding the treatment of the Project as a toll facility.
- 1.87. State Fiscal Year means the fiscal year of Indiana or Kentucky, or both as the context may require.
- 1.88. States' Parties means IFA, INDOT, KPTIA and KYTC.
- 1.89. States' Party means any one of IFA, INDOT, KPTIA or KYTC.
- 1.90. TIFIA means the federal program providing credit assistance for qualified transportation infrastructure projects of regional and national significance under the Transportation Infrastructure Finance and Innovation Act, codified at 23 U.S.C. §601 et. seq.
- 1.91. TIGER Discretionary Grants means certain Supplementary Discretionary Grants from the U.S. Department of Transportation known as Transportation Investment Generating Economic Recovery Grants.
- 1.92. Toll Revenues means the gross amount of all tolls, administrative fees, violation charges, incidental charges, prepaid fees, penalties and other charges collected through a collection process with respect to the Project.

- 1.93. Tolling Body means the body established in the Interlocal Agreement as described in Subsection 11.5.2, being comprised of the members of the Joint Board plus one additional representative of IFA and one additional representative of KPTIA.
- 1.94. Tolling O&M Reserve Fund means the fund by that name established under the Kentucky Revenue Bond Indenture to provide for KPTIA's Toll System Collection Expenses, as described in the Kentucky Revenue Bond Indenture.
- 1.95. Toll Operations Agreement means an agreement entered into among a Toll Operator and/or either (i) the States' Parties (or certain of them representing each State) or (ii) the Joint Board on behalf of the States' Parties, which will identify the duties and responsibilities of the Toll Operator with respect to the comprehensive electronic tolling system and the deposit of Toll Revenues pursuant to the Custody Agreement. The initial Toll Operations Agreement may be contained within the Toll System Integrator Agreement.
- 1.96. Toll Operator means a qualified toll system operator engaged by the Joint Board on behalf of the States' Parties and/or the States' Parties (or certain of them representing each State) pursuant to the Toll Operations Agreement. The Toll Operator may be the Toll System Integrator from time to time.
- 1.97. Toll Policy Agreement means an agreement entered among the States' Parties (or certain of them representing each State) and/or the Tolling Body establishing a comprehensive toll policy for the Project.
- 1.98. Toll System Collection Expenses means operation and maintenance expenses incurred by the Toll Operator and paid from toll revenues and other sources available to IFA and KPTIA.
- 1.99. Toll System Integrator means a qualified toll system integrator who will be engaged to provide a comprehensive, electronic toll system for the Project pursuant to the Toll System Integrator Agreement. The Toll System Integrator will perform the role of the Toll Operator during a minimum initial period of one year.
- 1.100. Toll System Integrator Agreement means an agreement entered between the States' Parties (or certain of them representing each State), and/or the Joint Board on behalf of the States' Parties, and a Toll System Integrator pursuant to which the Toll System Integrator will provide a comprehensive, electronic toll system for the Project and perform the role of the Toll Operator during a minimum initial period of one year.

Article 2. Joint Board; Tolling Body; Interlocal Agreement

2.1. Creation of Joint Board and Tolling Body

KPTIA, IFA, INDOT and KYTC agree they will use their best efforts to enter into an Interlocal Agreement pursuant to the Interlocal Statutes by November 1, 2012, which Interlocal Agreement will be in substantially the form set forth in **Appendix H**. The Joint Board and the Tolling Body shall be created for the joint undertaking of facilitating and assisting in the accomplishment of the Project and each shall be established with and for the purpose of exercising all of the respective rights, powers, functions and duties of each of the respective Parties that are necessary, useful, or appropriate for the Project, all as shall be more fully described in the Interlocal Agreement or as more fully described herein.

2.2. Powers and Authorities

The Joint Board and the Tolling Body shall each be authorized to use any and all of the respective powers and authorities granted to them by the Interlocal Agreement or as granted to them herein. Each of these powers is hereby shared or delegated as may be necessary and appropriate to and for the use by its individual members to accomplish each of their respective obligations and responsibilities as set forth in this Agreement. Neither the Joint Board nor the Tolling Body shall exercise any of its respective powers in a manner inconsistent with the express terms of this Agreement.

2.3. Duties and Responsibilities

The Joint Board and the Tolling Body shall each, to the extent of its respective authority and in the exercise of its respective discretion, exist solely to assist and facilitate the performance by the Parties of their responsibilities under this Agreement with respect to the Project.

2.4. Rules of Governance

The Joint Board and the Tolling Body shall each, in the exercise of its respective discretion, establish such rules of governance as it may deem necessary and proper for the accomplishment of its respective purposes, consistent with the provisions of this Agreement.

2.5. Duration

The Interlocal Agreement shall provide that its duration will be through and until Project Termination or until termination of this Agreement, whichever occurs first. The duration of the Interlocal Agreement may be extended by agreement of the States' Parties, within the limitations of the Interlocal Statutes.

2.6. Purpose

The Interlocal Agreement shall provide that the purpose thereof is to assist the Parties in the accomplishment of the Project as described herein.

2.7. Financing/Staffing/Supplying and Budget

The Interlocal Agreement shall provide for the manner of financing (including addressing the payment, if any, of the employer's share of any pertinent pension plans that might be involved), staffing, and supplying the joint undertaking, and of establishing and maintaining a budget therefor, all of which shall be consistent with this Agreement.

2.8. Termination

The Interlocal Agreement shall provide for termination only upon termination of this Agreement.

2.9. Administration

2.9.1. The Joint Board shall be composed of representatives of the States' Parties, and each State's Party shall be represented. Each of the following (by virtue of their offices) shall serve on the Joint Board, or shall designate a representative (or representatives) who may serve in their stead from time to time:

2.9.1.1 Chairman of KPTIA

2.9.1.2 The Public Finance Director of the State of Indiana on behalf of IFA

2.9.1.3 Secretary of KYTC

2.9.1.4 Commissioner of INDOT

2.9.2. The Tolling Body shall be comprised of representatives of the States' Parties and each States' Party shall be represented. The members of the Tolling Body shall consist of the members of the Joint Board, as set forth in 2.9.1 above, plus one additional representative from IFA and one additional representative of KPTIA.

2.10. Real and Personal Property

The Interlocal Agreement shall provide that real and personal property shall be acquired, held and disposed of in the manner set forth herein.

2.11. Approvals

- 2.11.1. IFA, KPTIA, INDOT and KYTC agree that each will obtain a resolution or other appropriate authorization of their respective organization approving and authorizing execution of the Interlocal Agreement.
- 2.11.2. IFA shall be responsible for submitting the Interlocal Agreement to the Attorney General of Indiana, and for obtaining his approval thereof; and KPTIA shall be responsible for submitting the Interlocal Agreement to the Attorney General of Kentucky and to the Secretary of KYTC, and for obtaining their approval thereof, in compliance with the Interlocal Statutes.
- 2.11.3. The Indiana Parties shall file the Interlocal Agreement with the County Recorder of Clark County, Indiana, and with the Indiana State Board of Accounts.
- 2.11.4. The Kentucky Parties shall file the Interlocal Agreement with the County Clerks of Jefferson County, Kentucky and Franklin County, Kentucky, and with the Kentucky Secretary of State.

2.12. Relationship of the Parties

The Interlocal Agreement shall provide that the States' Parties hereto are independent parties and nothing contained herein shall be deemed to create a partnership, joint venture, or employer-employee relationship for purposes of federal or state tax law, or otherwise.

2.13. Sovereign Immunity and Statutory Limitations on Tort Damages

Notwithstanding any provision to the contrary herein, the Indiana Parties shall be considered agents of the Kentucky Parties in carrying out the development and operation of that portion of the East End Crossing which is to be constructed within the Commonwealth of Kentucky and shall be entitled to protection from claims and suits by third parties in connection with such activities to the maximum extent provided by principles of sovereign immunity or other statutory limitations on tort damages applicable to the Commonwealth of Kentucky or the State of Indiana. Notwithstanding any provision to the contrary herein, the Kentucky Parties shall be considered agents of the Indiana Parties in carrying out the development and operation of that portion of the Downtown Crossing which is to be constructed within the State of Indiana and shall be entitled to protection from claims and suits by third parties in connection with such activities to the maximum extent provided by principles of sovereign immunity or other statutory limitations on tort damages applicable to Commonwealth of Kentucky or the State of Indiana. This provision shall survive Project Termination or other termination of this Agreement.

Article 3. Bridges Authority

- 3.1. The Bridges Authority hereby delegates any and all of its powers to the States' Parties as necessary for purposes of accomplishing the Project as set forth herein.
- 3.2. The Bridges Authority shall provide an annual report of its activities, prepared as described in Subsection 4.1, to (i) the Joint Board, (ii) the Indiana Parties and (iii) the Kentucky Parties. The submission of such report to the Joint Board shall satisfy the requirements of (ii) and (iii).
- 3.3. The Bridges Authority shall cause a certified public accountant to perform an annual audit of the Bridges Authority and shall submit such audit to the Joint Board.
- 3.4. The States' Parties shall provide staff and support to the Bridges Authority through the BSMT together with such other assistance as is reasonably necessary to enable the Bridges Authority to fulfill its reporting and audit responsibilities under this Agreement, the costs of which will be shared equally by the States' Parties.

Article 4. Bi-State Management Team and Project Management Plan

- 4.1. The BSMT shall provide oversight of the Project by monitoring the status and progress of the Project, and reporting to and coordinating with FHWA as necessary and/or as requested by FHWA. Without limiting the foregoing, the BSMT shall prepare the annual report regarding the activities of the Bridges Authority and submit it to the Bridges Authority for review and comment, before the Bridges Authority submits the report as required by Subsection 3.2 hereof.
- 4.2. The BSMT will update the PMP and the Major Projects Financial Plan, which shall be subject to the prior approval of IFA and KPTIA. The PMP and Major Projects Financial Plan shall be consistent with this Agreement and shall be submitted to FHWA as required.

Article 5. Acquisition of Property, Utility Relocation and Project Termination Property Transfers

- 5.1. Property Interests - East End Crossing
 - 5.1.1. Property Acquisition - East End Crossing. The Indiana Parties shall timely acquire or shall utilize their powers, including eminent domain and condemnation powers, to timely acquire the Indiana East End Property. The Kentucky Parties shall timely acquire or shall utilize their powers, including eminent domain and condemnation powers, to timely acquire the Kentucky East End Property. The Indiana Parties shall be responsible for all costs of acquiring the Indiana East End Property. The Kentucky Parties shall be responsible for all costs of acquiring the Kentucky East End Property. Any costs incurred by the

Indiana Parties as a result of the inability of the Kentucky Parties to acquire such real and personal property interests with respect to the Kentucky East End property pursuant to the schedule for property acquisition attached to the Technical Provisions for the Indiana East End Crossing procurement as Attachment 21-1, as such schedule shall be amended from time to time, shall be the responsibility and obligation of the Kentucky Parties.

5.1.2. Property Ownership - East End Crossing.

5.1.2.1 *Indiana East End Property.* Indiana (whether directly, or through INDOT or through IFA) shall own the Indiana East End Property and make such Indiana East End Property available for the development, construction, and operation of the East End Crossing at least through the Project Termination.

5.1.2.2 *Kentucky East End Property.* At such time as agreed to by the States' Parties, but in no event later than the commencement of construction of Sections 4 and 5 of the East End Crossing, the Kentucky Parties shall enter into a ground lease with the Indiana Parties (or another entity designated by the Indiana Parties), providing for the lease of all Kentucky East End Property located in Sections 4 and 5 to IFA, on behalf of Indiana, for a term of years ending on the date of Project Termination, and providing, among other things, that (i) the Developer and other persons and entities under the direction of the Indiana Parties shall be allowed to enter the Kentucky East End Property subject to the ground lease for the purpose of developing and constructing and, if so elected by the Indiana Parties, operating the portion of the Project constructed under the terms of the ground lease, (ii) the ground lease shall terminate at Project Termination, (iii) the East End Crossing Bridge structure to be constructed on Section 5 shall be owned by Indiana through and until the Project Termination and, on Project Termination, Indiana shall transfer a 50% ownership in the East End Crossing Bridge structure to Kentucky, and thereafter the East End Crossing Bridge structure shall be owned by Indiana and Kentucky as joint tenants on a 50%/50% basis, and (iv) following Project Termination, any improvements located on Section 4 shall be owned solely by Kentucky (such ground lease, the "Kentucky East End Property Ground Lease"). If additional Kentucky East End Property is acquired pursuant to Subsection 5.1.1 above after commencement of construction of Sections 4 and 5 of the East End Crossing, the Kentucky Parties and the Indiana Parties shall amend the Kentucky East End Property Ground Lease to include such additional property within the Kentucky East End Property Ground Lease. The Kentucky East End Property Ground Lease shall be recorded in the applicable real property records in the county where such real property is located, and every such recorded instrument shall contain a covenant

prohibiting the tenant(s) from filing a complaint or instituting any procedure at law or in equity to have the real or personal property interest arising under the Kentucky East End Property Ground Lease partitioned in accordance with any other law.

- 5.1.3. Kentucky East End Property Access Rights. Until the execution and delivery of the Kentucky East End Property Ground Lease, the Kentucky Parties grant the Indiana Parties, the Developer and their respective authorized contractors, sub-contractors, agents, and employees, upon reasonable advance notice, the right to enter the Kentucky East End Property for the purpose of (i) conducting any investigation or inspection of the Kentucky East End Property to the extent desired and deemed consistent with good commercial practice and necessary to evaluate the use of the Kentucky East End Property for the East End Crossing including, without limitation, such soils, engineering and environmental studies as may be necessary to assess the condition and suitability of the Kentucky East End Property for its intended uses in the East End Crossing; and (ii) engaging in any and all activities intended to facilitate the completion of the East End Crossing (collectively, the “Kentucky Access Rights”). The Kentucky Access Rights shall include (y) the right of ingress, egress, transportation and use of vehicles, equipment, material, and personnel over, across, and under the Kentucky East End Property; and (z) the right to remove, restore, rebuild or construct any improvements necessary to complete the East End Crossing. The Indiana Parties and the Developer shall take all reasonable precautions to minimize damage to the Kentucky East End Property or the property of third parties while utilizing the Kentucky Access Rights. In the event that the Indiana Parties, the Developer, their respective authorized contractors, sub-contractors, employees, or agents shall cause any damage to the Kentucky East End Property or the property of third parties, then the Indiana Parties shall at their own cost and expense (which may be passed on to the Developer), restore the Kentucky East End Property or the property of third parties as reasonably practical to the same condition the Kentucky East End Property or the property of third parties was in immediately prior to such damage.

5.2. Property Interests - Downtown Crossing

- 5.2.1. Property Acquisition - Downtown Crossing. The Kentucky Parties shall timely acquire or shall utilize their powers, including eminent domain and condemnation powers, to timely acquire the Kentucky Downtown Property. The Indiana Parties shall timely acquire or shall utilize their powers, including eminent domain and condemnation powers, to timely acquire the Indiana Downtown Property. The Kentucky Parties shall be responsible for all costs of acquiring the Kentucky Downtown Property. The Indiana Parties shall be

responsible for all costs of acquiring the Indiana Downtown Property. Any costs incurred by the Kentucky Parties as a result of the inability of the Indiana Parties' to acquire such real and personal property interests with respect to the Indiana Downtown Property pursuant to the schedule for property acquisition attached to the RFP for the Kentucky Design/Build procurement as Appendix RW-04, as such schedule shall be amended from time to time, shall be the responsibility and obligation of the Indiana Parties.

5.2.2. Property Ownership - Downtown Crossing.

5.2.2.1 *Kentucky Downtown Property.* Kentucky (whether directly, or through KYTC or KPTIA) shall own the Kentucky Downtown Property and make such Kentucky Downtown Property available for the development, construction and operation of the Downtown Crossing at least through the Project Termination.

5.2.2.2 *Indiana Downtown Property.* At such time as agreed to by the States' Parties, but in no event later than the commencement of construction of Sections 2 and 3 of the Downtown Crossing, the Indiana Parties shall enter into a ground lease with the Kentucky Parties, providing for the lease of all Indiana Downtown Property located in Section 2 and Section 3 to Kentucky (or a KYTC designated entity), for a term of years ending on the date of Project Termination, and providing, among other things, that (i) the Design-Build Team and other persons and entities under the direction of the Kentucky Parties shall be allowed to enter the Indiana Downtown Property for the purpose of constructing and maintaining and, if so elected by the Kentucky Parties, operating the portion of the Project constructed under the terms of the ground lease, (ii) such ground lease shall terminate at Project Termination, (iii) the Kennedy Bridge shall continue to be owned by Indiana and Kentucky as joint tenants on a 50%/50% basis at all times (even after Project Termination), (iv) the New Downtown Crossing Bridge to be constructed on Section 2 shall be owned by Kentucky through and until the Project Termination and, on Project Termination, Kentucky shall transfer a 50% ownership in the Downtown Crossing Bridge structure to Indiana, and thereafter the Downtown Crossing Bridge structure shall be owned by Indiana and Kentucky as joint tenants on a 50%/50% basis, and (v) any improvements located on Section 3 shall be owned solely by Indiana at and after Project Termination (such ground lease, the "Indiana Downtown Property Ground Lease"). If additional Indiana Downtown Property is acquired pursuant to Subsection 5.2.1 above after commencement of construction of Sections 2 and 3 of the Downtown Crossing, the Indiana Parties and the Kentucky Parties shall amend the Indiana Downtown Property Ground Lease to include such additional property within the Indiana Downtown Property Ground Lease. The

Indiana Downtown Property Ground Lease shall be recorded in the applicable real property records in the county where such real property is located, and every such recorded instrument shall contain a covenant prohibiting the tenants from filing a complaint or instituting any procedure at law or in equity to have the real or personal property interest arising under the Indiana Downtown Property Ground Lease partitioned in accordance with any other law.

- 5.2.3. Access to the Indiana Downtown Property. Until the execution and delivery of the Indiana Downtown Property Ground Lease, the Indiana Parties grant the Kentucky Parties, the Design-Build Team and their respective authorized contractors, sub-contractors, agents, or employees, upon reasonable advance notice, the right to enter the Indiana Downtown Property for the purpose of (i) conducting any investigation or inspection of the Indiana Downtown Property to the extent desired and deemed consistent with good commercial practice and necessary to evaluate the use of the Indiana Downtown Property for the Downtown Crossing including, without limitation, such soils, engineering and environmental studies as may be necessary to assess the condition and suitability of the Indiana Downtown Property for its intended uses in the Downtown Crossing; and (ii) engaging in activities intended to facilitate the completion of the Downtown Crossing (collectively, the “Indiana Access Rights”). The Indiana Access Rights shall include (y) the right of ingress, egress, transportation and use of vehicles, equipment, material, and personnel over, across, and under the Indiana Downtown Property; and (z) the right to remove, restore, rebuild or construct any improvements necessary to complete the Downtown Crossing. The Kentucky Parties and Design-Build Team shall take all reasonable precautions to minimize damage to the Indiana Downtown Property or the property of third parties while utilizing the Indiana Access Rights. In the event that the Kentucky Parties, the Design-Build Team, their respective authorized contractors, sub-contractors, employees, or agents shall cause any damage to the Indiana Downtown Property or the property of third parties, then the Kentucky Parties shall at their own cost and expense (which may be passed on to the Design-Build Team), restore the Indiana Downtown Property or the property of third parties as reasonably practicable to the same condition the Indiana Downtown Property or the property of third parties was in immediately prior to such damage.

5.3. Utility Relocation

- 5.3.1. Utility Relocation - East End Crossing. The Indiana Parties shall use best efforts and where applicable, their full authority, including but not limited to any rights of condemnation and/or eminent domain, to obtain an agreement to relocate any public utilities or any other

occupancies located within the East End Property (whether Indiana East End Property or Kentucky East End Property) that are necessary to complete the East End Crossing, including those that may be subject to the prior public use doctrine or similar law or statute that prevents the States' Parties from exercising condemnation powers to obtain the property interest at issue. To the extent that it is necessary to exercise rights of condemnation and/or eminent domain within the Kentucky East End Property, the Kentucky Parties shall make all reasonable efforts to assist the Indiana Parties in this process. All costs of such public utility and other occupancy relocation within the East End Property shall be borne by the Indiana Parties.

5.3.2. Utility Relocation - Downtown Crossing. The Kentucky Parties shall use best efforts and where applicable, their full authority, including but not limited to rights of condemnation and/or eminent domain, to obtain an agreement to relocate any public utilities or any other occupancies located within the Downtown Property (whether Kentucky Downtown Property or Indiana Downtown Property) that are necessary to complete the Downtown Crossing, including those that may be subject to the prior public use doctrine or similar law or statute that prevents the States' Parties from exercising condemnation powers to obtain the property interest at issue. To the extent that it is necessary to exercise rights of condemnation and/or eminent domain within the Indiana Downtown Property, the Indiana Parties shall make all reasonable efforts to assist the Kentucky Parties in this process. All costs of such public utility and other occupancy relocation within the Downtown Property shall be borne by the Kentucky Parties.

5.4. Termination of Ground Leases

5.4.1. East End Crossing. At Project Termination, the Kentucky East End Property Ground Lease will terminate by its terms. The East End Crossing Bridge shall be owned 50% by the Indiana Parties and 50% by the Kentucky Parties following Project Termination.

5.4.2. Downtown Crossing. At Project Termination, the Indiana Downtown Property Ground Lease will terminate by its terms. The Kennedy Bridge and the New Downtown Crossing Bridge shall be owned 50% by the Indiana Parties and 50% by the Kentucky Parties following Project Termination.

5.5. Taxes

INDOT and IFA are exempt from payment of any and all Kentucky state and local taxes in connection with any portion of the Project which is located in Kentucky, including without limitation ad valorem property taxes and income taxes; provided, however, that INDOT and IFA are not exempt from payment of

Kentucky sales or use tax arising from direct purchases (if any) by INDOT or IFA of personal property that is of a type subject to Kentucky sales or use tax. KYTC and KPTIA are exempt from payment of any and all Indiana state and local taxes in connection with any portion of the Project which is located in Indiana, including without limitation ad valorem property taxes and income taxes; provided, however, that KYTC and KPTIA are not exempt from payment of Indiana sales or use tax arising from direct purchases (if any) by KYTC or KPTIA of personal property that is of a type subject to Indiana sales or use tax. However, if for some reason in the future Kentucky and/or any of its agencies, instrumentalities, political subdivisions, or any local unit of government in Kentucky (a "Kentucky Taxing Entity") levies a tax against one or more of the States' Parties or their property in connection with the Project, the Kentucky Parties shall use all reasonable efforts to cause the Kentucky Taxing Entity to rescind such levy and/or shall contest such levy in a court of competent jurisdiction, but if such efforts are unsuccessful, the Kentucky Parties shall pay such taxes, assessments, fees or other charges, including any interest and penalties, collection costs and other charges and fees; provided however that Kentucky will not be obligated to pay any sales or any other tax of Developer or the Design-Build Team or any of their contractors or subcontractors. If for some reason in the future Indiana and/or any of its agencies, instrumentalities, political subdivisions, or any local unit of government in Indiana (an "Indiana Taxing Entity") levies a tax against one or more of the States' Parties or their property in connection with the Project, the Indiana Parties shall use all reasonable efforts to cause the Indiana Taxing Entity to rescind such levy and/or shall contest such levy in a court of competent jurisdiction, but if such efforts are unsuccessful, the Indiana Parties shall pay such taxes, assessments, fees or other charges, including any interest and penalties, collection costs and other charges and fees; provided, however, that Indiana will not be obligated to pay any sales or any other tax of the Developer or the Design-Build Team or any of their contractors or subcontractors.

Article 6. Schedule

The Indiana Parties and the Kentucky Parties shall use their best efforts to accomplish East End Crossing Substantial Completion and Downtown Crossing Substantial Completion of the Project by July 1, 2018.

Article 7. Budget

The Parties have participated in the development of a Major Projects Financial Plan, which include the estimated costs for completion of the Project. The Parties acknowledge and agree that the estimated costs set forth in the Major Projects Financial Plan are reasonable and adequate for the Project. Per the terms of this Agreement, the Indiana Parties and Kentucky Parties shall be responsible to perform the duties and obligations set forth herein within the parameters identified in the Major Projects Financial Plan. The Major Projects Financial Plan may not be amended without the prior approval of the States' Parties. Changes in scope shall be governed by Subsection 10.6.

Article 8. Financing

8.1. Overview of Project Financing

8.1.1. This Article 8 deals primarily with the various sources and uses of funds for construction of the Project. In addition, certain Subsections also address the sources to be used by the relevant States' Parties for the payment of obligations related to the procurements.

8.1.2. As of June 30, 2012, the States have expended \$293.5 million (\$220.2 million by Kentucky and \$73.3 million by Indiana) for the Project.

8.1.3. In January 2012, FHWA, in consultation with KYTC and INDOT, performed a cost estimate review of the Project. The following cost estimate information was derived from that process, and reflects the estimate of costs in the Major Projects Financial Plan.

Project Segment	Total Cost (in millions)
Section 1 - Kennedy Interchange(KY)	\$659.8
Section 2 - Downtown Crossing Bridges	\$357.8
Section 3 – Downtown Approach(IN)	\$197.7
Section 4 - East End Approach(KY)	\$737.6
Section 5 - East End Bridge	\$284.4
Section 6 - East End Approach(IN)	\$196.1
Project Wide Costs	\$150.5
TOTAL	\$2,583.9

As set forth in the Major Projects Financial Plan, Indiana's portion of the total cost (in millions) is \$1,276.30, and Kentucky's portion of the total cost (in millions) is \$1,307.60. These amounts take into account costs that already have been advanced by Indiana and by Kentucky on all Sections.

8.1.4. The Indiana Parties agree to take responsibility for the procurement, financing and construction of the East End Crossing, composed of Sections 4, 5 and 6. The Kentucky Parties agree to take responsibility for the procurement, financing, and construction of the Downtown Crossing, composed of Sections 1, 2 and 3. In addition to funding the costs of such portions of the Project, the Kentucky Parties and the Indiana Parties have agreed to fund the anticipated Project Wide Costs

in the estimated amounts of \$92.3 million and \$58.2 million, respectively.

- 8.1.5. The States' Parties expect to fund their respective portions of the Project from (i) contributions by the applicable State from conventional State and federal transportation program funds, (ii) proceeds of bonds or other evidences of indebtedness of a Kentucky Party, an Indiana Party, and the Developer, including proceeds of TIFIA loans and (iii) equity funding from the Developer. In addition, federal discretionary program funds may also be utilized for the Project to the extent additional discretionary funds become available to the States.
- 8.1.6. Kentucky and Indiana have historically used federal-aid resources for the Project and have committed specific funding for the Project from their respective near-term federal-aid highway funding programs.
- 8.1.7. Federal-aid formula funds used to fund the Project have been and will continue to be matched by a combination of State highway funds and toll credits (credits unrelated to the Project) in Kentucky and by State funds in Indiana. Both States have demonstrated track records of meeting their State match obligations with a variety of State funding sources, including State imposed fuel taxes and a variety of transportation-related fees.
- 8.1.8. Based on expectations regarding the availability of federal funding, as well as expectations regarding the availability of corresponding State transportation funds, an estimated \$1.3 billion of federal-aid highway formula and State transportation funds is reasonably expected to be available to the Project. This amount includes \$293.4 million estimated to be expended through State fiscal year 2012.
- 8.1.9. Based on the importance of the Project to national freight movements and the national economy, the States' Parties agree to continue to identify and, as appropriate, pursue discretionary federal funding, including the TIGER Discretionary Grants program. The States' Parties agree to seek opportunities for federal TIFIA funding, acknowledging the expected limited availability of TIFIA funding for the Project. The States' Parties agree that the percentages agreed to for the Indiana and Kentucky Revenue Shares may be adjusted by agreement of the States' Parties to take into account any final allocation of TIFIA funding to the Project. The States' Parties also agree to coordinate submission of applications for TIFIA if invited to do so by the U.S. Department of Transportation.
- 8.1.10. To support the financing and construction of the Downtown Crossing, Kentucky will provide funds as described in Section 8.3.

8.1.11. To support the financing and construction of the East End Crossing, Indiana will provide funds as described in Section 8.2.

8.2. Financing of East End Crossing

8.2.1. The Indiana Parties shall take sole responsibility for the procurement, financing and construction of the East End Crossing, composed of Sections 4, 5 and 6. The costs of this portion of the Project, together with the Indiana share of Project Wide Costs, as reflected in the Major Projects Financial Plan, is set forth in Subsection 8.1.3. above.

8.2.2. IFA shall conduct a procurement process and undertake to execute a Public-Private Agreement with a Developer to finance a portion of the costs of constructing the East End Crossing utilizing an availability payment structure. The Developer will be obligated to design and construct the East End Crossing and operate and maintain a portion of the East End Crossing. (See Article 10).

8.2.3. INDOT has committed \$570 million in federal and conventional State funds through 2018 to fund its obligations for the East End Crossing. This includes six payments of \$54 million per State Fiscal Year to make milestone payments (or other payments) to IFA, \$172.7 million in additional Project costs during the construction period, and \$73.3 million previously expended for Project costs. In addition, INDOT has committed an additional \$108 million (\$54 million for each State Fiscal Year 2019 and 2020), expected to be used to make milestone payments (or other payments) to IFA. The foregoing contributions are subject to appropriation by the Indiana General Assembly of such amounts. IFA will be committed under the Public-Private Agreement to make certain milestone payments (or other payments) to the Developer and will enter into an agreement with INDOT pursuant to which INDOT will agree to pay certain of the funds described above to IFA to fund such payment obligations to the Developer.

8.2.4. In addition to the funds provided by the Indiana Parties as described in Subsection 8.2.3, the balance of the amount required to fund the design and construction of the East End Crossing is expected to be provided by the Developer, which may include proceeds of indebtedness of the Developer and a Developer equity contribution. If the Developer elects to use Private Activity Bonds to satisfy a portion of its funding obligations, IFA may serve as the conduit issuer for the purpose of lending proceeds thereof to the Developer.

8.2.5. In connection with the Public-Private Agreement, IFA shall make availability payments to the Developer from amounts to be paid to IFA

by INDOT under the use agreement described in Subsection 8.2.6 and the Indiana Revenue Share.

- 8.2.6. In connection with the Public-Private Agreement, IFA will enter into a use agreement with INDOT with respect to the East End Crossing, which agreement shall provide that INDOT will make use payments (subject to Indiana General Assembly appropriations) to IFA which will be used together with the Indiana Revenue Share to fund the availability payments owed by IFA to the Developer.
- 8.2.7. The Indiana Parties reserve the right to utilize toll revenue bonds to fund all or part of the East End Crossing, in which event this Subsection 8.2 and any related Subsections of this Agreement shall be revised by an amendment which is not to the detriment of the Kentucky Parties and which has been executed by the States' Parties.
- 8.2.8. Nothing set forth herein shall be construed as constituting a debt, liability or obligation of Indiana or Kentucky, or a pledge or lending of the full faith and credit of either State within the meaning of any constitutional provision or limitation.

8.3. Financing of Downtown Crossing

- 8.3.1. The Kentucky Parties shall take sole responsibility for the procurement, financing and construction of the Downtown Crossing, composed of Sections 1, 2 and 3. The costs of this portion of the Project, together with the Kentucky share of Project Wide Costs, as reflected in the Major Projects Financial Plan, is set forth in Subsection 8.1.3. above.
- 8.3.2. Under the structure that Kentucky plans to use, the Downtown Crossing will be financed with a combination of funding commitments from Kentucky, governmental purpose tax-exempt debt in the form of GARVEE bonds backed by future federal funds, and governmental purpose tax-exempt debt in the form of toll revenue bonds secured by the Kentucky Revenue Share ("Kentucky Revenue Bonds").
- 8.3.3. Under the six year highway plan adopted by Kentucky, the Kentucky Parties will provide \$536 million in future federal funds to be used for the Downtown Crossing. This includes \$300 million in traditional federal funds (\$50 million per State Fiscal Year for six years beginning with State Fiscal Year 2013) and the proceeds of an estimated \$236 million of previously authorized GARVEE bonds, for a total of \$536 million. This funding is in addition to already expended funds of \$220.2 million of \$279.4 million authorized for the period ending with State Fiscal Year 2012. The foregoing

contributions are subject to appropriation by the Kentucky General Assembly of such amounts.

8.3.4. The Kentucky Parties additionally will issue one or more series of Kentucky Revenue Bonds in an amount estimated to exceed \$350.0 million, as an additional source of funding for the costs of the Downtown Crossing. KPTIA will issue the Kentucky Revenue Bonds, as the “issuing authority” under KRS 175B.025. The Kentucky Revenue Bonds will be governmental purpose tax-exempt bonds secured by the Kentucky Revenue Share. The Kentucky Revenue Share will be used to make payments of principal and interest on the Kentucky Revenue Bonds.

8.3.5. The Kentucky Revenue Bonds will be issued by KPTIA pursuant to a Kentucky Revenue Bond Indenture.

8.3.5.1 The Kentucky Revenue Bond Indenture shall include a debt service reserve fund (“DSRF”) into which shall be deposited and maintained an amount equal at least to the next State Fiscal Year’s principal and interest requirements for all outstanding senior lien bonds. In the event that the Kentucky Revenue Share is insufficient to fully fund senior lien bond principal and interest payments, the DSRF shall be used to make timely payments to bondholders. In order to support the Kentucky Revenue Bonds, KYTC agrees to budget and seek to have appropriated, at the next available opportunity, from legally available highway funds, an amount that will replenish and restore the DSRF to its required amount, which constitutes the DSRF Replenishment Guarantee. Any such amounts budgeted and appropriated will be considered a loan to the Kentucky Parties for the Downtown Crossing and repaid with interest at 5% per annum from the Kentucky Revenue Share, as described in the Kentucky Revenue Bond Indenture.

8.3.5.2 The Kentucky Revenue Bond Indenture shall include (a) a Tolling O&M Reserve Fund into which shall be deposited an amount equal to one half of the estimated total Toll System Collection Expenses due in the following State Fiscal Year (which is KPTIA’s share of such expenses) or such lesser amount agreed to by IFA and KYTC, (b) a General O&M Reserve Fund into which shall be deposited amounts deemed reasonable by a mutually agreeable independent engineer to fund the O&M Expenses for the Kentucky O&M Portion, and (c) an M&R Reserve Fund into which shall be deposited over time amounts deemed reasonable by a mutually agreeable independent engineer to fund lifecycle costs for the Kentucky O&M Portion. In the event that the Kentucky Revenue Share is insufficient to fully fund required Tolling O&M Reserve Fund deposits, required General O&M Reserve Fund deposits and required

M&R Reserve Fund deposits, and in order to support the creditworthiness of the Kentucky Revenue Bonds, KYTC agrees to budget and seek to have appropriated, at the next available opportunity, from legally available highway funds, an amount that will restore the Tolling O&M Reserve Fund, General O&M Reserve Fund and M&R Reserve Fund to the respective required amounts which constitute the Reserve Replenishment Guarantees. Any such amounts budgeted and appropriated will be considered a loan to the Kentucky Parties for the Downtown Crossing and repaid with interest at 5% per annum from the Kentucky Revenue Share fund balances which are on deposit from time to time in the General Reserve Fund, as described in the Kentucky Revenue Bond Indenture, subject to priority of payments from such fund as described in the Kentucky Revenue Bond Indenture.

8.3.5.3 The Kentucky Revenue Bond Indenture or the official authorization of the issuance of Kentucky Revenue Bonds thereunder shall contain an acknowledgement that no amounts of principal and interest on such bonds are payable from the Indiana Revenue Share and that, in addition to the DSRF, a portion of the Kentucky Revenue Share is required to be separately set aside as reserves as set forth above in this Subsection 8.3.5.

8.3.5.4 In addition to the provisions described in this Subsection 8.3.5, the Kentucky Revenue Bond Indenture will contain other provisions providing for priority of payment from various sources, fund and reserves, determined and established as necessary in order to market the Kentucky Revenue Bonds at the lowest possible interest rates then prevailing at the time such Kentucky Revenue Bonds are issued.

8.3.5.5 The States' Parties acknowledge that modifications to the requirements of Subsection 8.3.5 may be desirable, based upon then current market conditions at the time of execution of the Kentucky Revenue Bond Indenture, rating agency requirements or similar factors, and that such modifications may be made through an amendment to this Agreement executed by such Parties.

8.3.6. Nothing set forth herein or in the Kentucky Revenue Bond Indenture shall be construed as constituting a debt, liability or obligation of Kentucky or Indiana, or a pledge of the faith and credit of either State within the meaning of any constitutional provision or limitation.

8.4. Path to Implementation

8.4.1. KYTC will continue to advance the procurement process for the Downtown Crossing, which commenced with the issuance of a draft Request for Qualifications on February 23, 2012 and is expected to

achieve award by no later than December 31, 2012 and contracting by no later than March 31, 2013. Toward this end, KYTC has issued a request for qualifications, has announced a “short list” of qualified design-build teams and has issued a request for proposals.

- 8.4.2. IFA, in conjunction with INDOT, will continue to advance the procurement process for the East End Crossing, which commenced with the issuance of a Request for Qualifications on March 9, 2012 and is expected to reach commercial close with the Developer by December 31, 2012 and reach financial close by March 31, 2013. Toward this end, IFA has issued a request for qualifications, has announced a “short list” of qualified developer teams, and has issued a request for proposals.

Article 9. Environmental/Other Federal Requirements

- 9.1. The States’ Parties shall be collectively responsible for achieving and maintaining compliance with the requirements of the ROD in the development, design, financing, construction, operation and maintenance of the Project, including any revisions, modifications, or amendments made to the ROD in accordance with the National Environmental Policy Act, 42 U.S.C. § 4321 *et seq.*; Section 4(f) of the Department of Transportation Act, 49 U.S.C. § 303 and 23 U.S.C. § 138; the National Historic Preservation Act, 16 U.S.C. § 470 *et seq.*; the Endangered Species Act, 16 U.S.C. § 1531 *et seq.*; and any other applicable federal, state, and local laws (hereinafter “ROD Requirements”).
- 9.2. Before seeking FHWA approval to modify a ROD Requirement, a Party must notify each of the other States' Parties in writing and, if requested, consult with the other States' Parties regarding (1) the decision about whether to seek approval for the modification, and (2) the process for obtaining approval of the modification and the role of each State in that process. No Party shall seek FHWA approval to modify, amend, or revise the ROD or any ROD Requirement without the prior written consent of both INDOT and KYTC.
- 9.3. The Indiana Parties shall be responsible for achieving and maintaining compliance with the ROD Requirements specifically applicable to the East End Crossing, and may delegate the responsibility for complying with any portion of those requirements to the Developer. The Kentucky Parties shall be responsible for achieving and maintaining compliance with the ROD Requirements specifically applicable to the Downtown Crossing, and may delegate the responsibility for complying with any portion of those requirements to the Design-Build Team.
- 9.4. The Indiana Parties and Kentucky Parties shall be equally responsible, and shall share the costs equally, for achieving and maintaining compliance with any Project-wide ROD Requirements and may agree in writing among themselves to delegate responsibility for complying with any portion of those requirements to

one of the States' Parties, the Developer, or the Design-Build Team, as appropriate.

- 9.5. The States' Parties agree to cooperate in the defense of any Environmental Litigation, but each States' Party shall bear its own costs in such litigation.

Article 10. Project Scope, Procurement, Design Standards and Construction

10.1. Description of Project

10.1.1. The Project consists of the Downtown Crossing (Sections 1, 2, and 3), the East End Crossing (Sections 4, 5, and 6) and any other commitments contained in the ROD.

10.1.2. KYTC will be responsible for all work, improvements, services, labor and materials necessary to design and construct the Downtown Crossing. Procurement of the Downtown Crossing will be composed of Sections 1, 2 and 3 of the Project, including the New Downtown Crossing Bridge, the reconfiguration of the Kennedy Interchange, reconstruction of the Kennedy Bridge, and the Indiana approach in Jeffersonville. The procurement will be carried out through one or more Design-Build Agreements, for which KYTC will be the contracting agency and will be responsible for design approval and construction acceptance. INDOT will serve in a supporting and consulting capacity to assist with the review of plans, proposals, reports and related documents as necessary or helpful to facilitate the procurement.

10.1.3. IFA will be responsible for all work, improvements, services, labor and materials necessary to design and construct the East End Crossing. Procurement of the East End Crossing will be composed of Sections 4, 5 and 6 of the Project, including the East End Crossing Bridge, and the related approaches in Indiana and Kentucky. The procurement will proceed, at IFA's discretion, using either a Public-Private Agreement with an availability payment concession structure for design-build-finance-operate-maintenance services, or a design-build contract for the construction period only. IFA will serve as the contracting agency for procurement of the East End Crossing, with INDOT, on IFA's behalf, being responsible for design approval and construction acceptance. KYTC will serve in a supporting and consulting capacity to assist with the review of plans, proposals, reports and related documents as necessary or helpful to facilitate the procurement.

10.2. Coordination of Activities

10.2.1. The Parties agree to work cooperatively together and to coordinate planning, design, financing, construction, and operation and

maintenance of their respective portions of the Project. To that end, the States' Parties shall at their own cost and expense provide qualified staff and consultants to carry out their responsibilities with respect to the design, construction, scheduling and coordination of Project activities, including attendance at working group meetings.

10.2.2. With respect to the Downtown Crossing: (i) the Indiana Parties shall communicate their comments regarding the Downtown Crossing only through the Kentucky Parties and not directly to the Design-Build Team; (ii) the Indiana Parties shall have no right to direct the work of the Design-Build Team; (iii) subject to the dispute resolution provisions in Subsection 16.6 herein, the Kentucky Parties shall retain sole discretion on whether to adopt the comments of the Indiana Parties and may reject the same; and (iv) the Indiana Parties shall provide any input and comments on a timely basis within such times as permitted by KYTC, which shall consider all of the relevant circumstances when establishing the allowable time periods.

10.2.3. With respect to the East End Crossing: (i) the Kentucky Parties shall communicate their comments regarding the East End Crossing only through the Indiana Parties and not directly to the Developer; (ii) the Kentucky Parties shall have no right to direct the work of the Developer; (iii) subject to the dispute resolution provisions in Subsection 16.6 herein, the Indiana Parties shall retain sole discretion on whether to adopt the comments of the Kentucky Parties and may reject the same; and (iv) the Kentucky Parties shall provide any input and comments on a timely basis within such times as permitted by IFA, which shall consider all of the relevant circumstances when establishing the allowable time periods.

10.2.4. The Kentucky Parties shall perform their obligations under this Agreement in a manner that does not adversely impact or interfere with the Indiana Parties and/or the Developer. The Indiana Parties shall perform their obligations under this Agreement in a manner that does not adversely impact or interfere with the Kentucky Parties and/or the Design-Build Team.

10.3. Procurement of Project Construction

10.3.1. Following receipt and evaluation of proposals and the selection of a preferred proposer using the design-build powers authorized by Kentucky, KYTC anticipates entering into a Design-Build Agreement with a qualified development team that would obligate the Design-Build Team to design and build the Downtown Crossing.

10.3.2. IFA anticipates entering into a Public-Private Agreement with a qualified development team (the "Developer") that would obligate the

Developer to design, build and finance the East End Crossing and operate and maintain a portion of the East End Crossing.

- 10.3.3. The Kentucky Parties and the Indiana Parties each shall have the right to request the assistance of the other States' Parties in the review of plans, proposals, reports and related documents as necessary or helpful to facilitate the procurement; provided that such participation shall not include involvement in the recommendation of a preferred Proposer or the final decision to select a Developer and/or Design-Build Team, as applicable. The Parties agree to maintain the confidentiality of all proposal information.
- 10.3.4. The Kentucky Parties and Indiana Parties will use their best efforts to execute the Design-Build Agreement, or the Public-Private Agreement, as applicable, as soon as practicable in 2012.

10.4. Design Standards and Construction Specifications

- 10.4.1. All design services to be provided by KYTC or on KYTC's behalf, including the preparation of plans, specifications and environmental compliance documentation, shall be performed in accordance with the applicable professional standard of care, as well as all applicable codes and regulations, at KYTC's sole cost and expense. Such design standards and construction specifications as INDOT shall agree to will be used for Section 3 (Indiana approach).
- 10.4.2. All design services to be provided by IFA/INDOT or on IFA/INDOT's behalf, including preparation of plans, specifications and environmental compliance documentation, shall be performed in accordance with the applicable professional standard of care, as well as all applicable laws, codes and regulations, at IFA/INDOT's sole cost and expense. Such design standards and construction specifications as KYTC shall agree to will be used for Section 4 (Kentucky approach).
- 10.4.3. The Downtown Crossing shall be designed and constructed to meet current Interstate Standards. In the process of structuring and executing the procurement, KYTC shall have the discretion to implement design changes to the extent consistent within the previous FHWA approvals for the Project. Design changes that require an additional FHWA approval will be permitted only with the concurrence of IFA and INDOT. Such concurrence shall be obtained before formally requesting the FHWA approval.
- 10.4.4. The East End Crossing shall be designed and constructed to meet current Interstate Standards and the width of the major structures shall be constructed with four lanes initially but shall be wide enough to

accommodate six lanes. In the process of structuring and executing the procurement, IFA and INDOT shall have the discretion to implement design changes to the extent consistent within the previous FHWA approvals for the Project. Design changes that require additional FHWA approval will be permitted only with the concurrence of KYTC. Such concurrence shall be obtained before formally requesting the FHWA approval.

10.4.5. For purposes of Subsections 10.4.3 and 10.4.4, the following definitions shall apply:

10.4.5.1 “Design change” includes any changes to the design of the project that result from value engineering, from proposals submitted by a contractor (e.g., innovative technical concepts or alternative technical concepts), or from other analyses performed by KYTC or INDOT, respectively, for the Downtown Crossing or the East End Crossing.

10.4.5.2 “FHWA approval” means any FHWA approval of a Reevaluation, an Environmental Assessment, or a Supplemental Environmental Impact Statement, pursuant to NEPA.

10.5. Design/Change Order Review – Sections 3 and 4

Each State shall allow the non-procuring State to designate a liaison to the design team of Sections 3 and 4, respectively, which liaison shall have observer status during design meetings involving the Developer or the Design-Build Team.

All communication of the liaison with respect to the design of Section 3 or 4, respectively, shall be made only to the representatives of the procuring State. No communication with respect to the design shall occur between the liaison and the Developer or the Design-Builder.

Design plans and change orders relating to Sections 3 and 4 shall be submitted to the non-procuring State prior to the work described therein being commenced. The non-procuring State shall review design plans and change orders and provide comments to the procuring State within a timeframe that will not delay work under the procuring State’s contract and that will provide reasonable time for resolving comments without a dispute. The States will establish a specific time frame for response when design submittals and change orders are presented to the other State for review and comment in order to meet the procuring State’s schedule. Disputes regarding the comments or the procuring State’s response to the comments shall be resolved pursuant to the dispute resolution provisions in Subsection 16.6.

10.6. Changes in Scope of Work and Change Orders

- 10.6.1. The Indiana Parties or Kentucky Parties may within their sole discretion make owner-directed changes in the scope of the work for that portion of the Project that they are responsible for developing and financing so long as such changes are consistent with the applicable design standards and ROD Requirements; provided however that any owner-directed change proposed by one of the States' Parties that increases the estimated cost or time for completion of the Downtown Crossing or the East End Crossing, respectively, beyond that set forth in the Major Projects Financial Plan, or that would result in a decrease in the estimated toll revenues to be derived from the operation of the toll facility comprised of the Downtown Crossing and the East End Crossing, shall be subject to the review and approval of the other States' Parties. The States' Parties shall provide the other States' Parties with copies of all proposed changes in the scope of work a minimum of twenty-eight (28) days prior to proposed initiation of the change.
- 10.6.2. The States' Parties shall provide the other States' Parties with notice of all pending change orders due to changed conditions, including those due to hazardous materials, within fourteen (14) days of receipt of a notice of changed condition. The receiving Parties shall have fourteen (14) days to review such change order and provide comments.
- 10.6.3. Disputes regarding the comments or the procuring State's response to the comments shall be resolved pursuant to the dispute resolution provision in Subsection 16.6.

10.7. Unforeseen Conditions

In the event of unforeseen conditions resulting in additional costs for the East End Crossing, including but not limited to environmental conditions, hazardous materials, differing site conditions, labor/material shortages, and other unforeseen conditions, the Indiana Parties shall bear such additional costs, except as otherwise provided by Subsection 16.9. In the event of unforeseen conditions resulting in additional costs for the Downtown Crossing, including but not limited to environmental conditions, hazardous materials, differing site conditions, labor/material shortages, and other unforeseen conditions, the Kentucky Parties shall bear such additional costs, except as otherwise provided by Subsection 16.9. Disputes regarding unforeseen conditions shall be resolved pursuant to the dispute resolution provisions in Subsection 16.6.

10.8. Construction Observation

Upon reasonable advance notice, the Kentucky Parties shall provide the Indiana Parties an opportunity to observe construction being performed on Section 3; and

the Indiana Parties shall provide the Kentucky Parties an opportunity to observe construction being performed on Section 4. Disputes regarding observation of construction shall be resolved pursuant to the dispute resolution provisions of Subsection 16.6.

10.9. Inspections and Inspection Reports

Each of the States' Parties shall provide the other States' Parties an opportunity to observe and review inspections and to review inspection reports relating to the design, construction and/or O&M, for Section 3 (Indiana Parties have right to observe and review), and Section 4 (Kentucky Parties have right to observe and review). The States' Parties shall meet and confer to develop a mutually acceptable procedure for attendance at inspections and sharing of inspection reports. The provision of such reports shall be subject to the limitations of Subsection 16.5. Disputes regarding inspections and inspection reports shall be resolved pursuant to the dispute resolution provisions in Subsection 16.6.

10.10. Substantial Completion

Whenever the Kentucky Parties believe that some or all of Section 3 has reached Downtown Crossing Substantial Completion, and/or the Indiana Parties believe that some or all of Section 4 has reached East End Crossing Substantial Completion, such States' Parties shall provide the other States' Parties advance notice of, and an opportunity to attend, the inspection of Downtown Crossing Substantial Completion or East End Crossing Substantial Completion, and shall provide a written notice of Downtown Crossing Substantial Completion or East End Crossing Substantial Completion, as applicable, as well as any punch-list items from the inspection, to the other States' Parties. The receiving States' Parties shall have 14 days following such inspection to provide comments. It shall be within the Kentucky Parties' reasonable discretion to determine whether Downtown Crossing Substantial Completion as to the Downtown Crossing (including Section 3) has been achieved. It shall be within the Indiana Parties' reasonable discretion to determine whether East End Crossing Substantial Completion as to East End Crossing (including Section 4) has been achieved. Disputes regarding whether Downtown Crossing Substantial Completion of Section 3 or East End Crossing Substantial Completion of Section 4 has been achieved shall be resolved pursuant to the dispute resolution provisions in Subsection 16.6.

10.11. Final Acceptance

Whenever the Kentucky Parties believe that some or all of Section 3 has reached Downtown Crossing Final Acceptance, and/or the Indiana Parties believe that some or all of Section 4 has reached East End Crossing Final Acceptance, such States' Parties shall provide the other States' Parties advance notice of, and an opportunity to attend, the final inspection and shall provide a copy of any punch-list items from the inspection to the other States' Parties. The receiving States'

Parties shall have 14 days following such inspection to provide comments. It shall be within the Kentucky Parties' reasonable discretion to determine whether Downtown Crossing Final Acceptance as to the Downtown Crossing (including Section 3) has been achieved. It shall be within the Indiana Parties' reasonable discretion to determine whether East End Crossing Final Acceptance as to East End Crossing (including Section 4) has been achieved. Disputes regarding such final acceptance of Sections 3 and 4 shall be resolved pursuant to the dispute resolution provisions in Subsection 16.6.

10.12. DBE Goals

Because the Project is a single project with two crossings, to be built with federal as well as state funds, and as such, is subject to federal law, it is anticipated that each of the States' Parties shall independently agree with FHWA on DBE goals appropriate for their respective procurements and elements of the Project as applicable. IFA and KYTC will include language in their procurement advertisements and contract documents and/or Public-Private Agreement or Design-Build Agreement, as applicable, requiring the Developer and the Design-Build Team to meet the DBE/good faith effort goals applicable to their respective procurements and agreements as well as aggressively create and monitor opportunities for "race neutral" and other broader community participation.

10.13. Federal Highway Administration Requirements

The States' Parties shall comply and/or conform with all applicable rules, regulations, and any other requirements of whatever kind of FHWA, and any other governmental agency having jurisdiction relating to the design, construction, operation and maintenance of the Project.

10.14. Permitting

Each States' Party shall provide all reasonable assistance to the other States' Parties in obtaining the necessary permits required to perform construction work in the jurisdiction of the other States' Parties.

10.15. Insurance

Except as provided herein, each Party shall require its Developer or Design-Build Team, as applicable, to procure and maintain, or cause to be procured and maintained, the insurance policies and coverages identified in **Appendix G**. Such insurance policies shall cover the described exposures for work performed during the design and construction phase of each Project segment. KYTC, KPTIA, IFA, INDOT, Bridges Authority, and the Joint Board each shall be named as additional insureds on such policies (excepting Workers Compensation and Professional Errors and Omissions).

10.16. As-Built Drawings

Upon Downtown Crossing Substantial Completion or East End Crossing Substantial Completion, as applicable, as-built drawings shall be provided to the other State's Party having O&M responsibility for that part of the Project under Article 12, as and when received from the Developer or Design-Build Team, respectively, including all approved submittals and shop drawings.

10.17. Ownership/License of Design and Construction Documents

As part of their respective procurements, the Indiana Parties and Kentucky Parties each shall obtain full ownership rights in the design and construction documents for their respective portions of the Project. Each also shall grant to the other States' Parties a license to use such design and construction documents.

10.18. Prevailing Wage Law

Notwithstanding anything contained herein to the contrary, each State shall comply and shall require its Design-Build Team and/or Developer, respectively, to comply with the state and/or federal prevailing and/or statutory common wage law(s) applicable to its portion of the Project, when performing or when contracting for the performance of its obligations on the Project. Without limiting the foregoing, to the extent that FHWA and the U.S. Department of Labor approve project-specific wage rates for the Project based upon the higher rate for each labor classification of the two geographic areas (the "Project-Specific Wage Rates"), each State shall comply and shall require its Design-Build Team and/or Developer, respectively, to comply with such Project-Specific Wage Rates when performing or when contracting for the performance of obligations on the Project.

Article 11. Tolling of the Project

11.1. Agreement to Toll; Federal Toll Agreements

11.1.1. Tolling. The States' Parties agree to implement tolling on all cross-river bridge spans included in the Project. The States' Parties acknowledge that the Downtown Crossing and the East End Crossing have been planned and are being delivered as a single Project, comprising an integrated cross-river transportation system that requires close coordination to ensure unified and viable tolling operations. The States' Parties further acknowledge that establishing the framework for such coordination is essential to the Project and is a fundamental purpose of this Agreement.

11.1.2. 129 Agreement. Prior to the date hereof, the States' Parties and FHWA have entered into a Section 129 Toll Agreement authorizing the treatment of the Project as a toll facility under 23 U.S.C. § 129.

11.1.3. Contract Awards. The Kentucky Parties shall use their best efforts to award a contract for the design and construction of the Downtown Crossing, and the Indiana Parties shall use their best efforts to award a contract for the design and construction of the East End Crossing, in each case by December 31, 2012.

11.2. Commencement of Tolling Operations

11.2.1. Commencement. The States' Parties agree that tolling operations for the East End Crossing Bridge and the New Downtown Crossing Bridge shall commence, in each case, as soon as each is open to traffic.

11.2.2. Kennedy Tolling. The States' Parties agree that the tolling operations for the Kennedy Bridge shall commence upon the earliest of (i) the date when the New Downtown Crossing Bridge is sufficiently complete to be open to traffic, (ii) the date of East End Crossing Substantial Completion, or (iii) June 30, 2018. Such date is referred to herein as the "Kennedy Tolling Deadline." Notwithstanding the foregoing, the States' Parties agree that the execution and delivery of the Toll Policy Agreement described in Subsection 11.5 is a condition precedent to the commencement of tolling operations for the Kennedy Bridge.

11.3. Revenue Share; Toll Covenants; Disposition of Toll Revenues

11.3.1. Toll Revenue Disposition. In order to facilitate the financing of the Project, the States' Parties agree that all Toll Revenues received shall be allocated equally between IFA and KPTIA (or another Kentucky entity identified by KPTIA). That is, fifty percent of all Toll Revenues shall be allocated to IFA and fifty percent of all Toll Revenues shall be allocated to KPTIA (or another Kentucky entity identified by KPTIA), such amounts being referred to respectively as the Indiana Revenue Share and the Kentucky Revenue Share. Notwithstanding the foregoing, the applicable percentages may be adjusted by agreement of the States' Parties as described in Subsection 8.1.9. Further, the States' Parties represent and agree that they will enter into further agreements, which may be addenda hereto, described in Subsections 11.4 and 11.5 below, in order to implement the tolling of the Project.

11.3.2. Toll Covenant. Subject to review by credit rating agencies, U.S. Department of Transportation (in connection with any TIFIA loans) and any provider of credit enhancement, KPTIA and IFA agree, so long as any Party shall have outstanding financial obligations related to the construction or financing of the Project (including any toll revenue bonds, TIFIA loans, availability payment obligations, or

other financial obligations under a Public-Private Agreement) to set and maintain toll rates and charges in each State fiscal year such that:

11.3.2.1 The Kentucky Revenue Share shall be not less than the greater of the following (i) 1.50 times the debt service requirements for senior lien Kentucky Revenue Bonds, (ii) 1.25 times the aggregate debt service requirements for the senior lien Kentucky Revenue Bonds and the Downtown Crossing TIFIA Loans and (iii) all debt service and other funding obligations of KPTIA under the Kentucky Revenue Bond Indenture; and

11.3.2.2 The Indiana Revenue Share (i) shall be not less than 100% of the aggregate amount of availability payments and other financial obligations due and payable during the following year under the Public-Private Agreement, during any period that availability payments and other financial obligations under the Public-Private Agreement, if any, remain outstanding, or (ii) in the event that IFA does not enter into a Public-Private Agreement and issues toll revenue bonds to finance the Project, shall be the greater of (a) 1.50 times the debt service requirements for senior lien IFA toll revenue bonds, (b) 1.25 times the aggregate debt service requirements for any senior lien IFA toll revenue bonds and East End Crossing TIFIA Loans and (iii) all debt service and other funding obligations of IFA under any IFA toll revenue bond indenture, during any period that toll revenue bonds of IFA if any, remain outstanding.

11.3.3. Use and Disposition of Toll Revenues. The States' Parties acknowledge and agree that the rate covenant provisions set forth in Subsection 11.3.2 above comply with KRS 175B.040 inasmuch as the tolls generated at the rates established in accordance with such provisions will be sufficient to pay Project costs (in combination with other committed sources of funding), meet debt service obligations, and create reserves, it being understood that "reserves" for this purpose shall include, but not exceed, amounts necessary to ensure that the Kentucky Revenue Share and the Indiana Revenue Share are funded at levels consistent with the aforementioned rate covenant. The States' Parties agree that all Toll Revenues, and the uses thereof, are subject to the requirements of 23 U.S.C. § 129.

11.4. Tolling Framework and Parameters; Further Agreements

11.4.1. Framework. The States' Parties agree that this Agreement shall constitute an agreement regarding tolling framework, parameters and procedures for further implementation of tolling planning, which shall be further implemented by the various agreements or Addendum hereto set forth below and in Subsection 11.5.

11.4.1.1 The States' Parties agree that the tolling shall be uniform and comprehensive for all bridge components of the Project, through a unified approach with a common systems developer and integrator, common operator, common systems and common enforcement policies, with only such differences, if any, as may be dictated by the inherent design differences between the East End Crossing and Downtown Crossing.

11.4.1.2 Detailed tolling policies shall be established under the Toll Policy Agreement described in Subsection 11.5 below, after fulfillment of the tolling policy development process described in Subsection 11.4.2 below.

11.4.1.3 Detailed tolling policies set forth in the Toll Policy Agreement shall be based on one or more traffic and revenue studies made by qualified consultants at the expense of the States' Parties or any of them.

11.4.1.4 Tolling may be conducted on the basis of "all electronic tolling" and "electronic toll collections" through automated systems with an open architecture accommodating systems such as E-Z Pass, I-Pass, I-Zoom, etc.

11.4.2. Tolling Policy Development. Pursuant to the ROD, the States' Parties are required, and the States' Parties have agreed, to develop a tolling policy that is sensitive and responsive to low-income and minority populations (hereinafter, "environmental justice populations"), to develop such policy through additional outreach and public involvement with environmental justice populations and to express such policy in the Toll Policy Agreement.

11.4.2.1 The States' Parties, acting with and through the Tolling Body, agree to:

- Conduct a detailed assessment of the potential economic effects of tolls on environmental justice populations, using the latest publicly available population data, traffic forecasts, and community input.
- Make the results of that study publicly available.
- Identify and evaluate a range of measures for mitigating the effects of tolling on low-income and minority populations.
- Provide an opportunity for additional public input on those potential measures.

11.4.2.2 In developing the tolling policy, the States' Parties, acting with and through the Tolling Body, will adopt a plan for mitigating the effects of tolling on environmental justice populations which will

- Include practicable measures for minimizing impacts of tolling on environmental justice communities.
- Comply with FHWA policy, including FHWA "Guidance on Environmental Justice and NEPA" dated December 16, 2011; FHWA Order 6640.23A "FHWA Actions to Address Environmental Justice in Minority Populations and Low-Income Populations" (June 14, 2012); and any update or other current FHWA policy available at the time of the assessment.

11.4.2.3 The ROD requires that the tolling policy will be completed before tolling is allowed to be initiated on the Project.

11.4.2.4 In determining the practicability of measures to mitigate effects on environmental justice populations, the States' Parties may take into account the financial requirements of the Project, the technical and logistical issues associated with toll collection methods, and other needs.

11.4.2.5 In developing the tolling policy, consideration shall be given to the information contained in the FHWA report, "Environmental Justice Emerging Trends and Best Practices Guidebook" (November 2011), the "Department of Transportation Environmental Justice Strategy" (March 2, 2012), and other applicable publications available at the time the toll policy is developed.

11.4.2.6 Tolling policy development may also consider other factors, including but not limited to:

- Vehicle classes
- Time of day
- Congestion based pricing
- Schedule for rate adjustments
- Discounts, differentials
- Violations and enforcement
- Transponder distribution arrangements
- Billing and user account policies
- Video collection systems
- Regional interoperability and reciprocity.

11.4.2.7 The States' Parties expect that the development of the tolling policy shall be completed and a Toll Policy Agreement (as

described in Subsection 11.5 below) shall be executed by June 30, 2013.

- 11.4.3. Toll System Integrator. The States' Parties (or certain of them representing each state), and/or the Joint Board acting on behalf of the States' Parties, shall engage a Toll System Integrator to design, procure, and install a comprehensive toll system for the Project pursuant to the Toll System Integrator Agreement. In addition, the Toll System Integrator Agreement shall obligate the Toll System Integrator to operate, maintain and manage the comprehensive toll system for the Project (performing the role of the Toll Operator) for a minimum initial period of at least one year following installation of the toll system. The States' Parties shall use their best efforts to enter the Toll System Integrator Agreement by March 31, 2013, but in any event shall enter into the Toll System Integrator Agreement no later than June 30, 2013.
- 11.4.4. Toll Operator. The States' Parties (or certain of them representing each state), and/or the Joint Board acting on behalf of the States' Parties, agree to undertake a procurement for a Toll Operator (the initial selection and procurement of which shall be as provided in Subsection 11.4.3); and, following the expiration of the initial period during which the Toll System Integrator will operate and manage the system, to enter into a Toll Operations Agreement with a Toll Operator to operate, maintain and manage a comprehensive toll system for the Project.
- 11.4.5. Custody Agreement. The Toll Operator and the States' Parties (or certain of them representing each state) and/or the Joint Board acting on behalf of the States' Parties, shall enter into a Custody Agreement, which satisfies the requirements of Subsection 11.8, with a bank or trust company as custodian no later than six (6) months prior to the Kennedy Tolling Deadline.
- 11.4.6. Addendum. The States' Parties agree that, concurrently with commercial close on the East End Crossing procurement, they will execute and deliver an addendum to this Agreement, reciting (i) actions which have been undertaken, (ii) actions which have been completed, and (iii) actions remaining to be done for the development of the tolling policy, all as set forth herein, and setting forth the further agreements described in this Subsection 11.4 (the "Addendum"). The Addendum shall further memorialize such additional understandings and agreements on which such States' Parties are then in accord.

11.5. Toll Policy Agreement; Terms

11.5.1. Toll Policy Agreement. Upon completion of the tolling policies, the States' Parties, and/or the Tolling Body, acting on behalf of the States' Parties, shall enter into a Toll Policy Agreement, which shall incorporate and be the expression of the tolling policy developed pursuant to Subsection 11.4. The Toll Policy Agreement shall be considered an implementing agreement and Exhibit to this Agreement. The Toll Policy Agreement shall require the consent of the parties thereto for certain changes in the tolling policy or changes in maximum rates or fees which may be charged pursuant to the Toll Policy Agreement and the Toll Operations Agreement.

11.5.2. Tolling Body. The Interlocal Agreement shall establish a Tolling Body, shall delegate and assign rights, powers and responsibilities to the Tolling Body, and shall prescribe who may exercise the various designated powers of each of the parties thereto, subject to such limitations as may be contained therein.

11.5.3. Terms. The terms of the Toll Policy Agreement shall include, among other appropriate terms:

11.5.3.1 Expected initial toll rates, including, but not limited to, identification of vehicle classes, unit toll rates by vehicle class, allowable toll variations by time of day or day of week, and toll variations tied to levels of traffic congestion,

11.5.3.2 Toll rate adjustments and adjustment mechanisms, including, but not limited to, allowable frequency of toll rate adjustments, market or other external indices underlying adjustment mechanisms, and any forced triggers for rate adjustments, and

11.5.3.3 Such terms as are necessary to comply with the ROD as described in 11.4.2 above.

11.5.4. Initial Rates. Initial toll rates and related factors established in the Toll Policy Agreement shall be mutually agreeable to the States' Parties to support at appropriate levels the financial obligations of the respective States' Parties with respect to the East End Crossing and Downtown Crossing. Such initial toll rates shall be sufficient to provide Toll Revenues which satisfy the rate covenant in Subsection 11.3.2 and shall:

11.5.4.1 give assurance to holders of bonds or other evidence of indebtedness with respect to the amount of the Kentucky Revenue Share expected to be available to fund obligations (whether senior or subordinate) to be incurred by KPTIA to finance the Downtown Crossing, and

11.5.4.2 give assurance to IFA with respect to the amount of the Indiana Revenue Share expected to be available to fund obligations to be incurred by the IFA to finance the East End Crossing and make either availability payments or revenue bond payments.

11.6. Toll System Integrator Agreement; Terms

The States' Parties (or certain of them representing each state), and/or the Joint Board, acting on behalf of the States' Parties, shall conduct a procurement of the Toll System Integrator. Said procurement shall include the initial toll operation procurement described in Subsection 11.7. below.

11.6.1. Toll System Integrator. The States' Parties (or certain of them representing each state), and/or the Joint Board, acting on behalf of the States' Parties, shall enter into a Toll System Integrator Agreement with a Toll System Integrator. The Indiana Parties shall require the Developer to coordinate with the Toll System Integrator with respect to the work under the Toll System Integrator Agreement. The Kentucky Parties shall require the Design-Build Team to coordinate with the Toll System Integrator with respect to the work under the Toll System Integrator Agreement. The terms of the Toll System Integrator Agreement shall include the following:

11.6.1.1 The Toll System Integrator shall design, develop, procure, equip, integrate, deliver, install, commission, test and warrant the entire tolling and violation enforcement system, which shall include all equipment installed at the roadside, software, the toll data center servers and the entire back office which would be composed of the electronic toll collection system, account management, customer service center functions and the violation processing system.

11.6.1.2 The Toll System Integrator shall provide the toll system so that it shall (i) accommodate the tolling of all cross-river traffic on the Project through all stages of traffic control and travel lane configurations and (ii) be initially installed to fully function without relocation of the tolling facilities.

11.6.1.3 The Toll System Integrator shall agree to perform the role of the Toll Operator above for a minimum initial period of at least a year.

11.6.1.4 The Toll System Integrator Agreement shall be executed in the second quarter of 2013.

11.6.1.5 Costs of, and payment to, the Toll System Integrator shall be borne equally by the appropriate Kentucky Parties and appropriate Indiana Parties and shall be paid as provided in the Toll System Integrator Agreement.

11.7. Toll Operations Agreement: Terms

The States' Parties (or certain of them representing each State), and/or the Joint Board, acting on behalf of the States' Parties, shall conduct procurements of the Toll Operators. The initial procurement for a Toll Operator may be accomplished together with the Toll System Integrator procurement described in Subsection 11.6 above.

- 11.7.1. Delegation. Under the Toll Operations Agreement, the Joint Board and the States' Parties shall delegate certain powers, rights and responsibilities to the Toll Operator (consistent with the Toll Policy Agreement). The Toll Operations Agreement shall further provide that the Joint Board or the States' Parties shall have consent rights over key operational considerations, as specified therein (including changes to business rules, collection and enforcement policies, toll system technology and upgrades and replacements, toll rates, maximum tolls, and rate adjustment mechanisms), as well as audit rights related to the Project.
- 11.7.2. Forecasts. The States' Parties agree that the initial toll rate schedule established in the Toll Operations Agreement may be based on one or more "investment grade" traffic and revenue forecasts, prepared by qualified traffic and revenue forecasting firms.
- 11.7.3. Periodic Review. So long as either the Indiana Parties or the Kentucky Parties shall have outstanding financial obligations related to the Project, the Toll Operations Agreement shall provide for a mechanism for annual or more frequent periodic review of the adequacy of existing toll schedules and adjustment mechanisms to produce Toll Revenues to support the respective payment and covenant obligations of IFA and KPTIA related to financing the East End Crossing and the Downtown Crossing, respectively. The Toll Operations Agreement shall provide that, if (a) the actual or projected Indiana Revenue Share or Kentucky Revenue Share for the then current State fiscal year is less than the amount required to pay the respective payment obligations or to satisfy the respective financial covenants (including but not limited to rate covenants and additional indebtedness tests) related to financing the East End Crossing and the Downtown Crossing, respectively, or (b) the Indiana Revenue Share or the Kentucky Revenue Share for the next State Fiscal Year is forecasted to be less than required to satisfy the same, then IFA or KPTIA shall engage a qualified traffic and revenue consultant, acceptable to both parties, to provide a report recommending the adjustments to the toll rates and charges necessary to increase the forecasted Indiana Revenue Share and Kentucky Revenue Share to an amount forecasted to be sufficient to satisfy all applicable payment and covenant requirements for the next State Fiscal Year and each of the four (4) succeeding State Fiscal

Years. In the selection of such consultant, the party whose share of Toll Revenues was insufficient to enable it to meet its payment and covenant requirements with respect to the Downtown Crossing or the East End Crossing, as the case may be, shall have the final decision, and the consent of the other party to the selection of such consultant shall not be unreasonably withheld. The appropriate States' Parties shall immediately implement the recommended toll adjustments and engage the qualified traffic and revenue consultant to monitor actual cash flow and to submit reports comparing to the forecasted Indiana Revenue Share and Kentucky Revenue Share not less than quarterly for a minimum period of one year after delivery of such report.

11.7.4. Procedures. The States' Parties (or certain of them representing each State), and/or the Joint Board, acting on behalf of the States' Parties, as applicable, shall establish procedures within the Toll Operations Agreement for operations, insurance, management, repair, and replacement of tolling equipment and other tolling activities of the Toll Operator on the affected portions of the Project, as well as appropriate provisions for oversight, removal, termination or replacement of the Toll Operator.

11.7.5. Law Enforcement: Toll Enforcement. The States' Parties shall provide for law enforcement and tolling violation enforcement in the Toll Policy Agreement and in the Interlocal Agreement. The States' Parties agree to take all reasonable actions to charge and enforce the tolls and other charges established pursuant to the Toll Policy Agreement and to take all reasonable efforts appropriate for collection and enforcement of those tolls and other charges.

11.7.6. Rev. Proc. 97-13. The States' Parties agree that, if necessary to provide financing for any procurement on favorable terms, the Tolling Operations Agreement shall be compliant with IRS Revenue Procedure 97-13, or any successor provision.

11.8. Custody Agreement and Application of Toll Revenues; Toll System Collection Expenses

11.8.1. Toll Revenues. The Custody Agreement shall include provisions requiring:

11.8.1.1 the daily deposit of all Toll Revenues into an account or accounts for the benefit of IFA and KPTIA,

11.8.1.2 the daily division of such Toll Revenues on a 50/50 basis (i.e., the Kentucky Revenue Share and the Indiana Revenue Share) for the benefit of IFA and KPTIA,

11.8.1.3 procedures for the periodic transfer of the Indiana Revenue Share and the Kentucky Revenue Share by the custodian to the trustee for the obligations of IFA under the Public-Private Agreement or any Indiana toll revenue bond indenture, and to the trustee for the obligations of KPTIA under the Kentucky Revenue Bond Indenture, respectively.

11.8.2. No Discretion. No party to the Custody Agreement or the Toll Operations Agreement shall have discretionary authority over any element of cash collections, account deposits or distributions, and all such cash flows shall occur strictly in accordance with the terms of the Custody Agreement.

11.8.3. Expenses. Toll System Collection Expenses shall be divided on an equal (50/50) basis between IFA and KPTIA and the respective share of Toll System Collection Expenses shall be payable by IFA and KPTIA from the Indiana Revenue Share and the Kentucky Revenue Share, respectively, and amounts held under the respective trust indentures or agreements described in Subsection 11.8.1.3 above.

11.9. Rulemaking

The States Parties agree, upon recommendations to be made by the Tolling Body, to undertake administrative rulemaking procedures as promptly as practicable as may be necessary to establish the framework for electronic tolling, tolling procedures, tolling enforcement and any other rules or regulations necessary or appropriate to effectuate the provisions of this Article 11 and operation of a comprehensive tolling system for the Project. Notwithstanding the foregoing, the States' Parties acknowledge that amendment of the Kentucky statutes and/or enactment of new statutes may be required in order to implement certain enforcement mechanisms with respect to violations of any electronic tolling system. The Kentucky Parties will make reasonable efforts to enact legislation in 2013 providing for such amendment and/or new statutes.

11.10. Interpretive Principles

References herein to the "States' Parties" may include a subset of such Parties including at least one entity from each State. References to an Interlocal Agreement may be to a separate agreement, components of the same agreement or supplements or addenda to an Interlocal Agreement.

11.11. Duration of Tolling

The tolling framework, parameters and procedures provided for herein shall continue for the duration of this Agreement, and may be extended thereafter by agreement of the States' Parties.

Article 12. Operations and Maintenance

12.1. Traffic Plan During Construction

- 12.1.1. Downtown Crossing – During the period beginning when construction commences on the Project until Downtown Crossing Substantial Completion, the Kentucky Parties shall be responsible for developing a traffic plan to safely and efficiently handle, direct and/or divert through-traffic affected by construction of the Downtown Crossing. Such traffic plan as to Section 3 will be developed with the advice and consent of the Indiana Parties. Such traffic plan will be submitted reasonably in advance of its implementation; and consent of the Indiana Parties shall not be unreasonably withheld.
- 12.1.2. East End Crossing – During the period beginning when construction commences on the Project until East End Crossing Substantial Completion, the Indiana Parties shall be responsible for developing or causing to be developed a traffic plan to safely and efficiently handle, direct and/or divert through-traffic affected by construction of the East End Crossing. Such traffic plan as to Section 4 will be developed with the advice and consent of the Kentucky Parties. Such traffic plan will be submitted reasonably in advance of its implementation; and consent of the Kentucky Parties shall not be unreasonably withheld.

12.2. Operations and Maintenance Prior to Project Termination

- 12.2.1. East End Crossing – At such time as the Indiana Parties have certified to the Kentucky Parties that East End Crossing Substantial Completion has occurred pursuant to the provisions hereof (including, but not limited to, the definition of such term and Subsection 10.10 hereof), the responsibility for O&M for the completed Section(s) of the East End Crossing shall be as follows: Section 4A shall be the responsibility of the Kentucky Parties (and Kentucky's O&M standards shall apply), and Sections 4B, 5 and 6 shall be the responsibility of the Indiana Parties (and Indiana's O&M standards shall apply). These O&M responsibilities may be delegated to a private vendor. The East End Crossing shall be considered part of the state highway system designated under IC 8-23-4-2 for purposes of identification, maintenance standards, and enforcement of traffic laws. Section 4 shall be classified as also part of Kentucky's state highway system. Management, establishment of standards, and traffic enforcement for Section 4A shall be delegated to KYTC.
- 12.2.2. Downtown Crossing – At such time as the Kentucky Parties have certified to the Indiana Parties that Downtown Crossing Final Acceptance has occurred pursuant to the provisions hereof (including, but not limited to, the definition of such term and Subsection 10.10

hereof), the responsibility for O&M for the completed Section(s) of the Downtown Crossing shall be as follows: Section 1 and 2 shall be the responsibility of the Kentucky Parties (and Kentucky's O&M standards shall apply), and Section 3 shall be the responsibility of the Indiana Parties (and Indiana's O&M standards shall apply). These O&M responsibilities may be delegated to a private vendor.

12.3. Operations and Maintenance After Project Termination

12.3.1. After Project Termination, the Kentucky Parties shall be responsible for the Kentucky O&M Portion. The Kentucky Parties shall keep a correct and accurate record of the maintenance, repairs, construction or reconstruction of the Downtown Crossing Bridges or parts thereof and shall annually bill the Indiana Parties for one-half of the cost thereof as of June 30th of any calendar year, and the Indiana Parties shall, within a reasonable time, reimburse the Kentucky Parties for such billed amounts.

12.3.2. After Project Termination the Indiana Parties shall be responsible for the Indiana O&M Portion. The Indiana Parties shall keep a correct and accurate record of the maintenance, repairs, construction or reconstruction of the East End Crossing Bridge and Section 4B, or parts thereof and shall annually bill the Kentucky Parties for one-half of the cost thereof as of June 30th of any calendar year, and the Kentucky Parties shall, within a reasonable time, reimburse the Indiana Parties for such billed amounts.

12.4. Beginning upon Downtown Crossing Substantial Completion, and upon East End Crossing Substantial Completion, respectively, and for the duration of this Agreement, the Downtown Crossing and the East End Crossing each shall remain open to all vehicular traffic including but not limited to semi-truck traffic. During this period, no Party shall close either the East End Crossing or the Downtown Crossing to any kind of vehicular traffic without the consent of the other States' Parties, except in response to an emergency or planned maintenance.

Article 13. Representations and Warranties

13.1. IFA makes the following representations and warranties to the other States' Parties:

13.1.1. The IFA is an independent public instrumentality of Indiana exercising essential public functions and is duly organized and existing under Indiana Code 4-4-10.9 and 4-4-11 et seq.

13.1.2. The IFA Board has approved the execution and delivery of this Agreement by the IFA and authorized its performance of its obligations hereunder.

- 13.1.3. As of the date of this Agreement, the IFA is not aware of any environmental, archeological, or hazardous materials on or near the Project that require remediation other than those that are identified in the NEPA Documents.
- 13.1.4. The IFA is not aware of any pending litigation relating to the Project other than the matter(s) identified on **Appendix I**.
- 13.2. KYTC makes the following representations and warranties to the other States' Parties:
 - 13.2.1. KYTC is a cabinet of Kentucky exercising essential public functions and is duly organized and existing under KRS 12.250 and KRS Chapter 174.
 - 13.2.2. The Secretary of KYTC has approved the execution and delivery of this Agreement by KYTC and authorized its performance of its obligations hereunder.
 - 13.2.3. As of the date of this Agreement, KYTC is not aware of any environmental, archeological, or hazardous materials on or near the Project that require remediation other than those that are identified in the NEPA Documents.
 - 13.2.4. KYTC is not aware of any pending litigation relating to the Project other than the matter(s) identified on **Appendix I**.
- 13.3. INDOT makes the following representations and warranties to the other States' Parties:
 - 13.3.1. INDOT is a department and agency of Indiana exercising essential public functions and is duly organized and existing under Indiana Code 8-23-2 et seq.
 - 13.3.2. The Commissioner of INDOT has approved the execution and delivery of this Agreement by INDOT and authorized its performance of its obligations hereunder.
 - 13.3.3. As of the date of this Agreement, INDOT is not aware of any environmental, archeological, or hazardous materials on or near the Project that require remediation other than those that are identified in the NEPA Documents.
 - 13.3.4. INDOT is not aware of any pending litigation relating to the Project other than the matter(s) identified on **Appendix I**.
- 13.4. KPTIA makes the following representations and warranties to the other States' Parties:

- 13.4.1. KPTIA is an instrumentality of Kentucky exercising essential public functions and is duly organized and existing under KRS 175B.015.
- 13.4.2. KPTIA's Chairman has approved the execution and delivery of this Agreement by KPTIA and authorized its performance of its obligations hereunder.
- 13.4.3. As of the date of this Agreement, KPTIA is not aware of any environmental, archeological, or hazardous materials on or near the Project that require remediation other than those that are identified in the NEPA Documents.
- 13.4.4. KPTIA is not aware of any pending litigation relating to the Project other than the matter(s) identified on Appendix I.

Article 14. Termination/Alternative Procurements

- 14.1. In the event that, as of June 30, 2014 or thereafter, a contract has not been awarded, or the planned work has been cancelled or materially delayed, for either the Downtown Crossing or the East End Crossing, or both, the States' Parties shall use their best efforts and work together in good faith to identify and implement appropriate measures to ensure that construction of the entire Project will be completed as contemplated in the ROD and that the States' Parties will be able to meet their obligations under Subsection 11.2.2.
- 14.2. In the event that unexpected state, federal, local or other conditions of extraordinary significance occur that are beyond the control of one or more of the States' Parties, causing the States' Parties or any of them to believe that (a) the Downtown Crossing, the East End Crossing and/or the Project in general cannot or will not proceed to completion as contemplated herein and that (b) termination, modification, suspension, interruption or amendment of this Agreement, the Design-Build Agreement and/or the Public-Private Agreement is necessary, then the States' Parties shall proceed as follows:
 - 14.2.1. The State's Party seeking to invoke the provisions of this Article shall provide written notice to the other States' Parties of the condition requiring action by the Parties.
 - 14.2.2. Within thirty (30) days after receipt of such written notice, the States' Parties shall meet in person, and shall use their best efforts and work together in good faith to address fairly and equitably, for all States' Parties, the changed conditions and to the extent reasonably practicable, to identify the measures by which construction of the entire Project may be completed as contemplated in the ROD, and that the requirements of Subsection 11.2.2 may be satisfied, including consideration of any adjustment to the Toll Revenue share allocation that may be equitably required under the changed circumstances.

Article 15. Restoration and Force Majeure

- 15.1. If all or any part of the Downtown Crossing or East End Crossing shall be destroyed or damaged prior to its respective substantial completion (as defined by “Downtown Crossing Substantial Completion” and “East End Crossing Substantial Completion,” respectively) by casualty or other cause of any kind or nature (including any casualty for which insurance was not obtained or obtainable), ordinary or extraordinary, foreseen or unforeseen, the respective procuring State’s Party shall, at its sole cost and expense, whether or not insurance proceeds, if any, shall be equal to the estimated cost of repairs, alterations, restoration, replacement and rebuilding, proceed diligently to repair, restore, or rebuild the same to the project requirements. The State’s Party with the rebuilding responsibility shall be entitled to pursue cost recovery against applicable insurance or third parties having responsibility for such damages; and the other States’ Parties shall reasonably assist with such cost recovery efforts.
- 15.2. If all or any part of the Downtown Crossing or East End Crossing shall be destroyed or damaged subsequent to its respective substantial completion (as defined by “Downtown Crossing Substantial Completion” and “East End Crossing Substantial Completion,” respectively) by casualty or other cause of any kind or nature (including any casualty for which insurance was not obtained or obtainable), ordinary, or extraordinary, foreseen or unforeseen, the respective State’s Party or State’s Parties having the obligation for the expense of O&M pursuant to Sections 12.2 and 12.3 shall, at its or their sole cost and expense, whether or not insurance proceeds, if any, shall be equal to the estimated cost of repairs, alterations, restoration, replacement and rebuilding, proceed diligently to repair, restore, or rebuild the same to the original project requirements. The State’s Party or State’s Parties with the rebuilding responsibility shall be entitled to pursue cost recovery against applicable insurance or third parties having responsibility for such damages; and the other States’ Parties shall reasonably assist with such cost recovery efforts.
- 15.3. None of the States’ Parties shall be excused from any obligation under this Agreement as a result of events such as those referenced in Subsection 15.1, 15.2, or as a result of a Force Majeure Event, nor shall such casualty or Force Majeure Event be considered grounds for terminating this Agreement. Notwithstanding the foregoing, the Party suffering the casualty and/or Force Majeure Event shall nonetheless have its obligations to deliver a completed crossing or fulfill its obligation to maintain an open, usable crossing, equitably suspended, but only for the period of time reasonably commercially necessary to undertake and complete the repairs or restoration.

Article 16. General Matters

16.1. Mutual Consents

- 16.1.1. IFA, INDOT and the Bridges Authority acknowledge and consent to KYTC and KPTIA's roles, powers and authorities with respect to the real estate acquisition, joint tenancy, procurement, financing, project delivery and operation and maintenance activities as described herein.
- 16.1.2. KYTC, KPTIA and the Bridges Authority acknowledge and consent to IFA and INDOT's roles, powers and authorities with respect to the real estate acquisition, joint tenancy, procurement, financing, project delivery and operation and maintenance activities as described herein.

16.2. Access to Records

Each State's Party shall require its contractors or consultants (including the Developer and the Design-Build Team) to: (a) maintain until at least three years after Project Termination, all documents relating to the Project, including but not limited to design and construction documents, operations and maintenance documents, investigations, expert analyses, notices, claims, settlements, and correspondence, (including all such documents that are in electronic media), and (b) permit access thereto at such contractors'/consultants' facilities as requested by the applicable contracting State's Party. Each State's Party shall cooperate with the other States' Parties' reasonable requests for copies of, or inspection of such documents or material.

16.3. Federal Project Number

INDOT and KYTC agree that each shall provide to the other the federal project number under which the Party's federal funds for the Project have been obligated.

16.4. Approval of Public Statements or Press Releases

Prior to any press release regarding the Project or the making or releasing of any other major announcements concerning the Project, the States' Parties shall consult with one another to ensure that such statements are timely, accurate and do not breach agreed upon confidentiality commitments.

16.5. Confidentiality

The Parties, and their respective Project consultants and Project contractors (including the Developer and the Design-Build Team) shall not disclose to third parties confidential factual data or information provided by the Parties except as may be required by statute, ordinance, or order of the court, or as authorized by the Party who provided the data or information. The Parties and their respective Project consultants and Project contractors shall provide notice to the other Parties of any request for such information as provided in this Agreement.

16.6. Dispute Resolution

To the extent permitted by law, the States' Parties shall use best efforts to resolve any disputes between and among them. To this end, the States' Parties shall consult and negotiate with each other in good faith, recognizing their mutual interest in achieving a just and equitable solution satisfactory to all States' Parties. It is expressly acknowledged and agreed by and among the States' Parties that the overriding consideration is that the Project be accomplished on time and on budget. In the event there is a dispute between the States' Parties, the work may continue pending resolution of the dispute, provided that the State's Party or State's Parties responsible for such work shall continue the disputed work at their sole risk and expense and shall solely bear any additional cost, including any cost of correction or delay, that results from the ultimate resolution of such dispute. The complaining Party shall immediately call a dispute resolution meeting between the States' respective project managers. For disputes involving the proper application or interpretation of the ROD or federal issues, FHWA shall be consulted as part of the resolution. If the dispute remains unresolved after the project managers agree, or one of them notifies the other, that further meetings will not be helpful, the complaining party shall, within 30 calendar days of the most recent dispute resolution meeting, submit a written request for review to the Joint Board. The Parties acknowledge the risks to the construction schedule inherent in the dispute resolution process. The Parties commit to being mindful of these risks in their decisions to escalate disputes. The Parties will use their best efforts to resolve any disputes among them. The Parties shall consult and negotiate in good faith recognizing their mutual interest in achieving a just and equitable solution. In the event there is a dispute between the States Parties as to the delegation of powers, duties, obligations, or responsibilities between the Joint Board and the Tolling Body, such dispute shall be resolved between the states' governors.

16.7. Third Party Claims

The States' Parties shall share equally, on a 50/50 basis, all losses or liabilities arising from tort claims for personal injury or property damage asserted by third parties with respect to the Project not covered by insurance, the Indemnitors or any other third party.

Each of the States' Parties shall bear responsibility for its own attorneys' fees and costs incurred as a result of any third party claims arising out of or relating to the Project, unless otherwise agreed by the States' Parties in writing.

16.8. Indemnification/ Third Party Beneficiary Rights

The States' Parties shall cause the Indemnitors with whom they have a contract to name KYTC, KPTIA, INDOT, IFA, Joint Board, and Bridges Authority as express beneficiaries under an indemnity clause to be included in each such contract which protects the Parties against any and all third-party claims, losses,

expenses and/or damages arising from the Indemnitors' performance on the Project.

To the extent permitted by the laws of Kentucky and Indiana, the States' Parties shall defend the Bridges Authority and its individual members against any and all third party claims, losses, expenses and/or damages arising from or related to the performance or non-performance by the States' Parties of their obligations under this Agreement. The States' Parties shall share the costs of such defense equally, on a 50/50 basis.

The Indiana Parties shall provide in the Public-Private Agreement for the East End Crossing that KYTC shall be a third party beneficiary of the Public-Private Agreement as to any direct damages resulting from design or construction defects in Section 4A. The Kentucky Parties shall provide in the Design-Build Agreement for the Downtown Crossing that IFA and INDOT shall be third party beneficiaries of the Design-Build Agreement as to any direct damages resulting from design or construction defects in Section 3.

16.9. Liability Between the Parties

16.9.1. Except to the extent set forth in this Agreement, none of the Parties shall be liable to any of the other Parties for claims and/or actions (whether alleging negligence, breach of contract, strict liability, warranty, breach of professional services or otherwise) relating to the quality, suitability, operability or condition of any design, construction, operation or maintenance of any portion of the Project, and each Party expressly disclaims any and all express or implied representations or warranties with respect thereof, including any warranties of suitability or fitness for use. The limitation of liability provided herein shall not apply to the following:

a) damages to the extent covered and paid for by insurance;

b) damages to the extent covered and paid for by an Indemnitor pursuant to an indemnity obligation described in Subsection 16.8, and

c) damages to the extent paid for by a responsible party (other than a Party to this Agreement) pursuant to applicable federal and state environmental laws.

16.9.2. Notwithstanding Subsection 16.9.1, the Parties are entitled to seek injunctive relief for specific performance of any obligation set forth in this Agreement, provided such relief is timely sought so as to not result in prejudice to the other State's Parties.

16.9.3. In the event the East End Crossing is not completed or is significantly delayed other than as a result of action or inaction on the part of the Kentucky Parties, the Indiana Parties shall be solely responsible for

any claims or costs that may be asserted by FHWA or the United States Department of Transportation for reimbursement under 23 CFR 630.112 or otherwise.

16.9.4. In the event the Downtown Crossing is not completed or is significantly delayed other than as a result of action or inaction on the part of the Indiana Parties, the Kentucky Parties shall be solely responsible for any claims or costs that may be asserted by FHWA or the United States Department of Transportation for reimbursement under 23 CFR 630.112 or otherwise.

16.10. Amendment and Assignment

This Agreement may be further amended, supplemented, or modified only by a written document executed by the States' Parties. Except as otherwise provided herein, neither this Agreement nor any of the rights, duties, or obligations described herein shall be assigned by any State's Party hereto without the prior express written consent of the other States' Parties, and such consent shall not be unreasonably withheld so long such assignment is consistent with the purposes of this Agreement.

16.11. Notice to Parties

As to KPTIA: Chairman
Kentucky Public Transportation Infrastructure
Authority
200 Mero Street, 6th Floor
Frankfort, KY 40622

With a copy to: General Counsel
Kentucky Transportation Cabinet
200 Mero Street, 6th Floor
Frankfort, KY 40622

As to KYTC: Secretary
Kentucky Transportation Cabinet
200 Mero Street, 6th Floor
Frankfort, KY 40622

With a copy to: General Counsel
Kentucky Transportation Cabinet
200 Mero Street, 6th Floor
Frankfort, KY 40622

As to IFA: Public Finance Director of the State of Indiana
Indiana Finance Authority
One North Capitol Avenue, Suite 900
Indianapolis, IN 46204

With a copy to:	General Counsel Indiana Finance Authority One North Capitol Avenue, Suite 900 Indianapolis, IN 46204
As to INDOT:	Commissioner Indiana Department of Transportation 100 North Senate Avenue, IGCN 731 Indianapolis, IN 46204-2216
With a copy to:	Chief Legal Counsel and Deputy Commissioner Indiana Department of Transportation 100 North Senate Avenue, IGCN 755 Indianapolis IN 46204
As to Bridges Authority:	Chair (Kentucky), Louisville and Southern Indiana Bridges Authority c/o Kentucky Transportation Cabinet 200 Metro Street, 6 th Floor Frankfort, KY 40622 Co-Chair (Indiana), Louisville and Southern Indiana Bridges Authority c/o Indiana Department of Transportation 100 North Senate Avenue, IGCN 755 Indianapolis, IN 46204

16.12. Reporting Requirements

The Public Private Agreement and Design-Build Agreement shall require Project contractors and consultants to comply with applicable reporting requirements of FHWA, the Office of Management and Budget, and any other federal agency with oversight authority over this Project or its financing.

16.13. State Sovereignty

To the fullest extent permitted by law, the Indiana Parties, the Kentucky Parties and the Bridges Authority have entered into this Agreement as representatives of their respective sovereign states. Nothing herein shall be construed as consent by any Party to suit in the courts of the other state, or waiver of tort claim protections, or waiver of sovereign immunity or rights under the Eleventh Article of Amendment to the Constitution of the United States. This Agreement does not grant any rights to any party except the Parties herein. Nothing in this Agreement shall be deemed to create or give rise to any right of action in, or any liability to, any third party claiming to have suffered a loss, damage or injury by virtue of any alleged failure by any Party hereto to comply with the terms of this Agreement. The Indiana Parties and the Bridges Authority shall be entitled to assert sovereign immunity and/or all other applicable protections in Kentucky courts to the same

extent Kentucky is able to assert sovereign immunity and all other such applicable protections in Kentucky courts, and the Kentucky Parties and the Bridges Authority shall be entitled to assert sovereign immunity and all other applicable protections in Indiana courts to the same extent Indiana is able to assert sovereign immunity and/or all other such applicable protections in Indiana courts. This provision shall survive Project Termination or other termination of this Agreement.

16.14. Organizational Conflicts of Interest

16.14.1. The States' Parties agree to establish a policy applicable to both procurements to avoid organizational conflicts of interest. Such policies shall require application of the standards of 23 CFR §§ 636.103 and 636.116. The States' Parties shall independently have the discretion to waive nonmaterial conflicts of any person or entity previously under contract with IFA, INDOT or KYTC to prepare preliminary plans, planning reports or other project development products with respect to their respective procurements to allow such person or entity to participate on a Proposer team.

16.14.2. Upon approval of the other States' Parties, additional exceptions to this policy may be granted by either of the States' Parties upon written request from such person or entity, if it is determined that the involvement of such person or entity is in the best interest of the public and does not constitute an unfair advantage to such person or entity.

16.15. Noncollusion

Each of the undersigned attests, subject to the penalties for perjury, that he/she is the properly authorized representative, agent, member or officer of the Party indicated, that he/she has not, nor has any other member, employee, representative, agent or officer of that Party directly or indirectly, to the best of his/her knowledge, entered into or offered to enter into any combination, collusion or agreement to receive or pay, and that he/she has not received or paid, any sum of money or other consideration for the execution of this Agreement other than that which appears upon the face of this Agreement.

16.16. Severability

If any provision of this Agreement shall be held invalid, illegal or unenforceable, the validity, legality or enforceability of the other provisions hereof shall not be affected thereby, and there shall be deemed substituted for the provision at issue a valid, legal and enforceable provision as similar as possible to the provision at issue. This provision shall not be interpreted to materially alter the relationships of the States' Parties as set forth in this Agreement or materially affect the ability of the States' Parties to achieve the purpose of this Agreement.

16.17. No Third Party Beneficiaries

This Agreement is solely for the benefit of the Parties hereto, and to the extent provided herein, their respective directors, officers, employees, agents and representatives; and no provision in this Agreement shall be deemed to confer upon other persons any remedy, claim, reimbursement, cause of action or other right.

16.18. Limitation on Recourse

No recourse shall be had for the payment or performance of any obligation or covenant in this Agreement, or for any claim against a Party to this Agreement, personally against any past, present or future director, member, officer, employee, agent or official of any of the Parties under any rule of law or equity, statute, or constitution or by the enforcement of any assessment or penalty or otherwise, and all such personal liability is hereby expressly waived.

16.19. Entire Understanding

This Agreement sets forth the entire understanding and agreement of the Parties hereto with respect to the transactions contemplated hereby and supersedes any and all prior agreements, arrangements, and understandings among the Parties relating to the subject matter hereof, including without limitation the 2004 Memorandum of Agreement for Design and Construction of the Two Bridges and Approaches (Bi-State Management Agreement) as amended or supplemented through the date hereof.

16.20. Counterparts

This Agreement may be executed in counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. An electronically transmitted duplicate signature of any Party shall be considered to have the same binding effect as an original signature.

16.21. Non-waiver of Rights

The failure of a Party hereto at any time or times to require performance of any provision hereof shall in no manner affect its right at a later time to enforce the same. No waiver by a Party of any condition or any breach of any term, covenant, representation or warranty contained in this Agreement shall be effective unless in writing, and no waiver in any one or more instances shall be deemed to be a further or continuing waiver of any such condition or breach in other instances.

16.22. Cooperation amongst the Parties

Approvals and consents required by any Party shall not be unreasonably withheld, conditioned or delayed.

16.23. Time is of the Essence

The times for performance provided for in this Agreement are essential due to the obligations and expenditures of the Parties. If a time is not specified, performance shall be required promptly and with due regard to the conditions of performance of other Parties in reliance thereon.

16.24. Continued Access to Consultants and Advisors

The States' Parties will cooperate and put such arrangements or contracts in place to ensure their continued mutual access to consultants that are deemed to be shared resources of the Project. The costs of any such consultation shall be borne by the Party requesting the particular access. Nothing herein shall be construed to require a Party to provide access to its own consultants and advisors.

16.25. Term

This Agreement shall remain in full force and effect until terminated per the terms of this Agreement, or by written agreement of the Parties.

[Remainder of page intentionally blank]

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed by their duly authorized officers as of the respective dates set forth below.

INDIANA FINANCE AUTHORITY

BY: Adam M. Horst

Adam M. Horst, Chairman

Date 10-16-12

BY: Kendra W. York

Kendra W. York
Public Finance Director of the State of Indiana

Date 10-16-12

INDIANA DEPARTMENT OF TRANSPORTATION

BY: Michael B. Cline

Michael B. Cline, Commissioner

Date 10-16-12

APPROVED AS TO FORM AND LEGALITY

ATTORNEY GENERAL OF THE STATE
OF INDIANA

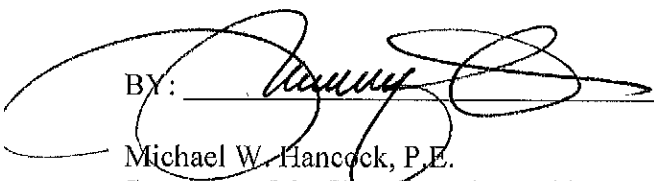
By: Matt Ryan for

Gregory F. Zoeller, Attorney General

Date 12/17/12

KENTUCKY TRANSPORTATION CABINET

BY: _____

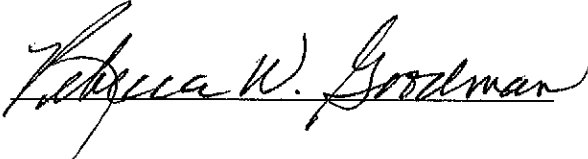

Michael W. Hancock, P.E.
Secretary of the Transportation Cabinet

Date _____

10/16/12

APPROVED AS TO FORM AND LEGALITY

BY: _____


Rebecca Goodman
Executive Director of the Office of Legal Services
Transportation Cabinet

Date _____

10/16/12

KENTUCKY PUBLIC TRANSPORTATION INFRASTRUCTURE AUTHORITY

BY: Lori H. Flanery
Lori Flanery
Vice Chair of KPTIA

Date 10/16/2012

APPROVED AS TO FORM AND LEGALITY

BY: J. Todd Shipp
J. Todd Shipp
Special Assistant of the Office of Legal Services
Transportation Cabinet

Date 10/16/12

LOUISVILLE AND SOUTHERN INDIANA BRIDGES AUTHORITY

BY: Charles Buddeke

Charles Buddeke, Chair

Date 10-29-12

APPENDIX A

THE DOWNTOWN CROSSING (SECTIONS 1, 2 AND 3)

The Downtown Crossing includes the reconstruction and operational improvements to the interchange junctures of I-65, I-64, and I-71; the southern approaches to a new I-65 Ohio River Bridge; the construction of a new I-65 Ohio River Bridge; the reconfiguration and reconstruction of the existing I-65 Kennedy Bridge; and the Indiana northern approaches to the I-65 bridges with the various local egresses and ingresses to I-65. The juncture of Interstates 64, 65 and 71 in downtown Louisville is locally known as the “Kennedy Interchange.” It includes the southern approaches to the New Downtown Bridge and the adjacent existing Kennedy Bridge. Limits of work on the affected interstates are: I-64 from near the Preston Street overpass eastward to near the Story Avenue Interchange, I-65 from the Liberty Street interchange northward to the south end of the Ohio River Bridges approach spans, and I-71 from the junction with I-64 northward to the former railroad bridge between Beargrass Creek and Edith Avenue. The Downtown Crossing calls for a reconfiguration and rebuilding of the Kennedy Interchange in-place, which will include several improvements both in and approaching the interchange. These improvements include:

- Reconfiguration of I-64, I-65, and I-71 movements to the additional lanes provided by the new northbound I-65 Downtown Bridge and the rehabilitated (for southbound I-65) existing Kennedy Bridge;
- The elimination of the current traffic weaving movements from I-64 westbound and I-71 southbound to I-65;
- The elimination of the current traffic weaving movements from I-65 to I-64 eastbound and I-71 northbound;
- Introduction of “Collector-Distributor (CD) Road” systems on I-65 between I-64 and the Liberty Street interchange;
- Reconstruction of all bridges in the interchange; and
- Introduction of a “Flyover Ramp” for the Story Avenue entrance ramp movement to I-65.

The New Downtown Bridge crossing of I-65 between downtown Louisville, Kentucky and Jeffersonville, Indiana will be configured to carry northbound I-65 traffic across the Ohio River. The newly constructed bridge will extend from the northern end of the Kennedy Interchange on the south in Kentucky to the newly constructed approach spans in Indiana. The new main structure will be a three tower cable-stayed bridge. The new bridge and approach structures will cross both Waterfront Park in Kentucky and Riverfront Park in Indiana and, on the latter side, will be adjacent to the Old Jeffersonville Historic District. This new northbound structure will be located just upstream and nearly parallel to the existing Kennedy Bridge and will carry six 12-foot lanes and two 12-foot shoulders. Northbound approach spans will flank both sides of the main cable-stayed bridge. To the south, the cable-stayed bridge connects with new approach spans that are a part of the new Kennedy Interchange, To the north, approach spans will be constructed over the river flood wall and local streets in Jeffersonville. The existing I-65 Kennedy Bridge will be re-decked and will have structural improvements made to it. The existing Indiana bridge approaches to the Kennedy Bridge will be replaced. The Kennedy

Bridge will be reconfigured to serve southbound traffic and carry six 12-foot travel lanes and two 9.5-foot shoulders. The reconfigured deck of the Kennedy Bridge will tie into the newly-constructed Kennedy Interchange to the south. Changes to I-65 in southern Indiana will include widening of the facility to accept the additional capacity provided by the New Downtown Bridge, modernizing a collector-distribution road system to improve ingress and egress from Clarksville and Jeffersonville, Indiana, and improving connections between these two communities that have been separated since the Interstate was originally built through this area. Thus, the Indiana approaches to the Downtown Bridge include the realignment and widening of southbound I-65 to the current Kennedy Bridge and the construction of a new segment of northbound I-65 from the New Downtown Bridge. The Indiana approach improvements extend from West Market Street northward to approximately 1,250 feet north of Stansifer Avenue / West 14th Street. In addition to the improvements for I-65, improved local access is provided to the City of Jeffersonville and the Town of Clarksville.

In addition, I-65 will be expanded in the Indiana portion of the project area from the existing three lane configuration to four lanes in both the northbound and southbound directions. A new elevated ramp system will connect US 31 at the Clark Memorial (2nd Street) Bridge with I-65, eliminating the at-grade crossing at Court Avenue. Additional access for Clarksville and Jeffersonville will be provided with the opening of 6th Street / South Clark Boulevard under I-65 and added ramps. The collector-distributor ramp system and interchanges with I-65 at Court Avenue, 10th Street and Stansifer Avenue / West 14th Street will also be reconstructed.

APPENDIX B

DOWNTOWN CROSSING FINAL ACCEPTANCE

§7.6 FINAL INSPECTION AND FORMAL ACCEPTANCE OF WORK

KYTC will not consider the work complete and will not make final payment until DBT clears the right-of-way, borrow pits, and all ground DBT occupies in connection with the work of all rubbish, equipment, excess materials, temporary structures, and weeds. DBT shall place rubbish and all waste materials of whatever nature, other than hazardous materials, on either public or private property in a location out of view from the roadway and in a manner acceptable to KYTC that does not present an unsightly appearance. DBT shall restore in an acceptable manner all property, both public and private, that was damaged in the prosecution of the work. DBT shall drain all ditches and all borrow pits where practical, and leave all space under structures unobstructed and in such condition that drift shall not collect and induce scouring.

DBT shall notify the Engineer when the Project is near completion. The Engineer will then advise in writing all work items that are unsatisfactory. When these work items are complete to the Engineer's satisfaction, the Engineer will call the Project complete and issue a Project Completion Notice. When there are seasonal limitations or other compelling situations, the Engineer may call the Project complete without requiring correction of the unsatisfactory work items until weather permits or the situation is remedied. When the Project is called complete and a Project Completion Notice has been issued, it is ready for KYTC's final inspection.

KYTC and other appropriate agencies, such as FHWA, will complete final inspections on all items of work for Formal Acceptance within 90 Calendar Days of the date of issuance of the Project Completion Notice with the exception of striping, seeding, other erosion control items, tree planting, and landscaping. KYTC will make final inspections on seeding and other erosion control items according to the applicable section of the Standard Specifications for Road and Bridge Construction. KYTC will make final inspections on tree planting and landscaping as the Contract specifies. The Department will make individual final inspections on particular groups of work items such as structures, electrical, grade and drain, and surface. KYTC may make final inspections before the Project is called complete on items of work that have been completed. The Engineer will issue written final inspection reports for items of work upon completion of each final inspection. The reports will include a list of all uncompleted work and required corrective work. The Engineer will issue a Comprehensive Final Inspection Report that will include all inspection reports with the exception of striping, seeding, tree planting and landscaping.

Complete all items of uncompleted work and all required corrective work listed in the final inspection reports within 90 Calendar Days of receiving the Engineer's Comprehensive Final Inspection Report. When the specified seasonal or temperature limitations or other compelling situations prohibit DBT from performing the work, and the Engineer chooses to call the Project complete and issue a Project Completion Notice without requiring correction of the unsatisfactory work items until weather permits or the situation is remedied, DBT shall complete the work within 90 Calendar Days after the date the Engineer directs. When the final inspection report is received apart from the Comprehensive Final Inspection Report, corrective work for striping, seeding and other erosion control items, tree planting, and landscaping shall be completed within 90 Calendar Days of receiving the Engineer's inspection report.

When the following occur, DBT shall substitute the deferral date for the date of the Engineer's Comprehensive Final Inspection Report when determining the above time limits for completion of uncompleted work and corrective work:

- A. The Contract specifies deferral of payment,
- B. The Project is complete before the date the Department can make payment (deferral date), and
- C. The deferral date is later than the date of the Engineer's Comprehensive Final Inspection Report.

DBT shall submit required as-built drawings, project documentation, and required information on materials incorporated into the Project, considering them as uncompleted work or required corrective work.

If there is a dispute regarding any of the items listed as uncompleted work or required corrective work on any of the final inspection reports, submit in writing a letter of dispute to the Engineer within 30 days of receipt of the report. The Department will respond back in writing to the letter of dispute within 21 days of receiving the letter. If there is still a dispute, proceed according to Article 12. When the dispute does not apply to all items of work in the report, complete the items not in dispute as specified herein.

Subject to Article 15.8, KYTC will make Formal Acceptance of the Project when KYTC has determined that DBT has completed all Work, including required corrective work, has complied with all obligations of the Contract and the bonds, and the Commissioner has accepted the Project.

§ 8.6 FINAL COMPLETION AND FINAL PAYMENT

The Project shall be considered Finally Complete when Formal Acceptance of the entirety of the Project has been made in accordance with Article 7.6. Upon Formal Acceptance, KYTC shall certify Final Completion and process DBT's Final Payment Application in accordance with Article 5.

APPENDIX C

DOWNTOWN CROSSING SUBSTANTIAL COMPLETION

§ 8.1 SUBSTANTIAL COMPLETION

§ 8.1.1 Substantial Completion is the stage in the progress of the Work when the Project is sufficiently complete in accordance with the Contract Documents so that KYTC can occupy or use all elements of the Project for its intended use. For this Project, Substantial Completion shall be deemed to occur, and such use possible when:

- 1) All three Sections of the Downtown Crossing, identified in the Project Scope as Sections 1, 2 and 3, are sufficiently complete to become permanently open to traffic for all lanes, and
- 2) Tolls may begin to be collected.

The only elements of the Work whose full completion may not be required in order for the Project to be open to traffic permanently and Substantially Complete will be:

- 1) seeding
- 2) tree planting
- 3) landscaping that is not essential for permanent lane opening

If seasonal considerations make permanent striping impossible when all other elements of Substantial Completion have been obtained by DBT, then KYTC will allow for Substantial Completion to be acknowledged with temporary striping, provided that DBT has submitted a plan for completion of permanent striping at the first available opportunity.

APPENDIX D

THE EAST END CROSSING (SECTIONS 4, 5 AND 6)

The proposed new East End Bridge will cross the Ohio River just north of Harrods Creek on the Kentucky side, connecting to just north of Utica on the Indiana side. The new bridge will link the Gene Snyder Freeway in Kentucky to the Lee Hamilton Highway in Indiana, completing the eastern portion of the I-265/KY841/SR265 loop around the Louisville-Southern Indiana metropolitan area. It includes:

- Two 12-foot travel lanes in each direction, with 12-foot wide outside shoulders, and 8-foot to 12-foot wide inside shoulders that narrow at the towers; and
- A 13-foot pedestrian/bicycle path along the downstream (west) side of the bridge.
- The 3.4 mile long approach to the new East End Bridge on the Kentucky side will reconstruct and widen 1.9 miles of existing KY 841 (Gene Snyder Freeway) to four lanes from I-71 to U.S. 42, where it currently ends, and extend 1.4 miles to the new East End Bridge. This Section has several distinctive features, including:
 - A tunnel under U.S. 42 and the Drumanard Estate, which, along with the other major structures of the East End Crossing, will be designed for and constructed to a width sufficient to allow the roadway to be restriped to six lanes (three lanes in each direction) when the future traffic need dictates; and
 - A multi-use pathway near the Ohio River Terrace Character Area between River Road and the new East End Bridge.
- The 4.1 mile long Indiana approach to the new East End Bridge will carry four lanes (two northbound and two southbound) and will extend S.R. 265 (Lee Hamilton Highway) from its current terminus at S.R. 62 to the Ohio River and the new East End Bridge.

APPENDIX E

EAST END CROSSING FINAL ACCEPTANCE

5.8.5.2 IFA will issue a written certificate of Final Acceptance for all Project Sections at such time as all of the following have occurred for all Project Section(s):

- a. The Substantial Completion Date has occurred, all requirements for Substantial Completion remain satisfied, and IFA has issued a certificate of Substantial Completion encompassing all Project Sections;
- b. All Punch List items have been completed and delivered to the reasonable satisfaction of IFA;
- c. All Landscaping Work and non-structural aesthetic features have been completed in accordance with Section 5 of the Technical Provisions and the plans and designs prepared in accordance therewith;
- d. Developer demonstrates to IFA's reasonable satisfaction that Developer has acquired and properly stored, or arranged for immediate availability, a reasonable inventory of all spare parts, spare components, spare equipment, special tools, materials, expendables and consumables necessary for operation and maintenance of the East End Crossing during the Operating Period as identified in the Operations and Maintenance Plan and Maintenance Plan;
- e. IFA has received a complete set of the Record Drawings in form and content required by Section 3.12.2.2 of the Technical Provisions;
- f. IFA has received as-built survey sheets for the East End Crossing;
- g. If any Governmental Entity with jurisdiction requires any form of certification of design, engineering or construction with respect to the East End Crossing or any portion thereof, including any certifications from the engineer of record and architect of record for the East End Crossing, Developer has caused such certificates to be executed and delivered and has concurrently issued identical certificates to IFA;
- h. All Utility Adjustment Work and other work that Developer is obligated to perform for or on behalf of third parties has been accepted by such third parties, and Developer has paid for all work by third parties that Developer is obligated to pay for, other than disputed amounts;
- i. Developer has made all deposits to the Intellectual Property Escrow(s) and Financial Escrow required at or prior to Final Acceptance pursuant to Sections 23.5 and 23.6;
- j. IFA has received the final certifications regarding suspension or debarment as set forth in Section 7.16

k. There exist no uncured Developer Defaults that are the subject of a Notice, or with the giving of Notice or passage of time, or both, could become the subject of a Warning Notice (except any Developer Default for which Final Acceptance will affect its full and complete cure); and Developer has submitted to IFA (i) documentation of DBE utilization and (ii) if the DBE Goal is not met, documentation supporting good faith efforts, as required under Exhibit 7 (DBE Special Provisions).

APPENDIX F

EAST END CROSSING SUBSTANTIAL COMPLETION

5.8.2.1 IFA will issue a written certificate of DB Substantial Completion upon satisfaction of all the following conditions for all Project Sections:

a. Developer has completed the design and construction of all Project Sections in accordance with the PPA Documents, including all traffic ramps, entry and exit points, noise/sound walls (if any), lanes, shoulders, guard rails, striping and delineations, concrete traffic barriers, bridge railings, fire safety systems, cable safety systems, metal beam guard fences, safety end treatments, terminal anchor sections, crash attenuators, illumination, signals and other major safety features, and including all East End Crossing equipment (including the electronic vehicle detection required under Section 19 of the Technical Provisions), such that all of the Project Sections are in a condition that can be opened for normal and safe vehicular travel in all lanes and at all points of entry and exit, as determined in IFA's reasonable discretion, subject only to Punch List items;

b. The need for temporary traffic controls or for Closures at any time, including due to the existence of or need to complete Punch List items, has ceased (except for any then required for Planned Maintenance), and otherwise set forth in Section 5.8.2.2;

c. The systems and equipment installed by Developer comply, in all respects, with applicable Laws, are operational and functional, and have passed the fire marshal and any other inspections and tests required under the PPA Documents, and Developer has delivered to IFA all reports, data and documentation relating to such tests;

d. The Parties have completed preparation of the Punch Lists for the entire East End Crossing (other than resolution of items included under protest);

e. The ITS (i) is completed, (ii) complies with applicable Laws, (iii) has passed the fire marshal inspections and tests required under the PPA Documents and Law, (iv) has passed all demonstration, performance and acceptance testing in accordance with the Technical Provisions and Project Management Plan, including interconnection with the regional Traffic Management Center (TMC), TRIMARC, and the Traffic Operations Center (TOC) as provided in the Technical Provisions, and (v) is ready for normal operation;

f. All Submittals required by the Project Management Plan or PPA Documents to be submitted to IFA prior to Substantial Completion have been submitted to and approved by IFA, in the form and content required by the Project Management Plan or PPA Documents;

g. Developer has satisfied any other requirements or conditions for Substantial Completion set forth in the Technical Provisions, including Sections 17.5 and 19 (completion, testing and commissioning of IFA work stations);

h. Developer has made all deposits to the Intellectual Property Escrow(s) and the Financial Escrow required at or prior to Substantial Completion pursuant to Sections 23.5 and 23.6;

i. There exists no uncured Developer Default that is the subject of a Notice, unless (i) Substantial Completion will effect its full and complete cure, (ii) with respect to a monetary default that Developer has disputed in writing, Developer is current in its deposit of funds into the MP Disputed Amounts Fund in accordance with the Project Trust Agreement regarding the amount in dispute, or (iii) with respect to a non-monetary default, Developer has a right to cure and is diligently pursuing cure within the applicable cure period;

j. Developer has delivered to IFA all manufacturer warranties required under, and in the form and content specified by the Technical Provisions; and

k. The date specified under Section 5.8.2.4 has passed.

5.8.2.2 In determining whether DB Substantial Completion has occurred, the Parties shall disregard (i) the status of Landscaping Work and non-structural aesthetic features included in the Final Design Documents in determining whether DB Substantial Completion has occurred, except to the extent that its later completion will affect public safety or satisfaction of the criterion in Section 5.8.2.1(b), which determination shall be made by IFA in its reasonable discretion, and (ii) except to the extent provided in Section 5.8.2.4, disregard whether the Tolling Systems Integrator's work has been completed and accepted by IFA.

APPENDIX G

INSURANCE REQUIREMENTS

Coverage	Limit
Worker's Compensation	Statutory
General Liability	\$100,000,000
Employer's Liability	\$100,000,000
Auto	\$25,000,000
Builder's Risk	Full Replacement Cost
Professional Errors & Omissions	\$20,000,000
Contractors' Pollution	\$50,000,000
Vessel Hull / Machinery (Watercraft)	Hull: Actual Cash Value Liability: \$25,000,000 plus \$75,000,000 excess
Aviation	\$25,000,000

APPENDIX H

FORM OF INTERLOCAL AGREEMENT

APPENDIX I

EXISTING LITIGATION AND SHARING OF FEES

Existing Litigation Matter

Arrangement for Payment of Attorneys' Fees and Other Defense Costs

National Trust for Historic Preservation v. Federal Highway Administration, pending in the U.S. District Court in Louisville, Kentucky, Case 3:10-cv00007-JGH

Kentucky Parties and Indiana Parties each shall retain and pay for their own counsel

ADDENDUM #1
dated as of December 27, 2012
to Bi-State Development Agreement, effective December 20, 2012,
(the “Development Agreement”) among Indiana Finance Authority (IFA),
Indiana Department of Transportation (INDOT),
Kentucky Public Transportation Infrastructure Authority (KPTIA), and
Kentucky Transportation Cabinet (KYTC) (collectively, the “States’ Parties”)

WHEREAS, the States’ Parties have previously entered into the Development Agreement, pursuant to which the State of Indiana and the Commonwealth of Kentucky will jointly undertake the development of the Louisville-Southern Indiana Ohio River Bridges Project (the “Project”); and

WHEREAS, all terms not otherwise defined herein shall have the meanings specified in the Development Agreement; and

WHEREAS, Subsection 11.4.1 of the Development Agreement provides that such agreement “shall constitute an agreement regarding tolling framework, parameters and procedures for further implementation of tolling planning, which shall be further implemented by the various agreements or Addendum hereto”, all as further described in Article 11; and

WHEREAS, Subsection 11.4.6 provides for the delivery of this Addendum by the States’ Parties “reciting (i) actions which have been undertaken, (ii) actions which have been completed, and (iii) actions remaining to be done for the development of the tolling policy...and setting forth the further agreements described in this Subsection 11.4”; and

WHEREAS, the States’ Parties collectively and individually have retained consultants and advisors, and have assigned responsibilities to Subcommittees on the topics of Environmental Justice, Tolling Policy, Tolling Integrator Procurement and Tolling Legislation and Rulemaking, including representatives of each of the State’s Parties, their counsel, advisors and consultants to develop and implement plans to fulfill the mutual promises and agreements contained in the Development Agreement (the “Subcommittees”); and

WHEREAS, the Subcommittees have worked diligently to accomplish their assigned tasks in a timely fashion, which efforts to date are memorialized in this Addendum;

NOW, THEREFORE, in compliance with Subsection 11.4.6 of the Development Agreement, the States’ Parties do hereby execute and deliver this Addendum, dated as first described above;

WITNESSETH, as follows:

Article I. Overview of Process.

The following process has been used to further the States’ Parties efforts regarding tolling the Project:

1.1 The existing legal framework for tolling of the Project is based on a number of sources of legal authority, including the following key statutes and agreements current as of the date of this agreement:

- Indiana Code 8-15.5, 8-15-2, 4-22, 9-18-2, 9-21-3.5 IC 36-1-7 *et seq.*
- KRS Chapter 175B and KRS 65.210 to 65.300.
- Section 129 Agreement.
- Revised ROD.
- Development Agreement.
- Interlocal Agreement.
- Project Trust Agreement (Indiana Revenue Share).

1.2 The Development Agreement provides that tolling policy shall be based on the following principles which have formed the basis for the work of the Subcommittees:

- Comprehensive and unified tolling policy and procedures for all cross river spans/bridges comprising the Ohio River Bridges Project.
- High speed, all-electronic non-stop tolling.
- Tolling commencing on new bridges when each is open to traffic and commencing on the existing Kennedy Bridge when the first new bridge is open to traffic, but not later than June 30, 2018, taking into consideration necessary testing periods.
- Toll Revenues combined for all bridges in the Ohio River Bridges Project.
- Toll Revenues split 50/50 constituting the Indiana Revenue Share and the Kentucky Revenue Share, except as may be adjusted in accordance with Subsections 11.3.1 and 14.2.2 of the Development Agreement.
- Toll System Collection acquisition, implementation, and operation expenses divided on an equal (50/50) basis.
- Toll rates established (based, in part, on an investment grade traffic and revenue study) to be sufficient to provide coverage for each state's obligations as described in Subsections 11.3.2.1 and 11.3.2.2, and 11.5.4.
- Toll Policy developed in a manner sensitive and responsive to Environmental Justice Populations, following procedures for public input consistent with Subsection 11.4.2 *et seq.*
- Toll Policy so developed to be expressed in the Toll Policy Agreement.
- Toll rates, rate setting and adjustment methodologies, and toll enforcement policies and procedures to be established in the Toll Policy Agreement. (See Article IV of this Toll Parameters Framework.)
- Toll collection enforcement, including procedures, fees, costs and fines, to be administered by the Toll Operator or other entity on behalf of both states, under the supervision of the Joint Board, under the laws of each state as the Joint Board shall determine, but insofar as possible under the laws of the two states, in a consistent manner.
- The Development Agreement calls for the Tolling Body to develop a tolling policy and to develop and approve the Toll Policy Agreement. The

Development Agreement provides for the Joint Board to be responsible for the procurement of a Toll System Integrator and the execution and delivery of a Toll System Integrator Agreement, as well as the procurement of a Toll Operator, pursuant to one or more Toll Operations Agreements, provided that the Toll System Integrator selected to provide operations of the customer service center shall be the initial Toll Operator.

- 1.3 The Development Agreement provides that the appropriate States' Parties will enter into a Custody Agreement providing for the collection and distribution of Toll Revenues.
- 1.4 The Development Agreement provides that each State will undertake administrative rulemaking procedures to implement the determinations of the Tolling Body in the Toll Policy Agreement for electronic tolling, tolling procedures, tolling enforcement and toll collections, to the extent authorized by law, and the Kentucky Parties have agreed to seek legislation in 2013 to fully authorize such actions.
- 1.5 Since September 2012, the States' Parties, together with their collective or individual advisors, consultants and counsel, and acting through the Subcommittees, have worked diligently to develop the framework for the actions described above. Work has been performed during that time frame through four separate Subcommittees, focusing on (i) environmental justice concerns and related toll policy development processes, (ii) toll integrator procurement, (iii) toll policy development, and (iv) legislation and rulemaking. That work has provided a basis for the completion of initial action steps and future analysis.
- 1.6 The States' Parties have now concluded that the work of the Subcommittees will be guided by a steering committee made up of representatives from each State, from which the Subcommittees future assignments will come. The steering committee shall report to the Joint Board and the Tolling Body.

Article II. Actions Undertaken and Completed.

The following steps have been undertaken to carry out the intent of the Development Agreement and the Interlocal Agreement:

- 2.1 Formation of Joint Board and Tolling Body under the Interlocal Agreement
Formation of Subcommittees to identify and evaluate necessary actions in key subject matter areas:
 - Tolling policy
 - Legislation and rulemaking
 - Environmental justice
 - Toll System integrator and operator procurement(s)

- 2.2 Indiana Parties' internal credit analysis, for advisory, deliberative and due diligence purposes, of toll scenarios and projections to support availability payment structure.
- 2.3 Kentucky Parties' preliminary discussions with credit rating agencies to evaluate toll revenue bond structure with use of investment grade traffic and revenue study.
- 2.4 Engagement of external resources including toll consultants, financing consultants, and legal advisors.
- 2.5 Selection of the Design-Build Team for the Downtown Crossing and of the Developer for the East End Crossing based on proposals received in the respective procurements, which provided vital cost data for the Project (and for eventual toll calculations).

Article III. Actions Remaining to be Done.

The following actions must be completed to determine and implement a Toll Policy Agreement as directed by the Development Agreement:

- 3.1 The States' Parties must establish rules of governance for the Joint Board and the Tolling Body.
- 3.2 Completion of tolling parameters framework as the first step in developing and entering into a Toll Policy Agreement, as contemplated by Subsection 11.4.1 of the Development Agreement and as more particularly described in Article IV below.
- 3.3 Completion of a process for compliance with the environmental justice commitments in the Revised ROD in the development of a tolling policy.
- 3.4 Completion of an investment grade traffic and revenue study to demonstrate steps necessary to assure covenant compliance with respect to both states.
- 3.5 Completion of procurement of a Toll System Integrator and a Toll Operator, as contemplated by Subsection 11.4.3 and Subsection 11.4.4 of the Development Agreement.
 - o Formal delegation of the power to procure a Toll System Integrator and Toll Operator to KYTC using applicable Kentucky laws, on behalf of the Joint Board, subject to review and approval by the Joint Board.
- 3.6 Completion of tolling policy and adoption of a Toll Policy Agreement, as contemplated by Subsection 11.4.2 of the Development Agreement.
- 3.7 Execution of a Design/Build contract by the Kentucky Parties with the preferred bidder for the Downtown Crossing.

- 3.8 Completion of a Custody Agreement to be entered into with a bank or trust company satisfying the requirements of Subsection 11.8. of the Development Agreement, as contemplated by Subsection 11.4.5 thereof.
- 3.9 Completion of financial close by the Indiana Parties with the Developer of the East End Crossing.
- 3.10 Completion of credit rating agency reviews and other work necessary to structure and consummate the bond financing by KPTIA for the Downtown Crossing and completion of bond issuance process.
- 3.11 Detailed timeline in support of expected commencement of toll operations on both the Downtown Crossing and the East End Crossing upon expected completion of the earlier of the two Crossings, currently contemplated as October 31, 2016, based on Developer commitments related to the East End Crossing.

Article IV. Tolling Parameters Framework.

- 4.1 The rate setting methodology shall be as follows:
 - (i) Rates will be set based on a rate covenant in the Development Agreement, which in turn will be designed to ensure tolls are sufficient to enable IFA and KPTIA to meet their financial obligations.
 - (ii) Rates and methodology for rate change will be approved by the Tolling Body and established through the Toll Policy Agreement with input from traffic and revenue consultants, taking into account the rate covenant and the ROD requirements set forth below.
 - (iii) Rates will not be approved until the environmental justice (EJ) procedures required by the ROD are completed and approved by the Tolling Body.
 - (A) Public involvement will be a part of the EJ process.
 - (B) Public comments will not be a mandated part of the Joint Board's regular business meetings; however, the Joint Board will host a public information and input session (in addition to or as part of the EJ process) after a draft tolling policy is prepared.
- 4.2 Basic Toll Rates.
 - (i) Basic Toll Rates are to be determined by the Tolling Body as part of Toll Policy Agreement after completion of the EJ process and of an investment-grade traffic and revenue study to support the toll revenue bond financing for the Downtown Crossing, and the financial obligations related to the East End Crossing.

- (ii) Current model runs will be based on the following to project and measure revenue sufficiency and to evaluate EJ considerations, including but not limited to:
 - \$2 for passenger cars
 - \$5 for light trucks
 - \$10 for freighters
 - \$1 for passenger cars that qualify for “frequent user” designation:
 - Requires use of transponder
 - Requires a to-be-determined number of trips per month
- (iii) Eventual toll schedule may have more varied rates, to be established based upon, among other possible factors, method of payment and collection (transponder versus video, registered versus unregistered), type of vehicle, frequency of usage, time of day, and cost of service. In evaluating these factors, the Tolling Body will follow guiding principles of: (a) encouraging transponder usage or other methods of payment designed to optimize collection rates and (b) weighing the benefits of toll schedule variation against the burdens of administrative complexity.

4.3 Adjustments to the basic toll rates are to be made consistent with inflationary expectations as established by a predetermined schedule of rates and rate adjustments.

4.4 Collections.

- (i) The following methods for determining toll payment due shall be provided:
 - General: all-electronic, high-speed, non-stop tolling.
 - Means of capture:
 - Transponder.
 - Video, with pre-registration system and ability to service both registered users and unregistered users.
 - Payment systems to be varied and designed to accommodate the broadest possible spectrum of users, with payment capability through website, dedicated kiosks and third party locations, as well as through the mail.
- (ii) Public Outreach and Interface
 - Toll Integrator/Operator or other entity, under the direction of the Joint Board, will establish and maintain aggressive public outreach methods

to encourage and optimize transponder usage and to enhance and promote the usability of the tolled facilities.

- The Joint Board and the States Parties will take an active role in ensuring that there is a unified and positive message regarding the toll operations.

4.5 Enforcement.

- (i) The States' Parties will conduct administrative rulemaking in their respective jurisdictions to implement enforcement mechanisms necessary to provide a broad foundation for business rules to be adopted by the Joint Board, as well as for reciprocal enforcement of toll collections as between the two states and legislation as needed to do so.
- (ii) Currently, the Indiana Parties have the ability, via statute or administrative rulemaking, to establish an enforcement mechanism based on the following measures:
 - Payment of tolls and user charges.
 - Payment of fines, fees and penalties.
 - Coordination by Toll Operator.
 - Non-Renewal of Vehicle Registration by the Bureau of Motor Vehicles.
 - Court action to suspend vehicle registration, etc.
- (iii) Currently, the Kentucky Parties have the ability to, or are planning to obtain legislation or rulemaking necessary to, establish an enforcement mechanism.

4.6 Interoperability and Reciprocity.

- (i) The Joint Board will cause the facilities to make best efforts to have state-of-the-art transponder reader capabilities that are MAP 21 compliant, and the procurement for the Toll Integrator/Toll Operator will reflect this requirement.
- (ii) The States Parties anticipate that they will become members of the appropriate national and regional interoperability associations. As necessary, the States' representatives to these associations shall use their membership to further the Project and the purposes of the Joint Board.

The Joint Board will work through appropriate organizations, such as Governors' Associations, the American Association of State Highway and Transportation Officials,

American Association of Motor Vehicle Administrators, and the National Council of State Legislatures to provide for reciprocal enforcement and DMV information sharing with other states.

IN WITNESS WHEREOF, the States' Parties have each caused this Addendum to be executed and delivered as of the date first above written.

INDIANA FINANCE AUTHORITY

By: _____
Adam M. Horst, Chairman

ATTEST:

Kendra W. York, Public Finance Director of
the State of Indiana

*Signature Page to the Addendum to the Bi-State Development Agreement for the
Ohio River Bridges Project*

INDIANA DEPARTMENT OF
TRANSPORTATION

By: _____
Michael B. Cline, Commissioner

ATTEST:

James Stark, Deputy Commissioner

APPROVED AS TO FORM AND LEGALITY
OFFICE OF THE ATTORNEY GENERAL OF
THE STATE OF INDIANA

By: _____
Deputy Attorney General

*Signature Page to the Addendum to the Bi-State Development Agreement for the
Ohio River Bridges Project*

KENTUCKY PUBLIC TRANSPORTATION
INFRASTRUCTURE AUTHORITY

By: _____
Lori Flanery, Vice Chair of KPTIA

APPROVED AS TO FORM AND LEGALITY

By: _____
J. Todd Shipp, Special Assistant of the
Office of Legal Services Transportation
Cabinet

*Signature Page to the Addendum to the Bi-State Development Agreement for the
Ohio River Bridges Project*

KENTUCKY TRANSPORTATION CABINET

By: _____
Michael W. Hancock, P.E., Secretary of the
Transportation Cabinet

APPROVED AS TO FORM AND LEGALITY

By: _____
Rebecca Goodman, Executive Director of
the Office of Legal Services Transportation
Cabinet

*Signature Page to the Addendum to the Bi-State Development Agreement for the
Ohio River Bridges Project*

ADDENDUM #2
dated as of September 11, 2013
to Bi-State Development Agreement (the “Original Development Agreement”)
among Indiana Finance Authority (IFA),
Indiana Department of Transportation (INDOT),
Kentucky Public Transportation Infrastructure Authority (KPTIA), and
Kentucky Transportation Cabinet (KYTC) (collectively, the “States’ Parties”)

WHEREAS, the States’ Parties, together with the Louisville-Southern Indiana Ohio River Bridges Authority, have previously entered into the Original Development Agreement pursuant to which the State of Indiana and the Commonwealth of Kentucky are jointly engaged in the development of the Louisville-Southern Indiana Ohio River Bridges Project (the “Project”); and

WHEREAS, the States’ Parties have previously entered into Addendum #1 dated as of December 27, 2012 pursuant to Subsection 11.4.6 of the Original Development Agreement.

WHEREAS, the Original Development Agreement as supplemented by the aforementioned Addendum #1 and as supplemented and amended by this Addendum #2 is hereinafter referred to collectively as the “Development Agreement”; and

WHEREAS, all terms not otherwise defined herein shall have the meanings specified in the Development Agreement; and

WHEREAS, Subsection 11.4.1 of the Development Agreement provides that such agreement “shall constitute an agreement regarding tolling framework, parameters and procedures for further implementation of tolling planning, which shall be further implemented by the various agreements or Addendum hereto”, all as further described in Article 11; and

WHEREAS, the Development Agreement (in Subsections 16.10 and in Subsection 8.3.5.5 and Subsection 8.2.7) contemplates the need for additional amendments and addenda from time to time; and

WHEREAS, in order to help facilitate the financing by the Kentucky Parties of the Downtown Crossing and to reflect changes and updated information since the execution and delivery of the Development Agreement, the States’ Parties now wish to update, supplement and amend the Development Agreement as set forth in this Addendum #2.

NOW, THEREFORE, THE STATES’ PARTIES WITNESSETH AS FOLLOWS:

Section 1. Section 1.19 of the Development Agreement is deleted and subsequent sections are correspondingly renumbered through former Section 1.91 (now 1.90).

Section 2. New Section 1.66 of the Development Agreement is revised as follows:

- 1.66 O&M means Operations and Maintenance, which are any and all recurring costs, necessary to maintain the Project (not including the Toll System Collection Expenses or M&R Expenses) in good operating order, including both regular and routine maintenance, lifecycle maintenance,

and capital costs. O&M shall include, but not be limited to, compliance with applicable operations and maintenance standards.

Section 3. New Section 1.70 of the Development Agreement is amended to read as follows:

- 1.70 Project Termination means the later of the following dates: (i) the date when the Public-Private Agreement has concluded and been satisfied on the East End Crossing; (ii) the date when all TIFIA loan obtained by any State's Party has been paid in full, and (iii) the date when all bonds issued by KPTIA or any other entity to finance or refinance the Downtown Crossing have been satisfied.

Section 4. A new Section 1.91 is added to the Development Agreement as follows:

- 1.91 Toll Rate Resolution means the resolution to be passed by the Tolling Body setting the initial toll rates and adopting a schedule for toll rate adjustments.

Section 5. Section 1.92 of the Development Agreement is amended to read as follows:

- 1.92 Toll Revenues means the gross amount of all tolls, administrative fees, violation charges, incidental charges, penalties and other charges collected through a collection process with respect to the Project.

Section 6. Section 8.2.3 of the Development Agreement is amended to read as follows:

- 8.2.3 INDOT has committed \$570 million in federal and conventional State funds through 2018 to fund its obligations for the East End Crossing. This includes six payments of \$54 million per State Fiscal Year to make milestone payments (or other payments) to IFA, \$172.7 million in additional Project costs during the construction period, and \$73.3 million previously expended for Project costs. In addition, INDOT has committed an additional \$108 million (\$54 million for each State Fiscal Year 2019 and 2020), expected to be used to make milestone payments (or other payments) to IFA. Further, INDOT has agreed to make payments in an amount of \$9 million per State Fiscal Year for 5 years to fund a Relief Events Allowance Account (as defined in the Public-Private Agreement) to be used as provided for in the Public-Private Agreement for the East End Crossing. The foregoing contributions are subject to appropriation by the Indiana General Assembly of such amounts. IFA will be committed under the Public-Private Agreement to make certain milestone payments (or other payments) to the Developer and has entered into an agreement with INDOT pursuant to which INDOT has agreed to pay certain of the funds described above to IFA to fund such payment obligations to the Developer. IFA is applying for an East End Crossing TIFIA loan in an

amount not to exceed \$392 million to fund all or a portion of the milestone payments described above. If the request for such loan is granted and IFA borrows such proceeds, IFA expects to repay the East End Crossing TIFIA loan from the Indiana Revenue Share.

Section 7. Section 8.2.4 of the Development Agreement is amended to read as follows:

8.2.4 In addition to the funds provided by the Indiana Parties as described in Subsection 8.2.3, the balance of the amount required to fund the design and construction of the East End Crossing is expected to be provided by the Developer, which includes proceeds of indebtedness of the Developer and a Developer equity contribution. On March 28, 2013 IFA issued Private Activity Bonds in the amount of \$676,805,000 for the benefit of the Developer.

Section 8. Section 8.3.3 of the Development Agreement is amended to read as follows:

8.3.3 Under the six year highway plan adopted by Kentucky, the Kentucky Parties will provide up to \$536 million in future federal funds to be used for the Downtown Crossing. This includes up to \$300 million in traditional federal funds (\$50 million per State Fiscal Year for six years beginning with State Fiscal Year 2013) and the proceeds of an approximately \$236 million of GARVEE bonds issued August 8, 2013, for a total of \$536 million. This funding is in addition to already expended funds of \$220.2 million, of \$279.4 million authorized for the period ending with State Fiscal Year 2012. The foregoing contributions are subject to appropriation by the Kentucky General Assembly of such amounts.

Section 9. Section 8.3.4 of the Development Agreement is amended to read as follows:

8.3.4. The Kentucky Parties additionally will issue one or more series of Kentucky Revenue Bonds including a TIFIA Loan in an amount estimated to exceed \$750.0 million, as an additional source of funding for the costs of the Downtown Crossing. KPTIA will issue the Kentucky Revenue Bonds, as the "issuing authority" under KRS 175B.025. The Kentucky Revenue Bonds will be governmental purpose tax exempt bonds secured by the Kentucky Revenue Share. The Kentucky Revenue Share will be used to make payments of principal and interest on the Kentucky Revenue Bonds.

Section 10. Section 8.3.5 of the Development Agreement is amended to read as follows:

8.3.5. The Kentucky Revenue Bonds will be issued by KPTIA pursuant to a Kentucky Revenue Bond Indenture.

8.3.5.1 The Kentucky Revenue Bond Indenture shall include a debt service reserve fund ("DSRF") into which shall be deposited and maintained an amount required to obtain an investment grade rating on the Kentucky Revenue Bonds, when issued. In the event that the Kentucky Revenue Share is insufficient to fully fund senior lien bond principal and interest payments, the DSRF shall be used to make timely payments to bondholders.

8.3.5.2 The Kentucky Revenue Bond Indenture shall include (a) a Tolling O&M Reserve Fund (which shall be fully funded upon delivery of the Kentucky Revenue Bonds) in which shall be maintained (from Toll Revenues and otherwise as provided below) an amount that is no less than the budgeted Tolling O&M Expenses, as reflected in the KPTIA budget, for the current fiscal year, or such lesser amount agreed to by IFA and KYTC, (b) a General O&M Reserve Fund (which shall be fully funded over five (5) years by deposits from Toll Revenues) in which shall be maintained from Toll Revenues (and otherwise as provided below) an amount that is no less than the highest consecutive four months of the budgeted General O&M Expenses, as reflected in the KPTIA budget, for the current fiscal year, and (c) an M&R Reserve Fund in which shall be maintained in amounts deemed reasonable by a qualified independent engineer to fund lifecycle costs for the Kentucky O&M Portion. In the event that the Kentucky Revenue Share is insufficient to fully replenish any subsequent deficits in the Tolling O&M Reserve Fund, General O&M Reserve Fund and M&R Reserve Fund requirements, and in order to support the creditworthiness of the Kentucky Revenue Bonds, KYTC agrees to budget and seek to have appropriated, at the next available opportunity, from legally available highway funds, an amount that will restore the Tolling O&M Reserve Fund, General O&M Reserve Fund and M&R Reserve Fund to the respective required amounts which constitute the Reserve Replenishment Guarantees. Any such amounts budgeted and appropriated will be considered a loan to the Kentucky Parties for the Downtown Crossing and repaid with interest at 5% per annum from the Kentucky Revenue Share fund balances which are on deposit from time to time in the General Reserve Fund, as described in the Kentucky Revenue Bond Indenture, subject to priority of payments from such fund as described in the

Kentucky Revenue Bond Indenture. The requirement of this section shall be deemed satisfied so long as the corresponding reserve requirements of the Kentucky Revenue Bond Indenture are satisfied.

8.3.5.3 The Kentucky Revenue Bond Indenture or the official authorization of the issuance of Kentucky Revenue Bonds thereunder shall contain an acknowledgement that no amounts of principal and interest on such bonds are payable from the Indiana Revenue Share and that, in addition to the DSRF, a portion of the Kentucky Revenue Share is required to be separately set aside as reserves as set forth above in this Subsection 8.3.5.

8.3.5.4 In addition to the provisions described in this Subsection 8.3.5, the Kentucky Revenue Bond Indenture will contain other provisions providing for priority of payment from various sources, fund and reserves, determined and established as necessary in order to market the Kentucky Revenue Bonds at the lowest possible interest rates then prevailing at the time such Kentucky Revenue Bonds are issued.

8.3.5.5 The States' Parties acknowledge that modifications to the requirements of Subsection 8.3.5 may be desirable, based upon then current market conditions at the time of execution of the Kentucky Revenue Bond Indenture, rating agency requirements or similar factors, and that such modifications may be made through an amendment to this Agreement executed by such Parties.

Section 11. Section 11.3.2 of the Development Agreement is amended to read as follows:

11.3.2. Toll Covenant. Subject to review by credit rating agencies, U.S. Department of Transportation (in connection with any TIFIA loans) and any provider of credit enhancement, KPTIA and IFA agree, so long as any Party shall have outstanding financial obligations related to the construction or financing of the Project (including any toll revenue bonds, TIFIA loans, availability payment obligations, or other financial obligations under a Public Private Agreement) to set and maintain toll rates and charges in each State fiscal year such that:

11.3.2.1 The Kentucky Revenue Share shall be not less than the amount required each year to pay all debt service and other funding obligations of KPTIA under the Kentucky Revenue Bond Indenture and to meet the Rate Covenant in the form of Section 708 of the Kentucky Revenue Bond Indenture attached hereto

as Exhibit A; provided that KPTIA agrees not to modify said Section 708 without the prior written consent of the Indiana Parties; and

- 11.3.2.2 The Indiana Revenue Share (i) shall be not less than 100% of the aggregate amount of availability payments and other financial obligations due and payable during the following year under the Public Private Agreement or (ii) in the event that IFA also borrows funds pursuant to an East End Crossing TIFIA Loan, shall be no less than the greater of (a) the sum of 100% of the aggregate amount of availability payments and other financial obligations due and payable during the following year under the Public Private Agreement and 1.25 times the aggregate debt service requirements for any East End Crossing TIFIA Loans for such period, and (b) the sum of the aggregate amount of availability payments and other financial obligations due and payable during the following year under the Public Private Agreement and all debt service and other funding obligations of IFA under any East End Crossing TIFIA Loan for such period.

Section 12. Section 11.4.2.7 of the Development Agreement is deleted.

Section 13. Section 11.4.3 of the Development Agreement is amended to read as follows:

- 11.4.3 Toll System Integrator. The States' Parties (or certain of them representing each state), and/or the Joint Board acting on behalf of the States' Parties, shall engage a Toll System Integrator to design, procure, and install a comprehensive toll system for the Project pursuant to the Toll System Integrator Agreement. In addition, the Toll System Integrator Agreement shall obligate the Toll System Integrator to operate, maintain and manage the comprehensive toll system for the Project (performing the role of the Toll Operator) for a minimum initial period of at least one year following installation of the toll system.

Section 14. A new Section 11.4.7 of the Development Agreement is added as follows:

- 11.4.7 Toll Rate Resolution. States' Parties, acting with and through the Tolling Body, shall adopt a Toll Rate Resolution setting the initial toll rates and adopting a schedule for toll rate adjustments on or before September 11, 2013. Such Toll Rate Resolution shall comply with the toll rate covenant in Subsection 11.3.2 and the provisions of Subsection 11.4.2. Nothing in this Subsection shall be interpreted to limit the commitments contained in Subsection 11.4.2.

Section 15. Section 11.6.1.4 of the Development Agreement is amended to read as follows:

11.6.1.4 [Reserved]

Section 16. Section 11.7.3 of the Development Agreement is amended to read as follows:

11.7.3 Periodic Review. So long as either the Indiana Parties or the Kentucky Parties shall have outstanding financial obligations related to the Project, the Toll Operations Agreement shall provide for a mechanism for annual or more frequent periodic review of the adequacy of existing toll schedules and adjustment mechanisms to produce Toll Revenues to support the respective payment and covenant obligations of IFA and KPTIA related to financing the East End Crossing and the Downtown Crossing, respectively.

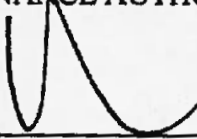
11.7.3.1 The Toll Operations Agreement shall provide that, if (a) the actual or projected Indiana Revenue Share or Kentucky Revenue Share for the then current State fiscal year is less than the amount required to pay the respective payment obligations or to satisfy the respective financial covenants (including but not limited to rate covenants and additional indebtedness tests) related to financing the East End Crossing and the Downtown Crossing, respectively, or (b) the Indiana Revenue Share or the Kentucky Revenue Share for the next State Fiscal Year is forecasted to be less than required to satisfy the same, then IFA or KPTIA shall engage a qualified traffic and revenue consultant, acceptable to both parties, to provide a report recommending the adjustments to the toll rates and charges necessary to increase the forecasted Indiana Revenue Share and Kentucky Revenue Share to an amount forecasted to be sufficient to satisfy all applicable payment and covenant requirements for the next State Fiscal Year and each of the four (4) succeeding State Fiscal Years. In the selection of such consultant, the party whose share of Toll Revenues was insufficient to enable it to meet its payment and covenant requirements with respect to the Downtown Crossing or the East End Crossing, as the case may be, shall have the final decision, and the consent of the other party to the selection of such consultant shall not be unreasonably withheld. The appropriate States' Parties shall immediately implement the recommended toll adjustments or other changes and engage the qualified traffic and revenue consultant to monitor actual cash flow and to submit reports comparing to the forecasted Indiana Revenue Share and Kentucky Revenue Share not less than

quarterly for a minimum period of one year after delivery of such report.

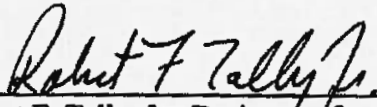
- 11.7.3.2 Notwithstanding the foregoing, the Indiana Parties agree that, unless actual Toll Revenues are materially less than projected Toll Revenues as described in the traffic and revenue forecast prepared for KPTIA and dated August 30, 2013 ("T&R Study"), the T&R Study shall be sufficient to satisfy the requirements of 11.7.3.1 above as to the Indiana Revenue Share through an initial period of two (2) full fiscal years following tolling commencement, and no further actions as described in 11.7.3.1 above shall be required as to the Indiana Revenue Share or Indiana Rate Covenant.
- 11.7.3.3 The IFA acknowledges that IFA has committed under the Public Private Agreement to seek, or cause the INDOT to seek, appropriations for each year sufficient to meet the IFA's obligation to make Availability Payments to the Developer. The obligations of the IFA to pay Availability Payments to the Developer (i) do not constitute an indebtedness of the State of Indiana or any political subdivision thereof within the meaning or application of any constitutional provision or limitation and (ii) do not constitute a pledge of the faith, credit or taxing power of the State or any political subdivision thereof within the meaning or application of any constitutional provision or limitation. Subject to the conditions described in 11.7.3.2 above, the Indiana Parties do not anticipate that they will require the implementation of the provisions described in 11.7.3.1 above through the initial period of two (2) full fiscal years immediately following tolling commencement.

Dated this 11th day of September, 2013.

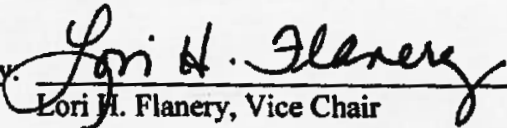
INDIANA FINANCE AUTHORITY

By: 
Kendra W. York, Public Finance Director
of the State of Indiana

INDIANA DEPARTMENT OF
TRANSPORTATION

By: 
Robert F. Tally, Jr., Designee of
Commissioner

KENTUCKY PUBLIC TRANSPORTATION
INFRASTRUCTURE AUTHORITY

By: 
Lori H. Flanery, Vice Chair

KENTUCKY TRANSPORTATION CABINET

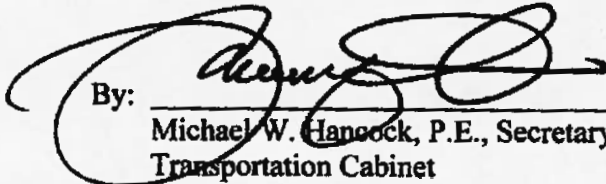
By: 
Michael W. Hancock, P.E., Secretary of the
Transportation Cabinet

EXHIBIT A

Section 708. Rate Covenant.

(a) The Authority, in accordance with the Development Agreement and the Toll Policy Agreement, shall use its best efforts to provide for the establishment, and shall charge and collect, Tolls for the privilege of traveling on the System, at rates sufficient so that Total System Revenue are in an amount at least equal to (i), (ii), (iii), (iv) and (v):

(i) 150% of the Annual Debt Service with respect to all Outstanding First Tier Bonds;

(ii) 135% of the Annual Debt Service with respect to all Outstanding First Tier Bonds and Second Tier Bonds;

(iii) 125% of the Annual Debt Service with respect to all Outstanding First Tier Bonds, Second Tier Bonds and Third Tier Bonds;

(iv) 110% of the Annual Debt Service with respect to all Outstanding Bonds; and

(v) 100% of the aggregate amount of the required payments described in subsections (a) through (i) of Section 504 to the extent such payments have not been otherwise paid or provided for from Bond proceeds.

(b) The Authority will at least annually, prior to June 30 of each Fiscal Year, review the financial condition of the System, the anticipated Total System Expenses, Debt Service Requirements, various reserves and other costs of the Authority System, and proceed in a timely fashion to recommend to the Tolling Body any required adjustment to the Toll Rate Schedule it determines is necessary to comply with subsection (a) above to provide sufficient Total System Revenue to fund amounts required to be deposited and maintained in the Funds and Accounts and to comply with other relevant covenants in this General Trust Indenture.

(c) Prior to recommending any revision in the Toll Rate Schedule, the Authority, shall obtain: (i) a certificate of the Traffic Consultant stating, based upon reasonable assumptions and applying the revised Toll Rate Schedule, the projected Total System Revenue for the then-current Fiscal Year and each subsequent Fiscal Year through the last scheduled maturity of all then-Outstanding Bonds, (ii) a certificate of the Consulting Engineer stating, based upon reasonable assumptions, the projected Total System Expenses for the then-current Fiscal Year and each subsequent Fiscal Year through the last scheduled maturity of all Outstanding Bonds, and (iii) a certificate of an Authorized Representative stating that, based upon the information contained in the certificates described in (i) and (ii) above, the adoption of the revised Toll Rate Schedule will not cause Toll Revenue to decrease to an amount that will cause the Authority to fail to comply with the requirements of (a) above. Any certificate delivered by the Traffic Consultant pursuant to this subsection shall be based on the opinion of the Traffic

Consultant as to Total System Revenue to be derived by the Authority from the System under the terms of the Development Agreement and the Toll Policy Agreement (provided that investment and other income not related to Tolls shall be estimated by an Authorized Representative), and a certificate of an Authorized Representative stating the opinion of the Authority as to the amount of Total System Expenses paid or accrued during any pertinent Fiscal Year, assuming that the proposed Toll Rate Schedule had been in effect during the pertinent Fiscal Year.

(d) The failure in any Fiscal Year to obtain Total System Revenue in the amounts sufficient to enable the Authority to comply with subsection (a) above, which failure may continue during the succeeding Fiscal Year, shall not, in and of itself, constitute an Event of Default under this General Trust Indenture if (i) the Authority within 60 days after the end of the Fiscal Year requests the written recommendations of the Traffic Consultant as to how to increase Toll Revenue and/or the written recommendations of a Consulting Engineer as to how to reduce Total System Expenses in the following Fiscal Year to the level required to comply with subsection (a) above, (ii) within 60 days of the date of the request from the Authority, the Traffic Consultant and/or the Consulting Engineer provide to the Authority the written recommendations described in clause (i), and (iii) the Authority takes steps to implement those recommendations within 60 days after receipt thereof and diligently proceeds to substantially comply with the recommendations of the Traffic Consultant and/or the Consulting Engineer.

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RESOLUTION TB-2013-2

**RESOLUTION OF TOLLING BODY
SETTING INITIAL TOLL RATES IN ACCORDANCE WITH
TOLL RATE COVENANTS ESTABLISHED IN THE DEVELOPMENT AGREEMENT**

WHEREAS, the State of Indiana and the Commonwealth of Kentucky have jointly undertaken a project to improve cross river mobility over the Ohio River between Louisville and Southern Indiana, as authorized by the Federal Highway Administration in its revised Record of Decision (“ROD”) dated June 20, 2012 (the “Project”); and

WHEREAS, the Indiana Finance Authority (“IFA”) and the Indiana Department of Transportation (“INDOT”) have been authorized to participate in the Project on behalf of the State of Indiana, and the Kentucky Public Transportation Infrastructure Authority (“KPTIA”) and the Kentucky Transportation Cabinet (“KYTC”) have been authorized to participate in the Project on behalf of the Commonwealth of Kentucky; and

WHEREAS, IFA and INDOT are referred to as the “Indiana Parties” and KPTIA and KYTC as the “Kentucky Parties”; and

WHEREAS, IFA, INDOT, KPTIA and KYTC (collectively the “States’ Parties” and each individually a “State’s Party”) have (together with the Louisville and Southern Indiana Bridges Authority) entered into a Bi-State Development Agreement effective December 27, 2012 (the “Development Agreement”) as well as an Interlocal Cooperation Agreement for the Design, Procurement, Construction, Financing, Tolling, Operation and Maintenance for the Louisville-Southern Indiana Ohio River Bridges Project effective as of December 17, 2012 (the “Interlocal Agreement”); and

WHEREAS, Kentucky and Indiana determined that the preferred approach for delivery of the Project was for each State to take the lead in overseeing and financing construction of roughly one-half of the Project, with Kentucky being responsible for financing and constructing the Downtown Crossing, and Indiana being responsible for financing and constructing the East End Crossing (as defined in the Development Agreement);

WHEREAS, both States will rely primarily on toll revenues generated by the Project to finance construction and operation of the Project and must set initial toll rates to provide assurance that the financial obligations of the Project can be met;

WHEREAS, KPTIA has obtained and has accepted the investment grade traffic and revenue report attached as Exhibit A hereto (“T&R Report”) to assist in determining what toll rates are required to meet the financial obligations of the Project;

WHEREAS, it is necessary for the Tolling Body to set initial toll rates for the Kentucky Parties to continue the process of obtaining financing for the Project and to establish rate and revenue assumptions to complete the desired environmental justice review and to adopt measures to minimize the impact of tolling on low income and minority populations; and

WHEREAS, initial toll rates will be ratified in the Toll Policy Agreement to be approved by this Tolling Body and in administrative rules to be adopted in Indiana by the IFA and in Kentucky by KYTC;

WHEREAS, the States' Parties have fully reviewed the T&R Report and other pertinent information related to toll rates;

NOW THEREFORE BE IT RESOLVED AS FOLLOWS:

1. The Tolling Body, on behalf of its members, hereby accepts the T&R Report.
2. The initial toll rate schedule for the Project shall be as follows:

Initial Toll Rates			
	2-Axle Vehicles	Medium Trucks	Heavy Trucks ¹
Frequent User Discount Program ²	\$1.00	N/A	N/A
Transponder	\$2.00	\$5.00	\$10.00
Registered Video Account	\$3.00	\$6.00	\$11.00
Other Video	\$4.00	\$7.00	\$12.00

3. Each of the above listed toll rates will increase annually, beginning July 1 of the year following the commencement of toll collection and thereafter on each July 1st for as long as tolls are in force, by the greater of the rate of inflation as measured by the Consumer Price Index or 2.50%.

4. The Tolling Body hereby determines, based on the information currently available to it, that these initial toll rates are sufficient to generate the revenue necessary to meet the requirements of the toll rate covenants as defined in Section 11.3.2 of the Development Agreement and clarified in Addendum #2 thereto and described below.

5. At all times, the rates and rate structure shall be set at a level necessary to generate sufficient revenue to meet the toll rate covenants. Subject to that limitation, changes may be necessary if called for by the Toll Policy Agreement or the Tolling Mitigation Plan being developed in accordance with the ROD.

Toll Rate Covenants

6. The Tolling Body, in accordance with the Development Agreement, the KPTIA 2013 General Trust Indenture Securing Downtown Crossing Project Revenue Bonds, as finally

¹ Vehicle classifications are preliminarily defined in the T&R Report and will be finalized in the Toll Policy Agreement.

² All capitalized terms not defined herein shall have the definition given in the Development Agreement or will be defined in the Toll Policy Agreement.

approved and executed ("2013 KPTIA Trust Indenture"), and those portions of the IFA Public-Private Agreement referenced in Section 11.3.2. of the Development Agreement, as well as any TIFIA loan agreement to be executed by any State's Party, shall, as long as either KPTIA or IFA has outstanding payment obligations related to the design construction, financing, operation and maintenance of the Project (including all obligations of KPTIA and IFA under the 2013 KPTIA Trust Indenture, TIFIA loan agreements or the Public-Private Agreement), establish tolls at rates expected to be sufficient to meet each of the IFA Rate Covenant and the KPTIA Rate Covenant, as defined below.

7. KPTIA Rate Covenant: Toll rates shall be set so that the Kentucky Revenue Share, as defined in the Development Agreement and as mandated by the 2013 KPTIA Trust Indenture, is sufficient to meet the Rate Covenant set forth in the form of Section 708 of the 2013 KPTIA Trust Indenture, attached hereto as Exhibit B. KPTIA agrees that said Section 708 will not be modified without prior written consent of the Indiana Parties.

8. IFA Rate Covenant: Tolls rates shall be set so that the Indiana Revenue Share as defined in the Development Agreement is in an amount at least equal to 100% of the aggregate amount of availability payments and other financial obligations due and payable during the following year under the Public Private Agreement or (ii) in the event that IFA also borrows funds pursuant to an East End Crossing TIFIA Loan, shall be no less than the greater of (a) the sum of 100% of the aggregate amount of availability payments and other financial obligations due and payable during the following year under the Public Private Agreement and 1.25 times the aggregate debt service requirements for any East End Crossing TIFIA Loans for such period, and (b) the sum of the aggregate amount of availability payments and other financial obligations due and payable during the following year under the Public Private Agreement and all debt service and other funding obligations of IFA under any East End Crossing TIFIA Loan for such period.

Covenants of the Tolling Body


9. The Tolling Body does hereby resolve, pledge to, and agree with KPTIA and the holders of any toll revenue bonds or other obligations authorized by the 2013 KPTIA Indenture including TIFIA, related to the Project, that the Tolling Body will (a) take all actions necessary and convenient to permit KPTIA to fulfill the terms of Section 708 of the 2013 KPTIA Trust Indenture, and (b) not limit or alter the rights and powers vested in KPTIA to fulfill the terms of Section 708 of the 2013 KPTIA Trust Indenture.

10. Nothing in this document shall be interpreted to extend or enlarge the obligations of the States' Parties beyond those stated in the Bi-State Development Agreement.

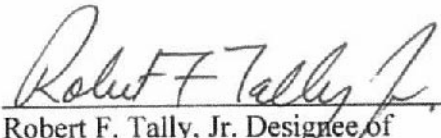
11. This Resolution shall take effect immediately upon its passage.

Dated this 11th day of September, 2013.

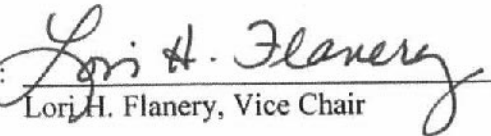
INDIANA FINANCE AUTHORITY

By: 
Kendra W. York, Public Finance Director
of the State of Indiana

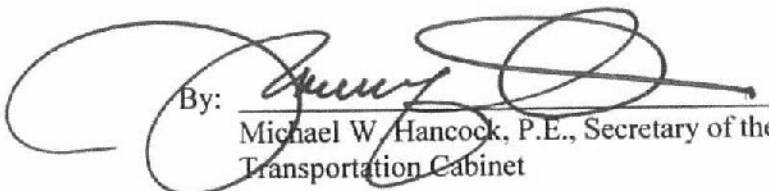
INDIANA DEPARTMENT OF
TRANSPORTATION

By: 
Robert F. Tally, Jr. Designee of
Commissioner

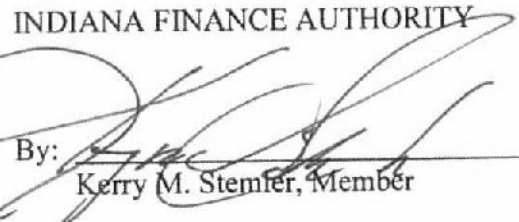
KENTUCKY PUBLIC TRANSPORTATION
INFRASTRUCTURE AUTHORITY

By: 
Lori H. Flanery, Vice Chair

KENTUCKY TRANSPORTATION CABINET

By: 
Michael W. Hancock, P.E., Secretary of the
Transportation Cabinet

INDIANA FINANCE AUTHORITY

By: 
Kerry M. Stemler, Member

KENTUCKY PUBLIC TRANSPORTATION
INFRASTRUCTURE AUTHORITY

By:

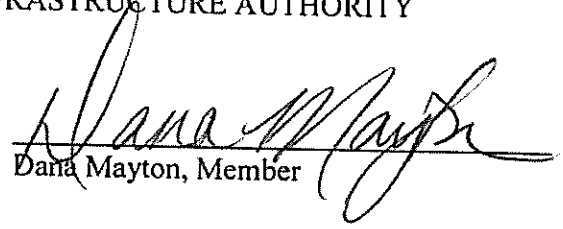

Dana Mayton, Member

EXHIBIT B

Section 708. Rate Covenant.

(a) The Authority, in accordance with the Development Agreement and the Toll Policy Agreement, shall use its best efforts to provide for the establishment, and shall charge and collect, Tolls for the privilege of traveling on the System, at rates sufficient so that Total System Revenue are in an amount at least equal to (i), (ii), (iii), (iv) and (v):

(i) 150% of the Annual Debt Service with respect to all Outstanding First Tier Bonds;

(ii) 135% of the Annual Debt Service with respect to all Outstanding First Tier Bonds and Second Tier Bonds;

(iii) 125% of the Annual Debt Service with respect to all Outstanding First Tier Bonds, Second Tier Bonds and Third Tier Bonds;

(iv) 110% of the Annual Debt Service with respect to all Outstanding Bonds; and

(v) 100% of the aggregate amount of the required payments described in subsections (a) through (i) of Section 504 to the extent such payments have not been otherwise paid or provided for from Bond proceeds.

(b) The Authority will at least annually, prior to June 30 of each Fiscal Year, review the financial condition of the System, the anticipated Total System Expenses, Debt Service Requirements, various reserves and other costs of the Authority System, and proceed in a timely fashion to recommend to the Tolling Body any required adjustment to the Toll Rate Schedule it determines is necessary to comply with subsection (a) above to provide sufficient Total System Revenue to fund amounts required to be deposited and maintained in the Funds and Accounts and to comply with other relevant covenants in this General Trust Indenture.

(c) Prior to recommending any revision in the Toll Rate Schedule, the Authority, shall obtain: (i) a certificate of the Traffic Consultant stating, based upon reasonable assumptions and applying the revised Toll Rate Schedule, the projected Total System Revenue for the then-current Fiscal Year and each subsequent Fiscal Year through the last scheduled maturity of all then-Outstanding Bonds, (ii) a certificate of the Consulting Engineer stating, based upon reasonable assumptions, the projected Total System Expenses for the then-current Fiscal Year and each subsequent Fiscal Year through the last scheduled maturity of all Outstanding Bonds, and (iii) a certificate of an Authorized Representative stating that, based upon the information contained in the certificates described in (i) and (ii) above, the adoption of the revised Toll Rate Schedule will not cause Toll Revenue to decrease to an amount that will cause the Authority to fail to comply with the requirements of (a) above. Any certificate delivered by the Traffic Consultant pursuant to this subsection shall be based on the opinion of the Traffic

Consultant as to Total System Revenue to be derived by the Authority from the System under the terms of the Development Agreement and the Toll Policy Agreement (provided that investment and other income not related to Tolls shall be estimated by an Authorized Representative), and a certificate of an Authorized Representative stating the opinion of the Authority as to the amount of Total System Expenses paid or accrued during any pertinent Fiscal Year, assuming that the proposed Toll Rate Schedule had been in effect during the pertinent Fiscal Year.

(d) The failure in any Fiscal Year to obtain Total System Revenue in the amounts sufficient to enable the Authority to comply with subsection (a) above, which failure may continue during the succeeding Fiscal Year, shall not, in and of itself, constitute an Event of Default under this General Trust Indenture if (i) the Authority within 60 days after the end of the Fiscal Year requests the written recommendations of the Traffic Consultant as to how to increase Toll Revenue and/or the written recommendations of a Consulting Engineer as to how to reduce Total System Expenses in the following Fiscal Year to the level required to comply with subsection (a) above, (ii) within 60 days of the date of the request from the Authority, the Traffic Consultant and/or the Consulting Engineer provide to the Authority the written recommendations described in clause (i), and (iii) the Authority takes steps to implement those recommendations within 60 days after receipt thereof and diligently proceeds to substantially comply with the recommendations of the Traffic Consultant and/or the Consulting Engineer.

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SUMMARY OF CERTAIN PROVISIONS OF THE DESIGN BUILD AGREEMENT

The Design-Build Agreement (the “Design Build Agreement”) was entered into on December 28, 2012 (the “Effective Date”), between the Commonwealth of Kentucky, by and through its agent, the Kentucky Transportation Cabinet, acting in its official capacity and referred to herein as the “Transportation Cabinet,” and Walsh Construction Company, referred to herein as “Walsh Construction.”

DEFINITIONS

Capitalized terms used herein and not otherwise defined herein shall have the meanings set forth elsewhere in this Official Statement or in the Design Build Agreement.

“Application for Payment” has the meaning set forth below under “PAYMENTS – Progress Payments.”

“Contract Documents” consist of the Design Build Agreement and attached exhibits; addenda and modifications to the Design Build Agreement, including Change Orders and Change Directives; Walsh Construction’s price proposal dated November 15, 2012; and certain additional technical proposal elements and other documents as more fully identified in the Design Build Agreement.

“Change Order” has the meaning set forth below under “CONTRACT CHANGES – Change Orders.”

“Contract Time” shall be measured from the date of commencement of the Work (i.e., the date referenced in the Notice to Proceed, which was March 1, 2013), subject to adjustments of the Contract Time as provided in the Contract Documents.

“Construction Change Directive” has the meaning set forth below under “CONTRACT CHANGES – Construction Change Directives.”

“Critical Path” is the schedule prepared by Walsh Construction in conjunction with the Transportation Cabinet to establish a timeline for critical milestones in connection with the construction of the Project.

“VECP” has the meaning set forth below under “VALUE ENGINEERING CHANGE PROPOSALS – Conceptual Value Engineering Change Proposal (CVEC).”

“Engineer” means the independent engineer(s) retained by the Transportation Cabinet in connection with the construction of the Project, currently Community Transportation Solutions.

“Force Account” has the meaning set forth below under “CONTRACT CHANGES – Pricing and Force Account.”

“Formal Acceptance” has the meaning set forth below under “PROSECUTION, CONTROL AND INSPECTION OF WORK – Final Inspection and Formal Acceptance of Work.”

“Liquidated Damages” has the meaning set forth below under “SUBSTANTIAL AND FINAL COMPLETION – Liquidated Damages.”

“Notice to Proceed” means the Notice to Proceed issued by the Transportation Cabinet under the Design Build Agreement, which was given on December 28, 2012, with a commencement of work on March 1, 2013.

“Project” means the Downtown Crossing Segment as more fully described in the Contract Documents.

“Schedule of Values” has the meaning set forth below under “PAYMENTS – Progress Payments.”

“Substantial Completion” means the stage in the progress of the Work when the Project is sufficiently complete in accordance with the Contract Documents so that the Transportation Cabinet can occupy or use all elements of the Project for its intended use. Substantial Completion shall be deemed to occur, and such use possible, when (a) all three sections of the Project are sufficiently complete to become permanently open to traffic for all lanes, and (b) Walsh Construction has completed all necessary infrastructure and components of the Work to allow the Tolling System Integrator to perform and complete its own work so that tolls may begin to be collected. Elements of the Work whose full completion may not be required in order for the Project to be open to traffic permanently and Substantially Complete will be (a) seeding, (b) tree planting, (c) landscaping that is not essential for permanent lane opening, and (d) certain items included on the “punch list” described in the Design Build Agreement. Any and all demolition of existing roadways and components thereof must be complete for Substantial Completion.

“Supplemental Agreement” means supplementals to the Design Build Agreement authorized or required by the Design Build Agreement.

“VECP” has the meaning set forth below under “VALUE ENGINEERING CHANGE PROPOSALS - Description.”

“Walsh Construction-Related Entities” means Walsh Construction and its subcontractors, suppliers, joint-venturers, partners, consultants and other individuals or entities performing or furnishing any of the Work.

“Work” means the work on the Project in accordance with the Contract Documents.

CONTRACT PRICE

The Contract Price is \$860,000,000, subject to additions and deductions as provided in the Contract Documents.

COMMENCEMENT AND CONTRACT PRICE

Time of the Essence

Walsh Construction and the Transportation Cabinet agree that time is of the essence for all completion dates and milestones of the Project.

Notice to Proceed

The Notice to Proceed was issued by the Transportation Cabinet on December 28, 2012 with a date to commence Work of March 1, 2013.

Liquidated Damages

Failure by Walsh Construction to achieve Substantial Completion within the Contract Time entitles the Transportation Cabinet to Liquidated Damages as specified in the Design Build Agreement. See “SUBSTANTIAL AND FINAL COMPLETION – Liquidated Damages” below.

Substantial Completion

Walsh Construction agreed in its price proposal to shall achieve Substantial Completion of the Work by **December 9, 2016**, subject to adjustments permitted by the Design Build Agreement.

Extensions of Contract Time

The Transportation Cabinet is not obligated to extend the Substantial Completion date or Contract Time except as specifically provide in the Contract Documents.

CONTRACT CHANGES

Changes in the Work

At any time, and without invalidating the Design Build Agreement or releasing the surety, the Transportation Cabinet reserves the right to make, in writing, changes, revisions, or alterations in the work when necessary to complete the Project satisfactorily. Walsh Construction shall perform the Work as altered.

If Walsh Construction feels that the Transportation Cabinet directed changes, revisions or alterations in the work are material in kind or nature from the work indicated by the Contract Documents, Walsh Construction may request a Change Order prior to performing the specified work. The Transportation Cabinet will evaluate and determine if the request is warranted and at its discretion, process a Design Build Agreement adjustment by Change Order as described below. Due to the Design-Build procurement model used, and Walsh Construction’s responsibility for the sufficiency of the design, Walsh Construction-proposed change orders will be limited. The intent of the Design-Build contracting process is to eliminate or substantially reduce change orders and claims by providing significant opportunity for Walsh Construction to develop innovative design concepts and solutions including extensive pre-contract award discussions, presentations, questions and answers, preliminary review and conditionally approved ITC’s, and addendum to the Design Build Agreement prior to Design Build Agreement award. After Design Build Agreement award Walsh Construction will have additional opportunity and flexibilities to eliminate inefficient designs or design errors and omissions by iterating on the design for each buildable unit.

For Design Build Agreement adjustments that reduce the scope of work, anticipated profits on the eliminated scope shall be deducted from the Contract Price along with the cost adjustment for the revised work. Before performing the changed work, Walsh Construction shall reach agreement with the Transportation Cabinet concerning the basis for the Design Build Agreement adjustment. Absent an

agreement, the Transportation Cabinet will pay for the changed work on a Force Account basis as described below.

Adjustments of the Contract Price on account of changes in the Work may be determined by either an agreed upon Change Order, following execution by the Transportation Cabinet Commissioner and becoming a Supplemental Agreement, or a Construction Change Directive as provided below.

Modifications to the Design Build Agreement

The Design Build Agreement may be amended or modified only by (1) a Change Order (which upon execution by the Transportation Cabinet Commissioner shall become a Supplemental Agreement), or (2) a Construction Change Directive.

Change Orders

A Change Order is a written instrument signed by the Transportation Cabinet and Walsh Construction stating their agreement upon all of the following:

- (1) a change in the Work;
- (2) the amount of the adjustment, if any, in the Contract Price; and
- (3) the extent of the adjustment, if any, in the Contract Time.

If the Transportation Cabinet requests a proposal for a change in the Work from Walsh Construction and subsequently elects not to proceed with the change, a Change Order shall be processed to reimburse Walsh Construction for any costs reasonably incurred for estimating services, design services or preparation of proposed revisions to the Contract Documents.

Adjustments to the Contract Time, if any, shall also be included in any Change Order along with the adjustment to the Contract Price. In order to warrant an increase in the Contract Time, Walsh Construction must show that the Work affected by the change was on the Critical Path of Walsh Construction's current schedule.

Construction Change Directives

A Construction Change Directive is a written order signed by the Transportation Cabinet directing a change in the Work prior to agreement on adjustment, if any, in the Contract Price or Contract Time, or both. The Transportation Cabinet may by Construction Change Directive, without invalidating the Design Build Agreement, order changes in the Work within the general scope of the Design Build Agreement consisting of additions, deletions or other revisions, the Contract Price and Contract Time being adjusted accordingly. A Construction Change Directive developed by the Transportation Cabinet shall include a description of the change in Work, the Transportation Cabinet's estimate of the quantities impacted, and the Transportation Cabinet's proposed changes in the Contract Price and Contract Time, if any.

A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order.

If the Construction Change Directive provides for an adjustment to the Contract Price, the adjustment shall be based on one of the following methods:

- (1) mutual acceptance of a lump sum price that is properly itemized by sufficient substantiating data to permit evaluation;
- (2) cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
- (3) as provided in the second paragraph below.

Upon receipt of a Construction Change Directive, Walsh Construction shall promptly proceed with the change in the Work involved and advise the Transportation Cabinet of Walsh Construction's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Price or Contract Time.

If Walsh Construction does not respond promptly or disagrees with the method for adjustment in the Contract Price, the method and the adjustment shall be determined by the Transportation Cabinet on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Price, a reasonable allowance for overhead and profit. In such case, all costs associated with the increased portion of the work shall be priced in accordance with the Force Account procedure set forth in the applicable Kentucky statutes. Walsh Construction shall keep and present, in such form as the Transportation Cabinet may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs allowable shall be limited to those costs specifically provided in applicable Kentucky statutes.

Pending final determination of the total cost of a Construction Change Directive to the Transportation Cabinet, amounts not in dispute for such changes in the Work shall be included in Applications for Payment accompanied by a Change Order indicating the parties' agreement with part or all of such costs. For any portion of such cost that remains in dispute, the Transportation Cabinet shall make an interim determination for purposes of monthly payment for those costs.

Site Conditions

Site Investigation. Walsh Construction was responsible for doing a reasonable and prudent site investigation before making its proposal. Walsh Construction investigated geotechnical, environmental or other site information available due to prior design or construction in the vicinity. Failure by Walsh Construction to perform its own testing, or to make itself aware of already-existing subsurface information, precludes Walsh Construction from presenting any claim for conditions that such preparation and measures might have revealed, or that might have been reasonably anticipated after such review.

Differing Geotechnical/Hydrological Subsurface Conditions. Walsh Construction is entitled to an adjustment in the Contract Time and/or Contract Price relating to subsurface geologic or hydrologic conditions, including bedrock, soils, groundwater, or other natural conditions, only if all three of the following conditions exist: (1) the subsurface conditions are materially different from conditions generally recognized as inherent in the nature of the Work in the area of the site of the Work; (2) the subsurface conditions were not discoverable from a reasonable investigation and analysis of the site, including subsurface conditions, prior to submittal of the price proposal; and (3) the subsurface conditions were actually unknown to Walsh Construction and the Walsh Construction-Related Entities.

Contaminated Materials. Walsh Construction is entitled to an adjustment in the Contract Time and/or Contract Price if conditions as to contaminated materials differ materially than reasonably expected based upon current information available to Walsh Construction and such conditions increase Walsh Construction's costs or time required for the related Work.

Walsh Construction shall apply to the Kentucky Department of Environmental Protection ("KDEP") for approval of a site management plan to keep contaminated materials in the Project Right of Way and adjacent thereto, on the Project site, or to relocate the contaminated materials temporarily, with the contaminated materials being returned to the Project site as fill before Substantial Completion. With respect to contaminated materials, Walsh Construction is entitled to an increase in the Contract Price and if applicable, an extension of the Contract Time only under the following circumstances: (1) Walsh Construction encounters contaminated materials for which KDEP requires Walsh Construction to dispose of the contaminated materials off-site, regardless of treatment of the material, whereupon Walsh Construction may present a claim for the costs incurred in such disposal; or (2) Walsh Construction encounters contaminated materials that KDEP will allow to remain on site only under an approved management plan that requires such contaminated materials to be chemically treated and mitigated before being left on site. In such case, Walsh Construction may present a claim for the costs associated with such chemical treatment of the materials, or the costs of removal to an offsite location, whichever is least expensive.

Utilities. Walsh Construction bears sole responsibility for ascertaining, at its own expense, all pertinent details of Utilities located within the Project Right-of-Way or otherwise affected by the Project, whether located on private property or within an existing public Right-of-Way, and including all service lines. Walsh Construction will not be entitled to an adjustment in the Contract Time or the Contract Price due to the discovery of utility paths known to any local utility entities, nor will Walsh Construction be entitled to such relief merely due to known utility lines being encountered at locations other than as indicated or described by such local utility entities.

Walsh Construction is entitled to submit a claim for differing site conditions due to underground utilities only if: (1) Walsh Construction encounters a utility line currently in service but unknown to current utility entities, and not indicated on any information available to Walsh Construction, nor observable from a reasonable site investigation, or (2) Walsh Construction encounters a utility line that is materially different in character or size than indicated on any information available to Walsh Construction or observable from a reasonable site investigation.

Historic and Archeological Materials. If Walsh Construction discovers any object of potential archaeological, paleontologic, or other historic interest, all Work that could disturb said object shall immediately cease and shall not be resumed until an investigation of the object and related deposits have been completed and removal of articles of interest has been accomplished. Walsh Construction is entitled to submit a claim for an adjustment to the Contract Price and/or Contract Time relating to differing site conditions due to historic and archaeological materials only if all three of the following conditions exist: (1) the locations of the subsurface conditions were not described in any documents containing indications of subsurface conditions or site conditions provided to the Walsh Construction; (2) the subsurface conditions were not discoverable from a reasonable investigation and analysis of the site, including subsurface conditions, prior to submittal of the Price Proposal; and (3) the subsurface conditions were actually unknown to the Walsh Construction and the Walsh Construction-Related Entities.

Force Majeure

Walsh Construction is entitled to relief for its failure to perform its Design Build Agreement obligations if such failure is due to certain circumstances or events that are beyond Walsh Construction's control. These include but are not limited to Acts of God (which includes floods, fires, earthquakes, tornados, or other natural disasters), wars, hostilities (regardless of whether war is declared), terrorist activities, strikes that materially impact the Work, or interruption or failure of critical utilities that are not wholly or partially attributable to Walsh Construction or its consultants, subcontractors, or lower-tier subconsultants or subcontractors and suppliers.

If Walsh Construction asserts Force Majeure as an excuse for failure to perform its obligations, then Walsh Construction must prove that it took reasonable steps to minimize the delay or damages caused by the foreseeable events flowing from the Force Majeure event, substantially fulfilled all non-excused obligations, and that the Transportation Cabinet was timely notified of the likelihood or actual occurrence of the Force Majeure event.

In the event of a Force Majeure event, Walsh Construction is entitled only to an extension of the Contract Time associated with the Force Majeure event and not to any adjustment of the Contract Price. In order for Walsh Construction to be granted an extension of the Contract Time, Walsh Construction must follow the Change Order procedures, and prove that the Force Majeure event delays activities on the Critical Path.

Walsh Construction is not entitled to an adjustment in Contract Price or Contract Time for delays within the control of Walsh Construction. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of Walsh Construction.

Weather

The Engineer will not allow any extension of time for weather or resulting conditions, except for delays caused by those weather events described under "Force Majeure" above.

Time Extensions and Damages For Delay

If Walsh Construction's prosecution of the Work is delayed through the sole fault of the Transportation Cabinet or a contractor under contract with the Transportation Cabinet (the "Transportation Cabinet Contractor"), then Walsh Construction may submit a proposed Change Order. If the Transportation Cabinet or a Transportation Cabinet Contractor is the sole source of the delay to Walsh Construction's prosecution of the Work, Walsh Construction is entitled to an adjustment in the Contract Time, provided that the affected portion of Walsh Construction's work is shown as a Critical Path task on Walsh Construction's most recent schedule. In such cases, Walsh Construction shall also be entitled to an increase in the Contract Price to compensate Walsh Construction for its extended on-site overhead for the period of delay caused solely by the Transportation Cabinet or a Transportation Cabinet Contractor, as well as Walsh Construction's costs for idle equipment and idle manpower, provided that such costs cannot be mitigated, such as by use of such manpower and equipment elsewhere on the Project or on other projects. Such overhead shall be measured by Walsh Construction's cost-loaded CPM schedule as last approved by the Transportation Cabinet. Walsh Construction shall make no claims for any other types of delay damages, and shall not be entitled to an adjustment in the Contract Price, for lost productivity during ongoing work or disruptions in the work. A claim for damages due to delays caused solely by the Transportation Cabinet or a Transportation Cabinet Contractor must be made in accordance with the

Design Build Agreement within ten days of the start of such delay. Failure to timely submit the required written notice shall be a waiver of any such claim.

The remedies discussed above for delays due to the sole fault of the Transportation Cabinet or a Transportation Cabinet Contractor shall not be available if a concurrent delay, caused by Walsh Construction's own actions, or those for whom Walsh Construction is responsible, is experienced by Walsh Construction for the same time period. However, any concurrent delay caused by Walsh Construction shall only nullify Walsh Construction's recovery rights as to the actual period of overlap with an otherwise compensable delay caused solely by the Transportation Cabinet.

Minor Changes in Work

The Transportation Cabinet has the authority to order minor changes in the Work not involving adjustment in the Contract Price or an extension of the Contract Time and not inconsistent with the intent of the Contract Documents.

VALUE ENGINEERING CHANGE PROPOSALS

Description

A Value Engineering Change Proposal ("VECP") is a cost reduction plan that is initiated, developed, and submitted by Walsh Construction to the Transportation Cabinet for modifying the Design Build Agreement requirements after award. A VECP requires changes in the Design Build Agreement that result in savings to the Transportation Cabinet without impairing essential functions and characteristics of the facility while maintaining and meeting all design and the Transportation Cabinet policies, environmental requirements, and project commitments. Essential functions and characteristics include but are not limited to service life, reliability, economy of operation, ease of maintenance, standardized features, safety, satisfaction of customer needs, and special design requirements.

A VECP proposing a total savings of less than \$250,000 will normally not be considered unless there are additional non-monetary benefits to the Transportation Cabinet.

Conceptual Value Engineering Change Proposal

Walsh Construction may submit for review a Conceptual Value Engineering Change Proposal ("CVECP") provided that it contains enough information to clearly define the work involved and the benefits to be realized. Written notification by the Transportation Cabinet that the review has been completed and that the CVECP appears favorable merely indicates that the engineering and plan development may continue for submittal of the formal VECP and is not authorization for any construction work associated with the CVECP (including the purchase of any materials unique to the CVECP) to begin. The Transportation Cabinet may reject a VECP at any time and for any or no reason. The Transportation Cabinet's decision to reject a VECP shall be final and will not be subject to the provisions of the dispute resolution procedure.

Value Engineering Change Proposal (VECP)

VECPs will be processed in the same manner as prescribed for any other alteration of the Design Build Agreement requiring a Change Order or Supplemental Agreement. VECPs submitted by Walsh Construction will be processed as expeditiously as possible; however, the Transportation Cabinet will not be liable for any delay in acting upon VECPs submitted.

The Transportation Cabinet may adjust the Contract Time for any time savings realized by implementing a VECP or as otherwise agreed to by the Transportation Cabinet and Walsh Construction. The Transportation Cabinet may elect to not provide any incentive pay for early completion days resulting from time savings related to an approved VECP. The Transportation Cabinet may grant additional Contract Time when specified in a Supplemental Agreement which accepts a VECP.

The Transportation Cabinet and Walsh Construction will share the savings from a VECP on a 50% / 50% basis. The Transportation Cabinet and Walsh Construction will agree on a total lump sum value for any VECP before the Supplemental Agreement or Change Order is executed. The Contract Price will be reduced by 50% of the lump sum value and the revised Contract Price will be set forth in the Supplemental Agreement or Change Order.

A cost reduction plan that is initiated and developed by the Transportation Cabinet shall not result in a sharing of savings with Walsh Construction. However, the Transportation Cabinet will reimburse Walsh Construction for actual additional design costs incurred by Walsh Construction relating to studying or pricing possible value engineering measures not originating with Walsh Construction and requested by the Transportation Cabinet in an amount agreed to by Change Order.

PAYMENTS

Progress Payments

Based upon Applications for Payment submitted to the Transportation Cabinet by Walsh Construction, the Transportation Cabinet shall make progress payments on account of the Contract Price to Walsh Construction as provided in the Contract Documents.

Schedule of Values

Walsh Construction has submitted and the Transportation Cabinet has approved a Schedule of Values establishing values for various design and construction activities. These various design and construction activities can then be placed in the Project's CPM cost loaded schedule. Walsh Construction shall evenly disperse overhead and profit to each activity over the duration of the Project. The total of all cost loaded activities, including costs for material and equipment delivered for installation on the Project, and labor and construction equipment loaded construction activities, shall total to 100 percent of the value of the Design Build Agreement.

Applications for Payment

On at least a monthly basis, Walsh Construction shall update the Project's CPM schedule. From this updated schedule, Walsh Construction shall prepare an application for payment and submit it to the Transportation Cabinet at an agreed to monthly specified date for consideration. The amount requested in the application for payment shall be based upon the percentage of completion of each of the active scheduled items during the previous monthly period as defined in the Schedule of Values.

For each work activity, Walsh Construction shall estimate the current percentage completion of that work activity based on the approved cost-loaded CPM schedule. The Engineer will review each proposed current percentage completion and revise the percentage based on the Engineer's judgment of the percent completed. The percentage of completion accepted by the Engineer, multiplied by the lump sum price shown in the cost loaded schedule, will define the gross amount due Walsh Construction for that item of work. Walsh Construction's Schedule of Values shall be used as the basis of the cost-loaded

CPM schedule for approval. The Schedule of Values shall be used for the purposes of, among other things, clarifying the percentage of work complete for each partial payment period.

After receiving the Application for Payment, the Engineer will review and approve the invoice for payment based upon the work being of sufficient quality and quantity compared to the actual work accomplished.

Timing of Applications and Payments

The period covered by each Application for Payment shall be one calendar month ending on the last day of the month. Provided that an Application for Payment is received not later than the last day of a month, the Transportation Cabinet shall make payment to Walsh Construction not later than the 25th day of the next month. If an Application for Payment is received by the Transportation Cabinet after the last day of a month, payment shall be made by the Transportation Cabinet not later than 45 days after the Transportation Cabinet receives the Application for Payment.

Materials and Equipment Stored on Site

Except as otherwise provided in the Design Build Agreement, Walsh Construction shall not bill for, and the Transportation Cabinet shall not be obligated to pay for, any materials or equipment which have not been delivered and stored at the site. Materials and equipment shall not be delivered and stored at the project site earlier than reasonably necessary to support the construction schedule.

Materials on Hand

Due to the fluctuation of certain material costs, the Transportation Cabinet will make partial payments to Walsh Construction up to 95% of the documented costs for stockpiled nonflammable and nonperishable materials that will be permanently incorporated into the buildable units of the Project. The Transportation Cabinet will make the partial payments only after the materials are delivered to a site that the Transportation Cabinet owns or controls, and are stored in a manner that protects them from theft or damage.

No Retainage Withheld

The Transportation Cabinet will not withhold retainage from Walsh Construction as a percentage of the Work completed to date. However, Walsh Construction's Schedule of Values must contain a line item for Demobilization equal to at least 1.5% of the total Contract Price. Walsh Construction likewise shall not withhold retainage on any subcontractors and shall provide contractual language sufficient to ensure that no lower-tier subcontractors withhold retainage on Contractors and suppliers.

Final Payment

Within 180 days after the Transportation Cabinet has completed final inspection and made Formal Acceptance of the work, Walsh Construction shall submit a final invoice to complete payment for the Project, showing the final cost of all work performed, and all deductions from the final amount for Liquidated Damages and any other deductions provided for in the Design Build Agreement and additions for incentives. The Transportation Cabinet will by letter either accept the invoice or reject it with an accompanying list of reasons for the rejection.

Payment as Full Compensation

Walsh Construction shall receive and accept the compensation provided for in the Design Build Agreement as full payment for furnishing all materials and for performing all work under the Design Build Agreement, including changes in work, materials, or plans as provided therein, in a complete and acceptable manner; for all risk, loss, damage, or expense of whatever character arising out of the nature of the work or the prosecution thereof; and for all expenses incurred in consequence of the suspension or discontinuance of the work as specified under the Design Build Agreement. The Transportation Cabinet's payment of any Application for Payment does not relieve Walsh Construction of any obligation to make good any defective work or material.

PROSECUTION, CONTROL AND INSPECTION OF THE WORK

Authority of Department Personnel

Authority of the Engineer. The Engineer will decide all questions regarding the quality and acceptability of materials furnished, work performed, and the rate of progress of the work; all interpretation of the Contract Documents; and the acceptable fulfillment of the Design Build Agreement. The Engineer is the only party on the Transportation Cabinet's behalf who may provide the required written authorization for a Change Order or Construction Change Directive.

Authority of Inspectors. Inspectors employed or contracted by the Transportation Cabinet are authorized to inspect all work performed and materials furnished. The inspector will: (1) keep the Engineer informed as to the progress of the work and the manner in which it is being done; (2) report whenever it appears that the materials furnished and the work performed fail to fulfill the requirements of the Specifications and Design Build Agreement; and (3) any failure by the inspector to call attention to Walsh Construction's failure to comply with Walsh Construction's own design shall not give rise to any liability by the Engineer or the Transportation Cabinet.

Inspection of Work. Walsh Construction shall provide the Engineer access to all materials and each part or detail of the work and furnish the Engineer with such information and assistance as required to make a complete and detailed inspection. Such inspection may include preparation and manufacture of the materials at the plant.

Conformity with Plans and Specifications

Walsh Construction shall perform all work and furnish all materials in reasonably close conformity with the lines, grades, cross sections, dimensions, and material requirements of the Design Build Agreement and Contract Scope. Where definite tolerances are specified in the Design Build Agreement by the Transportation Cabinet, the Transportation Cabinet will use such tolerances to establish the limits of Reasonably Close Conformity. Where tolerances are not specified in the Design Build Agreement, the Engineer shall determine the limits of Reasonably Close Conformity in each individual case.

When the Engineer finds that the materials, or the finished product in which the materials are used, are not within Reasonably Close Conformity with the Design Build Agreement, but finds that reasonably acceptable Work has been produced, he shall then make a determination whether to accept the work in place. Acceptance of the work in place will not warrant the issuance of a Change Order relating to the cost or time indicated in the Design Build Agreement, except in compliance with the provisions of General Conditions. Acceptance of the Work in place shall not be construed as binding the Transportation

Cabinet in any way or as releasing Walsh Construction from any terms of the Design Build Agreement. When the Engineer finds that either the materials, the finished product in which the materials are used, or the work performed are not in Reasonably Close Conformity with the Design Build Agreement and have resulted in an inferior or unsatisfactory product, Walsh Construction shall remove, replace, or correct the work and materials at no additional expense to the Transportation Cabinet.

Removal of Defective and Unauthorized Work

Walsh Construction shall remedy, or remove and replace in an acceptable manner, at no expense to the Transportation Cabinet, all work that has been rejected. The Transportation Cabinet will consider any work done contrary to instructions, or any work performed beyond the lines and grades specified in the Plans or as given, except as herein provided, or any work performed without a Change Order being issued by the Engineer, as unauthorized and at no expense to the Transportation Cabinet.

Unacceptable work, whether the result of poor workmanship, use of defective materials, damage through carelessness, or any other cause found to exist prior to the formal acceptance of the work, shall be removed immediately and replaced in an acceptable manner by Walsh Construction.

Should Walsh Construction decline or neglect to begin the removal and the replacement of any defective work or remove any unauthorized work within the amount of time stated in a written notice to do so, the Transportation Cabinet may retain all monies due or which may become due Walsh Construction in relation to the defective work or in relation to the costs of its correction, until the requirements of these Specifications have been met. When deemed best by the Commissioner, the Commissioner shall employ the necessary labor to make good or remove such defective or unauthorized work and deduct the cost from any monies due or to become due Walsh Construction.

Final Inspection and Formal Acceptance of Work

The Transportation Cabinet will not consider the work complete and will not make final payment until Walsh Construction clears the right-of-way, borrow pits, and all ground Walsh Construction occupies in connection with the work of all rubbish, equipment, excess materials, and temporary structures. Walsh Construction shall place rubbish and all waste materials of whatever nature, other than hazardous materials, on either public or private property in a location out of view from the roadway and in a manner acceptable to the Transportation Cabinet that does not present an unsightly appearance. Walsh Construction shall restore in an acceptable manner all property, both public and private, that was damaged in the prosecution of the Work. Walsh Construction shall drain all ditches and all borrow pits where practical, and leave all space under structures unobstructed and in such condition that drift shall not collect and induce scouring.

Following the attainment of Substantial Completion, Walsh Construction shall proceed with the completion of punch list and other items such as striping, seeding, tree planning and any remaining work necessary for Final Completion, and shall notify the Engineer when the Project is near Final Completion. The Engineer will then advise in writing all punch list or other items that remain unsatisfactory. When these items are complete to the Engineer's satisfaction, the Engineer will call the Project complete and issue a Project Completion Notice. When the Project is called complete and a Project Completion Notice has been issued, it is ready for the Transportation Cabinet's final inspection.

The Transportation Cabinet and other appropriate agencies, such as FHWA, will complete final inspections on all items of work for Formal Acceptance within 90 Calendar Days of the date of issuance of the Project Completion Notice. The Department will make individual final inspections on particular

groups of work items such as structures, electrical, grade and drain, and surface. The Transportation Cabinet may, at its election, make final inspections before the Project is called complete on items of work that have been completed. The Engineer will issue written final inspection reports for items of work upon completion of each final inspection. The reports will include a list of all uncompleted work and required corrective work. The Engineer will issue a Comprehensive Final Inspection Report that will include all inspection reports. Walsh Construction shall complete all items of uncompleted work and all required corrective work listed in the final inspection reports within 90 Calendar Days of receiving the Engineer's Comprehensive Final Inspection Report.

Subject to the provisions below described under "Walsh Construction's Responsibility for Work," the Transportation Cabinet will make Formal Acceptance of the Project when the Transportation Cabinet has determined that Walsh Construction has completed all Work, including required corrective work, has complied with all obligations of the Design Build Agreement and the surety bonds, and the Commissioner has accepted the Project. Formal Acceptance shall not be construed as a waiver by the Transportation Cabinet of any legal rights should Walsh Construction's performance of the design and construction duties performed under the Design Build Agreement be found to be defective.

Subcontracting

Walsh Construction shall not subcontract, sell, transfer, assign, or otherwise dispose of the Design Build Agreement or any portion of the Design Build Agreement, or of the right, title, or interest therein, without the Transportation Cabinet's written consent. When the Transportation Cabinet gives such consent, the Transportation Cabinet will allow Walsh Construction to subcontract a portion of the work. Subcontractors may, with the Transportation Cabinet's consent, subcontract a portion of the Work to lower tiered subcontractors. However, Walsh Construction shall remain responsible for all Work and shall maintain a supervisory role over the entire Work and Project. All Subcontractors shall be prequalified to perform the Work subcontracted to them as provided in the Construction procurement and Professional Services sections of the Transportation Cabinet's website.

Walsh Construction shall be fully responsible to the Transportation Cabinet for all acts and omissions of the Walsh Construction-Related Entities just as Walsh Construction is responsible for Walsh Construction's own acts and omissions.

Acceptance of Nonconforming Work

The Transportation Cabinet may, in its sole discretion, accept any nonconforming work without requiring it to be fully corrected, and shall be entitled to a pay adjustment (or reimbursement of a portion of the Contract Price, if applicable). In certain events, it may not be possible for the nonconforming work to be made to conform to the requirements of the Contract Documents, including, without limiting the foregoing, Walsh Construction's failure to perform such items during a required time period. In general, the pay adjustment (or reimbursement) shall equal, at the Transportation Cabinet's election, (a) Walsh Construction's cost savings associated with its failure to perform the Work in accordance with the Design Build Agreement requirements and/or (b) the amount deemed appropriate by the Transportation Cabinet to provide compensation for impacts to affected parties such as future maintenance and/or other costs relating to the nonconforming work.

SUBSTANTIAL AND FINAL COMPLETION

Substantial Completion

Walsh Construction shall include on its CPM Schedule a date for Substantial Completion, starting with Walsh Construction's initial Baseline Schedule. Approximately 120 days from the date when Walsh Construction anticipates that the Work will be substantially complete, Walsh Construction shall prepare and submit to the Transportation Cabinet a comprehensive list of items to be completed or corrected in order to achieve Substantial Completion. Failure to include an item on such list does not alter the responsibility of Walsh Construction to complete all Work in accordance with the Contract Documents.

Upon receipt of Walsh Construction's list, the Transportation Cabinet shall make an inspection to determine items to be completed or corrected in order to achieve Substantial Completion. The Transportation Cabinet shall provide to Walsh Construction within 60 days following the date of Walsh Construction's list is presented, the Transportation Cabinet's list of items that must be completed or correct in order to achieve Substantial Completion.

When Walsh Construction believes it has achieved Substantial Completion, Walsh Construction shall provide the Transportation Cabinet a Notice of Substantial Completion in writing. The Transportation Cabinet shall then inspect the Work and determine whether Walsh Construction has in fact achieved Substantial Completion.

After providing a Notice of Substantial Completion to the Transportation Cabinet, and after the Transportation Cabinet inspects the work, Walsh Construction shall prepare for the Transportation Cabinet's signature an Acknowledgement of Substantial Completion which, when signed by the Transportation Cabinet, shall establish (1) the date of Substantial Completion of the Work, (2) responsibilities between the Transportation Cabinet and Walsh Construction for security, maintenance, heat, utilities, damage to the Work and insurance, and (3) the time within which Walsh Construction shall finish all items necessary for Final Completion on the list accompanying the Acknowledgement. When the Transportation Cabinet's inspection determines that the Work is substantially complete, the Transportation Cabinet shall sign the Acknowledgement of Substantial Completion. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Acknowledgement of Substantial Completion.

If the Transportation Cabinet determines that the Work is not Substantially Complete, the Transportation Cabinet shall notify Walsh Construction in writing of those items necessary to achieve Substantial Completion. If the Transportation Cabinet determines that the Work is Substantially Complete, the Transportation Cabinet shall provide to Walsh Construction a list of items ("punch list") that must be completed before the Project can be considered for Formal Acceptance and Finally Complete as described below under "Final Completion and Final Payment."

In the event of a dispute regarding whether Walsh Construction's Work is substantially complete, the dispute shall be resolved pursuant to the dispute resolution provisions of the Design Build Agreement described below under "DISPUTE RESOLUTION."

Liquidated Damages

The Transportation Cabinet and Walsh Construction agree that time is of the essence of the Design Build Agreement, and that there will be sustained by the Transportation Cabinet considerable

monetary damages in the event of failure or delay in the completion of the Work, which damages will be difficult to definitely ascertain or establish, and the sums stated below are agreed upon by the parties as reasonable approximations of such damages.

The Transportation Cabinet will rely upon toll revenues from the completed Downtown Crossing Segment for a significant portion of the funding for the Project. Walsh Construction shall be liable to the Transportation Cabinet for Liquidated Damages in the amount of \$80,000 for each and every Calendar Day after December 9, 2016 (subject to permitted extensions of Contract Time), that Walsh Construction fails to achieve Substantial Completion. Said amount shall in no event be considered a penalty or otherwise than as liquidated damages. Walsh Construction agrees that any accrued liquidated damages may be deducted from any current or final estimate after day said liquidated damages begin to accrue. Said liquidated damages shall continue until Walsh Construction achieves Substantial Completion as determined by the Transportation Cabinet.

The damages provided for Walsh Construction's failure to timely achieve Substantial Completion shall be in addition to and independent of those amounts charged to Walsh Construction pursuant to the Traffic Control requirements of the Design Build Agreement.

Early Substantial Completion Bonus

A bonus of \$40,000 per day will be paid to Walsh Construction for each day that Walsh Construction achieves Substantial Completion before December 9, 2016 (subject to permitted adjustments of Contract Time). This bonus shall be capped at a maximum of \$12,000,000.

No Waiver of Additional Damages Except as Specifically Stated

The liquidated damages described above shall be the Transportation Cabinet's agreed compensation for damages associated only with Walsh Construction's failure to achieve Substantial Completion within the Contract Time. The Transportation Cabinet reserves its rights as to other damages for any other breach of the Design Build Agreement by Walsh Construction, and specifically for direct damages. Consequential damages, however, shall be limited in the manner described in the Design Build Agreement.

Partial Occupancy or Use

The Transportation Cabinet and Walsh Construction acknowledge that portions of the Project may be opened to traffic and used before Substantial Completion, as determined in Walsh Construction's Traffic Management Plan. In such cases, the opening of various portions of the Project to traffic will not constitute an acknowledgment that such a portion of the Work is either substantially or finally complete, nor shall it constitute Formal Acceptance of any portion of the work. Formal Acceptance shall not occur other than as defined in the Design Build Agreement. Walsh Construction shall continue to be responsible for maintenance of all portions of the Work until Formal Acceptance.

Final Completion and Final Payment

The Project shall be considered Finally Complete when Formal Acceptance of the entirety of the Project has been made as described above under "Final Inspection and Acceptance of Work." Upon Formal Acceptance, the Transportation Cabinet shall certify Final Completion and process Walsh Construction's Final Payment Application.

Lane Closures, Calendar Days and Erosion Control

Per the Project Scope, Walsh Construction will be charged for various closures of lanes, ramps and other portions of the existing traffic system while performing its Work. Such charges historically labeled as “disincentives” for the Transportation Cabinet work, are liquidated compensation amounts representing the cost of lost traffic usage for such particular portions of the infrastructure. These amounts are not a penalty and the parties acknowledge the reasonableness of these amounts.

Ramp and Lane Closure time is specified in Calendar Days. The Engineer will charge every Calendar Day, beginning with the Calendar Day following the date of the beginning of work, including all Saturdays, Sundays, holidays, and non-working days, to the Design Build Agreement.

Per the Project Scope, Walsh Construction will be charged for failure to provide adequate erosion control measures while performing its Work. Such charges, historically labeled as “disincentives” for the Transportation Cabinet work, are liquidated compensation amounts representing the cost of responding to these erosion control failures and addressing them by the Transportation Cabinet. These amounts are not a penalty and the parties acknowledge the reasonableness of these amounts.

SUSPENSIONS, TERMINATION FOR CONVENIENCE, AND DEFAULT

Suspensions

Suspensions for Convenience. The Transportation Cabinet may, at any time and for any reason, by written notice, order Walsh Construction to suspend all or any part of the Work required under the Contract Documents for the period of time that the Transportation Cabinet deems appropriate for the convenience of the Transportation Cabinet. Walsh Construction shall comply with any such written suspension order. Walsh Construction shall recommence the Work upon receipt of written notice from the Transportation Cabinet directing Walsh Construction to resume Work. Walsh Construction’s sole remedy for such suspensions cumulatively totaling 30 days or less, shall be an extension of the Substantial Completion date, but only to the extent that the suspensions delay the critical path and Walsh Construction has properly notified the Transportation Cabinet in writing. Adjustments of the Contract Price and the Substantial Completion date shall be available for any such suspensions cumulatively totaling more than 30 days, but only to the extent that such suspensions delay the critical path and Walsh Construction has properly notified the Transportation Cabinet in writing as required by the Design Build Agreement. Any adjustment to the Contract Price shall be limited to actual direct costs reasonably incurred.

Walsh Construction will not be entitled to an adjustment in the Contract Price or Substantial Completion date to the extent that the performance would have been suspended or delayed by any other cause, or for which an adjustment is provided under any other term of the Design Build Agreement.

Suspensions for Cause. The Transportation Cabinet has the authority to suspend the Work by written order, wholly or in part, for Walsh Construction’s failure to:

- (1) correct conditions unsafe for the Project personnel or the general public;
- (2) comply with any governmental approval, governmental rule or otherwise carry out the requirements of the Contract Documents;
- (3) carry out appropriate orders of the Transportation Cabinet;

- (4) supply sufficient skilled workers or suitable materials or equipment;
- (5) furnish or perform the Work in such a way that the completed Work will conform to the Contract Documents;
- (6) comply with requirements for developing and implementing the Quality Management Plan and Construction QC Plans;
- (7) remove and replace unsuitable personnel as reasonably directed by the Transportation Cabinet;
- (8) provide proof of required insurance coverage; or
- (9) comply with environmental requirements.

Walsh Construction shall comply with any such written suspension order. Walsh Construction shall recommence the Work upon receipt of written notice from the Transportation Cabinet directing Walsh Construction to resume the Work. Walsh Construction shall not be entitled to an adjustment of the Contract Price or Contract Time for suspensions for cause. However, if the Transportation Cabinet orders suspension of Work on one of the foregoing grounds but it is finally determined under the dispute resolution procedures of the Design Build Agreement that such grounds did not exist, it shall be treated as a suspension for the Transportation Cabinet's convenience.

Responsibilities of Walsh Construction During Suspension Periods. During periods that Work is suspended, Walsh Construction shall continue to be responsible for the Work and shall prevent damage or injury to the Project, provide for drainage and shall erect necessary temporary structures, signs or other facilities required to maintain the Project. Additionally, Walsh Construction shall continue other Work that has been or can be performed on-Site or off-Site during the period that Work is suspended.

Termination for Convenience

Contingent on Funding. The Design Build Agreement is contingent upon the continued availability of appropriated funding. If the funding for the Project becomes unavailable for any reason, including the Kentucky General Assembly's failure to appropriate the funding by operation of law or as a result of a reduction in Federal funding, the Design Build Agreement may be terminated, the Project may be cancelled, the timeline may be extended or the scope of the Project may be amended by the Transportation Cabinet, either in whole or in part. Project cancellation, extension, or amendment because of an interruption in the appropriated funding shall not be a default or breach of the Design Build Agreement by the Transportation Cabinet nor may such cancellation, extension, or amendment give rise to any claim against the Transportation Cabinet except for payment as hereinafter described.

Notice of Termination or Partial Termination. The Transportation Cabinet may, at any time, terminate the Design Build Agreement and the performance of the Work by Walsh Construction in whole or in part, if the Transportation Cabinet determines, in its sole discretion, that a termination is in the Transportation Cabinet's best interest, regardless of the availability of funding. Walsh Construction waives any claim that a termination must be made in "good faith", or in the alternative, to the extent that "good faith" is required, acknowledges that any termination made in the Transportation Cabinet's general interest is in good faith. The Transportation Cabinet shall terminate by delivering to Walsh Construction a written Notice of termination for convenience or notice of partial termination for convenience specifying the extent of termination and its effective date. Termination (or partial termination) of the

Design Build Agreement shall not relieve any Surety of its obligation for any claims arising out of the Work performed.

Transition Plan. Within three days after receipt of a notice of termination for convenience or notice of partial termination for convenience, Walsh Construction shall meet and confer with the Transportation Cabinet for the purpose of developing an interim transition plan for the orderly transition of the terminated Work, demobilization and transfer of the Project to the Transportation Cabinet. The Parties shall use diligent efforts to complete preparation of the interim transition plan within 15 days after the date Walsh Construction receives such notice of termination. The Parties shall use diligent efforts to complete a final transition plan within 30 days after such date. The transition plan shall be in form and substance acceptable to the Transportation Cabinet in its good faith discretion and shall include and be consistent with the other provisions and procedures set forth in the Design Build Agreement, all of which provisions and procedures Walsh Construction shall immediately follow, regardless of any delay in preparation or acceptance of the transition plan.

Settlement Proposal. After receipt of a notice of termination for convenience or notice of partial termination for convenience, Walsh Construction shall submit a final termination settlement proposal to the Transportation Cabinet in the form and with the certification prescribed by the Transportation Cabinet. Walsh Construction shall submit the proposal no later than 120 days from the effective date of termination unless Walsh Construction has requested a time extension in writing within such 120-day period and the Transportation Cabinet has agreed in writing to allow such an extension. Walsh Construction's termination settlement proposal shall then be reviewed by the Transportation Cabinet and acted upon, returned with comments, or rejected. If Walsh Construction fails to submit the proposal within the time allowed, the Transportation Cabinet may determine, on the basis of information available, the amount, if any, due Walsh Construction because of the termination and shall pay Walsh Construction the amount so determined.

Amount of Negotiated Termination Settlement. Walsh Construction and the Transportation Cabinet may agree upon the whole or any part of the amount or amounts to be paid to Walsh Construction by reason of the total or partial termination of Work for convenience. Such negotiated settlement shall include a reasonable allowance for profit solely on Work which has been completed as of the termination date and subsequently inspected and accepted by the Transportation Cabinet. Walsh Construction shall not be entitled to overhead or profit on Work not performed. Such agreed amount or amounts, exclusive of settlement costs, shall not exceed the total Contract Price as reduced by the amount of payments otherwise made and the Contract Price of Work not terminated. Upon determination of the settlement amount the Design Build Agreement will be amended accordingly, and Walsh Construction will be paid the agreed amount.

Determination of Settlement Amount if Negotiations Fail. If Walsh Construction and the Transportation Cabinet fail to agree upon the whole amount to be paid Walsh Construction by reason of the termination of Work for convenience, the amount payable (exclusive of interest charges) shall be determined by the Transportation Cabinet in accordance with the provisions described in the Design Build Agreement, but without duplication of any items or of any amounts previously agreed upon.

No Consequential Damages. Under no circumstances shall Walsh Construction be entitled to anticipatory or unearned profits or consequential or other damages as a result of a termination or partial termination under the Design Build Agreement. The payment to Walsh Construction determined in accordance with the provisions of the Design Build Agreement constitutes Walsh Construction's exclusive remedy for a termination hereunder.

No Waiver; Release. Anything contained in the Contract Documents to the contrary notwithstanding, a termination shall not waive any right or claim to damages which the Transportation Cabinet may have and the Transportation Cabinet may pursue any cause of action which it may have by law, in equity or under the Contract Documents.

The Transportation Cabinet's payment to Walsh Construction of the amounts required under the Design Build Agreement shall constitute full and final satisfaction of, and upon payment the Transportation Cabinet shall be forever released and discharged from, any and all Claims, causes of action, suits, demands and Losses, known or unknown, suspected or unsuspected, that Walsh Construction may have against the Transportation Cabinet arising out of or relating to the terminated Work. Upon such payment, Walsh Construction shall execute and deliver to the Transportation Cabinet all such releases and discharges as the Transportation Cabinet may reasonably require to confirm the foregoing, but no such written release and discharge shall be necessary to give effect to the foregoing satisfaction and release.

Default

Events of Default By Walsh Construction. Walsh Construction shall be in breach under the Design Build Agreement upon the occurrence of any one or more of the following events or conditions:

- (1) Walsh Construction fails to promptly begin the Work under the Contract Documents following issuance of a Notice to Proceed authorizing such Work;
- (2) Walsh Construction fails to perform the Work with sufficient resources to ensure the prompt completion thereof (i.e., Walsh Construction fails to execute remedial action in accordance with the Quality Plan);
- (3) Walsh Construction fails to perform the Work in accordance with the Contract Documents, refuses to remove and replace rejected materials or nonconforming work, or fails to remove and replace workers as directed by the Transportation Cabinet;
- (4) Walsh Construction discontinues or suspends the prosecution of the Work (exclusive of Work stoppage due to (i) termination by the Transportation Cabinet, (ii) compliance with stoppage requirements due to Contaminated Materials, (iii) a Force Majeure event or suspension by the Transportation Cabinet, or (iv) nonpayment by the Transportation Cabinet not related to a breach by Walsh Construction);
- (5) Walsh Construction fails to resume performance of Work which has been suspended or stopped, within a reasonable time after receipt of notice from the Transportation Cabinet to do so or (if applicable) after cessation of the event preventing performance;
- (6) Walsh Construction materially fails to timely observe or perform or cause to be observed or performed any other material covenant, agreement, warranty, obligation, term or condition required to be observed or performed by Walsh Construction under the Contract Documents; provided that such actions shall not be considered an Event of Default if they are the direct result of the

Transportation Cabinet's breach of its obligation to make payments to Walsh Construction;

- (7) Walsh Construction fails to obtain, provide and maintain in full force and effect any insurance, bonds or guarantees as and when required under the Design Build Agreement for the benefit of the relevant parties, or fails to comply with any requirement of the Design Build Agreement pertaining to the amount, terms or coverage of the same;
- (8) Walsh Construction fails to obtain, provide and maintain in full force and effect the required Payment Bond and Performance Bond as and when required under the Design Build Agreement;
- (9) Walsh Construction makes or attempts to make or suffers a voluntary or involuntary assignment or transfer of the Contract Documents or any right or interest therein;
- (10) Subject to the Transportation Cabinet paying Walsh Construction, Walsh Construction fails, absent a valid dispute, to make payment when due for labor, equipment or materials in accordance with its agreements with Subcontractors and applicable Law, fails to comply with any law or governmental approvals; or fails reasonably to comply with the instructions of the Transportation Cabinet consistent with the Contract Documents;
- (11) Walsh Construction fails to discharge or obtain a stay within 10 Days of any final judgment(s) or order for the payment of money against it in excess of \$100,000 in the aggregate arising out of the prosecution of the Work (provided that, for purposes hereof, posting of a bond in the amount of 125 percent of such judgment or order or the filing of an appeal with respect to such judgment or order shall be deemed an effective stay);
- (12) Walsh Construction does not comply with public safety and public convenience requirements of the Design Build Agreement or fails to correct any safety hazards promptly;
- (13) Walsh Construction or any major Walsh Construction-Related entity shall have become insolvent, generally does not pay its debts as they become due, admits in writing its inability to pay its debts, or makes an assignment for the benefit of creditors;
- (14) Insolvency, receivership, reorganization or bankruptcy proceedings shall have been commenced by or against Walsh Construction or any major Walsh Construction-Related entity and not dismissed within 60 Days;
- (15) Any representation or warranty made by Walsh Construction in the Contract Documents or in any certificate, schedule, instrument or other document delivered as part of the Proposal or pursuant to the Contract Documents shall have been false or materially misleading when made or becomes inaccurate in any material respect during the Design Build Agreement term;

- (16) Walsh Construction is a party to fraud in any way relating to the Project; or
- (17) Otherwise materially fails to comply with the terms of the Design Build Agreement.

Right to Cure. The Transportation Cabinet agrees to allow Walsh Construction and Surety 15 Days' notice and opportunity to cure any breach before declaring an Event of Default, provided that the notice and cure period shall only be three days for a breach under clauses (7), (8) and (12) and that there shall be no such notice and opportunity to cure for any breach which by its nature cannot be cured. If a breach for which a 15-Day cure period is provided is curable but by its nature cannot be cured within 15 Days, as determined by the Transportation Cabinet, the Transportation Cabinet agrees not to declare an Event of Default provided that Walsh Construction commences such cure within such 15-Day period and thereafter diligently prosecutes such cure to completion; provided, however, that in no event will such cure period exceed 60 Days in total. Notwithstanding the foregoing, if the Transportation Cabinet believes a condition affecting the Project poses an immediate and imminent danger to public health or safety, the Transportation Cabinet may, without notice and without awaiting lapse of any cure period, rectify the condition at Walsh Construction's cost, and so long as the Transportation Cabinet undertakes such action in good faith, even if under a mistaken belief in the occurrence of such default, such action shall not expose the Transportation Cabinet to liability to Walsh Construction, except in the case of the Transportation Cabinet's gross negligence, recklessness, willful misconduct or bad faith, and shall not entitle Walsh Construction to any other remedy, it being acknowledged that the Transportation Cabinet has a paramount public interest in providing and maintaining safe public use of and access to the Project. The Transportation Cabinet's good faith determination of the existence of such danger shall be deemed conclusive in the absence of clear and convincing evidence to the contrary.

Rights of the Transportation Cabinet. If an Event of Default occurs, then, in addition to all other rights and remedies provided by law or equity or available under the Design Build Agreement or otherwise, including the rights to recover liquidated damages and to seek recourse against the Payment Bond and Performance Bond, and/or other performance security, the Transportation Cabinet shall have the following rights and remedies, without further notice, and without prejudice to any of its other rights or remedies and without waiving or releasing Walsh Construction from any obligations, and Walsh Construction shall have the following obligations (as applicable):

- (1) the Transportation Cabinet may order Walsh Construction to suspend or discontinue the Work or any portion of the Work;
- (2) the Transportation Cabinet may terminate the Design Build Agreement or a portion thereof;
- (3) if and as directed by the Transportation Cabinet, Walsh Construction shall withdraw from the Site; and shall remove such materials, equipment, tools and instruments used by, and any debris or waste materials generated by, any Walsh Construction-Related entity in the performance of the Work;
- (4) Walsh Construction shall deliver to the Transportation Cabinet possession of any or all of Walsh Construction's facilities located on the Site as well as any or all Design Documents, Construction Documents and all other completed or partially completed drawings (including plans, elevations, sections, details and diagrams), specifications, records, information, schedules, samples, shop drawings and other

documents, that the Transportation Cabinet deems necessary for completion of the Work;

- (5) if the Transportation Cabinet requests Walsh Construction to assign to the Transportation Cabinet specific Subcontracts, Walsh Construction shall confirm the assignment of those Subcontracts to the Transportation Cabinet and shall terminate, at its cost, all other Subcontracts;
- (6) the Transportation Cabinet may deduct from any amounts payable by the Transportation Cabinet to Walsh Construction such amounts payable by Walsh Construction to the Transportation Cabinet, including liquidated damages or other damages payable to the Transportation Cabinet under the Contract Documents;
- (7) the Transportation Cabinet shall have the right, but not the obligation, to pay such amount and/or perform such act as may then be required;
- (8) the Transportation Cabinet, without incurring any liability to Walsh Construction, shall have the rights (i) to take the performance of all or a portion of the Work from Walsh Construction (either with or without the use of Walsh Construction's materials, equipment, tools and instruments) and enter into an agreement with another entity for the completion of such Work; or (ii) to use such other methods, as in the opinion of the Transportation Cabinet, will be required for the completion of the Project; and/or
- (9) if the Transportation Cabinet exercises any right to perform any obligations of Walsh Construction, in the exercise of such right the Transportation Cabinet may, but is not obligated to, among other things: (i) perform or attempt to perform, or cause to be performed, such work; (ii) spend such sums as the Transportation Cabinet deems necessary and reasonable to employ and pay such architects, engineers, consultants and Contractors and obtain materials and equipment as may be required for the purpose of completing such work; (iii) execute all applications, certificates and other documents as may be required for completing the work; (iv) modify or terminate any contractual arrangements; (v) take any and all other actions which it may in its sole discretion consider necessary to complete the Work; and (vi) prosecute and defend any action or proceeding incident to the Work.

Liability of Walsh Construction/Occurrence of an Event of Default. If an Event of Default has occurred, Walsh Construction and Surety shall be jointly and severally liable to the Transportation Cabinet (in addition to any other damages under the Contract Documents other than those costs intended to be covered by liquidated damages) for all costs reasonably incurred by the Transportation Cabinet or any party acting on the Transportation Cabinet's behalf in completing the Work or having the Work completed by another entity (including any re-procurement costs, throw away costs for unused portions of the completed Work). Upon the occurrence of an Event of Default, the Transportation Cabinet shall be entitled to withhold all or any portion of further payments to Walsh Construction until such time as the Transportation Cabinet is able to determine how much (if any) remains owing to Walsh Construction. Promptly upon such determination, the Transportation Cabinet shall notify Walsh Construction in writing of the amount, if any, that Walsh Construction shall pay the Transportation Cabinet or that the Transportation Cabinet shall pay Walsh Construction with respect thereto. All costs and charges incurred

by the Transportation Cabinet, including attorneys', accountants' and expert witness fees and costs, together with the cost of completing the Work under the Contract Documents, will be deducted from any moneys due or which may become due to Walsh Construction. If such expense exceeds the sum which would have been payable under the Design Build Agreement, then Walsh Construction and its Surety(ies) shall be liable and shall pay to the Transportation Cabinet the amount of such excess.

Assurance of Future Performance. It is recognized that if a default occurs, such event could impair or frustrate Walsh Construction's performance of the Work. Accordingly, upon the occurrence of any such event, the Transportation Cabinet is entitled to request Walsh Construction, or its successor in interest, to provide adequate assurance of future performance in accordance with the terms and conditions hereof. Failure to comply with such request within 10 Days of the Transportation Cabinet's delivery of the request shall entitle the Transportation Cabinet to terminate the Design Build Agreement. Pending receipt of adequate assurance of performance and actual performance in accordance therewith, the Transportation Cabinet shall be entitled to proceed with the Work with its own forces or with other Contractors on a time and material or other appropriate basis, the cost of which will be credited against and deducted from the Transportation Cabinet's payment obligations under the Design Build Agreement. The foregoing shall be in addition to all other rights and remedies provided by law or equity and such rights and remedies as are otherwise available under the Design Build Agreement, the Payment Bond and the Performance Bond.

Alternative to Terminating the Design Build Agreement and Completing the Work. In lieu of terminating the Design Build Agreement and completing the Work, the Transportation Cabinet may pay Walsh Construction for the parts already done according to the provisions of the Contract Documents and may treat the parts remaining undone as if they had never been included or contemplated by the Design Build Agreement. No claim will be allowed Walsh Construction for prospective profits on, or any other compensation relating to, Work uncompleted by Walsh Construction.

Termination Deemed to Constitute a Termination for Convenience. If the Design Build Agreement is terminated for grounds which are later determined not to justify a termination for default, such termination shall be deemed to constitute a termination for convenience.

Damages Resulting From Walsh Construction's Breach or Failure to Perform. If the Transportation Cabinet suffers damages as a result of Walsh Construction's breach or failure to perform an obligation under the Contract Documents, then the Transportation Cabinet shall be entitled to recovery of such damages from Walsh Construction regardless of whether the breach or failure that gives rise to the damages ripens into an Event of Default.

Continued Liability of Walsh Construction and Surety. Walsh Construction and Surety shall not be relieved of liability for continuing liquidated damages on account of a default by Walsh Construction or by the Transportation Cabinet's declaration of an Event of Default, or by actions taken by the Transportation Cabinet under the Design Build Agreement.

Walsh Construction's Right to Stop Work If Undisputed Payment Is Not Made. Walsh Construction shall have the right to stop Work if the Transportation Cabinet fails to make an undisputed payment due under the Design Build Agreement within 30 Days after receipt of notice of nonpayment. Any such Work stoppage shall be considered a suspension. Walsh Construction shall not have the right to terminate the Design Build Agreement for default as the result of any failure by the Transportation Cabinet to make an undisputed payment due under the Design Build Agreement, but Walsh Construction shall have the right to declare a termination for convenience upon meeting the requirements set forth above under "Termination for Convenience."

Notice and Opportunity to Cure Other Types of the Transportation Cabinet Breaches. In the event of any breach of the Design Build Agreement by the Transportation Cabinet other than a failure to make payments to Walsh Construction, Walsh Construction shall provide to the Transportation Cabinet a written notice describing the breach and the opportunity to cure such breach. The Transportation Cabinet shall be entitled to 30 Days to cure any such breach from the date it receives the notice; provided that if such breach is capable of cure but by its nature cannot be cured within 30 Days, the Transportation Cabinet shall have a reasonable period of time as may be reasonably necessary under the circumstances to cure the breach so long as the Transportation Cabinet commences such cure within such 30-Day period and thereafter diligently prosecutes such cure to completion. Walsh Construction shall have no right to exercise any remedies to which it may be entitled at law or in equity until the foregoing notice is delivered and the foregoing cure period lapses without cure of the breach.

INDEMNIFICATION

Indemnifications by Walsh Construction

Walsh Construction has agreed to defend, indemnify and hold harmless the Commonwealth of Kentucky, KPTIA, the Transportation Cabinet, the Transportation Cabinet's consultants, the Transportation Cabinet's attorneys, the Louisville/Jefferson County Metro Government, the State of Indiana, Clark County, Indiana, INDOT, Indiana Finance Authority, the Bridges Authority, Tolling Body and Joint Board and all their respective officers, agents, and employees, their successors and assigns, and their respective board members, council members, officers, directors, agents and employees from and against certain claims, causes of action, suits, judgments, investigations, legal or administrative proceedings, and Losses incurred in connection with the enforcement of the indemnity, all as provided in the Design Build Agreement.

Indemnification by the Transportation Cabinet Regarding Contaminated Materials

The Transportation Cabinet has agreed to indemnify and hold harmless Walsh Construction and its subcontractors, suppliers and the officers, directors, partners, employees, agents, other consultants and subcontractors of each and any of them from and against all claims, causes of action, suits, judgments, legal or administrative proceedings, and losses incurred in connection with, arising out of, relating to or resulting from any actual or alleged spill or threatened spill or release of a Contaminated Material provided that such actual or alleged spill or threatened spill or release was not (i) brought on the Site by any Walsh Construction-Related Entity, (ii) was not created by any Walsh Construction-Related Entity, or (iii) was not attributable to the negligence, misconduct, or breach of contract, governmental approval or governmental rule by any Walsh Construction-Related Entity. Nothing in the indemnification shall obligate the Transportation Cabinet to indemnify any individual or entity from and against consequences of that individual's or entity's own negligence or misconduct.

INSURANCE AND BONDING REQUIREMENTS

Insurance

Walsh Construction shall provide liability insurance and property insurance as provided in Exhibit A.

Payment and Performance Bonds

As a part of the consideration and to assure the faithful performance of the Design Build Agreement in every respect, Walsh Construction shall provide a performance bond and a payment bond each with surety or sureties in a sum not less than One Hundred Per Cent (100%) of the Contract Price, each with a surety or sureties approved by the Transportation Cabinet, and in the form provided in the Design Build Agreement. Such bonds, when approved by the Transportation Cabinet, shall be for the use and benefit of the Transportation Cabinet, and each person furnishing materials, labor and supplies for use in the performance of the Design Build Agreement. These bonds shall remain in effect at least until one year after the date when final payment becomes due, except as provided otherwise by applicable laws or regulations or as required by the Contract Documents.

If the surety on any Bond furnished by Walsh Construction: (i) is declared a bankrupt; (2) is placed into receivership; (3) becomes insolvent or its right to do business is terminated in any state where any part of the Project is located; or (4) ceases to meet the requirements of the Contract Documents, Walsh Construction shall within twenty days thereafter substitute another Bond issued by a surety acceptable to the Transportation Cabinet, both of which shall comply with the requirements of the Contract Documents.

All Bonds and insurance required by the Contract Documents to be purchased and maintained by the Transportation Cabinet or Walsh Construction shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue Bonds or insurance policies for the limits and coverages so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as may be provided in the Contract Documents.

DISPUTE RESOLUTION

Dispute Resolution Procedures

Notwithstanding any other available remedy (which Walsh Construction hereby waives in consideration of the following Dispute Resolution Board provided), all claims between the Transportation Cabinet and Walsh Construction or its subcontractors relating to the Design Build Agreement or the Project that cannot be resolved through the Elevated Negotiations procedure discussed below shall follow the administrative process outlined below, following the findings of the Dispute Review Board, as the sole remedy for any claim by Walsh Construction. The administrative process is based upon 603 KAR 2:015 Sections 9 and 10 and in accordance with KRS Chapter 13B. Walsh Construction shall continue the Work and adhere to the progress schedule during all disputes or disagreements with the Transportation Cabinet. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as Walsh Construction and the Transportation Cabinet may otherwise agree in writing.

Partnering and Elevated Negotiations

Partnering. The Transportation Cabinet intends to encourage the use of an extensive partnering program among the Transportation Cabinet, Walsh Construction, its Subcontractors, FHWA and other stakeholders, where appropriate. The partnering relationship will be structured to draw on the strengths of each organization to identify and achieve reciprocal goals. The objectives include effective and efficient Project performance and completion on schedule, within budget and in accordance with the Contract Documents.

The Transportation Cabinet anticipates a full-time partnering effort involving the executive management, Project management, Project staff and others. Participation is encouraged. Any cost associated with effectuating partnering will be agreed to by both Walsh Construction and the Transportation Cabinet and will be shared equally with no change in the Contract Price. Walsh Construction shall pay all costs and submit paid invoices to the Transportation Cabinet for 50% reimbursement.

It is the intent of the parties that the dispute resolution provisions shall apply only in the event that the Transportation Cabinet/Walsh Construction issue resolution efforts through partnering, and Elevated Negotiations, are not successful.

Elevated Negotiations. Both the Transportation Cabinet and Walsh Construction shall designate a Senior Representative for the purposes of this provision. If a claim cannot be resolved through the Parties' representatives through partnering discussions or other provisions of the Design Build Agreement, then, upon the request of either party, Walsh Construction's Senior Representative and Owner's Senior Representative shall meet as soon as conveniently possible, but in no case later than fourteen (14) days after such a request is made, to attempt to resolve such claim. Prior to any meetings between such representatives, the parties will exchange relevant information that will assist the parties in resolving the claim and, if applicable, make available any independent expert opinion. All negotiations and discussions, including any opinions provided by any technical experts, shall be deemed compromise and settlement negotiations, and therefore inadmissible for the purposes of all evidentiary rules under applicable law.

Dispute Review Board

Mandatory Nature of Process. All Disputes between Walsh Construction and the Transportation Cabinet that have not been resolved by the parties through the partnering process and Elevated Negotiations shall be submitted to the Dispute Resolution Board. The determination by the Dispute Review Board shall be non-binding upon the parties, much the same as a nonbinding arbitration proceeding. For the purposes of any evidentiary rule, all proceedings and actions shall be deemed to be actions in the attempt to compromise and resolve claims, and therefore inadmissible in any proceeding in their entirety.

Dispute Review Board. The Dispute Review Board ("DRB") is created as part of the dispute resolution process to be utilized when the Transportation Cabinet and Walsh Construction are unable to resolve the dispute through negotiations and prior to the filing of a claim. The DRB will consider disputes referred to it and furnish recommendations to the Transportation Cabinet and Walsh Construction to assist in the resolution of the differences between them. The purpose of the DRB response to such issues is to provide confidential, nonbinding findings and recommendations designed to expose the disputing parties to an independent view of the merits of the dispute. The DRB members shall have extensive experience (technical or managerial) in a senior capacity in the construction industry, with substantial experience in bridge and transportation projects, the interpretation of construction Contract Documents and the analysis and resolution of construction issues. It is desirable that each DRB member have demonstrated experience in design-build contracting on major public infrastructure projects, and in particular on bridge and highway projects. The DRB chairperson shall have administrative and disputes resolution experience and the ability to facilitate the DRB's proceedings. It is also desirable for the DRB chairperson to have substantial experience in construction disputes resolution, adjudication or arbitration, the interpretation of construction Contract Documents, and the analysis and resolution of construction claims.

The DRB members shall discharge their responsibilities impartially and independently considering the facts and conditions related to the matters under consideration and the provisions of the Contract Documents. DRB members shall have no financial interest in the Project of any nature, except for payments for services on the DRB. No member shall have been employed by either Party or an affiliate of either Party within a period of two years prior to award of the Design Build Agreement or during the term of the Design Build Agreement; except that, service as a member of other disputes review boards on other Design Build Agreements will not preclude a member from serving on the DRB. Walsh Construction will compensate directly the fees and travel expense for all three members, plus pay all of the operating and administrative expenses of the DRB. Walsh Construction shall then invoice all of these costs to the Transportation Cabinet, which shall reimburse Walsh Construction for 50 percent of these costs on the next progress payment.

Selection of DRB Members. The Transportation Cabinet and Walsh Construction shall each nominate four candidates to the DRB member pool. After reviewing the candidates, the Transportation Cabinet and Walsh Construction shall (1) agree on three members to serve on the DRB and (2) determine who is best capable of serving as the DRB chairperson. All DRB members shall be neutrals and shall not be advocates for either the Transportation Cabinet or Walsh Construction. In the event that all three members were not selected from the initial pool of nominees, the process shall be repeated. In case a member of the DRB needs to be replaced, the replacement member will be appointed in the same manner as the replaced member was appointed. The appointment of a replacement DRB member will begin promptly upon determination of the need for replacement and shall be completed within 30 days.

Termination of DRB Members. Service of a DRB member may be terminated at any time with not less than 30 days' notice by (a) mutual agreement between the Transportation Cabinet and Walsh Construction or (b) resignation of the member. Termination of a member will be followed by appointment of a substitute.

Disputes Review Board Procedures. Promptly upon approval of the DRB members and within the first 60 days after the issuance of the Notice to Proceed, the Transportation Cabinet, Walsh Construction and the individual DRB members shall enter into an agreement ("DRB Agreement") that sets forth the DRB's rules of operation and procedures to be followed for the Project. The agreement shall include the frequency of the DRB's visits to the Project and its interactions with the Transportation Cabinet and Walsh Construction to keep abreast of the construction development and potential disputes. In developing the DRB Agreement, the parties shall take into consideration their respective duties and responsibilities set forth in the Contract Documents.

Disputes will refer only to claims properly submitted in accordance with the Design Build Agreement, including notice requirements. If the Transportation Cabinet has determined the claim to be invalid or untimely and either Walsh Construction or the Transportation Cabinet has elected to refer the matter to the DRB, then the DRB shall consider the issue and provide recommendations concerning: (a) the interpretation of the Design Build Agreement; (b) entitlement to additional compensation or time for performance; and (c) the amount of additional compensation or time for performance warranted, if any.

Procedures for Consideration of Disputes. The procedure for consideration of disputes shall be as follows: (a) Once a determination has been made to submit a dispute to the DRB, the DRB members will be contacted and advised of the existence of the dispute. A hearing will be scheduled to be conducted at the next regular Project visit or at such other time, as agreed to by the Parties; (b) Walsh Construction and the Transportation Cabinet shall each be afforded an opportunity to be heard by the DRB and to offer evidence. Either Party furnishing any written evidence or documentation to the DRB must furnish copies

of such information to the other Party a minimum of 15 days prior to the date the DRB sets to convene the hearing for the dispute. Either Party shall produce such additional evidence as the DRB may deem necessary to an understanding and determination of the dispute and furnish copies to the other Party; (c) After the hearing is concluded, the DRB shall meet in private and reach a conclusion supported by two or more members. Its findings and recommendations, together with its reasons shall then be submitted as a written report to both Parties.

The recommendations shall be based on the pertinent provisions of the Contract Documents and facts and circumstances involved in the dispute. The Contract Documents shall be interpreted and construed in accordance with the laws of the Commonwealth of Kentucky. The DRB shall make every effort to reach a unanimous decision. If this proves impossible, the dissenting member may prepare a minority report; and (d) Within 20 days of receiving the DRB's recommendations, both the Transportation Cabinet and Walsh Construction shall respond to the other in writing signifying that the dispute is either resolved or remains unresolved. Although both Parties should place weight upon the DRB recommendations, the recommendations are not binding. DRB records and written recommendations, including any minority reports, will not be admissible as evidence in any subsequent arbitration or litigation, and will be considered communications in furtherance of settlement, and confidential.

Advisory Recommendation. Upon mutual agreement by the Parties, the ORB may be called upon to act in an advisory capacity to assist in resolution of issues or disputes prior to a formal DRB presentation. In the case of an advisory recommendation, an informal submission no longer than two written pages shall be submitted to the DRB by each Party. To the extent possible, the Parties will submit agreed-to questions for the DRB to answer as part of the informal process. Once written submissions have been made, either Party may request an opportunity to give an oral presentation to the DRB, and the DRB may also request an oral presentation by the Parties. Oral presentations shall take place during a regularly scheduled meeting of the DRB. Unless a time limit is specifically agreed to by the Parties, the DRB will establish a time limit for oral presentations. To the extent possible, the DRB should attempt to facilitate a resolution without making a formal determination at the conclusion of the DRB meeting. Neither of the Parties nor the DRB is bound in any way by an advisory recommendation. Any issue or dispute addressed in an advisory recommendation, to the extent it is not resolved, may be addressed through a formal DRB submission. Advisory recommendations shall not be admissible in any subsequent disputes procedures, including any other administrative or judicial proceedings.

DRB Process as Condition Precedent to Arbitration or Litigation. Submittal of a dispute to the DRB will be a CONDITION PRECEDENT to the claims process discussed below or any other form of dispute resolution.

Matters Ineligible for Dispute Review Board Procedures. The dispute resolution procedures shall not apply to the following (collectively, "Ineligible Matters"):

- (1) any matters that the Contract Documents expressly state are final, binding or not subject to dispute resolution;
- (2) any matters relating to the scope or applicability of indemnities provided under the Contract Documents;
- (3) any claim for injunctive relief;

- (4) any claim against an insurance company, including any Subcontractor dispute that is covered by insurance;
- (5) any claim arising solely in tort;
- (6) any claim between Walsh Construction or the Transportation Cabinet and a third party in which the third party is a necessary or appropriate party to such dispute, including any related claims between the Parties arising therefrom;
- (7) any claim or dispute that is the subject of litigation in a lawsuit filed in court to which the procedures established for dispute resolution do not apply, including any effort to interplead a Party into such a lawsuit in order to make the procedures established for dispute resolution applicable;
- (8) any claim for, or dispute based on, remedies expressly created by statute; and
- (9) any dispute that is actionable only against a Surety.

Administrative Claims Process

In the event that the Parties do not resolve their disputes following the non-binding determination issued by the DRB, any claims by Walsh Construction shall follow the process outlined below. Claims by the Transportation Cabinet may be resolved through litigation in the Franklin Circuit Court.

- (1) The Transportation Cabinet shall not consider a claim for extra work as defined in the General Conditions document between the Transportation Cabinet and Walsh Construction unless Walsh Construction has submitted form TC 63-32, "Notice of Changed Condition/Disagreement" to the Engineer before beginning the disputed work.
- (2) Any other claim not referenced in subsection (1) that Walsh Construction shall possess against the Transportation Cabinet for compensation shall be submitted in writing on form TC 63-32, "Notice of Changed Condition/Disagreement", to the Engineer within ten (10) days of the date of which Walsh Construction knew or should have known of the existence of said claim. Any claim presented after said ten (10) days shall be waived and not be considered for payment by the Transportation Cabinet. After receipt of TC 63-32, "Notice of Changed Condition/Disagreement", the Transportation Cabinet shall respond to Walsh Construction with form TC 63-33, "Acknowledgement of Notice of Changed Condition/Disagreement".
- (3) If Walsh Construction has a Design Build Agreement claim or requests relief from the Transportation Cabinet, Walsh Construction shall exhaust the administrative process within the Transportation Cabinet as set forth below prior to requesting an administrative hearing.
 - (a) For claims involving extra work, Walsh Construction shall submit its claim in writing, setting forth the amount in dispute, the basis of the claim and any supporting documentation of said claim to the Engineer not later than thirty (30) days after receipt of the "Final Inspection and

Formal Acceptance Report of Completed Construction”, Form TC 63-44. This provision shall not act to relieve Walsh Construction of its responsibility to comply with any notice requirements.

- (b) For claim disputes involving final quantities and payments, Walsh Construction shall submit its claim in writing setting forth the amount in dispute, the basis of the claim and any supporting documentation of said claim to the Engineer not later than sixty (60) days from the date of the “Final Release” (Form TC 63-34) sent by the Transportation Cabinet.
- (c) The Engineer and Walsh Construction shall attempt to resolve the dispute. The Engineer shall have sixty (60) days from the date of receipt of written notice of a formal claim to resolve the dispute.
- (d) Should the claim not be resolved by the Engineer, then the claim shall be submitted to the Director, Division of Construction, who shall have ninety (90) days to make the final determination.
- (e) If the matter is not resolved by the Engineer and Walsh Construction and prior to making a final determination on the matter, the Director, Division of Construction, shall convene an informal settlement conference with Walsh Construction for the purpose of either settling the dispute or identifying the issues which need resolution. If the settlement conference is unsuccessful, the Director, Division of Construction, shall notify Walsh Construction in writing of the Transportation Cabinet’s decision regarding Walsh Construction’s claim. Said notification shall inform Walsh Construction of its rights to an administrative hearing.
- (f) Should the Engineer or the Director, Division of Construction, fail to render a decision within the time limits set forth in this administrative regulation, said inaction shall be deemed a denial of the claim by the Transportation Cabinet and Walsh Construction may proceed with the administrative hearing process described below. Further, should the Director, Division of Construction, fail to render a decision in the time frame previously stated, the Transportation Cabinet shall bear all costs associated with the hearing officer.
- (g) Walsh Construction shall request an administrative hearing pursuant to KRS Chapter 13B within thirty (30) days of the date of the notification of the decision by the Transportation Cabinet.
- (h) Upon the agreement in writing of both parties, the parties may engage in formal nonbinding mediation of the dispute with a mediator agreeable to both parties. The parties participating in the mediation shall each pay one-half (1/2) of the costs associated with the mediator.
- (i) If mediation is agreed upon by the parties, the formal administrative process that culminates with a KRS Chapter 13B hearing and all time limits therein shall be stayed until the Transportation Cabinet or Walsh Construction submits written notice to the other that they are terminating

the mediation process. The time limits previously stayed shall commence to run upon the date of the written notice.

Hearing Procedure

- (1) A request for an administrative hearing shall be in writing and mailed to the State Highway Engineer, Kentucky Transportation Cabinet, 200 Metro Street, Frankfort, Kentucky 40622.
- (2) Upon receipt of a request for an administrative hearing, the State Highway Engineer shall forward the request to the Office of General Counsel and Legislative Affairs for proceedings in accordance with the provisions of KRS Chapter 13B. Failure to submit a written request for an administrative hearing to the State Highway Engineer within thirty (30) days of the date of the decision by the Director, Division of Construction, shall be ground to summarily deny the request for hearing and the decision by the Director, Division of Construction, shall stand.
- (3) If a hearing is commenced, the hearing examiner shall prepare and submit his report with a recommendation to the Secretary of Transportation through the Office of General Counsel and Legislative Affairs.
- (4) The secretary, after receiving the report and recommendation of the hearing examiner, may accept the report and recommendation in its entirety, or reject or modify any or all of the findings and recommendations of the hearing examiner as set out in a final order pursuant to KRS Chapter 13B.
- (5) Walsh Construction shall be notified by Final Order of the secretary's decision.
- (6) Walsh Construction shall have appeal rights pursuant to KRS Chapter 13B.
- (7) Walsh Construction shall reimburse the Transportation Cabinet one-half (1/2) of the expenses of the hearing officer within thirty (30) days after the date of the entry of the final order by the Secretary of Transportation. the Transportation Cabinet may withhold any sum owed a Walsh Construction on a current or future project that the Transportation Cabinet is owed for the costs and/or expenses of the hearing officer."

After all administrative remedies have been exhausted as outlined above, and provided that Walsh Construction engaged in the DRB process described above, which along with proper written notice of the claim is a condition precedent to any other relief, Walsh Construction shall have the right of appeal with the Franklin County Circuit Court of the Commonwealth of Kentucky. All questions as to the execution, validity, interpretation, construction and performance of the Design Build Agreement shall be governed by the laws of the Commonwealth of Kentucky. Furthermore, the parties hereto agree that any legal action which is brought on the basis of the Design Build Agreement shall be filed in the Franklin County Circuit Court of the Commonwealth of Kentucky.

Limitations on Consequential Damages

Under no circumstances shall Walsh Construction be entitled to consequential damages arising out of the performance (or failure to perform) of the Transportation Cabinet, and Walsh Construction releases the Transportation Cabinet from any such liability.

Consequential damages shall be recoverable by the Transportation Cabinet only in the limited categories set forth in the Design Build Agreement.

RESPONSIBILITY FOR DESIGN

Standard of Care

The standard of care for all design services performed or furnished by Walsh Construction under the Design Build Agreement will be the care and skill ordinarily used by members of the subject profession practicing under similar conditions at the same time and in the same locality.

Responsibility for Design

Walsh Construction agrees that it has full responsibility for preparation and submission of the Design Documents, as more specifically provided in the General Conditions.

OBLIGATIONS OF WALSH CONSTRUCTION

Performance Requirements

Performance of Work. All materials, services and efforts necessary to achieve Substantial Completion, Formal Acceptance and Final Completion on or before the applicable deadlines shall be Walsh Construction's sole responsibility, except as otherwise specifically provided in the Contract Documents. Walsh Construction agrees that the costs of all such materials, services and efforts are included in the Contract Price.

General Obligations of Walsh Construction. Walsh Construction, in addition to performing all other requirements of the Contract Documents, shall:

- (1) furnish all design and other services, provide all materials and labor and undertake all efforts necessary or appropriate (excluding only those services, materials and efforts which the Contract Documents specify will be undertaken by other persons): (i) to construct the Project and maintain it during construction in accordance with the Contract Documents, all laws, all governmental approvals, good industry practice, and all other applicable safety, environmental, licensing and other requirements, so as to achieve Substantial Completion, Formal Acceptance and Final Completion by the applicable completion deadlines; (ii) to construct the Project free from material defects except to the extent that such defects are inherent in prescriptive specifications included in the Contract Documents, unless (a) Walsh Construction has actual or constructive knowledge of such defects and (b) Walsh Construction fails to notify the Transportation Cabinet of the defect; and (iii) otherwise to do everything required by and in accordance with the Contract Documents;

- (2) at all times provide Walsh Construction's Project Manager, who (i) will have full responsibility for the prosecution of the Work, (ii) will act as agent and be a single point of contact in all matters on behalf of Walsh Construction, (iii) will be present (or its Approved designee will be present) at the site at all times that Work is performed, and (iv) will have authority to bind Walsh Construction on all matters relating to the Project;
- (3) obtain all governmental approvals, including any revision, modification, amendment, supplement, renewal or extension of governmental approvals, required in connection with the Project or the Work;
- (4) comply with all conditions imposed by and undertake all actions required by and all actions necessary to maintain in full force and effect all governmental approvals, including implementation of all environmental mitigation measures required by the governmental approvals and Contract Documents, except to the extent that such responsibility is expressly assigned in the Contract Documents to another party;
- (5) provide such assistance as is reasonably requested by the Transportation Cabinet in dealing with any party and/or in prosecuting and defending lawsuits in any and all matters relating to the Project, which may include providing information and reports regarding the Project, executing declarations and attending meetings and hearings, but which shall in no event be deemed to require Walsh Construction to provide legal services;
- (6) comply with the Quality Plan;
- (7) cooperate with the Transportation Cabinet and other governmental entities with jurisdiction over the Project in the review and oversight of the Project and other matters relating to the Work;
- (8) supervise and be responsible to the Transportation Cabinet for acts and omissions of all Walsh Construction-Related entities, as though all such entities were directly employed by Walsh Construction;
- (9) mitigate delay to the Project and mitigate damages due to delay to the extent possible, including by resequencing, reallocating or redeploying Walsh Construction's forces to other work, as appropriate; and
- (10) pay all applicable federal, State and local sales, consumer, use and similar taxes, property taxes and any other taxes, fees, charges or levies imposed by governmental entities, whether direct or indirect, relating to, or incurred in connection with, the performance of the Work.

Exhibit A: INSURANCE REQUIREMENTS

REQUIRED INSURANCE

Without limiting Walsh Construction's indemnification of the Transportation Cabinet and the Indemnified Parties, and prior to commencement of Work, Walsh Construction shall obtain, at its own expense, and continuously maintain in full force and effect, the insurance coverages specified in this Exhibit A. Coverage shall be maintained through Formal Acceptance, or such longer or shorter time as may be specifically provided in this Exhibit A. Walsh Construction may use any combination of corporate insurance policies, project-specific policies, or a Contractor Controlled Insurance Program ("CCIP") provided that the selected policies comply with all of the requirements in this Exhibit A.

All insurance required hereunder shall be procured from insurance companies with an A.M. Best and Company rating level of A-: VI or better and authorized or approved to do business in the State of Kentucky, or as otherwise approved by the Transportation Cabinet. All limits of insurance set forth below are in U.S. dollars. Each policy of insurance of the type and amounts described below shall in a form satisfactory to the Transportation Cabinet.

PROPERTY INSURANCE (COURSE OF CONSTRUCTION)

Upon commencement of construction and with approval of the Transportation Cabinet, Walsh Construction shall obtain and maintain a policy of builder's risk insurance for the Project as specified below. The policy may be a Walsh Construction corporate master program policy or a stand-alone policy as long as all of the requirements of this section are met. The insureds shall be Walsh Construction, all Subcontractors (excluding those solely responsible for design Work) of any tier, the Transportation Cabinet, and the Indemnified Parties. Coverage extended to the Transportation Cabinet and the Indemnified Parties shall NOT be limited by use of the phrase "as their interests may appear."

Minimum Scope. A builder's risk insurance policy on an "all risk" basis. Such coverage may be provided under a Walsh Construction master builder's risk program or may be provided under a project-specific policy, whichever provides the broadest coverage. Such insurance shall be on a replacement cost basis using a completed value form reasonably acceptable to the Transportation Cabinet to ensure adequacy of terms and sublimits.

The policy shall cover all property, roads, buildings, bridge structures, other structures, fixtures, materials, supplies, foundations, pilings, machinery and equipment that are part of or related to the portions or elements of the Project, and the works of improvement, including permanent and temporary works and materials, and including goods intended for incorporation into the works located at the Project Right of Way, in storage or in the course of transit to the Project Right of Way and all improvements that are within the Project Right of Way. The policy shall not cover tools or equipment used by any Contractor to perform their work. Such tools and equipment are the sole responsibility of the Contractor who owns or uses such tools.

The builder's risk policy must include coverage for:

- (1) any ensuing loss from faulty workmanship, nonconforming work, error, omission or deficiency in design or specifications;
- (2) machinery accidents and operational testing, if applicable;

(3) removal of debris, with a sub-limit of 25% of the loss or a sublimit of no less than \$25,000,000, and insuring the buildings, structures, machinery, equipment, materials, facilities, fixtures and all other properties constituting a part of the Project;

(4) transit, including ocean marine coverage (unless insured by the Supplier or through a separate marine cargo policy), with sub-limits sufficient to insure the full replacement value of any key equipment item;

(5) sub-limits sufficient to insure the full replacement value of any property or equipment stored either on or off the Site;

(6) loss of revenue resulting from delayed opening and expense to reduce loss;

(7) collapse;

(8) terrorism;

(9) plans, blueprints and specifications;

(10) demolition and increased cost of construction as required by law or ordinance with a sub-limit of no less than \$20,000,000; and

(11) soft costs expense (including costs of governmental approvals, mitigation costs, attorneys' fees, and other fees and costs associated with such damage or loss or replacement thereof). The soft cost expense sublimit may be included with the sublimit for delay.

There shall be no coinsurance penalty provision in any such policy. Deductibles or self-insured retentions shall be no greater than 5% of the total value insured at the time of loss subject to a minimum deductible no greater than \$250,000. All deductibles or self-insured retentions shall be the responsibility of Walsh Construction.

The policy shall provide a "severability of interests provision," or "multiple insured's clause" or similar wording that the policy shall apply to each insured as if a separate policy had been issued to each insured except as to limits.

Damage to Property Coverage. Coverage shall be the broadest coverage commercially available for "all risks" of direct physical loss or damage. The policy shall provide coverage per occurrence up to the full replacement cost or a loss limit based on a Probable Maximum Loss (PML) study of the covered property loss, provided, however, that the policy may include appropriate sublimits for earthquake, earth movement, tsunami and flood but in no event less than \$50,000,000 aggregate each for earthquake and flood. If a PML option is used, then the study supporting the PML must be provided to the Transportation Cabinet, and the PML may only be used as an alternative if it is approved, in writing, by the Transportation Cabinet. At its option, the Transportation Cabinet may provide a PML obtained at Transportation Cabinet expense. If the Transportation Cabinet accepts the PML so obtained, the Transportation Cabinet may require Walsh Construction to obtain coverage with a loss limit less than full replacement cost. Any additional insurance premium shall be paid for by the Transportation Cabinet through a change order. Any reduction in insurance premium shall be credited to the Transportation Cabinet through a deductive change order.

Delay Coverage. The builder's risk insurance shall provide, up to the policy limit, delay coverage for loss of revenue due to physical damage to the Project, which shall apply only for the benefit of the Indemnified Parties. Valuation shall be based on estimated lost toll revenues with a period of indemnity limited to a period of no less than one year commencing on the date Substantial Completion would have occurred absent the loss occurrence. The minimum limit for this coverage shall be \$65,000,000. At its option, the Transportation Cabinet may provide a PML obtained at the Transportation Cabinet expense. If the Transportation Cabinet accepts the PML so obtained, the Transportation Cabinet may require Walsh Construction to obtain coverage with a loss limit greater than or less than \$65,000,000. Any additional insurance premium shall be paid for by the Transportation Cabinet through a change order. Any reduction in insurance premium shall be credited to the Transportation Cabinet through a deductive change order.

The policy shall not contain any coinsurance provision. The policy may include a "waiting period" deductible of no more than 60 days. No liquidated damages shall be deducted from the insurance recovery unless such damages are actually collected. Coverage shall include payment for expenses incurred for the purpose of reducing any loss amount to the extent such loss amount is actually reduced. Coverage shall include loss caused by action of civil authority following loss due to an insured peril.

WORKERS COMPENSATION AND EMPLOYER'S LIABILITY INSURANCE

During all phases of the Project, Walsh Construction shall obtain and maintain and shall require all Subcontractors of all tiers to obtain and maintain, a policy or policies of insurance providing workers' compensation statutory benefits and employer's liability in conformance with the laws of the State of Kentucky. Employer's liability limits shall be no less than \$1 million each accident, each employee, and policy limit, if scheduled under the excess or umbrella liability policies to reach a total of \$100,000,000. The workers' compensation policies shall provide the following:

- (a) A waiver of subrogation in favor of the Transportation Cabinet and the Indemnified parties;
- (b) A provision extending coverage to all states operations;
- (c) A voluntary compensation endorsement;
- (d) An alternative employer endorsement;
- (e) Coverage for liability under the United States Longshore and Harbor Workers' Compensation Act, as appropriate, by adding a Longshore and Harbor Workers' Compensation Act coverage endorsement (WC 00 01 06 A) to a standard workers compensation policy or by purchasing stand-alone coverage from a federally authorized insurer;
- (f) Coverage for liability under Title 46 of the United States Code § 688 ("Jones Act") on an "if any" basis or as otherwise appropriate; and
- (g) An endorsement extending the policy to cover the liability of the insureds under the Federal Employer's Liability Act on an "if any" basis or as otherwise appropriate.

COMMERCIAL GENERAL LIABILITY INSURANCE

Walsh Construction shall obtain and maintain a policy or policies of commercial general liability insurance for bodily injury, property damage, personal injury and advertising injury specifically and exclusively for the Project, Project ROW, and Site, or shall obtain a separate project-specific general aggregate limit under Walsh Construction's corporate program of insurance. Coverage shall be written on an occurrence form that shall provide coverage at least as broad as the coverage provided by Insurance Services Office (ISO) form CG 00 01.

The policy or policies shall be endorsed to remove exclusions pertaining to railroads. There shall be no "Contractors limitation" endorsements as that term is defined as of the date of the agreement in the Glossary of Insurance and Risk Management Terms published by the International Risk Management Institute (<http://www.irmi.com/online/insurance-glossary/default.aspx>) that have not been reviewed and approved by the Transportation Cabinet or its representatives. There shall be no endorsement or modification of the CGL limiting the scope of coverage for liability assumed under an insured contract.

The commercial general liability insurance coverage shall have limits of not less than \$1,000,000 per occurrence, \$2,000,000 general aggregate and \$2,000,000 products/completed operations aggregate. Completed operations coverage shall extend for as long as there is any exposure to liability under a statute of repose or any other applicable statute either through continuous maintenance of completed operations coverage in Walsh Construction's corporate insurance program, including an endorsement providing completed operations coverage for additional insureds, or by purchase of extended completed operations coverage for a project-specific policy. If project-specific coverage through statutory exposure is not commercially available, completed operations coverage shall extend for at least ten years from project completion. If a project-specific policy is provided, Walsh Construction shall be the named insured and each of the Indemnified Parties shall also be an insured as to any loss or liability arising out of or in any way related to the Project, Project ROW, or Site. If Walsh Construction's corporate program is used with a project-specific general aggregate limit, each of the Indemnified Parties shall be an insured under that policy.

AUTOMOBILE LIABILITY INSURANCE

Walsh Construction shall obtain and maintain and shall require all Subcontractors of all tiers to obtain and maintain a business auto liability policy or policies. Each policy shall cover accidental death, bodily injury and property damage liability arising from the ownership, maintenance, or use of all vehicles connected with performance of the Work, including loading and unloading. Walsh Construction auto liability policies shall cover "any auto" (symbol 1) or shall be specifically endorsed to include liability coverage on an excess basis for vehicles owned or operated by subcontractors. Policies shall include as an insured anyone liable for the conduct of an insured as defined in the policy, or shall add as insureds, the Indemnified Parties. For any Contractor of any tier, including Walsh Construction, who will be involved in any way with the transportation of Hazardous Materials using its own vehicles, pollution liability coverage at least as broad as that provided under the ISO pollution liability-broadened coverage for covered autos endorsement (CA 99 48) shall be provided and the automobile liability insurance policies shall be endorsed to include Motor Carrier Act Endorsement-Hazardous materials clean up (MCS-90) with a sublimit of no less than \$1,000,000.

Walsh Construction's automobile liability coverage shall have a combined single limit per policy period of not less than \$100,000,000 and may be scheduled under the excess or umbrella liability policies to achieve the desired limit. Excess or umbrella policies shall cover "any auto" (symbol 1) or shall be

specifically endorsed to include liability coverage on an excess basis for vehicles owned or operated by Walsh Construction's subcontractors.

Walsh Construction shall require and confirm that no automobile liability policy issued to a subcontractor shall contain a self-insured retention exceeding \$50,000 per accident unless approved by the Transportation Cabinet. Deductibles, as opposed to self-insured retentions, are not included in this restriction.

UMBRELLA OR EXCESS LIABILITY INSURANCE

Walsh Construction shall obtain and maintain an umbrella or excess liability insurance policy with limits of not less than \$100,000,000 exclusive to the Project, that will provide bodily injury, personal injury and property damage liability coverage at least as broad as the primary coverages set forth above, including commercial general liability and employer's liability in excess of the amounts set forth above. Walsh Construction may use its corporate insurance program or a combination of corporate insurance and stand-alone policies to meet this requirement provided that the general aggregate limits available for this Project are not subject to erosion by losses on other projects not related to this Project.

Such policy or policies shall include the following terms and conditions:

- (a) Policies shall contain a drop down feature requiring the policy to respond in the event that any primary insurance limits are exhausted or for occurrences covered by an umbrella policy but not covered in the underlying insurance;
- (b) Policies shall provide coverage at least as broad as found in the underlying primary policies; and
- (c) There shall be no "Contractors limitation" endorsement that have not been reviewed and approved by the Indemnified Parties or their representatives.

The Transportation Cabinet and the Indemnified Parties shall be included as insureds on the excess policy including coverage extension to all insureds for completed operations.

POLLUTION LIABILITY INSURANCE

Walsh Construction shall obtain and maintain Contractor's Pollution Liability (CPL) insurance with a total limit of liability of no less than \$50,000,000 per loss and \$50,000,000 in the aggregate per policy period dedicated to the Project. Walsh Construction may use a corporate CPL program, provided that coverage extends for a minimum 10-year period as described in the next paragraph.

The CPL shall be obtained on an occurrence basis for a policy term inclusive of the entire period of construction. The CPL shall provide for a minimum 10-year coverage period, including the construction period and an extended reporting period. If an occurrence-based form is not available, coverage may be provided under a claims-made form provided that the 10 year-coverage and claim reporting period is provided either through an extended reporting period or through continuous maintenance of coverage with no advancement of a retroactive date that is no later than commencement of the Work.

The CPL policy shall include coverage for investigation, removal, and remediation costs including monitoring or disposal of contaminated soil, surface water, groundwater or other contamination

to the extent required by environmental laws caused by pollution conditions resulting from covered operations; third-party bodily injury and property damage, provided that the third-party property damage liability coverage includes loss of use of damaged property or of property that has not been physically injured or destroyed, resulting from pollution conditions caused by construction operations. The policy shall have no exclusions or limitations for loss occurring over water including but not limited to a navigable waterway.

Coverage as required in this paragraph shall apply to sudden and non-sudden pollution conditions resulting from the escape or release of smoke, vapors, fumes, acids, alkalis, toxic chemicals, liquids, or gases, waste materials, or other irritants, contaminants, or pollutants. The CPL shall also provide coverage for transportation and off-Site disposal of materials.

The Transportation Cabinet and each of the Indemnified Parties shall also be insureds. The policy shall not contain any provision or exclusion (including any so-called “insured versus insured” exclusion or “cross-liability” exclusion) the effect of which would be to prevent, bar, or otherwise preclude any insured or additional insured under the policy from making a claim which would otherwise be covered by such policy on the grounds that the claim is brought by an insured or additional insured against an insured or additional insured under the policy.

PROFESSIONAL LIABILITY INSURANCE

During all phases of the Project, Walsh Construction shall obtain and maintain or cause others, as appropriate, to obtain and maintain professional liability insurance, including design build Contractor’s professional liability and liability for design professional services covering professional services performed in connection with the Design Build Agreement, with limits not less than \$20,000,000 per claim and in the aggregate.

No self-insured retention for Walsh Construction or lead design entity shall exceed \$250,000 without prior written approval from the Transportation Cabinet, in its good faith discretion. Coverage shall apply specifically to professional activities performed under the Contract Documents. The policy(ies) shall have a retroactive date consistent with the inception of the first date of design or project or construction management activities, and no later than the date on which the RFP was issued.

Walsh Construction agrees to maintain the required coverage for a period of no less than five years after Substantial Completion or to purchase an extended reporting period for no less than five years after Substantial Completion. If Walsh Construction is working with a separate lead design entity, Walsh Construction shall require the lead design entity to agree to maintain this coverage for a period of no less than five years after Substantial Completion or to purchase an extended reporting period for no less than five years after Substantial Completion.

RAILROAD PROTECTIVE LIABILITY INSURANCE

Walsh Construction shall provide any coverage as may be required by any railroad as a condition of the railroad’s consent for entry into railroad facilities or property. Such policy shall be effective during the period any Work is being performed within 50 feet of any railroad right of way.

AIRCRAFT LIABILITY INSURANCE

Walsh Construction shall provide, or cause to be provided, aircraft liability insurance, with a limit of not less than \$25,000,000 per accident or higher limits as may be required by the Transportation

Cabinet, in all cases where any aircraft is used on the Project that is owned, leased, hired, or chartered by any Walsh Construction-Related Entity, protecting against claims for damages resulting from such use. For any aircraft intended for use in performance of the Work, the aircraft crew, flight path and altitude, including landing of any aircraft on the Site or on any property owned by the Transportation Cabinet, shall be subject to review and written acceptance by the Transportation Cabinet prior to occurrence of any such usage. If any aircraft are leased or chartered with crew and/or pilot, evidence of non-owned aircraft liability insurance will be acceptable but must be provided prior to use of the aircraft. The Transportation Cabinet and the Indemnified Parties shall be added as insureds under any such policy.

WATERCRAFT LIABILITY INSURANCE

Walsh Construction shall provide, or cause to be provided, liability insurance covering the ownership, use, maintenance, loading or unloading of watercraft related to the performance of Walsh Construction's Work or any other operations contemplated under the Design Build Agreement. Policies shall provide a limit of not less than \$25,000,000 per occurrence or higher limits as may be required by the Transportation Cabinet, in all cases where any watercraft is used on the Project that is owned, leased, hired, or chartered by any Walsh Construction-Related Entity. Coverage may be provided through any combination of commercial general liability, marine general liability, or protection and indemnity insurance provided that all watercraft operation is covered, regardless of watercraft size. Such coverage may be arranged in any combination of primary and excess policies, all of which shall include the Transportation Cabinet and the Indemnified Parties as insureds and shall explicitly waive subrogation against the Transportation Cabinet and the Indemnified Parties.

GENERAL REQUIREMENTS, CONDITIONS, AND AGREEMENTS PERTAINING TO INSURANCE

Premiums, Deductibles and Self-Insured Retentions. Walsh Construction shall be responsible for payment of premiums for all insurance required under this Exhibit A. The Transportation Cabinet and the Indemnified Parties have no obligation to pay any premium. Walsh Construction further agrees that for each claim, suit or action made against insurance provided hereunder, with respect to all matters for which Walsh Construction is responsible hereunder, Walsh Construction shall be solely responsible for all deductibles or self-insured retentions. Any self-insured retentions maintained by Walsh Construction over \$250,000 must be declared and approved by the Transportation Cabinet. At the option of the Transportation Cabinet, the insurer shall either reduce or eliminate such self-insured retentions with respect to the Transportation Cabinet, and the other Indemnified Parties; or the Transportation Cabinet in its good faith discretion, may require posting of collateral by Walsh Construction guaranteeing payment of losses and related investigations, claims administration and defense expenses.

Commercial Unavailability of Required Coverages. If, through no fault of Walsh Construction, any of the coverages required in this Exhibit A (or any of the required terms of such coverages, including policy limits) become unavailable or are available only with commercially unreasonable premiums, the Transportation Cabinet will consider in good faith alternative insurance packages and programs proposed by Walsh Construction, with the goal of reaching agreement on a package providing coverage equivalent to that specified herein. Walsh Construction must demonstrate to the Transportation Cabinet's satisfaction that it has used diligent efforts in the global insurance markets to place the required insurance coverages, and shall advise the Transportation Cabinet of the specific results of those efforts. Walsh Construction shall not be entitled to any increase in the Contract Price for increased costs resulting from the unavailability of coverage and the requirement to provide acceptable alternatives. The Transportation Cabinet shall be entitled to a reduction in the Contract Price if the Transportation Cabinet, in its sole discretion, agrees to accept alternative policies providing less than equivalent coverage.

**Louisville-Southern Indiana Ohio River
Bridges Traffic & Revenue Study**

Final Report

October 24, 2013

Prepared for:
Kentucky Public Transportation Infrastructure
Authority

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Disclaimer

This traffic and revenue report has been prepared for the Kentucky Public Transportation Infrastructure Authority to support its development of the Louisville-Southern Indiana Ohio River Bridges Project. The projections of traffic contained within this document represent Steer Davies Gleave's best estimates. While they are not precise forecasts, they do represent, in our view, a reasonable expectation for the future, based on the most credible information available as of the date of this report. However, the estimates contained within this document necessarily rely on numerous assumptions and judgments. Circumstances may occur over the timeframe of the project that go counter to these assumptions and judgments and that affect the project's realized revenues. Further, projections are for multi-year trends; the results for individual years may vary from forecasted values.

In addition, it has been necessary to base much of this analysis on data collected by third parties. This has been independently checked whenever possible. However, Steer Davies Gleave cannot guarantee the accuracy of data from third party sources.

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Executive Summary

LSIORB Project Introduction

1. The Louisville-Southern Indiana Ohio River Bridges (LSIORB) Project involves the reconstruction of an existing bridge crossing and construction of a new crossing over the Ohio River in the Louisville metropolitan area. Figure ES-1 displays the location of the LSIORB project elements, depicting the I-65 Kennedy and Downtown Bridges and the East End Bridge.
2. The Project includes two elements:
 - **Downtown Crossing:** this is the reconstruction of the I-65 crossing and approaches. The project will include a new Downtown Bridge constructed east of the existing Kennedy Bridge. This new bridge will serve northbound traffic. The reconstruction will include the conversion of the existing Kennedy Bridge from serving two directions of traffic to only serving southbound traffic, as well as a redesigned interchange of I-65 with I-64 and I-71. After completion, the Downtown Crossing will have 6 lanes in each direction.
 - **East End Crossing:** this is a new crossing of the Ohio River in the eastern portion of the metropolitan area. It will include a new 4-lane bridge - the East End Bridge - along with the construction of attached highway sections to connect from I-265 in Kentucky, cross over the East End Bridge, and connect to I-265 in Indiana.

FIGURE ES-1 LOUISVILLE-SOUTHERN INDIANA OHIO RIVER BRIDGES PROJECT MAP



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3. As shown in Figure ES-1, there are three existing bridge crossings of the Ohio River in the Louisville-Southern Indiana region. These crossings are summarized below.
- **I-65 Bridge:** I-65 is a major north-south highway, connecting Louisville with Indianapolis and Nashville, which crosses the Ohio River on the Kennedy Bridge. The Kennedy Bridge contains 4 northbound lanes and 3 southbound lanes. Movement along I-65 in this area is complicated by “Spaghetti Junction”, which is how the convergence of I-64, I-65, and I-71 is commonly described. Traffic along this junction and over the bridge is very slow during the peak periods as peak period traffic exceeds the design capacity of the bridges.
 - **I-64 Bridge:** I-64 is an east-west highway, connecting Louisville with Lexington and St. Louis, which crosses the Ohio River over the Sherman Minton Bridge on the west side of the Louisville region.
 - **US 31 Bridge:** US 31 crosses the Ohio River over the Clark Memorial Bridge, which is just west of the Kennedy Bridge. The Clark Memorial Bridge is a four-lane undivided facility with a 35 mph posted speed limit. On the Kentucky side, the Clark Memorial Bridge delivers traffic into downtown Louisville. This makes the Clark Memorial Bridge attractive for some travelers who live in Indiana and work in downtown Louisville. However, this acts as a deterrent to traffic passing through Louisville and looking for a detour around the I-65 river crossing.

Existing Conditions

4. In order to provide an understanding of the recent traffic experience of the existing Ohio River crossings, we prepared Table ES-1 which displays the average annual daily traffic of the bridge crossings for the years in which they were actually collected. The table shows that the I-65 Kennedy Bridge reached a maximum daily traffic level of 136,000 in 2007, before falling to its current 122,000 level with the higher fuel prices and economic recession of the past five years. A similar situation occurred on the I-64 Sherman Minton Bridge, with traffic reaching a maximum of almost 90,000 daily trips before falling to its current level of almost 80,000.

TABLE ES-1 HISTORICAL OHIO RIVER BRIDGE CROSSING TRAFFIC

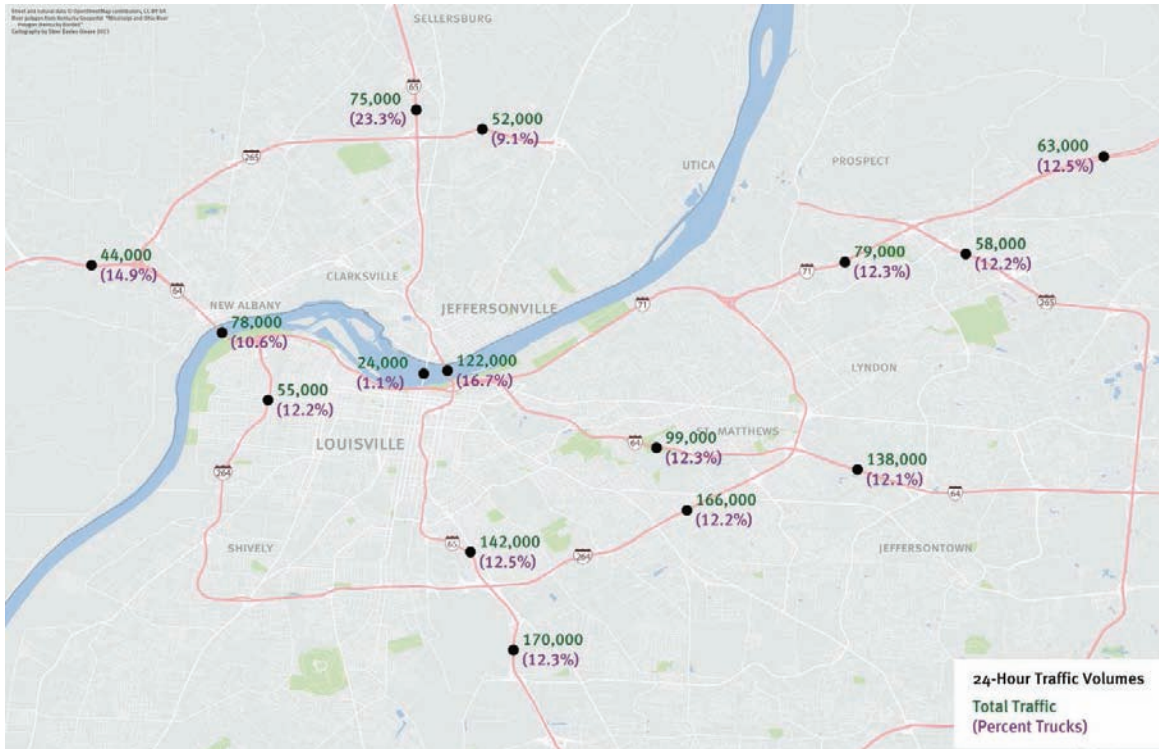
I-65		I-64		US 31	
Year	Daily Traffic	Year	Daily Traffic	Year	Daily Traffic
2004	132,000	2002	87,800	2002	19,900
2007	136,000	2004	81,500	2006	19,200
2008	121,000	2007	89,800	2009	14,800
2010*	122,900	2010*	81,900	2010*	21,900
2012*	122,000	2011	69,600	2012*	24,100
		2012*	78,200		

Notes: *these values reflect seasonal adjustments to data collected by the Traffic Group

Source: Steer Davies Gleave, KYTC, and the Traffic Group

- We also collected and compiled traffic count data for the major freeways in the study area. Figure ES-2 displays the current traffic level and the truck share of traffic for these locations. This figure shows that I-65 on the Kentucky side serves the highest level of daily traffic, particularly the location south of I-264. The figure also illustrates the high level of truck activity in the area, with particularly high truck shares of traffic on I-65 at the Ohio River and north of I-265 in Indiana.

FIGURE ES-2 CURRENT TRAFFIC LEVELS

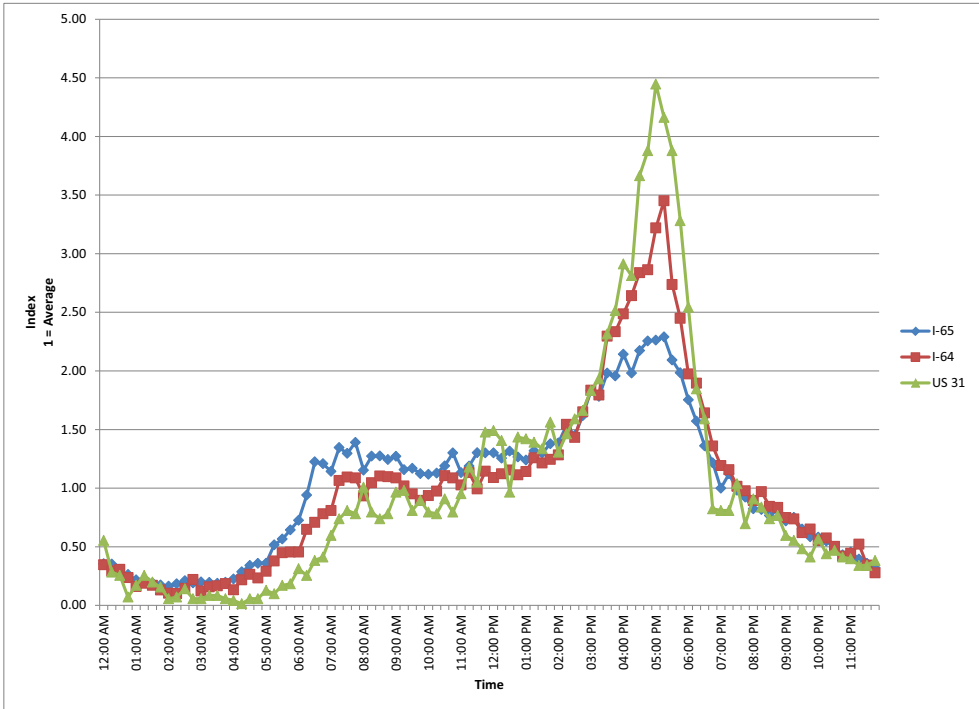


Source: Steer Davies Gleave, KYTC, INDOT, and the Traffic Group

- River crossing trips are made up of both regional commuters and long-distance, interstate truck movements.
- In order to highlight the daily peaking of bridge crossing traffic, which is associated with commuting traffic, we analyzed the directional traffic in 15-minute intervals. For each bridge, we identified the average traffic 15-minute traffic level and used that as the base. We then identified the index relative to the base for each 15-minute period. Figure ES-3 and Figure ES-4 present the index values for each bridge in the northbound and southbound directions, respectively. These figures show that traffic on the bridge crossings experience more traffic during the peak periods, with northbound peaking in the PM and southbound peaking in the AM. This is consistent with the major commuting traffic flow from residences in Indiana to employment in Kentucky, and Louisville in particular.

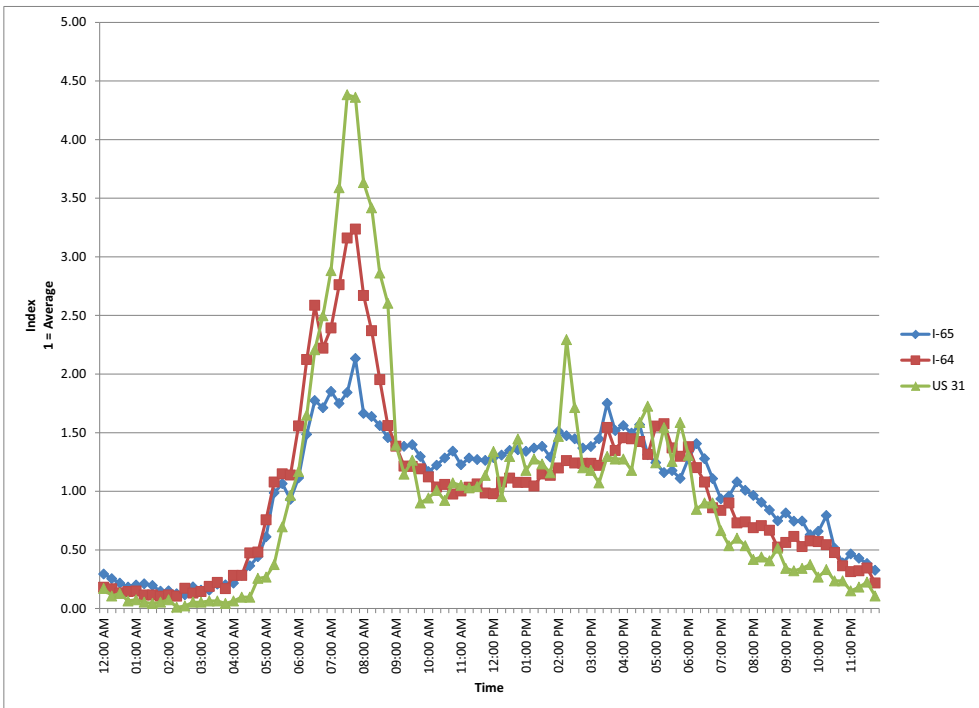
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FIGURE ES-3 TIME OF DAY PROFILE OF NORTHBOUND CROSSING TRAFFIC



Source: Steer Davies Gleave and the Traffic Group

FIGURE ES-4 TIME OF DAY PROFILE OF SOUTHBOUND CROSSING TRAFFIC



Source: Steer Davies Gleave and the Traffic Group

8. In order to understand the composition of trips on the bridges that pass through the region, we analyzed the license plate matching information collected by the Traffic Group in 2010 and presented in CDM Smith's traffic reports of the Supplemental Final Environmental Impact Statement. Based upon our analysis of this information, we identified the percentage of I-64 and I-65 bridge trips passing through the region. Table ES-2 shows that there are a large share of truck trips passing through the region, consistent with long-distance, interstate truck movements.

TABLE ES-2 PERCENTAGE OF BRIDGE TRIPS PASSING THROUGH THE REGION

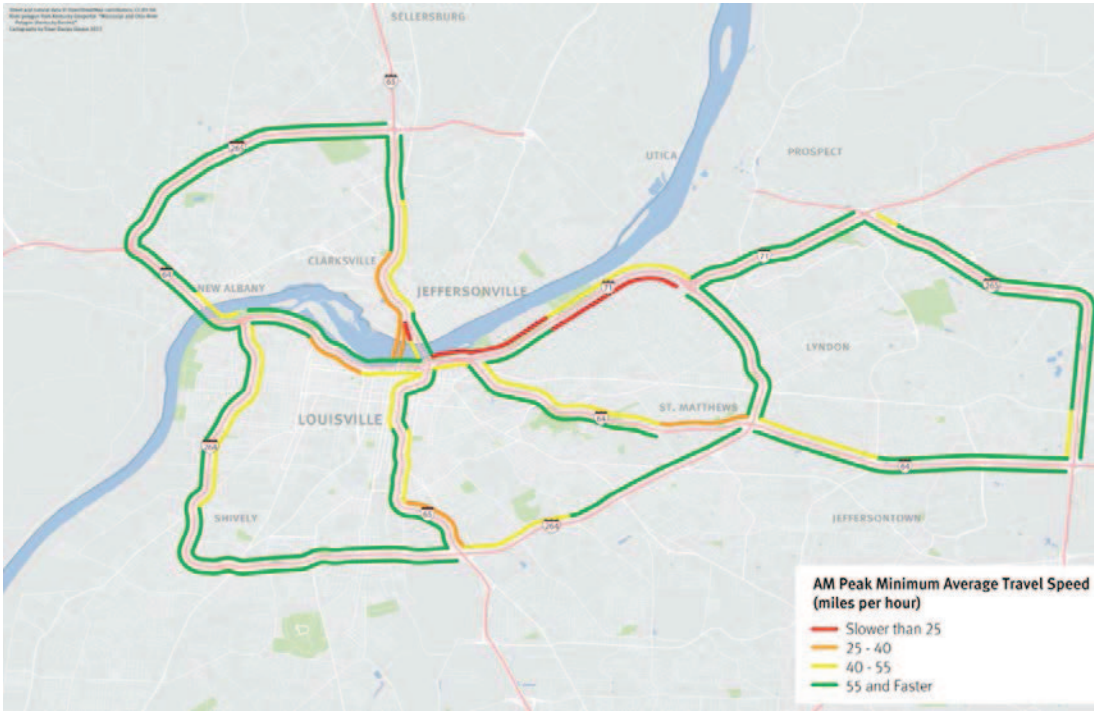
Bridge Crossing	Auto	Truck
I-65 NB	5%	28%
I-65 SB	6%	23%
I-64 NB*	4%	48%
I-64 SB*	4%	49%

Source: Steer Davies Gleave, CDM Smith and the Traffic Group

Note: While I-64 is an east-west interstate, the NB and SB reflect the travel direction crossing the Ohio River.

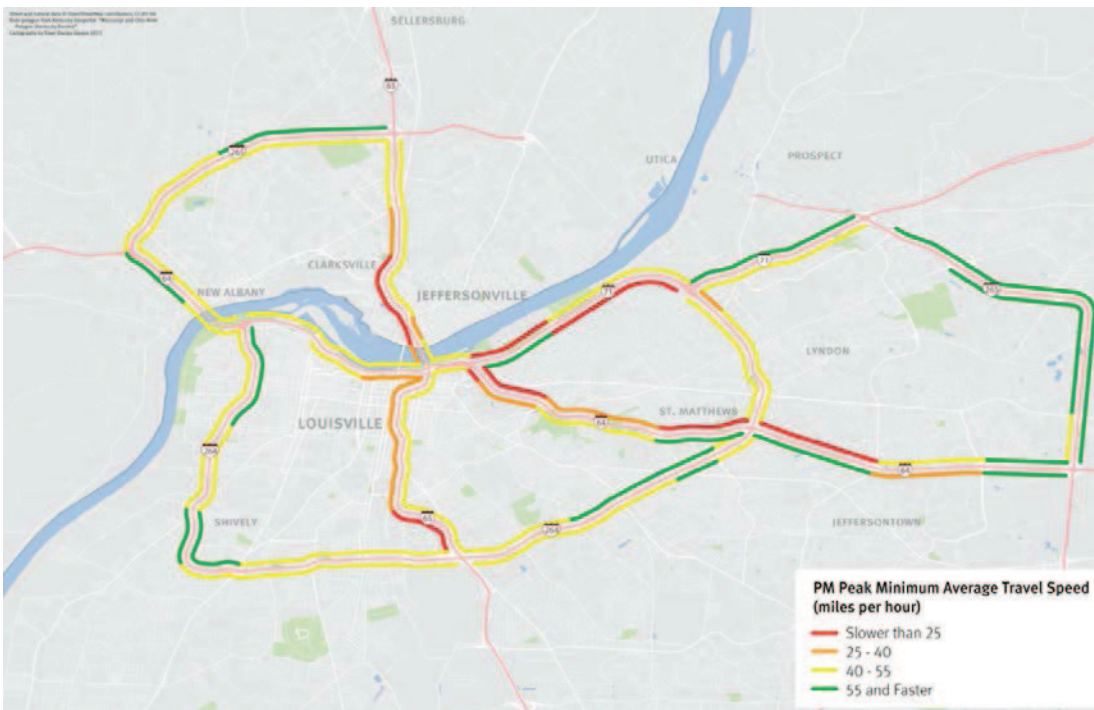
9. We collected travel time information for the major study area roadways in order to understand how traffic flows through different times of the day. Based upon this information, we prepared figures that indicate the average travel speeds during the peak periods. Figure ES-5 illustrates the average AM peak travel speeds and Figure ES-6 illustrates the average PM peak travel speeds. These figures show that there are more delays occurring during the PM peak than in the AM peak. In general, most delays occur near the interchanges of highways as merging traffic causes slowdowns.

FIGURE ES-5 OBSERVED AM PEAK PERIOD TRAVEL SPEEDS



Source: Steer Davies Gleave

FIGURE ES-6 OBSERVED PM PEAK PERIOD TRAVEL SPEEDS



Source: Steer Davies Gleave

Forecast Model Development

10. In order to prepare traffic and revenue forecasts for the LSIORB Project, Steer Davies Gleave developed a custom toll forecasting model for the study area. This model was built upon a version of the MPO network travel demand model which had been prepared by CDM Smith to support the NEPA analysis and covers the counties of Floyd and Clark in Indiana and Oldham, Jefferson and Bullitt in Kentucky. Key elements of the Steer Davies Gleave model include:
- A stated preference survey that was undertaken to provide an empirical basis for establishing a route choice model mechanism into the highway assignment.
 - Nine model time periods to present the varying levels of traffic and congestion throughout the day.
 - Representation of the highway network to reflect the 2012 traffic conditions.
 - New traffic counts and travel time measures used to validate the assignment results across the network for each of the nine time periods, and in particular for each of the existing Bridges, providing a robust platform for the forecasts.
 - Socioeconomic forecasts for the model area developed by an independent economic consultant, and a growth model built to validate the river crossing traffic growth included in the demand matrices.

Traffic and Revenue Forecasts

11. We used the traffic forecasting model to develop the traffic and revenue for the toll system which includes both the Downtown Crossing and East End Crossing. The toll rates assumed for both crossings are presented in Table ES-3, and these toll rates were increased by 2.5% annually.

TABLE ES-3 TOLL RATES (2017 \$)

	2-Axle Vehicles	Medium Trucks	Heavy Trucks
Discount Program	\$1.00		
Transponder	\$2.00	\$5.00	\$10.00
Registered Video	\$3.00	\$6.00	\$11.00
Other Video	\$4.00	\$7.00	\$12.00

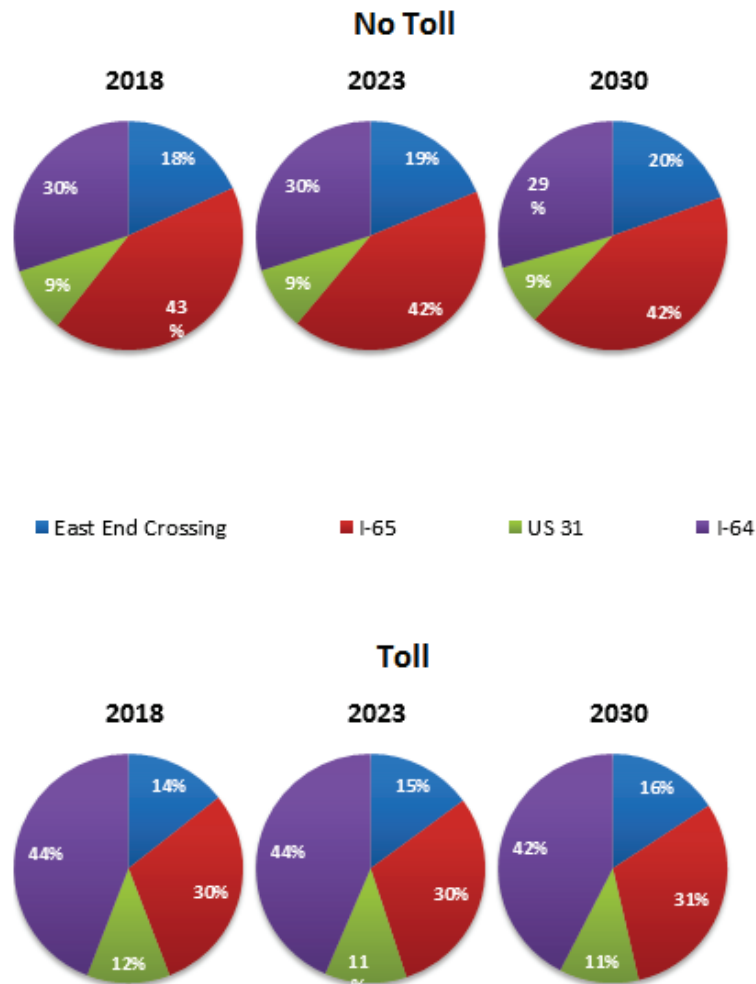
12. In order to provide a basis of understanding of the toll bridge traffic and revenue forecasts, we first analyzed the forecasted growth in total river crossing travel. Table ES-4 presents the daily river crossing traffic for the base year and each future model year, with the LSIORB Project included. The compound annual growth rate (CAGR) of river crossing traffic from 2012 to 2030 is 1.3%.

TABLE ES-4 FORECAST DAILY RIVER CROSSING TRAFFIC

	2012	2018	2023	2030
6-7 AM	12,161	13,858	14,556	16,018
7-8 AM	16,857	19,893	20,822	22,886
8-9 AM	14,429	16,703	17,439	19,201
10 AM - 3 PM	69,349	73,433	76,538	82,276
3-4 PM	15,858	18,294	19,147	21,218
4-5 PM	18,225	20,389	21,216	23,129
5-6 PM	18,255	21,021	21,883	24,003
6-7 PM	12,923	15,248	15,966	17,612
7 PM - 6 AM	46,220	51,479	53,531	58,316
Daily Total	224,277	250,318	261,099	284,659

13. To further understand our forecasts, we investigated how the shares of traffic using each bridge changes when tolls are introduced. Figure ES-7 illustrates the reduced share of East End Crossing and I-65 traffic when they are tolled. In 2030, the East End Crossing's share of traffic falls from 20% to 16% when tolls are added, with similar reductions seen in the other years. In 2030, I-65's share of traffic falls from 42% to 31%, with similar reductions in the other years. In terms of capture rates, the tolled East End Crossing captures roughly 80% of its non-tolled traffic level, while the tolled I-65 captures roughly 70% of its non-tolled level. The higher capture rate, and correspondingly lower reduction in share of crossing traffic, for the East End Crossing compared to I-65 is consistent with the better non-tolled options available to I-65 traffic.

FIGURE ES-7 DISTRIBUTION OF RIVER CROSSING TRAFFIC WITH AND WITHOUT TOLLS



- The daily traffic and revenue forecasts were converted into an annual stream of traffic and revenue by interpolating and extrapolating non-modeled years, and annualizing with a factor of 315. We also applied adjustments for toll leakage and ramp-up, and shifted the calendar year model forecasts to Kentucky's Fiscal Year, which starts on July 1. The resulting annual traffic and revenue forecasts are presented in Table ES-5, which show revenue growing from almost \$34 million for FY 2017, the first half year of opening, to over \$376 million in 2054.

TABLE ES-5 ANNUAL TRAFFIC AND REVENUE STREAM

Fiscal Year	Daily Traffic	Annual Traffic After Ramp-Up (000s)	Daily Revenue (Nominal \$)	Annual Revenue (000s Nominal \$)	Annual Revenue Less Toll Evasion After Ramp-Up (000s Nominal \$)
2017	102,844	10,860	\$334,090	\$52,619	\$33,841
2018	106,676	24,803	\$359,480	\$113,236	\$79,252
2019	111,171	30,356	\$376,957	\$118,741	\$98,158
2020	112,506	33,575	\$385,134	\$121,317	\$110,248
2021	113,860	35,122	\$394,153	\$124,158	\$117,222
2022	114,801	36,162	\$404,079	\$127,285	\$122,529
2023	116,453	36,683	\$414,983	\$130,720	\$126,165
2024	118,215	37,238	\$426,948	\$134,488	\$130,096
2025	120,036	37,811	\$439,823	\$138,544	\$134,281
2026	121,962	38,418	\$453,440	\$142,834	\$138,703
2027	123,995	39,058	\$467,845	\$147,371	\$143,377
2028	126,138	39,734	\$483,084	\$152,172	\$148,198
2029	128,396	40,445	\$499,212	\$157,252	\$153,297
2030	130,773	41,193	\$516,283	\$162,629	\$158,691
2031	133,112	41,930	\$536,506	\$169,000	\$164,985
2032	135,374	42,643	\$559,578	\$176,267	\$172,079
2033	137,675	43,368	\$583,324	\$183,747	\$179,381
2034	140,016	44,105	\$608,083	\$191,546	\$186,994
2035	142,397	44,855	\$633,895	\$199,677	\$194,931
2036	144,515	45,522	\$659,396	\$207,710	\$202,773
2037	146,359	46,103	\$684,516	\$215,623	\$210,497
2038	148,228	46,692	\$710,596	\$223,838	\$218,517
2039	150,122	47,288	\$737,672	\$232,367	\$226,843
2040	152,040	47,892	\$765,782	\$241,221	\$235,486
2041	153,657	48,402	\$793,262	\$249,877	\$243,936
2042	154,966	48,814	\$820,028	\$258,309	\$252,167
2043	156,287	49,230	\$847,699	\$267,025	\$260,676
2044	157,619	49,650	\$876,305	\$276,036	\$269,472
2045	158,963	50,073	\$905,878	\$285,352	\$278,566
2046	160,319	50,500	\$936,451	\$294,982	\$287,967
2047	161,686	50,931	\$968,056	\$304,938	\$297,685
2048	163,066	51,366	\$1,000,730	\$315,230	\$307,732
2049	164,457	51,804	\$1,034,509	\$325,870	\$318,119
2050	165,861	52,246	\$1,069,429	\$336,870	\$328,857
2051	167,276	52,692	\$1,105,529	\$348,242	\$339,958
2052	168,705	53,142	\$1,142,851	\$359,998	\$351,434
2053	170,145	53,596	\$1,181,433	\$372,152	\$363,298
2054	171,598	54,053	\$1,221,321	\$384,716	\$375,563

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1 Introduction

- 1.1 Steer Davies Gleave (SDG) has been engaged to prepare investment grade traffic and revenue forecasts for the Louisville-Southern Indiana Ohio River Bridges (LSIORB) Project.
- 1.2 Steer Davies Gleave is one of world's largest independent specialist transportation consultancies, with more than 300 professional staff and a worldwide client base. The company's head office is in London and they have North American offices in Boston, Denver, Mexico City, San Juan, Toronto and Vancouver. Steer Davies Gleave is an employee-owned company that was founded in 1978. Having worked on some 500 toll and shadow toll road projects around the world, Steer Davies Gleave has developed a recognized specialty in the appraisal of toll-financed facilities.

Project Background and Location

- 1.3 The LSIORB Project involves the reconstruction of an existing bridge crossing and construction of a new crossing over the Ohio River in the Louisville metropolitan area. Figure 1.1 displays the location of the Louisville metropolitan area, while Figure 1.2 displays the location of the project elements within the Louisville metropolitan area, depicting the I-65 Kennedy and Downtown Bridges and the East End Crossing Bridge.
- 1.4 The project development has occurred over 40 years. FHWA issued a Record of Decision (ROD) for the Project in 2003 and a revised ROD in 2012 after the Supplemental Environmental Impact Statement modified the preferred alternative to include tolling.
- 1.5 The Project includes two elements:
- **Downtown Crossing:** this is the reconstruction of the I-65 crossing and approaches. The project will include a new Downtown Bridge constructed east of the existing Kennedy Bridge. This new bridge will serve northbound traffic. The reconstruction will include the conversion of the existing Kennedy Bridge from serving two directions of traffic to only serving southbound traffic, as well as a redesigned interchange of I-65 with I-64 and I-71. After completion, the Downtown Crossing will have 6 lanes in each direction.
 - **East End Crossing:** this is a new crossing of the Ohio River in the eastern portion of the metropolitan area. It will include a new 4-lane bridge - the East End Bridge - along with the construction of attached highway sections to connect from I-265 in Kentucky, cross over the East End Bridge, and connect to I-265 in Indiana.

FIGURE 1.1 LOCATION OF LOUISVILLE-SOUTHERN INDIANA

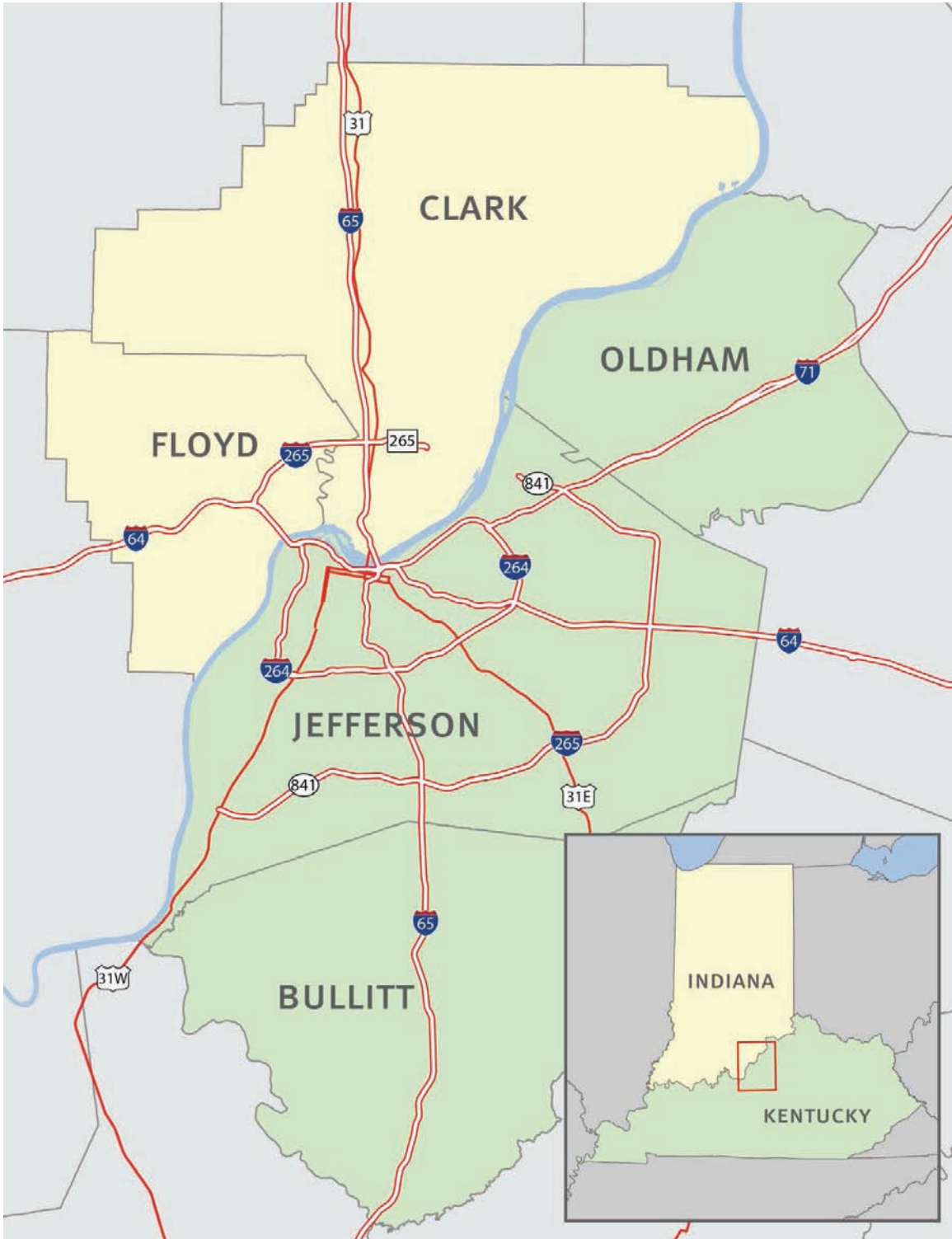


FIGURE 1.2 LOUISVILLE-SOUTHERN INDIANA OHIO RIVER BRIDGES PROJECT MAP



- 1.6 As tolled bridges, the Downtown Bridge and the East End Bridge will be operated exclusively as an Open Road Tolling (ORT) system. Accordingly, vehicles will be given the option of paying the toll through the use of a transponder or based upon their license plate. The primary collection method will be with transponders through electronic toll collection (ETC), but for vehicles who use one of the tolled bridges and are not equipped with transponders, they will have their toll collected through video collection. For video collection, two options will be offered, with pre-registered and standard video toll collection. The standard video toll collection will involve the capturing of a license plate image, identifying the license plate, identifying the address corresponding to the license plate through Department of Motor Vehicle (DMV) records, and then mailing a bill to the address. A surcharge will be applied to cover the additional costs associated with this type of toll collection. For the pre-registered collection, travelers will register their license plate so that when their license plate image is captured, they can be sent the bill without needing to match the license through the DMV records. Accordingly a smaller surcharge will be applied than for the standard video toll collection.

Report Structure

- 1.7 This report presents the traffic and revenue forecasts for the LSIORB Project, structured through seven chapters. Chapter 2 presents our analysis of the existing

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conditions; Chapter 3 provides a review of land use activity and growth analysis; Chapter 4 includes the analysis of a travel survey conducted as part of this study; Chapter 5 describes our traffic and forecasting methodology; Chapter 6 presents the traffic and revenue forecasts; and Chapter 7 provides a sensitivity analysis of the forecasts.

2 Existing Conditions Analysis

2.1 This chapter describes the existing conditions of the project study area.

Ohio River Bridge Crossings

2.2 As was depicted in Figure 1.2, there are three existing bridge crossings of the Ohio River in the Louisville-Southern Indiana region. Below we describe each of these crossings.

I-65 Bridge

2.3 I-65 crosses the Ohio River on the Kennedy Bridge. I-65 is a major north-south highway connecting Louisville with Indianapolis in the north and Nashville in the south. The Kennedy Bridge contains 4 northbound lanes and 3 southbound lanes. Movement along I-65 in this area is complicated by “Spaghetti Junction”, which is how the convergence of I-64, I-65, and I-71 is commonly described. Traffic along this junction and over the bridge is very slow during the peak periods as peak period traffic exceeds the design capacity of the bridges.

2.4 The I-65 Kennedy Bridge serves 122,000 daily vehicles, compared to a daily design capacity of 105,000.¹ Further, trucks represent about 17% of traffic. This large share of truck traffic is significant as trucks utilize more capacity than autos. The peak travel direction is southbound in the AM and northbound in the PM, serving trips from Indiana to downtown Louisville and other Kentucky employment centers.

I-64 Bridge

2.5 I-64 crosses the Ohio River over the Sherman Minton Bridge on the west side of the region. While this bridge connects Indiana to the north and Kentucky to the south, I-64 is an east-west highway connecting Louisville with Lexington in the east and St. Louis in the west.

2.6 The Sherman Minton Bridge has 3 lanes in each direction, and serves 78,000 daily vehicles, compared to a daily design capacity of 90,000.² Travelers using I-64 and I-265 to detour around the I-65 river crossing would incur about 8 miles of additional travel.

US 31 Bridge

2.7 US 31 crosses the Ohio River over the Clark Memorial Bridge, which is just west of the Kennedy Bridge. The Clark Memorial Bridge is a four-lane undivided facility with a 35 mph posted speed limit. On the Kentucky side, the Clark Memorial Bridge delivers traffic into downtown Louisville. This makes the Clark Memorial Bridge attractive for some travelers who live in Indiana and work in downtown Louisville. However, this

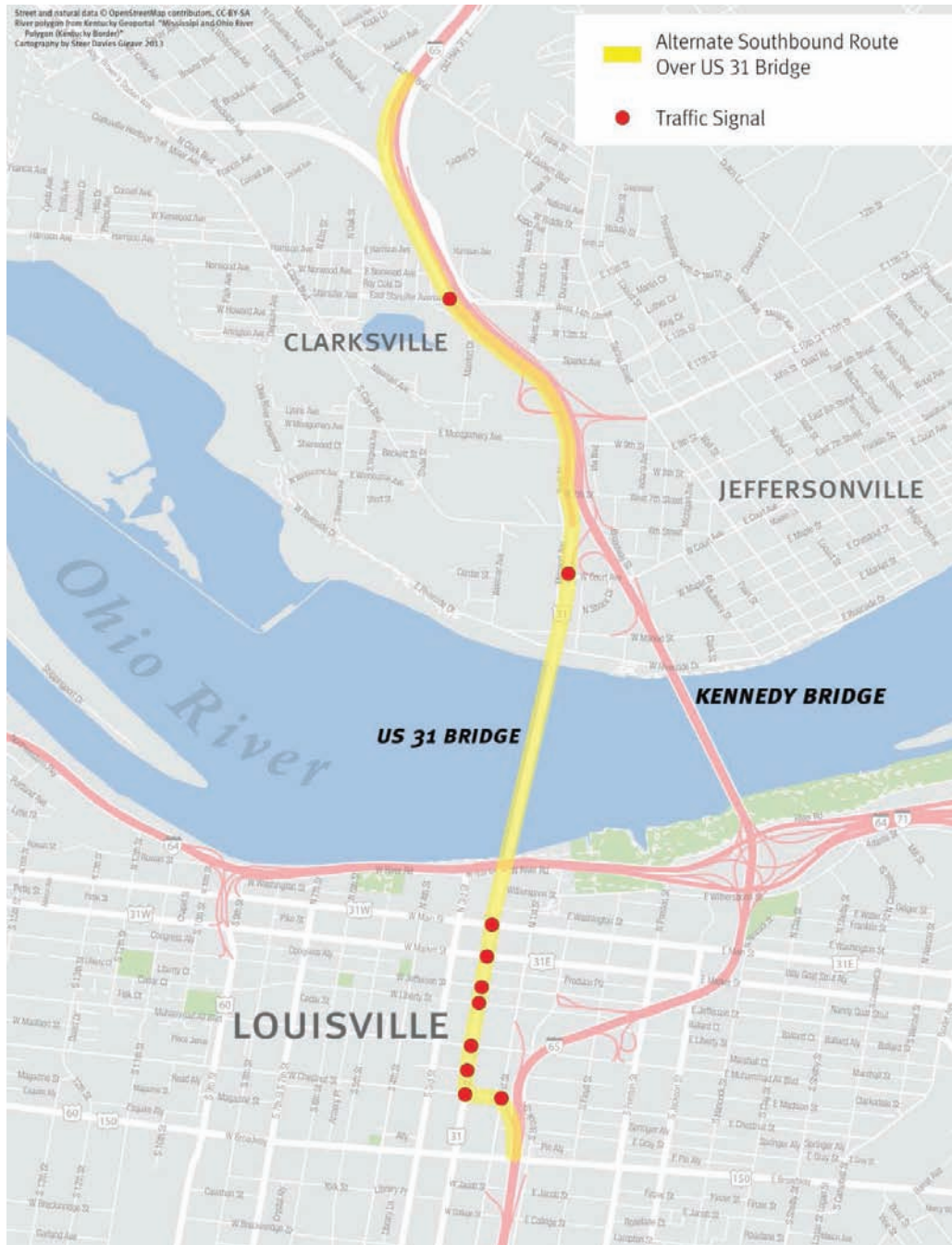
¹ Daily capacity from the KIPDA travel demand model.

² Ibid

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acts as a deterrent to traffic passing through Louisville and looking for a detour around the I-65 river crossing. Figure 2.1 illustrates the US 31 southbound alternative to I-65, highlighting the location of traffic signals that are encountered. During the peak periods, US 31 is already at capacity and the impact of the traffic signals is more pronounced. Also, due to its connection with the downtown Louisville local streets, very few trucks use the Clark Memorial Bridge.

FIGURE 2.1 US 31 ROUTE THROUGH LOUISVILLE



Data Collection Overview

- 2.8 To help establish a thorough understanding of the existing conditions of the study area and to help develop the toll forecasting model, an extensive data collection effort was undertaken. This included the collection of both desk and original data.
- 2.9 The desk data collection included:
- Traffic count data collected by the Traffic Group in September 2010
 - License plate matching survey performed by the Traffic Group in September 2010
 - Traffic count data collected as part of the KYTC traffic monitoring program
 - Traffic count data collected as part of the INDOT traffic monitoring program
 - Mygistics³ traffic pattern analysis developed from cellphone data of Ohio River crossing traffic
- 2.10 The original data collection included:
- Traffic count data collected by the Traffic Group in December 2012
 - Travel time runs collected by Steer Davies Gleave in December 2012
 - Internet travel survey included stated preference questions
 - Trucking industry outreach conducted by Steer Davies Gleave in December 2012 through February 2013.

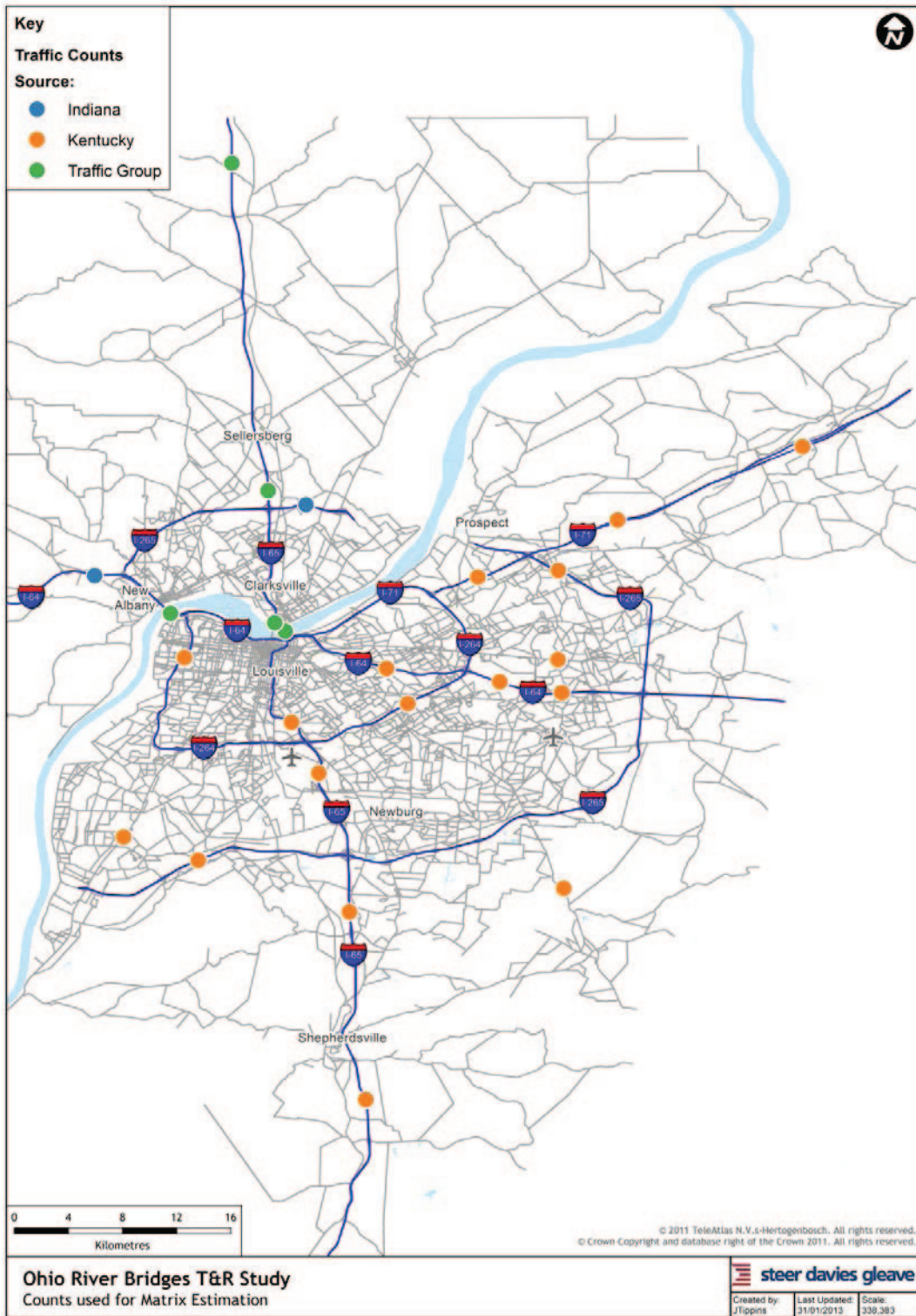
Traffic Count Data

- 2.11 Traffic count data was obtained from four sources:
- KYTC's traffic monitoring program
 - INDOT's traffic monitoring program
 - The Traffic Group September 2010 collection
 - The Traffic Group December 2012 collection
- 2.12 As part of FHWA's Highway Performance Monitoring System, KYTC and INDOT collect traffic data for key highway locations throughout each state. This information includes data collected from permanent automatic traffic recorders and short-term collection units, which are typically collected for 48-hour periods. We collected the available area count data from KYTC and INDOT for 2010, 2011, and 2012. These locations are indicated in Figure 2.2 below.
- 2.13 As part of the traffic forecasting work conducted for the environmental impact analysis, the Traffic Group collected traffic count data in September 2010. In order to get more recent data, we had the Traffic Group collect original data again in December 2012. The majority of the locations from the December 2012 count program were the same as had been collected in 2010, but a few new locations were

³³ Mygistics is a transportation research and data processing and analysis firm - <http://www.mygistics.com/>

included. Figure 2.2 also provides the location of the traffic counts collected by the Traffic Group.

FIGURE 2.2 TRAFFIC COUNT LOCATIONS



Travel Time Runs

- 2.14 Steer Davies Gleave staff conducted travel time runs along the major routes of the study area in December 2012, as presented in Figure 2.3. These routes included:
- Route 1: I-264 (west side) between I-65 in Kentucky and Indiana
 - Route 2: I-65 between I-264 in Kentucky and Indiana
 - Route 2A: US 31
 - Route 3: I-71 between I-265 and I-64, and I-64 between I-71 and I-264
 - Route 4: I-265 between I-71 and I-64, and I-64 between I-265 and I-71
 - Route 5: I-264 (east) between I-71 and I-65
- 2.15 For each route, at least one run was conducted in the AM and PM peak periods in each direction, with mostly hourly travel time runs conducted for the primary routes (Routes 1-3). The data collection vehicles were equipped with GPS units and we used the “Floating-Car” technique for the travel time runs. With this technique, the data collection vehicle adopts a speed that allows it to pass one vehicle for every vehicle that passes it.

FIGURE 2.3 TRAVEL TIME ROUTES



Traffic Levels

Historical Traffic growth

- 2.16 As discussed above, we collected traffic count data from Kentucky and Indiana traffic monitoring programs to help establish the historical traffic profile. For the different

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locations in the study area, depending on the year, these data collection programs may vary between collecting new data and estimating a traffic level based upon prior counts and seasonal factors. Accounting for these variations, we have prepared Table 2.1 which displays the average annual daily traffic of the bridge crossings for the years in which they were actually collected. We have supplemented this table with the seasonally-adjusted traffic collected by the Traffic Group in 2010 and 2012.

2.17 The table shows that the I-65 Kennedy Bridge reached a maximum daily traffic level of 136,000 in 2007, before falling to its current 122,000 level with the higher fuel prices and economic recession of the past five years. A similar situation occurred on the I-64 Sherman Minton Bridge, with traffic reaching a maximum of almost 90,000 daily trips before falling to its current level of almost 80,000.

TABLE 2.1 HISTORICAL OHIO RIVER BRIDGE CROSSING TRAFFIC

I-65		I-64		US 31	
Year	Daily Traffic	Year	Daily Traffic	Year	Daily Traffic
2004	132,000	2002	87,800	2002	19,900
2007	136,000	2004	81,500	2006	19,200
2008	121,000	2007	89,800	2009	14,800
2010*	122,900	2010*	81,900	2010*	21,900
2012*	122,000	2011	69,600	2012*	24,100
		2012*	78,200		

Notes: *these values reflect seasonal adjustments to data collected by the Traffic Group

Source: Steer Davies Gleave, KYTC, and the Traffic Group

2.18 In order to gain further insight into how area traffic has evolved over time, we collected traffic data for permanent count stations on I-65 north of Exit 133 (3 miles south of the Kennedy Bridge) and I-64 east of Exit 1 (1.5 miles east of the Sherman Minton Bridge). We present the annual daily traffic levels for these locations in Table 2.2. As the table indicates, there are some years for which no data were available due to problems with the counters.

2.19 Traffic along I-65 has grown at a compounded average growth rate (CAGR) of 2.2% from 1983 to 2005, while traffic along I-64 has grown at 1.9% annually for the same period and 1.3% annually from 1983 to 2010.

TABLE 2.2 HISTORICAL TRAFFIC OF NEARBY PERMANENT COUNT STATIONS

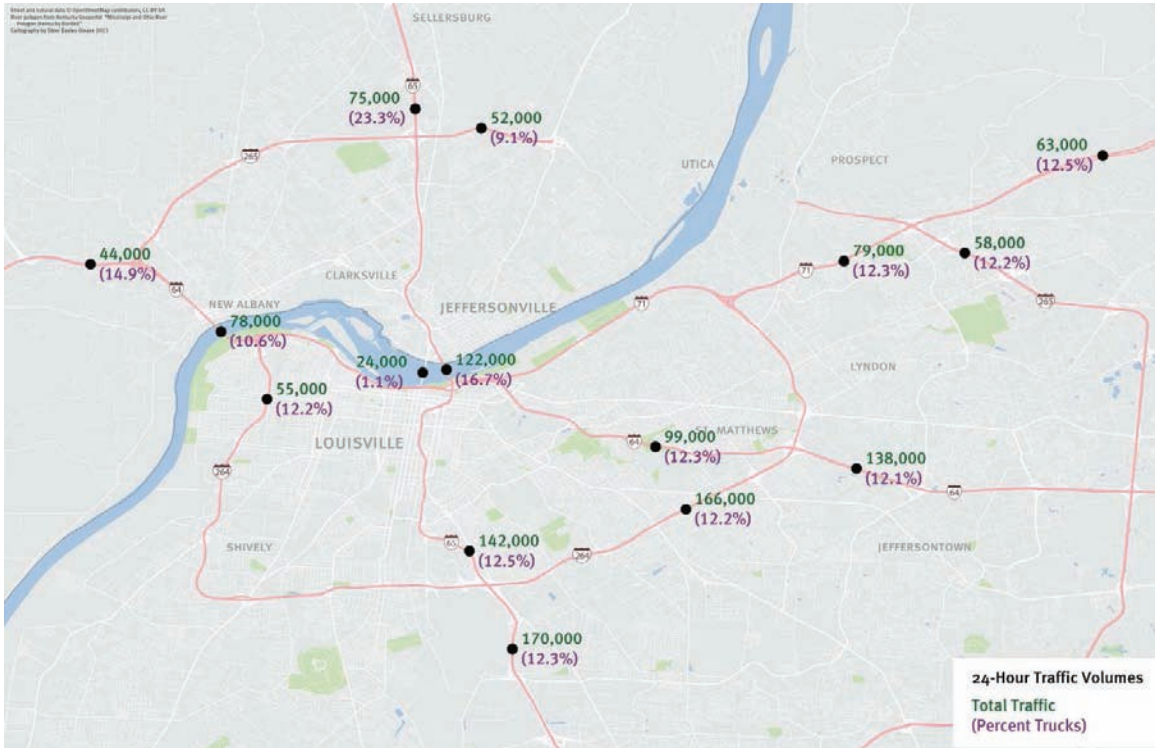
Year	I-65 North of Exit 133	I-64 East of Exit 1
1983	80,400	45,400
1984		45,400
1985	88,100	45,500
1986	92,300	47,800
1987	91,200	49,400
1988		
1989	96,200	
1990	106,000	58,700
1991	110,000	51,600
1992	113,000	55,200
1993	121,000	
1994	123,000	52,400
1995	121,000	54,400
1996	125,000	57,300
1997	121,000	58,100
1998	116,000	57,600
1999		63,700
2000		63,200
2001	123,000	65,900
2002	122,000	69,300
2003	122,000	70,200
2004	131,000	69,600
2005	130,000	68,200
2006		68,300
2007		
2008		66,400
2009		60,400
2010		64,600

Source: KYTC

Current Traffic Levels

- 2.20 We collected and compiled traffic count data for the major freeways in the study area. Figure 2.4 displays the current traffic level and the truck share of traffic for these locations. This figure shows that I-65 on the Kentucky side serves the highest level of daily traffic, particularly the location south of I-264. The figure also illustrates the high level of truck activity in the area, with particularly high truck shares of traffic on I-65 at the Ohio River and north of I-265 in Indiana.

FIGURE 2.4 CURRENT TRAFFIC VOLUMES

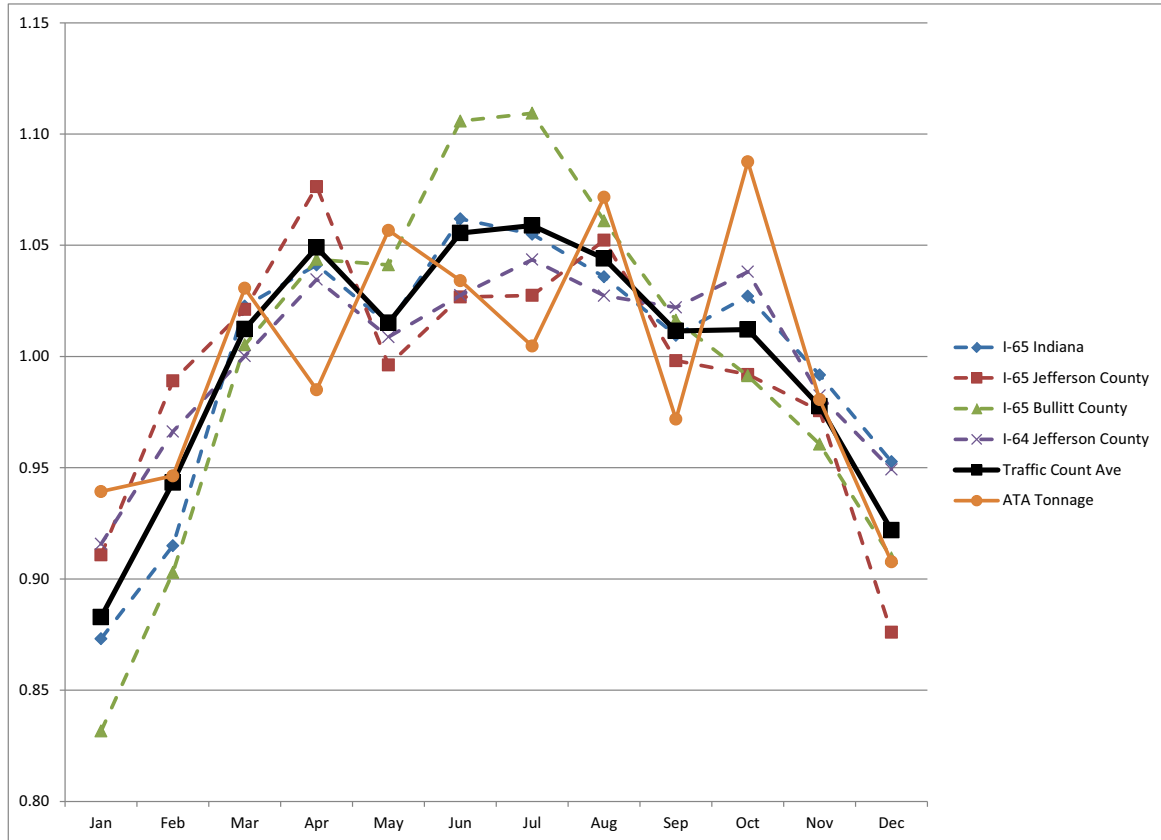


Source: Steer Davies Gleave, KYTC, INDOT, and the Traffic Group

Seasonal Profile

2.21 To assess the variability of traffic over the course of the year, we collected and analyzed traffic data from permanent count station. In addition to the permanent count station locations on I-65 and I-64 in Kentucky described in the last section, we were also able to collect data from a permanent count station on I-65 in Bullitt County, Kentucky and on I-65 in Clark County, Indiana. Since these permanent stations did not include vehicle classification, we also obtained American Trucking Association data on monthly truck tonnage to understand how trucking traffic varies. For each of these data types, we identified the average monthly value and calculated the index of each month against the average. These index values are presented in Figure 2.5. This figure shows that on average area traffic and truck tonnage vary plus or minus 10% above the average. Of particular relevance to the December 2012 traffic data collection, December traffic and truck tonnage are 92% and 91% of the annual average.

FIGURE 2.5 SEASONAL PROFILE OF TRAFFIC AND TRUCK TONNAGE

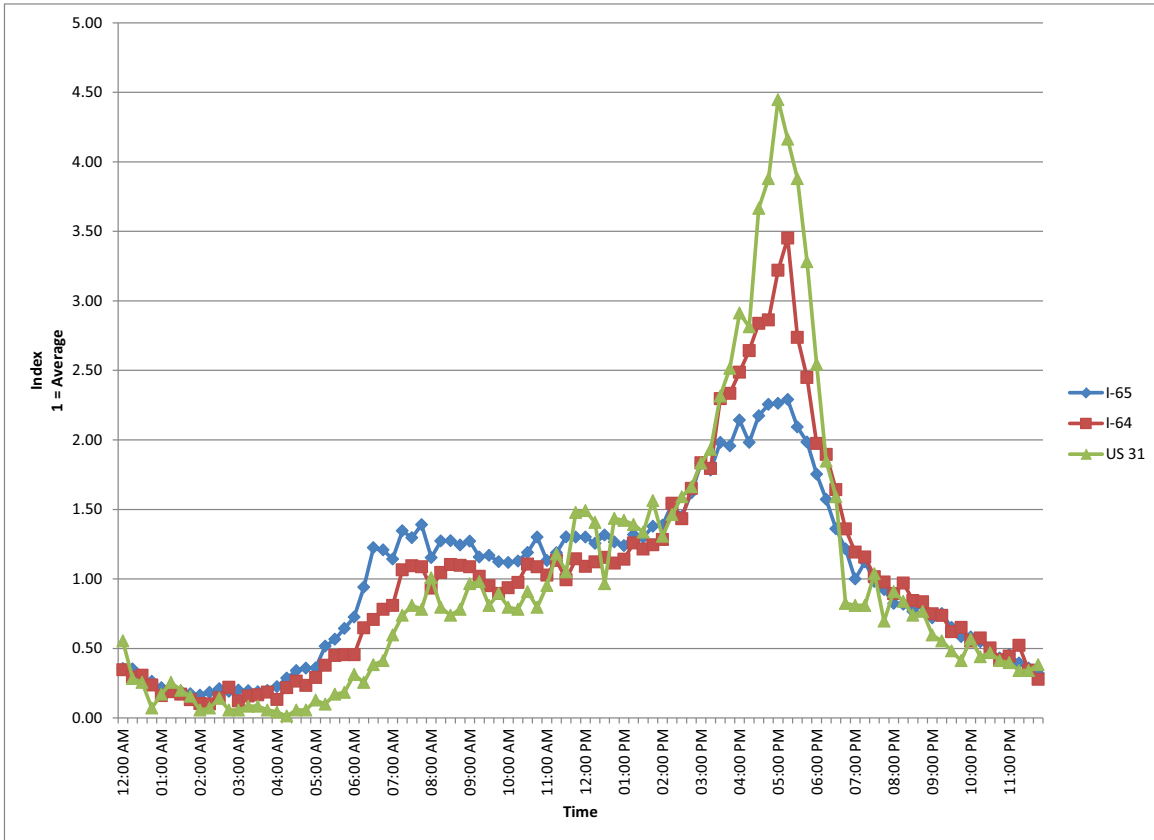


Source: Steer Davies Gleave, KYTC, INDOT, and American Trucking Association

Time of Day Traffic Profile

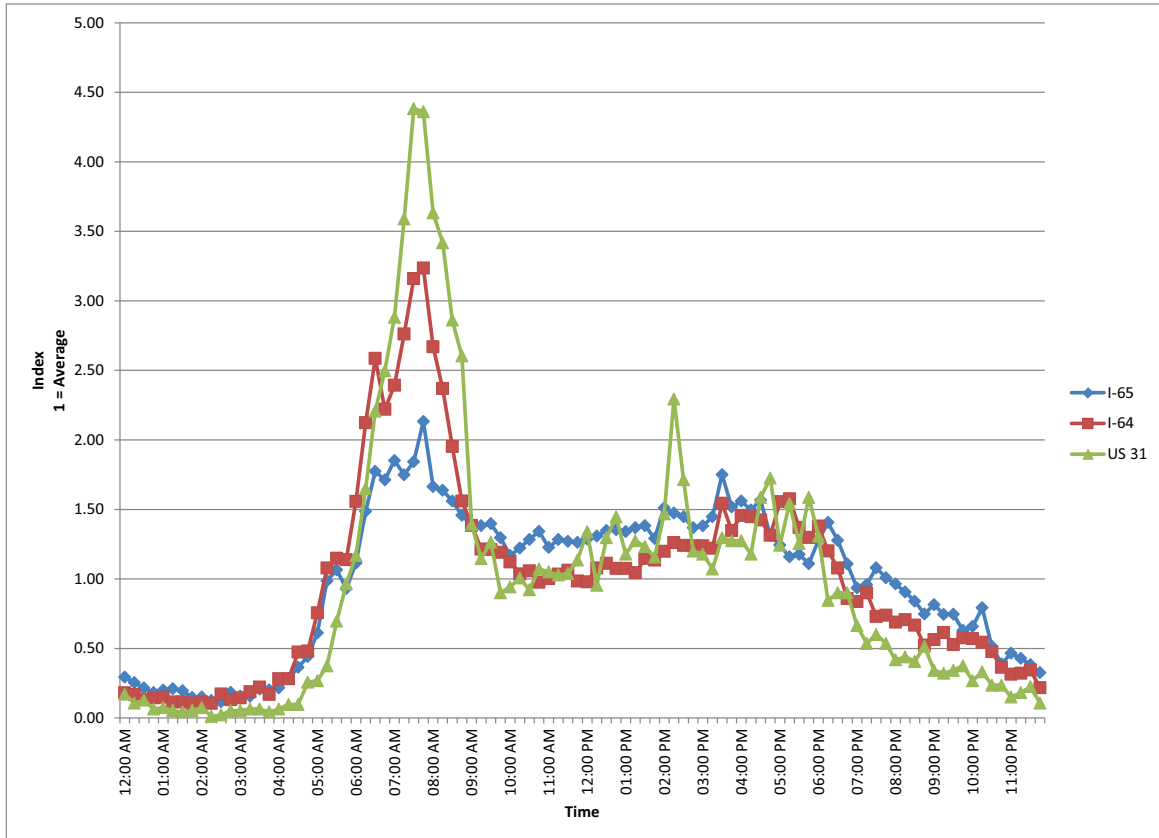
- 2.22 In order to understand the daily peaking of bridge crossing traffic, we analyzed the directional traffic in 15-minute intervals. For each bridge, we identified the average traffic 15-minute traffic level and used that as the base. We then identified the index relative to the base of each 15-minute period. Figure 2.6 and Figure 2.7 present the index values for each bridge in the northbound and southbound directions, respectively. These figures show that similar to many other facilities, traffic on the bridge crossings experience more traffic during the peak periods, with northbound peaking in the PM and southbound peaking in the AM. This is consistent with the major commuting traffic flow from residences in Indiana to employment in Kentucky, and Louisville in particular.
- 2.23 These figures also show that US 31 experiences the largest peaks, with the highest 15-minute period having roughly 4.5 times the traffic of the average 15-minute period. I-64 has the next most pronounced peak periods, with traffic roughly 3.5 times the average, while I-65 has the most steady traffic with the peaks of 2 - 2.5 times the average.

FIGURE 2.6 TIME OF DAY PROFILE OF NORTHBOUND CROSSING TRAFFIC



Source: Steer Davies Gleave and the Traffic Group

FIGURE 2.7 TIME OF DAY PROFILE OF SOUTHBOUND CROSSING TRAFFIC



Source: Steer Davies Gleave and the Traffic Group

Day of Week Traffic Profile

2.24 We analyzed traffic data from the permanent count station on I-65 to identify the day of week traffic pattern. Table 2.3 presents the percentages of average daily traffic by day of week. This information will prove useful in converting daily forecasts to an annual level. Weekends average 76% of average daily traffic and represent almost 70% of the average weekday traffic level.

TABLE 2.3 DAY OF WEEK % OF AVERAGE DAILY TRAFFIC

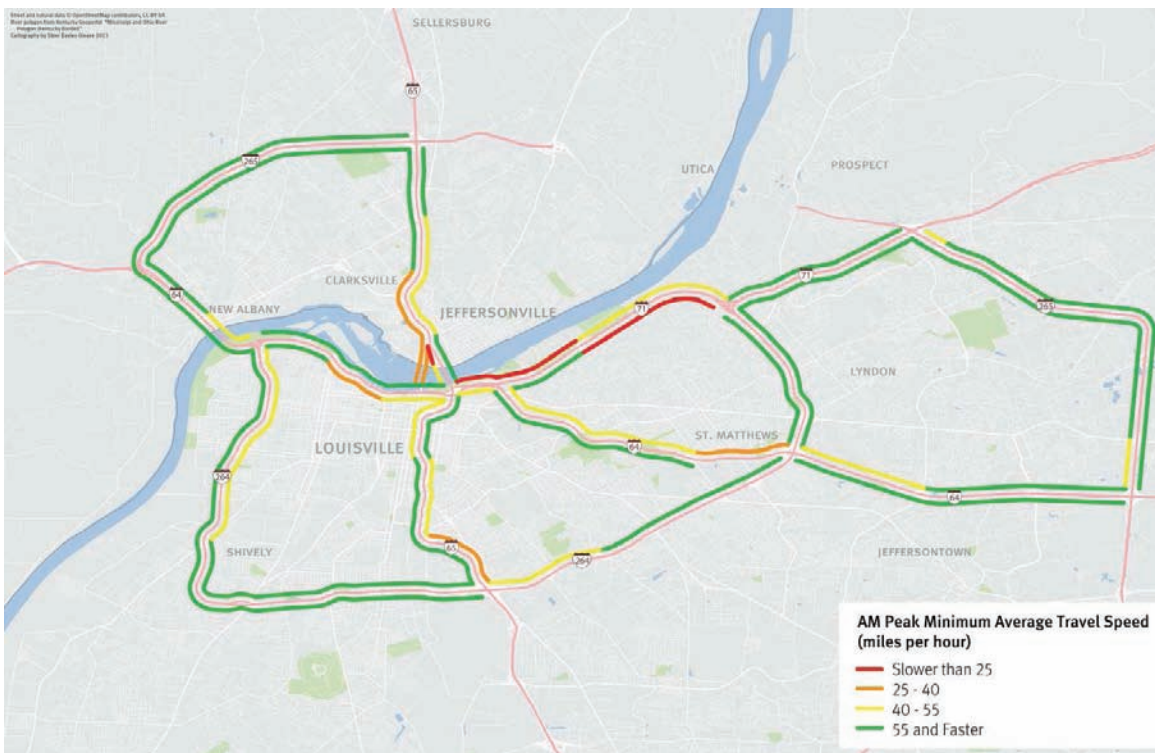
Day	Percentage of Average Daily Traffic
Sunday	70%
Monday	103%
Tuesday	107%
Wednesday	110%
Thursday	112%
Friday	117%
Saturday	82%

Source: Steer Davies Gleave and KYTC

Travel Times

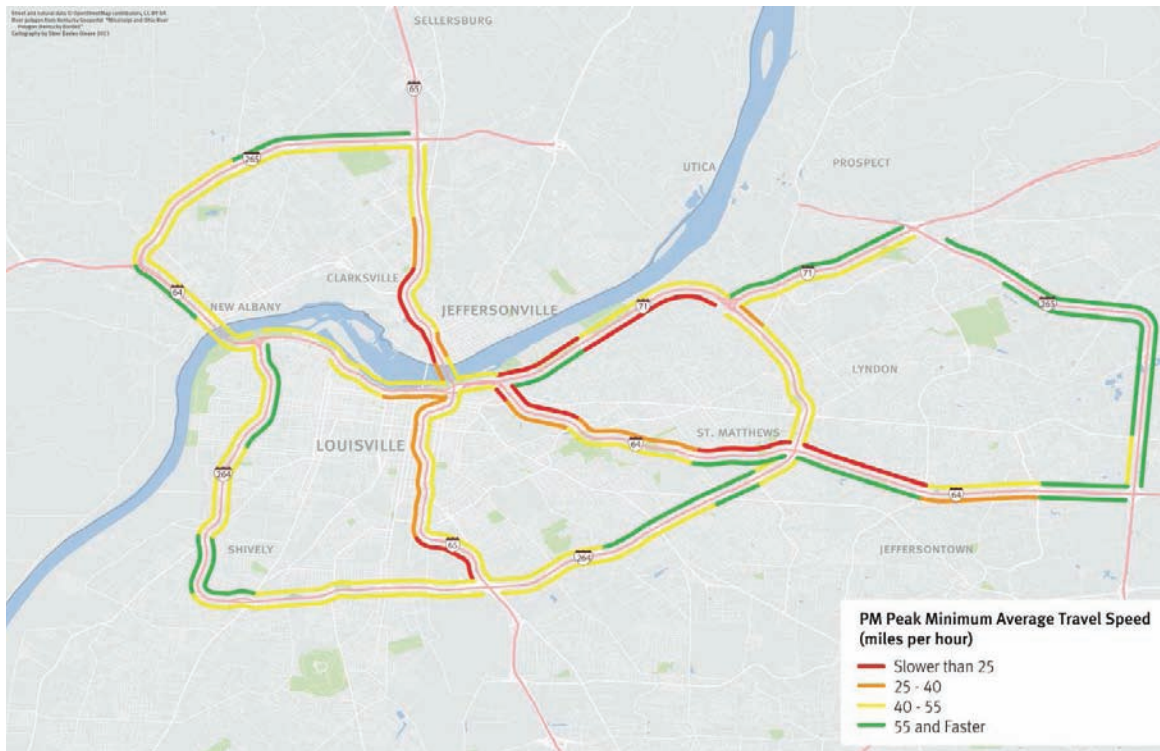
2.25 Based upon the travel time information collected by Steer Davies Gleave, we analyzed the travel times in the study area. Figure 2.8 illustrates the average AM peak travel speeds and Figure 2.9 illustrates the average PM peak travel speeds as collected through our travel time runs. These figures show that there are more delays occurring during the PM peak than in the AM peak. In general, most delays occur near the interchanges of highways as merging traffic causes slowdowns. Additionally, for the AM peak, more delays occur on the roadway segments leading towards downtown Louisville. The PM peak has more segments with speeds slower than 25 mph, and most of the area highways show speeds less than 55 mph.

FIGURE 2.8 OBSERVED AM PEAK PERIOD TRAVEL SPEEDS



Source: Steer Davies Gleave

Figure 2.9 OBSERVED PM PEAK PERIOD TRAVEL SPEEDS



Source: Steer Davies Gleave

Travel Patterns

- 2.26 We obtained and analyzed traffic pattern data prepared by Mygistics. This data was based upon cellphone data collected by AirSage and processed to identify the origins and destinations of trips crossing the Ohio River. We received a summary of these trips projected onto the Traffic Analysis Zones (TAZ) of the KIPDA travel demand model. We aggregated these trips into daily trips between aggregated districts of TAZ. Figure 2.10 presents the Origin and Destination (OD) districts of TAZ, while Table 2.4 presents the percentage of daily river crossing trips in each district-district combination. The table shows that the ODs with the most daily trips were between Downtown Louisville and West Clark with 13.6% and 12.8% of trips. This is consistent with the expected pattern of large volumes of river crossing trips from Indiana residence heading towards the employment center of downtown Louisville. Other trip patterns with large volumes of trips are between West Clark and South Jefferson, and between Floyd and Downtown Louisville and South Jefferson.

FIGURE 2.10 ORIGIN-DESTINATION DISTRICTS

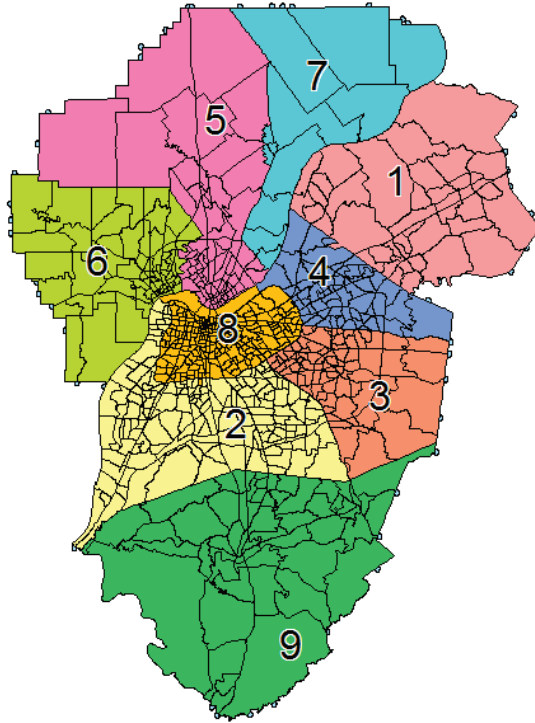


TABLE 2.4 DISTRICT FLOWS OF DAILY CROSSING TRAFFIC

		1	2	3	4	5	6	7	8	9
		Oldham	South Jefferson	Southeast Jefferson	Northeast Jefferson	West Clark	Floyd	East Clark	Downtown	Bullitt
1	Oldham	0.0%	0.0%	0.0%	0.0%	0.8%	0.4%	0.5%	0.0%	0.0%
2	South Jefferson	0.0%	0.0%	0.0%	0.0%	7.9%	6.0%	0.6%	0.0%	0.0%
3	Southeast Jefferson	0.0%	0.0%	0.0%	0.0%	3.4%	1.7%	0.2%	0.0%	0.0%
4	Northeast Jefferson	0.0%	0.0%	0.0%	0.0%	3.2%	1.4%	0.6%	0.0%	0.0%
5	West Clark	0.8%	7.6%	3.0%	3.0%	0.0%	0.0%	0.0%	12.8%	1.8%
6	Floyd	0.4%	5.9%	1.5%	1.2%	0.0%	0.0%	0.0%	6.8%	0.5%
7	East Clark	0.5%	0.6%	0.2%	0.6%	0.0%	0.0%	0.0%	1.1%	0.1%
8	Downtown	0.0%	0.0%	0.0%	0.0%	13.6%	7.4%	1.1%	0.0%	0.0%
9	Bullitt	0.0%	0.0%	0.0%	0.0%	2.1%	0.5%	0.1%	0.0%	0.0%

Source: Steer Davies Gleave and Mygistics

- 2.27 While the data from Mygistics was useful to understand the travel patterns of trips fully within the region, we analyzed the license plate matching information collected by the Traffic Group in 2010 and presented in CDM Smith’s traffic reports of the Supplemental Final Environmental Impact Statement⁴ to analyze trips that pass through the region. Based upon our analysis of this information, we identified the percentage of I-64 and I-65 bridge trips passing through the region. Table 2.5 shows these percentages of bridge trips passing through the region, with a relatively low share of through the region auto trips (4-6%), but larger shares of truck trips, with through the region trucks on the I-64 Sherman Minton Bridge representing almost half of the total truck trips.

TABLE 2.5 PERCENTAGE OF BRIDGE TRIPS PASSING THROUGH THE REGION

Bridge Crossing	Auto	Truck
I-65 NB	5%	28%
I-65 SB	6%	23%
I-64 NB*	4%	48%
I-64 SB*	4%	49%

Source: Steer Davies Gleave, CDM Smith and the Traffic Group

Note: While I-64 is an east-west interstate, the NB and SB reflect the travel direction crossing the Ohio River.

Public Transportation

- 2.28 Public transportation in the Louisville metropolitan area is provided by Transit Authority of River City (TARC). TARC currently has two bus routes that cross the Ohio River - Routes 71 and 72. Combined, these two routes make almost 100 daily one-way trips. Prior to August 2012, TARC had an additional four bus routes that crossed the Ohio River, but these were eliminated to improve efficiency. Since the elimination of these routes, the cross-river daily ridership has averaged over 1,500 which is similar to the ridership level before the reduction of the other cross-river routes.

⁴ Appendix H - Traffic Reports of the Supplemental Final Environmental Impact Statement, April 2012

3 Land Use and Growth Analysis

3.1 In this chapter, we present a review of the study area land use activity and river crossing growth. Population, household, and employment forecasts are important inputs to forecasts of toll traffic and revenue, and thus an independent analysis of these inputs was conducted. In addition to the review of the socioeconomic inputs to the travel demand model, we analyzed historical data to establish an econometric model to identify the key drivers of Ohio River crossing traffic.

Land Use Review

3.2 Economic Development Research Group (EDR Group), a leading economic consulting firm, performed an independent review of the population and employment forecasts that are input into the travel demand model. EDR Group conducted site analysis and interviews to support the preparation of forecasts of housing and employment at the regional and Traffic Analysis Zone (TAZ) level. EDR Group’s socioeconomic outlook report is contained in Appendix A. Below we highlight their approach and key findings.

Interviews

3.3 EDR Group conducted interviews during visits in February and July 2012, and January 2013. Table 3.1 presents the list of organizations that EDR Group interviewed.

TABLE 3.1 ORGANIZATIONS INTERVIEWED BY EDR GROUP

Bass Pro Shops	Jefferson Riverport International
Bullitt County Economic Development Authority	Jeffersonville Main Streets
Bullitt County Planning and Zoning Department	Kentuckiana Regional Planning and Development Agency
City of Charlestown Mayor’s Office	Louisville Metro Economic Development and Innovation Department
Clark-Floyd Counties Convention & Tourism Bureau	Louisville Metro Planning and Design Department
Clark County Planning Commission	MainSource Banking
Clarksville Redevelopment Agency	New Albany Plan Commission
Clarksville Town Council	Ohio River Metal Services- Eagle Steel
Crossdock Development	Oldham Chamber and Economic Development
Downtown Jeffersonville merchants	Oldham County Department of Planning and Development
Floyd County Board of Commissioners	One Southern Indiana
Floyd County Plan Commission	Port of Indiana-Jeffersonville
Greater Louisville, Inc.	River Ridge Development Authority
Indiana Department of Transportation	Rocky’s and Buckheads Restaurants
Indiana University Southeast	Schimpff’s Confectionery
Ivy Tech Community College	Sellersburg Stone Company

3.4 Key findings from the interviews include:

- The River Ridge Commerce Center, which is located near the East End Crossing in Jeffersonville, IN, should attract significant development due to the new crossing.
- Jefferson County, Kentucky has limited locations for new industrial development.
- The LSIORB Project will lead to more residential development in Indiana (Floyd County and the Charlestown area of Clark County) through its improved access to employment centers in Kentucky.
- Indiana has an advantage attracting Manufacturing and Transportation and Warehousing industries due to its “right to work” law.
- Amazon is developing a large distribution center (28 acre facility) in the River Ridge Commerce Center and their actual employment rate is ahead of earlier expectations.
- Construction of new housing in the Crestwood community of Oldham County, KY is occurring faster than originally anticipated.

Development of the TAZ Forecasts

3.5 Building upon their site visits and interviews, EDR Group developed TAZ-level forecasts through a three-step process:

1. Establish regional control totals of background growth
2. Allocate the background growth to TAZ
3. Add bridge related growth

Regional Background Growth

3.6 Independent of the LSIORB Project, growth in the study area will be generated by regional economic dynamics taking the form of population, household, and employment. To identify an appropriate level of background growth, EDR Group obtained and reviewed the forecasts prepared by Woods & Poole and Moody’s. Based upon their review, they concluded that the Moody’s baseline forecasts provide the most defensible forecast of background growth for the Louisville MSA. These forecasts are presented in Table 3.2.

TABLE 3.2 BACKGROUND GROWTH FOR FIVE-COUNTY KIPDA MPO REGION

	2007	2011	2018	2030
Households	425,672	442,974	475,382	498,054
Employment	572,650	550,729	618,083	643,666

Source: Moody’s Analytics as presented by EDR Group

Allocation of Background Growth

3.7 After establishing the amount of background growth that will occur in the region, EDR Group next allocated this growth to the specific TAZ in the MPO region. EDR Group used Cube Land modeling software to help determine this allocation. Cube Land uses

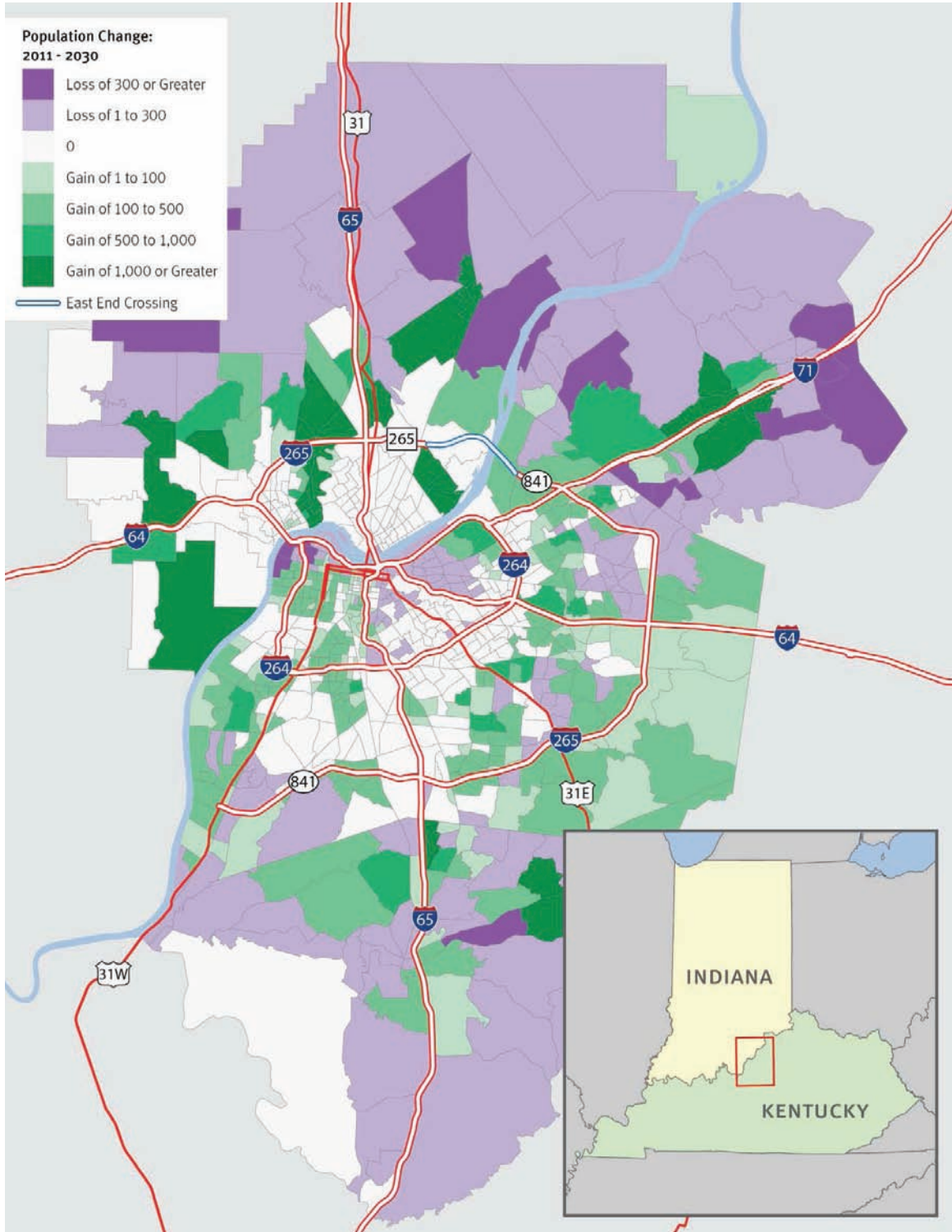
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bid-rent functions, which include attributes of each TAZ such as unit size and attractiveness, and transportation accessibility, to allocate incremental households and employment to TAZ. The model also includes constraints to limit the amount of growth in each TAZ. Within the Cube Land modeling, EDR Group applies their expert judgment to help set the model parameters and to make post-model adjustments as needed.

Bridge Related Growth

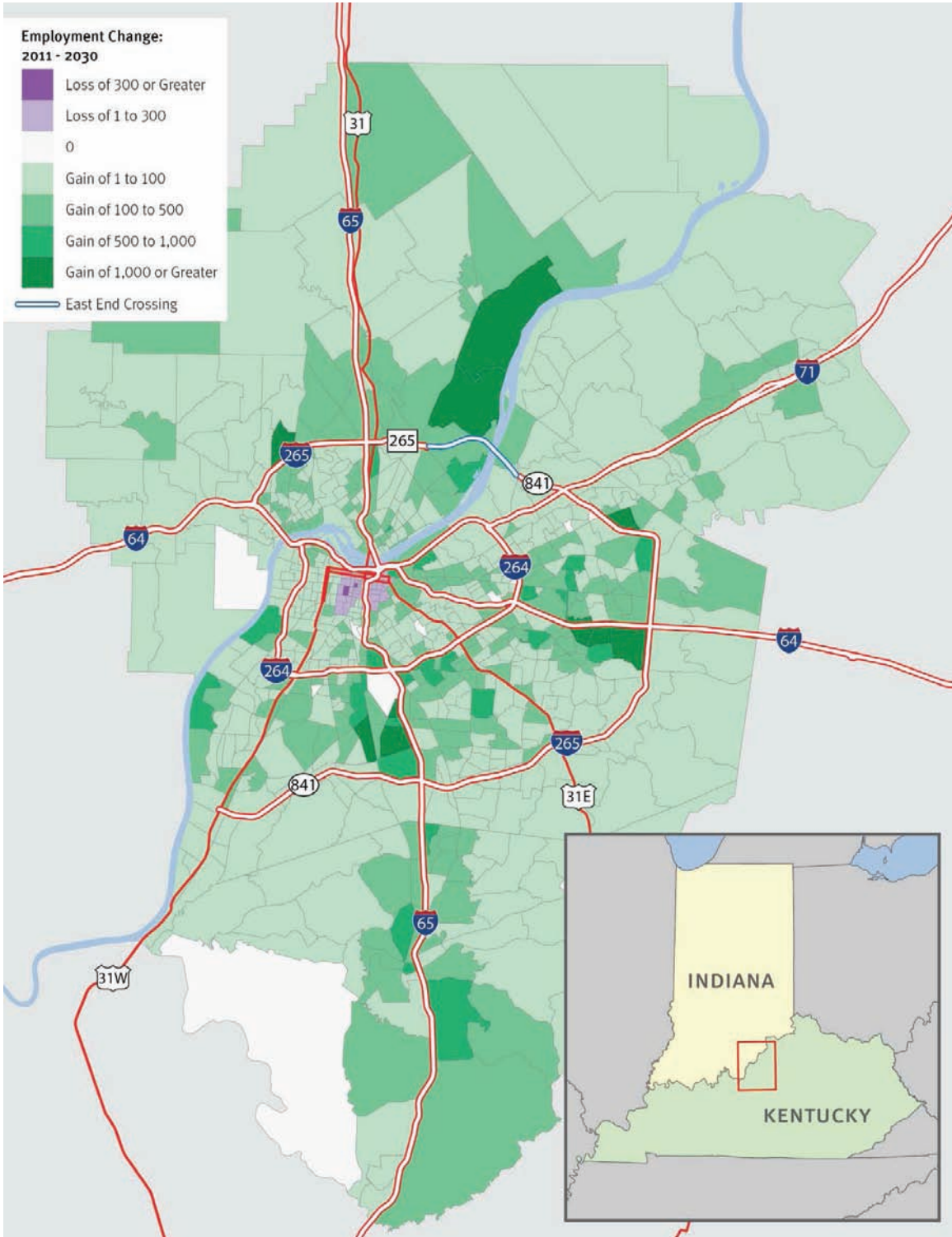
- 3.8 Beyond the background growth that will occur in the area, EDR Group assessed the potential for “bridge-contingent growth”. This is net-new growth in the MPO region that is stimulated by the new bridges. Relying on their site visits and interviews and using IMPLAN model, EDR Group identified the amount of bridge related growth and allocated it to TAZ.
- 3.9 Based upon the TAZ level allocations, Figure 3.1 presents the population change from 2011 to 2030, while Figure 3.2 presents the employment change.
- 3.10 Table 3.3, Table 3.4, and Table 3.5 summarize the EDR Group forecasts at the county level. While these tables further illustrate that a significant amount of the regional growth is forecasted to occur in Clark and Floyd Counties in Indiana, Jefferson County Kentucky is still forecast to add more than twice as many new jobs as will be added in Indiana.
- 3.11 As a further check on the EDR Group forecasts, we compared their population and employment forecasts with the KIPDA 2030 forecasts. Table 3.6 presents this comparison and shows that the EDR Group forecasts are a little higher for population, but much lower for employment. Given the KIPDA 2030 values represent a much larger increase from 2007 to 2030 in employment than population (239,000 vs. 152,000), the EDR Group forecasts seem more reasonable.

FIGURE 3.1 FORECAST POPULATION CHANGE (2011 - 2030)



Source: EDR Group presented by Steer Davies Gleave

FIGURE 3.2 FORECAST EMPLOYMENT CHANGE (2011 - 2030)



Source: EDR Group presented by Steer Davies Gleave

TABLE 3.3 SUMMARY OF EDR GROUP'S HOUSEHOLD FORECAST

County	2007	2011	2018	2030	2011 - 2030 CAGR
Clark	43,590	49,030	62,988	67,579	1.7%
Floyd	29,304	30,084	38,225	45,866	2.2%
Bullitt	29,027	32,779	36,271	38,596	0.9%
Jefferson	303,797	305,503	313,611	320,197	0.2%
Oldham	19,954	25,579	26,338	29,063	0.7%
Total	425,671	442,974	477,432	501,301	0.7%

Source: EDR Group

TABLE 3.4 SUMMARY OF EDR GROUP'S POPULATION FORECASTS

County	2007	2011	2018	2030	2011 - 2030 CAGR
Clark	105,032	117,267	150,649	161,629	1.7%
Floyd	73,712	71,952	91,424	109,698	2.2%
Bullitt	78,414	78,398	86,751	92,312	0.9%
Jefferson	704,876	730,679	750,071	765,824	0.2%
Oldham	56,055	61,178	62,992	69,511	0.7%
Total	1,018,089	1,059,474	1,141,887	1,198,975	0.7%

Source: EDR Group

TABLE 3.5 SUMMARY OF EDR GROUP'S EMPLOYMENT FORECASTS

County	2007	2011	2018	2030	2011 - 2030 CAGR
Clark	56,882	53,830	71,211	78,102	2.0%
Floyd	32,493	30,664	35,114	38,329	1.2%
Bullitt	19,068	17,623	25,811	26,587	2.2%
Jefferson	446,046	431,924	475,088	495,489	0.7%
Oldham	18,161	16,688	18,069	19,580	0.8%
Total	572,650	550,729	625,293	658,086	0.9%

Source: EDR Group

TABLE 3.6 COMPARISON OF EDR GROUP AND KIPDA’S 2030 SOCIOECONOMIC FORECASTS

County	Population		Employment	
	KIPDA	EDR Group	KIPDA	EDR Group
Clark	133,321	161,629	87,478	78,102
Floyd	85,203	109,698	43,766	38,329
Bullitt	114,224	92,312	37,300	26,587
Jefferson	730,891	765,824	605,643	495,489
Oldham	88,166	69,511	29,657	19,580
Total	1,151,805	1,198,975	803,844	658,086

Source: EDR Group and KIPDA

River Crossing Econometric Model

3.12 In order to understand the drivers of traffic in the region, as well as to better estimate its future growth, Steer Davies Gleave developed an econometric model. Of particular interest is estimating the growth in travel between 2012 (the base year for the modeling) and the future trip matrices that underlie the traffic and forecasting.

3.13 Econometric models estimate the relationship between economic factors (such as local or national employment, income, industrial production, tourism, trade, GDP), as well as prices (such as fuel, fares or tolls) on traffic. Given detailed data, one can develop precise estimates of the various elasticities influencing demand, such as the elasticity of travel to economic growth. The estimated models can also be used, in turn, to simulate the impacts of future economic growth on traffic demand.

3.14 The econometric model is estimated based on past relationships between traffic and various causal factors. The general structure of the econometric growth model is the following:

$$(1) Y_{ijt} = X_{ijt}\beta_j + Fixed\ Effects_{ij} + \varepsilon_{ijt}$$

3.15 Here traffic at location *i* of vehicle type *j* during period *t* is a function of a several economic variables mentioned previously - the matrix *X*. *B_j* is a vector of coefficients that detail the influence of the various economic variables on traffic in a given period. We include a control called *fixed effects* that captures the distinct time-invariant features of each location. The variable *ε* is a random error term.

3.16 The data used to calibrate the model includes three count stations on the Kentucky side which provide sufficiently detailed data to produce monthly average daily traffic during the peak and off-peak between January 2000 and November 2012. These were not additionally distinguished by classification, however, so the model structure in (1) was simplified to be based on (overall) average daily traffic.

3.17 The three count stations include:

- i) I-65 North of Exit 133 (count station 99)

- ii) I-65 in Bullitt County south of Shepherdsville (count station 72)
 - iii) I-64 east of the Sherman Minton Bridge (count station 92)
- 3.18 Together these three stations provide a total of 310 monthly observations for off-peak traffic and 302 observations for peak traffic. The available count data is *pooled* in the model estimation to maximize the precision of the model. In this process, each count station is treated as a *panel*, and the available count data for each is merged into a wider data-set for estimation⁵.

Model 1: Peak Period Vehicles

- 3.19 The key economic variables in this model are employment in the Louisville metropolitan standard area (MSA) and national spending on consumption. These variables are sufficiently broad that we can theorize that they drive peak-period passenger vehicles (employment in the MSA) and commercial vehicles (employment and national consumption). The model also includes monthly seasonal controls. Interestingly, fuel prices were not found to be statistically significant, and were not included as a variable in the final model. The estimation results are included in Table 3.7.

TABLE 3.7 MODEL ESTIMATION RESULTS FOR LOG OF PEAK PERIOD VEHICLES

Variable	Coefficient	t-Statistic	P-Stat
Constant	5.20	2.53	0.01
LOG(MSA Employment)	0.55	1.94	0.05
LOG(National Consumption)	0.49	6.31	0.00
R-squared	0.98		
Adjusted R-squared	0.97		
S.E. of regression	0.25		
F-statistic	344		
Prob (F-statistic)	0.00		

Note: Seasonal monthly controls omitted from reporting; data for count station 92 was dropped from the estimation due to presumed reporting error

- 3.20 As illustrated, the estimation of the peak period model yields parameter (or coefficient) estimates that are highly significant.

⁵ Merging the data into panels also produces a significant benefit which is widely exploited in econometric applications: Using the technique of fixed effects the econometric model is able to control for the differences between the markets served by each of the count locations. These differences could include income, residential density or even modal alternatives, which could be expected to influence how each market would behave somewhat differently.

Model 2: Off-Peak Period Vehicles

3.21 The key economic variables in the off-peak model are also employment in the Louisville metropolitan standard area (MSA) and national spending on consumption. The model once again includes monthly seasonal controls, and fuel prices were found to be statistically insignificant, and therefore not included as a variable in the final model. The estimation results are included in Table 3.8.

TABLE 3.8 MODEL ESTIMATION RESULTS FOR LOG OF OFF-PEAK PERIOD VEHICLES

Variable	Coefficient	t-Statistic	P-Stat
Constant	6.26	3.42	0.00
LOG(MSA Employment)	0.40	5.40	0.00
LOG(National Consumption)	0.58	2.13	0.03
R-squared	0.95		
Adjusted R-squared	0.94		
S.E. of regression	0.246		
F-statistic	344		
Prob (F-statistic)	0.00		

Note: Seasonal monthly controls omitted from reporting; data for count station 92 was dropped from the estimation due to presumed reporting error

3.22 Once again the estimated parameters are highly significant. Since the model is estimated with variables converted to logarithm forms, the estimated coefficients are mathematically equivalent to elasticity measures. The elasticity estimates above suggest that a 10% increase in MSA employment leads to a 4% increase in off-peak traffic, while a 10% increase in consumption leads to a 5.8% increase in traffic.

3.23 Overall, both models perform very well in terms of their ability to replicate past traffic trends. This measure is essentially the ability of the models to "forecast" the past given actual past values for the economic variables. Despite some variability, most time traffic observations are replicated by the models with well under 5% error, again indicating good model fit.

3.24 The forecasts of overall traffic growth in the region are generated using forecasts for MSA employment and national consumption obtained from Moody's *Economy.com*. For the forecast period from 2011 to 2030, Moody's forecasts MSA employment and national consumption to grow annually at 0.35% and 2.1%, respectively.

3.25 The resulting growth forecasts are very similar for peak and off-peak: Between 2011 and 2018 peak period traffic is forecast to increase 12.6% and off-peak 12.2%.

Similarly, growth between 2011 and 2030 is forecast to be 27% and 25.9% overall. On an annual basis, growth is forecast to average 1.25% for peak period and 1.23% for off-peak between 2011 and 2030.

River Crossing Growth

- 3.26 We compared the growth in river crossing trips estimated through:
- Inputting the independent socioeconomic forecasts into the MPO model: this produced 2011-2030 auto growth of 2.7% per annum and truck growth of 1.5% per annum.
 - Applying the econometric model: this produced 2011-2030 trip growth of 1.25% per annum.
- 3.27 Based on this comparison, we decide to grow river crossing trips using the total growth rates estimated by the econometric model, but allocating to OD trips using the patterns found from running the MPO model with the independent socioeconomic forecasts.

4 Travel Behavior

Travel Survey

4.1 In order to better understand the Ohio River Bridges market, and to estimate crucial behavioral aspects of this market, Steer Davies Gleave conducted extensive stated preference (SP) surveys and analyses of potential users. Steer Davies Gleave conducted a behavioral survey of passengers to develop data and forecasting model inputs needed for the traffic and revenue study. This section covers the following:

- The first part describes the survey goals, administration and results. This includes socio-economic profiles, current Ohio River bridges behavioral characteristics and trip frequencies and patterns.
- The second part focuses on the quantitative behavioral analysis of Ohio River bridges users to derive values of time to be used in the modeling, based on stated preferences from the survey and on observed (revealed) travel behavior.

Survey Design

Survey Goals

4.2 In order to provide additional behavioral information on the markets served by the Ohio River bridges and the neighboring roads and to establish key forecasting parameters - such as trip frequency and willingness to pay - a behavioral and trip pattern survey was conducted by Steer Davies Gleave.

4.3 The goals of the behavioral and trip pattern survey included:

- Developing a qualitative and quantitative understanding of how people make choices between using a toll bridge and alternative untolled routes based on attitudinal questions (route choice);
- Developing a qualitative and quantitative understanding of how people make choices between using a freeway and alternative routes on local roads based on attitudinal questions (route choice);
- Collecting trip pattern information in the markets served by the bridges under investigation and gain insight on frequency profiles of road users;
- Collecting willingness to pay for travel time savings information based on stated preference scenarios;

Survey Design

4.4 The survey questionnaire collected revealed preference and stated preference (SP) data.

4.5 The revealed preference data gathered information on actual driving behavior, based on respondents most recent trip using the I-65, I-64 and US 31 bridges. Travel time, costs and other key information were collected, as well as attitudinal information such

as perception of congestion and attitude toward tolling. Other information was also collected, including more detailed data on trip purpose, income categories and behavioral statements to allow further segmentation.

- 4.6 The SP data was collected through a route choice exercise, asking respondent to make hypothetical choices between using a tolled bridge or an alternative free - but longer - route.
- 4.7 The survey instrument was designed to collect data on frequency of trips made on the I-65, I-64 and US 31 bridges. Travelers also reported the trip frequency by time of day and on weekends for their most used bridge. The survey also collected travelers' knowledge of alternatives to their most used bridge, price sensitivity, perceptions of congestion and perception of differences in travel time, attitudes about transportation issues such as congestion and tolling, and relevant socioeconomic data.
- 4.8 Various choice exercises were included to assess the willingness to pay of each market. The questionnaire took between 20-25 minutes to complete, with about 50 questions for any given respondent - including screening questions and the choice exercise.
- 4.9 Appendix B includes the survey for reference and it was structured as follows:
- Screening questions about trips made across the Ohio River using the I-65, I-64 and US 31 bridges in the last 2 months by Origin-Destination areas, including
 - Most frequently used bridge
 - Trip frequency on the most frequently used bridge by time of day for a typical week
 - Trip frequency on the two less frequently used bridge for a typical week
 - Detailed questions about a typical recent trip across the Ohio River using the most frequently used bridge, including:
 - Trip purpose, time and day, and trip origin-destinations
 - Next best alternative route and bridge
 - Travel party and paying member(s)
 - Introduction to the planned bridge improvements, including questions about respondents attitudes toward the project and attitude about tolling
 - Route choice SP exercise consisting of 9 trade-off questions
 - Attitudinal questions about alternative payment methods and discount programs for frequent users
 - Attitudinal questions about travel choices and car use
 - Socio-economic questions pertaining to respondent income, occupational status, age, etc.
- Survey Implementation***
- 4.10 Steer Davies Gleave prepared a survey questionnaire that was administered through an online survey to a selected panel of respondents. Steer Davies Gleave developed and

Final Report

analyzed the survey, while the Internet questionnaire was hosted by our partner Crescent Research, a market research firm with a large online panel of respondents across the region. The data were collected via the Internet in December 2012.

- 4.11 Respondents were recruited using the following sampling plan: A target of 1,000 returns or complete questionnaires was selected, a very large sample that enabled significant market segmentation of road users. Steer Davies Gleave carefully designed one main questionnaire which was customized interactively for each respondent, based on their answers. For example, respondents are likely to have different behavioral patterns based on their attitude towards using freeways as against local roads.
- 4.12 Advantages of using a pre-recruited panel of residents are that 1) respondents can be quickly recruited, and 2) no additional incentives are required since the respondents are selected and remunerated by the market research firm and the survey collection costs were substantially lower than face-to-face surveys. The main limitation of such a panel is that a smaller percentage of the panelists may use the study bridges than would be found with direct intercept surveys, and those respondents may not represent the same composition as the overall population. This seems to be the case for this project, where there seems to be a larger percentage of trips made for non-work purposes than the traffic peaking of the bridges would indicate. Further, by being on the market research panel, these respondents have demonstrated a willingness to spend time taking a survey for a small remuneration, potentially signifying a lower value of time than the overall population.

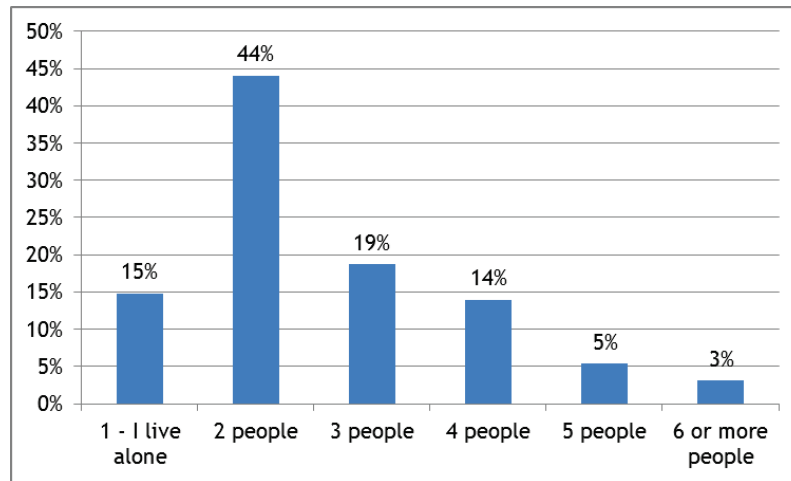
Ohio River Bridges User Profiles

This section presents the profile of the users of the Ohio River Bridges. Unless indicated otherwise, results below are based on 1,001 respondents.

Socio-Economic Profile

- 4.13 Respondents were asked how many people live in their household. As can be seen from the figure below, 44% of the respondents belong to 2-adult households and 59% to 1- or 2-adult households. On average, survey respondents are in 2-adult households.

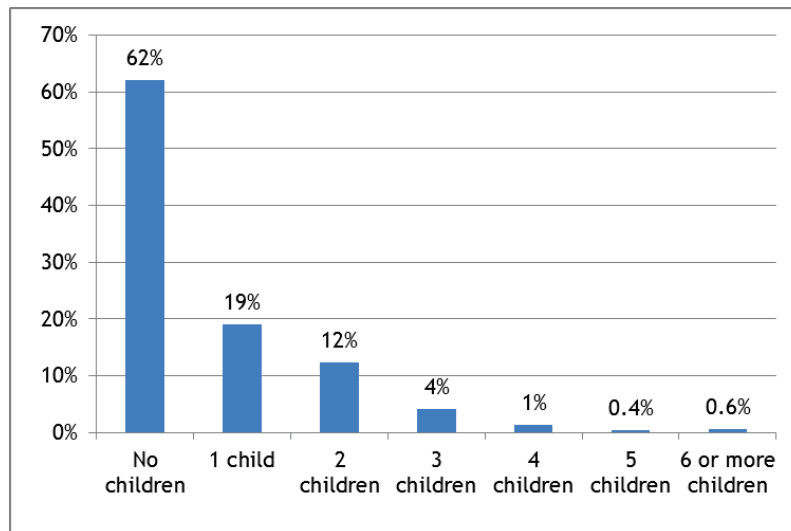
FIGURE 4-1 RESIDENTS IN HOUSEHOLD



Source: Steer Davies Gleave

4.14 Respondents were asked how many children younger than 18 live in their household. The large majority of respondents do not live with any children (62%) as shown in Figure 4-2. It may be noted that this sample is similar in household composition to the Louisville area where about 70% of households do not have any children.⁶

FIGURE 4-2 CHILDREN IN HOUSEHOLD

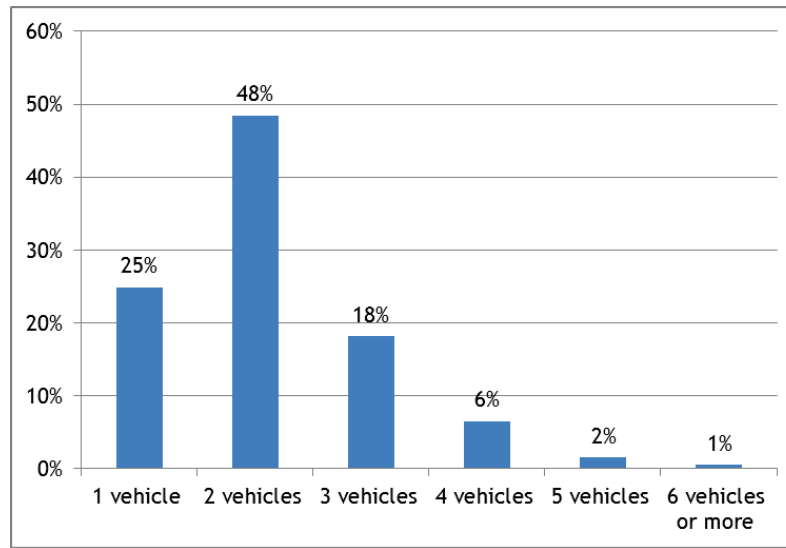


Source: Steer Davies Gleave

4.15 Respondents were asked to report the number of vehicles their household have regular use of. While most respondents use two vehicles (48%), 1-vehicle households are also fairly common (25%).

⁶ Data from US 2010 Census for Jefferson County, KY

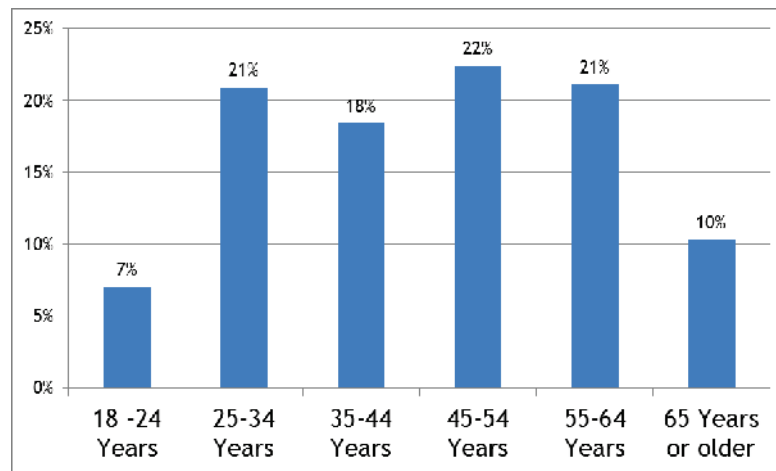
FIGURE 4-3 VEHICLES IN HOUSEHOLD



Source: Steer Davies Gleave

4.16 Respondents' ages are reported below. The largest single category is 45 to 54 years, which represents 22% of respondents.

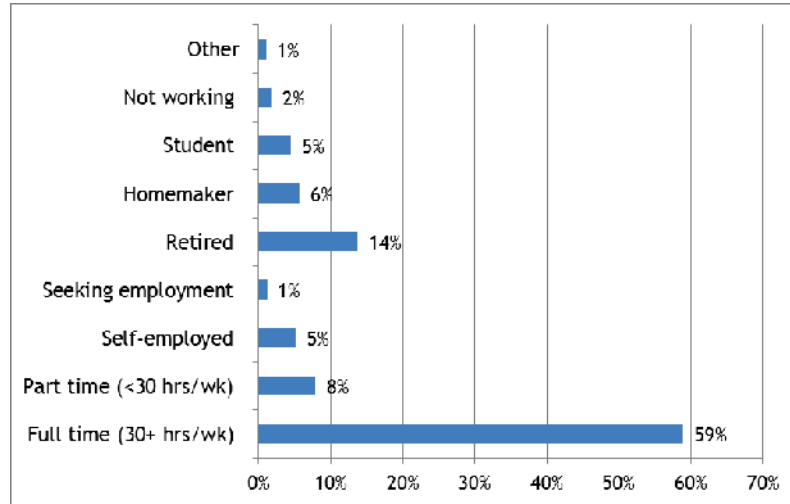
FIGURE 4-4 AGE OF RESPONDENTS



Source: Steer Davies Gleave

4.17 Respondents were asked about their employment status. Most of the respondents work full time, but a significant number are retired.

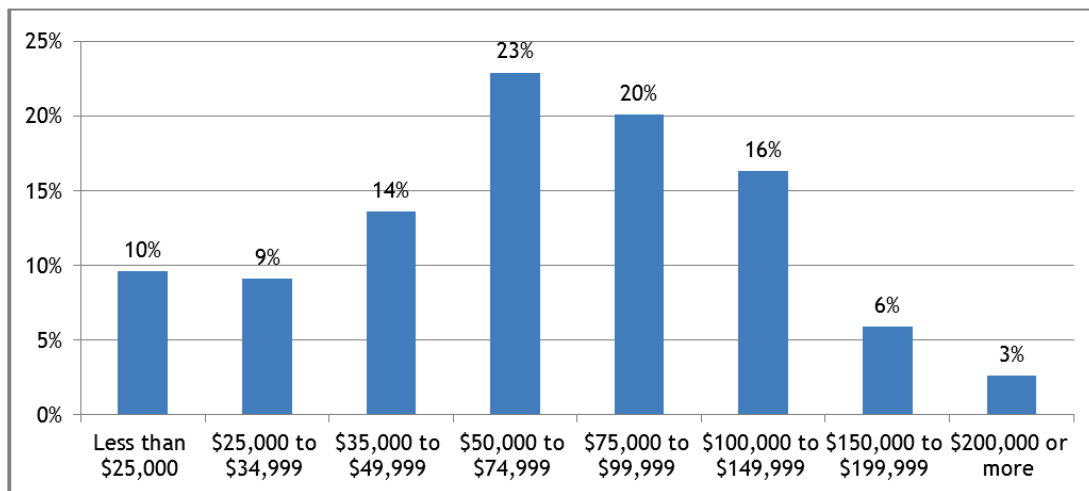
FIGURE 4-5 EMPLOYMENT STATUS



Source: Steer Davies Gleave

4.18 Respondents were asked about their total annual household income. The largest household income group was in the \$50,000 to \$74,999 range. The \$35,000-\$75,000 income group represents 37% of all respondents.

FIGURE 4-6 HOUSEHOLD INCOME DISTRIBUTION IN SURVEY SAMPLE

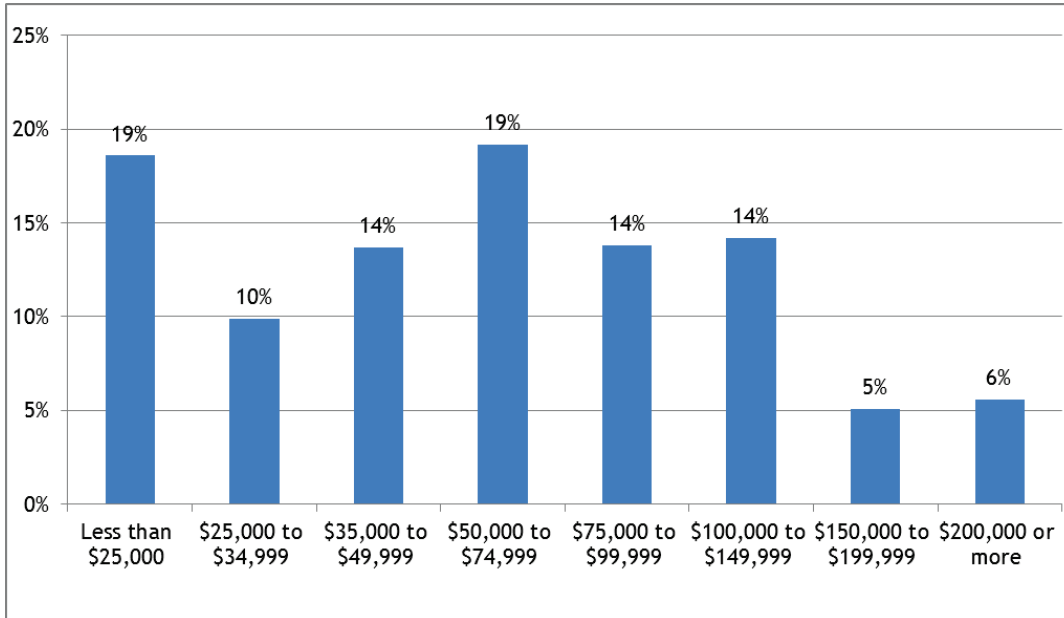


Source: Steer Davies Gleave

4.19 The household income distribution for the respondents is similar to that of the Louisville region⁷, as indicated by the figure below.

⁷ Data from US 2010 Census for Jefferson County, KY

FIGURE 4-7 HOUSEHOLD INCOME DISTRIBUTION IN LOUISVILLE

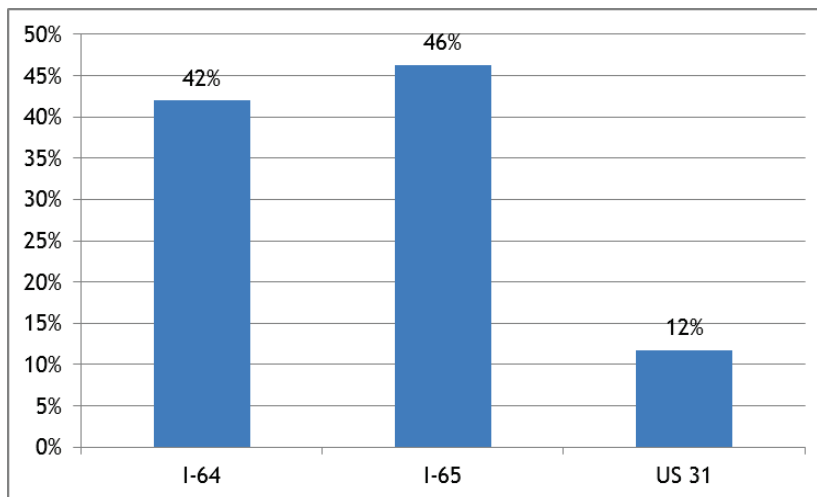


Source: US 2010 Census

User Travel Patterns

4.20 Respondents were asked to indicate the bridge they used most frequently in the last two months. The I-65 bridge had the most respondents to cross the Ohio River (46%), followed by the I-64 bridge (42%).

FIGURE 4-8 MOST FREQUENTLY USED BRIDGE

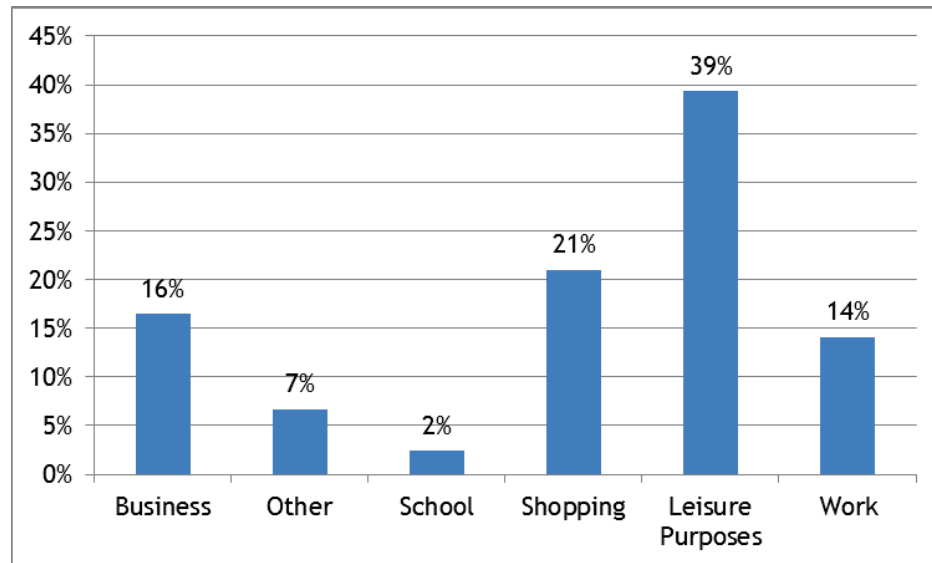


Source: Steer Davies Gleave

4.21 Respondents were asked to indicate the purpose of their most recent typical weekday trip across the Ohio River. The largest group (39%) indicated their most recent trip across the Ohio River was a trip for leisure purposes, such as visiting family or friends,

attending a social or cultural event, an outing to a restaurant, or other leisure activity. Only 14% of respondents categorized their trip purpose to be a commute to work. This provides an indication that the survey respondents varied from the typical bridge traffic composition, which includes a large increase in peak period traffic consistent with work trips.⁸ To analyze the results of this survey, trip purpose will hereafter be classified into trips to commute to work (14%) and non-work trips for all other purposes (86%).

FIGURE 4-9 TRIP PURPOSE

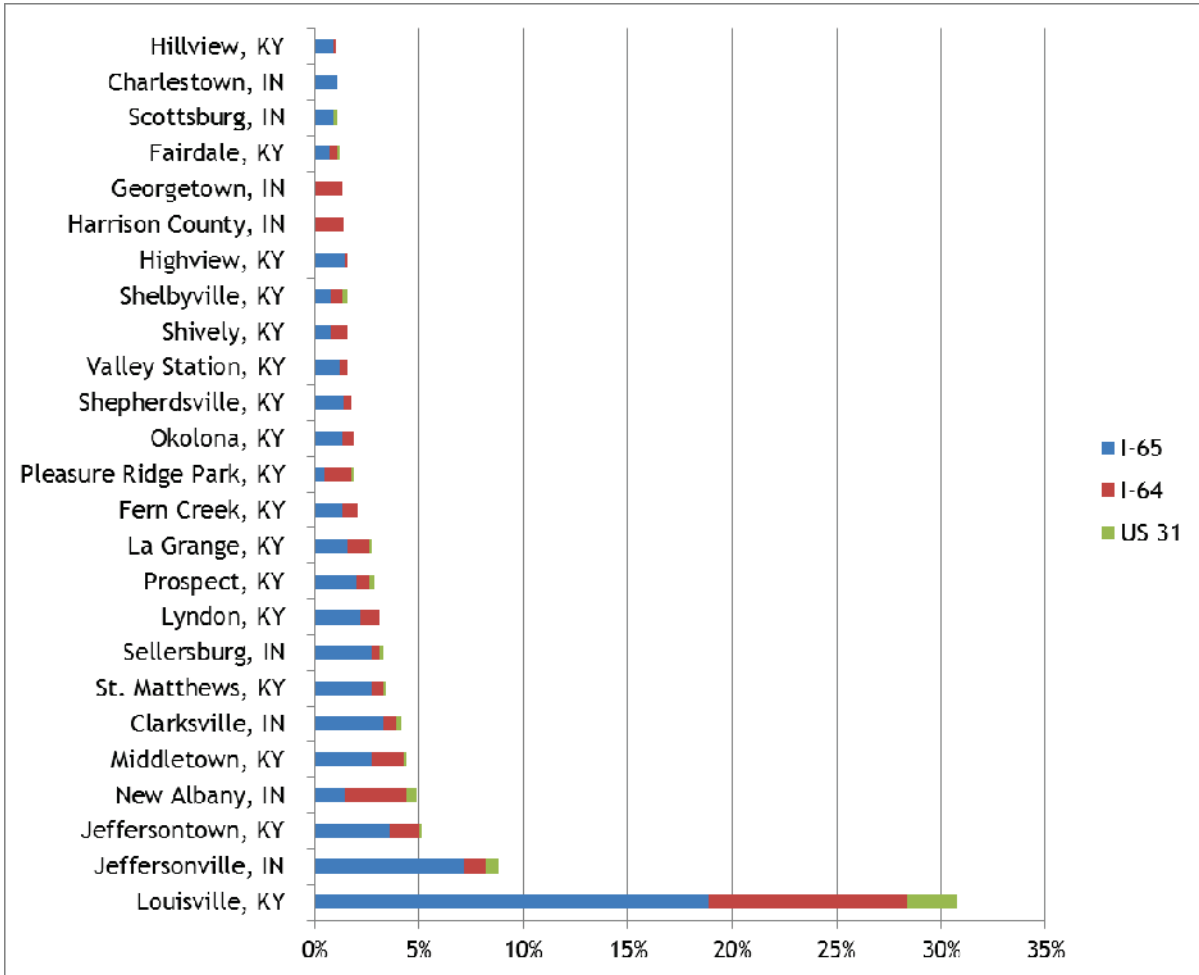


Source: Steer Davies Gleave

- 4.22 Respondents were asked to indicate the origin of their most recent trip. The following figure shows the top choices and also indicates which bridges were most popular for that segment. Places that account for less than 1% of the sample (less than 10 respondents) were not included.
- 4.23 In the sample, the top 5 areas using the I-65 Bridge are Louisville, KY, Jeffersonville, IN, Jeffersontown, KY, Clarksville, IN and Sellersburg, IN.

⁸ Please refer to Figure 2.6 and Figure 2.7 for an illustration of the peak period demand increases.

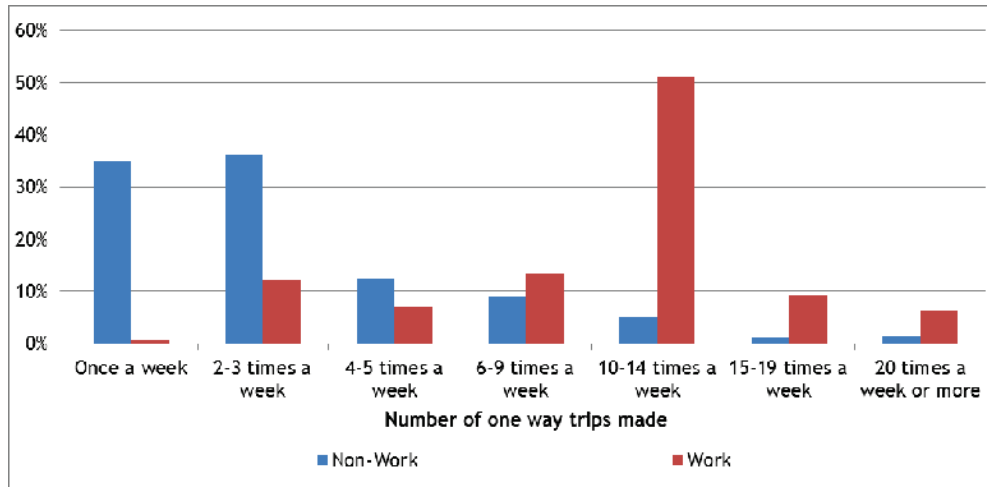
FIGURE 4-10 RESPONDENTS' PLACE OF ORIGIN AND BRIDGE CHOICE



Source: Steer Davies Gleave

4.24 Respondents were asked how often they typically drive across the Ohio River. As can be seen from the following figure, trip frequency varies by trip purpose. Respondents who used the bridges to commute to work most often made 10-14 one-way trips per week (51%), while respondents who made non-work trips most often made 1-3 trips per week.

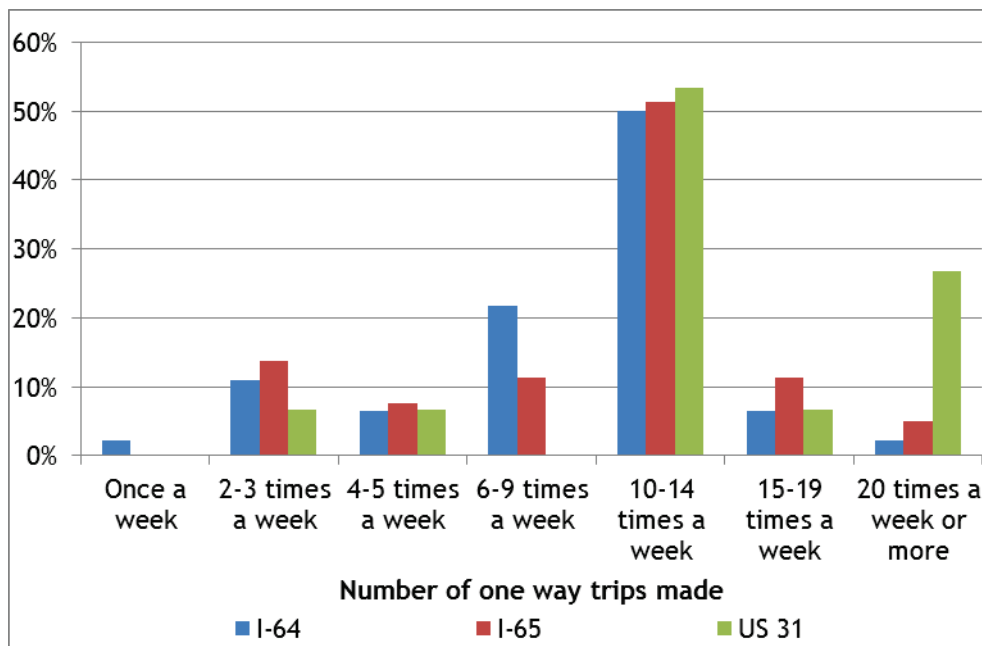
FIGURE 4-11 TRIP FREQUENCY



Source: Steer Davies Gleave

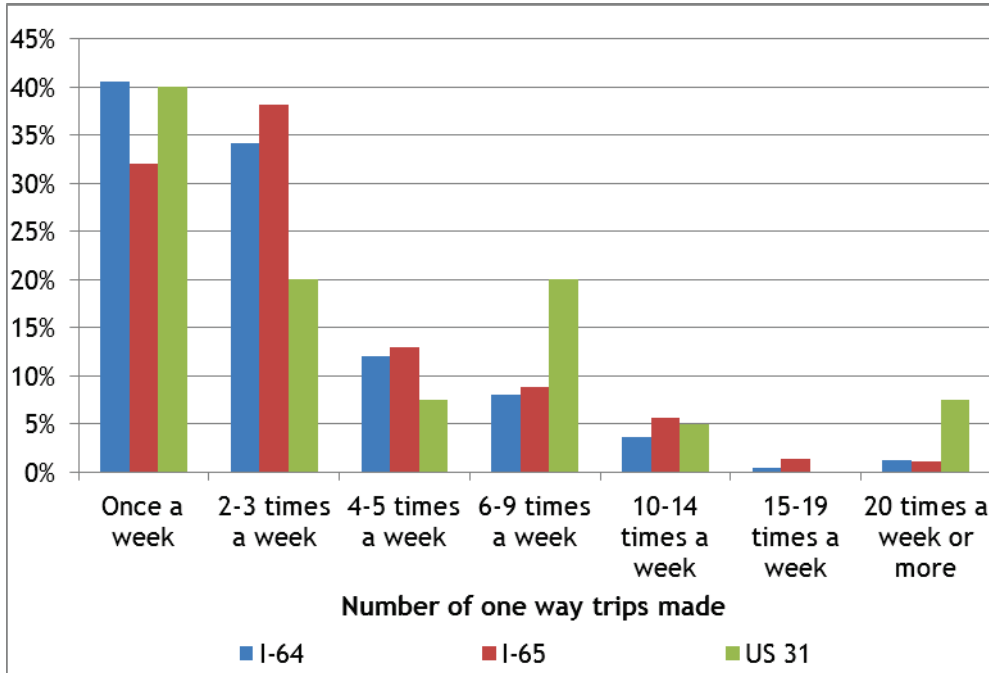
4.25 The figures below illustrates the trip frequency by bridge for work and non-work purposes. The trends were found to be consistent across all 3 bridges, i.e. I-65, I-64 and US 31.

FIGURE 4-12 TRIP FREQUENCY BY BRIDGE FOR WORK TRIPS



Source: Steer Davies Gleave

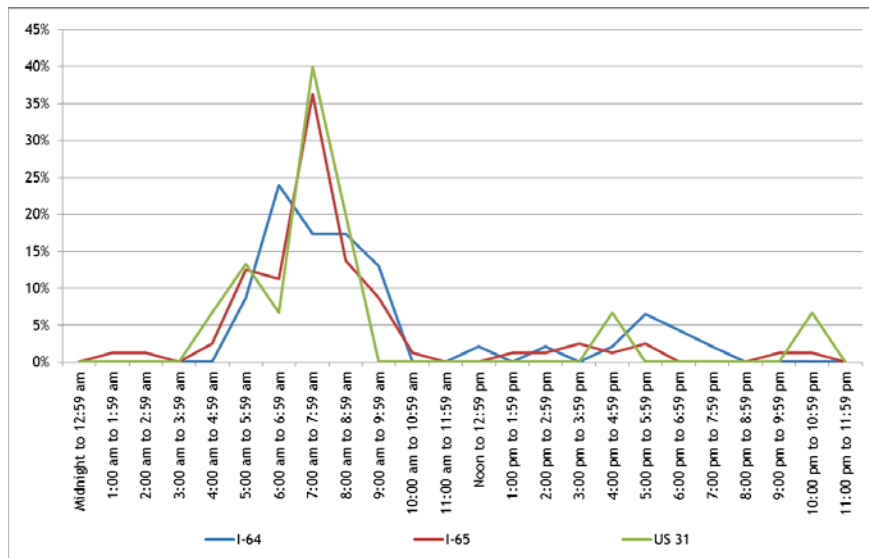
FIGURE 4-13 TRIP FREQUENCY BY BRIDGE FOR NON-WORK TRIPS



Source: Steer Davies Gleave

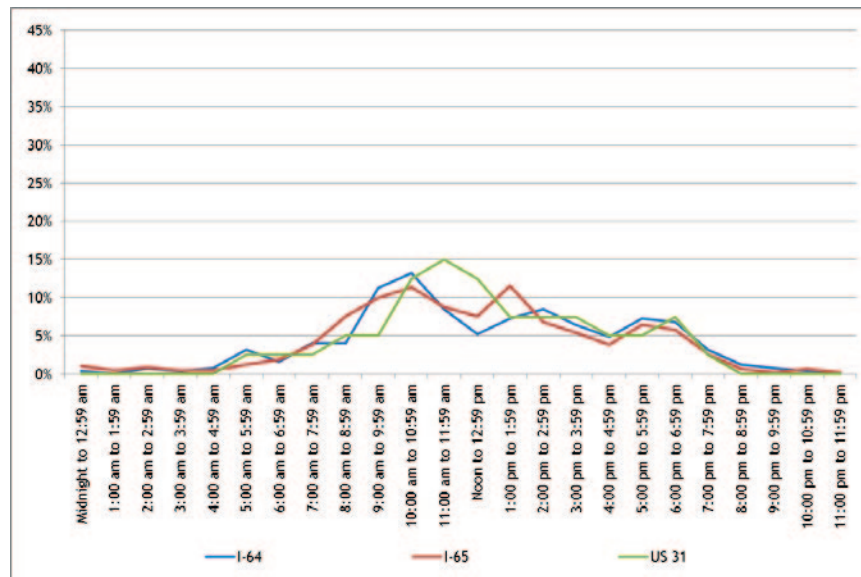
4.26 A distribution of the time of day that respondents crossed the Ohio River is provided in the figure below. While there is significant variation between work and non-work trips, the variation between bridges is minimal.

FIGURE 4-14 TIME OF DAY OF MOST RECENT WORK TRIP (BY BRIDGE)



Source: Steer Davies Gleave

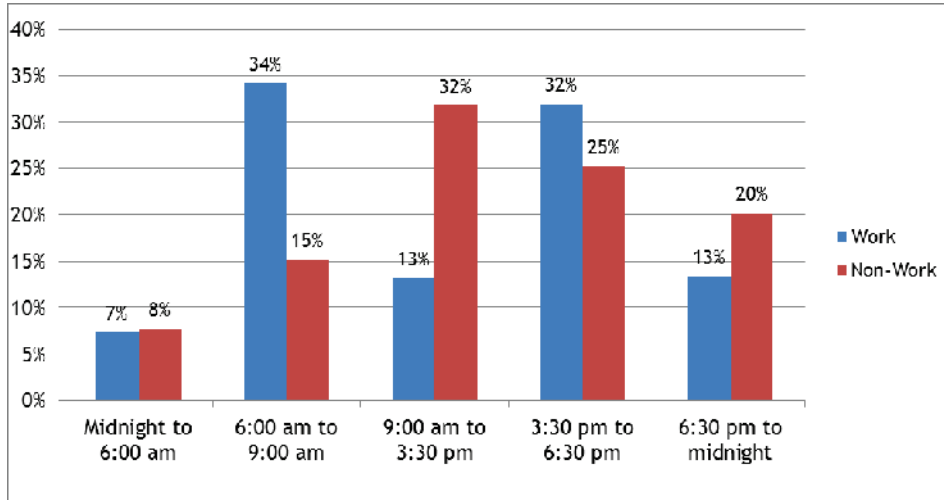
FIGURE 4-15 TIME OF DAY OF MOST RECENT NON-WORK TRIP (BY BRIDGE)



Source: Steer Davies Gleave

- 4.27 This time of day distribution makes intuitive sense since we see that for work trips 6:00 am to 9:00 am (morning peak period) is the most preferred start time for the trip, while for non-work trips the frequency is spread through-out the day with a slight preference for off-peak hours. Since this data only corresponds to the most recent outbound trip, it is not surprising that the evening peak is not pronounced for work trips. An analysis of all trips illustrates the existence of an evening peak for work trips as well (see Figure 4-16 below)
- 4.28 For non-work trips, a large majority (80%) of respondents indicated that they have some or complete flexibility over the time of their most recent trip, so many may have chosen the off-peak hours to avoid the primary peak periods. For work trips, only about 45% of the respondents indicated that they have some or complete flexibility over the time of their most recent trip, which corroborates with the peaking noticed for these trips.
- 4.29 Data were also collected on the frequency of trips made by respondents during different times of day in a typical week. Work trips were most frequently conducted during the morning and evening peak hours (34% and 32% respectively), while non-work trips were carried out most frequently in the off-peak hours (32% between 9:00 am and 3:30 pm).

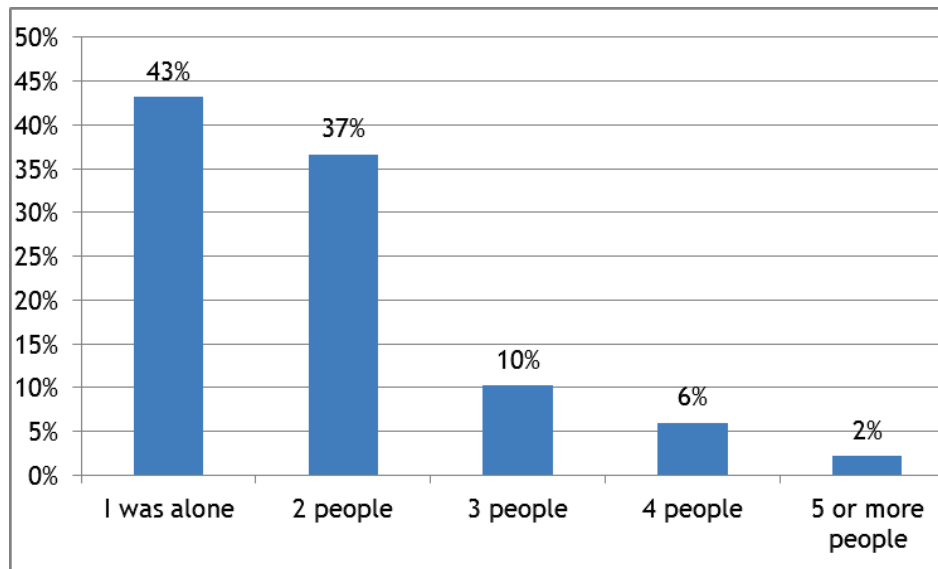
FIGURE 4-16 TRIP DISTRIBUTION BY TIME-OF-DAY



Source: Steer Davies Gleave

4.30 Respondents were asked how many people were in the car for their most recent trip. 43% reported that they drove alone, 37% drove with 2 people, 10% drove with 3 people, 6% drove with 4 people, and 4% drove with 5 or more people.

FIGURE 4-17 TRIP DISTRIBUTION BY VEHICLE OCCUPANCY

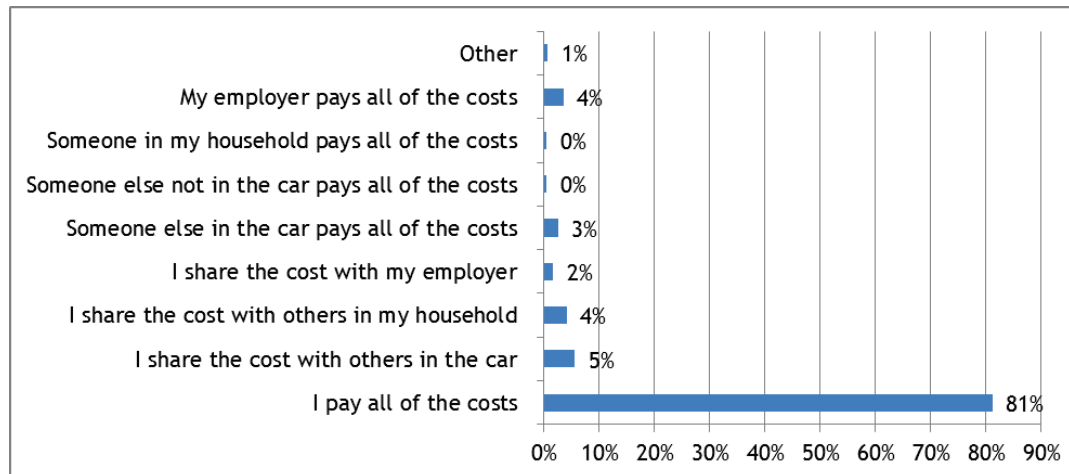


Source: Steer Davies Gleave

4.31 Respondents were asked to estimate their fuel related driving costs for their most recent trip. In the sample, cost estimates had a mean of \$24 and the median of \$10. In addition, it may be noted that 90% of respondents indicated that they only incurred fuel costs for their most recent trip.

4.32 The majority of respondents, 81%, said they paid all of the driving costs for their most recent trip. 5% of respondents indicated that they shared the cost with others in the car, while 3% indicated someone else in the car paid all the costs and less than 1% indicated that someone else not in the car paid all of the costs. 4% of respondents indicated they shared the cost with others in the household, while less than 1% indicated that someone else in the household paid all of the costs. 4% of respondents said their employer paid all of the costs, while 2% said they shared the costs with their employer. 1% of respondents indicated their driving costs do not fall in any of the above situations.

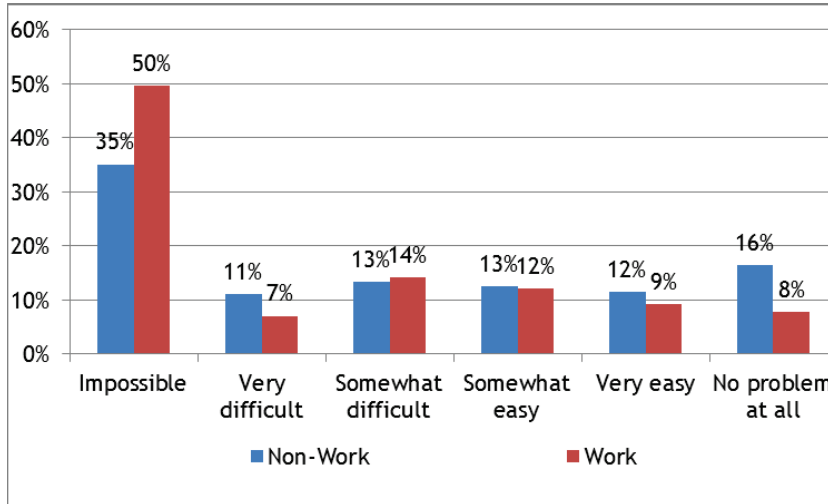
FIGURE 4-18 COST SHARING



Source: Steer Davies Gleave

4.33 Respondents were asked how easy or difficult it would have been to complete the activity for which they made their most recent trip somewhere else so that it would not be necessary to cross the Ohio River. For both work (71%) and non-work (59%) trips, majority of respondents indicated that it was impossible, very difficult or somewhat difficult to avoid traveling across the Ohio River to conduct their activities.

FIGURE 4-19 EASE OF AVOIDING TRAVEL ACROSS OHIO RIVER

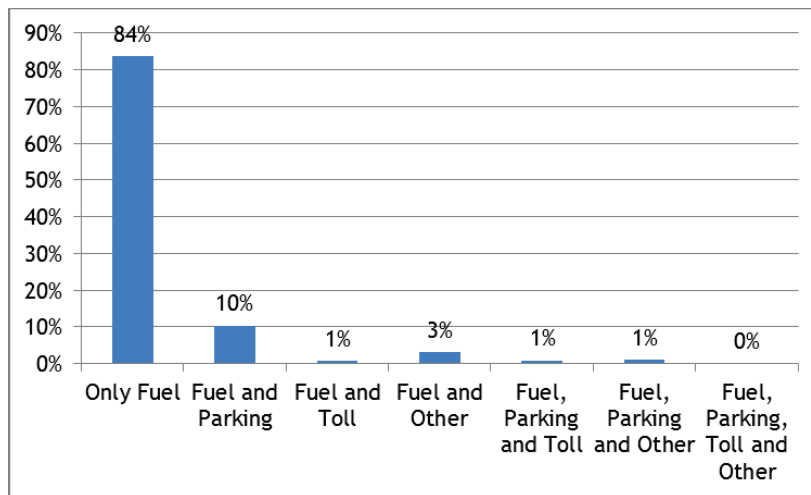


Source: Steer Davies Gleave

Attitude Toward Tolling

4.34 Respondents were asked to report the travel related costs they incurred in a typical month. As shown below, only about 2% of the sample paid tolls, indicating a lack of toll roads in the area, and more broadly a potential lack of familiarity with toll road benefits. It may be noted that a majority of respondents (84%) only incurred fuel costs. A smaller number of respondents also paid parking. For commuters to downtown Louisville, monthly parking costs as little as \$75 or roughly \$3.50 per workday.

FIGURE 4-20 COMPONENTS OF MONTHLY COSTS



Source: Steer Davies Gleave

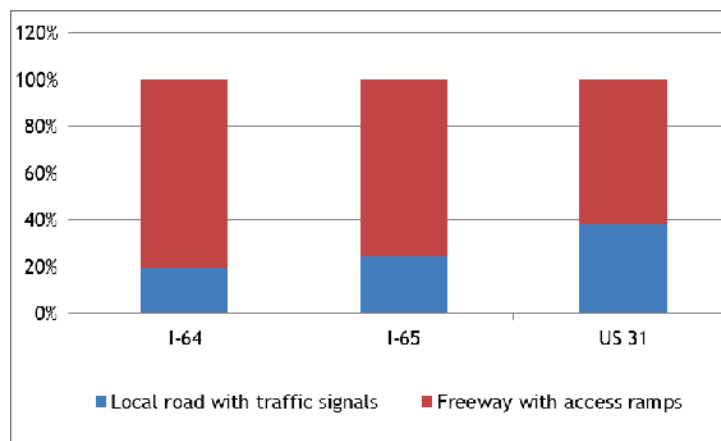
4.35 As there are few tolled facilities in the Louisville region, respondents’ attitudes to tolling were further assessed by asking questions about their potential responses to different hypothetical policy scenarios.

4.36 To assess respondents' willingness to shift to local roads (e.g. US 31) to reduce their travel costs, respondents were asked to state, if fuel prices increased to \$4.50 per gallon, whether they would use

- i) a local road that takes more time but is shorter
- ii) a freeway that takes less time but is longer

It can be seen from the figure below that respondents who currently drive on a freeway (I-64 or I-65) are less likely to shift to a local road (US 31) in response to additional travel costs incurred, as compared to respondents who already drive on US 31.

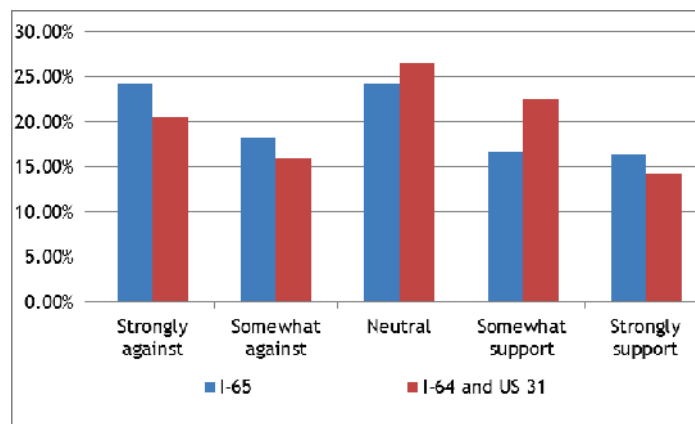
FIGURE 4-21 RESPONSE TO FUEL PRICE INCREASE



Source: Steer Davies Gleave

4.37 Reactions to the I-65 and East End bridges tolling proposal were mixed. Current users of I-65 were slightly more opposed (43%) to the new bridge than current users of I-64 and US 31 bridges (36%).

FIGURE 4-22 REACTIONS TO THE I-65 AND EAST END BRIDGES TOLLING PROPOSAL

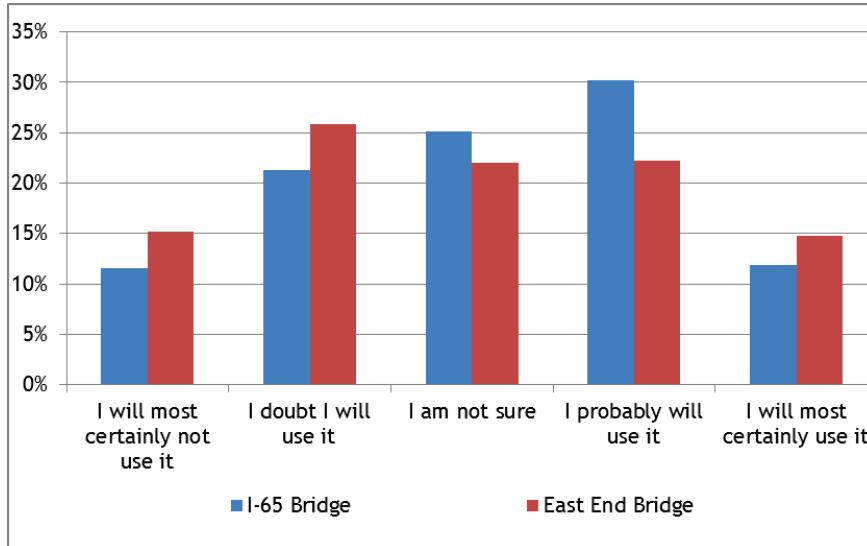


Source: Steer Davies Gleave

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4.38 When respondents were asked if they will personally use the new I-65 bridge under a reasonable toll and providing better traffic conditions, 42% said they would probably or most certainly use it, while 12% said they will most certainly not use it. For the East End bridge, 37% said they would probably or most certainly use it, while 15% said they will most certainly not use it.

FIGURE 4-23 USE OF NEW BRIDGE



Source: Steer Davies Gleave

When asked directly how much they would be willing to pay for the bridge they currently used, respondents said that the toll would need to be on average \$1.95 for it to be too expensive to consider using, even to have a guaranteed drive time⁹.

4.39 If this same analysis were done with only those respondents who indicated they are not opposed to the proposal of tolling, the average value that respondents indicate as too expensive is \$2.30.

4.40 When asked more in-depth questions regarding potential use of the tolled bridge, around 33% of respondents consistently indicated that they were not interested in paying a toll when comparing a tolled trip with a guaranteed travel time to a regular trip, irrespective of the potential travel time savings and pricing levels offered to them.

4.41 This group of respondents cited not wanting to pay, not believing that the travel time savings were worth paying for, and finding the use of toll roads or bridges inconvenient as the main reasons why they would be unlikely to use the tolled bridge in future, as can be seen in the table below.

⁹ 31 respondents (3% of total respondents) were dropped from this analysis, as they indicated values of above \$20 for them to consider it to be “too expensive”.

TABLE 4.1 RATING OF REASONS WHY RESPONDENT NEVER SELECTED A TOLLED BRIDGE

Reason	Completely Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Completely Disagree
Inadequate travel time savings	84%	10%	5%	1%	1%
Unwillingness to pay	88%	8%	3%	1%	1%
Congested driving conditions acceptable	17%	33%	24%	17%	9%
Finding toll roads inconvenient	66%	18%	11%	2%	3%

Source: Steer Davies Gleave

- 4.42 The main reasons to use the new tolled bridge cited by those who indicated that they would be willing to use it were the travel time savings and the dislike of congested traffic. A breakdown can be found in the table below.

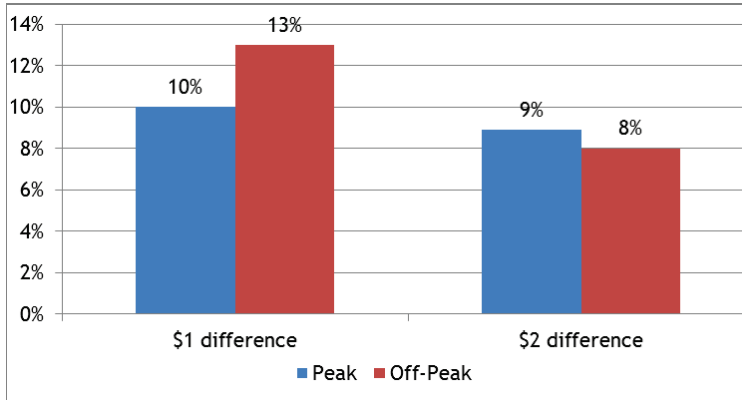
TABLE 4.2 RATING OF REASONS WHY RESPONDENT SELECTED A TOLLED BRIDGE

Reason	Completely Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Completely Disagree
Travel Time Savings	33%	47%	15%	3%	2%
Reliability	8%	19%	43%	16%	13%
Dislike of Congested Traffic	42%	40%	13%	3%	2%
Higher speeds	14%	28%	31%	16%	12%
Safer Journey	8%	16%	42%	21%	13%
More Comfortable Journey	10%	28%	36%	15%	11%

Source: Steer Davies Gleave

- 4.43 Respondents' attitudes towards alternate toll collection methods were assessed by eliciting their willingness to use video toll collection instead of transponder electronic toll collection (ETC). In the peak period, if video toll costs \$1 more per trip than transponder ETC toll, about 10% of respondents would pay using this method, while if video toll costs \$2 more per trip, about 9% of respondents would pay using video. Results are similar for respondents who made their recent trip in the off-peak periods.

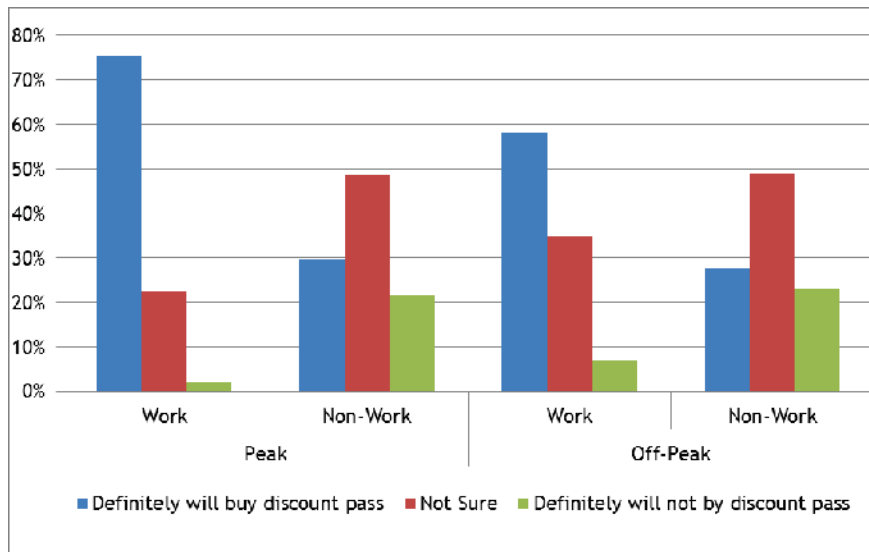
FIGURE 4-24 PREFERENCE FOR VIDEO TOLL OVER ELECTRONIC TOLL COLLECTION



Source: Steer Davies Gleave

4.44 If a discount of \$1 per trip is offered for users who make a monthly commitment and pay in advance, 76% of respondents who made work trips in the peak periods and 58% of respondents who made work trips in the off-peak periods will use a discount program. For non-work trips, the willingness to buy a discount pass is lower, as expected.

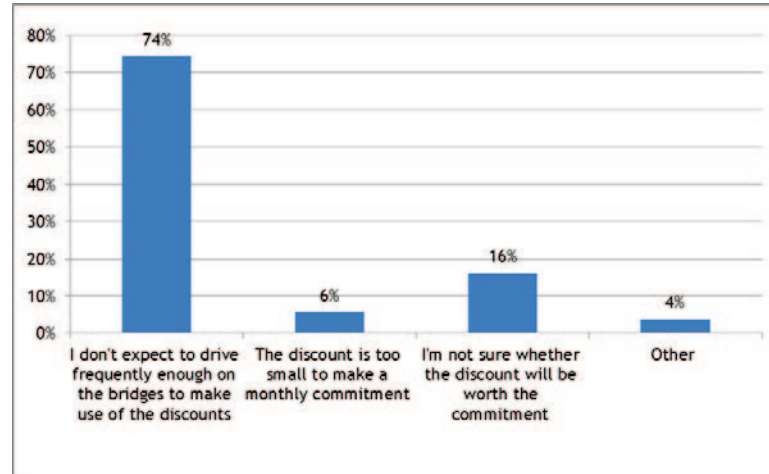
FIGURE 4-25 WILLINGNESS TO BUY DISCOUNT PASS



Source: Steer Davies Gleave

4.45 74% of respondents who did not choose the discount pass indicated that they do not drive frequently enough to make use of the discount program. 16% indicated that they were unsure if a discount of \$1 per trip would be worth the commitment, while 6% felt this discount was too small to make a monthly commitment.

FIGURE 4-26 REASONS WHY NOT BUY DISCOUNT PASS



Source: Steer Davies Gleave

Analysis of Behavioral Responses

Forecasting Demand Diversion on the Tolled Bridges

- 4.46 One of the main purposes of the SP survey was to generate estimates of behavioral responses following the introduction of a toll on the new bridges.
- 4.47 To determine these responses, Steer Davies Gleave designed a stated preference exercise where respondents were offered choices between alternative routes - one route which was slower and untolled vs. a faster route with a toll. In addition to time and cost, based on their response to changes in fuel policy as stated in the survey, the type of free road was also shown and varied in the SP design. The possible free road alternatives were:
- i) Freeway with access ramps
 - ii) Route with local roads including traffic signals
- 4.48 We developed an experimental design consisting of 9 combinations of time and cost values that were based on their reported travel time. Respondents were asked to complete all of the choice scenarios.
- 4.49 The survey software was programmed to randomly select the ordering of the questions to ensure that the order of the trade-off combinations didn't bias the respondents towards one range of cost and time.
- 4.50 We estimated a diversion model based on respondents' stated route choice: using the tolled bridge vs. an alternative route.
- 4.51 The diversion model calculates the total journey cost (expressed in monetary value, with travel times converted to a monetary equivalent), taking into account different sensitivities to time and cost. It then compares the total costs for alternate routes and estimates the likely diversion of traffic to the new tolled bridges.

4.52 The toll bridge traffic diversion is estimated by calculating the amount of demand that would be diverted to alternate routes because of the introduction of a toll, taking into account two factors with opposing effects: the added attractiveness of reduced travel time on the bridge due to added capacity and less congestion, and the additional cost imposed by the toll.

Forecasting Route Choice

4.53 While the previous section presented descriptive statistics on survey respondents and their characteristics, the following section presents a quantitative analysis of the SP survey data. In particular, we describe the route choice model developed to derive the value of time distributions and the cost and various time weights used in the models.

4.54 Values of time are generally estimated at the market segment level using econometric models. In particular, logit-form choice models are estimated based on a set of binary choices between using the new tolled bridge and free routes.

4.55 The greater the generalized cost advantage of the tolled bridges compared with a competing route, the more likely it is that travelers will be attracted from that competing route to the toll road. Conversely, the greater the generalized cost disadvantage of the toll bridge, the more likely it is that traffic will be attracted to the free alternate road.

4.56 The multiple choice scenarios for each individual made it possible to estimate values of time (VoT) for users, as the very large number of survey responses provide numerous observations on different individuals trading off time advantages with monetary costs. The general form of the estimated logit model is as follows:

$$P_{ni} = \frac{e^{V_{ni}}}{\sum_{\forall A_j \in A(n)} e^{V_{nj}}}$$

where P_{ni} is the probability of individual n choosing alternative i from a set of alternatives $A(n)$. V_{ni} is the deterministic utility of alternative i to individual n .

4.57 The deterministic component of utility is expressed as the sum product (or scalar product) of a vector of parameters and a vector of variables, as follows, where β is the vector of parameters and x is the vector of variables:

$$V_{ni} = \beta' x_{ni}$$

4.58 The choice modeling involved an iterative process attempting to find the most appropriate models. This process involved the estimation of separate models for each existing market segment, and the models estimated reflect the key variables

influencing the choice of toll road for a trip: the trip's out-of-pocket cost difference (toll amount only¹⁰) and travel time difference.

- 4.59 The VOTs of different market segments implied by these models varied with household income and with trip purpose in a sensible way, but segmentation using these variables was unable to fully capture the variance in the distribution of VOTs.
- 4.60 The market segment VOTs estimated using binary logit model, while internally consistent, were quite low. Implied VOTs were on average \$6.5/hr to \$8.5/hr. These values are much lower than VOT estimation based on wage rate would suggest. Further segmentations by income, trip purpose and origin-destination, while consistent, did not display expected variations.
- 4.61 Traditional segmentation of the market by income and purpose was nevertheless conducted to gain insight in these typically-defined market segments. Segmenting by trip purpose or household income produced average VOTs for sub-segments that, while not counterintuitive, showed little variation.
- 4.62 As a result, we decided that, rather than defining segments based on other variables in the data, the value of time distribution itself should be used to define segments, with different segments corresponding to different quantiles of the distribution. While binary logit estimation techniques exploiting the multiple choice scenarios for each individual made it possible to estimate market level VOTs, estimating the distribution of individual-level VOTs requires more complex econometric methods.
- 4.63 We decided to use the powerful mixed logit model to estimate the individual-level VOT distribution.
- 4.64 The ordinary logit model is a special case of the mixed logit model, the latter being much more general and flexible: among other things, it allows estimation of individual-level parameters values.

$$\text{Logit: } V_{ni} = \beta' x_{ni} \quad P_{ni} = \frac{e^{V_{ni}}}{\sum_{\forall A_j \in A(n)} e^{V_{nj}}}$$

$$\text{Mixed Logit: } V_{ni} = \beta' x_{ni} \quad P_{ni} = \int \left(\frac{e^{\beta' x_{ni}}}{\sum_j e^{\beta' x_{nj}}} \right) f(\beta) d\beta$$

- 4.65 Unlike the ordinary logit model, the integrals involved in mixed logit models cannot be solved analytically. The integration is done by simulation. Applications where mixed logit can be useful include situations where market segments are not clearly identified or understood (which was seen while adopting traditional market segmentation

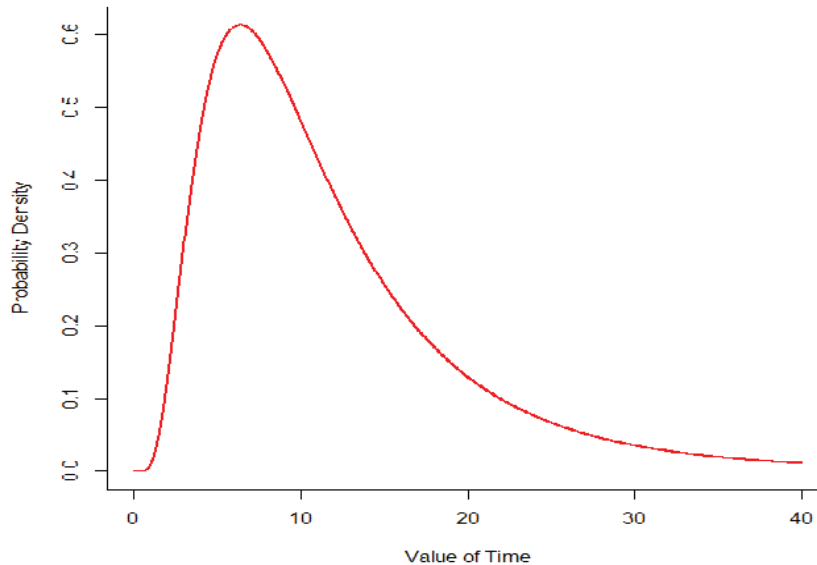
¹⁰ Auto operating cost and fuel cost were not modelled as they do not vary significantly between a toll road and an untolled alternative road of similar length, and so do not affect the choice between the two.

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approaches using a logit model) and those where taste variations among users is significant (which was verified after estimating a mixed logit model).

- 4.66 Mixed logit is not necessary if only aggregate market behavior is of interest, or if the market segments are well-defined and understood. Its limited use in practice is mainly due to the difficulty of model specification, the computational cost of model estimation, and in some cases the intricacy of interfacing with other models in a forecasting system. However, once these issues are resolved, mixed logit approaches have shown that they can often lead to better behavioral models, better predictions, and better understanding of the markets.
- 4.67 The figure below shows the distribution of VOTs in the sample. The use of a mixed logit model is justified by the fact that the estimated spread of the value of time in the sample is significant. The distribution has a mean value of \$12/hr, a standard deviation of \$12.5/hr and a median of \$8.25/hr.

FIGURE 4-27 DISTRIBUTION OF VALUES OF TIME



Source: Steer Davies Gleave

- 4.68 We estimated three VOT quantiles from the mixed logit model to use in the traffic and revenue forecasting. These VOTs correspond to low, medium and high willingness to pay for travel time savings segmentation of travelers. Two approaches were used to calculate the value of time for each quantile. In the first approach, the mean value of time for each quantile was calculated by using a simulation technique. However, since the high value of time quantile can have an infinite value of time, the estimate for the third quantile is inflated. To account for this inflation, an alternate approach was developed wherein the median within each quantile was calculated. In this approach, the low, medium, and high VOTs correspond to the 16.67%, 50%, and 83.33% quantiles of the value of time distribution.

TABLE 4.3 VALUE OF TIME DISTRIBUTION AND MARKET SEGMENTS

Quantile	Value of Time	
	Mean Within Quantile	Median Within Quantile
Low: 0 % - 33 %	\$3.45	\$3.60
Medium: 33 % - 67 %	\$8.35	\$8.20
High: 67% - 100 %	\$23.90	\$18.70

Source: Steer Davies Gleave

- 4.69 The range of value of time obtained by using the mixed logit model is reasonable, if not somewhat conservative. As a rule of thumb in transport studies, it is common practice to estimate VOT as a percentage of the hourly wage. Although there has been a wide range of estimates, many published surveys have found travel time values around 50% of the wage rate (Small, 1992; Walters, 1992; Lam and Small, 2000). Applying US DOT guidance, an average wage rate in Louisville area is \$21.84/hr in 2010¹¹. Thus, based on this method, a value of time of almost \$12/hr would have been expected for this market.
- 4.70 Further, by capturing the heterogeneity in the behaviors of travelers in the Louisville area, the diversion model provides an enhanced behavioral representation of travelers' choices in this area.

Trucking Industry Outreach

- 4.71 In order to gain insight into how the trucking community is likely to respond to the introduction of tolls to some of the Ohio River crossings, we conducted interviews with six members of the trucking community who represent a cross-section of the industry. These individuals represented different lengths of haul (local routes, regional routes, and long-distance routes), for-hire carriers vs. carry own commodity, and drivers who are company employees vs. owner-operators. As might be expected, the attitudes and anticipated behavior to the tolls varied widely depending on the business model of the trucking company.
- 4.72 Below we summarize some of the key takeaways from these interviews:
- Willingness to pay the toll will be impacted by the ability to pass the toll on to customers; this was likely to be possible for more of the short-distance companies and those that can exercise pricing power.

¹¹ US Department of Transportation, Office of the Secretary of Transportation, "The Value of Saving Travel Time: Departmental Guidance for Conducting Economic Evaluations", 1997
Household income data from
http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_11_5YR_DP03

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- Owner-operators are more likely to avoid tolls than company drivers who are often prescribed a route from a dispatcher.
- Dispatchers, and the software programs they utilize, will consider tolls as one of the factors in the vehicle operating cost that are used to determine routings
- Vehicle operating costs can vary widely from owner-operator (\$0.80 - \$1.20 / mile range quoted) compared to companies that employ drivers (operating costs of up to \$1.75 were quoted).
- Time savings of the magnitude of this project hold much greater value to short-distance (ie, delivery) companies compared to long-distance drivers.

5 Forecasting Methodology

Overview

- 5.1 This chapter describes the methodology Steer Davies Gleave used to develop the traffic and revenue forecasts. This approach is depicted in Figure 5.1 and uses many inputs from the Time-of-Day (TOD) model that was developed by CDM Smith to support the NEPA analysis. The TOD model is a classic four-step model that operates at daily level with a breakdown of the demand into 8 time periods for purposes of the traffic and transit assignments. The model network covers the counties of Floyd and Clark in Indiana and Oldham, Jefferson and Bullitt in Kentucky. The model was calibrated for a base year of 2007.
- 5.2 Using the TOD model along with data collection elements described in the prior chapters, Steer Davies Gleave developed a custom toll forecasting model (SDG model) in Cube/Voyager and calibrated it for a base year of 2012. The key elements of the SDG model can be summarized as:
- A choice model mechanism was incorporated as part of the assignment procedure to better reflect route choice algorithms. The choice model is applied at a detailed level of trip desegregation including vehicle type, willingness to pay tolls, and toll payment method.
 - A new time period of 6-7 pm was added to create a total of nine time periods. 6-7 pm was previously considered as part of the night period.
 - The existing network was updated to reflect the 2012 traffic conditions. This not only included updating the network to reflect the new infrastructure built since 2007 but also a detailed revision of the network attributes such as road capacities, speed limits and speed-flow-curves parameters.
 - New traffic counts and travel time measures were used to validate the assignment results across the network for each of the nine time periods, and in particular for each of the existing Bridges, providing a robust platform for the forecasts.
 - Socioeconomic forecasts for the model area were developed by an independent economic consultant, and a growth model was built to validate the river crossing traffic growth included in the demand matrices.
 - Forecast years of 2016, 2018, 2023 and 2030 were prepared.
- 5.3 Figure 5.1 details the forecasting framework of the SDG model, with four basic components. In the *Base Year* component, the base year trip tables and networks from the TOD model are used as inputs along with traffic counts and travel times to adjust the trip tables to a 2012 base year level, and the model's traffic volumes, travel times, and trip patterns are validated against observed conditions. In the *Network Improvements* component, the future networks are set to reflect the planned projects included in the RTP and the Project improvements, including toll rates. In the *Traffic Growth* component, the base year trip tables are grown to future year levels through a

combination of the cross-river growth model and running the independent socioeconomic forecasts through the TOD model. Finally, in the *Future Year Model* component, the traffic and revenue forecasts are prepared by assigning the future trips to the future networks using an assignment procedure including route choice.

5.4 The remainder of this chapter explains in detail the development of the SDG model, the calibration/validation results, and the assumptions and parameters of the model.

Base Year Demand

5.5 As depicted in Figure 5.1 above, we used a matrix estimation process to establish the base year trip levels. This matrix estimation used processed 2007 trip tables from the TOD model as the seed matrices along with traffic counts, including vehicle classification data, as the targets. Below, we describe the process we used to prepare the seed matrix.

Demand Matrices

5.6 As part its forecasting mechanism, the TOD model creates Origin-Destination (OD) vehicle trip tables for each of the time periods. For each time period trip table, there are 35 trip segments based on combinations of the following attributes:

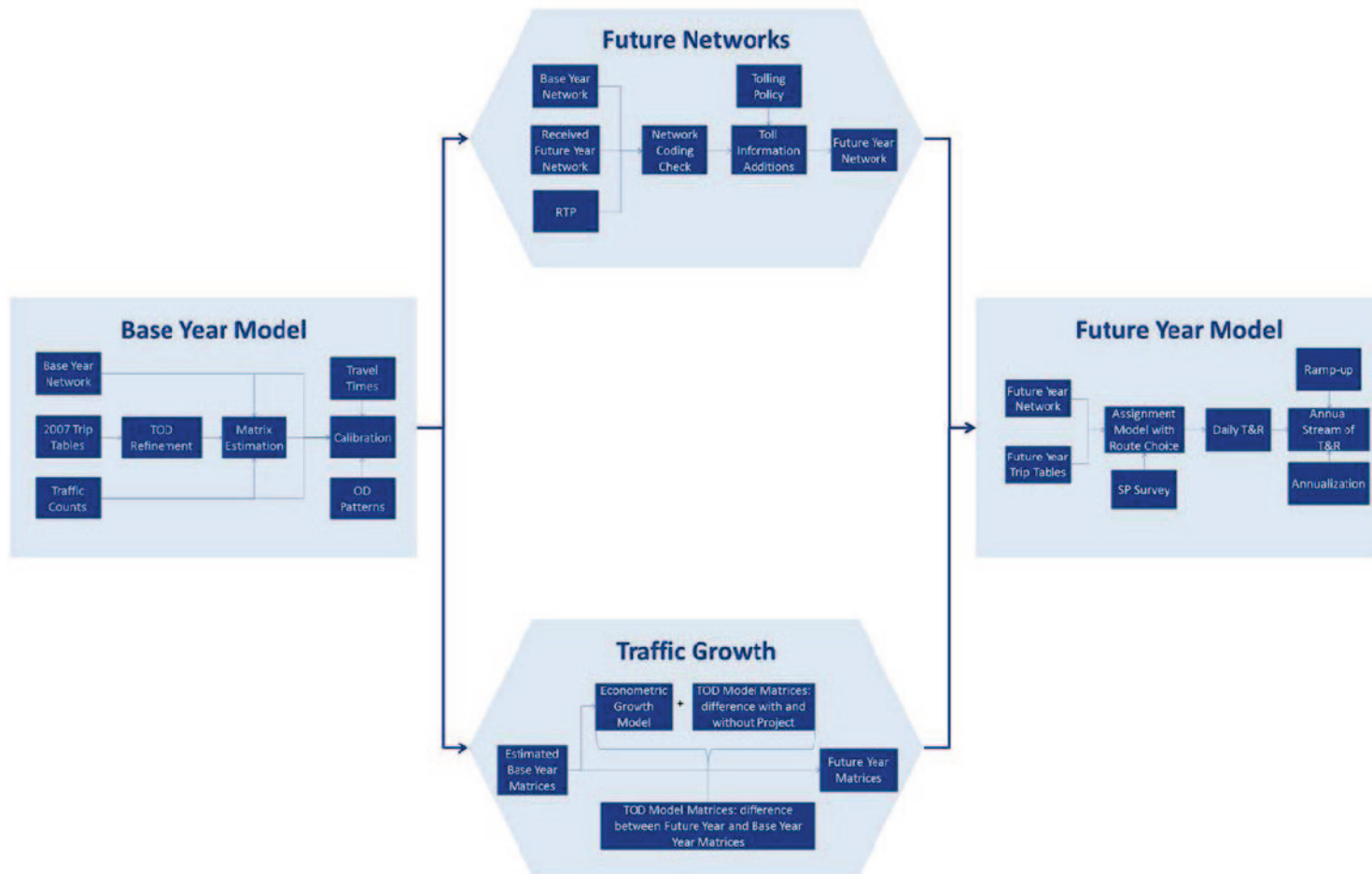
- 2 Vehicle types (Autos and Trucks)
- 4 Journey purposes (Home Based Work, Home Based Other, Non-Home Based and External)
- 3 car availability groups (No car, 1 car and 1+ cars)
- 3 income groups (Low, Med and High)

5.7 For preparation of the seed matrices, we grouped the matrices into auto and truck vehicle types. We further split the TOD model truck matrices into medium and heavy trucks with proportions of 35% and 65% were used for medium and heavy trucks respectively based upon the average split observed in our traffic count data.

5.8 During the matrix estimation assignment purposes vehicles were converted into Passenger Car Units (PCUs) using the following factors:

- Autos: 1
- Medium Trucks: 1.5
- Heavy Trucks: 2.5

FIGURE 5.1 MODELING APPROACH



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Time Periods

5.9 For the matrix estimation process, seed matrices are needed for each of the model’s time periods. The TOD model disaggregates the daily trip matrices into eight time periods, with three AM periods, a Midday (MD) period, three PM periods and the Nighttime (NT) period which runs from 6pm to 6am. After analyzing the observed traffic profiles of the Bridges we decided to split the NT period to create a new PM period representing 6-7 pm. We created the 6-7 pm period by allocating 28% of the previously defined NT period trips.

5.10 The final time periods used in the SDG model are:

- AM1 - 1hr (06:00 - 07:00)
- AM2 - 1hr (07:00 - 08:00)
- AM3 - 1hr (08:00 - 09:00)
- MD - 6hr (09:00 - 15:00)
- PM1 - 1hr (15:00 - 16:00)
- PM2 - 1hr (16:00 - 17:00)
- PM3 - 1hr (17:00 - 18:00)
- PM4 - 1hr (18:00 - 19:00)
- NT - 11hr (19:00 - 06:00)

Base Year Network / Network Attributes

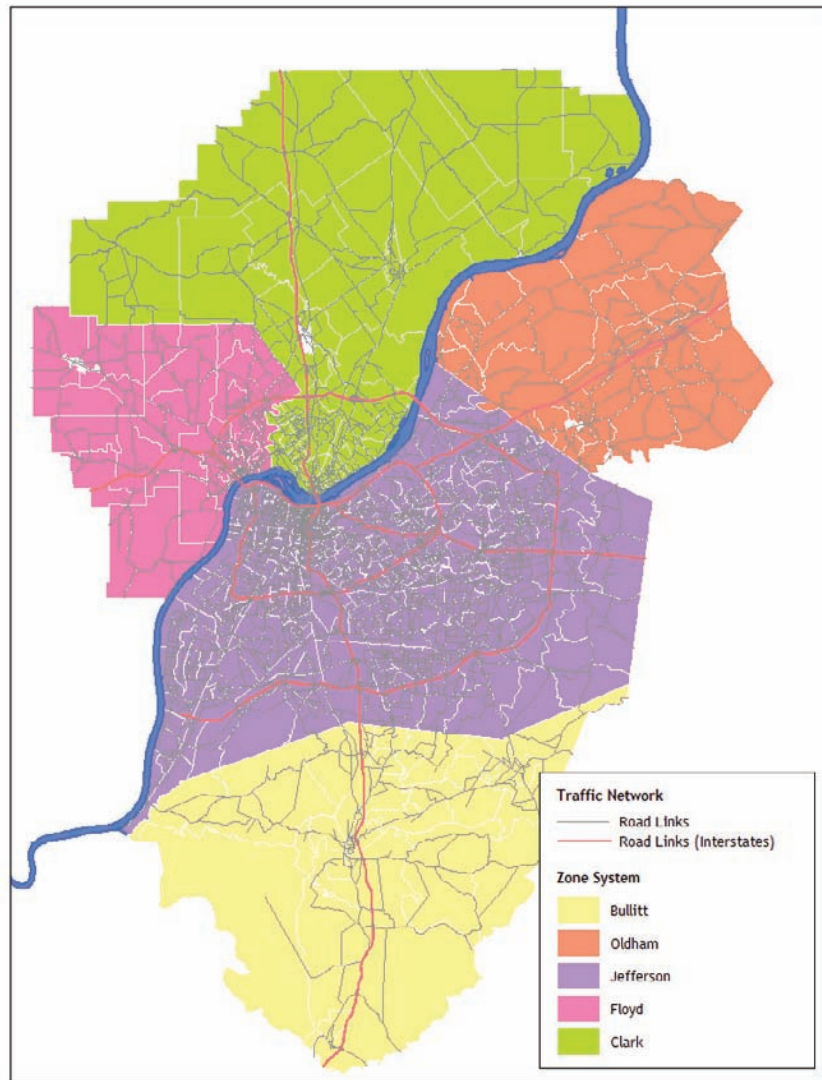
Zone System

5.11 The SDG model adopted the existing zone system of the TOD model which has a total of 855 zones, covering the counties of Clark and Floyd in Indiana, and Bullitt, Jefferson, and Oldham, Jefferson and Bullitt. Table 5.1 lists the numbers of zones by county and Figure 5.2 displays the traffic network and zone system.

TABLE 5.1 ZONES BY COUNTY

ID	County Name	Number of Zones
1	Floyd	74
2	Clark	90
3	Jefferson	537
4	Oldham	42
5	Bullitt	58
6	External	54
Total		855

FIGURE 5.2 TRAFFIC NETWORK AND ZONE SYSTEM



Road Network

- 5.12 SDG also adopted the existing traffic network for its traffic model. The existing TOD model network included attributes such as road type, road capacity and free-flow speeds. These link attributes were originally imported by CDM Smith from the KIPDA MPO daily model and adjusted to represent hourly conditions. This is particularly important in the case of the capacity; the other attributes are the same across the day.

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5.13 To maintain consistency, CDM Smith decided to compute the hourly capacities using a 10% k-factor¹² for all the links and area types. That is, daily capacities are multiplied by 0.1 to calculate hourly capacities. We reviewed the capacities in parallel with the network calibration and made slight modifications as needed:

- Freeway capacity increased from 1500 to 2200 PCUs/hr/lane
- US31 capacity increased from 600 to 1000 PCUs/hr/lane

5.14 Table 5.2 summarizes the road capacities adopted in the SDG model.

5.15 For the development of mid-day and night capacities, CDM Smith determined that instead of multiplying the hourly capacity by the number of hours of the period, it was more appropriate to estimate a factor based on the ratio of the period total traffic to the peak hour traffic within that period. We used the same factor for the MD and, as we changed the definition of the NT period, we re-estimated the factor for this period.

¹² In traffic engineering, k-factors are used to convert from daily to hourly

TABLE 5.2 NETWORK ATTRIBUTES

Facility Type	Road type	Description	Capacity per lane (PCU/hr)
11	Freeways		2200
13	Low Capacity Freeway	Bridges and I64 between the Bridges	1600
21	Divided Arterial 1	Signal density < 0.5 signals/mile and a speed limit of 55 m/hr	850
22	Divided Arterial 2	Signal density < 0.5 signals/mile and a speed limit of 45 m/hr	850
23	Divided Arterial 3	Signal density >= 0.5 signals/mile and < 2.5 signals/mile	750
24	Divided Arterial 4	Signal density >= 2.5 signals/mile and <= 4.5 signals/mile	750
25	Divided Arterial 5	Signal density > 4.5 signals/mile	650
31	Undivided Arterial 1	Undivided Arterial with turning bays	600
35	Undivided Arterial 2	Undivided Arterial without turning bays	500
41	Undivided Arterial 3	Divided Collectors and Local Roads	550
45	Undivided Arterial 4	Undivided Collectors and Local Roads	450
49	Undivided Arterial 5	Side streets used for bus routes	250
61	One Way 1	One-Way Street with a signal density < 0.5 signals/mile	700
62	One Way 2	Signal density >= 0.5 signals/mile and < 2.5 signals/mile	700
63	One Way 3	Signal density >= 2.5 signals/mile and <=4.5 signals/mile	500
64	One Way 4	Signal density > 4.5 signals/mile	500
65	Frontage Road 1	Signal density < 0.5 signals/mile	700
66	Frontage Road 2	Signal density >= 0.5 signals/mile and < 2.5 signals/mile	700
67	Frontage Road 3	Signal density >= 2.5 signals/mile and <= 4.5 signals/mile	500
68	Frontage Road 4	Signal density > 4.5 signals/mile	500
71	Ramp High Speed 1	High Speed (Generally straight)	1400
72	Ramp Low Speed 1	Low Speed (Noticeably curved)	1300
73	Ramp High Speed 2	High Speed (Generally straight)	1400
74	Ramp Low Speed 2	Low Speed (Noticeably curved)	1300

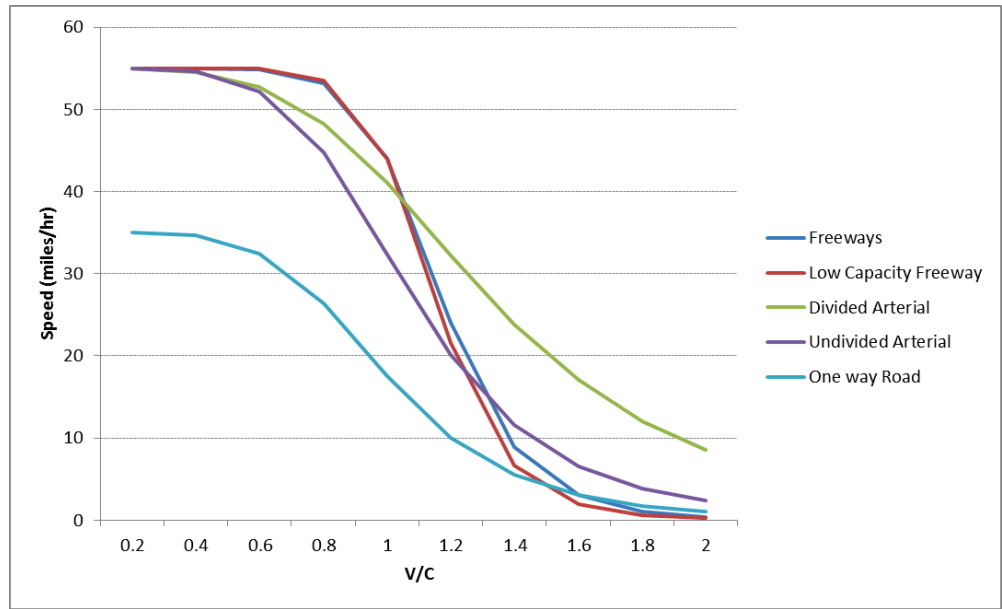
Speed Flow Curves

- 5.16 Travel times are estimated based on the volume/capacity ratio on each link of the network. For this we have used a traditional BPR¹³ formulation with alpha and beta parameters.
- 5.17 We reviewed the parameters included in the TOD model and kept them all for our model except the alpha parameter for the low capacity freeway links. For this class,

¹³ The BPR function was developed by the Bureau of Public Roads as an equation to estimate how travel times increased as a function of increasing traffic volume

we have increased the parameter from 0.1 to 0.25, making it consistent with the regular freeway links at low speeds. The Figure 5.3 displays the curves adopted for the SDG model.

FIGURE 5.3 SPEED FLOW CURVES



Model Validation

5.18 A key objective of our modeling approach is for the model to accurately reflect the actual traffic of each bridge crossing and major roadways throughout the network. Accordingly, we present detailed traffic validation information for the bridge crossings for the AM peak in Table 5.3, the PM peak in Table 5.4, and daily in Table 5.5, along with validation of the major roadways in Table 5.6, Table 5.7, and Table 5.8 for the AM peak, PM peak, and daily, respectively. In these tables for both the forecasted and observed traffic, the AM peak represents the average of the three AM periods, while the PM peak represents the average of the four PM periods.

5.19 These tables provide the volume calibration in terms of the GEH statistic, which is a common measure calculated to determine how well forecasted traffic matches observed traffic. The GEH statistic is calculated as:

$$GEH = \sqrt{\frac{(Volume_{Modeled} - Volume_{Observed})^2}{(Volume_{Modeled} + Volume_{Observed}) * 0.5}}$$

5.20 GEH values less than 5 indicate a good fit of observed levels, while GEH values greater than 10 indicate that more attention is needed on a specific location of the model. The results in the following tables indicate that the model’s traffic forecasts do a good job of matching observed levels.

TABLE 5.3 AM BRIDGE CROSSING TRAFFIC VALIDATION (VEHICLES / HOUR)

Bridge	Direction	Observed Traffic Counts	Assigned Model Flow	% Diff	GEH
Cars					
I65	NB	2,680	2,688	0%	0.2
	SB	3,640	3,688	1%	0.8
U31	NB	290	289	0%	0.0
	SB	1,580	1,452	-8%	3.3
I64	NB	1,251	1,262	1%	0.3
	SB	3,742	3,792	1%	0.8
Total Trucks (Med + Heavy)					
I65	NB	426	468	10%	2.0
	SB	453	492	9%	1.8
I64	NB	190	214	12%	1.7
	SB	211	240	14%	1.9
Total					
I65	NB	3,106	3,157	2%	0.9
	SB	4,093	4,180	2%	1.4
U31	NB	293	289	-1%	0.2
	SB	1,596	1,452	-9%	3.7
I64	NB	1,441	1,475	2%	0.9
	SB	3,953	4,031	2%	1.2
Two-Way Total					
I65		7,199	7,337	2%	1.6
US31		1,890	1,742	-8%	3.5
I64		5,394	5,507	2%	1.5
All Bridges		14,482	14,585	1%	0.9

TABLE 5.4 PM BRIDGE CROSSING TRAFFIC VALIDATION (VEHICLES / HOUR)

Bridge	Direction	Observed Traffic Counts	Assigned Model Flow	% Diff	GEH
Cars					
I65	NB	4,500	4,594	2%	1.4
	SB	2,907	2,905	0%	0.0
U31	NB	1,281	1,201	-6%	2.3
	SB	680	691	2%	0.4
I64	NB	3,570	3,539	-1%	0.5
	SB	1,990	1,994	0%	0.1
Total Trucks (Med + Heavy)					
I65	NB	516	523	1%	0.3
	SB	441	497	13%	2.6
I64	NB	199	220	11%	1.4
	SB	221	227	3%	0.4
Total					
I65	NB	5,016	5,117	2%	1.4
	SB	3,348	3,401	2%	0.9
U31	NB	1,287	1,201	-7%	2.4
	SB	683	691	1%	0.3
I64	NB	3,769	3,760	0%	0.2
	SB	2,211	2,220	0%	0.2
Two-Way Total					
I65		8,364	8,519	2%	1.7
US31		1,970	1,892	-4%	1.8
I64		5,981	5,980	0%	0.0
All Bridges		16,315	16,391	0%	0.6

TABLE 5.5 DAILY BRIDGE CROSSING TRAFFIC VALIDATION

Bridge	Direction	Observed Traffic Counts	Assigned Model Flow	% Diff	GEH
Cars					
I65	NB	52,565	53,073	1%	0.5
	SB	49,047	48,624	-1%	0.4
U31	NB	11,027	10,667	-3%	0.7
	SB	12,859	12,665	-2%	0.4
I64	NB	34,137	34,090	0%	0.1
	SB	35,699	36,022	1%	0.3
Total Trucks (Med + Heavy)					
I65	NB	10,364	10,543	2%	0.4
	SB	9,998	10,496	5%	1.0
I64	NB	4,169	4,337	4%	0.5
	SB	4,155	4,325	4%	0.5
Total					
I65	NB	62,929	63,616	1%	0.6
	SB	59,046	59,120	0%	0.1
U31	NB	11,119	10,667	-4%	0.9
	SB	13,024	12,665	-3%	0.6
I64	NB	38,306	38,427	0%	0.1
	SB	39,853	40,347	1%	0.5
Two-Way Total					
I65		121,975	122,735	1%	0.4
US31		24,143	23,333	-3%	1.1
I64		78,159	78,773	1%	0.4
All Bridges		224,277	224,841	0%	0.2

TABLE 5.6 AM MAJOR ROADWAY TRAFFIC VALIDATION

GEH Summary	<5	<10	<15
Cars			
Number of Locations (Cumulative)	52	54	54
Number of Locations (Individual)	52	2	0
% Cumulative	96%	100%	100%
% Individual	96%	4%	0%
Tot Trucks (Med + Heavy)			
Number of Locations (Cumulative)	52	54	54
Number of Locations (Individual)	52	2	0
% Cumulative	96%	100%	100%
% Individual	96%	4%	0%
Total			
Number of Locations (Cumulative)	52	54	54
Number of Locations (Individual)	52	2	0
% Cumulative	96%	100%	100%
% Individual	96%	4%	0%

TABLE 5.7 PM MAJOR ROADWAY TRAFFIC VALIDATION

GEH Summary	<5	<10	<15
Cars			
Number of Locations (Cumulative)	52	54	54
Number of Locations (Individual)	52	2	0
% Cumulative	96%	100%	100%
% Individual	96%	4%	0%
Tot Trucks (Med + Heavy)			
Number of Locations (Cumulative)	54	54	54
Number of Locations (Individual)	54	0	0
% Cumulative	100%	100%	100%
% Individual	100%	0%	0%
Total			
Number of Locations (Cumulative)	52	54	54
Number of Locations (Individual)	52	2	0
% Cumulative	96%	100%	100%
% Individual	96%	4%	0%

TABLE 5.8 DAILY MAJOR ROADWAY TRAFFIC VALIDATION

GEH Summary	<5	<10	<15
Cars			
Number of Locations (Cumulative)	54	54	54
Number of Locations (Individual)	54	0	0
% Cumulative	100%	100%	100%
% Individual	100%	0%	0%
Tot Trucks (Med + Heavy)			
Number of Locations (Cumulative)	54	54	54
Number of Locations (Individual)	54	0	0
% Cumulative	100%	100%	100%
% Individual	100%	0%	0%
Total			
Number of Locations (Cumulative)	54	54	54
Number of Locations (Individual)	54	0	0
% Cumulative	100%	100%	100%
% Individual	100%	0%	0%

Travel Times

5.21 In addition to validating traffic volumes, we sought to validate the model’s prediction of travel times. Accurate representation of travel times is an important element of models used to evaluate time-cost trade-offs of potential toll facility users. Below we present figures that plot the model’s predicted travel times for the AM and PM peaks against the observed travel times. In these plots, the x-axis is labeled with a segment number that corresponds to those mapped in Figure 5.4. Specifically, Figure 5.5, Figure 5.6, and Figure 5.7 display the travel time validation for Route 1, Route 2, and Route 3, respectively. In these figures for both the forecasted and observed travel times, the AM peak represents the average of the three AM periods, while the PM peak represents the average of the four PM periods.

5.22 With minor exceptions, the model does a very good job of replicating observed travel times. Route 1's modeled travel times almost exactly match the observed travel times during the PM peak, and are a bit slower than observed in the AM Peak. Route 2's modeled travel times are very similar to observed travel times for both peak periods. For Route 3, the modeled travel time is a little faster than observed for the AM peak in the eastbound direction, but slower than observed for the AM peak in the westbound direction and for both directions in the PM peak. A closer inspection reveals that the slower modeled times occur at the eastern segment of the route.

FIGURE 5.4 TRAVEL TIME SEGMENTS

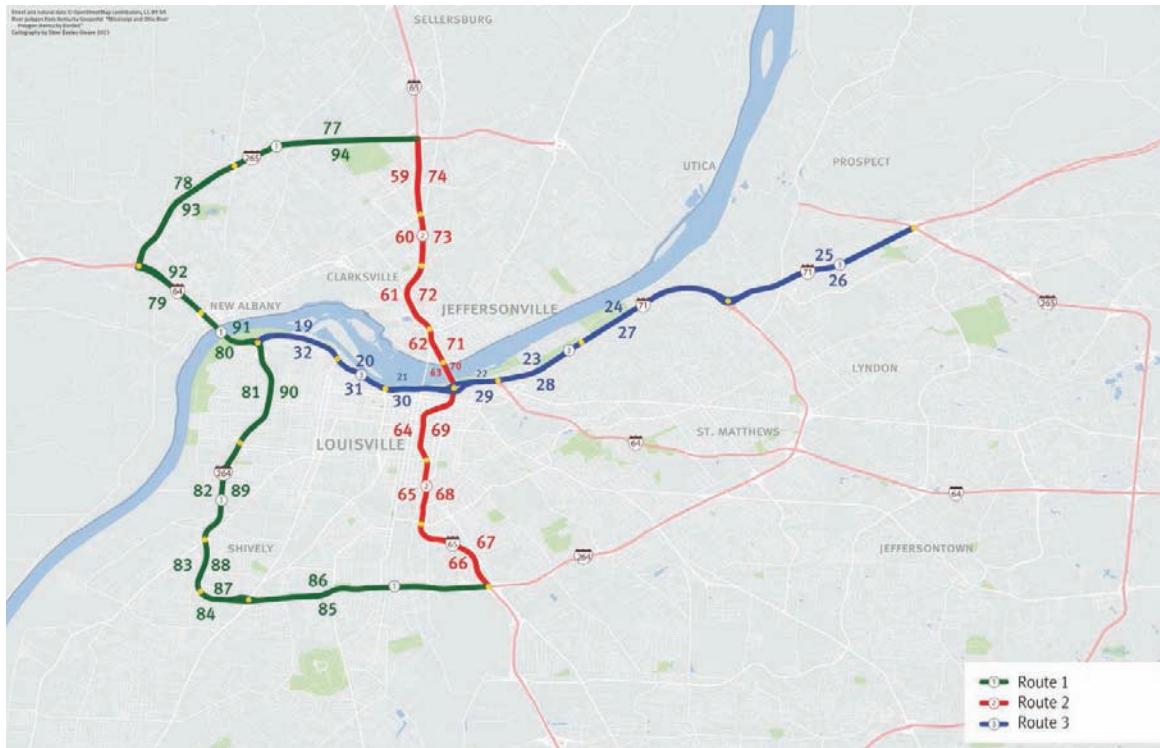


FIGURE 5.5 ROUTE 1 PEAK PERIOD TRAVEL TIME VALIDATION

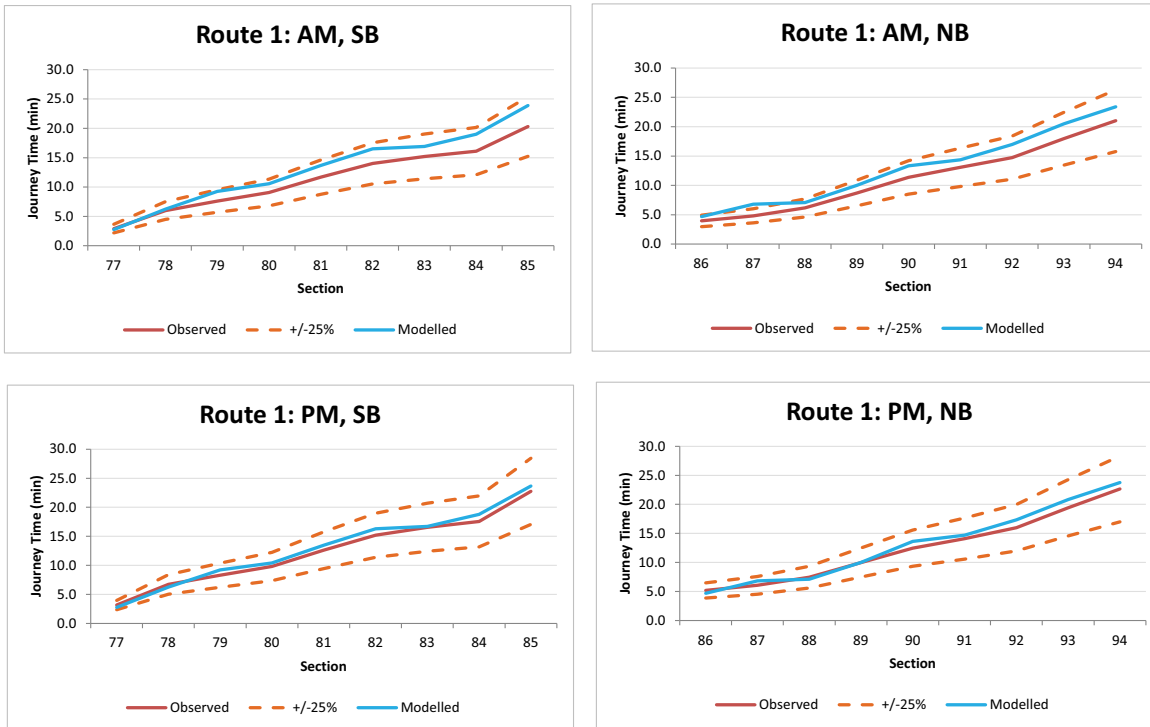


FIGURE 5.6 ROUTE 2 PEAK PERIOD TRAVEL TIME VALIDATION

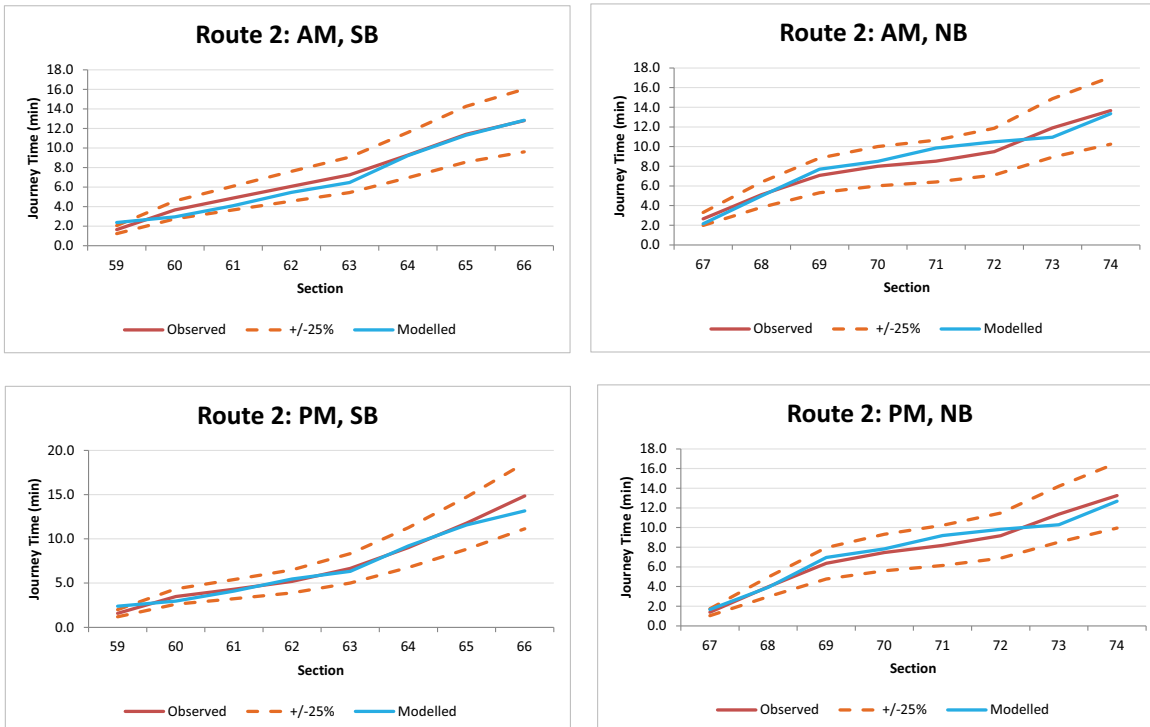
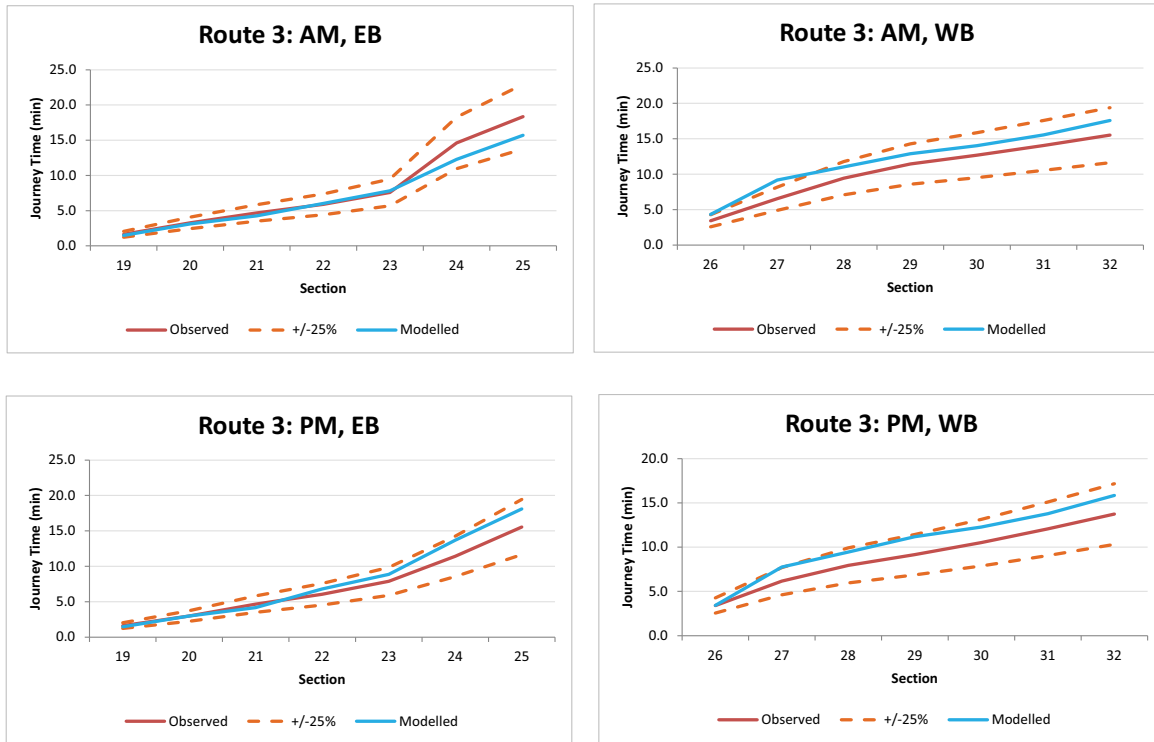


FIGURE 5.7 ROUTE 3 PEAK PERIOD TRAVEL TIME VALIDATION



Future Year Network

5.23 The future year networks include the projects contained in the Kentuckiana Regional Planning & Development Agency (KIPDA)'s Regional Transportation Plan (RTP) prepared as the Louisville (KY-IN) Metropolitan Planning Organization. Table 5.9 presents the list of these projects and the model year that they are included. Further details on the projects are available in the Transportation Improvement Program and the Horizon 2030: Metropolitan Transportation Plan.

TABLE 5.9 FUTURE YEAR HIGHWAY NETWORK IMPROVEMENTS

KIPDA ID	Project Name	Description	Network Year
2	Grantline Road	Improve/construct approximately 5,000 feet of street on Grantline Road; Improve existing section with lane widening, curb/gutter and sidewalks	2018
128	KY 1931 Greenwood Road	Widen from 2 to 3 lanes	2018
147	KY 393	Relocate and widen KY 393 from 2 to 3 lanes	2018
154	KY 1450	Widen KY 1450 from 2 to 3 lanes	2018
179	I-265 Gene Snyder Freeway	Reconstruct I-265 interchange at I-64	2018
188	English Station Road	Widen English Station Road from 2 to 3 lanes	2018
200	KY 61	Widen KY 61 from 2 to 4 lanes	2018
222	Cooper Chapel Road Phase I	Phase I: Reconstruct Cooper Chapel Road from 2 to 3 lanes	2018
229	KY 1450	Widen KY 1450 from 2 to 5 lanes	2018
230	US 42	Construct 2 way center turn lane on US 42	2018

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KIPDA ID	Project Name	Description	Network Year
233	KY 1819	Reconstruct and widen KY 1819 from 2 to 3 lanes	2018
268	Cedar Creek Road Connector	Extend as a 2 lane road from south and west of Johnson School Road to KY 864	2018
289	Grade Lane	Widen from 2 to 4 lanes	2018
306	Star Hill Road	Construct Star Hill Road as a new 2 lane road	2018
350	I-64	Widen from 4 to 6 lanes	2018
359	KY 1747 Hurstbourne Parkway	Add 3rd travel lane southbound	2018
381	Buechel Bank Road	Add center turn lane on Buechel Bank Road	2018
390	I-64	New interchange and connector road with interchange on I-64	2018
395	I-65	Reconfigure northbound and southbound ramps on I-65 and add a lane	2018
400	I-264	Add 1 lane in each direction on I-264 from KY 1447 (Westport Road) to I-71.	2018
442	LaGrange Overpass	Construct LaGrange overpass over I-71 from Business Park Road to New Moody Lane	2018
469	KY 155	Widen from 4 to 6 lanes	2018
476	US 42	Widen from 5 to 7 lanes	2018
484	KY 1447	Widen from 2 to 5 lanes	2018
493	KY 44	Reconstruct and add center turn lane (2 to 3 lanes)	2018
514	Veterans Parkway Phase 2	Widen from 2 to 4 lanes...	2018
540	Ohio River Greenway	Construct 2 lane road and bicycle and pedestrian path	2018
575	Brown Station Way	Widen from 4 to 6 lanes	2018
952	I-71	New interchange and connector road with interchange on I-71 near Jefferson/Oldham County border	2018
953	US 60	Widen from 2 to 3 lanes	2018
998	IN 111	Widen from 2 to 3 lanes and widen from 2 to 5 lanes. Includes 1 bridge, signals and signs	2018
1192	Broadway & 18th Street	Align intersection of Broadway and 18th Street	2018
1252	KY 53 LaGrange-Ballardsville Road	Widen from 2 to 3 lanes by adding a center turn lane	2018
1267	Philips Lane	Widen from 2 to 4 lanes	2018
1271	US 42	Widen from 2 to 3 lanes	2018
1344	I-265 Lee Hamilton Highway	I-265 interchange modification at State Street	2018
1345	I-265	I-265 interchange modification at IN 111	2018
1346	I-265	I-265 interchange modification at Charlestown Road	2018
1433	Ebenezer Church Road	Railroad grade crossing improvement	2018
1476	I-64	Improve I-64 interchange	2018
1478	I-71	Addition of auxiliary lanes near the Kentucky Interchange	2018
1487	KY 146	Widen KY 146 from 2 to 3 lanes	2018
1488	KY 22	Widen from 2 to 3 lanes and widen from 2 to 5 lanes	2018
1489	KY 22	Widen from 2 to 3 lanes and widen from 2 to 5 lanes	2018
1490	KY 480	Widen KY 480 from 3 to 5 lanes	2018
1491	KY 44	Widen from 2 to 5 lanes	2018
1542	US 31E	Phase 1: Realign and widen US 31E from 2 to 5 lanes	2018
1556	Market Street/Spring Street	Upgrade and designate Market Street and Spring Street as two-way streets	2018
1801	Crittenden Drive	Relocate Crittenden Drive at the Louisville Regional Airport Authority	2018

KIPDA ID	Project Name	Description	Network Year
1803	I-64	Construction of I-64 WB auxiliary lane...	2018
1804	I-64/KY 1747 Interchange	Reconstruct existing interchange; additional SB lane for Hurstbourne Parkway; Widen and align ramps	2018
1808	Buckner Connector	Construct new connection from Old LaGrange Road to KY 393	2018
1817	KY 1020 National Turnpike	Widen from 2 to 3 lanes	2018
1823	KY 2053/KY 864	Design and construct phase 1 of a new North/South Park Road	2018
1824	KY 2055 Mount Holly Road	Widen from 2 to 3 lanes	2018
1827	US 42	Modification of US 42 between Ewing and Lindsay Avenues	2018
1482 / 1483	I-265	Improve I-265/KY 61 interchange	2018
1583 / 1584	Watterson Trail Phase II	Widen Watterson Trail from 2 to 3 lanes	2018
1809 / 1810	One-Way Street Conversion to Two-Way Phase 1 & 2	Conversion of one-way streets in downtown Louisville to two-way traffic	2018
407 / 958 / 959	I-265	Widen from 4 to 6 lanes	2018
435 / 436	KY 1065	Widen from 2 to 5 lanes	2018
479 / 480	US 60	Add 1 travel lane in each direction on US 60 from KY 1747 to I-265	2018
181	I-64/KY 1747 Interchange (Hurstbourne Parkway Interchange)	Reconstruct existing interchange including construct ramp 7 "flyover" and re-time signals along KY 1747	2030
198	Old Henry Road - Crestwood Bypass	Construct new 4 lane route from Old Henry Road interchange at I-265 (Gene Snyder Freeway) to KY 22	2030
223	Cooper Chapel Road Phase 3	Extend and construct 2 lane roadway with a continuous center-turn lane	2030
279	Enterprise Drive	Extend as a 4 lane road from KY 1020 to KY 1631	2030
301	10th Street	Widen from 4 to 7 lanes	2030
386	KY 1747	Widen from 4 to 6 lanes	2030
392	I-65 / KY 61 Interchange	Construct new interchange	2030
412	KY 22	Widen from 2 to 5 lanes	2030
414	KY 22	Widen from 2 to 5 lanes	2030
428	KY 146	Widen from 2 to 4 lanes	2030
446	KY 1931 Manslick Road	Widen from 2 to 4 lanes	2030
498	Broadway	Extend as a 2 lane road from Potters Lane to Charlestown Road	2030
586	US 150	Addition of continuous left turn lane	2030
955	I-64	Add 1 travel lane in each direction between I-264 and KY 1747	2030
1338	River Road Extension	Extend River Road west from 7th Street to Northwestern Parkway	2030
1342	I-65	Added travel lanes (from 4 lanes to 6)	2030
1396	KY 2053 Mount Washington Road	Widen from 2 to 3 lanes	2030
429 / 443	KY 146	Widen from 2 to 4	2030
465 / 481	KY 907 Southside Drive	Widen from 2 to 5 lanes	2030

Future Year Demand

- 5.24 We prepared future year trip tables for each time period by applying three elements of growth:

- Non-River crossing background traffic
- Standard river crossing traffic
- Induced river crossing traffic

5.25 Below, we describe the approach we used to apply the growth for each of these elements.

Non-River Crossing Background Traffic Growth

5.26 While trips that do not cross the Ohio River are not in-scope to use one of the toll bridges, they do provide background traffic that may contribute to congestion on study area roads.

5.27 In order to determine the amount of non-crossing trip growth, we ran the TOD model using the socioeconomic forecasts prepared by EDR Group as inputs for a 2011 base year and future years of 2018 and 2030. For ODs that do not cross the river and for each 2018 and 2030 time period of the SDG model, we calculated the background traffic as:

$$SDG\ 2018_{OD} = SDG\ Base\ Year_{OD} + (TOD\ 2018_{OD} - TOD\ 2011_{OD})$$

$$SDG\ 2030_{OD} = SDG\ 2018_{OD} + (TOD\ 2030_{OD} - TOD\ 2018_{OD})$$

Standard River Crossing Traffic Growth

5.28 In the future, additional trips that cross the Ohio River will be attributable to 1) the normal employment and economic activity that have been observed to produce the historical river crossing traffic, and 2) trips that are induced by the new development that is stimulated by the East End Crossing. This section describes our approach for determining the first type of river crossing growth.

5.29 In Chapter 3, we described the econometric model that we estimated that describes the relationship between key socioeconomic variables and cross river traffic. This model estimated the growth by peak and off-peak periods. To determine the future levels of standard river crossing traffic, we used the econometric model to identify the total amount of incremental standard crossing trips, and we then used the TOD model future trip tables to specify the distribution of this growth by OD.

River Crossing Traffic Growth Induced by New Development

5.30 The second type of river crossing growth is from trips that are induced by the new development around the East End Crossing. In order to understand the effect of the East End Crossing on development and ultimately creation of trips, we ran a version of socioeconomic data that EDR Group forecast to occur if only the Downtown Crossing project occurred.

5.31 By calculating the difference in the river crossing ODs in the trip tables from the TOD model run with the socioeconomic forecasts that were forecasts with and without the East End Crossing, we were able to isolate those river crossing trips that would be attributable to the new development.

- 5.32 These incremental river crossing trips were then added to the standard river crossing trips forecast by the econometric model.

Collection Method Traffic Shares

- 5.33 After the future year trips were established by vehicle class, we further split trips based on their toll collection method. There will be four categories of toll collection for autos: 1) discount program requiring a transponder, 2) transponder, 3) pre-registered video toll collection, and 4) other video toll collection. As time goes on, more vehicles will be equipped with toll transponders, and accordingly we have increased the share of trips in the transponder category in the later years. Table 5.10 presents the share of trips that we assumed by collection method and by model year. To define the likely share of trips that would be enrolled in the discount program, we considered the travel survey results presented in Figure 4-25 which showed a strong desire of work travelers to enroll in a discount program. We based the video toll collection market shares on both the survey results, Figure 4-24 which showed a small percentage of travelers with a preference for video toll collection, along with the experience of two recently opened Open Road Tolling facilities: Washington State SR 520 which has seen an opening year video toll collection share of 28%¹⁴ and Maryland's ICC which has seen an opening year video toll collection share of 14%.¹⁵

TABLE 5.10 TOLL COLLECTION SHARE OF TRIPS

Collection Type	2018	2023	2030
Transponder ¹⁶	65%	73%	80%
Preregistered Video	5%	4%	3%
Other Video	30%	23%	17%
Transponder (Trucks)	65%	73%	80%
Preregistered Video (Trucks)	5%	4%	3%
Other Video (Trucks)	30%	23%	17%

Route Choice Model

- 5.34 We implemented an assignment routine that was applied for each time period. Within the highway assignment, we embedded a route choice model to represent travelers' choices to use a toll facility or not. During each assignment iteration and for each

¹⁴ As described in http://www.wsdot.wa.gov/NR/rdonlyres/983207DE-3CC4-48F9-804A-BD0FE56F048B/89271/SR520_OneYear_FactSheet_122113.pdf

¹⁵ As reported at <http://www.tollroadsnews.com/node/6380>

¹⁶ Transponder category includes those trips in the frequent use discount program, assumed to represent 50-60% of transponder trips, depending on the year.

origin-destination (OD) pair, the route choice model predicts how many travelers will choose to use the tolled and the un-tolled routes. It then assigns those trips onto the network, ensuring that only those trips that selected the tolled route can use the tolled bridges. The route choice model took the form of a binary logit model that included travel time, operating cost and toll cost in its utility function. For the initial iteration of the highway assignment, free flow travel times were used, while for all subsequent highway assignment iterations the prior iteration's travel times were used. The logit model and utility function equations are presented below.

$$P_{Toll} = \frac{e^{V_{Toll}}}{e^{V_{Toll}} + e^{V_{Non-Toll}}}$$

where :

P_{Toll} = probability of choosing a toll crossing

β_{Toll} = utility of choosing a toll crossing

$\beta_{Non-Toll}$ = utility of choosing a non - toll crossing

$$\beta_i = Toll_i + TT_i \cdot VOT + D_i \cdot VOC$$

where :

β_i = utility of choosing route i

$Toll_i$ = toll charged on route i (zero if no toll)

TT_i = travel time of route i (in minutes)

VOT = value of time (in dollars per minute)

D_i = distance of route i (in miles)

VOC = vehicle operating cost (in dollars per mile)

- 5.35 The route choice model requires estimates of vehicle operating costs (VOC) and values of time (VOT) for each travel segment.

Vehicle Operating Costs

- 5.36 For autos, we set the VOC at \$0.16 / mile based upon AAA 2012's Your Driving Costs¹⁷ value for gas, maintenance, and tires. For medium trucks and heavy trucks we used VOCs of \$0.80 and \$1.00 / mile, respectively. The truck values come from a combination of trucking industry interviews, which suggested a cost range from \$0.80 to \$1.75, and the fuel, maintenance, and tires costs published in ATRI's 2012 Cost of Trucking¹⁸ which suggests a cost of \$0.78 / mile.

¹⁷ Available at <http://newsroom.aaa.com/wp-content/uploads/2012/04/YourDrivingCosts2012.pdf>

¹⁸ American Transportation Research Institute, "An Analysis of the Operational Costs of Trucking: A 2012 Update"

Values of Time

- 5.37 Chapter 4 describes our analysis of the stated preference survey. In this analysis we established three segments of travelers for each vehicle class, with a segment with the highest willingness to pay tolls to save travel times, a segment in the middle, and a segment with the lowest willingness to pay tolls. Each of these segments represent one-third of travelers. Table 5.11 presents these VOTs used in the route choice model, with the overall median value of \$8.20 serving as the VOT of the medium segment.

TABLE 5.11 VALUE OF TIME USED IN THE ROUTE CHOICE MODEL (2012 \$ / HOUR)

Quantile	Value of Time
Low: 0 % - 33 %	\$3.60
Medium: 33 % - 67 %	\$8.20
High: 67% - 100 %	\$18.70

- 5.38 To help set the truck VOTs, we reviewed industry research on heavy vehicle VOTs. We reviewed US DOT guidance¹⁹ and the work of several authors, adapted from the study by Smalkoski and Levinson of University of Minnesota.²⁰ These values are presented in Table 5.12, showing a range from \$24.18 to \$61.78 with an average of \$36.07. In recognition of the wide range of willingness to pay for travel times saving observed in the trucking industry interviews and to remain consistent with the auto VOT segments, we set the medium truck VOTs as two times the auto VOTs and the heavy truck VOTs at three times the auto VOTs. These VOTs are presented in Table 5.13 and show VOTs that appear conservative in comparison to the range of industry research.

TABLE 5.12 LITERATURE REVIEW VALUE OF TIME FOR HEAVY VEHICLES

Authors	Year of Publication	VOT in 2003 \$	VOT in 2012 \$
Haning and McFarland	1963	22.50	28.13
Waters et al.	1995	22.89	28.61
Kawamura	1999	30.14	37.68
University of Minnesota	2003	49.42	61.78
US Department of Transportation	2003	19.34	24.18
Average			36.07

¹⁹ US Department of Transportation, Office of the Secretary of Transportation, "The Value of Saving Travel Time: Departmental Guidance for Conducting Economic Evaluations", 1997 and 2003 update

²⁰ Smalkoski, Brian and David Levinson, "Value of Time of Commercial Vehicle Operators", 2003

TABLE 5.13 TRUCK VALUE OF TIME USED IN THE ROUTE CHOICE MODEL (2012 \$ / HOUR)

Quantile	Medium Truck Value of Time	Heavy Truck Value of Time
Low: 0 % - 33 %	\$7.20	\$10.80
Medium: 33 % - 67 %	\$16.40	\$24.60
High: 67% - 100 %	\$37.40	\$56.10

5.39 During the application of VOTs, we assumed video toll users to have VOTs 25% higher than transponder users to reflect:

- Extraordinary circumstances - since these travelers have not obtained a transponder, they will be charged a large toll premium, indicating that they would not normally consider using the toll facility. But due to special circumstances, in this instance the toll option has become very attractive.
- Out of region users - travelers from out of region users have demonstrated higher VOT in their interest of getting to their destination quickly.
- Non-collection - some vehicles without transponders will not pay the toll due to technical issues or by violators who have no intention of paying the video toll. The leakage analysis is described below. Increasing the VOT has the same effect as discounting the toll for these travelers.

5.40 For future year forecasts, we increased the VOTs by 0.5% annually in real terms, which is less than half of the typical real growth in GRP per capita.

Alternate Routes

5.41 In recognition of the preference of some travelers to use limited access highways (fast speeds with no traffic signals) versus others who prefer a more direct route even if it includes lower speed roadways with intersections, we established two segments of trips with different non-tolled options. For travelers with a preference for limited access travel, we included the I-64 river crossing as the non-toll option, while for those who prefer the more direct route regardless of what type of road, we allowed either I-64 or US 31 crossings to be the non-toll option. In paragraph 4.36, we discuss the survey results regarding travelers’ preferences for each type of route. 24% of I-65 travelers and 23% of overall survey respondents stated their preference to use a freeway. Conservatively, we have segmented our auto trips as 70% preferring the freeway and 30% preferring the direct route.

Motorway Bonus

5.42 Travelers have a preference to travel on limited access highways compared to lower quality alternatives. A motorway bonus is an attempt to encapsulate the benefits other than travel time and distance savings, such as the perception of safety, comfort,

or reliability. We applied the motorway bonus by increasing the travel time on non-limited access highways by 15%.

Toll Rates

- 5.43 Toll rates will vary by vehicle class and by collection type. Table 5.14 presents the opening year toll rates for each vehicle class-collection type combination. In the model, toll rates are increased by 2.5% annually, which is consistent with the inflation rate assumption used for preparing the revenue stream.

TABLE 5.14 TOLL RATES (2017 \$)

	2-Axle Vehicles	Medium Trucks	Heavy Trucks
Discount Program	\$1.00		
Transponder	\$2.00	\$5.00	\$10.00
Registered Video	\$3.00	\$6.00	\$11.00
Other Video	\$4.00	\$7.00	\$12.00

Development of Revenue Schedule

- 5.44 After running the SDG model for each time period and model year, the model outputs were transformed into traffic and revenue forecasts through a number of post-processing steps.

Opening Year

- 5.45 For the development of the revenue schedule, we have assumed an opening of both facilities to toll traffic on January 1, 2017. This is a conservative assumption as the East End Crossing is scheduled to be completed in October 2016 and the Downtown Crossing to be fully completed in December 2016.

Conversion from Daily to Annual Forecasts

- 5.46 We applied an annualization factor to convert toll revenue from the daily value derived from the study area forecast model to an equivalent annual total. This factor accounts for the expected level of weekend traffic relative to the typical day considered in the travel demand model. Our analysis of I-65 traffic found that the weekends had over 75% of the traffic of weekdays. Recognizing that the lower traffic will lead to proportionally lower revenue as there is less congestion in the network, we assumed an annualization factor of 315, implying that weekends and holidays would provide 55% of weekday revenue.

Conversion to Future Year Revenue

- 5.47 In order to convert the revenue forecasts from the model's 2012\$ VOTs to future year nominal equivalents, we applied a 2.5% annual future inflation rate.

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5.48 We determined the traffic and revenue for the non-modeled years by assuming compounded growth between modeled years. For years beyond 2030, we assumed that traffic and revenue would grow at a decreasing rate as indicated in Table 5.15.

TABLE 5.15 TRAFFIC & REVENUE GROWTH BEYOND 2030

Forecast Years	% of 2023-2030 CAGR
2030 - 2035	100%
2035 - 2045	75%
Beyond 2045	50%

Application of Ramp-Up

5.49 It is common for the volume and revenues of toll facilities to gradually ramp-up to more “normal” levels after project opening as travelers take time to gain familiarity with a new toll facility so that travel patterns reach the steady state conditions assumed in toll model’s forecasts. During this ramp-up period, toll revenues are typically lower than predicted by unadjusted forecasting models. Since I-65 is a mature corridor, user familiarization will likely be reasonably rapid, while the development spurred by the East End Crossing may take longer to reach normal levels. Some ramp-up effects will likely also be seen as travelers become accustomed to electronic tolling and obtain transponders. Accordingly, we applied a ramp-up period of two years for I-65 and a four year period for the East End Crossing, with the ramp-up values presented in Table 5.16.

TABLE 5.16 RAMP-UP FACTORS

Year	I-65 Bridges	East End Crossing
2017	70%	60%
2018	85%	70%
2019	100%	80%
2020	100%	90%
2021	100%	100%

Application of Toll Leakage

5.50 The toll bridges will be operated using open road tolling (ORT) exclusively, and this introduces the potential for toll leakage. Three types of toll leakage can occur in an ORT system: 1) the license plate of a non-transponder vehicle is unable to be identified, 2) the license plate of a non-transponder vehicle is identified, but is in a state for which there is no agreement to obtain the vehicle address, and 3) the license

plate of a non-transponder vehicle is identified and the toll bill is mailed, but the traveler does not pay the bill.

- 5.51 Atkins conducted a detailed analysis to determine the leakage amount for the bridges based upon factors such as share of transponders, enforcement policies and practices, and tolling technology. Based upon their review, Atkins estimated the leakage rates presented in Table 5.17. Appendix C presents further details on their analysis.

TABLE 5.17 REVENUE LEAKAGE RATES

Fiscal Year	Leakage Rate
2017	7.0%
2018	5.0%
2019	4.6%
2020	4.3%
2021	4.0%
2022	3.7%
2023	3.5%
2024	3.3%
2025	3.1%
2026	2.9%
2027	2.7%
2028	2.6%
2029	2.5%
2030	2.4%
2031	2.4%
2032	2.4%
2033	2.4%
2034	2.4%
2035	2.4%
2036	2.4%
2037	2.4%
2038	2.4%
2039	2.4%
2040	2.4%
2041	2.4%
2042	2.4%
2043	2.4%
2044	2.4%
2045	2.4%
2046	2.4%
2047	2.4%
2048	2.4%
2049	2.4%
2050	2.4%
2051	2.4%
2052	2.4%
2053	2.4%
2054	2.4%

Source: Atkins

Basic Assumptions of the Traffic and Revenue Study

In addition to the detailed model assumptions discussed above, the LSIORB Project traffic and revenue estimates are predicated on the following basic assumptions:

1. The LSIORB Project will be built as described in Chapter 1.
2. The LSIORB Project will be opened to traffic beginning in January 2017.
3. Toll rates will be implemented as listed in Table 5.14 and increase 2.5% annually.
4. The transponder and video toll collection market share will be at the levels specified in Table 5.10.
5. The percentage of trucks crossing the Ohio River remain similar to the levels that have been observed.
6. The LSIORB Project traffic and revenue will ramp up as described in this chapter.
7. The socioeconomic conditions and associated growth will occur as described in Chapter 3.
8. Highway network improvements will occur as described in the RTP and listed in Table 5.9.
9. Inflation will occur at 2.5% annually.
10. The LSIORB Project will be efficiently maintained and operated.
11. The levels of toll leakage will occur as described in this chapter.
12. Motor fuel will remain in adequate supply during the forecast period, with fuel prices, including Federal and State fuel taxes, not to exceed \$4.50 per gallon adjusted for inflation.
13. No new transit service will be introduced that would radically change travel mode during the forecast period.
14. Normal economic conditions will occur in the Louisville-Southern Indiana area and the United States, without a major depression or national or regional emergency that would restrict the use of motor vehicles.

6 Traffic and Revenue Analysis

- 6.1 We applied the modeling approach described in the preceding chapter to develop traffic and revenue forecasts for the years 2018, 2023, and 2030. In this chapter, we first discuss the basic model outputs and then present our forecasts of the LSIORB Project traffic and revenue streams.

Crossing Traffic Growth

- 6.2 In order to provide a basis of understanding of the toll bridge traffic and revenue forecasts, we first analyzed the forecasted growth in river crossing travel. Table 6.1 presents the daily river crossing traffic for the base year and each future model year, with the LSIORB Project included. The compound annual growth rate (CAGR) of river crossing traffic from 2012 to 2030 is 1.33%. This growth rate is consistent, if not conservative, when compared to the historical growth rates discussed in Paragraph 2.19.

TABLE 6.1 RIVER CROSSING DAILY TRAFFIC

	2012	2018	2023	2030
6-7 AM	12,161	13,858	14,556	16,018
7-8 AM	16,857	19,893	20,822	22,886
8-9 AM	14,429	16,703	17,439	19,201
10 AM - 3 PM	69,349	73,433	76,538	82,276
3-4 PM	15,858	18,294	19,147	21,218
4-5 PM	18,225	20,389	21,216	23,129
5-6 PM	18,255	21,021	21,883	24,003
6-7 PM	12,923	15,248	15,966	17,612
7 PM - 6 AM	46,220	51,479	53,531	58,316
Daily Total	224,277	250,318	261,099	284,659

Toll Rate Toll Sensitivity

- 6.3 While we prepared our base forecasts using the toll rates presented in Table 5.14, in order to better understand the model and as a gauge of the potential revenue that could be provided, we conducted toll rate optimization. For the 2018 and 2030 model years, we evaluated the traffic and toll revenue generated by using a range of base toll rates from \$0 to \$4.50 (2017\$). The base toll rate is the auto transponder toll; toll rates for the other collection methods and vehicle classes are proportioned with the same relationships included in Table 5.14.

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6.4 Figure 6.1 and Figure 6.2 present the toll rate sensitivity for the model years of 2018 and 2030, respectively. Figure 6.1 shows that 2018 toll revenues increase as toll rates increase, reaching maximum revenue with a base toll rate of \$3.50. Figure 6.2 shows that 2030 toll revenue continue to rise to the \$4.50 base toll rate. While the \$2.00 base toll included in our forecasts does provide less revenue than the revenue maximizing toll rate, it serves almost 50% more traffic than from the revenue maximizing toll rate in 2030.

FIGURE 6.1 TOLL RATE SENSITIVITY IN 2018

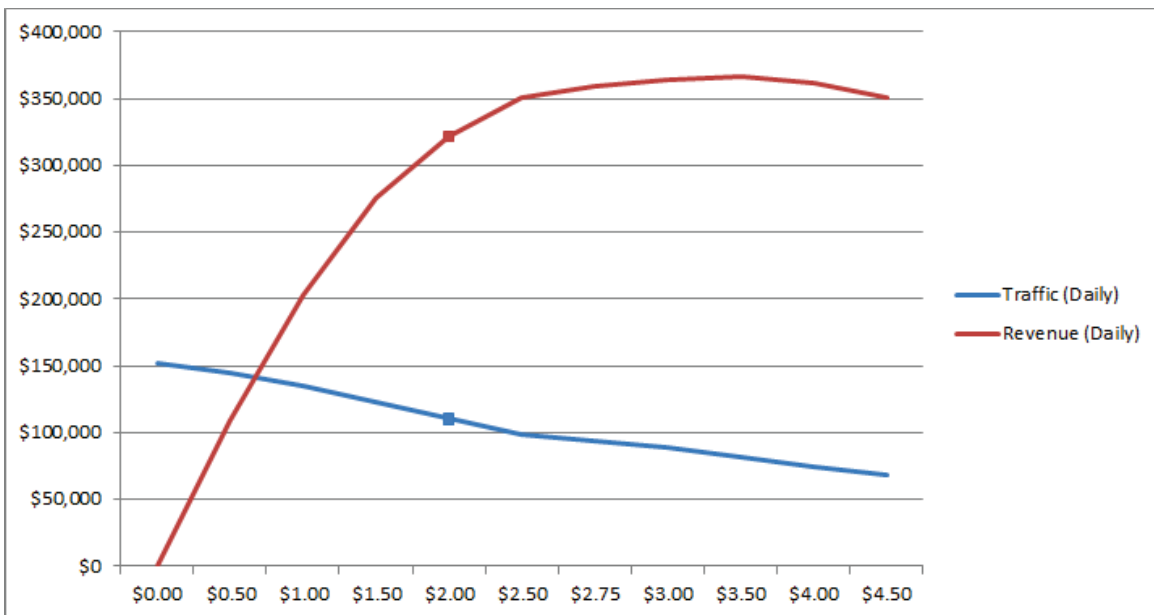
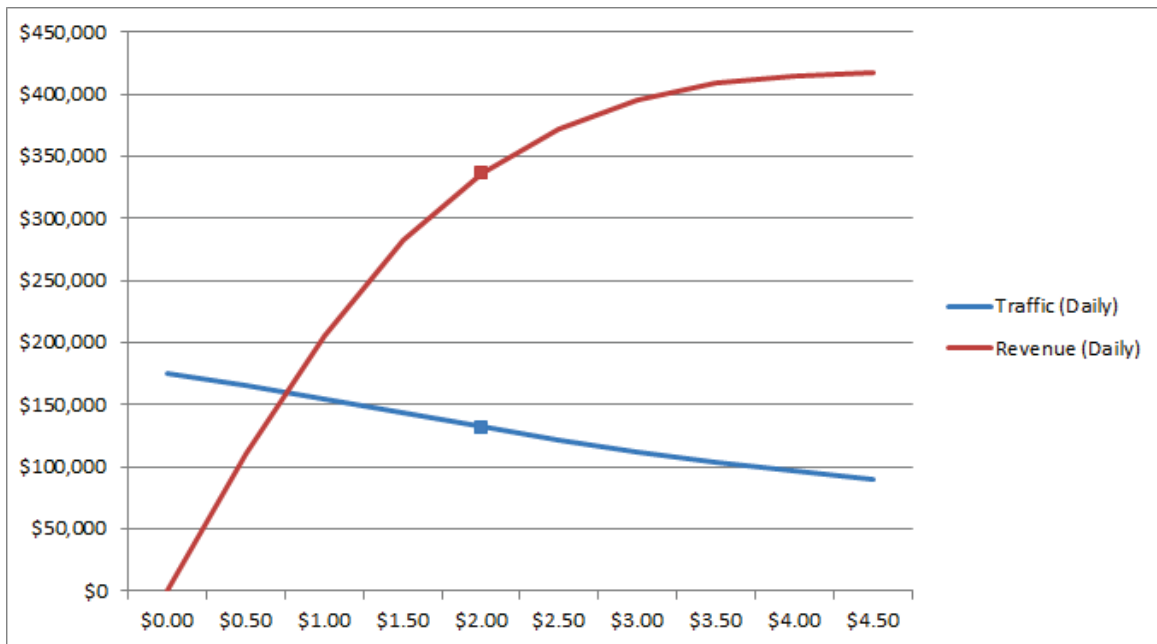


FIGURE 6.2 TOLL RATE SENSITIVITY IN 2030



Traffic Capture with Recommended Tolls

- 6.5 We investigated how the shares of traffic using each bridge changes when tolling is introduced. Figure 6.3 illustrates the reduced share of East End Crossing and I-65 traffic when they are tolled. In 2030, the East End Crossing's share of traffic falls from 20% to 16% when tolls are added, with similar reductions are seen in the other years. In 2030, I-65's share of traffic falls from 42% to 31%, with similar reductions in the other years. In terms of capture rates, the tolled East End Crossing captures roughly 80% of its non-tolled traffic level, while the tolled I-65 captures roughly 70% of its non-tolled level. The higher capture rate, and correspondingly lower reduction in share of crossing traffic, for the East End Crossing compared to I-65 is consistent with the better non-tolled options available to I-65 traffic.
- 6.6 This last point is illustrated in Figure 6.4 and Figure 6.5. Figure 6.4 illustrates the additional amount of travel distance, with a corresponding increase in vehicle operating costs, and travel time that would be incurred if using the US 31 or I-64 crossings instead of the East End Crossing for travel during the PM Peak. Figure 6.5 presents a similar comparison for the Downtown Crossing.

FIGURE 6.3 DISTRIBUTION OF RIVER CROSSING TRAFFIC WITH AND WITHOUT TOLLS

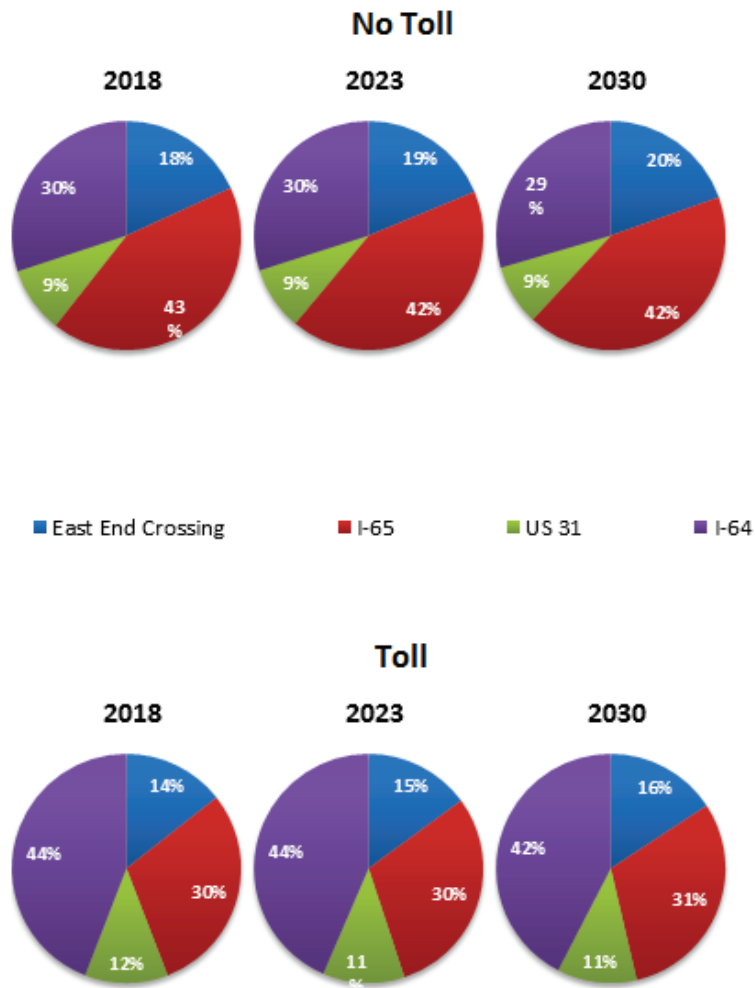
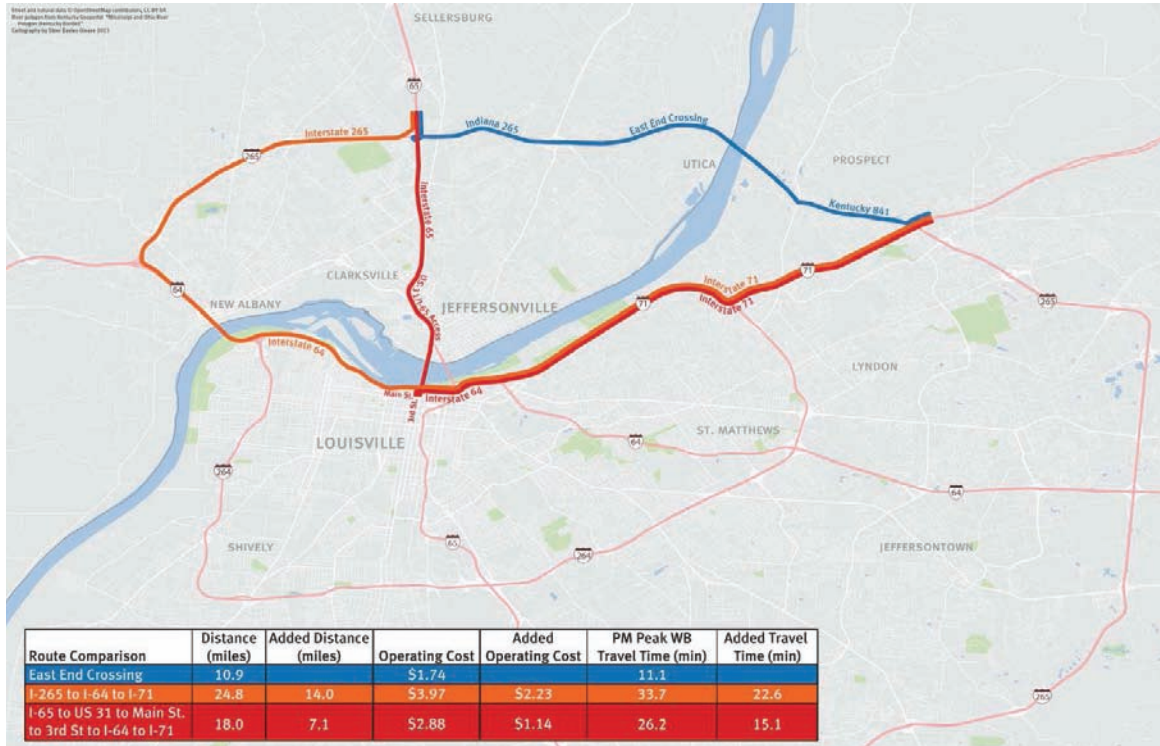


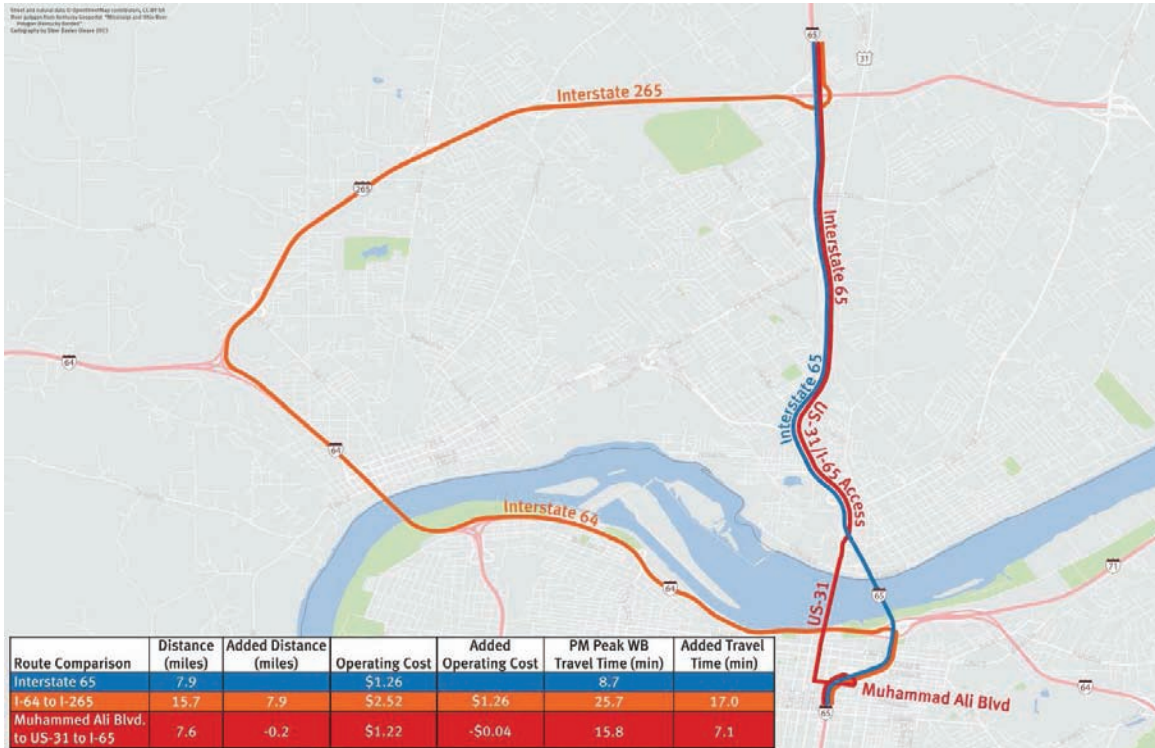
FIGURE 6.4 EAST END CROSSING COMPARISON WITH ALTERNATE CROSSINGS



6.7 As is shown in Figure 6.4, the East End Crossing provides a substantial travel benefit to travelers from I-71/I-265 in Kentucky to I-65 in Indiana. This route saves 7 miles compared to US 31 and 14 miles compared to I-64, which translates to an operating cost savings of \$1.14 and \$2.23 for US 31 and I-64, respectively, when using AAA’s noted \$0.16 / mile operating cost. Additionally, the East End Crossings provides time savings of 15 and 23 minutes compared to US 31 and I-64, respectively during the PM peak. The large travel time savings reflect the slower speeds that occur on I-64 and US 31 (respective average speeds of 44 mph and 40 mph for the I-64 and US 31 alternate routes, respectively) as traffic levels approach and exceed capacity in some locations during the peak periods.

6.8 Figure 6.5 provides a similar illustration of the travel benefits provided for the I-65 Downtown Crossing. While US 31 alternate route has virtually the same travel distance as I-65, the I-64 detour is 8 miles longer, which translates into an additional operating cost of \$1.26 using the AAA operating cost factor. The Downtown Crossing provides travel time benefits over both alternate routes, in the amount of 7 minutes and 17 minutes compared to US 31 and I-64, respectively. Again, the travel time savings reflect the slower average speeds of the alternate routes.

FIGURE 6.5 I-65 COMPARISON WITH ALTERNATE CROSSINGS



6.9 In order to better understand the forecasted toll traffic, we present tables that display the peak period and daily bridge crossing traffic. Table 6.2 presents the AM peak forecasted traffic by river crossing traffic for each model year, while Table 6.3 presents this information for the PM peak and Table 6.4 presents it for the entire day. These tables show the tolled facilities attracting a progressively larger share of total crossing trips into the future. This is caused by the increasing levels of congestion and correspondingly lower travel speeds that occur on the alternate routes into the future.

TABLE 6.2 AM PEAK FORECASTED TRAFFIC BY RIVER CROSSING

River Crossing	2012	2018	2023	2030
East End Crossing		7,171	7,804	9,135
I-65	21,597	15,183	16,178	18,531
US 31	5,670	6,082	6,235	6,556
I-64	16,182	22,019	22,600	23,882
Total Crossing Traffic	43,449	50,455	52,817	58,105
Tolled Crossings Share of Traffic		44.3%	45.4%	47.6%

TABLE 6.3 PM PEAK FORECASTED TRAFFIC BY RIVER CROSSING

River Crossing	2012	2018	2023	2030
East End Crossing		11,239	12,184	14,159
I-65	33,456	22,258	23,677	26,988
US 31	7,881	8,946	9,187	9,774
I-64	23,923	32,509	33,164	35,041
Total Crossing Traffic	65,261	74,952	78,213	85,962
Tolled Crossings Share of Traffic		44.7%	45.9%	47.9%

TABLE 6.4 DAILY FORECASTED TRAFFIC BY RIVER CROSSING

River Crossing	2012	2018	2023	2030
East End Crossing		36,007	38,979	44,920
I-65	121,975	74,501	78,350	87,071
US 31	24,143	29,334	30,100	31,925
I-64	78,159	110,476	113,670	120,743
Total Crossing Traffic	224,277	250,318	261,099	284,659
Tolled Crossings Share of Traffic		44.1%	44.9%	46.4%

Traffic and Revenue Forecasts

- 6.10 Applying the approach described in Chapter 5, we developed the annual stream of traffic and revenue forecasts. In the next paragraphs, we present the development of the annual traffic and revenue stream for the LSIORB Project.

Traffic by Crossing

- 6.11 For 2018, 2023, and 2030, we ran the model and produced the daily forecasts of traffic and revenue for each crossing by vehicle type and toll collection method. Table 6.5 presents these forecasts for the East End Crossing while Table 6.6 presents this information for the Downtown Crossing. These tables show a substantial level of truck traffic, with medium and heavy trucks combining to represent roughly 14% of tolled traffic on both crossings. Due to the higher toll rates for these vehicle classes, truck revenue represents roughly 45% of total toll revenue.

TABLE 6.5 EAST END CROSSING FORECAST DAILY TRAFFIC

Year	Collection Type	Auto	Medium Truck	Heavy Truck	Total Traffic	Revenue (Nominal \$)
2018	Discount	13,292			13,292	\$13,625
	Transponder	7,300	553	2,099	9,952	\$39,312
	Pre-registered Video	1,432	77	315	1,823	\$8,424
	Other Video	8,590	462	1,888	10,940	\$61,759
	Total	30,614	1,092	4,302	36,007	\$123,120
2023	Discount	14,462			14,462	\$16,771
	Transponder	10,593	661	2,487	13,742	\$57,249
	Pre-registered Video	1,207	68	264	1,539	\$8,042
	Other Video	7,245	406	1,585	9,236	\$58,963
	Total	33,507	1,136	4,336	38,979	\$141,026
2030	Discount	16,843			16,843	\$23,218
	Transponder	15,048	791	2,863	18,702	\$86,410
	Pre-registered Video	1,058	59	222	1,339	\$8,227
	Other Video	6,350	356	1,329	8,036	\$60,441
	Total	39,299	1,207	4,414	44,920	\$178,296

TABLE 6.6 DOWNTOWN CROSSING FORECAST DAILY TRAFFIC

Year	Collection Type	Auto	Medium Truck	Heavy Truck	Total Traffic	Revenue (Nominal \$)
2018	Discount	31,088			31,088	\$31,865
	Transponder	14,589	1,427	3,381	19,397	\$71,872
	Pre-registered Video	2,515	211	705	3,431	\$16,978
	Other Video	15,090	1,268	4,228	20,585	\$122,968
	Total	63,282	2,906	8,313	74,501	\$243,682
2023	Discount	32,428			32,428	\$37,606
	Transponder	20,329	1,721	4,157	26,207	\$105,339
	Pre-registered Video	2,048	180	588	2,816	\$15,884
	Other Video	12,287	1,081	3,530	16,899	\$114,902
	Total	67,092	2,983	8,275	78,350	\$273,731
2030	Discount	35,760			35,760	\$49,295
	Transponder	27,460	2,145	5,031	34,636	\$159,841
	Pre-registered Video	1,724	162	497	2,382	\$15,998
	Other Video	10,343	970	2,980	14,293	\$115,690
	Total	75,286	3,277	8,507	87,071	\$340,824

Traffic and Revenue Forecasts

- 6.12 Building on the toll bridge traffic and revenue forecasts of the model years presented above, we followed the procedure set out in Chapter 5 to establish the annual traffic and revenue stream.
- 6.13 We began by combining the daily traffic and revenue from the East End Crossing and the Downtown Crossing for 2018, 2023, and 2030. For traffic and toll rates of non-modeled years, we assumed compounded growth between modeled years. Since tolls will be collected electronically, it was assumed that toll rates can be increased each year. These increases are set to account for inflation and allows toll increases in real dollar terms to be gradual and spread over a longer period, rather than concentrated into less frequent but large toll jumps.
- 6.14 The daily traffic and revenue forecasts were multiplied by 315 to convert them into annual forecasts. As noted earlier, this annualization factor implies that each weekend day and holiday would provide 55% of weekday revenue.
- 6.15 We then applied adjustments for toll leakage and ramp-up. We applied the ramp-up consistent with the values in Table 5.16 and applied toll leakage with the values presented in Table 5.17.
- 6.16 As the SDG model was built from the MPO model, it's years are calendar years, requiring a final step to shift the forecasts to Kentucky's Fiscal Year, which starts on

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July 1. To implement this shift, we created the FY forecasts by assuming each calendar year's forecasts were evenly split, and combined the corresponding half calendar years to form the FY.

- 6.17 Table 6.7 presents the culmination of these steps into the annual traffic and revenue stream, showing revenue growing from almost \$34 million for FY 2017, the first half year of opening, to almost \$159 million in 2030.

TABLE 6.7 ANNUAL TRAFFIC AND REVENUE STREAM

Fiscal Year	Daily Traffic	Annual Traffic After Ramp-Up (000s)	Daily Revenue (Nominal \$)	Annual Revenue (000s Nominal \$)	Annual Revenue Less Toll Evasion After Ramp-Up (000s Nominal \$)
2017	102,844	10,860	\$334,090	\$52,619	\$33,841
2018	106,676	24,803	\$359,480	\$113,236	\$79,252
2019	111,171	30,356	\$376,957	\$118,741	\$98,158
2020	112,506	33,575	\$385,134	\$121,317	\$110,248
2021	113,860	35,122	\$394,153	\$124,158	\$117,222
2022	114,801	36,162	\$404,079	\$127,285	\$122,529
2023	116,453	36,683	\$414,983	\$130,720	\$126,165
2024	118,215	37,238	\$426,948	\$134,488	\$130,096
2025	120,036	37,811	\$439,823	\$138,544	\$134,281
2026	121,962	38,418	\$453,440	\$142,834	\$138,703
2027	123,995	39,058	\$467,845	\$147,371	\$143,377
2028	126,138	39,734	\$483,084	\$152,172	\$148,198
2029	128,396	40,445	\$499,212	\$157,252	\$153,297
2030	130,773	41,193	\$516,283	\$162,629	\$158,691
2031	133,112	41,930	\$536,506	\$169,000	\$164,985
2032	135,374	42,643	\$559,578	\$176,267	\$172,079
2033	137,675	43,368	\$583,324	\$183,747	\$179,381
2034	140,016	44,105	\$608,083	\$191,546	\$186,994
2035	142,397	44,855	\$633,895	\$199,677	\$194,931
2036	144,515	45,522	\$659,396	\$207,710	\$202,773
2037	146,359	46,103	\$684,516	\$215,623	\$210,497
2038	148,228	46,692	\$710,596	\$223,838	\$218,517
2039	150,122	47,288	\$737,672	\$232,367	\$226,843
2040	152,040	47,892	\$765,782	\$241,221	\$235,486
2041	153,657	48,402	\$793,262	\$249,877	\$243,936
2042	154,966	48,814	\$820,028	\$258,309	\$252,167
2043	156,287	49,230	\$847,699	\$267,025	\$260,676
2044	157,619	49,650	\$876,305	\$276,036	\$269,472
2045	158,963	50,073	\$905,878	\$285,352	\$278,566
2046	160,319	50,500	\$936,451	\$294,982	\$287,967
2047	161,686	50,931	\$968,056	\$304,938	\$297,685
2048	163,066	51,366	\$1,000,730	\$315,230	\$307,732
2049	164,457	51,804	\$1,034,509	\$325,870	\$318,119
2050	165,861	52,246	\$1,069,429	\$336,870	\$328,857
2051	167,276	52,692	\$1,105,529	\$348,242	\$339,958
2052	168,705	53,142	\$1,142,851	\$359,998	\$351,434
2053	170,145	53,596	\$1,181,433	\$372,152	\$363,298
2054	171,598	54,053	\$1,221,321	\$384,716	\$375,563

7 Sensitivity Analysis

Sensitivity Scenarios

7.1 We conducted sensitivity testing in order to understand the impacts that different model assumptions would have on the traffic and revenue forecasts. This allowed us to identify the severity of the risks posed if events were to materialize differently than expected. Specifically, we evaluated the following 6 risk scenarios for the forecast years 2018 and 2030 against the base case.

- ‘High Growth’ Scenario: this scenario considers the situation where travel growth above 2012 levels is increased by 25% above base case growth.
- ‘High VOT’ Scenario: this scenario considers the situation where travelers’ values of time (VOTs), representing their willingness to pay tolls, are 25% higher than in the base case.
- ‘Low Growth’ Scenario: this scenario considers the situation where travel growth above 2012 levels is 25% lower than the growth that occurs in the base case.
- ‘Low VOT’ Scenario: this scenario considers the situation where travelers’ VOTs, representing their willingness to pay tolls, are 25% lower than in the base case.
- ‘Low VOC’ Scenario: this scenario considers the situation where travelers’ perceived vehicle operating costs (VOC) are only 25% less than assumed for the base case.
- ‘Trip Reduction’ Scenario: this scenario considers the situation where the level of travel is 10% lower than base case levels (representing for example a large fuel price increase or an economic recession, both of which would reduce the overall level of travel).

7.2 Figure 7.1 and Figure 7.2 present the results of the sensitivity testing, comparing the 2018 and 2030 revenue and traffic forecasts against the base case forecasts for the corresponding year. In the following paragraphs, we discuss the results of each sensitivity scenario.

FIGURE 7.1 CHANGE IN REVENUE FOR SENSITIVITY SCENARIOS

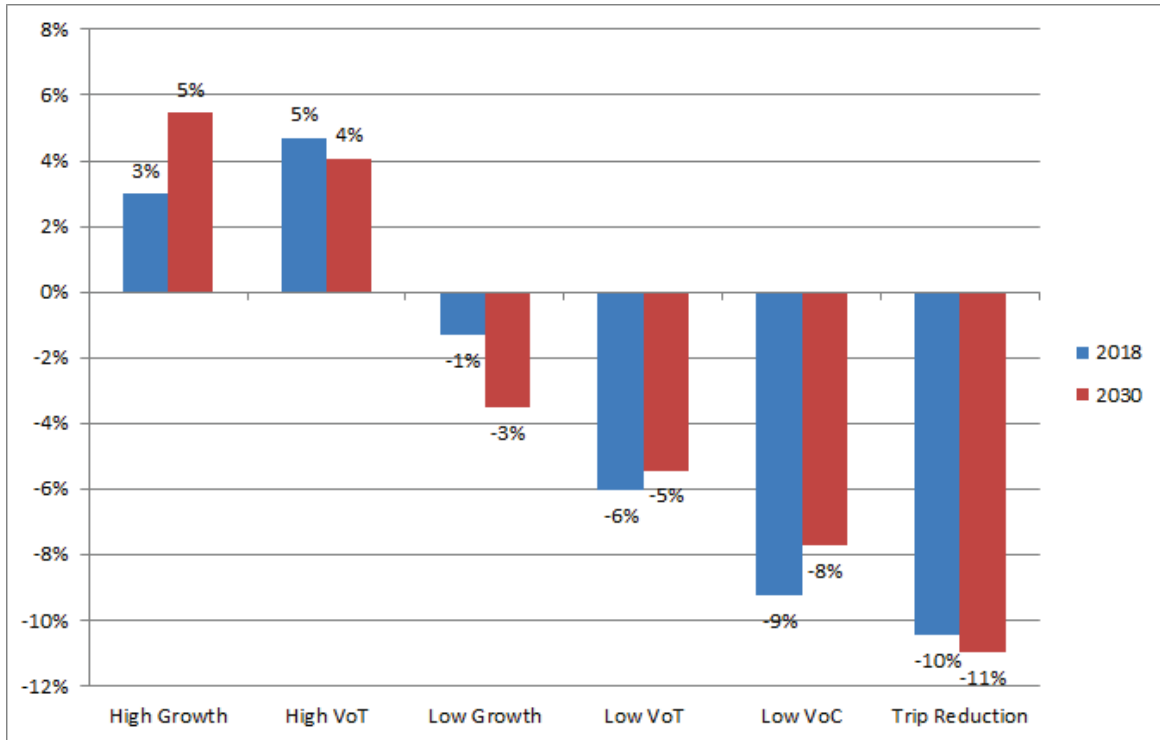
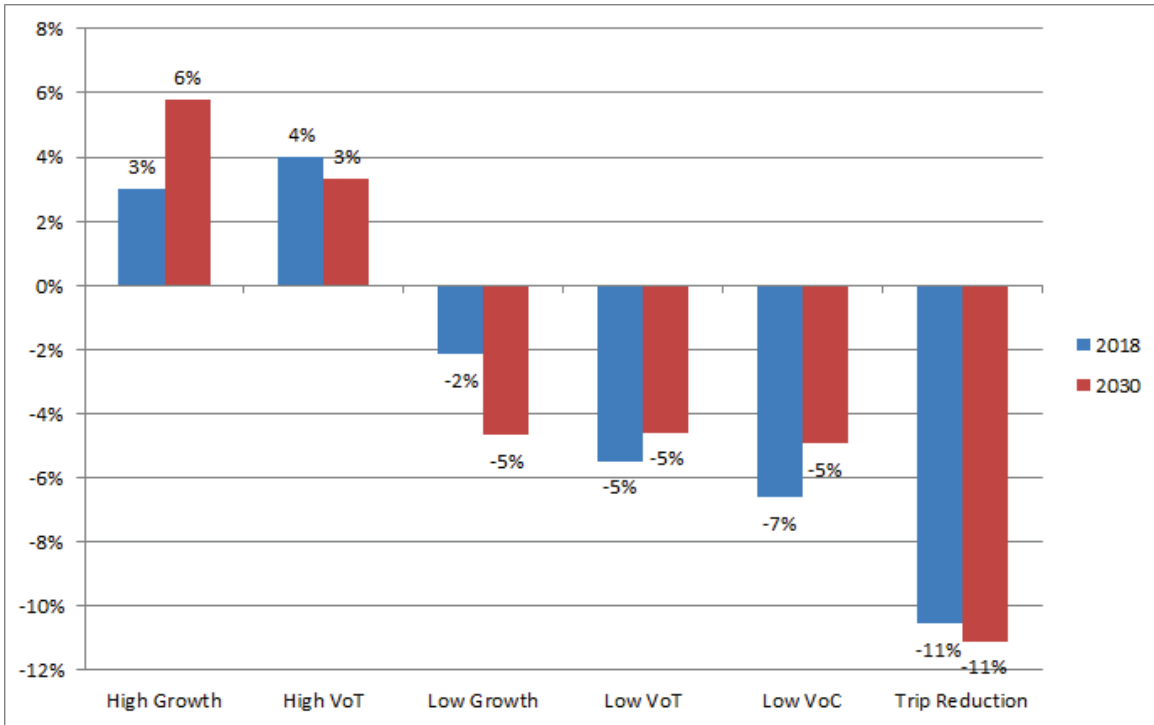


FIGURE 7.2 CHANGE IN TRAFFIC FOR SENSITIVITY SCENARIOS



High Growth

7.3 This scenario represents the case where the growth in tripmaking that occurs between the base year and each model year is higher than the base case forecasts. This could occur because future growth in population and employment is larger than was assumed in our growth (based on the econometric growth model and the socioeconomic forecasts that the model used to produce trips). In Chapter 3, we note our use of the econometric model to estimate the crossing traffic and how this model forecasts lower growth than if relying on the socioeconomic inputs and the MPO model.

7.4 We implemented this increase in travel growth for each model year by identifying the total amount of trip growth of each origin-destination (OD) pair from the base year, and increasing that growth by an additional 25%.

7.5 As expected, the increase in travel growth results in an increase in toll revenue by 3% in 2018 and by 5% in 2030. Similar increases in traffic also occur, with a traffic increase of 3% in 2018 and 6% in 2030.

High VOT

7.6 The High VOT scenario reflects the case where the base model underestimates travelers’ willingness to pay a toll to use the tolled bridges. This scenario could occur if current VOTs, or the rate at which they will grow in the future, were

underestimated. As discussed in Chapter 4, the stated preference survey results provided lower VOTs than would have been expected from industry rules of thumb (mean VOT of \$8 / hour compared to \$12 / hour using industry rules of thumb). Possible reasons for the lower VOTs from the survey include respondents' underestimation of their own willingness to pay or policy bias.

- 7.7 We implemented the High VOT scenario by increasing VOTs for all travel segments by 25%, which brings the mean VOT to \$10 / hour, which is still lower than suggested by industry norms. The results in Figure 7.1 show increases in revenue of 5% for 2018 and 4% for 2030. The corresponding increases in traffic of 4% for 2018 and 3% for 2030 as shown in Figure 7.2 are slightly lower because there is an increase in the share of video transactions, which pay a premium rate.

Low Growth

- 7.8 This scenario is the opposite of the High Growth scenario. It could reflect a situation where the growth in drivers of crossing growth or the population and employment is lower than was assumed in the base case to produce trips. As discussed above, the use of the econometric model for crossing traffic is a more conservative assumption than the socioeconomic forecasts, meaning that the Low Growth scenario is less likely to occur than the High Growth scenario.
- 7.9 We implemented the Low Growth scenario for each model year by identifying the total trip growth from the base year and decreasing the growth by 25%. Figure 7.1 shows that the revenue decreases relative to the base case were 1% in 2018 and 3% in 2030, with corresponding changes in traffic of 2% and 5% for 2018 and 2030, respectively, as seen in Figure 7.2. It is interesting that, in absolute terms, these are smaller decreases than the increases in the High Growth scenario.

Low VOT

- 7.10 The Low VOT scenario reflects the case where the base model overstates travelers' willingness to pay a toll to use one of the tolled bridges. This scenario reflects the situation where VOTs are actually 25% lower than the VOTs estimated from the SP survey. In the discussion of the High VOT scenario, we noted how the SP VOTs were already lower than industry rules of thumb. With this scenario, the mean VOT becomes \$6.40 / hour, which is roughly 50% of the \$12 / hour benchmark determined through application of industry rules of thumb.
- 7.11 The results in Figure 7.1 show decreases in revenue of 6% and 5% for 2018 and 2030, respectively. Figure 7.2 shows the corresponding decreases in traffic are 5% for both years.

Low VOC

- 7.12 The Low VOC scenario reflects the case where travelers' perception of their vehicle operating cost (VOC) is lower than the values used in the base case: \$0.16/mile, \$0.80/mile, and \$1.00/mile for autos, medium trucks, and heavy trucks, respectively.

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While the allowable mileage deduction from the IRS is much larger, most travelers do not take into consideration the true cost of operating their vehicle. At a minimum however, most travelers include the cost of fuel in their perception of VOC. Assuming fuel at \$3.00 / gallon and 25 mpg fuel efficiency, this would imply an automobile VOC is \$0.12/mile. This represents a 25% decrease from the base case, and we correspondingly lowered the heavy vehicle VOCs by 25% to \$0.60 / mile for medium trucks and \$0.75 / mile for heavy trucks.

- 7.13 The results in Figure 7.1 and Figure 7.2 show that the VOC assumption does impact the toll traffic and revenue. The 25% reduction in VOC produced revenue decreases of 9% and 8% in 2018 and 2030 respectively. The corresponding decreases in traffic were 7% and 5%. The greater decrease in revenue than traffic is caused by a larger decrease in truck traffic which pay higher tolls.

Trip Reduction

- 7.14 The Trip Reduction scenario is a proxy for events, such as high fuel costs or an economic recession, that have the effect of lowering the overall level of travel. We implemented the Trip Reduction scenario by eliminating 10% of the total base case trips for each OD pair in each model year. Figure 7.1 and Figure 7.2 show that the 10% reduction in trips produces a slightly larger decrease in toll traffic of 11% for both 2018 and 2030, and corresponding decreases in toll revenue of 10% in 2018 and 11% in 2030.

Appendix A EDR Group's Land Use Review

Final Report Ohio River Bridges Socioeconomic Outlook

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Disclaimer:

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INTRODUCTION

This report describes methods applied to arrive at regional and traffic analysis zone (TAZ) housing and employment forecasts for the Louisville, Kentucky region—as defined by the five-county Kentuckiana Regional Planning and Development Agency (KIPDA), which encompasses the Kentucky counties of Bullitt, Jefferson and Oldham and the Indiana counties of Clark and Floyd. The approach and assumptions described in this report yields TAZ level estimates offered for travel demand modeling purposes.

The following report describes the manner in which the results of field research in the Louisville economy are incorporated with widely accepted forecasts for the larger Metropolitan Statistical Area (MSA), and for KIPDA's five counties to arrive at regional control totals for housing and employment levels in 2011, 2018 and 2030. The report also describes the degree to which the regional forecasts of employment and housing growth in the region may be sensitive to Ohio River Bridges Project build and tolling scenarios. The report further describes how these regional control totals have been allocated to traffic analysis zones (TAZ's) using a bid-rent methodology informed by site visits to specific areas in the Louisville region where change in housing and employment is likely to be most concentrated. This report concludes with a description of how determinations were made about which areas in the Louisville region would be the most sensitive to the changes in travel cost and accessibility associated with different bridge scenarios.

REGIONAL ASSESSMENT

The assessment of Louisville's regional economic position considers strategic issues related to the Louisville region's economic growth position. Unlike the published forecasts presented subsequently in this report, the regional assessment is based on information very specific to the Louisville region. The regional assessment is primarily derived from firsthand research of regional economic development organizations and initiatives, incentives, competitive attributes of the region (positive and negative) and target industry sectors likely to determine the Louisville MSA's growth potential.

Qualitative Analysis Methodology

The regional assessment is comprised of site analysis; interviews with businesses, economic development professionals, planners, and elected officials; and web-based research. In 2012, EDR Group interviewed 38 people representing 34 organizations, as listed in Table 1.

The majority of the interviews were conducted in person during trips to the Louisville MSA in February and July, 2012. Follow-up phone interviews and emails were used to clarify information. To ensure accuracy and appropriateness (specifically for KYTC's traffic and revenue study), follow-up interviews were conducted with eight of these organizations in January, 2013.

An interview guide was prepared for use during the interviews. Key topic areas included:

- What are the key industries driving the Louisville MSA economy? Where are these key industries located? What have been recent trends in employment and growth in these key industries?
- Where are development sites located within the Louisville MSA? What types of businesses have been attracted to these sites? Are these sites development-ready and, if not, what improvements are needed to attract development?
- What are the long range land use plans for each jurisdiction in the Louisville MSA? Where is housing planned? Retail and services? Industrial? Offices?
- What agencies are involved in promoting economic development, and what incentives or programs do they offer to attract businesses to the Louisville MSA? How effective have their efforts been?
- How has the recession affected development in the Louisville MSA?
- What regulations are in place that either support or inhibit economic growth in the Louisville MSA?

- What are the strengths and weaknesses/assets and liabilities of the Louisville MSA as a business location?
- With what regions does the Louisville MSA area compete?
- What are the relative advantages and disadvantages of the Indiana area of the MSA compared to the Kentucky area of the MSA?
- How will the Ohio River Bridges project affect spatial patterns of economic growth in the Louisville MSA? Are there certain areas within the MSA that will benefit? MSA areas that will be negatively impacted?
- How will tolling on the bridges affect travel patterns and economic development?
- What types of businesses will be impacted most by the Ohio River Bridges project, both positively and negatively?

These questions were intended to guide the interviews. Additional questions were added as conversations evolved to follow-up on specific issues raised during the interviews.

Table 1. Organizations Interviewed

Bass Pro Shops	Jefferson Riverport International
Bullitt County Economic Development Authority	Jeffersonville Main Streets
Bullitt County Planning and Zoning Department	Kentuckiana Regional Planning and Development Agency
City of Charlestown Mayor’s Office	Louisville Metro Economic Development and Innovation Department
Clark-Floyd Counties Convention & Tourism Bureau	Louisville Metro Planning and Design Department
Clark County Planning Commission	MainSource Banking
Clarksville Redevelopment Agency	New Albany Plan Commission
Clarksville Town Council	Ohio River Metal Services- Eagle Steel
Crossdock Development	Oldham Chamber and Economic Development
Downtown Jeffersonville merchants	Oldham County Department of Planning and Development
Floyd County Board of Commissioners	One Southern Indiana
Floyd County Plan Commission	Port of Indiana-Jeffersonville
Greater Louisville, Inc.	River Ridge Development Authority
Indiana Department of Transportation	Rocky’s and Buckheads Restaurants
Indiana University Southeast	Schimpff’s Confectionery
Ivy Tech Community College	Sellersburg Stone Company

Some of the broad findings include:

- River Ridge Commerce Center is positioned to attract significant development as a result of improved access provided by the proposed East End Bridge.
- Bullitt County will continue to see substantial growth in the *Transportation and Warehousing* sector due to its access to UPS Worldport and the Louisville International Airport. The bridges will not substantially influence growth patterns in Bullitt County.
- Jefferson County has limited locations that can attract additional industrial development.
- The bridges projects will improve access from Indiana to the Kentucky side of the Ohio River, leading to more residential development in the Indiana portion of the region. Floyd County and the Charlestown area of Clark County are expected to experience residential growth.
- Businesses in downtown Jeffersonville and along the Ohio River in Clarksville will likely suffer negative impacts (potential loss of businesses) due to the loss of direct ramp access from I-65.
- Oldham County has development potential along and south of I-65. Residents near the proposed East End Bridge oppose growth and may work to limit development close to the new bridge.
- The region needs to improve educational achievement of the local workforce to attract higher paying jobs.
- UPS, Ford, General Electric and *Health Care and Social Assistance* are major businesses and sectors that have shaped and will continue to shape economic development in the Louisville MSA.
- Indiana has an advantage for attracting *Manufacturing* and *Transportation and Warehousing* sectors because it is a right-to-work state and has more attractive tax policies.
- The interviews in 2013 conducted specifically for Kentucky found that the Amazon property has been filling in employment at a much faster rate than originally anticipated, and that build-out of new housing units in the Crestwood community of Oldham County, KY has been occurring faster than anticipated when the 2012 interviews were conducted.

REGIONAL OUTLOOK AND FORECASTS

To arrive at regional control totals, three available forecasts are compared for the Louisville MSA: Woods & Poole (W&P); Moody's (Baseline Assumption); and Moody's (Below Trend Assumption). Woods & Poole (W&P) and Moody's offer nationally syndicated and widely accepted growth forecasts. The published regional forecasts provide an idea of what the overall baseline of housing and employment growth is likely to be (based on established regional and national economic dynamics). A comparison of pre-existing regional forecasts also suggests an order of magnitude regarding variability in future employment levels resulting from different forecasting methods.

Sources and Assumptions of Available Forecasts

This section compares W&P and Moody's forecasts under different national growth scenarios. The forecasting services are broadly similar in their data and methods, yet have some difference in focus, scope, detail, and documentation. For example, both forecast vendors generate forecasts using a hierarchical time-series statistical approach, the first step of which is to develop a U.S. National forecast using national data from the U.S. Bureau of Economic Analysis (BEA), the U.S. Bureau of Labor Statistics (BLS), and other sources. The underlying datasets used in both models have some key differences in the type of employment and earned income data each tracks and reports. Both models allow for broad policy assumptions such as changing industry mixes, international exports, and government behavior (such as interest rates and federal taxes) to be set at the national level.

Both models begin with national forecasts by industry and down-allocate economic activity to regions and counties based on competitive advantages of those sub-national regions. Both models use a down-allocation process determined using more spatially detailed data from BEA, BLS, the U.S. Census, and other sources. For both models, the down-allocation takes an export-based approach, where economic growth is separated into local exports forecasted based on national demand, followed by more locally serving industries (such as retail, restaurants, and services). The result of this approach is that in both methodologies, sub-national (MSA- and county-level) forecasts of industry-level activity are strongly driven by the same national macro-economic forecasts.

One factor in assessing the reasonableness of the national (and sub-national) forecasts is to assess the reasonableness of national-level assumptions which are "exogenous". Exogenous assumptions regard factors that are outside the control of households and industries operating in the U.S. These assumptions include interest rates, oil prices, global growth patterns, and national-level tax and growth policy.

Here, the two forecasting sources diverge significantly. Moody's not only makes its trade and policy assumptions transparent for their baseline forecasts¹, but they also publish alternate scenario forecasts, which amount to sensitivity analysis on some of the most critical exogenous variables that affect national growth. For example, the downside 10 percent scenario, "Oil Price Increase, Dollar Crash Inflation," assumes that geopolitical tensions in energy-producing countries worsen significantly and result in sharp cutbacks in global oil supplies. Additionally, fear that persistent expansion of the Federal Reserve's balance sheet would spark inflation increases; oil prices rise sharply and ultimately surpass \$140 per barrel in mid-2013; and pressures on core consumer prices begin to build as the higher oil prices push up the costs of delivering goods and services, and the beginnings of a wage-price spiral emerge; etc.²

In contrast, for W&P forecasts, assumptions about exogenous factors remain largely hidden. The only reference to exogenous macro-economic conditions is that "in the 2012 Woods & Poole model, the U.S. forecast included an estimate of the lingering impact of the 2008-09 recession using preliminary employment data for 2010 and 2011 from the Bureau of Labor Statistics".³

The comparison, shown in the following section, contrasts two of Moody's scenarios (the Moody's Baseline forecast, the Moody's "Below-Trend Long-Term Growth" forecast) and the W&P Forecast.

Comparison of Growth Forecasts

To enable a direct comparison between Moody's scenarios and the standard W&P forecasts, both forecasts are normalized to a 2009 base-year assumption of employment. This adjustment is necessary to enable a Moody's vs. W&P comparison because W&P reports employment using the U.S. Bureau of Economic Analysis (BEA) methodology (which includes significant reporting of jobs related to the *Self-Employed* sector and the *Farm* sector, both not explicitly included in Moody's forecasts since Moody's relies on a U.S. County Business Patterns data methodology).⁴ For the purposes of this report, base-year 2009 employment totals are taken using the BEA methodology, with year by year growth factors from each comparative forecasting method then applied by industry yielding comparative (and scaled) forecasts from the W&P methodology, Moody's

¹ See *The Moody's Analytics U.S. Macroeconomic Model*, Moody's Analytics, <http://www.economy.com/databuffet/download/Macro%20Model%20Methodology.pdf>

² *U.S. Macroeconomic Outlook Alternative Scenarios*, Moody's Analytics, http://www.economy.com/databuffet/download/US_Macro_alt_scenarios_0712.pdf

³ *Woods & Poole Complete Economic Database (CEED 2012)*

⁴ Further explanation of these different methods for defining employment can be found at the U.S. Bureau of Economic Analysis Website (http://www.bea.gov/regional/pdf/lapi2004/alternative_measures.pdf)

“Below-Trend Long-Term Growth Methodology” and Moody’s “Baseline” forecast methodology.

Table 2 compares the forecasts of total employment, number of households and median household income between the W&P methodology and the two comparative Moody’s scenarios in 2011, 2018, 2030 and 2040 for the Louisville MSA.

Table 2. Comparative Employment Estimates & Forecasts for the Louisville MSA

Source/Methodology	2011	2018	2030	2040
Woods & Poole	743,222	802,939	911,582	1,013,685
Moody's (Baseline Assumption)	736,276	832,500	871,725	937,340
Moody's (Below Trend Assumption)	736,276	811,373	843,649	901,476

While the W&P forecasts appear more conservative in the near term, over time the growth assumptions of W&P yield the most heightened employment forecasts of the set. This growth appears in the W&P forecast primarily because the W&P forecast assumes a continuation of prior trends, with fewer allowances for unknown policy variables to constrain long-term growth. These assumptions result in W&P showing a four percent higher level of employment than the Moody’s baseline in 2030 and 12 percent higher level of employment in 2040 for the Louisville MSA.

By contrast, the Moody’s “Baseline Assumption” forecast allows for likely policy conditions, such as a monetary policy that keeps long-term interest rates low, likely reduction and stabilization of the federal budget deficit (due to gradual economic growth with fading fiscal stimulus) and relatively stable dollar value. Moody’s “Baseline Assumption” forecast also assumes that energy prices have peaked, and are likely to remain steady in the long-term. Based on a review of the economic and political analysis accompanying this forecast, the consulting team concludes the Baseline Assumption” forecast is the most probable long-term outlook of the three options for the Louisville MSA.

The Moody’s “Below Trend Assumption” forecast assumes the economic recovery will be slower in the near term due to the European debt crisis, elevated gas prices, the federal budget deficit, persistent foreclosures and reduced consumer confidence. The “Below Trend” forecast assumes these factors will create a trend of lower risk-taking and more precautionary household saving, leading to a trend of slower GDP growth and higher long-term unemployment. In the “Below Trend Assumption” scenario, these less optimistic assumptions result in a three percent reduction in regional employment relative to the 2030 Moody’s baseline, and a four percent reduction in regional employment relative to the 2040 baseline for the Louisville MSA. Moody’s predicts a 95 percent likelihood that the economy will perform better than the “Below Trend Assumption” forecast.

There is a similar difference, but with less magnitude, with respect to number of households in the Louisville MSA (as shown in Table 3), with W&P showing slightly more growth in MSA households in 2030 and 2040 than the Moody’s “Baseline Assumption”, and the Moody’s “Below Trend Assumption” showing slightly fewer households in the MSA. However, when it comes to MSA households, the three estimates are within one percent of each other--making the differences in number of households not as significant. What is not explained is how by 2040 the W&P forecast accomplishes significantly more MSA employment without an associated increase in the number of households (Moody’s “Baseline Assumption”). Either average household size is greater than that assumed in the Moody’s model, or the labor force participation rate is assumed to be higher within W&P methods.

Table 3. Comparative Forecasts & Estimates of Numbers Households for the Louisville MSA

Source/Methodology	2011	2018	2030	2040
Woods & Poole	519,753	554,764	587,008	605,781
Moody's (Baseline Assumption)	521,146	559,273	585,946	603,063
Moody's (Below Trend Assumption)	521,146	557,994	582,291	597,034

Assessment of Available Published Forecasts

Ultimately, Moody’s forecasts are significantly more transparent than W&P’s forecasts in their assumptions about the U.S. and global economic policy contexts. For this reason, the Moody’s published economic forecasts represent a more defensible view of a future economic situation for understanding how the national economy will combine with the local factors described in the previous chapter to determine future population, housing and employment in the Louisville MSA.

Though the W&P forecasts account for a more complete set of employment activities, the longer-term employment growth expectations are difficult to defend given the uncertainty over what the U.S. economy will look like in global economic terms. For this reason, the Moody’s “Baseline Assumption” forecast offers a more consistent view of the Louisville MSA’s overall likely future socioeconomic, housing, and employment control totals in traffic and revenue modeling for the Ohio River Bridges. Furthermore, Moody’s “Baseline Assumption” is backed by Moody’s modeling of the probability of outcomes relative to other forecasting assumptions.

However, for sensitivity testing, Moody’s “Below Trend Assumption” forecast, while unlikely, is considered, as a sensitivity testing scenario, for anticipating traffic and revenue levels in an economic “worst case scenario.” The “Below Trend Assumption” provides a “worst case scenario” to support an understanding of potential risk and variability in regional growth and utilization of the Ohio River Bridges.

Five-County KIPDA MPO region

The Louisville five-county KIPDA MPO region within the Louisville MSA accounts for 90 percent of the employment in the broader Louisville MSA in 2011. As mentioned earlier, the five-county KIPDA MPO region includes Kentucky's Jefferson, Oldham and Bullitt counties and Indiana's Clark and Floyd counties. As the economic core of the region, the five-county KIPDA MPO region dictates the profile of underlying employing industries (industry mix). Prominent economic characteristics of the five-county KIPDA MPO region are as follows:

- The combined *Trade, Transportation, & Utilities* aggregate sector, which includes the *Retail Trade, Wholesale Trade, and Transportation and Warehousing* sectors, accounts for 21 percent of the employment in both the five-county KIPDA MPO region and the Louisville MSA economies. Transportation improvements, alleviating congestion or completing access, will buttress local area plans for retention and growth of distribution activities (including transportation service providers and wholesalers with warehousing operations). Both the five-county KIPDA MPO region and the Louisville MSA are expected to incur comparable annual employment growth for this *Trade, Transportation, & Utilities* aggregate sector, with a more pronounced recovery-driven rate through 2018 (1.8 percent), followed by an annual rate of 0.8 percent through 2030.
- Slightly larger employment shares exist in the five-county KIPDA MPO region than in the Louisville MSA for the *Professional, Scientific and Technical Services* sector (15 versus 14 percent), followed by the *Educational & Health Services* sector (14 versus 13 percent). Transportation improvements, alleviating congestion or completing access, will buttress local area plans for future office site development, and guarantee labor force mobility to the burgeoning *Health Care and Social Assistance* complex in Louisville. The five-county KIPDA MPO region and the Louisville MSA are expected to incur comparable annual employment growth for the *Professional, Scientific and Technical* aggregate sector, with a more pronounced recovery-driven rate through 2018 (3.4 percent and 3.2 percent, respectively) and then a moderate annual rate for both through 2030 (1.4 percent). The five-county KIPDA MPO region and the Louisville MSA are expected to incur comparable annual employment growth for the *Educational & Health Services* aggregate sector, with a more pronounced recovery-driven rate through 2018 (2.4 percent and 2.6 percent, respectively) and then a moderate annual rate through 2030 (1.8 percent).
- *Manufacturing* is the only sector in which the employment share is slightly larger in the MSA's economy (nine percent) than in the five-county KIPDA MPO region (eight percent). The five-county KIPDA MPO region and the Louisville MSA are expected to experience differing rates of annual employment growth for the *Manufacturing* sector, with a more pronounced recovery-driven rate through

2018 (0.8 percent and 1.1 percent, respectively) and then employment contracting through 2030 (-0.2 percent and -0.1 percent, respectively).

Economic Outlook and Forecasts: Conclusions

From a comparison of available syndicated national and regional economic forecasts informed by an “on the ground” regional economic assessment, Moody’s baseline forecast provides the most defensible baseline forecast for the Louisville MSA and the five-county KIPDA MPO region. Furthermore, the transparency of the Moody’s assumptions about national economic conditions makes the Moody’s forecasts more defensible than the W&P forecasts for the same period. Moody’s forecast contains the most valid assumptions as to the future course of underlying economic growth of the nation and subsequent growth of the MSA. For all of these reasons the “background growth” assumptions in subsequent sections of this report are based on the Moody’s “baseline” and “below-trend” forecasts.

ECONOMIC AND INFRASTRUCTURE SCENARIOS

Overview of Economic Modeling Approach

Scenario analysis is applied to assess the sensitivity of future housing and employment trends to different bridge, tolling and future economic possibilities in the five-county KIPDA MPO region. Different scenarios represent alternative possible futures with regard to both the overall level of economic activity expected in the region, as well as the geographic concentration of growth or decline.

The scenarios differ by two factors:

- (1) Background growth in the five-county KIPDA MPO region; and
- (2) Bridge build and toll alternatives.

The results of the scenario analysis demonstrate how changes in the above factors result in different spatial allocations of households and jobs in the five-county KIPDA MPO region, and different levels of regional bridge-contingent growth.

Background Growth in the Region

The scenarios assume that most of the Louisville MSA's growth in housing and employment will be "background" to the five-county KIPDA MPO region. Background growth refers to growth generated by regional economic dynamics described in the previous section and captured in published forecasts of housing and employment. The analysis assumes background growth will occur regardless of whether or not bridges are constructed.

For each scenario, an overall regional background growth level is assumed based on whether the scenario is intended to demonstrate the baseline growth trend, or a more conservative/slower growth trend (as described in the *Comparison of Growth Forecasts* section above).

Table 4 shows the overall trend of "most likely" and "below trend" forecasts of background household and employment growth for the five-county KIPDA MPO region from 2007 to 2030. The "most likely" future expects 71,017 new jobs and 72,383 new households. The "below trend" future expects only 60,533 new jobs and 69,276 new households (17 percent fewer jobs and four percent fewer households than the "most likely" scenario).

Because the “below trend” growth trajectory represents a slower recovery from the current recession than the “most likely” growth trajectory, over time (from 2007 to 2030) the employment level in the “below growth” trajectory gradually begins to catch up with the “most likely” forecast. This is because economic theory holds that eventually, even under the most pessimistic of assumptions and given enough time, the economy will absorb and gradually recover from the current recession or other downturns that could be currently foreseen. Therefore, the largest difference in employment is when the “below trend” forecast bottoms out in 2018 before rebounding and gradually catching up (but still not matching) the “most likely” forecast in 2030.

Because households are less mobile than jobs (households cannot be moved to and from the region as readily as jobs or business operations), they change considerably less, and recover more slowly than employment.

Table 4. Anticipated Background Growth Trend for Five-county KIPDA MPO region

	Households				Employment			
	2007	2011	2018	2030	2007	2011	2018	2030
Most Likely	425,672	442,974	475,382	498,054	572,650	550,729	618,083	643,666
Below Trend	425,671	442,974	474,295	494,947	572,650	550,729	606,787	633,183
% Variation in Growth	N/A	N/A	2%	4%	N/A	N/A	33%	17%

Source: Moody’s Analytics, 2012

The totals shown in the table are consistent with Moody’s’ trend forecasts for the five-county KIPDA MPO region. As will be discussed in later sections, each county’s growth is dependent on assumptions made about bridges, tolling and other infrastructure.

Cube Land Approach for Allocating Background Growth

The concentration of housing and employment growth in the five-county KIPDA MPO region is largely dependent on the development capacity (as defined by supporting infrastructure, environmental constraints and zoning) and level of build-out in different parts of the five-county KIPDA MPO region, as well as the relative attractiveness of available land as determined by accessibility and proximity to desired amenities (such as public facilities, services and retail establishments).

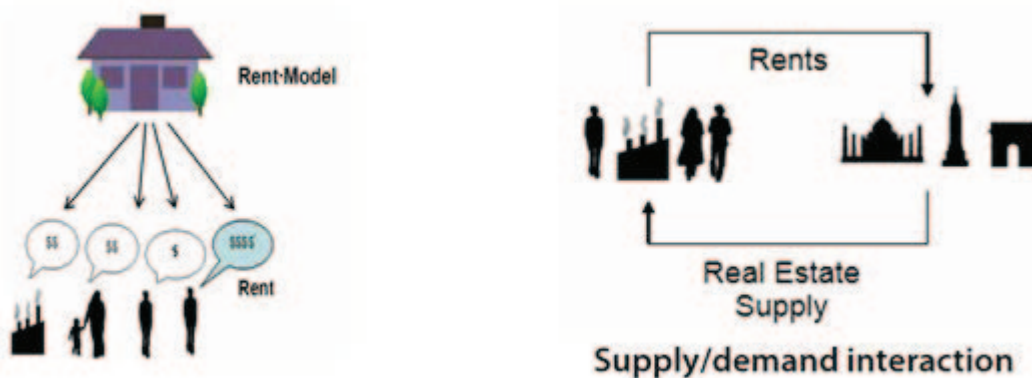
The development capacity is represented as a set of constraints limiting the maximum and minimum number of households or jobs that a given traffic analysis zone (TAZ) can accommodate. A zone’s relative attractiveness is determined by a set of “bid” and “rent” functions, which vary among scenarios with different transportation build and tolling assumptions.

Estimation and Use of “Bid” and “Rent” Functions

The Cube Land modeling software is used to allocate background housing and employment growth because of its economic foundations, relatively minimal data collection requirements, and ease of calibration. Such characteristics make Cube Land models feasible to implement within the context of an independent economic study to support a traffic and revenue forecasting effort.

The Cube Land model is based upon the acclaimed bid-auction theory of Dr. Francisco Martinez at the University of Chile in Santiago.⁵ In essence, the theory provides a mathematical description of a real estate market in which agents of different types (e.g. households and firms of varying size and industry sector) compete against one another in bidding for location options within an urban region. The outcome of this bidding process is the so-called “rent” associated with a property in a particular zone. Suppliers of real estate (e.g. developers and landlords) compare rent with cost in deciding where and how to invest. In the long run, the interaction between this real estate supply allocation process and the bid-auction process results in an equilibrium land use development pattern, dependent upon a particular set of prior inputs and transportation access factors.

Figure 1. Bid-Rent Relationships Used for Land Modeling



Agent willingness to pay for real estate options is quantified using bid-rent functions which parameterize various location attributes, such as unit size and quality, as well as transportation accessibility and attractiveness. The core set of data required to develop a Cube Land model is thus provided by the socioeconomic and free-flow skim matrix tables (provided by the CS application of the five-county KIPDA region MPO Model).

⁵ See Martinez, Francisco J. “Towards a Land-Use and Transport Interaction Framework” in Hensher, David and Kenneth Button, eds. *Handbook of Transport Modelling* (Second Edition). Boston: Elsevier, 2008.

The land allocation model also parameterizes additional variables to quantify other conceptual factors affecting the value of location options, such as availability of public services. The model encoded various development constraints, such as wetlands, floodplains, high slopes, utility easements, conservation land, and zoning regulations as “restrictions” which limited the solution space of the equilibrium land use allocation algorithm to only certain feasible outcomes.

Once bid-rent function parameters are estimated from the observed data, the working Cube Land model is calibrated to ensure that it replicates conditions in the base year (2007). The calibration consists of iterative calculations of bid, rent, and cost adjustment factors based upon the comparison of model outputs with target values. These adjustments can be interpreted to embody all of the unobservable phenomena exogenous to the bid-auction process that influence land use patterns, including the inertia associated with historical development. Thus, the forecasts which are produced by the Cube Land model tend to “pivot” off of the base year used for calibration, taking into account intervening changes in accessibility and other factors, rather than positing a completely new pattern disconnected from present-day realities. In the current study, such forecasts are used for comparison analysis of alternative bridge scenarios, to independently assess the redistributive potential associated with project implementation.

Cube Land Approach for Spatial Allocation

Parameters are estimated from the KIPDA travel model data for the following variables in the Cube Land bid-rent functions using multinomial logistic regression techniques:

- **Accessibility:** number of jobs within 40 generalized-cost units of the home traffic analysis zone (TAZ) at mid-day, where generalized cost is defined as $[time] + ([toll] + [distance]*[$/mi])/[$/min]$
- **Attractiveness:** number of households within 40 generalized-cost-units of the TAZ
- **Non-CBD dummy variable:** equal to 1 if a TAZ is not in the central business district
- **Single-family housing dummy variable:** equal to 1 for single-family detached housing
- **Alternative-specific constants:** for vehicle ownership and employment type categories

While all estimated parameters included in the model are found statistically significant and overall model statistics such R^2 indicate a reasonable level of fit, the overall TAZ allocation approach recognizes that many other factors influence the spatial distribution of housing and employment besides the few variables that could be quantified in the land use model. Specifically, zonal land supply capacity, as well as zoning regulations, and local attitudes and political views could influence future development patterns in ways that might not be captured by an unconstrained model application.

To provide a means for adjusting forecasts to meet constraints developed based upon professional judgment and local area knowledge, a shadow pricing routine is added to the model. The shadow pricing routine applies a fictitious subsidy or tax to each zone, as needed, to enforce an upper bound on either the total number of households or the total number of employees in the zone. Through an iterative process of adjusting the zonal constraints and reviewing model runs in light of the field work from the regional assessment, the team has developed modified forecasts taking into account factors which the model did not explicitly parameterize. The team has also developed a “fixed-supply” routine, allowing exogenous adjustments to total zonal households and employment, and then evaluate just the bid-auction component of Cube Land. The use of “fixed supply” mode results in disaggregate findings regarding number of households by type in order to forecast auto ownership category, size, population, and income distribution.

Cube Land approach for allocating households to different size, auto ownership and income cohort

The Louisville MPO model is based on data provided by KIPDA and, as such, the household and industry classification scheme used in Cube Land closely follows the KIPDA socioeconomic data file structure. The land allocation model recognizes, three categories of employment: retail, service and other. The model also defines twenty household types, representing combinations of vehicle ownership category and households size based on pre-existing socioeconomic data, as shown in Table 5 below.

Table 5. Household Characteristics

HH Type	Vehicles=0	Vehicles=1	Vehicles=2	Vehicles=3+
Category #	1	2	3	4
Persons=1	1	2	3	4
Persons=2	5	6	7	8
Persons=3	9	10	11	12
Persons=4	13	14	15	16
Persons=5+	17	18	19	20

The team has gathered Census American Community Survey 2006-2008 three-year Public Use Microdata Sample (PUMS) data for the Public Use Microdata Areas (PUMAs) representing the five-county KIPDA MPO region in order to calculate the following aggregate attributes for each household type:

- Household size (i.e. for households with more than five persons);
- Percent of households having income of less than \$40,000 per year;
- Percent of households having income of \$40,000-\$59,999 per year; and
- Percent of households having income of \$60,000 or more per year.

Using census data enables the team to make estimates of zonal population and income distribution drawn from a Cube Land model and allocating households by size and vehicle ownership category. It may be noted that this is a more dynamic approach than that originally taken in developing the KIPDA travel demand model, wherein 2000 Census income distributions by tract were applied uniformly to all TAZs within each tract. By contrast, in the modeling process based on Cube Land, zone-level income distributions are computed for each TAZ as the direct average of the income distributions of each size and vehicle ownership category weighted by the number of households in each category within the TAZ as allocated by Cube Land (calibrated to the 2007 KIPDA distribution of households by size and vehicle ownership).

The Role of Expert Judgment in Final Allocation of Background Growth

The team relies on expert judgment and field work in the Louisville MSA as the basis for assumptions about development constraints informing the Cube Land model's results. Business location and residential development occur within the five-county KIPDA MPO region subject to a number of factors besides the transportation network, including land availability, land use regulations (such as zoning), the availability of utilities and water/sewer infrastructure, incentives and tax policies, and intangibles such as quality of life and local incentives. The team relies upon site visits and 38 interviews from 2012 plus eight follow-up interviews in 2013 with local officials, businesses and economic development agencies to develop a clear understanding about specific areas within the region that are likely to grow and the types of development likely to be attracted to specific sites. The team spent six person-days in the field reviewing sites and conducting interviews, with follow-up telephone and email correspondence. Before visiting the Louisville MSA, the team studied aerial photography and conducted web-based research on the area's economy, growth trends among industries, economic development programs, and information about the region's competitive position relative to other MSAs of the country.

Ultimately, the knowledge developed through field work and interviews provided the basis for the review and validation of Cube Land model. Post-model adjustments were made in areas where growth trends were evident in the empirical work that may not have been captured in modeling. These adjustments ensure that the final analysis reflects findings in the field about the relative competitiveness of sub regions within the Louisville MSA.

Bridge-Contingent Development Assumption and Its Basis

In addition to the background growth described in the previous section, the current study assesses the potential for "bridge-contingent growth". Bridge-contingent growth refers to net-new growth in the five-county KIPDA MPO region that is attracted, created or expanded to the region specifically because of the amenities associated the bridge alternatives. It is expected that the most bridge-contingent development is likely to occur

if the East End Bridge is completed. This sub-section builds on earlier sections' analysis of economic development strategies and conditions to describe the basis for findings regarding bridge-contingent development.

Based on site visits to the Louisville MSA and interviews with economic development professionals, developers and land owners, the Ohio River Bridges Project can be expected to directly attract or create approximately 9,342 jobs in the 30-year analysis period. Based on the Minnesota IMPLAN Group's input-output tables (derived from BEA I/O tables), these direct jobs are expected to spur another 5,078 jobs (induced and indirect effects of supplying the 9,342 jobs), for a total of 14,420 bridge-contingent jobs by 2030. Half of this is expected to occur by 2018.

As of January, 2013, over 2,600 of these expected jobs had already materialized in the River Ridge Commerce Center in anticipation of the opening of the proposed East End Bridge. The majority of the contingent development impacts are expected to be located in eastern Clark County in the vicinity of the Port of Indiana and the River Ridge Commerce Center. The East End Bridge will directly serve these two unique facilities. The Port of Indiana provides multi-modal transportation services including rail, river barge and highway, making the area attractive to businesses that rely on a range of transportation modes for shipping and receiving goods. The East End Bridge will enhance the highway network available to multi-modal businesses, will open markets to the south, and will better connect to a fourth mode of transportation – aviation – at the Louisville International Airport. Based on interviews with economic development officials and businesses, as well as a review of recent industry trends in the region, it is expected that the existing businesses likely to expand because of the new bridge include transportation providers (stevedores⁶, rail, trucking), metal fabricators, and food processors.

River Ridge Commerce Center has over 3,000 acres of land within an existing commerce park and expects to add approximately 3,000 more acres over time. River Ridge Commerce Center is unrivaled in size in the region and in the nation. It can provide businesses with access to the port facilities and can accommodate businesses that need very large tracts of land. The new East End Bridge will enhance the marketability of the site for national and international businesses that need large development sites, access to multi-modal transportation, and access to markets throughout the United States.

The River Ridge Development Authority believes that the completion of the East End Bridge will lead to the development of an additional two million square feet of new construction per year within the River Ridge Commerce Center until the Commerce Center is fully built-out. In estimating bridge-contingent effects, the team chose to assume growth equal to only 25 percent of the Development Authority's estimated construction footage. Sectors likely to benefit from the East End Bridge are

⁶ "one who works at or is responsible for loading and unloading ships in port" *Merriam-Webster Dictionary*

Manufacturing (which includes food production, fabricated metals, machinery, computer and electronic equipment), and *Transportation and Warehousing*. The MSA has targeted these as likely regional growth sectors, based on the mix of current businesses using the facility, a review of recent industry trends, and discussions with developers and economic development officials about the types of businesses that are showing interest in the property. Included in the 9,342 employment estimate is the new Amazon.com facility (employer of 2,600 employees), which noted the importance of the Ohio River Bridges project in its location decision.

The employment estimates for the Louisville MSA also include some small increases in educational services based on discussions with the two colleges in the Louisville MSA, as well as some increase in waste management, based on survey responses. The 14,420 bridge contingent jobs are expected to bring with them an additional 3,247 new households by 2030, 2,050 of which are expected by 2018 (based on current build-out levels in new residential developments as of January, 2013).

Modeling Approach: Conclusions

The modeling approach described above uses the Cube Land model to allocate projected “background” household and employment forecasts for the five-county KIPDA MPO region. Cube Land bases this allocation on a set of factors that includes comparative levels of transportation accessibility. The modeling approach also allows for some level of “bridge-contingent” new growth to the background allocation accounting for the national attractiveness of the East End Bridge as an amenity. The inputs to the process came from the field work described previously. Inputs also came from data currently used in the KIPDA travel model and used a bid-rent function to determine the TAZ level allocation of household and employment.

Description of Scenarios and their Rationale

Overview of Five Scenarios and Their Assumptions

To understand the sensitivity of economic development in the five-county KIPDA MPO region, the team presents the results of the above described methodology as four scenarios. Each scenario represents different assumptions about bridge infrastructure, tolling, and underlying economic conditions. Each scenario is found to result in a different distribution of housing and employment within the five-county KIPDA MPO region (as reflected in the tabular data provided). Some scenarios represent more bridge-contingent development than others. The following is a summary of assumptions defining each of the scenarios.

Scenario 1: Base-Case Scenario

The Base-Case scenario assumes full build and tolling of both the Kennedy Bridge and the East End Bridge, as well as all of the other projects in KIPDA’s future network. The scenario assumes the “most likely” background regional growth level (see Table 4). Because the East End Bridge is included in the Base-Case scenario, all 14,420 bridge-contingent jobs and all 3,247 bridge-contingent households occur in this forecast by 2030. The scenario is intended to show the socioeconomic housing and employment levels and allocation of full build-out under most likely economic conditions. As the name implies, the Base-Case scenario is the “base” against which all other scenarios are compared.

Scenario 2: No East End Bridge Scenario

The No East End Bridge scenario is like the Base-Case scenario in all respects, except that the East End Bridge is not included. For this reason, only 4,013 of the bridge-contingent jobs (including existing 2,600 direct jobs at the Amazon site and 1,413 indirect and induced jobs spun-off by the site) occur by 2030 in Scenario 2. In a similar fashion, only 904 of the 3,247 bridge-contingent new households occur in Scenario 2. These jobs and households are mostly due to pre-emptive development that has already occurred in anticipation of the East End Bridge, but would be unlikely to leave even if the bridge is not built. Scenario 2 is intended to show where and how employment and housing growth in the five-county KIPDA MPO region is likely to differ from Base-Case scenario if the East End Bridge is not completed.

Scenario 3: Growth Balance Favoring Indiana

In the Growth Balance Favoring Indiana scenario, overall regional growth follows the “most likely” background regional growth trajectory, but the balance of growth is weighted towards Indiana. In Scenario 3, Kentucky’s households and employment actually grow at the “Below Trend” level (as shown in Table 4), but growth incentives in Indiana enable the Indiana counties to grow at a faster rate to compensate. Because the East End Bridge is included in this scenario, the full 14,420 bridge-contingent jobs by 2030 are included in this forecast as are the 3,247 bridge-contingent households. Scenario 3 is intended to show where and how employment and housing growth in the five-county KIPDA MPO region is likely to differ from the base-case if growth patterns significantly favor Indiana over Kentucky

Scenario 4: Below Trend Regional Growth

In the Below Trend Regional Growth scenario, overall regional growth follows a “below trend” background regional growth trajectory for both Kentucky and Indiana in which households and employment grow more slowly than in the Base-Case scenario. For this reason, areas that have significant growth in housing and employment in other scenarios feature lower future housing and employment when compared to the Base-Case scenario. The Below Trend Regional Growth scenario is intended to show the location

and degree to which slower growth in housing and employment may affect future five-county KIPDA MPO regional socioeconomic conditions.

CONCLUSIONS

Overall, the Louisville MSA economy is expected to perform in a manner consistent with published growth forecasts for the Louisville MSA, and to exceed those forecasts if the amenities of the East End Bridge are in place. The Louisville five-county KIPDA MPO region's job and housing growth is expected to be fairly consistent to 2030, with a most likely scenario resulting in expected 17 percent growth in households and a 12 percent growth in employment between 2007 and 2030. If the overall growth in the economy performs poorer than expected, there is still a 95 percent likelihood that the five-county KIPDA MPO region will experience at least a 14 percent increase in employment and an 11 percent increase in households as the economy recovers from 2011 to 2030.

This job and housing growth is likely to be augmented by additional new employment associated with the East End Bridge, centering on the River Ridge Commerce Center, with an overall employment gain for the five-county KIPDA MPO region expected to exceed 14,000 new jobs and over 3,000 new households by 2030 resulting from business attraction to the River Ridge Commerce Center. An Amazon.com plant employing 2,600 of these new employees has already opened in anticipation of the East End Bridge.

Differences in accessibility costs and housing and employment growth rates among scenarios suggest it is unlikely that existing households or businesses in the five-county KIPDA MPO region will undertake the costs of relocating due to changes in infrastructure, tolling or growth rates. For this reason, it is concluded that most of the geographic shifts in housing and employment sensitive to economic growth assumptions on bridge and tolling options will concern the location of future, not existing, households and jobs.

Overall, the availability of the East End Bridge attracts a large share of accessibility-oriented households and businesses to River Ridge Commerce Center and Charlestown areas of Indiana that would have otherwise been attracted to areas accessible to the I-65 and I-71 interchanges in Indiana and Kentucky, respectively. This availability effect of the East End Bridge is visible in the comparison of Scenario 2 (No East End Bridge scenario) to Scenario 1 (Base-Case scenario with the bridge). Areas where the concentration of future housing and employment growth is most sensitive to regional economic conditions (such as the River Ridge Commerce Center in Indiana, the Gene Snyder Freeway area in Kentucky and the Jefferson-Riverport area in Kentucky) may face considerable stagnation in job growth if the economy grows more slowly than expected. Housing areas within the travelshed of the I-65 corridor in Indiana, the I-71 corridor in Kentucky and the Route 62 corridor in Indiana are primed for growth that may be dampened if the economy grows more slowly than anticipated.

A review of factors supporting and inhibiting growth in the five-county KIPDA MPO region leads to the conclusion that Scenario 1: Base-Case Scenario is the most likely to occur, with a greater than 90 percent chance that a growth level and spatial pattern consistent with this scenario can be expected in the five-county KIPDA MPO region. Analysis corroborated by independent forecasts finds less than a five percent chance of the slower growth shown in Scenario 4: Below Trend Regional Growth, and a 10 percent chance of an imbalanced growth scenario similar to Scenario 3: Growth Balance Favors Indiana.

Appendix B Travel Survey

Travel Study

Questionnaire # _____

Q.1 Thank you for agreeing to take part in this study. Your answers are completely confidential and used only for statistical purposes related to future transportation planning.

The survey takes about 15 minutes and explores transportation issues in Louisville and its surroundings.

Q.2 Please indicate your age.

[REQUIRE ANSWER]

- Under 18 1
- 18 -24 2
- 25-29 3
- 30-34 4
- 35-39 5
- 40-44 6
- 45-49 7
- 50-54 8
- 55-59 9
- 60-64 10
- 65-69 11
- 70-74 12
- 75+ 13

[SHOW: Map1.gif]

Q.3 The map below shows the city of Louisville and surrounding communities. Our questions are about trips that you have taken by private vehicle (car, van, SUV) using the I-65, US 31 or I-64 bridges highlighted below.

&IMG&

Please note you can enlarge any map in this study by hovering your mouse over the map.

[SHOW: Map1.gif]

Q.4 Please take a look at the map below and the three highlighted bridges.

When was the most recent time you personally drove across the Ohio River using any one of I-65, I-64 or US 31 bridges?

&IMG&

[REQUIRE ANSWER]

- I have never personally driven on I-65, I-64 or US 31 across Ohio River 1
- Today 2
- 1-2 days ago 3
- 3-4 days ago 4
- 5-6 days ago 5

1 week to less than 2 weeks ago	6
2 weeks to less than 3 weeks ago	7
3 weeks to less than 1 month ago	8
1 month to less than 2 months ago	9
2 months to less than 3 months ago	10
3 months to less than 6 months ago	11
6 months to less than 1 year ago	12
1 year ago or longer	13
I don't recall	14

[SHOW: Map1.gif]

Q.5 During the past 2 months, which of the following three bridges did you use the most?

&IMG&

[REQUIRE ANSWER]

I-65 Bridge	1
I-64 Bridge	2
US 31 Bridge	3
I did not use these bridges in the past month	4

[CALCULATE - TRIGGER: 1-3 EQ: 1 RQ: 58 FORMULA: 0]

[SHOW: Map1.gif]

Q.6 We will now ask you to think about your trips on the [ANSWER TO Q. 5].

During a typical week, approximately how many times do you personally drive across the Ohio River on the [ANSWER TO Q. 5] during the following time periods?

Be sure to count outbound and return trips separately. For example, a round trip where you used the [ANSWER TO Q. 5] both going and returning is considered 2 trips. Please do not consider vacation weeks.

&IMG&

Please enter a value for each time period. If no trips were taken for a specific time period, enter a 0 (zero) for that period.

Number of trips during a typical week on the [ANSWER TO Q. 5] across Ohio River:

[REQUIRE ANSWER] [ANSWERS MUST ADD TO MORE THAN OR EQUAL TO 1]

Monday - Friday between midnight and 6:00 am	_____
Monday - Friday from 6:00 am to 9:00 am	_____
Monday - Friday from 9:01 am to 3:29 pm	_____
Monday - Friday from 3:30 pm to 6:30 pm	_____
Monday - Friday between 6:30 pm and midnight	_____
Weekend - Anytime Saturday & Sunday	_____
Total	

[A - IF THE ANSWER TO QUESTION 10 IS 1-7, THEN SKIP TO QUESTION 12]

Q.11 PURPOSE

 to or from work	1
 to or from a place of education	2
 on business	3
 to go shopping	4
 for leisure purposes	5
 for personal business	6

Q.12 The following questions are about the outbound portion of your most recent trip[ANSWER TO Q. 11] driving on the [ANSWER TO Q. 5].

Where did you start your recent outbound trip on the [ANSWER TO Q. 5]? Please select the name of the city, town or area where you started your trip.

If you drove to and from a destination on the bridge (e.g. work, a friend's house, etc.), your drive to the destination is the outbound trip. Your drive back is the return trip.

Likewise, if you made several stops (e.g. running errands, etc.), then consider the drive away from your starting point to the furthest point on the other side of the Ohio River as the outbound trip and the drive back to the starting point as the return trip.

If you only used the [ANSWER TO Q. 11] once on your trip, please consider that trip for the following questions.

If you do not see the exact city, town or area, please select the name that is closest to where you started.

[REQUIRE ANSWER]

Austin, IN	1
Vienna, IN	38

Q.13 Which of the following best describes the point where your recent trip started?

[REQUIRE ANSWER]

A private home (house, apartment, condominium, etc.)	1
A place of work, business, or government office	2
A hotel or motel	3
A school, college, or university	4
A place of entertainment, sports, or worship	5
An airport	9
A bus station	10
Other	19

Q.14 At what time of day did you start your trip[ANSWER TO Q. 11] from [ANSWER TO Q. 12]?

[REQUIRE ANSWER]

Midnight - 12:59 AM 1
11:00 - 11:59 PM 24

Q.15 Did you have any flexibility over when you left to make this trip, or did you have to leave at a specific time?

[REQUIRE ANSWER]

Yes, I had flexibility over when I made this trip 1
No, I had to leave at a specific time 2

[A - IF THE ANSWER TO QUESTION 15 IS 2, THEN SKIP TO QUESTION 18]

Q.16 I could have left earlier by:

[REQUIRE ANSWER]

0 minutes 1
Up to 30 minutes 2
Up to 60 minutes 3
Up to 90 minutes 4
Up to 2 hours or more 5

Q.17 I could have left later by:

[REQUIRE ANSWER]

0 minutes 1
Up to 30 minutes 2
Up to 60 minutes 3
Up to 90 minutes 4
Up to 2 hours or more 5

Q.18 Where were you driving to?

If you made a trip that did not have one specific destination, e.g. running errands, please indicate the city or town you visited that was furthest point on the other side of the Ohio River from where you started your trip.

If you do not see the exact city, town or area, please select the name that is closest to where you ended your trip.

[REQUIRE ANSWER]

Austin, IN 1
Vienna, IN 38

Q.19 Which of the following best describes the point where this trip[ANSWER TO Q. 11] ended?

[REQUIRE ANSWER]

- A private home (house, apartment, condominium, etc.) 1
- A place of work, business, or government office 2
- A hotel or motel 3
- A school, college, or university 4
- A place of entertainment, sports, or worship 5
- A store (retail, grocery, dry cleaners, etc.) 6
- A restaurant or other dining 7
- A personal appointment (doctor, hair, etc.) 8
- An airport 9
- A bus station 10
- Other 19

Q.20 How easy or difficult would it have been to complete the same activity somewhere else so that it would not be necessary to cross the Ohio River?

[REQUIRE ANSWER]

- No problem at all 1
- Very easy 2
- Somewhat easy 3
- Somewhat difficult 4
- Very difficult 5
- Impossible 6

Q.21 Now, please tell us a few details about the route you used on that trip.

Did you make any stops along the way other than for gas?

Do not include any stops made at the gas station.

[REQUIRE ANSWER]

- No 1
- Yes, 1 stop 2
- Yes, 2 stops 3
- Yes, 3 or more stops 4

[A - IF THE ANSWER TO QUESTION 21 IS 1, THEN SKIP TO QUESTION 24]

Q.22 Approximately how many minutes did these stops add to the total trip time? If more than one stop, combine the time for all stops.

Please enter whole numbers only.

[REQUIRE ANSWER]

Minutes _____

Q.23 Did you choose the route you did because you had to make these stops?

[REQUIRE ANSWER]

Yes 1
No 2

Q.24 Approximately how many minutes did your recent outbound trip[ANSWER TO Q. 11] to [ANSWER TO Q. 18] take?

Include only the time in the car and don't include any time you spent at stops along the way. Please include any delays due to congestion that occurred. If you are not sure, please make your best estimate.

Please enter whole numbers only.

[REQUIRE ANSWER]

Minutes _____

Q.25 Including yourself and any children, how many people were in the car for your recent outbound trip?

[REQUIRE ANSWER]

I was alone 1
2 people 2
3 people 3
4 people 4
5 people 5
6 people 6
7 or more people 7

[SHOW: Map1.gif]

Q.26 Thinking about the same recent outbound trip, how long do you think your trip would have taken using the following alternate bridges?

Include only the time in the car and don't include any time you would have spent at stops along the way. Please include any delays you think you would have encountered due to congestion. If you are not sure, please make your best estimate.

Please answer in minutes and enter whole numbers only.

&IMG&

[REQUIRE ANSWER] [READ ONLY ANSWERS NOT PICKED IN QUESTION 5]

I-65 Bridge _____
I-64 Bridge _____
US 31 Bridge _____

Q.27 Again, thinking about your most recent trip [ANSWER TO Q. 11] using the [ANSWER TO Q. 5], did you also make a return trip using the [ANSWER TO Q. 5] from [ANSWER TO Q. 18] back to [ANSWER TO Q. 12]?

[REQUIRE ANSWER]

- Yes, I returned using the same bridge 1
- No, I returned using a different bridge 2
- No, I didn't make a return trip 3

[A - IF THE ANSWER TO QUESTION 27 IS 1, THEN SKIP TO QUESTION 29]

[A - IF THE ANSWER TO QUESTION 27 IS 3, THEN SKIP TO QUESTION 32]

Q.28 You said you made a return trip back to [ANSWER TO Q. 12] but without using the [ANSWER TO Q. 5]. Why was this?

[REQUIRE ANSWER]

- To avoid congestion by using an alternate route 1
- Given the stops I made, it was more convenient to return using a different route 2
- For another reason 3

Q.29 Compared to your outbound trip, would you say that the drive back to [ANSWER TO Q. 12] was...

[REQUIRE ANSWER]

- Significantly longer 1
- Somewhat longer 2
- About the same time 3
- Somewhat shorter 4
- Significantly shorter 5

Q.30 At what time of day did you start your return trip back to [ANSWER TO Q. 12]?

[REQUIRE ANSWER]

- Midnight - 12:59 AM 1
- 11:00 - 11:59 PM 24

Q.31 Approximately how many minutes did your recent return trip take? Please include any delays due to congestion that occurred.

Include only the time in the car and don't include any time you spent at stops along the way to do something. Please include any delays due to congestion that occurred. If you are not sure, please make your best estimate.

Please enter whole numbers only.

[REQUIRE ANSWER]

Minutes _____

Q.32 Which of the following costs, other than fuel costs, did you incur on your most recent outbound and return (if there was one) trips?

Select all that apply.

[REQUIRE ANSWER]

- I had no costs other than fuel 1
- Parking 2
- Toll charges 3
- Other costs 4

[EXCLUSIVE ANSWER: "I had no costs other than fuel"]

Q.33 Approximately how much did the entire trip cost, including both the trip out and the trip back (if there was one)?

Include all costs you incurred such as fuel, parking, tolls, etc. If you are unsure, please estimate.

Please type your response in whole dollar amount. For example twenty dollars would be entered as 20.

[REQUIRE ANSWER]

Total cost in dollars - \$ _____

Q.34 For this recent trip, who was responsible for paying your driving costs (i.e. tolls, fuel, parking, etc.)?

Select all that apply.

[REQUIRE ANSWER]

- I pay all of the costs 1
- I share the cost with others in the car 2
- I share the cost with others in my household 3
- I share the cost with my employer 4
- Someone else in the car pays all of the costs 5
- Someone else not in the car pays all of the costs 6
- Someone in my household pays all of the costs 7
- My employer pays all of the costs 8
- Other 9

[EXCLUSIVE ANSWER: "I pay all of the costs"]

[EXCLUSIVE ANSWER: "Someone else in the car pays all of the costs"]

[EXCLUSIVE ANSWER: "Someone else not in the car pays all of the costs"]

[EXCLUSIVE ANSWER: "Someone in my household pays all of the costs"]

[EXCLUSIVE ANSWER: "My employer pays all of the costs"]

Q.35 Suppose gas price were to increase to \$4.50 per gallon. Are you more likely to use...

[REQUIRE ANSWER]

- A route with local roads including traffic signals that is shorter in distance but takes more time 1
- A route with freeways that is longer in distance but takes less time 2

[CALCULATE - TRIGGER: N99 EQ: 35 RQ: 36 FORMULA: E]

[A - IF THE ANSWER TO QUESTION 35 IS NOT 99, THEN SKIP TO QUESTION 37]

Q.36 FREEALTERNATIVE

- A free route with local roads including traffic signals 1
- A freeway with access ramps 2

Q.37 Suppose that you have to drive 60 minutes on a freeway to make your trip[ANSWER TO Q. 11].

If a new expressway were now available, but requires you to pay a toll of \$2.00 for each trip, by how many minutes must the new expressway be faster than the freeway for you to use it?

[REQUIRE ANSWER]

Minutes faster _____

Q.38 Now think again about your recent outbound trip on the [ANSWER TO Q. 5].

Suppose that you will now be required to pay a toll to use this bridge. How much would the toll need to be for you to deem to too expensive to consider using this bridge?

[REQUIRE ANSWER]

Toll - per trip _____

Q.39 The Kentucky Transportation Cabinet (KYTC) is considering massive improvements to the transportation infrastructure in the Louisville metropolitan area.

These include the construction of a new bridge across the Ohio River. The additional capacity will help reduce congestion and make travel times more reliable. It will also improve access to Louisville, KY.

To help pay for the improvements, the new bridges will be tolled. You will be able to pay the toll using electronic pass, reducing delays caused by drivers paying with cash.

You will now be shown 9 descriptions of two alternative routes for your trip across the Ohio River. One is [ANSWER TO Q. 11]. The other is a route with a faster tolled road.

Consider that you are making your typical trip&& as you have described to us, and only these two alternatives are available.

All other aspects of your regular trip should remain the same, such as the time of day that you travel, who you travel with and any other constraints you may have.

Please assume that any other free alternative routes are either unavailable or have same or worse congestion as the two route options.

[D - IF THE ANSWER TO QUESTION 36 IS 2, THEN SKIP TO QUESTION 49]

Q.40 Please select the most appealing option

[REQUIRE ANSWER]

A new tolled bridge with access ramps designed to ensure no congestion {tolled.jpg} Expected time: 5 minutes less than a typical trip Cost: \$3.50	&& {Local_Medium.jpg} Expected time: 5 minutes more than a typical trip Cost: Free
2	1

[CALCULATE - TRIGGER: 2 EQ: 58 RQ: 58 FORMULA: E+1]

[ASK QUESTIONS 41 TO 48 IN RANDOM ORDER]

Q.41 Please select the most appealing option

[REQUIRE ANSWER]

A new tolled bridge with access ramps designed to ensure no congestion {tolled.jpg} Expected time: 5 minutes less than a typical trip Cost: \$0.50	&& {local_heavy.jpg} Expected time: 10 minutes more than a typical trip Cost: Free
2	1

[CALCULATE - TRIGGER: 2 EQ: 58 RQ: 58 FORMULA: E+1]

Q.42 Please select the most appealing option

[REQUIRE ANSWER]

&& {local_heavy.jpg} Expected time: 10 minutes more than a typical trip Cost: Free	A new tolled bridge with access ramps designed to ensure no congestion {tolled.jpg} Expected time: 5 minutes less than a typical trip Cost: \$1.00
1	2

[CALCULATE - TRIGGER: 2 EQ: 58 RQ: 58 FORMULA: E+1]

Q.43 Please select the most appealing option
 [REQUIRE ANSWER]

A new tolled bridge with access ramps designed to ensure no congestion {tolled.jpg} Expected time: 5 minutes less than a typical trip Cost: \$2.00 2	&& {Local_heavy.jpg} Expected time: 10 minutes more than a typical trip Cost: Free 1
----------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------

[CALCULATE - TRIGGER: 2 EQ: 58 RQ: 58 FORMULA: E+1]

Q.44 Please select the most appealing option
 [REQUIRE ANSWER]

&& {Local_heavy.jpg} Expected time: 10 minutes more than a typical trip Cost: Free 1	A new tolled bridge with access ramps designed to ensure no congestion {tolled.jpg} Expected time: 5 minutes less than a typical trip Cost: \$2.50 2
------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------

[CALCULATE - TRIGGER: 2 EQ: 58 RQ: 58 FORMULA: E+1]

Q.45 Please select the most appealing option
 [REQUIRE ANSWER]

A new tolled bridge with access ramps designed to ensure no congestion {tolled.jpg} Expected time: 5 minutes less than a typical trip Cost: \$3.50 2	&& {Local_heavy.jpg} Expected time: 10 minutes more than a typical trip Cost: Free 1
----------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------

[CALCULATE - TRIGGER: 2 EQ: 58 RQ: 58 FORMULA: E+1]

Q.46 Please select the most appealing option
 [REQUIRE ANSWER]

&& {Local_Medium.jpg} Expected time: 5 minutes more than a typical trip Cost: Free 1	A new tolled bridge with access ramps designed to ensure no congestion {tolled.jpg} Expected time: 5 minutes less than a typical trip Cost: \$1.00 2
------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------

[CALCULATE - TRIGGER: 2 EQ: 58 RQ: 58 FORMULA: E+1]

Q.47 Please select the most appealing option
 [REQUIRE ANSWER]

A new tolled bridge with access ramps designed to ensure no congestion {tolled.jpg} Expected time: 5 minutes less than a typical trip Cost: \$2.00 2	&& {Local_medium.jpg} Expected time: 5 minutes more than a typical trip Cost: Free 1
----------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------

[CALCULATE - TRIGGER: 2 EQ: 58 RQ: 58 FORMULA: E+1]

Q.48 Please select the most appealing option
 [REQUIRE ANSWER]

&& {Local_medium.jpg} Expected time: 5 minutes more than a typical trip Cost: Free 1	A new tolled bridge with access ramps designed to ensure no congestion {Tolled.jpg} Expected time: 5 minutes less than a typical trip Cost: \$3.00 2
------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------

[CALCULATE - TRIGGER: 2 EQ: 58 RQ: 58 FORMULA: E+1]
 [A - IF THE ANSWER TO QUESTION 48 IS 1-2, THEN SKIP TO QUESTION 59]

Q.49 Please select the most appealing option
 [REQUIRE ANSWER]

A new tolled bridge with access ramps designed to ensure no congestion {tolled.jpg} Expected time: 5 minutes less than a typical trip Cost: \$3.50 2	&& {Freeway_medium.jpg} Expected time: 5 minutes more than a typical trip Cost: Free 1
----------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------

[CALCULATE - TRIGGER: 2 EQ: 58 RQ: 58 FORMULA: E+1]
 [ASK QUESTIONS 50 TO 57 IN RANDOM ORDER]

Q.50 Please select the most appealing option
 [REQUIRE ANSWER]

A new tolled bridge with access ramps designed to ensure no congestion {tolled.jpg} Expected time: 5 minutes less than a typical trip Cost: \$0.50 2	&& {Freeway_heavy.jpg} Expected time: 10 minutes more than a typical trip Cost: Free 1
----------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------

[CALCULATE - TRIGGER: 2 EQ: 58 RQ: 58 FORMULA: E+1]

Q.51 Please select the most appealing option

[REQUIRE ANSWER]

&& {Freeway_heavy.jpg} Expected time: 10 minutes more than a typical trip Cost: Free 1	A new tolled bridge with access ramps designed to ensure no congestion {tolled.jpg} Expected time: 5 minutes less than a typical trip Cost: \$1.00 2
--------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------

[CALCULATE - TRIGGER: 2 EQ: 58 RQ: 58 FORMULA: E+1]

Q.52 Please select the most appealing option

[REQUIRE ANSWER]

A new tolled bridge with access ramps designed to ensure no congestion {tolled.jpg} Expected time: 5 minutes less than a typical trip Cost: \$2.00 2	&& {Freeway_heavy.jpg} Expected time: 10 minutes more than a typical trip Cost: Free 1
----------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------

[CALCULATE - TRIGGER: 2 EQ: 58 RQ: 58 FORMULA: E+1]

Q.53 Please select the most appealing option

[REQUIRE ANSWER]

&& {Freeway_heavy.jpg} Expected time: 10 minutes more than a typical trip Cost: Free 1	A new tolled bridge with access ramps designed to ensure no congestion {tolled.jpg} Expected time: 5 minutes less than a typical trip Cost: \$2.50 2
--------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------

[CALCULATE - TRIGGER: 2 EQ: 58 RQ: 58 FORMULA: E+1]

Q.54 Please select the most appealing option

[REQUIRE ANSWER]

A new tolled bridge with access ramps designed to ensure no congestion {tolled.jpg} Expected time: 5 minutes less than a typical trip Cost: \$3.50 2	&& {Freeway_heavy.jpg} Expected time: 10 minutes more than a typical trip Cost: Free 1
----------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------

[CALCULATE - TRIGGER: 2 EQ: 58 RQ: 58 FORMULA: E+1]

Q.55 Please select the most appealing option

[REQUIRE ANSWER]

&& {Freeway_Medium.jpg} Expected time: 5 minutes more than a typical trip Cost: Free 1	A new tolled bridge with access ramps designed to ensure no congestion {tolled.jpg} Expected time: 5 minutes less than a typical trip Cost: \$1.00 2
--------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------

[CALCULATE - TRIGGER: 2 EQ: 58 RQ: 58 FORMULA: E+1]

Q.56 Please select the most appealing option

[REQUIRE ANSWER]

A new tolled bridge with access ramps designed to ensure no congestion {tolled.jpg} Expected time: 5 minutes less than a typical trip Cost: \$2.00 2	&& {Freeway_medium.jpg} Expected time: 5 minutes more than a typical trip Cost: Free 1
----------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------

[CALCULATE - TRIGGER: 2 EQ: 58 RQ: 58 FORMULA: E+1]

Q.57 Please select the most appealing option

[REQUIRE ANSWER]

&& {Freeway_medium.jpg} Expected time: 5 minutes more than a typical trip Cost: Free 1	A new tolled bridge with access ramps designed to ensure no congestion {Tolled.jpg} Expected time: 5 minutes less than a typical trip Cost: \$3.00 2
--------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------

[CALCULATE - TRIGGER: 2 EQ: 58 RQ: 58 FORMULA: E+1]

[A - IF THE ANSWER TO QUESTION 48 IS NOT 99, THEN SKIP TO QUESTION 59]

Q.58 Free or Toll

Toll __

[A - IF THE ANSWER TO QUESTION 58 IS NOT 0, THEN SKIP TO QUESTION 61]

Q.59 Please rate some possible reasons why you never selected a tolled option in the previous section.

[REQUIRE ANSWER] [READ ANSWERS IN RANDOM ORDER]

	Completely Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Completely Disagree
The time savings were not worth paying for, so I used the free roads	5	4	3	2	1
I don't want to pay	5	4	3	2	1
I don't mind driving in congested traffic	5	4	3	2	1
I find using toll roads inconvenient	5	4	3	2	1

Q.60 What other reasons do you have for never selecting a tolled option?

[A - IF THE ANSWER TO QUESTION 58 IS 0, THEN SKIP TO QUESTION 63]

Q.61 Please rate some possible reasons why you selected the tolled alternative one or more times in the previous section.

[REQUIRE ANSWER] [READ ANSWERS IN RANDOM ORDER]

	Completely Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Completely Disagree
Travel time savings	5	4	3	2	1
More reliable than the free roads	5	4	3	2	1
I don't like to drive in congested traffic	5	4	3	2	1
I like driving fast	5	4	3	2	1
I think the tolled roads would be safer	5	4	3	2	1
I would have a more comfortable journey in the tolled roads	5	4	3	2	1

Q.62 What other reasons do you have for selecting a tolled option?

[SHOW: Map2.gif]

Q.63 The map below shows two new and improved bridges proposed to be constructed in the Louisville metropolitan area.

&IMG&

These include

- I-65 Bridge – construction of a new Ohio River Bridge located adjacent to and east of the existing I-65 Kennedy Bridge including approaches and interchanges, providing six northbound I-65 lanes. The existing John F. Kennedy Bridge will be converted to carry southbound I-65 traffic only.

- East End Bridge – a new four-lane Ohio River Bridge with a pedestrian walkway/bikeway that connects the East End Kentucky Approach section with the East End Indiana Approach section.

The additional capacity will help reduce congestion and make travel times more reliable. It will also improve access to Louisville, KY.

To help pay for the improvements, a toll will be charged to use the new East End Bridge and the improved I-65 Bridge.

Q.64 What do you think of this proposal and specifically what do you think about the idea of paying for using the improved I-65 Bridge and the new East End Bridge (assuming a reasonable toll)?

[REQUIRE ANSWER]

- I am strongly against it 1
- I am somewhat against it 2
- I am neutral 3
- I somewhat support it 4
- I strongly support it 5

[SHOW: Map2.gif]

Q.65 Do you think you will personally use the new improved I-65 Bridge assuming that for a reasonable toll it provides reliable and congestion-free travel time?
&IMG&

[REQUIRE ANSWER]

- I will most certainly not use it 1
- I doubt I will use it 2
- I am not sure 3
- I probably will use it 4
- I will most certainly use it 5

[SHOW: Map2.gif]

Q.66 Do you think you will personally use the new East End Bridge assuming that for a reasonable toll it provides reliable and congestion-free travel time?
&IMG&

[REQUIRE ANSWER]

- I will most certainly not use it 1
- I doubt I will use it 2
- I am not sure 3
- I probably will use it 4
- I will most certainly use it 5

Q.67 Two methods are being considered to collect the tolls; neither method requires that drivers slow down or stop, they are both automatic. These are:

1. Electronic Toll Collection (ETC): Drivers will not have to stop or slow down to pay the toll. E-Z Pass is an example currently widely used in Virginia. An electronic card or "transponder" is mounted on the inside of your windshield. Tolls would be automatically deducted from a prepaid account.

2. Video toll collection: A system of video cameras would be installed to read the license plates of all vehicles using the system. Toll bills for vehicles without ETC would be sent monthly to the vehicle's registered owner.

Assume the video toll collection would cost \$1.00 more per trip than the Electronic Toll Collection (ETC) method.

Which of these two methods would you prefer to use?

[REQUIRE ANSWER]

The Electronic Toll Collection (ETC) system 1
The video toll collection 2

Q.68 Now suppose paying using the video toll collection costs \$2.00 more per trip than paying with an electronic transponder.

Which method would you prefer to use?

[REQUIRE ANSWER]

The Electronic Toll Collection (ETC) 1
The video toll collection 2

Q.69 Suppose the toll to use the new bridges is \$2.00 per trip.

However, you could obtain a discount by purchasing a monthly pass and paying in advance for a full month.

Suppose the discounted toll is \$1.00 per trip.

[REQUIRE ANSWER]

I would definitely buy the monthly pass to get the discount 1
I'm not sure whether or not I would buy the monthly pass 2
I would definitely pay the full toll and will not buy the monthly pass 3

[A - IF THE ANSWER TO QUESTION 69 IS 1, THEN SKIP TO QUESTION 71]

Q.70 You said you are not sure you would buy the monthly pass.

Which of the following best describes the reason for your choice?

[REQUIRE ANSWER]

I don't expect to drive frequently enough on the bridges to
make use of the discounts 1
The discount is too small to make a monthly commitment 2
I'm not sure whether the discount will be worth the
commitment 3
Other 4

Q.71 We would now like to ask some questions about your general attitudes towards driving.

Which of the following costs, other than fuel costs, do you incur each month?
 [REQUIRE ANSWER]

- I had no costs other than fuel 1
- Parking 2
- Toll charges 3
- Other costs 4

[EXCLUSIVE ANSWER: "I had no costs other than fuel"]

Q.72 How much does it cost you personally to operate your car each month?

Think about how much you spend on gas, tolls and parking. Do not include your monthly car payment, maintenance or insurance. If you are unsure, please estimate.

Please type your response in whole dollar amount. For example twenty dollars would be entered as 20.

[REQUIRE ANSWER]

Total monthly cost in dollars - \$

Q.73 Please tell us how you feel about each of the statements below.

[REQUIRE ANSWER] [READ ANSWERS IN RANDOM ORDER]

	Completely Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Completely Disagree
I have reduced the trips I make as a result of the recession	5	4	3	2	1
Since the fuel price increases I use my car less	5	4	3	2	1
It is not fair to charge for using roads in Louisville	5	4	3	2	1
The [ANSWER TO Q. 5] is essential for many of the trips I make around Louisville	5	4	3	2	1

Q.74 What, if any, key improvements would you like to see to the road network in Louisville?

Q.75 How many people live in your household?

[REQUIRE ANSWER]

- 1- I live alone 1
- 2 people 2
- 3 people 3
- 4 people 4
- 5 people 5
- 6 or more people 6

[A - IF THE ANSWER TO QUESTION 75 IS 1, THEN SKIP TO QUESTION 77]

Q.76 How many children younger than 18 live in your household?

[REQUIRE ANSWER]

- There are no children in my household 1
- 1 child 2
- 2 children 3
- 3 children 4
- 4 children 5
- 5 children 6
- 6 or more children 7

Q.77 How many vehicles (cars, vans, trucks, SUVs, etc.) does your household have regular use of?

[REQUIRE ANSWER]

- 1 vehicle 1
- 2 vehicles 2
- 3 vehicles 3
- 4 vehicles 4
- 5 vehicles 5
- 6 vehicles or more 6

Q.78 Which of the following best describes your employment status?

[REQUIRE ANSWER]

- Working full time (30+ hours a week) 1
- Working part time (<30h per week) 2
- Self-employed 3
- Seeking employment 4
- Retired 5
- Homemaker 6
- Student 7
- Not working 8
- Other (Please Specify) 9

[OTHER, SPECIFY - CHOICE OR SUB-QUEST. 9]

Q.79

[REQUIRE ANSWER]



Q.80 Which of the following best represents your total household income before taxes?

[REQUIRE ANSWER]

- Less than \$25,000 1
- \$25,000 to \$34,999 2
- \$35,000 to \$49,999 3
- \$50,000 to \$74,999 4
- \$75,000 to \$99,999 5
- \$100,000 to \$149,999 6
- \$150,000 to \$199,999 7
- \$200,000 or more 8

Q.81 What is your gender?

[REQUIRE ANSWER]

- Male 1
- Female 2

Q.82 Date

Q.83 Time

Q.84 Duration

Appendix C Atkins Toll Leakage Memo

MEMORANDUM

To: David Cuneo, **Steer Davies Gleave**, 883 Boyston Street, 3rd Floor, Boston, MA 02116, 617.391.2300

From: Tom Delaney, Vice President, Senior Practice Manager, **Atkins North America, Inc.**
482 South Keller Road, Orlando, FL 32810, 407.647.7572

Date: May 10, 2013

Re: Toll Collection System CAPEX, OPEX and Revenue Impact Analysis

As requested by the Kentucky Transportation Cabinet we have prepared input for the Traffic and Revenue Study being developed by Steer Davies Gleave (SDG). The purpose of this memorandum is to provide information regarding the estimated capital costs (CAPEX) for the development, installation, and maintenance for the LSIORB Project toll collection system. This memorandum also provides an estimate of operations and maintenance costs (OPEX) for the toll collection system once toll collection operations commence. An additional feature of this memorandum is an analysis of the impact on revenue (revenue leakage) resulting from the inability to collect tolls due to technical anomalies or failure to collect on toll invoices and violation notices issued to the public.

In arriving at the CAPEX and OPEX estimates Atkins used best information available and its extensive experience with toll collection system implementation and operations to determine reasonable estimated costs projections. Where there was not a set policy or standard to use due to no final set of LSIORB rules and regulations regarding violation enforcement, or general operating policies or business rule toll industry norms that have been applied. All assumptions used in the calculation of the OPEX and revenue leakage are identified and listed within this document.

Toll Collection System Cost Estimate - CAPEX

Toll collection will be accomplished through a competitively selected toll operations services contractor operating under the management and oversight of the Indiana and Kentucky staff. An RFP to deploy All Electronic Tolling (no cash) will be issued requesting technical and price proposals from proposers interested in providing design, integration, implementation, operation, and maintenance for the tolling components listed below:

Tolling Component One - Roadside and Back Office Component (RBOC)

Tolling Component Two - Electronic Toll Collection Component (ETC)

Tolling Component Three - Operations Services Component (OPS)

As an all-electronic toll (AET) System, tolls will only be collected using electronic toll collection (ETC) via radio frequency transponders or through video toll collection (VTC) using license plate information. It is anticipated that motorists equipped with transponders will pay a discounted toll compared to video toll

customers due to transaction processing cost differentials. Transponders and license plates will be detected at all Toll Zones with the processing of all toll transactions to occur at a back office Customer Service Center.

The LSIORB Project toll collection system for the three bridges will consist of four mainline and two ramp Toll Zones. The new East End Bridge will have two mainline sets of toll zone gantries spanning two travel lanes and two shoulders in each north and south direction on the Kentucky side of the Ohio River. The reconstructed Kennedy Bridge carrying southbound traffic will have one mainline set of toll zone gantries spanning five travel lanes and two shoulders and one ramp set of toll gantries spanning one travel lane and two shoulders. The Downtown Crossing Bridge, located east and parallel to the Kennedy Bridge, will carry northbound traffic with one mainline set of toll zone gantries spanning six travel lanes and two shoulders and one set of ramp toll zone gantries spanning two travel lanes and two shoulders. All toll zone gantries for the Downtown Crossing Bridges will be on the Indiana side of the Ohio River. Figures 1 and 2 depict the relative location of the toll zone gantries for the bridges.

Subject to the final design location of the mainline toll zone gantries, some travel lanes and shoulders for the Downtown Crossing Bridge and the Kennedy Bridge will be required to accommodate reversible tolling due to potential or probable traffic shifts during the rehabilitation of the Kennedy Bridge. This requirement is dictated by bi-directional traffic on each bridge during various stages of construction and reconstruction of the bridges. In addition, the provision of reversible lanes will allow bi-directional tolling on both Downtown Crossing Bridges should either bridge face reduced or no capacity due to bridge lane closures. Proposals and bids for the RBOC are required to address the reversible tolling requirement.

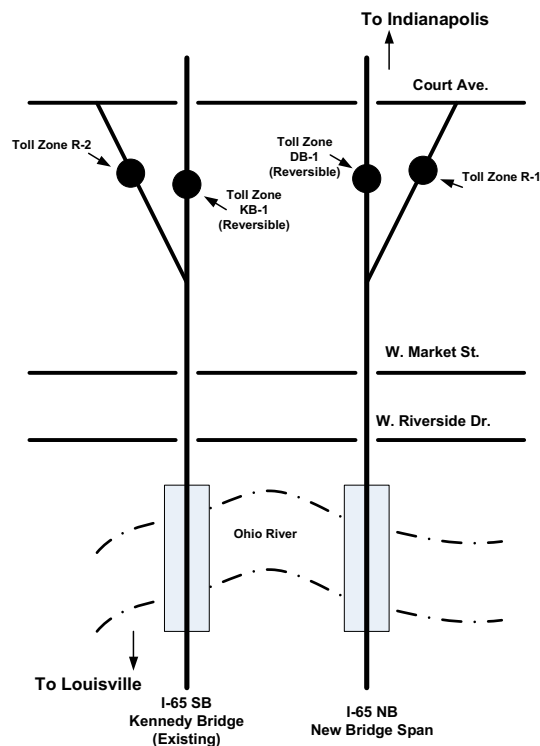


Figure 1 - Downtown and Kennedy Bridges

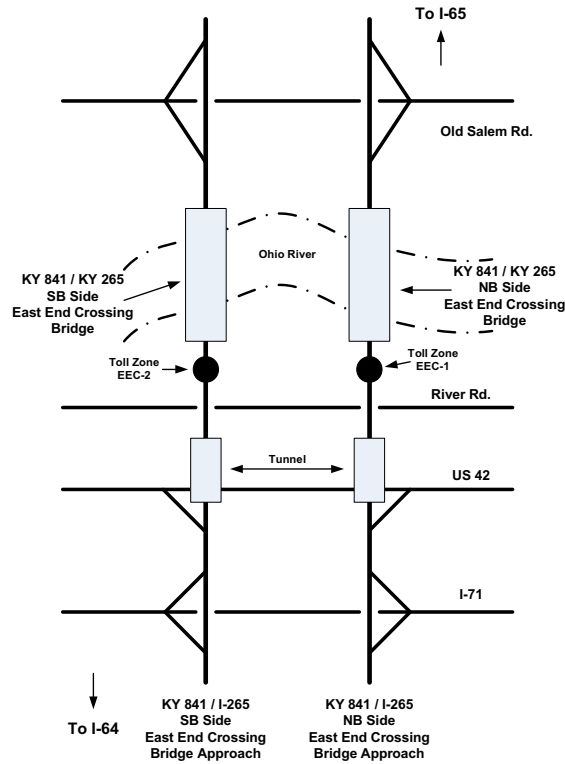


Figure 2 - East End Bridge

In total, under the current concept, the toll collection system for the LSIORB Project will consist of 19 travel lanes of which 6 shall be reversible and 11 shoulders of which 2 shall be reversible for a total of 38 effective toll lanes. Table 1 lists the effective toll lanes by each bridge’s toll zone. All effective toll lanes shall include ETC readers and antennae, automatic vehicle classification (AVC), video cameras, vehicle separators and any other components that will ensure full toll transaction coverage of the roadside toll zones.

Effective Toll Lane Summary						
Toll Zone Number	Toll Zone Locations	Left Shoulder	Travel Lanes	Travel Lanes Width	Right Shoulder	Effective Toll Lanes
R-1	Ramp 1 - I-65 NB to Court Avenue	4 ft	3	12 ft	12 ft	4
DB-1	Downtown Bridge - I-65 Northbound	12 ft	6	12 ft	12 ft	8
KB-1	Kennedy Bridge - I-65 Southbound	12 ft	5	12 ft	12 ft	7
R-2	Ramp 2 - Court Avenue to I-65 SB	6 ft	1	16ft	12 ft	3
EEC-1	East End Crossing - Northbound	10 ft	2	12 ft	14 ft	4
EEC-2	East End Crossing Southbound	14 ft	2	12 ft	10 ft	4
TOTALS		5	19		6	30
Reversible Lanes						
DB-1R	Downtown Bridge - I-65 Southbound Reversible during Phased Reconstruction on Kennedy Bridge		3	12 ft	12ft	4
KB-1R	Kennedy Bridge - I-65 Northbound Reversible during Construction of Downtown Bridge	12 ft	3	12 ft		4
TOTALS - Reversible		1	6		1	8
3/11/2013						

Table 1 – Toll Lane Summary

The toll collection system cost estimate consists of three parts. Part one is the cost estimate for the roadside toll collection system and the back office system, including initial orders of transponders and spare parts. Part two is the cost estimate for the provision of the toll zone vaults (buildings) located at East End Bridge and the Downtown Crossing Bridges. Part three is the cost estimate for operations center, Customer Service Center and a small Walk-in Service Center start-up prior to the go-live revenue collection on the East End Bridge or January 2017, whichever comes first.

Due to the fact that the toll system is currently under the request for proposal process for the solicitation of bids no details or assumptions as to how the overall cost estimate was derived are provided in this document. A detailed engineer’s estimate will be provided to the Kentucky Transportation Cabinet prior to the submission deadline for the toll system contractor proposals. The current estimate for the combined three parts described above is approximately thirty-six million dollars (\$36,000,000).

Traffic & Revenue OPEX and Revenue Impact Analysis

Revenue leakage is defined, for the purposes of this memorandum, as the revenue differential between estimated gross revenue under the Traffic and Revenue Study and estimated net revenue after

accounting for reductions due to system leakage, commercial or non-system leakage and non-payment leakage. A more detailed explanation of these leakage components follows:

1. **System leakage:** Results from technical issues with the system such as bad images, no tag reads, no images, etc. This leakage is internal to the agency over which the agency has control via improved processes, system performance and technology.
2. **Commercial or non-system leakage:** results from unsuccessful DMV lookups, returned mail (nixies), etc. This leakage is external to the agency over which the agency has no control as it relies on other systems or organizations to obtain valid customer/vehicle information.
3. **Non-payment leakage:** results from customers that opt for not making payment on invoices, notices, or by not replenishing pre-paid accounts. The agency has some control over this leakage type via business rules (e.g., encouraging video customers to establish tag-based accounts) and proper enforcement.

A detailed analysis was performed to determine the leakage percentage for the period of operation (2017-2058). Projected leakage values decline through the years due to factors such as increased ETC penetration, enforcement of non-payment of tolls, and improved technology.

Table 2 lists the estimated gross revenue, the percentage of estimated leakage and the estimated net revenue for the LSIORB Project.

LSIORB NET REVENUE FORECASTS			
Fiscal Year	All Vehicles Gross Revenue		Leakage Rate All Vehciles Net Revenue
2017	\$36.4		7.03% \$33.8
2018	\$83.4		4.96% \$79.3
2019	\$102.9		4.65% \$98.2
2020	\$115.2		4.31% \$110.2
2021	\$122.1		3.99% \$117.2
2022	\$127.3		3.74% \$122.5
2023	\$130.7		3.48% \$126.2
2024	\$134.5		3.27% \$130.1
2025	\$138.5		3.08% \$134.3
2026	\$142.8		2.89% \$138.7
2027	\$147.4		2.71% \$143.4
2028	\$152.2		2.61% \$148.2
2029	\$157.3		2.52% \$153.3
2030	\$162.6		2.42% \$158.7
2031	\$169.0		2.38% \$165.0
2032	\$176.3		2.38% \$172.1
2033	\$183.7		2.38% \$179.4
2034	\$191.5		2.38% \$187.0
2035	\$199.7		2.38% \$194.9
2036	\$207.7		2.38% \$202.8
2037	\$215.6		2.38% \$210.5
2038	\$223.8		2.38% \$218.5
2039	\$232.4		2.38% \$226.8
2040	\$241.2		2.38% \$235.5
2041	\$249.9		2.38% \$243.9
2042	\$258.3		2.38% \$252.2
2043	\$267.0		2.38% \$260.7
2044	\$276.0		2.38% \$269.5
2045	\$285.4		2.38% \$278.6
2046	\$295.0		2.38% \$288.0
2047	\$304.9		2.38% \$297.7
2048	\$315.2		2.38% \$307.7
2049	\$325.9		2.38% \$318.1
2050	\$336.9		2.38% \$328.9
2051	\$348.2		2.38% \$340.0
2052	\$360.0		2.38% \$351.4
2053	\$372.2		2.38% \$363.3
2054	\$384.7		2.38% \$375.6
2055	\$397.7		2.38% \$388.2
2056	\$411.1		2.38% \$401.4
2057	\$425.0		2.38% \$414.9
2058	\$439.4		2.38% \$428.9
Revenue x 100,000			

Table 2 – Net Revenue

Tolling OPEX Analysis – List of Assumptions

Tolling OPEX Analysis – List of Assumptions

Table 3 provides the listing of assumptions used in developing the OPEX estimates under the 70% transponder penetration rate scenario.

Ref#	Input	Description	Value in use
1.	Initial ETC penetration	Estimated initial ETC penetration for the first year of AET operations, provided by SDG.	67%
2.	Percent increase in ETC	Annual increase in ETC penetration under AET operations expressed as percentage of the previous year's value	1%
3.	Maximum ETC penetration at the end of the 10-year period	Maximum estimated ETC penetration expressed as overall percentage	79%
4.	High OCR/Auto %	Rate of video transactions with successful automatic OCR license plate identification expressed as a percentage of total video transactions. Value is based on experience with other AET facilities.	70%
5.	Human Review %	Rate of video transactions reviewed manually, expressed as a percentage of total video transactions.	30%
6.	Cost per image reviewed manually	Cost to manually review an image	\$0.10 per image
7.	Unusable images %	Rate of image rejected through the manual review process expressed as percent of total video transactions. These images are not usable due to various reasons (e.g., not license plate present, blurry image, no image, etc.). This constitutes technical or system leakage.	4% (or 13% of human reviewed images)
8.	I-Toll	Percent of video transactions converted to ETC because the license plate number is associated with a valid ETC account.	10%
9.	Unregistered video accounts (UVA)	Percent of total video transactions processed as UVA transactions, expressed as a percentage of total video transactions. Value is based on analysis made by others (Parsons) after adjustments for I-Toll and Unusable images.	Initial year 54%, decreasing to 32%
10.	Registered video accounts (RVA)	Percent of total video transactions processed as RVA transactions, expressed as a percentage of total video transactions. Value is based on analysis made by others (Parsons) after adjustments for I-Toll and Unusable images.	Initial year 33%, increasing to 55%
11.	In-state % lookup	Percentage of video transactions from in-state vehicles, expressed as a percentage of total video transactions sent for in-state DMV lookup.	80%
12.	Out-of-state % lookup	Percentage of video transactions from out-of-state vehicles, expressed as a percentage of total video	20%

Ref#	Input	Description	Value in use
		transactions sent for out-of-state DMV lookup.	
13.	In-state lookup cost	Assumption is that in-state DMV lookups will bear no cost to the agencies.	\$0
14.	Out-of-state lookup cost	Fee charged by out-of-state DMV for vehicle registrant information. Fee is charged per lookup request. This is a blended estimated rate used to assign a value that the agencies may be charged for out of state owner registration information. <i>Note: One lookup request is assumed per invoice (i.e. monthly transactions are aggregated and a single lookup fee is incurred for that month's invoice). Assume most conservative scenario where DMV lookup information cannot be reused for a subsequent month's invoice.</i>	\$1.00 per invoice
15.	No. of transactions 1 st invoice	Average number of transactions included in the first invoice. This number is estimated based on data from other agencies sending video invoices.	5 transactions per 1 st invoice
16.	No. of transactions 2 nd invoice	Average number of transactions included in the second invoice. This number is estimated based on data from other agencies sending video invoices.	10 transactions per 2 nd invoice
17.	ETC auto-pay %	Percent of ETC transactions that are automatically paid from valid pre-paid accounts, expressed as a percentage of ETC and I-Toll transactions. The difference between the total ETC and I-Toll transactions and those that are paid via pre-paid balances will go through the invoice process.	99%
18.	ETC – 1 st invoice paid	Assumption is that those ETC accounts that are not in good standing or are invalid where payment is not automatically processed will be processed as video invoices. This is expressed as the percent of invoices sent to ETC customers that are paid.	50%
19.	ETC – 2 nd invoice paid	(See previous comment) Percent of 2 nd invoices sent to ETC customers that are paid.	40%
20.	ETC – Violation notices to Collections paid	Percent of ETC violation notices sent to Collections that are paid, expressed as a percent of all ETC violation notices sent to Collections. <i>Note: it should be noted that Leakage is a resulting number in the analysis, that is, it is not an input. Leakage is based on percent collections, unusable images, non-payment, etc. This comment applies throughout this list of assumptions.</i>	15%
21.	RVA auto-pay %	Percent of RVA transactions that are automatically paid from registered video accounts, expressed as a percentage of total RVA transactions. The difference between the total RVA transactions and those that are paid via the auto-pay process will go through the invoice process.	95%
22.	RVA – 1 st invoice paid	Percent of RVA invoices that are paid with the 1 st invoice, expressed as a percentage of RVA number of 1 st invoices sent.	50%

Ref#	Input	Description	Value in use	
23.	RVA – 2 nd invoice paid	Percent of RVA invoices that are paid with the 2 nd invoice, expressed as a percentage of RVA number of 2 nd invoices sent.	40%	
24.	RVA – Violation notices to Collections paid	Percent of RVA violation notices sent to Collections that are paid, expressed as a percent of all RVA violation notices sent to Collections.	15%	
25.	UVA – 1 st invoice paid	Percent of UVA invoices that are paid with the 1 st invoice, expressed as a percentage of UVA number of 1 st invoices sent. Estimate is based on invoice collection rates from other agencies with AET operations.	50%	
26.	UVA – 2 nd invoice paid	Percent of UVA invoices that are paid with the 2 nd invoice, expressed as a percentage of UVA number of 2 nd invoices sent. Estimate is based on invoice collection rates from other agencies with AET operations.	40%	
27.	UVA – Violation notices to Collections paid	Percent of UVA violation notices sent to Collections that are paid, expressed as a percent of all UVA violation notices sent to Collections.	15%	
28.	2 nd invoice fee	Fee added to all 2 nd invoices	\$7.50	
29.	Invoice cost	Cost for processing each invoice (stuffing envelope, postage, etc.)	\$1.50	
30.	Violation notice cost	Cost for processing each invoice (stuffing envelope, postage, etc.)	\$3.00	
31.	Credit Card fee	Fee assessed to process ETC replenishments and/or invoice payments, expressed as a percentage of realized revenues.	2%	
32.	Number of Toll Accounts	Number of toll accounts hosted by the back office, categorized by ETC or Video account. The number of accounts is estimated using a trip frequency distribution table based on inputs from a survey conducted by SDG as well as other sources on infrequent customers. An assumption is made on which customers will opt for a tag-based account (frequent users) and which ones will be video-based (infrequent users). It should be noted that while frequent users make most of the trips, it is the infrequent users group that represents the larger number of customers.	<i>Trip Frequency</i>	<i>% trips</i>
			Regular (≥ 4/week)	33%
			Frequent (1-3 x/week)	34%
			Moderate (1-3 x/month)	30%
			Infrequent (≤ 3/year)	3%
33.	Monthly account maintenance fee	Estimated fee for maintaining/hosting a toll account. In the analysis, the fee is applied to all active accounts, which are assumed to be all except the infrequent video users, in which case the monthly fee is applied to 3 out of the 12 months only. The fee is estimated based on data from other agencies' back office operations contracts.	\$1.50/month per toll account.	

Ref#	Input	Description	Value in use
34.	Number of tags per account	This estimate is used to estimate the cost of tags required on an ongoing basis (operational period) as the number of accounts increases over time. <i>Note: the initial tag inventory is covered in the CAPEX analysis</i>	2 tags per account
35.	Cost of tags	The cost assumed is based on multi-protocol IAG tags (hard-case). <i>Note: cost can be decreased if tag selected is the sticker type; the \$20 per tag represents a conservative scenario from a cost perspective.</i>	\$20 per tag
36.	Lane maintenance	The cost to maintain an AET lane has been estimated based on maintenance data from other agencies. The cost is expressed as an average per lane per year.	\$15,000 per lane
37.	Spare parts	This estimate is expressed as percentage of the total lane maintenance cost. This cost is an ongoing operational expense. <i>Note: the CAPEX analysis includes an initial spare parts inventory</i>	15%
38.	Inflation adjustment	Costs in the analysis have been increased on an annual basis, expressed as a percentage. <i>Note: This 2.5 percent rate is the same one used by SDG for increasing toll rates in the T&R analysis.</i>	2.5%

Table 3 – Tolling OPEX Analysis – List of Assumptions

As an additional aide in understanding the analysis process for obtaining leakage percentage a Tolling OPEX Analysis – Leakage Waterfall Diagram is provided in Figure 3. The waterfall diagram starts with universe of lane transactions (all transactions) and steadily filters out transactions that fall into the system, commercial/non-system or non-payment category. The filtering process is based upon a set of assumptions as to the percentage of transactions that will not produce toll revenue as originally calculated at the lane level (gross or expected revenue).

There are several points of revenue realization as transaction pass through the waterfall. Transactions that are based upon prepaid customer accounts (ETC and registered video) have the highest revenue realization rate. ETC transactions are considered the most reliable source of revenue in an all electronic toll collection system due to the ability of the toll system to input each unique transponder number into a transaction that is correlated back to a customer’s account. Revenue based upon ETC transactions is not necessarily 100 percent guaranteed due primarily due to the status of a customer’s account, such as insufficient funds, or the fact that the customer’s transponder or vehicle may have been stolen.

For registered vehicle video transactions the percentage of successful revenue transactions depends upon the AET systems video imaging technology. If the video images are not machine readable or legible to the human eye or if they were not captured when the vehicle traversed the toll zone; either due to environmental conditions, camera view or maintenance issues, the agency does not have any

After the violation noticing process, which can also occur for invalid customer accounts, the waterfall revenue collection closes out with an adjudication process and a collections process. The sum of the unpaid transactions divided by the original pool of lane transactions provides the leakage percentage. As shown in Table 2 above, for the LSIORB Project toll system it is estimated that in FY 2017 the leakage percentage will be about 7 percent, decreasing to less than 3 percent by FY 2030 and remaining flat thereafter.

Beyond the importance of having the proper toll system technology to maximize toll revenue is the need for legislation and corresponding rules and regulations that provide the necessary incentive to pay the tolls whether by maintaining a prepaid customer account or paying the first toll invoice to avoid additional fees or fines.

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**Louisville – Southern Indiana
Ohio River Bridges Project**



**Kentucky Public Transportation Infrastructure Authority (KPTIA)
Final Engineering Report**

October 31, 2013



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List of Abbreviations

AASHTO	American Association of State Highway Transportation Officials
AAT	Area Advisory Teams
AET	All-Electronic Toll
BMP	Best Management Practice
BOS	Back Office System
BSHCT	Bi-State Historic Consultation Team
BSMT	Bi-State Management Team
CCTV	Closed-Circuit Television
CD	Collector-Distributor Road
CLOMR	Conditional Letter of Map Revision
CPM	Critical Path Method
CSC	Customer Service Center
CTS	Community Transportation Solutions
DBT	Design Build Team
DMSs	Dynamic variable message signs
DMV	Department of Motor Vehicles
DOT	Department of Transportation
DVD	Optical disc storage (Dissociated Vertical Deviation)
EIS	Environmental Impact Statement
EO	Executive Order
ETC	Electronic Toll Collection
FAA	Federal Aviation Administration
FAMOA	First Amended Memorandum of Agreement
FCOs	Full Cutoff Optics
FEIS	Final Environmental Impact Study
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
GARVEE	Grant Anticipation Revenue Vehicle bonds
GEC	General Engineering Consultant
HAR	Highway advisory radio
HPAT	Historical Preservation Advisory Team
HPP	Historic Preservation Plan
IC	Indiana Code
IDEM	Indiana Department of Environmental Management
IDNR	Indiana Department of Natural Resources
IFA	Indiana Finance Authority
IFP	Initial Financial Plan

IHPAT	Indiana Historical Preservation Advisory Team
INDOT	Indiana Department of Transportation
ITS	Intelligent Transportation Systems
JFK	John F. Kennedy
KAZC	Kentucky Airport Zoning Commission
KHC	Kentucky Heritage Council
KHPAT	Kentucky Historical Preservation Advisory Team
KPTIA	Kentucky Public Transportation Infrastructure Authority
KRS	Kentucky Revised Statutes
KYTC	Kentucky Transportation Cabinet
L&I	Louisville & Indiana Railroad
LCSs	Lane control signals
LMA	Louisville Metropolitan Area
LOMR	Letter of Map Revision
LSIORBP	Louisville – Southern Indiana Ohio River Bridges Project
MOA	Memorandum of Agreement
MPO	Metropolitan Planning Organization
MSD	Metropolitan Sewer district
MTP	Metropolitan Transportation Plan
NEC	National Electrical code
NEPA	National Environmental Policy Act of 1969
NOI	Notice of Intent
NPDES	National Pollution Discharge Elimination System
OHW	Ordinary High Water
ORMIS	Ohio River Major Investment Study
P3	Public Private Partnership
PMP	Project Management Plan
PPV	Peak Particle Velocity
RAC	Regional Advisory Committee
RFP	Request for Proposal
RFQ	Request for Qualifications
RMP	Regional Mobility Plan
ROD	Record of Decision
ROW	Right-Of-Way
RROD	Revised Record of Decision
RTCS	Roadside Toll Collection System
RWISs	Roadway weather information systems
SDEIS	Supplemental Draft Environmental Impact Statement
SFEIS	Supplemental Final Environmental Impact Statement
SHPO	State Historic Preservation Office
SOQ	Statement of Qualifications
TARC	Transit Authority of River City

TCS	Toll Collection System
TDC	Toll Data Center
TIFIA	Transportation Infrastructure Finance and Innovation Act
TMC	Traffic Management Center
TPC	Transportation Policy Committee
TRIMARC	Louisville-Southern Indiana Traffic Information
TSI	Toll Systems Integrator
USACE	U.S. Army Corps of Engineers
USDOT	United State Department of Transportation
USFWS	U.S. Fish and Wildlife Service
VPC	Video Processing Center
VPC	Violation Processing Center
WDC	Waterfront Development Corporation
WVB	Walsh-Vinci-Bilfinger

Louisville – Southern Indiana Ohio River Bridges Project Kentucky Public Transportation Infrastructure Authority (KPTIA) Engineering Report

EXECUTIVE SUMMARY

I. Introduction

This report documents and describes the location, preliminary engineering features, construction cost estimate, projected operation and maintenance expenses, and a construction schedule for the Louisville – Southern Indiana Ohio River Bridges Project (LSIORBP). The LSIORBP consists of both a Downtown Crossing and an East End Crossing of the Ohio River, which are considered to be two segments of one project. The two project segments have been divided such that the Kentucky Transportation Cabinet (KYTC) will be responsible for the completion through construction of the Downtown Crossing and the Indiana Department of Transportation (INDOT) will be responsible for the East End Crossing. The financing of the Downtown Crossing will be the responsibility of the Kentucky Public Transportation Infrastructure Authority (KPTIA) and the funding and financing of the East End Crossing are the responsibility of the Indiana Finance Authority (IFA). A detailed project description for the entire project is contained in Part II of this Executive Summary.

KPTIA was formed as a result of legislation passed during the 2009 special session of the Kentucky General Assembly. Per KRS Chapter 175B created as a result of this legislation, KPTIA's responsibility "shall be to facilitate the construction, financing, operation, and oversight of projects by entering into bi-state agreements and by creating bi-state authorities and project authorities". "The state authority, when authorized...may participate as a developing or issuing authority, or both, in the development, construction, or financing of a project by a bi-state or project authority, if necessary". Furthermore, as included in the Transportation Budget Bill passed during the 2012 Extraordinary Session, the Kentucky General Assembly authorized KPTIA to act as the developing and issuing authority for the Louisville-Southern Indiana Ohio River Bridges Project.

The IFA is a body politic and corporate created by Indiana pursuant to IC 4-4-11-4, which provides that the exercise of its powers creates an essential governmental, public and corporate function. IFA has the authority to assist Indiana in the financing, acquisition, building and equipping of structures for state use, including highways, toll roads and bridges. IFA has been authorized to solicit, evaluate, negotiate, enter into and administer agreements for the project. These agreements will include entities that will develop, design, build, finance, and, for

certain components operate and maintain the East End Crossing through an availability payment concession.

As a result of a Bi-State Development Agreement and an Interlocal Agreement, KPTIA, IFA, INDOT and KYTC have agreed that a Joint Board and Tolling Body shall be created for the joint undertaking of facilitating and assisting in the accomplishment of the project.

The purpose of the proposed action for the LSIORBP is to improve cross-river mobility between Jefferson County, Kentucky and Clark County, Indiana. Several specific factors demonstrate the need for action, including:

- Inefficient mobility for existing and planned growth in population and employment in the Downtown area and in eastern Jefferson and southeastern Clark Counties.
- Traffic congestion on the existing I-65 Bridge over the Ohio River (Kennedy Bridge) and within the Kennedy Interchange, which is defined as a complex interweaving of mainline interstates and ramps created by the juncture of three interstate highways – I-65, I-64 and I-71 in the Downtown Louisville area.
- Traffic safety problems within the Kennedy Interchange and on the Kennedy Bridge and its approach roadways.
- Inadequate cross-river transportation system linkage and freeway rerouting opportunities in the eastern portion of the Louisville Metropolitan area.
- Locally adopted plans that call for two new bridges across the Ohio River and the reconstruction of the Kennedy Interchange.

The need for the improvements in cross-river mobility in the Louisville Metropolitan Area (LMA) was initially identified in the early 1960's. The first transportation plan for the LMA in 1969 included proposals for the improvement of cross-river mobility and every long-range transportation plan since 1969 have included proposals for the improvement of cross-river mobility through the construction of one or more additional bridges. In 1993, the long-range plan provided specifically for the East End Crossing and recommended improvements to the geometrically complex Kennedy Interchange in Downtown Louisville. In 1995, The Ohio River Major Investment Study (ORMIS) evaluated a wide range of transportation improvements that might address cross-river mobility needs, including light rail transit, multiple new highway bridge corridors, re-construction of the Kennedy Interchange, travel demand management strategies, transportation system management measures, and enhanced bus service. In 1996, the Kentuckiana Regional Planning & Development Agency (KIPDA) endorsed the ORMIS Committee's recommendation for a preferred investment strategy incorporating a "two-bridge solution" which included building a new Ohio River bridge parallel to the Kennedy Bridge (I-65) between downtown Louisville and Jeffersonville, Indiana; reconstructing the Kennedy Interchange

adjacent to the Kennedy Bridge; and building a new bridge approximately eight miles east of the Kennedy Bridge, connecting KY 841/1265 (Gene Snyder Freeway) in eastern Jefferson County, Kentucky, with S.R. 265 at S.R. 62 in southeastern Clark County. In 1998, KIPDA updated the long-range transportation plan, entitled *Horizon Year 2020 RMP (Horizon 2020)* to include the two-bridge solution. Subsequent updates of the long-range plan occurred in 2005 (*Horizon 2025*) and again on October 7, 2010 (*Horizon 2030*). Both updates continued to include the two-bridge solution. In 2010, KYTC and INDOT submitted to the Louisville MPO the *Financial Demonstration for the Ohio River Bridges Project, in Support of the Louisville (KY- IN) Metropolitan Transportation Plan (Financial Demonstration)*. *Horizon 2030* was adopted based on the *Financial Demonstration* demonstrating a source of funding for the LSIORBP, thus satisfying the fiscal constraint requirement for the MTP.

In September 2003, the Federal Highway Administration (FHWA) issued a Record of Decision that identified the preferred alternative from a Final Environmental Impact Study (FEIS) as two new Ohio River Bridge crossings, connected approaches, and reconstruction of the Kennedy Interchange. In June 2012, FHWA approved a Revised Record of Decision (RROD) based on a Supplemental Final Environmental Impact Statement (SFEIS). This RROD reconfirmed the basic premise identified in the FEIS, but examined revisions in the design concepts that reduced the overall project costs from \$4.1 M down to the current \$2.6 M. The SFEIS and RROD further looked at the introduction of tolling as a portion of the funding mechanism for the project.

II. Project Description

The Project is being implemented as two components, the Downtown Crossing and the East End Crossing. The Downtown Crossing consists of three elements: The Kennedy Interchange, a new Downtown Bridge over the Ohio River, and the Indiana Approach to the Downtown Bridge. The East End Crossing also consists of three elements: the Kentucky Approach to the East End Bridge, an East End Bridge across the Ohio River, and an Indiana Approach to the East End Bridge. A detailed description for each crossing is described below. *Figure A* provides a location map for the overall project. *Figure B* provides an aerial view of the Downtown Crossing Segment of the Project.

Location Map for the Overall LSIORB Project



Downtown Crossing

- 1. Kennedy Interchange (KYTC Maintenance)
- 2. New I-65 Ohio River Bridge & Existing Kennedy Bridge (KYTC Maintenance)
- 3. Indiana I-65 Approach (Future INDOT Maintenance)

East End Crossing

- 4A. Kentucky Approach (Future KYTC Maintenance)
- 4B. Kentucky Approach (Future INDOT Maintenance)
- 5. New Ohio River Bridge (Future INDOT Maintenance)
- 6. Indiana Approaches (Future INDOT Maintenance)

Figure A

Aerial View of the Downtown Crossing Segment

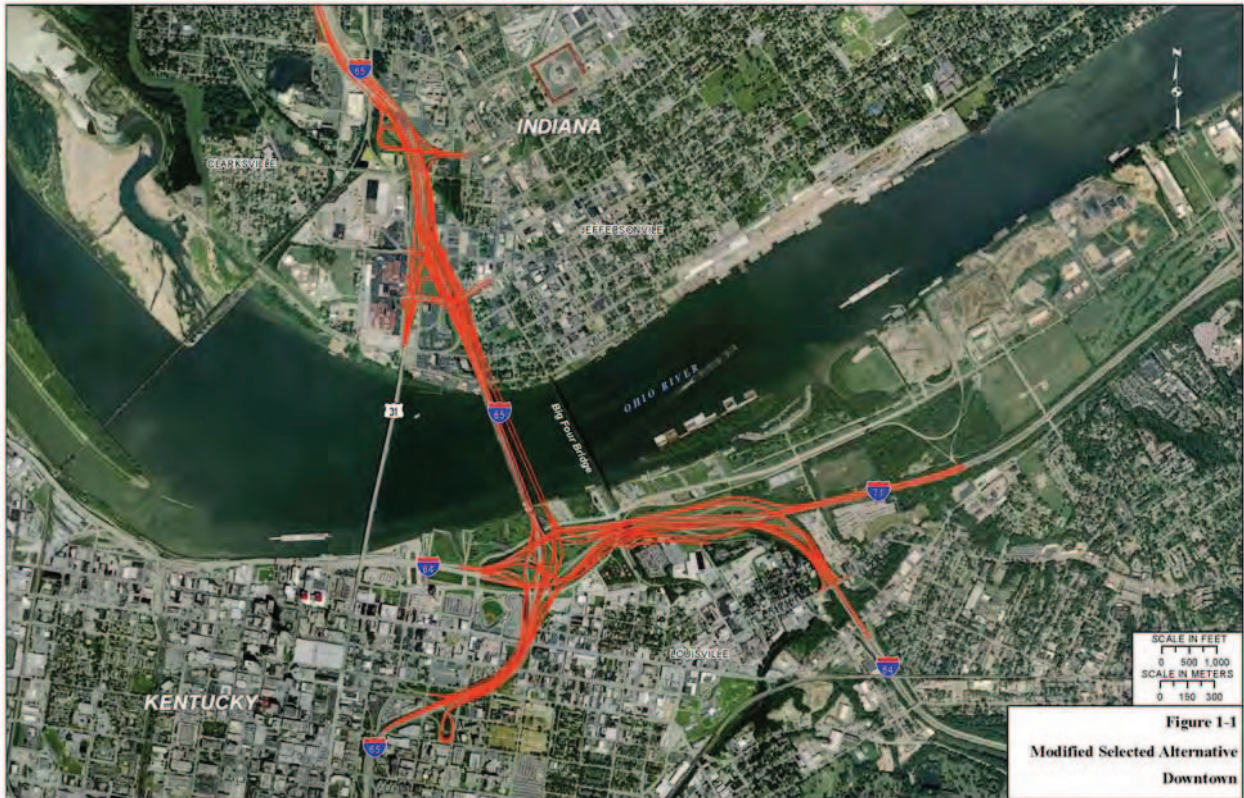


Figure B

Downtown Crossing

The Kennedy Interchange (Section 1)

The Kennedy Interchange is the area that Interstates 65, 64, and 71 converge in the downtown Louisville and is locally known as “Spaghetti Junction”. The modernization of the interchange will be designed to eliminate major weaves, provide capacity to meet rush hour demands, add emergency pull-off areas and reduce the curvature of ramps to improve safety and meet drivers’ expectations. The improvements to the interchange include:

- Reconfiguration of I-64, I-65, and I-71 movements to additional lanes that are to be provided with the new northbound Downtown Ohio River Bridge and the rehabilitated existing Kennedy Bridge, which will be utilized for southbound traffic;
- Elimination of the current traffic weaving movements from I-64 westbound and I-71 southbound to I-65;
- Elimination of the current traffic weaving movements from I-65 to I-64 eastbound and I-71 northbound;
- Introduction of “Collector – Distributor (CD) Road” systems on I-65 between I-64 and the Liberty Street interchange on I-65;
- Reconstruction of all bridges in the interchange; and
- Reconstruction of the Story Avenue interchange to improve the entrance ramp movements to I-64

The Downtown Bridge (Section 2)

The new Downtown Bridge provides a crossing of the Ohio River on I-65 between downtown Louisville Kentucky and Jeffersonville, Indiana and will be configured to provide six-lanes northbound across the river. The newly constructed bridge will extend from the northern end of the Kennedy Interchange from the south in Kentucky to the newly constructed approach spans in Indiana. The new structure will be a three tower cable- stayed bridge.

The new bridge will cross both the Waterfront Park in Kentucky and the Riverfront Park in Indiana and, on the latter side, will be adjacent to the Old Jeffersonville Historic District. The new northbound structure will be located just upstream and nearly parallel to the existing Kennedy Bridge and will carry six 12-foot lanes and two 12-foot shoulders. Northbound approach spans will flank both sides of the main cable-stayed bridge. To the south, the cable-stayed bridge connects with new approach spans that are a part of the new Kennedy Interchange. To the north, approach spans will be constructed over the river flood wall and local streets in Jeffersonville.

The existing I-65 Kennedy Bridge will be re-decked and will have structural improvements made to it. The existing Indiana bridge approaches will be replaced. The Kennedy Bridge will be reconfigured to serve southbound traffic only and will carry six 12-foot lanes with two 9.5-foot shoulders. The reconfigured deck will tie into the newly-reconstructed Kennedy Interchange in Kentucky.

The Indiana Approach to the Downtown Bridge (Section 3)

Changes to I-65 in Southern Indiana will include reconstruction of the facility to accept the additional capacity provided by the new Downtown Bridge, modernizing a collector- distributor road system to provide ingress and egress from Clarksville and Jeffersonville, Indiana, and improving connections between these two communities that have been separated since the interstate was originally built through this area. The Indiana approach improvements will consist of widening and reconstruction of I-65 from West Market Street northward to approximately 1250 feet north of Stansifer Avenue/West 14th Street. The proposed construction includes expanding the existing three lane configuration to four lanes in both the northbound and southbound direction, which will include the realignment and widening of southbound I-65 to the current Kennedy Bridge and the construction of a new segment of northbound I-65 from the new Downtown Bridge. The reconstruction will provide improved local access to the City of Jeffersonville and the Town of Clarksville, including providing new access between the two communities by the opening of the 6th Street / South Clark Boulevard under I-65 and the addition of new ramps. The collector – distributor will be reconstructed to for added capacity and safety. Approaches to the Clark Memorial (2nd Street) Bridge are also to be reconstructed, providing an elevated ramp system to connect US 31 to I-65 and lessening traffic conflicts on Court Avenue. Upon completion of construction, Section 3 will be maintained by INDOT.

Aerial View of the East End Crossing Segment

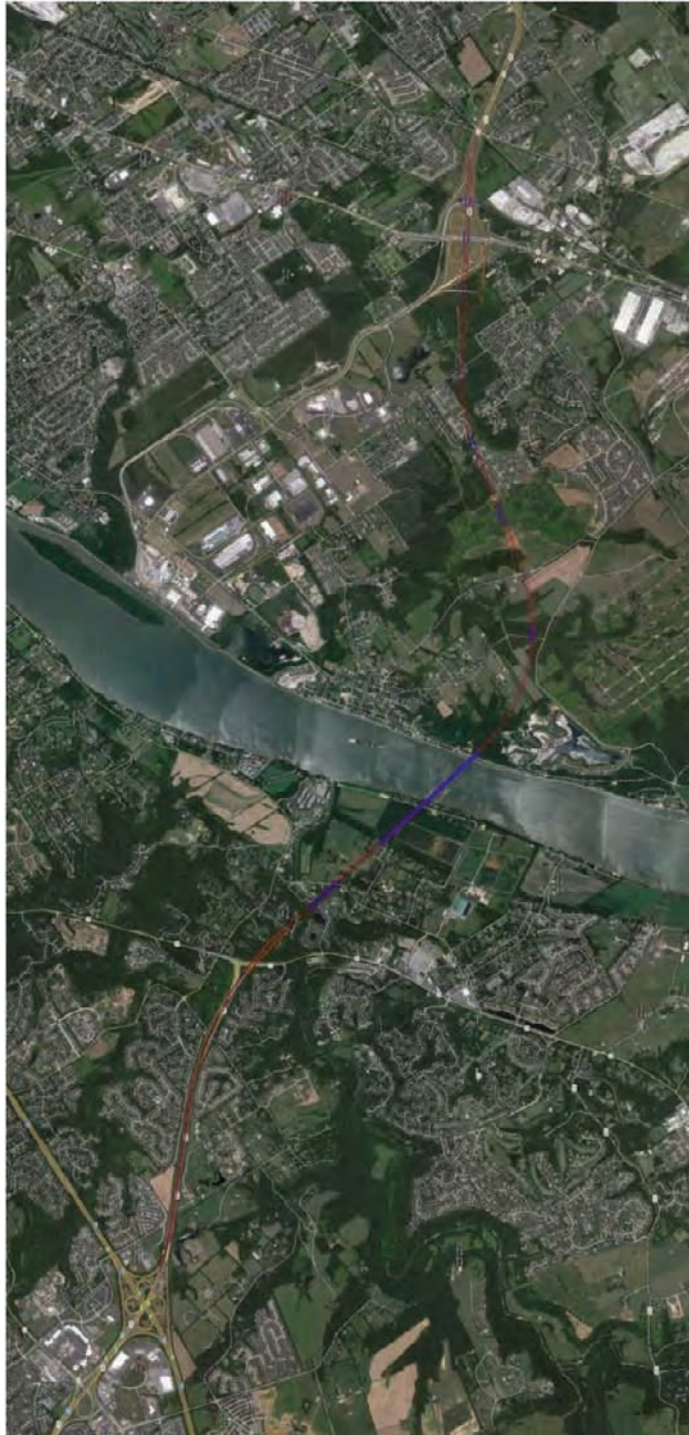


Figure C

East End Crossing

The Kentucky Approach to the East End Bridge (Section 4)

The Kentucky approach includes a six-lane reconstruction of KY 841 from I-71 to US 42 and new four-lane construction from US 42 to the new Ohio River East End Bridge, providing two lanes in each direction, for a distance of approximately 3.4 miles. The construction includes an approximately 1700-foot long tunnel beneath US 42 and the historic Drumanard Estate, with two tunnel bores, each carrying two lanes with shoulders with one for northbound and one for southbound traffic. The tunnel will be capable of being expanded to three lanes in the future when needed by re-striping the shoulders to provide the additional lane. The current construction will continue the four-lane construction (two lanes in each direction) with a bridge over Harrods Creek and River Road and approach spans to the new Ohio River Bridge that traverses Transylvania Beach Road.

Section 4 has been broken into Sections 4A and 4B. Section 4A consists of the reconstruction of KY 841 from the I-71 connections to the northerly abutment of the proposed Harrods Creek/River Road bridge (approx. Sta. 149+77.99 northbound and 149+37.99 southbound). Section 4B consists of continuing the extension of KY 841 from the northerly abutment of the proposed Harrods Creek/River Road bridge to the north to the limits of the Kentucky Approach where it ties into the East End Bridge over the Ohio River. Upon completion of construction, KYTC will assume maintenance responsibilities for section 4A. INDOT will be responsible for the maintenance of section 4B and the remainder of the East End Crossing.

East End Bridge (Section 5)

The East End Bridge section consists of the construction of a new approximately 2,500 – foot long 4-lane cable – stayed bridge over the Ohio River, which will be capable of being re-striping to provide six-lanes in the future when traffic demands. The bridge will also provide a 13-foot wide combined pedestrian and bicycle pathway on the southwesterly side of the bridge.

The Indiana Approach to the East End Bridge (Section 6)

The Indiana approach consists of a four-lane extension of SR 265 from SR 62 to the new East End bridge, providing two-lanes in each direction, for a distance of approximately 4.1 miles. The interchange at SR 265 and the SR 62 / Port Road will be reconstructed and a new full-diamond interchange will be constructed at an extension of Old Salem Road.

III Project Cost and Construction

For the Downtown Crossing, revenues will be leveraged to provide the necessary up-front capital for construction through a combination of Kentucky's state funding commitments, toll revenue bonds, and grant anticipation revenue vehicle (GARVEE) bonds. Federal discretionary program funds also will be utilized to the extent additional discretionary funds become available and are obtained by the state. On September 10, 2013, KYTC applied for Transportation Infrastructure and Financial Act (TIFIA) credit assistance. On October 4, 2013, KYTC was advised that the TIFIA loan application was complete and the 60-day review process was being initiated. Coordination with the FHWA TIFIA Joint Program Office is currently continuing.

Indiana's approach to the financing for the East End involves the use of an availability payment concession approach for the East End Crossing, private sector financing, including private equity and debt, which will be secured by the concessionaire to support its obligations, and the payments will be met by Indiana's commitments of state and federal funding and its share of the toll-based revenues from the project. Federal discretionary funds will also be utilized for this crossing as those funds are made available.

In July 2012, the Initial Financial Plan (IFP) was submitted by the Kentucky Transportation Cabinet and the Indiana Department of Transportation to the Federal Highway Administration, which subsequently provided approval. The IFP established that both states will utilize a design-build approach to complete the project construction and will utilize a combination of conventional state and federal transportation funds and toll-based revenues. As of the end of 2012, approximately \$300 million have collectively been spent by the states for the Project.

Preliminary designs were developed for the Downtown Crossing and were provided to potential contractors in summer 2012 for a design – build project. Three teams of contractors were selected to provide submit proposals and bids for the project. The proposals from those teams were received on October 1, 2012 and were subsequently reviewed and scored by technical review committees established by KYTC. On November 15, 2012, the contractors submitted their bids and proposed schedule. Combining scores developed by the KYTC technical committees and the bids, the Walsh Construction Company was selected by KYTC as the apparent Best Value team for the project. On December 6, 2012, the KYTC Awards Committee met and agreed to award the contract to Walsh. The Walsh proposal provides for the completion of the construction of the Downtown Crossing by December 2016 at a construction cost of \$860 million.

Similarly, the preliminary designs were developed for the East End Crossing and were provided to potential developers in the summer of 2012 for the design, construction, maintenance and financing of the East End Crossing. The proposals for the East End Crossing were received on October 26 and on November 15, it was announced that the Walsh-Vinci-Bilfinger (WVB) team was selected by the Indiana Finance Authority Board as the preferred proposer for the East End Crossing. The WVB proposal provides for the completion of the East End Crossing by October 2016 at a construction cost of \$763 M.

SECTION 1

INTRODUCTION

1.A Project History

The Kentucky Public Transportation Infrastructure Authority was formed as a result of legislation passed during the 2009 special session of the Kentucky General Assembly. Per KRS Chapter 175B created as a result of this legislation, KPTIA's responsibility "shall be to facilitate the construction, financing, operation, and oversight of projects by entering into bi-state agreements and by creating bi-state authorities and project authorities". "The state authority, when authorized...may participate as a developing or issuing authority, or both, in the development, construction, or financing of a project by a bi-state or project authority, if necessary".

The need for improvements in cross-river mobility in the Louisville Metropolitan Area (LMA) was initially identified through the congressionally mandated metropolitan transportation planning process, as set forth in Title 23, U.S. Code, Section 134. That transportation planning process began in 1963, when the states of Indiana and Kentucky and local communities established a cooperative transportation-planning program. That early program produced the first transportation plan for the LMA in 1969. Since 1973, the KIPDA has been responsible for maintaining the continuing, cooperative, and comprehensive transportation planning process for the LMA. That responsibility includes developing and continually updating a 20-year long-range transportation plan for the LMA that serves as a guide for major investments in the LMA's multimodal ground transportation system. Agencies responsible for operating, maintaining, and improving the transportation systems are required to develop their own plans within the framework of the long-range transportation plan. The process to develop and update the metropolitan transportation plan includes state and local elected and appointed officials, local government professional staff, transportation providers, and representatives of business, public interest, and civic groups.

Proposals to improve cross-river mobility through the construction of one or more additional highway bridges over the Ohio River have been in every long-range transportation plan prepared for the LMA since 1969. The recommendations of the first long-range plan in 1969 included "the extension of I-265 through Clark County [Indiana] with a crossing of the Ohio River at Utica [as] an extremely important addition to the freeway system..." This extension would have connected with the then proposed I-265/KY 841 near U.S. 42 in eastern Jefferson County, Kentucky. The next long-range transportation plan, completed in 1978, again called for the extension of I-265 from I-65 in Indiana to the terminus of I 265/KY 841 at U.S. 42 in Kentucky, with a bridge over the Ohio River.

The third long-range transportation plan for the LMA was prepared by KIPDA in 1993. This plan again recommended an extension of I-265 between I-65 in Indiana and I 265/KY 841 in Kentucky, with a new Ohio River bridge. (An extension of I-265 has been constructed from I-65 to S.R. 62 in southeastern Clark County, Indiana. That extension, which has been designated S.R. 265, ends short of an Ohio River crossing.) In 1993, KIPDA also recommended improvements to the geometrically complex Kennedy Interchange in downtown Louisville to alleviate congestion and safety problems.

Known locally as “Spaghetti Junction,” the Kennedy Interchange is the junction of three interstate highways—I-64, I-65 and I-71—and is located on the southern bank of the Ohio River at the foot of the Kennedy Bridge, which carries I-65 across the Ohio River.

1.B Metropolitan Louisville Ohio River Bridge Study

The specific problems associated with cross-river mobility in the LMA were evaluated in greater detail beginning in the early 1990s. From 1991 to 1994, the Kentucky Transportation Cabinet (KYTC) and the Indiana Department of Transportation (INDOT) sponsored the Metropolitan Louisville Ohio River Bridge Study. This study investigated the need for a new Ohio River bridge in the LMA, and evaluated four potential corridors for construction of such a bridge:

- Western Corridor – connecting KY 841 (Gene Snyder Freeway) in southwestern Jefferson County, Kentucky, through Harrison County, Indiana, to I-64 in Floyd County, Indiana;
- Central Corridor – potential crossings in the vicinity of downtown Louisville, Kentucky, and Clarksville/Jeffersonville, Indiana, including the K&I Railroad Bridge, a bridge parallel to I-65 (Kennedy Bridge), and the Big Four Railroad Bridge;
- Near Eastern Corridor – connecting I-264 (Watterson Expressway) and I-71 in eastern Jefferson County, Kentucky, with S.R. 265 at S.R. 62 in southeastern Clark County, Indiana (two sub- corridors were evaluated); and
- Far Eastern Corridor – connecting KY 841/I-265 (Gene Snyder Freeway) in far northeastern Jefferson County, Kentucky, with S.R. 265 at S.R. 62 in southeastern Clark County, Indiana (three sub-corridors were evaluated).

Public meetings were held in 1991 and 1993. The conclusion of the study was that improvements in the Western Corridor were not needed because of insufficient cross-river travel demand (only 4,100 daily river crossings predicted in 2010), but that the other three corridors should be evaluated further as viable options.

1.C Ohio River Major Investment Study (ORMIS)

Based on the results of the Metropolitan Louisville Ohio River Bridge Study, and over 25 years of local transportation planning, KIPDA initiated a Major Investment Study in 1995 to “address the problem of current and future travel mobility across the Ohio River between Kentucky and Indiana in the Louisville region.” The Ohio River Major Investment Study, or ORMIS, evaluated a wide range of transportation improvements that might address cross-river mobility needs, including light rail transit, multiple new highway bridge corridors, reconstruction of the Kennedy Interchange, travel demand management strategies, transportation system management measures, and enhanced bus service. KIPDA stated that ORMIS was to serve “a supporting function in the process of developing the Kentuckiana region long-range transportation plan.” To assist in that process, KIPDA formed a broad-based advisory committee, the ORMIS Committee, to guide the study and make a recommendation to KIPDA’s Transportation Policy Committee (TPC), the official decision-making body for ORMIS. ORMIS also incorporated an extensive public involvement program, including four sets of public workshops between December 1995 and November 1996.

In December 1996, the KIPDA TPC unanimously endorsed the recommendation of the ORMIS Committee for a preferred investment strategy incorporating four elements: a “two-bridge solution”; bus-oriented transit improvements; short-term traffic operational improvements; and a regional financial summit to deal with funding needs. The “two-bridge solution” included: building a new Ohio River bridge parallel to the Kennedy Bridge (I-65) between downtown Louisville and Jeffersonville, Indiana; reconstructing the Kennedy Interchange adjacent to the Kennedy Bridge; and building another new bridge approximately eight miles east of the Kennedy Bridge, connecting KY 841/I-265 (Gene Snyder Freeway) in eastern Jefferson County, Kentucky, with S.R. 265 at S.R. 62 in southeastern Clark County, Indiana.

The recommendations of ORMIS reaffirmed the conclusions reached in the Metropolitan Louisville Ohio River Bridge Study concerning the need for improvements in cross-river mobility in the downtown area (between Louisville and Clarksville/Jeffersonville) and between eastern Jefferson and southeastern Clark Counties. The ORMIS report described this strategy as “a total package of improvements to address cross-river mobility deficiencies over the long term.” The recommended “downtown” bridge was predicted to address daily peak period congestion problems, and to improve safety and reduce the impact of accidents and other incidents. In addition, the report concluded that “only a complete rebuild of Spaghetti Junction [Kennedy Interchange], with shoulders that allow emergency vehicle access and additional lanes for critical ramp movements will significantly address the incident problem.” The eastern bridge was described as a “valuable contributor to the overall efficiency of the regional transportation network and a highly cost-effective investment in the region’s future.” The report also noted, however, that an eastern bridge would not solve the problems within the Kennedy Interchange. The ORMIS executive summary is provided in Appendix D.

1.D KIPDA Horizon Year 2025 RMP

At the same time ORMIS was proceeding, KIPDA was preparing the LMA's fourth long-range transportation plan. This plan, completed in 1996 and periodically updated since, is entitled Horizon Year 2020 RMP (Horizon 2020). It projected future transportation needs through the year 2020, based on then current conditions and using improved travel-forecasting procedures. The Horizon 2020 plan also reviewed the projects recommended in previous long-range transportation plans to determine their continued viability for addressing future needs. After the initial plan development in 1996, KIPDA updated the RMP in February 1998 to reflect the recommendations of ORMIS, as approved by the KIPDA TPC. Horizon 2025, the current RMP for the LMA, includes recommendations for a new six-lane bridge parallel to the existing Kennedy Bridge (I-65), reconstruction of the Kennedy Interchange, and a new four-lane I-265 freeway over the Ohio River between KY 841/I-265 in eastern Jefferson County, Kentucky, and S.R. 265 at S.R. 62 in Clark County, Indiana. The KIPDA Horizon 2025 RMP was amended after publication of the FEIS and approval of the ROD to reflect the FEIS Preferred Alternative (6-lane I-265 Freeway over the Ohio River, rather than the 4-lanes in the current RMP). That plan was further updated to Horizon 2030, which received approval on November 29, 2005.

1.E Louisville-Southern Indiana Ohio River Bridges Project

Based on the recommendations of ORMIS and the current KIPDA long-range transportation plan, the INDOT and the KYTC agreed in December 1997 to jointly pursue needed improvements to cross-river mobility between Jefferson County, Kentucky and Clark County, Indiana. The Federal Highway Administration (FHWA) issued a Notice of Intent in the Federal Register on March 27, 1998 indicating that FHWA, in cooperation with INDOT and KYTC, would prepare an Environmental Impact Statement (EIS) to evaluate alternatives for improving cross-river mobility between Jefferson County, Kentucky and Clark County, Indiana including the ORMIS recommendation.

In September 2003, the Federal Highway Administration (FHWA) issued a Record of Decision that identified the preferred alternative from a Final Environmental Impact Study (FEIS) as two new Ohio River Bridge crossings, connected approaches, and reconstruction of the Kennedy Interchange. In June 2012, FHWA approved a Revised Record of Decision (RROD) based on a Supplemental Final Environmental Impact Statement (SFEIS). This RROD reconfirmed the basic premise identified in the FEIS, but examined revisions in the design concepts that reduced the overall project costs by an estimated \$1.5 billion. The SFEIS and RROD further looked at the introduction of tolling as a portion of the funding mechanism for the project.

As identified in the 2003 Record of Decision and re-verified with the 2012 Revised Record of Decision, the purpose of the proposed action for the LSIORBP is to improve cross-river mobility between Jefferson County, Kentucky and Clark County, Indiana. Several specific factors

demonstrate the need for action, including:

- Inefficient mobility for existing and planned growth in population and employment in the Downtown area and in eastern Jefferson and southeastern Clark Counties.
- Traffic congestion on the Kennedy Bridge and within the Kennedy Interchange.
- Traffic safety problems within the Kennedy Interchange and on the Kennedy Bridge and its approach roadways.
- Inadequate cross-river transportation system linkage and freeway rerouting opportunities in the eastern portion of the Louisville Metropolitan area.
- Locally adopted plans that call for two new bridges across the Ohio River and the reconstruction of the Kennedy Interchange.

The 2012 Supplemental Final Environmental Impact Statement and Revised Record of Decision clearly demonstrates that the traffic capacity and safety concerns for the current operation of the Kennedy Interchange can only be solved by improving the cross – river mobility, which requires the addition of the East End Crossing and the reconstruction of the Kennedy Interchange in conjunction with the addition of the new Downtown Crossing. Based on a traffic and revenue study completed for the project, the LSIORBP is financially feasible with the collection of toll revenues.

1.F Public Involvement

On February 15, 2011, FHWA, KYTC, and INDOT published in the Federal Register a Notice of Intent (NOI) to prepare a SEIS to evaluate changes to the Project since the 2003 FEIS.

On April 28, 2011, following the issuance of the NOI, FHWA made contact with resource agencies that had previously been involved in the project and asked whether they wanted to continue to be involved during the SEIS development process. Agencies were invited to join the consultation process as either a cooperating or a participating agency pursuant to Section 6002 of SAFETEA-LU.

Invitation letters were mailed on May 3, 2011 for the Resource Agency Coordination Meeting, which was held on May 26, 2011 at the Crowne Plaza Hotel in Louisville, Kentucky to brief the resource agencies on the development of the SEIS.

On December 14, 2011, a second Resource Agency Coordination Meeting was held at the Crowne Plaza Hotel. FHWA, KYTC, and INDOT presented a project update including a review of the SDEIS, which had been provided to each agency prior to the meeting. The agencies were provided the opportunity to ask questions and provide comments.

The public involvement process that was developed and implemented in conjunction with the SFEIS followed the NEPA process for communicating with resource agencies, stakeholders, the Regional Advisory Committee, Area Advisory Teams, consulting parties, and the general public. In addition, two Public Hearings were held for review of the SDEIS. The following summarizes the public involvement effort through the development of the SEIS and the Revised ROD.

Public Meetings

Purpose and Need White Paper and Range of Alternatives

As part of the public involvement process for the Project, two public meetings were held to explain and seek input on the potential changes in the project approved in the 2003 ROD, including the alternatives, and the Purpose and Need White Paper. The public meetings were held on June 27, 2011, at the Holiday Inn Lakeview in Clarksville, Indiana, and on June 28, 2011, at the Holiday Inn Hurstbourne in Louisville, Kentucky.

Draft Range of Alternatives Document—Public Comments

On August 10, 2011, following the public meetings, the *Supplemental Environmental Impact Statement Draft Range of Alternatives Document*, dated August 5, 2011, was mailed to the Resource Agency Coordination Team, Regional Advisory Committee members, and Section 106 consulting parties, along with a comparison document showing the differences between the FEIS Selected Alternative and the Modified Selected Alternative and the estimated cost savings.

Other Public Comments

Following the comment period on the Draft Range of Alternatives Document and prior to the publication of the SDEIS, public comments continued to be submitted regarding the project. Approximately 100 public comments were received from August 26, 2011, through November 24, 2011.

Regional Advisory Committee (RAC)

The members of the RAC were invited to attend a meeting on June 15, 2011, with KYTC, INDOT, FHWA, and the project design consultants. The purpose of the meeting was to provide the members with updated information on the project and give them an opportunity to provide input and ask questions.

Area Advisory Teams (AAT)

The AATs represented stakeholders in the four geographic areas associated with the corresponding design sections of the project. KYTC officials invited them to attend a meeting with project officials. The Downtown Louisville AAT meeting was held on June 20, 2011. The Jeffersonville/Clarksville AAT meeting was held on June 21, 2011.

Stakeholder Communications

In addition to meetings with the advisory groups and the general public, individual meetings and group presentations were held with elected officials, associations, and other stakeholders upon request. Stakeholder meetings and presentations explaining the SEIS process and providing updated project information included:

Environmental Justice Initiatives

In accordance with Executive Order (EO) 12898, FHWA's Directive 6640.23 and December 2011 supplemental guidance, and USDOT Order 5610.2, the Project was evaluated for potential disproportionately high and adverse effects to environmental justice (i.e., minority or low-income) populations. In line with the commitments made in the Record of Decision (ROD), the states commissioned a professional research firm to gather input (both quantitative and qualitative data) from low income and minority populations that frequently cross the river and may be disproportionately impacted by tolling. A draft of this study was recently provided to the states and is currently under agency review. The study will help inform tolling policy, including measures to mitigate the impact on low income and minority populations who frequently rely on cross-river travel for work and non-work needs.

Communication Tools

Media coverage and communication tools provided information in the form of newspaper articles, television and radio news stories, and the project website to give the public up-to-date details about the project and opportunities to provide comment.

Media Relations

Since the announcement of the SEIS in mid-February of 2011 until the end of September 2011, there has typically been daily coverage in the media. Some days, as many as 20 media outlets have reported on the project. When the public meetings were underway in late June 2011, the Project was often the lead story and front page news. Ongoing contact was kept with local news media in Kentucky and Indiana to disseminate information about the project and notify the public about upcoming meetings and events.

News Releases

During the development of the SDEIS, news releases were produced to inform the media and the public about the proposed changes in the project as well as to notify them of public meetings. The news releases were posted on the project website.

Section 106 Historic Resources Review Public Involvement

Early in the SEIS process, the original (2003 FEIS) Section 106 consulting parties, including the State Historic Preservation Officers in Indiana and Kentucky, were contacted to determine their interest and willingness to continue to participate as a consulting party in the renewed Section 106 process. The initial meeting for the Section 106 consulting parties for this SEIS process was held on June 1, 2011.

Three additional meetings with consulting parties were held to address issues associated with the Section 106 process:

- The Section 106 Identification of Historic Properties meeting was held on September 29, 2011.
- The Section 106 Effects Finding meeting was held on November 18, 2011.
- The Section 106 Mitigation of Adverse Project Effects meeting was held on January 27, 2012.

SDEIS Circulation and Public Hearings

The SDEIS was published and was circulated on November 16, 2011. The SDEIS was provided in both hard copy and electronic copy (DVD) to resource agencies; Native American Tribes; Federal, state and local agencies; and 30 regional libraries, including the Louisville Free Public Library and the Jeffersonville Township Public Library. In addition, 94 electronic copies (DVDs) of the SDEIS were produced and sent to the Section 106 consulting parties, Kentucky and Indiana members of the U.S. House of Representatives and U.S. Senate, Kentucky and Indiana State Senators and Representatives, the RAC members, and AAT representatives.

The publication of the Notice of Availability of the SDEIS appeared in the Federal Register on November 25, 2011. The public could view the SDEIS on the project website, at the local libraries, or on DVD by request. Public Hearings, advertised in the local newspapers and through news organizations, were held on December 19, 2011, in Louisville, Kentucky, and on December 20, 2011, in Clarksville, Indiana.

U.S. Fish and Wildlife Service Coordination for Threatened and Endangered Species

Coordination with the U.S. Fish and Wildlife Service (USFWS) occurred following the 2003 FEIS, per Section 7 of the Endangered Species Act (ESA) regarding the preparation of the Biological Assessment (BA).

U.S. Army Corps of Engineers Wetland Coordination

USACE was a cooperating agency through the 2003 FEIS and ROD. On April 28, 2011, USACE was asked to continue to be a cooperating agency providing decisions that guide the project in development of the SEIS. In letter dated May 11, 2011, the agency agreed to continue to serve in that role, and attended the May 26, 2011 and the December 14, 2011 Resource Agency Coordination Meetings.

Coordination with Waterfront Development Corporation

After the publication of the NOI, the Waterfront Development Corporation (WDC) was invited to become a participating agency; they accepted on April 22, 2011. Representatives of WDC attended the June 20, 2011 Downtown Louisville AAT meeting. Coordination with WDC will continue through the construction phase.

SECTION 2

FINANCING AUTHORITIES

KENTUCKY PUBLIC TRANSPORTATION INFRASTRUCTURE AUTHORITY (KPTIA)

KPTIA was formed as a result of legislation passed during the 2009 special session of the Kentucky General Assembly. Per KRS Chapter 175B created as a result of this legislation, KPTIA's responsibility "shall be to facilitate the construction, financing, operation, and oversight of projects by entering into bi- state agreements and by creating bi-state authorities and project authorities". "The state authority, when authorized...may participate as a developing or issuing authority, or both, in the development, construction, or financing of a project by a bi-state or project authority, if necessary".

The Secretary of the Kentucky Transportation Cabinet serves as the KPTIA Chairperson. The other members of KPTIA are the Secretary of the Finance Cabinet, or his designee; a representative from the Kentucky Association of Counties appointed by the Governor; a representative of the Kentucky County Judges / Executive Association appointed by the Governor; a representative of the Kentucky League of Cities appointed by the Governor; and six citizen members appointed by the Governor, two of whom shall be familiar with road and bridge design or the financing and administration of transportation infrastructure projects.

KPTIA will act as the Developing and Issuing Authority for the Downtown Crossing. This responsibility allows for the following actions:

- Enter into an agreement for development, construction, maintenance, operation, repair or financing;
- Construction, re-construction, maintenance, repair, operation and regulation of projects within the Commonwealth of Kentucky or contract with another entity for these services;
- Issue project revenue bonds;
- Fix, revise, charge and collect tolls;
- Establish and enforce rules and regulations for the project;
- Acquire and hold rights and right-of-way;
- Establish and control points of access;
- Employ consultants and fix their compensation;
- Receive and accept contributions and grants in aid of the project or its operation;
- Accept federal funds as may be provided;
- Advertise the facilities and services;
- Approves the project Financial Plan;

- Reports to the Kentucky Legislations' Capital Projects and Bond Oversight Committee before issuance of bonds and no less than semiannually thereafter;
- Reports to the Interim Joint Committee on Appropriations and Revenue of the Kentucky Legislative Research Commission on any projects currently proposed or under development.

These actions may be further refined or defined as the operations of KPTIA are executed. Specific policies or procedures will likely be further provided as the particular requirements of these actions are identified in the future.

INDIANA FINANCE AUTHORITY (IFA)

The IFA is a body politic and corporate created by Indiana pursuant to IC 4-4-11-4, which provides that the exercise of its powers creates an essential governmental, public and corporate function. IFA has the authority to assist Indiana in the financing, acquisition, building and equipping of structures for state use, including highways, toll roads and bridges. IFA has been authorized to solicit, evaluate, negotiate, enter into and administer agreements for the project. These agreements will include entities that will develop, design, build, finance, and, for certain components operate and maintain the East End Crossing through an availability payment concession.

The IFA will be responsible for all work, improvements, services, labor and materials necessary to design and construct the East End Crossing. The procurement will utilize a Public-Private Agreement with an availability payment concession structure for design-build-finance-operate-maintain services.

Upon completion of construction, section 4A of the East End will be reverted to KYTC for the future maintenance. The IFA and INDOT will utilize the selected developer for the future operation and maintenance of Sections 4B, 5, and 6.

JOINT BOARD and TOLLING BODY

As a result of a Bi-State Development Agreement and an Interlocal Agreement, KPTIA, IFA, INDOT and KYTC have agreed that a Joint Board and Tolling Body shall be created for the joint undertaking of facilitating and assisting in the accomplishment of the project. The Joint Board shall be composed of representatives of the State's Parties. Each of the following (by virtue of their offices shall serve on the Joint Board, or shall designate a representative (or representatives) who may serve in their stead from time to time:

- a) The Chairman of KPTIA
- b) The Public Finance Director of the State of Indiana on behalf of IFA
- c) Secretary of KYTC
- d) Commissioner of INDOT

The Tolling Body shall be comprised of representatives of the State's Parties. The members of the Tolling Body shall consist of the members of the Joint Board, plus one additional representative from IFA and one additional representative of KPTIA.

The Kentucky Parties shall be considered agents of the Indiana Parties in carrying out the development and operation of that portion of the Downtown Crossing which is to be constructed within the State of Indiana and shall be entitled to protection and claims and suits by third parties in connection with such activities to the maximum extent provided by principles of sovereign immunity on other statutory limitations on tort damages applicable to the Commonwealth of Kentucky or the State of Indiana. Similarly, the Indiana Parties shall be considered agents of the Kentucky Parties in carrying out the development and operation of that portion of the East End Crossing which is to be constructed within the Commonwealth of Kentucky and shall be entitled to protection from claims and suits by third parties in connection with such activities to the maximum extent provided by principles of sovereign immunity or other statutory limitations on tort damages applicable to the Commonwealth of Kentucky and the State of Indiana.

The Interlocal Agreement establishes that the State's Parties are independent parties and nothing contained in the Agreement shall be deemed to create a partnership, joint venture, or employer-employee relationship for purposes of federal or state tax laws.

SECTION 3

PROJECT DESCRIPTION

The Project's Downtown Crossing includes the reconstruction and operational improvements to the interchange junctures of I-65, I-64, and I-71; the Kentucky southern approaches to the downtown Ohio River bridges; the construction of a new I-65 northbound Ohio River bridge; the reconfiguration and rehabilitation of the existing I-65 John F. Kennedy (JFK) Bridge; and the Indiana northern approaches to the downtown Ohio River bridges with the various local egresses and ingresses to I-65. The Project description that follows represents the Modified Selected Alternative, which has been identified as the preferred alternative in the Supplemental Final Environmental Impact Statement (SFEIS) and the Revised Record of Decision, dated June 2012.

The Downtown Crossing consists of three Sections, designated as Sections 1, 2 and 3, which are described as follows:

Section 1 – The Kentucky Approaches to the Downtown Ohio River Bridges

The juncture of Interstates 64, 65, and 71 in downtown Louisville, is locally known as the "Kennedy Interchange" and/or "Spaghetti Junction." It includes the approaches to the new I-65 northbound Ohio River bridge and the adjacent existing JFK Bridge. Limits of work on the affected interstates are: I-64 from near the Preston Street overpass eastward to near the Story Avenue interchange, I-65 from the Liberty Street interchange northward to the south end of the new I-65 northbound Ohio River bridge approach spans just on the north side of River Road and to the south end of the existing JFK Bridge, and I-71 from the junction with I-64 northward to the northeast limit of the new structure over Frankfort Avenue former railroad bridge between Beargrass Creek and Edith Avenue.

This element of the Project calls for a reconfiguration and rebuilding of the Kennedy Interchange in- place, which shall include several improvements both in and approaching the interchange. These improvements include:

- Reconfiguration of I-64, I-65, and I-71 movements to the additional lanes provided by the new I-65 northbound Ohio River bridge and the reconfigured (for southbound I-65) existing JFK Bridge.
- The elimination of the current traffic weaving movements from I-64 westbound and I-71 southbound to I-65 northbound and southbound.
- The elimination of the current traffic weaving movements from I-65 northbound

and southbound to I-64 eastbound and I-71 northbound.

- Introduction of Collector-Distributor (CD) systems on I-65 between I-64 and the Liberty Street and adjacent streets interchange.
- Reconstruction of bridges in the interchange.
- The elimination of the weave with I-64 westbound movements for Story Avenue entrance ramp movements to I-65.

The conceptual plans include 41 permanent bridges consisting of permanent widening and new construction. Additionally, several temporary bridge widenings and one temporary bridge are proposed for maintenance of traffic. The reconstruction shall also require the construction of approximately 1.2 miles of retaining walls. The walls vary in height from a few feet to over 30 feet.

The Kennedy Interchange limits are more specifically described as follows:

- Limits on I-64 westbound are from 340 feet west of River Road (the proposed pier widening at the east side of the Great Lawn) to 430 feet east of the eastern limit of the bridge over Mellwood Avenue. I-64 westbound Baseline Station 198+34.19 to I-64 westbound Baseline Station 108+50.00.
- Limits on I-64 eastbound are from the east side of the bridge over River Road to the north side of the Story Avenue bridge. I-64 eastbound Baseline Station 269+23.14 to I-64 eastbound Baseline Station 339+97.18.
- Limits on I-65 southbound are from the north side of the bridge over Muhammad Ali Boulevard to the Ohio River bridges. I-65 Centerline Station 635+14.58 to I-65 southbound Baseline Station 33+68.23.
- Limits on I-65 northbound are from 30 feet north of the bridge over Liberty Street to the Ohio River bridges. I-65 Centerline Station 646+89.70 to I-65 northbound Baseline Station 31+86.49.
- Limits on I-71 are from east of I-64 to the northeast limit of the new structure over Frankfort Avenue. I-71 Centerline Station 517+02.21 to I-71 Centerline Station 522+00 +/- . I-71 Northbound and Southbound are to be constructed 3 lanes wide, as shown in the Conceptual Plans, at the northeast end of the new structure over Frankfort Avenue. Taper transitions are to be constructed from the 3 lane section to the existing 2 lane I-71 Northbound and Southbound roadways to the northeast.

Section 2 – The New I-65 northbound Ohio River Bridge and Existing JFK Bridge

The new I-65 Northbound Ohio River bridge crossing between downtown Louisville, Kentucky and Jeffersonville, Indiana shall be configured to carry northbound I-65 traffic across the river. The newly constructed bridge shall extend from the northern end of the Kennedy Interchange from the south in Kentucky to the newly constructed approach spans in Indiana. The new main structure shall be a three tower cable stay bridge. The new bridge and approach structures shall cross both Waterfront Park in Kentucky and the Ohio River Greenway in Indiana and are within the western portion of the Old Jeffersonville Historic District. This new northbound structure shall be located upstream of the existing JFK Bridge and shall carry six 12-foot lanes and two 12-foot shoulders. To the south, the cable stay bridge connects with new approach spans that are a part of the new Kennedy Interchange. To the north, approach spans shall be needed to span over part of the river, the flood wall, and local streets in Jeffersonville.

The existing I-65 JFK Bridge shall be re-decked and reconfigured to carry southbound traffic utilizing six 12-foot travel lanes and approximately two 9.5-foot shoulders. Some structural improvements shall be required. On the North end of the JFK Bridge, the existing Indiana bridge approaches shall be replaced.

Section 3 – The Indiana Approaches to the Downtown Ohio River Bridges

The Indiana approaches includes extending I-65 from West Market Street northward to approximately 1,250 feet north of Stansifer Avenue / West 14th Street. In addition to the improvements for I-65, improved local access is provided to the City of Jeffersonville and the Town of Clarksville.

I-65 shall be expanded from the existing three-lane configuration to four lanes in both the northbound and southbound directions. A new elevated ramp system shall connect US 31 at the Clark Memorial (2nd Street) Bridge with I-65. Additional access for Clarksville and Jeffersonville shall be provided with the extension of 6th Street / South Clark Boulevard under I-65 and added ramps. The CD ramp system and interchanges with I-65 at Court Avenue, 10th Street, and Stansifer Avenue / West 14th Street shall also be reconstructed for added capacity and safety.

There is significant bridge work at I-65 and the accompanying ramps over Court Avenue, 6th Street, 9th Street / Louisville & Indiana (L&I) Railroad, and 10th Street. Access to the 2nd Street bridge for US 31 traffic shall be improved with the construction of the proposed bridge over Court Avenue as well as the flyover ramp for the northbound traffic over 6th Street / I-65 for access onto I-65. A bridge widening at Stansifer Avenue for the southbound CD traffic shall eliminate an existing

at-grade crossing.

Retaining walls in this urbanized area shall be used extensively. To provide ramp access to Court Avenue for northbound US 31 traffic, the north approach of the 2nd Street Bridge shall be widened.

The East End Crossing consists of three Sections, designated as Sections 4, 5 and 6, which are described as follows:

Section 4 – The Kentucky Approaches to the East End Ohio River Bridge

The Kentucky approach provides four-lanes plus two auxiliary lanes between on KY 841 (Gene Snyder Freeway) from I-71 to US 42 along the existing roadway. From US 42 to the new Ohio River East End Bridge two lanes in each direction will be constructed to tie into the new bridge over the Ohio River (Section 5). The total length of Section 4 is 3.4 miles. The construction includes an approximately 1700- foot long tunnel beneath US 42 and the historic Drumanard Estate, with two tunnel bores, each carrying two lanes with shoulders. One bore is for northbound traffic and the other for southbound traffic. The tunnel is designed to provide adequate width such that a six lane facility can be accommodated in the future by simply providing re-striping of the roadway width with no additional construction required.

The new construction will also continue the four-lane construction with a bridge over Harrods Creek and River Road and approach spans to the new Ohio River Bridge that traverses Transylvania Beach Road.

Section 4 has been broken out into Sections 4A and 4B. Section 4A consists of the reconstruction of KY 841 from the I-71 connections to the northerly abutment of the proposed Harrods Creek/River Road bridge (approx. Sta. 149+77.99 northbound and 149+37.99 southbound). Section 4B consists of continuing the extension of KY 841 from the northerly abutment of the proposed Harrods Creek/River Road bridge to the north to the limits of the Kentucky Approach where it ties into the East End Bridge over the Ohio River. After construction, KYTC will assume the maintenance for Section 4A, while INDOT will provide maintenance of Section 4B, as well as for Sections 5 and 6.

Section 5 – The New East End Ohio River Bridge

The East End Bridge section consists of the construction of a new approximately 2,500 – foot long 4-lane cable – stayed bridge with twelve foot shoulders over the Ohio River. Similar to the tunnel in Section 4, the bridge is designed to accommodate six lanes in the future by only restriping the

existing roadway width without any further reconstruction. The bridge will also provide a 13-foot wide combined pedestrian and bicycle pathway on the southwesterly side of the bridge.

Section 6 – The Indiana Approaches to the East End Ohio River Bridge

The Indiana approach consists of a four-lane extension of SR 265 from SR 62 to the new East End bridge, providing two-lanes in each direction, for a distance of approximately 4.1 miles. Construction will include a new interchange at SR 265 and the SR 62 / Port Road, currently proposed to be a series of three roundabouts, two of which serves US 62 and a third providing a link to Port Road. In addition, a new diamond interchange will also be constructed at an extension of Old Salem Road.

General

The Project shall also include the construction of other elements that would be typical for an urban interstate project for the Downtown Crossing and a suburban freeway project for the East End Crossing. These shall include, but are not limited to, storm drainage, traffic barriers, pavement markings, signage, roadway and aesthetic lighting, aesthetic treatments, utility relocations, Intelligent Transportation Systems, and tolling infrastructure.

SECTION 4

ENVIRONMENTAL CONSIDERATIONS

In September 2003, the Federal Highway Administration issued a Record of Decision that identified the Preferred Alternative from a Final Environmental Impact Study (FEIS) as two new Ohio River Bridge Crossings, connected approaches, and reconstruction of the Kennedy Interchange, which is defined as the intersection of I-65, I-64, and I-71 in the Downtown Louisville area. As a result of a decision to modify the alternatives presented in the FEIS, the passage of time since the original EIS was developed, and an introduction of tolling to the concept, a decision was made that a Supplemental Final EIS (SFEIS) would be required. Documentation for those changes culminated with FHWA approval of the SFEIS on April 20, 2012 and ultimately to the issuance of a Revised Record of Decision (RROD) on June 20, 2012.

There are no permitting, environmental, or mitigation measures that were determined during the development of the Project that would cause a delay in the construction of the Project.

4.A Permits

The status of the permits and approvals required for the Downtown Crossing are outlined in the following list. All are currently being processed or have been submitted to the appropriate agencies for approval.

Section 1 – Downtown Kennedy Interchange and Approaches – Kentucky

- **Floodplain Construction Permit - Louisville MSD – Applicant: KYTC**
Application is no longer required by MSD due to state regulations.
- **Conditional Letter of Map Revisions (CLOMR) – FEMA / Louisville MSD – Applicant: KYTC**
Application was approved by MSD. An update is required once final bridge design is completed, currently expected in late 2013 or early 2014.
- **Risk Management Plan - Kentucky Division of Waste Management - Applicant: Contractor (Completed)**
- **National Pollution Discharge Elimination System (NPDES) permit - Kentucky Division of Water - Applicant: Contractor (Completed)**
- **USACE Levee Permit – Applicant: Contractor. Approved 8/20/2013.**

Section 2 – Downtown Bridge – Indiana and Kentucky

- **Construction in a Floodway permit – Indiana Department of Natural Resources (IDNR), Division of Water - Applicant: KYTC**

- Received final approval on October 31, 2012. Permit duration is for 5-years.
Indiana Navigable Waterways Act – Indiana Department of Environmental Management
- **(IDEM) – Office of Water Management- Applicant: KYTC**
Received final approval on October 31, 2012. Permit duration is for 5-years.
 - **Conditional Letter of Map Revisions (CLOMR) – FEMA / IDNR – Applicant: KYTC**
Application will be submitted once the final design is available in late 2013 or early 2014. .
 - **Section 401 Water Quality Certification - Kentucky Division of Water - Applicant: KYTC**
Received final approval on December 19, 2012. Permit duration is 2-years.
 - **Section 401 Water Quality Certification - IDEM - Applicant: KYTC**
Received final approval from IDEM on November 15, 2012. Permit duration is 2-years.
 - **Section 404 – US Army Corps of Engineers – Louisville District - Applicant: KYTC**
Not required for Section 2 – no fills proposed below Ordinary High Water (OHW).
 - **Section 10 of the Rivers and Harbors Act for Work in Navigable Waters of the US - Bridge Permit – US Army Corps of Engineers – Louisville District - Applicant: KYTC**
No Section 10 permit required because application has been made for Coast Guard Section 9 permit.
 - **Section 9 of the Rivers and Harbors Act for Work in Navigable Waters of the US - Bridge Permit US Coast Guard - Applicant: KYTC**
Approval given on March 20, 2013. Permit duration is 3-5 years.
 - **Floodplain Construction Permit - Louisville MSD – Applicant: KYTC**
This permit is no longer required as a result of new state regulations.
 - **Conditional Letter of Map Revisions (CLOMR) – FEMA / Louisville MSD – Applicant: KYTC**
Application will be submitted when final design of the bridge is completed in late 2013 or early 2014.
 - **NPDES Stormwater Construction – City of Jeffersonville, Indiana – No longer required – covered by IDEM Rule 5 Permit.**
 - **NPDES Stormwater - Post Construction – City of Jeffersonville, Indiana – No longer required – covered by IDEM Rule 5 Permit.**
 - **Erosion and Sediment Control Plan - Louisville MSD – Applicant: Contractor (Approved)**
 - **Risk Management Plan - Kentucky Division of Waste Management - Applicant: Contractor (Approved)**
 - **National Pollution Discharge Elimination System (NPDES) permit - Kentucky Division of Water - Applicant: Contractor (Approved)**
 - **Aviation Lighting Permit (Crane) - Kentucky Airport Zoning Commission (KAZC) – Applicant: KYTC**
Received final approval from KAZC on April 19, 2012. Permit duration is 3-years.
 - **Aviation Lighting Permit (Bridge) – KAZC – Applicant: KYTC**
Received final approval from IDEM on April 19, 2012. Permit duration is 3-years.
 - **Tall Structure Permit (Crane) – Federal Aviation Administration (FAA) – Applicant: KYTC**

- Received final approval from FAA on February 16, 2012. Duration 18 months
- **Tall Structure Permit (Bridge) – FAA – Applicant: KYTC**
Received final approval from FAA on February 16, 2012. Duration 18 months

Section 3 – I-65 Indiana Approaches – Indiana

- **Section 401 Water Quality Certification - IDEM - Applicant: KYTC**
Received final approval from IDEM on November 15, 2012. Permit duration - 2-years. Permit was modified for a temporary stream relocation at Cane Creek, which was approved by IDEM on September 12, 2013.
- **Section 404 – US Army Corps of Engineers – Louisville District - Applicant: KYTC**
Received final approval from the Corps of Engineers on November 21, 2012. Permit duration - 3-years. Permit was modified for a temporary stream relocation at Cane Creek, which was approved by USACE on September 25, 2013.
- **Section 10 of the Rivers and Harbors Act for Work in Navigable Waters of the US - Bridge Permit – US Army Corps of Engineers – Louisville District - Applicant: KYTC**
Received final approval from the Corps of Engineers on November 21, 2012. Permit duration - 3-years.
- **Rule 5 Pollution Discharge Elimination System – IDEM – Applicant: Contractor - 5 years.**
(Approvals were obtained in April, May, June, and September, 2013 in phases as project progresses).
- **NPDES Stormwater Construction – City of Jeffersonville, Indiana – No Longer required – covered by IDEM Rule 5 Permit.**
- **NPDES Stormwater - Post Construction – City of Jeffersonville, Indiana – No longer required – covered by IDEM Rule 5 Permit.**
- **Tall Structure Permit (Crane) – Federal Aviation Administration (FAA) – Applicant: INDOT.**
Initial application was approved in June, 2013. Six (6) light pole applications were revised and re-submitted, which received approval from FAA on September 25, 2013.
- **Levee System Modification Permit**
USACE acting for Jeffersonville and Clarksville Control District approved the permit on August 20, 2013. Duration – 4 years.

Section 4

- **Floodplain Construction Permit - Louisville MSD – Applicant: INDOT (Approved)**
Duration – 5 years.
- **Conditional Letter of Map Revisions (CLOMR) – FEMA / Louisville MSD – Applicant: INDOT**
Application is to be submitted when final bridge design is complete in late 2013 or early 2014.
- **Section 401 Water Quality Certification - Kentucky Division of Water - Applicant: INDOT**

Permit was approved on May 8, 2013. Permit duration is 2-years.

- **Section 404 – US Army Corps of Engineers – Louisville District - Applicant: INDOT**
Approved by USACE on May 16, 2013.
- **Section 9 of the Rivers and Harbors Act for Work in Navigable Waters of the US - Bridge Permit- US Coast Guard - Applicant: INDOT**
Approved by the Coast Guard on April 29, 2013. Temporary coffer dams were approved on May 21, 2013. Permit duration is 3-5 years.
- **Federal Permit for Eagle Take – Applicant: INDOT**
Received final approval on November 21, 2012. Permit duration is 3 years.
- **Risk Management Plan - Kentucky Division of Waste Management - Applicant: Contractor (Approved)**
- **National Pollution Discharge Elimination System (NPDES) permit - Kentucky Division of Water - Applicant: Contractor – Approved April 8, 2013.**

Section 5

- **Construction in a Floodway permit – Indiana Department of Natural Resources (IDNR), Division of Water - Applicant: INDOT**
Received final approval on October 31, 2012. Permit duration is for 5-years.
- **Indiana Navigable Waterways Act – Indiana Department of Environmental Management (IDEM) – Office of Water Management- Applicant: INDOT**
Received final approval on October 31, 2012. Permit duration is for 5-years.
- **Conditional Letter of Map Revisions (CLOMR) – FEMA / IDNR – Applicant: INDOT**
Application will be submitted once the final design of the bridge is received, currently expected in late 2013 or early 2014.
- **Section 401 Water Quality Certification - Kentucky Division of Water - Applicant: INDOT**
Received final approval on March 7, 2013. Permit duration is 2-years.
- **Section 401 Water Quality Certification - IDEM - Applicant: INDOT**
Received final approval on August 14, 2012. Permit duration is 2-years.
- **Section 404 – US Army Corps of Engineers – Louisville District - Applicant: INDOT**
Approved by USACE on May 16, 2013.
- **Section 10 of the Rivers and Harbors Act for Work in Navigable Waters of the US - Bridge Permit – US Army Corps of Engineers – Louisville District - Applicant: INDOT**
No Section 10 permit required because application has been made for Coast Guard Section 9.
- **Section 9 of the Rivers and Harbors Act for Work in Navigable Waters of the US - Bridge Permit - US Coast Guard - Applicant: INDOT**
Approved by the US Coast Guard on May 8, 2013. Permit duration is 3-5 years.
- **Floodplain Construction Permit - Louisville MSD – Applicant: INDOT**
Application no longer required due to change in state regulations.
- **Risk Management Plan - Kentucky Division of Waste Management - Applicant: Contractor (Approved)**
- **National Pollution Discharge Elimination System (NPDES) permit - Kentucky Division of Water Applicant: Contractor Approved April 8, 2013.**

- **Aviation Lighting Permit (Crane) - Kentucky Airport Zoning Commission (KAZC) – Applicant: INDOT**
Approved by KAZC on April 18, 2013. Permit duration is 3-years.
- **Aviation Lighting Permit (Bridge) – KAZC – Applicant: INDOT**
Approved by KAZC on April 18, 2013. Permit duration is 3-years.
- **Tall Structure Permit (Crane) – Federal Aviation Administration (FAA) – Applicant: INDOT**
Received final approval from FAA on September 12, 2012. Duration 18 months
- **Tall Structure Permit (Bridge) – FAA – Applicant: INDOT**
Received final approval from FAA on September 12, 2012. Duration 18 months

Section 6

- **Construction in a Floodway permit – Indiana Department of Natural Resources (IDNR), Division of Water - Applicant: INDOT**
Received final approval (Lentzier Creek crossing) on February 8, 2013. Permit duration is for 5 years.
- **Section 401 Water Quality Certification - IDEM - Applicant: INDOT**
Received final approval on August 14, 2012. Permit duration - 2 years.
- **Section 404 – US Army Corps of Engineers – Louisville District - Applicant: INDOT**
Received final approval from the Corps of Engineers on September 4, 2012. Permit duration - 3 years.
- **Rule 5 Pollution Discharge Elimination System – IDEM – Applicant: Contractor - Approved on July 17, 2013. Duration – 5 years.**
- **Tall Structure Permit (Crane) – Federal Aviation Administration (FAA) – Applicant: INDOT**
Received final approval from FAA on August 31, 2012. Duration 18 months
- **Tall Structure Permit (Bridge) – FAA – Applicant: INDOT**
Received final approval from FAA on August 31, 2012. Duration 18 months

4.B Mitigation Plan

A mitigation plan was developed for the project for unavoidable impacts, including conceptual measures that will be further considered during the development of construction plans. These mitigation measures included:

- **Endangered Species** – Construction activities are defined to avoid impacts to endangered species, including tree clearing and other similar activities that are to be performed seasonally. On the East End, protection is provided in the vicinity of an eagle’s nest that limits construction activities that create noise during nesting periods.
- **Terrestrial Wildlife and Habitat** – Trees and vegetation are to be replaced to the maximum extent possible in areas of disturbance.

- Waterways and Riparian Vegetation – Best Management Practices (BMP's) will be utilized for the construction around all waterways. Areas disturbed by construction are to be re-planted with trees and vegetation at the end of construction.
- Floodplains – All work in the floodplains shall be in accordance with permits from the Kentucky Division of Water, the Louisville/Jefferson County Metropolitan Sewer District, the Indiana Department of Natural Resources, and the US Corps of Engineers. Details of the permits are provided in Section 4A.
- Wetlands - Where feasible, wetlands are to be spanned or impacts minimized by narrowing medians and shoulder widths and through use of retaining walls instead of slopes. Where it is infeasible to mitigate, offsite mitigations are to occur or other agreements will be developed with the appropriate agencies.
- Erosion Control – BMP's practices will be used to prevent non-source point pollution and to control stormwater runoff and sediment damage to water quality and aquatic habitats.
- Groundwater Protection – The area to be disturbed by the construction of piers of other bridge substructure below the water surface shall be minimized to the extent possible to limit streambed disturbance and re-suspension of streambed sediments. On the East End, construction is in the vicinity of the Louisville wellhead protection area. The contractor will coordinate with the Louisville Water Company and the Kentucky Division of Water's Groundwater Protection Branch to assure that construction methods are employed to prevent contamination of the aquifer.
- Air Pollution – Construction activities are to be performed in a manner that controls emissions from blasting, drilling, production of materials, hauling, or any other construction operations. Dust will be controlled by watering and application of calcium chloride or other techniques to reduce dust and to control related air pollution.
- Context Sensitive Solutions – Historic Preservation Plans have been developed for each of the surrounding historic districts. These HPP's provide recommendations for landscaping or, in some instances, development of gateways into the Districts. Specific elements of the new Ohio River Bridge Crossing design are also elaborated in the plans.
- Right-of-Way – Right of way acquisition is to be minimized particularly in the vicinity of historic properties.
- Noise – The First Amended Memorandum of Agreement (FAMOA) includes a stipulation to minimize noise effects on historic properties through the use of innovative pavement designs, bridge decks and joints, berms, noise barriers where feasible, and landscaping. The design build teams will also be responsible for complying with local noise ordinances.
- Construction Blasting and vibration – The design-build teams shall develop construction blasting and vibration plans in advance of any construction activities that would require blasting or create vibration. No blasting is anticipated to occur in the Downtown, but some equipment and operations will create vibrational effects. Blasting programs on the East End will be utilized that prevent ground vibration in excess of 2.0 in/sec peak particle velocity (PPV) at any structure, in excess of 0.5 in/sec PPV at any residential structure, in excess of 0.2 in/sec PPV at any fragile structures; and in excess of 0.12 in/sec PPV at any very fragile historical buildings.

- Traffic Control – The Design Build Team shall work with KYTC and INDOT to identify traffic strategies to mitigate traffic changes caused by construction.
- Historic and Archaeological Resources – Stipulations in the FAMOA requires continued coordination with the Historic Advisory Teams on historic and archaeological issues.
- Park and Recreational Resources – Closures in the Waterfront Park in Louisville and the Greenway Corridor in Indiana are to be limited to short durations. Areas of disturbance in the parks are to be reconstructed to conditions that are equal or better than existing. All pedestrian and bicycle facilities are to be restored. The Extreme Park will be re-constructed to replace areas directly impacted by final construction. The replacement will be done by Louisville Metro Government in accordance with an agreement between Metro and KYTC.
- Environmental Justice – KYTC and INDOT entered into an agreement on May 2, 2013 with the Transit Authority of River City (TARC) to provide funding in the amount of \$20 million for enhanced bus service for the time limits of the project and for other measures that will provide service into the future. Those funds were subsequently provided to TARC, which acquired a total of 21 new buses with the funds. Prior to the implementation of tolling, an outreach program will be developed that includes detailed effects of tolls on low-income and minority populations. An initial outreach program has already occurred which solicited input from EJ Community Leaders and allowed public input via web responses, and through localized kiosks set up in high traffic areas in the EJ communities. The responses will be considered in the development of the tolling policy.

4.C Project Enhancements

Project Enhancements are included in the development of the Project. These Enhancements measures are as follows:

- Minority Historic Rehabilitation Craftsman Training Program - \$1.5 Million is to be made available to the KY State Historic Preservation Office (SHPO) to initiate a Craftsman Training Program in accordance with a Memorandum of Understanding that is to occur between KY SHPO and KYTC. The program will operate for a minimum of three years.
- Mass Transit—Enhanced Bus Service – On May 2, 2013, KYTC, INDOT and TARC was approved which provided \$20 Million in funds for capital investments in new buses, reconstruct existing facilities to improve ridership, and to develop public awareness programs to encourage ridership during construction. In accordance with the agreement, each state has subsequently provided \$10 Million to TARC. Twenty-one buses are to be purchased with a portion of those funds. The buses will encourage new riders as well as offer extended or new routes through the EJ communities.
- Monitoring and Enforcement of Commitments – The DBT shall develop a plan for the monitoring and enforcing of all commitments incorporated into the project either by regulation or as a result of commitments made through the RROD.

If a mitigation measure is found to be ineffective, KYTC will develop other appropriate mitigation, in consultation with applicable resource agencies.

SECTION 5

PROJECT IMPLEMENTATION

DOWNTOWN CROSSING

The construction of the LSIORBP Downtown Crossing will be accomplished by using the design – build method of contracting. KYTC issued a Request for Qualifications for the Project on March 7, 2012. Five statements of qualifications were received in response on April 2, 2012. Subsequently, KYTC shortlisted three Proposers on April 16, 2012. The three Proposers were:

- 1) **Ohio River Transportation Constructors**, a joint venture of Kiewit Infrastructure, Traylor Brothers, Inc., Kokosing Construction Co. Inc., and Massman Construction Co.
- 2) **Skanska, Flatiron, Dragados USA**
- 3) **Walsh Construction Company**

On August 3, 2012, KYTC issued the Request for Proposal to the shortlisted Proposers. The three teams submitted their Technical Proposals on October 1, 2012. Price Proposals were submitted on November 15, 2012, separate from the Technical Proposals.

A scoring committee comprised of KYTC employees reviewed and scored the Technical Proposals on a 100 point system. The scores for each of the three teams were unveiled on November 15 prior to opening the Price Proposals. After compiling the technical scores and the proposed cost into a pre- announced equation, KYTC announced on that date that Walsh was selected as the apparent best value Proposer. On December 6, 2012, KYTC announced that the project had been awarded to the Walsh Team. A Notice to Proceed was provided on December 28, 2012. The Walsh proposal included a proposed substantial completion date of December 9, 2016.

A comprehensive Project Management Plan (PMP) was developed for the project in 2012. An update of this plan will occur in the coming months with incorporation of information from the Walsh Team. KYTC, KPTIA, INDOT and IFA will oversee all of the activities for the design build process. A discussion of the work that has already been accomplished and activities that are to occur in accordance with the PMP are addressed in the following discussions:

- **Planning & Environmental** – In 1998, Community Transportation Solutions, a joint venture of HMB Professional Engineers; BLN Engineers; and Parsons Transportation group, was selected to perform the initial detailed planning and environmental studies for the project. The Federal Highway Administration (FHWA) issued a Notice of Intent in the Federal Register on March 27, 1998 to prepare an EIS to evaluate alternatives for improving cross-river mobility between

Jefferson County, Kentucky, and Clark County, Indiana. FHWA then issued a Record of Decision in September 2003. In January 2011, revisions to reduce costs were announced by Kentucky Governor Beshear, Indiana Governor Daniels and Louisville Mayor Greg Fischer. It was also announced that tolling would become a necessary part of the project to complete financing. A supplemental EIS was prepared to examine the effect on the project from the announced revisions to review any change of conditions resulting from the passage of time since the approval of the 2003 ROD. The Supplemental Final EIS was approved by FHWA in April 2012 and a Revised Record of Decision was issued on June 20, 2012.

- **Preliminary Design** – Preliminary design (30% plans) was developed by consultants selected by KYTC and INDOT. The provided plans were sufficient to initiate the project right of way acquisition and utility coordination. Plans were provided to the design – build Proposers for their use as concept plans for the development of their proposal submittal.
- **Final Design** – Final design will be performed by the Walsh Teams as part of the scope of their contract. KYTC, in conjunction with staff associated with Community Transportation Solutions, will conduct “over-the-shoulder” and direct design reviews of the design – build team’s design activities. FHWA and KPTIA staff will be involved in project audits as work progresses. The design – build team will be required to complete and document an extensive design review program. KYTC will be responsible for ensuring proper interagency.
- **Right of Way Acquisition** – The project concept plans were developed to a level that were suitable to initiate the acquisition of required properties in advance of advertising the project for the design – build proposals. All right-of-way was acquired or rights-of-entry obtained on all parcels in advance of the dates provided the contractor. The proposers were encouraged to not utilize areas outside of the proposed rights of way to avoid concerns with the environmental documentation. Some minor additional acquisition could be considered if required by the design – build teams, but will have to be carefully reviewed for implementation. Any additional acquisition will be the responsibility of the Walsh Team. Plan revisions that reduce right of way are acceptable. 24 parcels were acquired in Kentucky and 48 in Indiana. The Wayside Mission, a homeless shelter, and KYTC reached an agreement for the funding of a replacement facility that portion of the current building that must be removed for the project construction. This agreement states that Wayside’s construction must be completed and the involved individuals relocated by March 1, 2015. This date of availability was provided to the proposers in the RFP and was considered as part of their project bid. All acquisition was in compliance with the appropriate federal and state laws and regulations and in accordance with the established schedule for acquisition.

Environmental Compliance and Permit Monitoring – The Walsh Team will be responsible for monitoring all of the project activities to assure compliance with all environmental commitments and permitting during all project phases. KYTC, in conjunction with its technical review consultant team, will provide oversight to assure

compliance. Walsh, in conjunction with KYTC’s construction inspection consultant team, will be responsible for monitoring the construction activities which will include: review of erosion and sedimentation control and the associated water runoff devices, reporting of any archaeological discoveries or identification of additional contaminated materials, reporting and response of any hazardous materials spills, and compliance with all permits including those of the Corps of Engineers and the US Coast Guard.

Most major permits including the 401, 404, Section 9 and Section 10, and FAA permits have already been applied for or received. The Walsh Team will be responsible for obtaining the local permits.

- **Public Involvement** – Considerable public involvement occurred during the development of the Final Environmental Impact Statement (FEIS) and the Record of Decision (ROD), the development of the concept plans provided to the design – build proposers, and more recently during the development of the Supplemental FEIS and Revised ROD, which was approved in June 2012. A large number of public meetings and hearings were held in conjunction with the progress with each of the noted activities.

In addition, separate Area Advisory Teams (AAT) were created for both the Kentucky and Indiana approach segments and were combined for the Ohio River Bridge Crossing. The AAT’s consist of key project stakeholders including community leaders, representatives of the involved neighborhoods, and other members who requested to be team members. Items that would affect the community were identified and direction or resolution of each item was sought.

All historical compliance was coordinated with a Bi-State Historic Consultation Team (BSHCT), which is co-chaired by representatives from the Kentucky and Indiana State Historic Preservation Offices and from the KYTC and INDOT Branches for Cultural and Historic. Upon their recommendation, matters of historical concern were brought forward to the Indiana Historical Preservation Advisory Team (IHPAT) and/or the Kentucky Historical Preservation Advisory Team (KHPAT), as appropriate. The HPAT consists of persons who have a specific interest in the historic elements of the project. Continued community involvement is mandated as the Walsh Team finalizes design and proceeds with construction. FHWA personnel will continue its monitoring of the public involvement in the same manner as they performed during the preparation of the environmental documentation.

- **Intelligent Transportation Systems** – ITS already exist that provides information for the Louisville and Southern Indiana interstate systems. TRIMARC, which is the lead agency for the system, is funded through a cooperative effort between the Kentucky Transportation Cabinet (KYTC) and the Federal Highway Administration. Northrop Grumman has been the contractor responsible for developing the design, installing the systems and software, and operating and maintaining the equipment since project inception. Key contractor team members include TEC, Samaritania, CDM Smith, and Bluegrass Electrical Consultants; and in association

with Global Solutions LLC, HDDS Inc., J.Y. Legner & Associates, ClasSickle, Inc. and Redwing Ecological Services, Inc.. This process began in 1998 and is continuing to move forward with expanding coverage to outlying highways in the Metropolitan Louisville and Southern Indiana area as funding becomes available.

TRIMARC is part of a national initiative to deploy Intelligent Transportation Systems (ITS) to 75 of the nation's largest metropolitan areas. It includes an integrated system of sensors, cameras, dynamic message signs, highway advisory radio and computers monitoring more than 60 miles of interstate traffic in the greater Louisville and Southern Indiana urbanized area. Northrop Grumman is the system integrator and operator for TRIMARC. Northrop Grumman designed and manages the Louisville control center that collects information on traffic flow, construction areas and accidents. Once collected, the information then is disseminated to motorists via dynamic message signs and highway advisory radio. Information is also transmitted to a KYTC Command Center for additional monitoring.

Similar to the TriMARC operation, a Traffic Management Center located in Indianapolis is the hub for all ITS operation in the Indiana portion of the corridor.

The TRIMARC website offers this information and provides real-time streaming video of eight area interstate corridors. This site also offers traffic flow conditions and estimated travel times. In addition to dynamic messaging and web-based communication, information is available on government access television, thanks to a morning traffic program produced in cooperation with Louisville Metro TV Channel 25 and Northrop Grumman.

The ITS infrastructure and operational systems will be maintained or replaced as construction activities proceed and are completed. In addition to the existing systems, a communication system will be developed that will integrate the proposed tolling systems into the existing ITS system.

- **Toll Infrastructure** – As provided in Section 19 of the LSIORBP Downtown Crossing Design Build Procurement Project Scope, the DBT shall coordinate with a Tolling System Integrator (TSI), whose procurement shall occur at a later date. As part of the lump sum bid, the DBT shall provide mainline and ramp gantry frames, space frame foundations, dynamic messaging sign structures, the site work and the utility systems for any toll facility site and conduit on the bridges for future cable installation.

The TSI shall design, develop, integrate, deliver, install and test the entire tolling and violation enforcement system, which includes all equipment installed at the roadside, software, the toll data center servers, and the entire back office, which would consist of the electronic toll collection system account management, customer service center functions, and the violation processing centers.

- **Construction** – The Walsh Team has been selected as the Design – Build Team for

the Downtown Crossing. KYTC in conjunction with Community Transportation Solutions, the General Engineering Consultant (GEC) who has provided general oversight of the project since 1998, will provide the continued general oversight of the project. KYTC procured a construction inspection consultant team led by HDR. Activities of this team includes monitoring and reviewing project documentation to ensure that plans, specifications, standards, reporting, and construction are in compliance with applicable federal laws and regulations. This team will also provide independent monitoring of the construction to verify construction progress, construction invoicing and quality of work.

EAST END CROSSING

The construction of the LSIORBP East End Crossing will be accomplished by using the Public Private Partnership method of contracting. The Indiana Finance Authority (IFA) issued a Request for Qualifications for the Project on March 9, 2012. Six statements of qualifications were received in response on April 2, 2012. Subsequently, the IFA shortlisted four Proposers on April 20, 2012. The four shortlisted Proposers were:

- **East End Mobility Partners**
 - SNC-Lavalin Capital
 - John Laing Investments Limited
 - Zachry Resources, Inc.
 - Tutor Perini Corporation

- **Ohio River Mobility Group**
 - ACS Infrastructure Development, Inc.
 - Hochtief PPP Solutions North America, Inc.
 - Skanska Infrastructure Development, Inc.
 - Flatiron Constructors, Inc.
 - Dragados USA, Inc.

- **Ohio River Transportation Partners**
 - Infrared Capital Partners Limited
 - Balfour Beatty Capital
 - Kiewit Development Company
 - Traylor Bros., Inc.
 - Massman Construction Co.

- **WVB East End Partners**
 - Walsh Investors, LLC
 - VINCI Concessions S.A.S.
 - Bilfinger Berger PI International Holding GmbH

On July 31, 2012, the IFA issued a Request for Proposal to the selected Proposers and subsequently the IFA received responses to the RFP, which included the Technical Proposal and a finance plan, from the Proposers on October 26, 2012.

An RFP Evaluation Committee was created which reviewed and scored the Technical Proposal and Finance Plan. Subsequently the scores were reviewed by the IFA and on November 16 the Team of WVB East End Partners were selected as the “Preferred Proposer”. On December 27, 2012 both the IFA and WVB East End Partners, LLC executed a Public Private Agreement.

A comprehensive Project Management Plan (PMP) was developed for the project in 2012. An update of this plan will occur in the coming months with incorporation of information from the WVB East End Partners Team. The IFA and their East End Technical Team will oversee all of the activities for the design and construction process. A discussion of the work that has already been accomplished and activities that are to occur in accordance with the PMP are addressed in the following discussions:

- **Planning & Environmental** – In 1998, Community Transportation Solutions, a joint venture of HMB Professional Engineers; BLN Engineers; and Parsons Transportation group, was selected to perform the initial detailed planning and environmental studies for the project. The Federal Highway Administration (FHWA) issued a Notice of Intent in the Federal Register on March 27, 1998 to prepare an EIS to evaluate alternatives for improving cross-river mobility between Jefferson County, Kentucky, and Clark County, Indiana. FHWA then issued a Record of Decision in September 2003. In January 2011, revisions to reduce costs were announced by Kentucky Governor Beshear, Indiana Governor Daniels and Louisville Mayor Greg Fischer. It was also announced that tolling would become a necessary part of the project to complete financing. A supplemental EIS was prepared to examine the effect on the project from the announced revisions to review any change of conditions resulting from the passage of time since the approval of the 2003 ROD. The Supplemental Final EIS was approved by FHWA in April 2012 and a Revised Record of Decision was issued on June 20, 2012.
- **Preliminary Design** – Preliminary design (30% plans) were developed by consultants selected by KYTC and INDOT. The provided plans were sufficient to initiate the project right of way acquisition and utility coordination. Plans were provided to the Proposers for their use as concept plans for the development of their proposal submittal.
- **Final Design** – Final design will be performed by the WVB Team as part of the scope of their contract. INDOT with the East End Technical Team will conduct and direct reviews of the team’s design activities. FHWA and the Technical Team will be involved in project audits as work progresses.
- **Right of Way Acquisition** – The project concept plans were developed to a level that was suitable to initiate the acquisition of required properties in advance of

advertising the project for the design – build proposals. All properties have now been acquired that are required for the East End Crossing. The proposers were encouraged to not utilize areas outside of the proposed rights of way to avoid concerns with the environmental documentation. Some minor additional acquisition could be considered if required by the developer, but will have to be carefully reviewed for implementation. Any additional acquisition will be the responsibility of the WVB Team. Plan revisions that reduce right of way are acceptable. All acquisition will be in compliance with the appropriate federal and state laws and regulations and in accordance with the established schedule for acquisition.

- **Environmental Compliance and Permit Monitoring** – The WVB Team will be responsible for monitoring all of the project activities to assure compliance with all environmental commitments and permitting during all project phases. The IFA in conjunction with Community Transportation Solutions, the project’s General Engineering Consultant, will provide oversight to assure compliance. WVB, in conjunction with the technical team will be responsible for monitoring the construction activities which will include: review of erosion and sedimentation control and the associated water runoff devices, reporting of any archaeological discoveries or identification of additional contaminated materials, reporting and response of any hazardous materials spills, and compliance with all permits including those of the Corps of Engineers and the US Coast Guard.

Most major permits including the 401, 404, Section 9 and Section 10, and FAA permits have already been applied for or received. The Walsh Team will be responsible for obtaining the local permits.

- **Public Involvement** – Considerable public involvement occurred during the development of the Final Environmental Impact Statement (FEIS) and the Record of Decision (ROD), the development of the concept plans provided to the design – build proposers, and more recently during the development of the Supplemental FEIS and Revised ROD, which was approved in June 2012. A large number of public meetings and hearings were held in conjunction with the progress with each of the noted activities.

In addition, separate Area Advisory Teams (AAT) were created for both the Kentucky and Indiana segments and were combined for the Ohio River Bridge Crossing. The AAT’s consist of key project stakeholders including community leaders, representatives of the involved neighborhoods, and other members who requested to be team members. Items that would affect the community were identified and direction or resolution of each item was sought.

All historical compliance was coordinated with a Bi-State Historic Consultation Team (BSHCT), which is co-chaired by representatives from the Kentucky and Indiana State Historic Preservation Offices and from the KYTC and INDOT Branches for Cultural and Historic. Upon their recommendation, matters of historical concern were brought forward to the Indiana Historical Preservation Advisory Team (IHPAT) and/or the

Kentucky Historical Advisory Team, as appropriate. The HPAT consists of persons who have a specific interest in the historic elements of the project. Continued community involvement is mandated as the Walsh Team finalizes design and proceeds with construction. FHWA personnel will continue its monitoring of the public involvement in the same manner as they performed during the preparation of the environmental documentation.

- **Intelligent Transportation Systems** – ITS already exist that provides information for the Louisville and Southern Indiana interstate systems. TRIMARC, which is the lead agency for the system, is funded through a cooperative effort between the Kentucky Transportation Cabinet (KYTC) and the Federal Highway Administration. Northrop Grumman has been the contractor responsible for developing the design, installing the systems and software, and operating and maintaining the equipment since project inception. Key contractor team members include TEC, Samaritania, CDM Smith, and Bluegrass Electrical Consultants; and in association with Global Solutions LLC, HDDS Inc., J.Y. Legner & Associates, ClasSickle, Inc. and Redwing Ecological Services, Inc.. This process began in 1998 and is continuing to move forward with expanding coverage to outlying highways in the Metropolitan Louisville and Southern Indiana area as funding becomes available.

TRIMARC is part of a national initiative to deploy Intelligent Transportation Systems (ITS) to 75 of the nation's largest metropolitan areas. It includes an integrated system of sensors, cameras, dynamic message signs, highway advisory radio and computers monitoring more than 60 miles of interstate traffic in the greater Louisville and Southern Indiana urbanized area. Northrop Grumman is the system integrator and operator for TRIMARC. Northrop Grumman designed and manages the Louisville control center that collects information on traffic flow, construction areas and accidents. Once collected, the information then is disseminated to motorists via dynamic message signs and highway advisory radio. Information is also transmitted to a KYTC Command Center for additional monitoring.

The TRIMARC website offers this information and provides real-time streaming video of eight area interstate corridors. This site also offers traffic flow conditions and estimated travel times. In addition to dynamic messaging and web-based communication, information is available on government access television, thanks to a morning traffic program produced in cooperation with Louisville Metro TV Channel 25 and Northrop Grumman.

Similar to the TRIMARC operation, a Traffic Management Center located in Indianapolis is the hub for all ITS operation in the Indiana portion of the corridor.

The ITS infrastructure and operational systems will be maintained or replaced as construction activities proceed and are completed. In addition to the existing systems, a communication system will be developed that will integrate the proposed tolling systems into the existing ITS system.

- **Toll Infrastructure** – Toll infrastructure is included in the agreement. The toll infrastructure is comprised of mainline and ramp gantry frames, space frame foundations, dynamic messaging sign structures and conduit on the bridges for future cable installation.
- **Construction** – The WVB Team will be responsible for the construction, material procurement and Quality Control of the project. Their work includes the construction, engineering, inspection, materials acceptance and certifications. The WVB Team will be responsible for certifying the construction of the project. Activities of this team will include monitoring and reviewing project documentation to ensure that plans, specifications, standards, reporting, and construction are in compliance with applicable federal laws and regulations. This team will also provide independent monitoring of the construction to verify construction progress, construction invoicing and quality of work.

SECTION 6

DESIGN STANDARDS

Concept plans were developed by selected design consultant teams for the project. KYTC, INDOT, and Community Transportation Solutions provided oversight of the design to assure compliance with SFEIS and RROD and in accordance with materials prepared in coordination with environmental resource and regulatory agencies. These concept plans were provided to the proposers for the Downtown Crossing and East End Crossing design – build teams. The two teams will be responsible for the engineered final design upon receipt of their Notice to Proceed for their respective crossings.

The Design Criteria for the LSIORBP - Downtown and East End Crossings procurements are consistent with the current practices and standards of Kentucky Transportation Cabinet (KYTC), Indiana Department of Transportation (INDOT), Federal Highway Administration (FHWA) and the American Association of State Highway and Transportation Officials (AASHTO). The criteria for the geometric design are presented in summary form in Appendix A. The system will be constructed utilizing the design-build process. Installation and integration of the tolling equipment will be completed under a separate contract.

6.A Roadway

The proposed Downtown Crossing and East End Crossing will be a fully controlled access facility and designed for safe operating speeds consistent with similar KYTC and INDOT roadway facilities. The design shall be in accordance with the guidelines and policies in Appendix A.

If the guidelines, standards or policies have desirable and/or minimum values, the facility will, where possible, be designed for the desirable values. Similarly, in case of conflicting design parameters in the various resources, the proposed design shall adhere to the most conservative values.

The proposed Downtown Crossing river bridges will have 6 lanes (northbound) on the new bridge and six lanes (southbound) on the Kennedy Bridge. I-65 will have a divided roadway and shall be designed and constructed to meet a 55 or 60 miles per hour design speed for a level urban freeway. Both inside and outside shoulders for the Downtown Crossing Interstates shall be 12 feet wide. A concrete median barrier wall will separate the inside shoulders. Additional details of the roadway typical sections can be found in Appendix B.

The proposed East End Crossing will be a four lane divided roadway designed and constructed to meet a 70 mile per hour design speed for a level to rolling suburban freeway. On the Kentucky Approach, concrete median barrier will separate the inside paved shoulders. While the Indiana

Approach will have a depressed median. The Indiana portion of the East End Crossing will have milled rumble strips. Included is a 1700' long twin bore tunnel under the Historic Drumanard Estate. The 2280 foot long span over the Ohio River will be a two tower concave diamond cable stayed bridge.

The design and construction of all local cross streets ("S" Lines), ramps and service roads, providing access, widening and improvements shall be of sufficient length to tie to existing based upon the current guidelines and standards. The "S" Lines shall be designed for the appropriate speed based upon the functional classification and a speed consistent with the currently posted speed limits.

The request for proposal for construction of the Downtown Crossing established the construction to be completed and opened to traffic no later than June 30, 2018. The recent bid and proposal from the Walsh team established a substantial completion date of December 9, 2016

The request for proposal for construction of the East End Crossing established the construction to be completed and opened to traffic no later than June 20, 2017. The recent bid and proposal from the WVB East End Partners established a completion date of October 31, 2016.

6.B Pavement

Paving limits shall satisfy the requirements of the approved project plans. Alternate pavement designs for the mainline traveled way, ramps, shoulders and local streets have been performed by KYTC and INDOT and are presented in Appendix C.

The pavement designs will be completed using the design manual, policies and guidance in Appendix D. All work necessary to construct the pavement sections for all roadways, private parking areas, and driveways in accordance with the requirements of Project Scope of Work will be performed by the Design-Build teams.

The Design-build teams shall be responsible for design of continuous shoulder drains and outlets for the mainline. The shoulder drain design and outlet locations are to be submitted to KYTC and INDOT for review and acceptance. The shoulder drain design shall be in accordance with INDOT or KYTC Roadway Standard Drawings, as appropriate.

6.C Bridge and Wall Structures

Bridge design and construction criteria shall conform to the most current versions of the design guidance and policies noted in Appendix D.

Design load for structures and ramp structures will be HL-93 loading. All structures shall be designed for actual dead loads and shall include an additional design load for a future-wearing surface at 35 pounds per square foot.

Bridge materials will be non-prestressed cast-in-place concrete, prestressed precast concrete, or steel, based on the design-build teams design and subject to KYTC or INDOT approval. The design-build teams shall submit structure recommendations and design criteria for KYTC, INDOT and FHWA review and acceptance prior to submittal of the preliminary plans.

6.D Hydraulics

All hydraulic designs shall conform to the most current versions of the design guidance and policies noted in Appendix D.

The design of drainage systems shall include reconfiguration of the existing drainage systems within the Project limits, and design of new and reconfigured storm drainage systems as required by the performance requirements in the Project Scope. Facilities compatible with existing drainage systems and all applicable municipal drainage plans or systems in adjacent properties shall be provided.

KYTC and INDOT have obtained the major permits required for the project. Any required coordination with the environmental agencies, approvals from the environmental agencies, public involvement and/or permit modifications resulting from a variation in the proposed design and/or construction method, or utility relocation/construction shall be the sole responsibility of the DBT and will be coordinated with KYTC and/or INDOT. KYTC and/or INDOT will not allow any contract time extensions associated with obtaining a permit modification, public involvement or additional agency coordination/approvals.

KYTC provided the following materials for the Downtown Crossing:

US Army Corps of Engineers

- Individual Section 404 Permit
- Section 10 Bridge Permit

US Coast Guard

- Section 9 Bridge Permit

Federal Aviation Administration

- FAA 7460 Tall Structure Permit - Bridge
- FAA 7460 Tall Structure Permit - Crane

Federal Emergency Management Agency

- Conditional Letters of Map Revisions

Indiana Department of Natural Resources, Division of Water

- Construction in a Floodway Permit

Indiana Department of Environmental Management

- Indiana Navigable Water Act Permit
- Section 401 Water Quality Certification Permit

Kentucky Airport Zoning Commission

- Aviation Lighting Permit - Bridge
- Aviation Lighting Permit - Crane
- Kentucky Energy & Environment Cabinet, Dept. for Environmental Protection, Div. of Water
- Section 401 Water Quality Certification Permit

Louisville Metropolitan Sanitary District

- Floodplain Construction Permit

For the Downtown Crossing the Design-build team shall be required to do the following:

- Hold a pre-design meeting with the KYTC Hydraulic Review Engineer upon acceptance of the Preliminary Roadway Plans. Design and install all storm drainage systems within the project limits.
- Provide Storm water Management Plan using Best Management Practices. Provide culvert or bridge survey reports for structures revised in any way from the provided information.
- Provide any necessary permit modification drawings and calculations.
- Ensure all County ordinances are observed.
- Analyze existing culverts and cross pipes adjacent to the project and within existing ROW.
- Replace any deficient (structurally and/or hydraulically) pipes and/or culverts.
- Prepare Pre and Post Analysis for increases in discharge and take appropriate action in accordance with the above guidelines to make sure additional drainage is adequately handled.
- Prepare CLOMR packages for all crossings that deviate in any way from those provided. No work shall begin in areas in FEMA floodplains until an approved CLOMR is obtained.
- Prepare LOMR packages for any regulated streams impacted by the design for the

- KYTC's submittal to FEMA after project is completed.
- Use pipes with minimum 15" diameter for open-ended pipes and minimum 15" diameter for pipes in enclosed drainage systems throughout the project.

INDOT provided the following materials for the East End Crossing:

US Army Corps of Engineers

- Individual Section 404 Permit
- Section 10 Bridge Permit

US Coast Guard

- Section 9 Bridge Permit

US Fish and Wildlife Service

- Federal Permit for Eagle Take

Federal Aviation Administration

- FAA 7460 Tall Structure Permit - Bridge
- FAA 7460 Tall Structure Permit - Crane
- FAA 7460 Permit for Clarksville Helipad

Federal Emergency Management Agency

- Conditional Letters of Map Revisions

Indiana Department of Natural Resources, Division of Water

- Construction in a Floodway Permit

Indiana Department of Environmental Management

- Indiana Navigable Water Act Permit
- Section 401 Water Quality Certification Permit

Kentucky Airport Zoning Commission

- Aviation Lighting Permit - Bridge
- Aviation Lighting Permit - Crane

Kentucky Energy & Environment Cabinet, Dept. for Environmental Protection, Div. of Water

- Section 401 Water Quality Certification Permit
- Application for Permit to Construct across or along a Stream

Louisville Metropolitan Sanitary District

- Floodplain Construction Permit

For the East End Crossing the Design-build team shall be required to do the following:

- Hold a pre-design meeting with the INDOT Hydraulic Review Engineer upon acceptance of the
- Preliminary Roadway Plans.
- Design and install all storm drainage systems within the project limits.
- Provide Storm water Management Plan using Best Management Practices.
- Provide culvert or bridge survey reports for structures revised in any way from the provided information.
- Provide any necessary permit modification drawings and calculations.
- Ensure all County ordinances are observed.
- Analyze existing culverts and cross pipes adjacent to the project and within existing ROW.
- Replace any deficient (structurally and/or hydraulically) pipes and/or culverts.
- Prepare Pre and Post Analysis for increases in discharge and take appropriate action in accordance with the above guidelines to make sure additional drainage is adequately handled.
- Prepare CLOMR packages for all crossings that deviate in any way from those provided. No work shall begin in areas in FEMA floodplains until an approved CLOMR is obtained.
- Prepare LOMR packages for any regulated streams impacted by the design for the KYTC's submittal to FEMA after project is completed.
- Use pipes with minimum 15" diameter for open-ended pipes and minimum 15" diameter for pipes in enclosed drainage systems throughout the project.

6.E Lighting

The design criteria for all illumination systems will conform to the most current versions of the design guidance and policies noted in Appendix D.

The design will be performed as part of the design-build contract. All lighting will be reviewed by KYTC and INDOT for conformance with the project requirements.

Continuous roadway lighting is required on the Downtown Crossing project and will be installed. Lighting design will illuminate all ramps, roadway intersections, acceleration/deceleration lanes, and weave/merge locations. Aesthetic and navigation lighting will be included on the proposed cable stayed bridge over the Ohio River. Where required, underpass lighting will be constructed.

Continuous roadway lighting is required on the Kentucky Approach of East End Crossing and will be installed. Lighting design will illuminate all ramps, roadway intersections, acceleration/deceleration lanes, and weave/merge locations. Aesthetic and navigation lighting will be included on the proposed cable stayed bridge over the Ohio River. Where required, underpass lighting will be provided. Lighting will also be provided through the tunnel.

Partial interchange lighting is required and will be constructed at the proposed Salem Road interchange on the Indiana Approach to the East End Crossing. Full interchange lighting is required and will be constructed at the SR 62/Port Road interchange with SR 265.

Standard design documents have been developed by KYTC and INDOT and will be utilized for the project. Lighting systems will be comprised of pole top lighting standards (poles of up to 40' tall with a one or two full-cutoff luminaries). Conventional lighting standards with a cobra head luminary and arm will be used. High mast light towers (poles up to 100' high with a ring of 4 to 12 luminaires) may be used along I-65 in Indiana and the Indiana Approach on the East End Crossing.

Design-build contractors will design the systems for economy of installation and maintenance. Project roadway lighting within the viewshed of historic properties and any navigational lighting required on structures shall be designed and constructed to minimize the dispersion of light beyond the highway Right-of-Way and include state-of-the-art techniques and systems, to the extents that are required to ensure safe roadway lighting designs, and navigation required by the USCG and the Federal Aviation Administration (FAA).

6.F Signing

Distinctive and adequate signing is a necessity for major highway facilities. Signs will provide a means by which the user can readily be guided throughout the Downtown and East End Crossing corridors. Large, legible, directional signage, as well as regulatory and warning signs, will be provided. Signs along existing intersecting highways and thoroughfares will be modified as necessary to provide clear directions through the project corridor. Special signing in advance of the I-65 bridges and the East End bridge over the Ohio River will be used to inform drivers of the tolling costs.

The Signing Plans shall be prepared by the design-build teams in accordance with the latest edition of the policies and design guidance in Appendix D.

INDOT and KYTC toll collection signing standards will be utilized by the design-build teams for these specific signs. All electrical installations and coordination are the responsibility of the design-build teams and must meet NEC, State, and local codes. All electrical / electronic equipment and devices must be UL approved and listed. KYTC provided the design-build team with

a Signing Conceptual Map of the Downtown Crossing corridor for the design-build team's use in developing its signing plan.

In addition to the required signage, the Design-build team will provide mile marker signs, along I-64, I-65, I-71 and KY 841/SR 265 in accordance with INDOT or KYTC policies. Each mile marker location shall have two mile markers mounted back to back on one u-post to permit easy visual identification.

All overhead sign assemblies shall be designed, fabricated, and installed by the design-build teams and shall meet all KYTC and INDOT requirements. The wind speed for the overhead sign assembly designs is 90 miles per hour.

The design-build teams shall use an appropriate retro-reflective sheeting for the legends (text) and background on all overhead signs. Overhead sign lighting is not required for advance guide, toll related signing or exit directional overhead signs. Intelligent transportation system supports and digital message signs will be provided by the highway design-builders.

6.G Signals

The design-build teams shall design and prepare plans for the traffic signal installations. This work shall include, but not be limited to, the preparation of Traffic Signal Plans, Electrical and Programming Details, Utility Make-Ready Plans, Communications Cable & Conduit Routing Plans and Project Special Provisions. These plans shall be prepared in accordance with the design policies and guidance in Appendix D.

The Design-build teams shall be responsible for providing the safest and most economical design for the public. The Design-build teams shall be responsible for ensuring that all plans and designs conform to the current design standards of the KYTC, TRIMARC or INDOT. All plans and associated design material and specifications must be reviewed and approved by KYTC and INDOT before installation.

This work consists of installing one new traffic signal:

Indiana

- Court Avenue/North Shore Drive (new signal).

Seven existing traffic signals will be modified or reconstructed:

Kentucky:

- Jefferson St/Jackson Street (remove and reconstruct signal)
- Jefferson St/S. Preston Street (remove and reconstruct signal)
- US 42 interchange with KY 841 (remove and reconstruct signal)

Indiana

- Court Avenue/NB I-65 Exit Ramp/LSR-1 (remove and reconstruct signal).
- Court Avenue/US 31 Ramps/Missouri Avenue (remove and reconstruct signal).
- 10th Street/Spring Street (modify signal).
- Stansifer Avenue/SB Collector Distributor Exit Ramp (remove and reconstruct signal).

Hard wire or wireless communications will be utilized to interconnect the traffic signals. The project will cross a railroad facility and the Design-build team will be responsible for pursuing any necessary agreements with any railroad facility that the communications cable would traverse.

6.H Landscape and Aesthetics

Landscaping and special aesthetics treatments will be provided for both the Downtown Crossing and the East End Crossing of the LSIORBP in accordance with the First Amended Memorandum of Agreement (FAMOA) that was developed in conjunction with the 2012 SFEIS and RROD and was approved by FHWA on March 29, 2012. In addition, Historic Preservation Plans (HPP's) have been developed for the Butchertown and Phoenix Hill Historic Districts in Kentucky and for the Old Jeffersonville Historic District in Indiana. These HPP's make further recommendations for aesthetic treatments and landscaping. The HPP's were developed with input from the Historic Preservation Advisory Teams and the Area Advisory Teams (AAT's). The AAT's consist of the representatives of the local government, communities, neighborhood associations, and other businesses or entities who have interests in the area of the historic districts.

As provided for in the FAMOA, the following items are required:

- The roadways, bridges, retaining walls and other Project elements where applicable shall be designed and constructed with sensitivity to aesthetic values, historic cultural landscapes, and the historic context, utilizing the services of professionals with experience in areas related to historic preservation. Design shall include aesthetic treatments to surfaces, structures, portals, appurtenances, and land contours and landscaping that complement the historical contexts of historic properties.
- Streetscape improvements, such as landscaping, tree plantings, ornamental street lighting, fencing, curbing, pavements, sidewalks, traffic calming, or other similar work, shall be designed in consultation with the respective SHPO and constructed within public rights of way unless otherwise provided for in the First Amended MOA or approved by the Bi-State Management Team. Approval from the agency holding title to the right of way will be obtained prior to use, whenever required. Streetscape improvements shall be designed in conformance with recommendations of any Historic Preservation Plan developed for the property in accordance with Stipulation III of this First Amended MOA.

- An historic Train Depot, the Spring Street Freight House, was purchased for historic preservation as part of the project. The BSMT will include streetscape improvements within the limits of the Project and through the Spring Street frontage of the Depot. These improvements may include curbing, ornamental street lighting and tree planting developed with input from the IHPAT and recommended for the Project by the Bi-State Historic Consultation Team.
- The BSMT will design and construct streetscape improvements along city streets within the historic district between Spring Street and the Project taking into consideration the type of improvements on Market Street and Spring Street by the City of Jeffersonville.
- Pedestrian friendly facilities shall be designed and constructed within Indiana right of way under the new bridge and existing John F. Kennedy Bridge. These facilities shall include amenities such as opportunities for public art, lighting, and other treatments and will be in keeping with the context identified in the HPP for the Old Jeffersonville Historic District.
- The Historic Preservation Plan (HPP) for Butchertown, which is located on the East Side of I-65 and extends across Louisville to West side of I-64, includes recommended measures for context sensitive design, streetscape improvements, and interpretive signage along East Main Street which shall be implemented as part of the Project to mitigate adverse effects to the historic district. The improvements on East Main Street shall be designed and constructed in accordance with the Kentucky Heritage Council's (KHC) streetscape design guidelines.
- The HPP for Phoenix Hill, which is also primarily located east of I-65 and south of Butchertown, also includes recommended measures for context sensitive design, streetscape improvements, gateway elements, and interpretive signage along Main and Market Streets which shall be implemented as part of the Project to mitigate adverse effects to the historic district. The streetscape improvements on Main and Market shall extend from Floyd Street to Clay Street and in the area under the I-65 Bridge in accordance. These improvements shall be designed and constructed in accordance with the KHC streetscape design guidelines.
- The HPP for the Country Estates of River Road and for the River Camps, both of which are located on the Kentucky East End, includes recommended measures for landscaping and other similar protective measures.
- The HPP for the Utica Township Lime Kilns, which are located on the East End Indiana shores, provides consideration for protective measures for these historic resources. Protective measures include development of blasting and vibration analyses for the sites.
- Project roadway lighting within the viewshed of historic properties and any navigational lighting required on structures included in the Project shall be designed and constructed to minimize the dispersion of light beyond the highway

right of way and include state-of-the-art techniques and systems, such as Full Cutoff Optics (FCOs) or other similar systems, to the extents that are required to ensure safe roadway lighting designs, and navigation required by the U. S. Coast Guard and the Federal Aviation Administration.

Gateways are included for the major project underpasses on I-65 in both Kentucky and Indiana. Consideration of special aesthetics on these structures will include the potential use of public art.

Landscaping and aesthetic items within the direct construction areas are to be constructed by the Walsh Team during their initial work. Other landscaping will be let under a separate contract towards the end of the construction process.

6.1 Right of Way

Right of Way (ROW) limits for the bridge and its approaches have been established based on preliminary plans for bridges, roadways, drainage features, and interchanges. These limits also will allow for construction, maintenance, and operation of the roadway.

Downtown Crossing

Kentucky

All properties required for construction have been acquired or rights-of-entry received. The partial demolition of the Vermont American Building and the Baer Fabrics building is complete. A third acquired building, Grocer's Ice and Cold Storage, remains empty and will require partial demolition by the DBT. That portion of the building will be demolished as part of the design-build team's scope. All other buildings required to be demolished have been demolished by the DBT in accordance with his contract.

A total of 6 required parcels downtown are owned by Louisville Metro Government. A right-of-entry has been given for all of the Metro properties. KYTC has funded a functional replacement of the Extreme Park per agreements with Metro. Metro government expects to finalize conveyance of these properties by deeds at the beginning of their fiscal 2013-2014.

Only the Wayside Mission, a homeless shelter remains. An agreement with the Wayside Mission was reached for them to construct a replacement facility for that area of their operation that must be replaced. The Mission was given until March 2015 to complete their construction and relocate the involved individuals. This date of availability was provided to the proposers in the RFP and was considered as part of their project bid.

Indiana

Indiana has secured all of the 50 required parcels within the right of way footprint. Five of these parcels contain buildings requiring demolition. All demolition is to be handled by the design-build team with exception of five parcels containing historic homes on Fort Street in Jeffersonville. Per the Revised Record of Decision, these five homes were relocated by INDOT to other empty lots within the Jeffersonville Historic District and are to be sold at auction.

East End Crossing

Kentucky

KYTC has secured all of the 106 parcels required within the right of way footprint. A separate contract was awarded for the demolition of all buildings remaining in the section and for the clearing of property in advance of the completion of the contract with the WVB Team. This work was completed earlier in 2013.

Indiana

INDOT has secured all 43 parcels within the right-of-way footprint through negotiations. A separate contract was awarded for the demolition of all buildings remaining in the section and for the clearing of property in advance of the completion of the contract with the WVB Team. This work was completed earlier in 2013.

If the design-build team requires additional ROW, all clearances, and the costs and time related to acquiring the additional ROW will be entirely their responsibility.

6.J Utility Adjustments

Utility coordination for the project began prior to the design-build procurement phase, with KYTC employing Community Transportation Solutions General Engineering Consultant (CTS), to oversee preliminary engineering functions, including preliminary utility coordination. Reporting to KYTC, INDOT and CTS, the Section Design Consultants: Kentucky Transportation Associates (Section 1); Butler, Fairman & Seufert (Section 3); H.W. Lochner (Section 4) and Burgess & Niple (Section 6), identified the existing utility facilities within the project limits and depicted them on the reference project plans.

For the Downtown Crossing, there are thirteen (13) utility companies identified in Kentucky with potential conflicts, and fifteen (15) in Indiana. A contact list and description of the existing utility facilities was provided in the Technical Provisions of the RFP. During development of the Technical

Proposal, the DBT was introduced to the utility company representatives and permitted on-going discussions to become knowledgeable of their facilities and conditions that may impact the schedule and cost of the project.

For the East End Crossing, there are six (6) utility companies in Kentucky and nine (9) in Indiana with potential conflicts. The Proposers were provided contact information and a description of the existing utility facilities. Like the Downtown Crossing, during development of the Technical Proposal, the Proposers were introduced to the utility company representatives and permitted on-going discussions to become knowledgeable of their facilities and conditions that may impact the schedule and cost of the project. In addition, the Indiana DOT met with all the individual utility companies and determined which adjustments could be performed in advance of project construction. The adjustments were categorized as Type 1 - to be relocated in advance; Type 2 - to be relocated by the Developer; and Type 3 - to be relocated by the utility and reimbursed by the Developer.

The selected DBT (Downtown) and Developer (East End) are responsible for continuing the utility coordination; verifying actual impacts to utilities; preparing and executing all agreements with the utility owners; and in some cases, is responsible for the design and/or construction of the utility adjustment. With the exception of the Type 1 adjustments on the East End, the DBT and Developer are accountable for the costs associated with utility adjustments,

The DBT / Developer are required to perform utility coordination and utility adjustments in accordance with the following guidelines:

- FHWA's Program Guide for Utility Relocation and Accommodation for Federal-Aid Projects
- KYTC Utility and Rail Policy
- INDOT Utility Accommodation Policy (105-IAC-13)
- All applicable governmental approvals and permits

Emergency procedures with respect to utility facilities will be established prior to construction. During construction, the DBT / Developer shall mark, support, secure, and exercise care and otherwise act to avoid damage to utilities. At the completion of the work, the condition of all utilities shall be equivalent to their use and function prior to construction.

No contract time extensions shall be granted to the DBT / Developer due to utility adjustments on the Project.

6.K Intelligent Transportation Systems (ITS) and Fiber Communications Network

This project is to provide support for ITS assets with regard to removal, temporary equipment support options, a concept of the new infrastructure design with specifications and installation requirements for new ITS equipment, and its subsequent installation for both the Downtown and East End Crossing. All components of the system designed and installed in Indiana will be controlled and operated by the INDOT TMC and conversely all components of the system designed and installed in Kentucky will be controlled by TRIMARC. The purpose of ITS is to improve traveler safety, improve traffic efficiency by minimizing congestion, mitigate the impact of incidents, and minimize traffic-related environmental impacts. The project coordinates with the Toll Systems Integrator (TSI), to be included under separate agreement, for input to the ITS Design Plan. The project will produce detailed ITS Design Plans to accomplish the goals stated, within the confines described and in adherence to the rules, regulations, and standards of either KYTC or INDOT as applicable. The design and construction of all ITS and components will provide functionality, connectivity, and compatibility with Central Software in the respective TMC (TRIMARC for Kentucky, Indianapolis for Indiana), with considerable thought included in the design for durability, ease of maintenance, safety and aesthetics.

The anticipated new ITS devices includes, but not limited to as follows:

- CCTV cameras will be installed in strategic locations throughout the Project to provide continuous coverage of the roadway, including all levels of the interchanges. closed-circuit television (CCTVs) cameras for incident verification and monitoring
- Vehicle detection for traffic management with motion detection for facility security. Side-fire radar units will be installed at strategic locations to monitor traffic flow throughout the entire Project area.
- Roadway weather information systems (RWISs) to report bridge conditions.
- Virtual weigh stations to enforce commercial vehicle weight and height restrictions
- Dynamic variable message signs (DMSs) will be installed in strategic locations throughout the project to provide motorist information.
- Lane control signals (LCSs).
- Highway advisory radio (HAR).
- WIZARD CB Radio unit to disseminate information to the traveling public.
- The installation of fiber for the communications backbone that not only supports current communications requirements, but can also be adapted to future technology. A separate fiber backbone shall be used to support the Toll Collection System (TCS) infrastructure.
- All incoming video and data network signals will be aggregated at Communications Huts and placed on the fiber backhaul network to the TMC for integration into both the Indian and the TRIMARC systems.
- Roadway reference markers.

SECTION 7

PROJECT DEVELOPMENT AND CONSTRUCTION

The LSOIRB Project is divided into two separate procured sections. The Downtown Crossing section includes a major crossing of the Ohio River, with a 3 interstate interchange and the approaches on both the KY and Indiana sides. The East End Section includes the major river crossing with approaches on both the KY and IN sides. Kentucky will administer the Downtown Crossing section and Indiana will administer the East End Crossing section.

DOWNTOWN

The Downtown Crossing procurement process administered by KYTC resulted in the selection of the Walsh Design Build Team, which consists of the Walsh Construction Co., Milestone Construction, and Jacobs Engineering. The Downtown Procurement process evaluated the Technical Proposals, the Disadvantaged Business Enterprise Plans, and the Price Proposals. The Price Proposal is the sum of the cost to fulfill the terms of the RFP and the number of days to reach substantial completion. Each day was valued at \$80,000. The Technical Proposal and DBE Plan were received on October 1, 2012 and evaluated and scored prior to receiving the Price Proposals on November 15, 2012. The Best Value was determined by highest composite score of Technical Proposal, DBE Plan, and Price Proposal. From this combination, the Walsh Team was chosen. The Technical Proposal was evaluated in 9 different areas, those being Project Organization and Management, Roadway Design, Structures and Geotechnical, Transportation Management, Aesthetics and Environmental, Construction, Utilities, Public Involvement and Communication, and Prequalifications. The Walsh Team's Technical Evaluation combined with their cost proposal showed that they were the "Best Value" for the project.

The Downtown Crossing is bid as a Lump Sum price for the design and delivery of the project as outlined in the RFP. Payment of this Lump Sum Price is over the life of the project. Payment is made based upon applications for payment submitted to KYTC by the Walsh Team. The invoiced payments are justified by the Critical Path Method (CPM) schedule. At the beginning of the project, Walsh submits a Schedule of Values which is the breakdown cost of individual Buildable Units on the project. These buildable units are structures, ramps, retaining walls, etc. The team is also required to establish a CPM Schedule that lists the buildable units and their associated activities in the schedule. Costs for the activities are determined as follows: Costs for incremental design preparation will be assigned to the respective design phase submittal milestone(s). Equipment costs will be assigned to their respective procurement activities (i.e., the delivery milestone activity). Costs for installation of the material/equipment (labor, construction equipment, mobilization, and temporary materials) will be assigned to their respective

construction activities. DBT shall evenly disperse overhead and profit to each activity over the duration of the Project. The total of all cost loaded activities; including costs for material and equipment delivered for installation on the Project, and labor and construction equipment loaded construction activities, shall total to 100 percent of the value of the Contract. When the invoice is submitted, the CPM is updated showing the completion of the activities in the Buildable Unit. From the completion of the activities in the buildable unit and knowing the cost loaded value of the activities, the amount due to the Walsh Team can be used to verify the invoice and with verification, the Walsh Team can be paid the invoice. Audits by KYTC accountants can be used to verify the accuracy of the payments.

As a part of the consideration and to assure the faithful performance of this Contract in every respect, the Walsh Team provides a performance bond and a payment bond each with surety or sureties in a sum not less than One Hundred Per Cent (100%) the Contract Price, each with a surety or sureties approved by KYTC. Such bonds, when approved by KYTC, are for the use and benefit of KYTC, and each person furnishing materials, labor and supplies for use in the performance of this contract. These bonds remain in effect at least until one year after the date when final payment becomes due, except as provided otherwise by applicable laws or regulations or as required by the Contract Documents.

All Bonds and insurance required by the Contract Documents to be purchased and maintained by the Walsh Team and are obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue Bonds or insurance policies for the limits and coverages so required.

The DBT is liable to KYTC for Liquidated Damages in the amount of \$80,000 for each and every Calendar Day after the December 9, 2016 that DBT fails to achieve Substantial Completion. Said amount shall in no event be considered a penalty or otherwise than as liquidated damages. Any accrued liquidated damages may be deducted from any current or final estimate after day the liquidated damages begin to accrue. Liquidated damages continues until DBT achieves Substantial Completion as determined by KYTC.

Liquidated damages are also charged to DBT when they fail to meet the Traffic Control requirements of the Contract in the Project Scope. These damages range from \$5000.00 per day to \$16,000.00 per hour bases upon the roadways being affected. The value of these damages are based upon user costs and liquidated damage values that have been assigned to these roadways in the past for failure to open the roadway on time.



The following table lists the Annualized YOE table for the Capital Cost Requirements on the Downtown Crossing section based on the bid received from the Walsh Team, the best value design-build team.

Capital Cost Requirements	
YOE	Total Expenditure for the Year
2013	\$263,300,000.00
2014	\$288,500,000.00
2015	\$192,500,000.00
2016	\$105,800,000.00
2017	\$9,900,000.00
Total for Project	\$860,000,000.00

This table breaks down the Capital Costs into the Project’s categories.

Design and Construction Cost Table		
Cost Category		Costs
Project Wide Items		\$ 72,600,000.00
Section 1		
	Design/ Environmental	\$ 59,000,000.00
	Utilities	\$ 7,500,000.00
	Roadway	\$145,500,000.00
	Structures	\$202,100,000.00
Section 2		
	Design/ Environmental	\$ 35,000,000.00
	Downtown Crossing Structure	\$183,000,000.00
	Kennedy Rehabilitation	\$ 30,000,000.00
Section 3		
	Design/ Environmental	\$ 18,500,000.00
	Utilities	\$ 3,500,000.00
	Roadway	\$ 76,800,000.00
	Structures	\$ 26,500,000.00
TOTAL		\$860,000,000.00

The \$860 M shown in this chart is reflective of the bid received from the Walsh Team for the Downtown Crossing and as awarded in December 2012. KYTC has established a contingency account of \$41 M in addition to this amount that is to provide for financial considerations not included in the design-build team’s bid. Some potential areas are further elaborated in Section 11, Risk Management. \$1 M has specifically been set aside for rehabilitation work on the Kennedy Bridge.

EAST END CROSSING

The East End procurement process administered by the Indiana Finance Authority (IFA) chose the PPP team of Walsh Investors, LLC, VINCI Concessions, and Bilfinger Berger PI International Holding GmbH, WVB. This process evaluated a technical proposal and combined with a submitted financial proposal. The team's well-presented proposal with the finance plan exceeded the other 3 proposers on this section of the project. The WVC team also brings together experts in this type of project. For example VINCI has completed over 47 P3 type projects. Also, some of the positive aspects of WVB's proposal included the following:

- Their financing plan is rated BBB by Standard and Poor's for the proposed debt.
- The project is to be completed 8 month's early.
- Use of vertical integration for long term value.
- Offering proven P3 operation and maintenance experience.
- Providing a convex diamond tower cable-stayed bridge option that reduces long-term maintenance and optimizes design.
- Walsh Construction averaged more than 1 million trade hours for projects in Indiana and Kentucky.

Availability Payment

IFA shall pay Availability Payments to Developer in quarterly payments as provided in this Section 10.2. and Exhibit 10 of the Public Private Agreement. The quarterly payments shall be made after an invoice is submitted with proper information that IFA can use to verify the submittal and to make payment adjustments for Unavailability Events and Non-Compliance Events. Unavailability Payments are defined as roadway closures during the operating period that are not a permitted closure, such as planned maintenance, etc. The obligation of IFA to pay the Availability Payments to the Developer shall commence upon the Substantial Completion Date. The obligation of IFA to make Availability Payments following the Substantial Completion Date is based on, and is subject to, the O&M Limits being open and available for public travel as measured through Developer's compliance with the PPA Documents.

- Availability Payments shall be calculated and earned by Developer according to the methodology set forth in project documentation. The Availability Payments payable during any given Fiscal Year shall never exceed the Maximum Availability Payment (MAP) for that Fiscal Year, determined as set forth in project documentation. The Maximum Availability Payment is adjusted annually based upon changes in the Consumer Price Index (CPI) of July 1 of the then current fiscal year compared to the base CPI of July 1, 2012.
- Each Availability Payment constitutes a single, all-inclusive payment with no fixed component and no separation of payments for operations, capital, maintenance, Handback or Rehabilitation Work. Availability Payments are not intended and shall not be construed as progress payments or retention under Indiana Law.



The following table lists the Contractor's Cost/Responsibilities.

Form O-1 Design and Construction Capital Cost Table		
<u>Cost Category</u>	<u>Capital Cost</u>	
Project Management	\$ 43 000 000	
Design and Construction management and general activities	\$ 100 000 000	
Design	\$ 56 400 000	
Environmental	\$ 4 000 000	
Roadways Construction	\$ 99 300 000	
East End Bridge Construction	\$ 122 500 000	
Tunnel Construction	\$ 84 360 000	
Other Structures Construction	\$ 87 376 000	
Utilities	\$ 25 264 000	
Contingency and Profit	\$ 140 800 000	
	Labor Cost	Non-Labor Cost
Subtotals	\$ 107 932 000	\$ 655 068 000
Totals	\$ 763 000 000 (Total Project Capital Costs)	



The following lists the cumulative Design and Construction Capital costs.

Form O – 2 Cumulative Design and Construction Capital Cost Table		
<u>Cost Category</u>	<u>Quarter</u>	<u>Capital Cost</u>
Construction Year 1	Quarter 1	\$ 59 095 011
	Quarter 2	\$ 111 963 242
	Quarter 3	\$ 150 718 772
	Quarter 4	\$ 186 104 262
Construction Year 2	Quarter 1	\$ 244 707 045
	Quarter 2	\$ 326 605 601
	Quarter 3	\$ 418 111 066
	Quarter 4	\$ 488 366 439
Construction Year 3	Quarter 1	\$ 551 544 350
	Quarter 2	\$ 618 196 213
	Quarter 3	\$ 674 097 760
	Quarter 4	\$ 704 251 099
Construction Year 4	Quarter 1	\$ 726 122 444
	Quarter 2	\$ 750 002 350
	Quarter 3	\$ 761 477 618
	Quarter 4	\$ 763 000 000
Totals		\$ 763 000 000 (Total Capital Cost for East End Crossing)

SECTION 8

OPERATIONS, MAINTENANCE, RENEWAL AND REPLACEMENT

8.A System Toll Collection Operations

8.A.1 Operations Plan

Toll collection operations consist of the collection of the correct toll amounts from patrons in accordance with the established toll rate schedule, accounting of the toll revenue, transfer of the funds into banks, and documentation of the toll collection activities. The LSIORBP will be exclusively operated as a cashless system, utilizing an all-electronic toll (AET) system. Toll collection methods will include payment via toll transponder or video toll. Video tolling options will include either prepaid registration of license plate information or post payment of tolls by those utilizing the facility with unregistered vehicles.

Video capture equipment will be installed in all lanes and those customers who do not choose to pay via a transponder or as part of the registered vehicle video toll process will be pursued for payment in accordance with policies and administrative rules and regulations that are currently being developed in Kentucky and Indiana. Video capture equipment will be installed in all lanes. All customers that fail to pay the toll either through a transponder, as a pre-paid registered video customer, or when billed as a pay-by-plate customer will be diligently pursued for payment. Both Kentucky and Indiana have similar statutes that make failure to pay a toll a violation. Customers that violate these statutes will have a hold placed on their vehicle registration, preventing them from renewing their registration until the toll and related fees are paid in full. The specific process relating to toll collection and enforcement will be created through the states' broad rule making authority and through business rules to be adopted by the Tolling Body.

The Downtown Crossing of the LSIORB Project shall include tolling of all cross-river I-65 traffic. The Second Street Bridge (KY 31E), which is adjacent to the Kennedy Bridge to the west, shall remain a toll-free facility. Tolling shall also be a part of the East End Crossing. Tolling shall occur in accordance with determinations established in the BI-State Development Agreement. Tolling is planned to continue as long as there are outstanding financial obligations. The DBT shall coordinate with a Tolling Systems Integrator (TSI), whose procurement shall occur at a later date, to provide the fully functioning toll system. The toll system must accommodate the tolling of all river crossing traffic through all stages of traffic control and travel lane configurations. The DBT shall provide the tolling gantries, the site work and the utility systems for any toll facility site. The DBT shall be responsible for integrating the temporary and/or permanent tolling gantry sites into their construction phasing and traffic management plans.

The TSI shall design, develop, integrate, deliver, install, and test the entire tolling and violation enforcement system, which would include all equipment installed at the roadside, software, the toll data center (TDC) servers, and the entire back office, which would consist of the electronic toll collection (ETC) system account management, customer service center functions, and the violation processing system. The DBT shall install conduits and fiber optic cables for the ITS facilities. The TSI may utilize these fiber optic cables or install additional cables in the conduits provided and installed by the DBT through the ITS specification requirements. The DBT shall install specific conduits as necessary for the tolling system as identified by the TSI.

8.A.2 Toll System Provider (TSP) and Electronic Toll Collection (ETC)

The Joint Board plans to contract for the design, integration, implementation, operation and maintenance of the tolling system through two separate component procurements, which are summarized as:

Tolling Component One – Tolling System Provider (TSP)

Tolling Component Two – Electronic Toll Collection

The TSP contractor will be responsible for the installation and construction of any necessary tolling equipment, including detection devices and toll zone structures to house toll collection equipment and for providing emergency generator power. The TSP will be required to coordinate with the DBT and Developer on the construction of any gantries, tolling signage, building pads, access, conduit runs and other infrastructure items as required necessary for the toll collection system.

The ETC contractor will be responsible for the provision of all equipment and transponders necessary to integrate into the roadside tolling system and will be responsible for all back office toll operations, including office space, facility management, maintenance and operations of customer service center(s) and potential storefronts. The ETC contractor will collect all tolls for the Project, as authorized by the Joint Board, for the benefit of the STA's and may authorize the collection of tolls and other user fees by a third party, such as a Joint Board approved collection agency. The Joint Board desires the system to be interoperable with other systems in the United States, such as E-Z Pass, Sunpass, or other similar systems. The ETC contractor will be required to work in a cooperative manner with the TSP contractor.

The IFA will procure the TSP on behalf of the Joint Board. INDOT is procuring the ETC on behalf of the Joint Board. Indiana and Kentucky staff will oversee the contract and provide audit and accounting for these operations.

The basic components for any AET toll collection program are the roadside toll collection system (RTCS) and back office systems (BOS), the Operations Center (customer service center/video processing center), and overall operations and maintenance.

The RTCS and BOS includes all toll-related hardware and software located on the roadway and offsite at the operations center, such as ETC readers and antennas, optical character recognition and automated license plate recognition and processing software, the main toll collection system computer server and database, and the hardware and software necessary to support the customer service center and interoperability with out-of-state toll agencies.

The function of the RTCS is to detect vehicles at the toll zones, build the proper transaction, and transmit that transaction and supporting data to the toll facility host located in the tolling Operations Center.

The RTCS will be a state-of-the-art fully automated toll zone, toll facility host and database. It includes ETC and video systems, through the capture of transponders using ETC readers and antennas or license plate images utilizing front and rear cameras and multiple levels of optical character recognition/automated license plate recognition software. Upon detection of a vehicle, the RTCS begins to build a transaction by detecting and classifying the vehicle; reading an ETC transponder if present; and capturing the front and rear images of the vehicle to begin the image process.

If an ETC transponder is detected, the transaction information is sent to the BOS for validation of account status and debiting of the account for the correct toll amount. The video collection system will capture an image of the license plate of every vehicle. In the event that a vehicle does not have a transponder, the images will be handled post-transaction via the video processing center (VPC). License plate numbers not associated with any prepaid accounts will be sent to the appropriate state DMV to obtain their demographic information through the BOS. All transactions for a given billing period will be billed to the registered owner of the vehicle through an invoicing process. Additionally, each toll zone will be equipped with CCTV cameras for roadway overview, traffic and system audit, and site security.

The BOS is made up of the system host, databases, customer service center (CSC) module, and video processing center module which includes the necessary interfaces to payment systems and commercial establishments. The BOS developed for the LSIORBP will be a state-of-the-art toll system management and toll account management system based on ETC and video for identification of vehicles that has been configured and sized to support the LSIORBP. The BOS will be located within KYTC's toll operation center. The system's overriding functions include acceptance of transactions and roadway data, managing prepaid toll accounts, collecting revenue through these accounts, processing video transactions, reporting revenue collection activities, and interfacing with external contacts (retail, interoperable agencies, financial institutions, and DMVs).

8.A.3 Customer Service and Violation Processing Center

The Customer Service Center (CSC) and the Violation Processing Center (VPC) are expected to be co-located in a facility offsite.

The states will set tolls based in part on the rate structure requirements for ETC and video (registered and unregistered) tolls to cover the costs of toll collection administration as well as costs for administering the Violation Enforcement System. Toll collection enforcement services will be performed by the VPC as part of the contracted services. The level of effort necessary for enforcement is expected to be reduced with continued operation. Actual violation rates experienced during operations will dictate level of effort necessary for enforcement.

8.A.4 Toll Collection System Operations and Maintenance

Toll collection will be accomplished through a competitively selected procurement process, which will provide for the toll collection system operations and maintenance for both the Downtown and East End Crossing, with Indiana and Kentucky staff providing oversight of the contract and audit and accounting for traffic and revenue. The operations and maintenance of the system includes all preventive, predictive and corrective maintenance and will ensure the highest level of accuracy and availability as required through established performance measures.

In addition to normal maintenance, the requirements also include 24-hour, seven days a week on-call maintenance services. Minimum response times, depending on time of day and on priority of the malfunction, will be specified. The toll collection system will be required to generate its own system malfunction and maintenance messages, which will be used in conjunction with toll collection staff reports, to alert maintenance staff of problems.

The mandate of this program is to maintain the capability of the system to collect tolls 24 hours per day, 365 days per year. Minimum response times, depending on time of day and on priority of the malfunction, will be specified.

The TSI also will be required to utilize a Maintenance On-Line Management System (MOMS) to ensure that toll collection equipment is reliably maintained. The purpose of the MOMS subsystem is to manage and report all maintenance and maintenance support activities within the toll collection system. All toll collection equipment will be monitored for failure and all alarms reported via the MOMS. Predictive and preventive maintenance activities will be scheduled via the MOMS and these activities must be performed on a timely basis.

8.A.5 Toll Collection System Operations and Maintenance Costs

A memorandum, attached as Appendix F to this report, provides information regarding the estimated capital costs for the development, installation, and maintenance for the LSIORBP Project Toll collection system. This memorandum also provides an estimate of operations and maintenance costs for the toll collection system once toll collection operations commence. An

additional feature of the memorandum is an analysis of the impact on revenue (revenue leakage) resulting from the inability to collect tolls due to technical anomalies or failure to collect on toll invoices and violation notices issued to the public.

Toll collection will be accomplished through a competitively selected toll operations services contractor operating under the management and oversight of the Indiana and Kentucky staff. Tolls will only be collected using electronic toll collection via radio frequency transponders or through video toll collection using license plate information. Motorists equipped with transponders will pay a discounted toll compared to video toll customers because of the difference in transaction process cost differentials. An RFP to deploy All Electronic Tolling (AET), no cash involved, will be issued requesting technical and price proposals from proposers interested in providing design, integration, implementation, operation, and maintenance.

The toll collections project descriptions and anticipated operational levels and maintenance requirements for the roadside toll collection system and back office operations used for the toll collection system capital costs (CAPEX) and the operations and maintenance costs (OPEX) are based upon a set of calculations that are the best available information at this time. Some of the assumptions are based upon toll industry norms that have been applied where there was not a set policy or standard to use due to no final set of LSIORBP rules and regulations regarding violation enforcement, or general operating policies or business rules.

The OPEX is based upon the expected levels of traffic as stated in the LSIORBP Traffic & Revenue Study, dated March 2013 (Draft). The key to developing an OPEX estimate is the processing and managing requirements for various toll customer accounts. The LSIORBP will have three account types: 1) transponder based; 2) registered video (vehicle registered license plate with a pre-paid account); and 3) unregistered video (requiring a DMV lookup for the vehicle owner and subsequent invoicing for the toll).

Each type of account has a different cost associated in correlation to the effort required to process toll collection.

Key variable factors that will affect the OPEX are the assumptions made regarding transponder penetration rates. The Traffic and Revenue Study establishes an anticipated transponder penetration rate of 70% in the initial year then increasing to 79% in 2027. The following table represents the estimated OPEX for the first half fiscal year and forty (40) full fiscal years of toll operations and maintenance for the East End Bridge and the Downtown Bridges combined. Each crossing is assumed to be half of the operational cost.



Fiscal Year	Estimated OPEX	Fiscal Year	Estimated OPEX	Fiscal Year	Estimated OPEX
2017	\$4,393,000	2031	\$15,663,000	2045	\$25,484,000
2018	\$8,832,000	2032	\$16,226,500	2046	\$26,312,000
2019	\$11,247,000	2033	\$16,859,000	2047	\$27,197,500
2020	\$11,937,000	2034	\$17,480,000	2048	\$28,014,000
2021	\$12,224,500	2035	\$18,112,500	2049	\$28,888,000
2022	\$12,374,000	2036	\$18,779,500	2050	\$29,819,500
2023	\$12,592,500	2037	\$19,435,000	2051	\$30,728,000
2024	\$12,857,000	2038	\$20,125,000	2052	\$31,671,000
2025	\$13,144,500	2039	\$20,849,500	2053	\$32,694,500
2026	\$13,443,500	2040	\$21,608,500	2054	\$33,706,500
2027	\$13,800,000	2041	\$22,344,500	2055	\$34,753,000
2028	\$14,248,500	2042	\$23,092,000	2056	\$35,857,000
2029	\$14,697,000	2043	\$23,851,000	2057	\$36,984,000
2030	\$15,191,500	2044	\$24,656,000	2058	\$38,134,000
				Total	\$890,307,000

8.B KYTC Routine Roadway Operations and Maintenance

8.B.1 Roadway Operations & Maintenance Plan

During construction activities the DBT will be responsible for all infrastructure maintenance within the LSIORB project limits, with the exception of the tolling facilities which will be contracted to others.

When all construction activities have been completed and the DBT released from the project, Indiana and Kentucky staff or its representatives will be responsible for all routine maintenance, including the tolling facilities for the Downtown Crossing. KYTC will be responsible for that work in Sections 1 and 2 of the Downtown, while INDOT will be responsible in Section 3.

KYTC will also assume responsibility for the operations and maintenance for Section 4A, which is between I-71 and the northern abutments of the Harrods Creek Bridge in Kentucky. INDOT and IFA working in conjunction with WVB will have the responsibility for operations and maintenance for Sections 4B, 5 and 6, which encompasses the North end of the Harrods Creek Bridge in Kentucky extending to the connection at IN 265 north of the interchange at US 62.

Routine maintenance for the new facilities is anticipated to include, but not be limited to, maintenance of the following items:

- Concrete and asphalt pavement surfaces
- Bridge deck, superstructure, substructure
- Pavement markings and signage
- Mowing and landscaping
- Snow and ice removal
- Drainage, stormwater systems and slopes
- Roadside protection (guardrail, barrier, attenuation)
- Lighting appurtenances
- Tolling and ITS equipment
- Litter and obstruction removal
- Building infrastructure
- Traffic control
- Emergency maintenance services
- Tunnel (East End only)

WVB will be responsible for preparing an annual Operations and Maintenance plan and budget for the East End Crossing. The contractor will be required to perform maintenance activities in a safe and efficient manner with a minimum effect on traffic operations. An Operations and Maintenance Plan will be developed for the operation of the ITS operations and equipment for both crossings. An Operations and Maintenance Manual is also to be developed for the East End Tunnel.

During the initial years of operation, the new facility should require relatively minor upkeep. However, as the many elements of the facility are subjected to aging and wear increasing amounts of maintenance and rehabilitation will be required.

8.B.2 Routine Roadway Operations & Maintenance Costs

Calculations for the “2013 Operations and Maintenance Cost Analysis for The Louisville – Southern Indiana Bridges Project” is provided in Appendix E of this document.. The Operations and Maintenance Cost Analysis divides long-term expenses into three broad categories, operations and maintenance (O&M), life cycle costs, and capital costs. Life cycle costs also include long term capital costs, but are discussed separately. Initial capital costs are not included in this analysis. Capital Costs are discussed in Section 8.C.2.

8.B.2.1 Operations and Maintenance

Both fixed and variable operations and maintenance (O&M) costs include salaries and fringe benefit burden, divided into administration, facility maintenance, traffic operations, and tolling.

Maintenance activities do not prolong the useful life of a facility or increase the facility's value, but are meant to preserve a facility over time as intended during its initial design. Maintenance of a facility is typically based upon the characteristics of service such as hours of use, square feet of space, and miles driven. Provided that the facility is utilized in the manner for which it was originally designed, maintenance is typically intermittent over the design life.

8.B.2.2 Life Cycle Costs

Maintenance and repair (M&R) activities are often referred to as lifecycle costs. These activities are considered necessary to ensure the useful life of a facility over time and are required to provide continuous uninterrupted service attributed to failure. Repairs are continuous over the life cycle of the facility due to poor craftsmanship, misuse, age and normal wear. Regardless of the reason, the need for repair is expected and therefore included in the budget.

8.C KYTC Capital Maintenance and Replacement

8.C.1 Capital Maintenance and Replacement Plan

When all construction activities have been completed and the DBT released from the project, Indiana and Kentucky staff or its representatives will be responsible for all routine maintenance, including the tolling facilities for the Downtown Crossing. KYTC will be responsible for that work in Sections 1 and 2 of the Downtown, while INDOT will be responsible in Section 3.

KYTC will also assume responsibility for the operations and maintenance for Section 4A, which is between I-71 and the northern abutments of the Harrods Creek Bridge in Kentucky. INDOT and IFA working in conjunction with their selected financial provider will have the responsibility for operations and maintenance for Sections 4B, 5 and 6, which encompasses from the North end of the Harrods Creek Bridge in Kentucky and extends to the connection at IN 265 north of the interchange at US 62.

The up-front and ongoing costs for the marketing and sales of transponders will be included in the bid required from the tolling integrator, when that Notice for Proposal is issued. That proposal will also include systems to identify malfunction and maintenance messages, to alert maintenance staff of problems. The mandate of the system will be to collect tolls 24 hours per day, every day.

TRIMARC will monitor the video and data feeds for traffic management, maintenance and security concerns. The selected tolling integrator will be responsible for the oversight of the operation of the MOMS. Feeds will be provided to the KYTC and INDOT Operations Centers to back-up the monitoring by TRIMARC. Staff from INDOT and KYTC will work closely with TRIMARC staff and the tolling integrator to address any identified needs.

Routine maintenance costs include recurring normal maintenance activities associated with the highway, such as annual bridge inspections, snow and litter removal, and regular repairs to the pavements and structures. INDOT and KYTC are mandated to maintain a safe highway for system users, as well as preserving the project investment. All maintenance will be performed in a safe and efficient manner with a minimum effect on traffic operations. The plan of finance assumes that operations and maintenance costs will be funded by toll revenues. Routine maintenance for the new facilities is anticipated to include, but not be limited to, maintenance of the following items:

- Concrete and asphalt pavement surfaces
- Bridge deck, superstructure and substructure
- Pavement markings and signage
- Mowing and landscaping
- Snow and ice removal
- Drainage, storm water systems and slopes
- Roadside protection (guardrail, barriers and attenuation devices)
- Lighting appurtenances
- Tolling and ITS equipment
- Litter and obstruction removal
- Traffic control

During the initial years of operation, the new facility should require relatively minor upkeep. However, as the many elements of the facility are subjected to aging and wear, increasing amounts of maintenance and rehabilitation will be required. In addition to being responsible for constructing, operating and maintaining the LSIORBP Downtown Crossing, paying off its bond indebtedness, and operating with a positive cash flow, KYTC and INDOT will also be responsible to protect, preserve and maintain the facilities. Funding to protect the investment will be established for unusual or extraordinary maintenance or repairs, maintenance or repairs that are not recurring annually, and renewals and replacements, as well as for repairs or replacements resulting from an emergency caused by some extraordinary occurrence.

8.C.2 Capital Maintenance and Replacement Costs

As noted in 8.B.2, the operations and maintenance costs is provided in Appendix E of this document. Capital improvements of public infrastructure such as a bridge are typically categorized into expansion or replacement as a result of becoming structurally deficient or functionally obsolete. This does not include the rehabilitation or renovation of a facility even if the activities are required to upgrade or achieve applicable regulatory standards. Capital improvements include:

- The replacement or rehabilitation of a facility that no longer has the ability to perform the functions for which it was originally designed

- The redesign or expansion of an existing facility to accommodate changes in functionality or demand use

Given that the design life of most of the facilities exceed the 60 year analysis period and that traffic growth will not require expansion during this period generally no capital costs will be incurred.

Vehicle (initial fleet) and related maintenance are also included as a capital cost. However, any depreciation and or salvage are accounted for separately.

SECTION 9

KYTC LIFECYCLE CASH FLOW PROJECTIONS

The Operation and Maintenance Cost Analysis based on a 60 fiscal year timeline starting in FY 2013 and running thru 2072 is attached in Appendix E. Maintenance and Repair Costs and Capital Expenditures are based on year 1 being the first year following the completion of construction.

SECTION 10

IMPLEMENTATION SCHEDULE

	Downtown Crossing	East End Crossing
Event	Date	Date
KYTC NOI	January 30, 2012	March 9, 2012
RFQ-Final	March 7, 2012	March 22, 2012 **
SOQ Submittal	April 2, 2012	April 9, 2012
SOQ Short Listing to 3 Proposers	April 23, 2012	April 23, 2012
RFP-Final	August 3, 2012	July 31, 2012
RFP-Final (Addenda 3) Downtown	November 2, 2012	
RFP-Final (Addenda 7) East End		October 19, 2012
Technical Proposal Received	September 28, 2012	October 26, 2012
Price Proposal Received	November 15, 2012	October 26, 2012
Award of Project	December 6, 2012	December 28, 2012
Notice to Proceed	December 28, 2012	1 st –December 20, 2012 2 nd – March 25 or after ***
Design Workshop	January 15, 2013	January 17, 2013
Preconstruction Conference	March 16, 2013	N/A
Community Outreach Workshop	May 8, 2013	N/A
Financial Close	N/A	March 25, 2013
Begin Construction	July 1, 2013*	June 3, 2013
New Ohio River Bridge Crossing Complete	April 1, 2016*	October 11, 2016
Tolling Begins	January, 2017 anticipated at the latest, but may begin sooner dependent upon completion of both Ohio River Crossings.****	
Substantial Completion	December 9, 2016*	October 31, 2016
Final Completion	April 15, 2017*	February 28, 2017

** Addendum 1

*** 1st NTP for Mobilizing, 2nd NTP after Financial Closure.

**** Opening Year - For the development of the revenue schedule, we have assumed an opening of both facilities to toll traffic on January 1, 2017. This is a conservative assumption as the East End Crossing is scheduled to be completed in October 2016 and the Downtown Crossing to be fully completed in December 2016.

SECTION 11

RISK ANALYSIS

11A – FHWA Risk Analysis

A review team consisting of the Federal Highway Administration (FHWA), the Kentucky Transportation Cabinet (KYTC), the Indiana Department of Transportation (INDOT) and their consultants conducted a Cost Estimate Review (CER) workshop to review the cost estimate on December 12-14, 2011 and was completed in a second session held on January 10 -12, 2012. The objective of the cost estimate review was to conduct an unbiased risk-based review to verify the accuracy and reasonableness of the current estimate to complete the project and to develop a probability range for the cost estimate that represents the current stage of project design. The team also reviewed the proposed schedule to determine potential schedule impact on the Project cost. The result of this effort resulted in the FHWA report entitled “Louisville – Southern Indiana Ohio River Bridges Cost Estimate Review Final Report, June 2012”.

Cost estimates, especially those for Major Projects, usually contain a degree of uncertainty due to unknowns and risks associated with the level of detail design completion. A Risk Register was developed to identify significant cost and schedule risks within the cost estimate. Threats and opportunities were reviewed and tabulated. Identified items were then considered during the development of the scope for the Design Build Team.

11B – Design – Build Agreement

Article 4 of the Design – Build Project Agreement for the Downtown Crossing between Walsh Construction and KYTC establishes items of risk that have been shifted from KYTC to the DBT and is included within the project cost estimate as bid by the Design Build Team. Items covered in the article include:

- Site Conditions – The DBT is responsible for doing a reasonable and prudent site investigation before making its Proposal. Failure by DBT to perform its own testing, or to make itself aware of already existing subsurface information, shall preclude DBT from presenting any claim for conditions that such preparation and measures might have revealed, or that might have been reasonably anticipated after such review.
- KYTC-Provided Information for Reference and Information Only – The DBT is specifically instructed that any geotechnical reports or information, environmental

reports or information, or any documents containing indications of subsurface conditions or site conditions are for information purposes only. The DBT shall not be entitled to rely upon the accuracy of such information, and such information shall not serve as the basis for a claim.

- Differing Geotechnical/Hydrological Subsurface Conditions – The DBT is only entitled to an adjustment of Contract Time and/or Contract Price if all three of the following conditions exist: 1) Subsurface conditions are materially different from conditions generally recognized as inherent in the area of the work site; 2) The subsurface conditions were not discoverable from a reasonable investigation and analysis of the site.; and 3) The subsurface conditions were actually unknown to the DBT.
- Contaminated Materials – The DBT shall be entitled to an increase in the Contract Price only under the following circumstances: 1) The DBT encounters materials for which the Department of Environmental Protection requires the DBT to dispose of the contaminated materials off-site; and 2) The DBT encounters contaminated materials that are allowed to remain on the site only under an approved management plan that requires such contaminated materials to be chemically treated and mitigated before being left on the site.
- Utilities – The DBT assumes sole responsibility for ascertaining, at its own expense, all pertinent details of Utilities located within the Project Right-of-Way or otherwise affected by the Project, whether located on private property or within existing public Right-of-Way. The DBT shall be entitled to a claim only under the following conditions: 1) The DBT encounters a utility line currently in service but unknown to current utility entities, and not indicated on any available information, nor observable from a reasonable site investigation; or 2) The DBT encounters a utility line that is materially different in character or size than any indicated on any available information or observable from a reasonable site investigation.
- Historic and Archaeological Materials – If the DBT discovers any object of archaeological, paleontological, or other historic interest, all work that could disturb said object must stop. The DBT is entitled to a claim only under the following circumstances: 1) The location of the subsurface conditions were not described in any documents containing indication of subsurface or site conditions as provided to the DBT; 2) the subsurface conditions were not discoverable from a reasonable investigation and analysis of the site, including subsurface conditions; and 3) The subsurface conditions were actually unknown to the DBT.
- Force Majeure: The DBT shall be entitled to relief for its failure to perform its Contract obligations if such failure is due to certain circumstances or events that are beyond the DBT’s control. These include but are not limited to Acts of God (floods, fires, earthquakes, tornadoes, or other natural disasters), wars, hostilities regardless of whether war is declared, terrorist activities, strikes that materially impact the Work, or interruption or failure of critical utilities that are not wholly or

partially attributable to the DBT. Section 114.05 of the General Conditions document further elaborates that KYTC will only consider an extension of time if the DBT can clearly demonstrate that the number of flood days affecting the controlling activity for the critical path exceeds 60 days for the life of the project.

- Time Extensions and Delays – KYTC shall not be liable to the DBT for any claims, costs, losses or damages sustained by the DBT on or in connection with any other project or anticipated project. The DBT may submit a change order Contract Price and/or Contract Schedule for delay in work through the sole fault of the KYTC or a contractor under contractor with KYTC if: 1) If costs cannot be otherwise mitigated, such as by use of manpower or equipment elsewhere on the project or other projects; and 2) The affected portion of the DBT’s work is shown as a critical path task on the DBT’s most recent schedule. The DBT shall not be entitled to an adjustment I the Contract Price, for lost productivity during ongoing work or disruptions of work.

11.C Risk Considerations:

The Project Financial Plan includes \$41 M funded for contingencies associated with risks in the Downtown Crossing, including \$1 M for additional rehabilitation that might be needed for work on the Kennedy Bridge. Additional funds have also been identified beyond this contingency amount. As discussed above, where feasible, risks identified in the FHWA Risk Analysis have been transferred to the DBT and carry few implications for KYTC moving forward with the construction of the project. However, a few identified elements do still have potential risks for KYTC. Any specific delays claimed by the contractor would have to be analyzed for the actual impact to his schedule and costs, but for the purposes of this report, the potential risks have been established at the rate of \$80,000/day per the DBT/KYTC agreement. A list of those risks identified in the Risk Analysis report or as more specifically determined now from the current project status are provided below:

1) Section 1, Right-of-Way clearance is not completed on schedule

All property acquisition or rights-of-entry have been granted for all properties, with exception of the Wayside Mission. The Wayside Mission is a homeless shelter located on Jefferson Street that must be reconstructed and its residents relocated to the new facility prior to the present building being torn down. An agreement was reached with the Wayside Mission for them to develop and construct a replacement facility and have the involved individuals relocated by March 2015. However, similar to the construction of this project, there are risks that must be considered in the Mission’s owner’s construction of the new building. In this case, it has been assumed that weather or other unidentified delays could potentially extend the completion of the construction and the movement of the residents by up to six months.

Risk Summary:
 Wayside Mission \$0 minimum; \$14.4 M maximum

2) Section 1, Hazardous Materials

The site of the Kennedy Interchange is formerly predominantly industrial property. Considerable contaminated materials have been identified and are currently operating under management plans with the Kentucky Division of Waste Management. While these materials have been identified and reports have been provided to the DBT and the DBT is conducting his own subsurface investigations at present, the FHWA Risk Analysis identified a potential of an unknown contaminate could be discovered after construction actually begins.

Risk Summary (From the FHWA Report):
 Unknown Hazardous Materials \$0.5 M minimum; \$4 M maximum

3) Section 2, Condition of Existing Kennedy Bridge

It is intended that after construction of the new I-65 bridge is completed, the deck of the existing Kennedy Bridge is to be removed and replaced. The potential exists for more extensive repairs to structural steel, joints, bearings and other substructure repairs that may be determined after the deck is removed.

Risk Summary (from the FHWA Report):
 Kennedy Bridge Rehabilitation \$4 M minimum; \$20 M maximum

4) Section 3, Utilities

One Duke Energy pole must be relocated and raised to provide adequate clearance over the interstate and a second pole raised to accommodate that shift. Because of the size of the poles, Duke had advised that it might take one year to obtain the poles and two to three months for their construction after completion of an agreement with the DBT is completed. The Federal Aviation Administration has provided their approval of the poles and the poles have been ordered and are currently expected to be delivered in January with a scheduled start date of construction in February. The risk at present would be that something would occur that the poles would not have a timely delivery. Duke has been working directly with the Walsh Construction Team to coordinate their work schedule with the project construction schedule. The risk for an impact from delays for this utility work seems less at this current date; however, risk has been assessed at a potential claim of three months.

Risk Summary:
 Duke Energy Poles \$0 minimum; \$7.2 M maximum

5) Project-wide, Environmental Challenges for Project

An earlier suit filed jointly by the National Trust and River Fields was resolved in January 2013, and stipulations resulting from that suit are being implemented. A legal suit filed by the Coalition for the Advancement of Regional Transportation (CART) was dismissed in July, 2013. In October, 2013, filed an appeal to their suit. The FHWA Risk Analysis identified this as a potential risk, but assessed no value to it, as the SFEIS

would address and identify acceptable alternatives for project construction. While ongoing, there is no indication that the suit would result in project delays.

Risk Summary:

Continued Legal Challenges None

11.D Traffic Diversion

A substantial effort was undertaken to refine the KIPDA travel demand model as part of the supplemental FEIS analysis for the project. While the KIPDA model simulates a 24-hour period, the new model developed as part of the SFEIS process for the Project divides the day into four periods to provide a more detailed snapshot of traffic patterns during the AM peak, midday, PM peak, and evening/nighttime periods. Extensive data collection was undertaken to ensure the model properly represents traffic patterns as they occur today, based on the most up-to-date data available.

Updated socioeconomic data were incorporated as well. Special attention was given to modeling truck and transit modes, separate from cars. Experience with tolling interstate-type facilities shows that trucks do not divert to local streets to avoid paying tolls because of the increased cost and the additional time added to the trip.

Because regional travel demand models are not designed to apply to individual street segments, a screen line analysis was used to identify trends along major corridors. A “screen line” is an imaginary line drawn across a group of streets. Traffic volumes on these streets are summed and comparisons are analyzed for different improvement scenarios. By comparing the difference between traffic flows along a screen line between the differing scenarios, trends in traffic patterns are identified. An increase in the number of trips across a screen line represents the total increase that is distributed along all of the streets that are included in the screen line. The increase is not identified as an increase at a single point, but rather is distributed in some proportion across the affected streets.

In examining the potential for traffic diversion away from the tolling locations, it should be understood the existing west end I-64 Bridge over the Ohio River and the Clark Memorial Bridge (US 31 and also known as the 2nd Street Bridge), which serves local traffic between Jeffersonville and Clarksville to Louisville and is located immediately to the west of the existing Kennedy Bridge, are both to remain as toll free bridges. I-64 is connected in Indiana from I-265 which ties to I-65 immediately north of the northern construction for the project. In Kentucky, I-64 extends from its entry point at the west end of Louisville and extends through the Kennedy Interchange.

Diverting northbound local traffic will generally follow I-64 along the riverfront of West Louisville to reach the toll-free I-64 Sherman Minton Bridge. An additional 6,000 to 8,000 vehicles are projected to divert along this section of interstate. This is not projected to have a major impact on the

capacity of the interstate. Once crossing the Sherman-Minton, traffic would continue to the north and east along I-265 to its tie-in at I-65. Similarly southbound I-65 traffic in Indiana can divert along I-265 to the Sherman Minton Bridge and back eastward along the Louisville Waterfront to I-65. Traffic making more long distance trips on I-65 can further divert from the Sherman Minton Bridge along I-264 southward and connecting back to I-65 in southern Louisville near the Louisville International Airport.

Some diversion is also likely from New Albany and western Clarksville in Indiana. Some traffic that has traditionally traveled eastwardly to I-65 is now likely to divert westward to the toll free Sherman Minton. Traffic projections show a maximum diversion of 922 vehicles per day along the six major city streets traversing New Albany. This translates to approximately one additional vehicle per minute per lane, which add no operational affects to the existing traffic flow, as all roadway systems have ample capacity.

As the Clark Memorial Bridge (US 31) is in immediate proximity to the I-65 corridor, some diversion of local traffic would be expected along that corridor to avoid the tolling on I-65. The Clark Memorial Bridge carries four lanes across the bridge. Several routes are available for traffic to divert from the local streets. During the AM peak period, which is the largest increase of hourly volumes when compared to the original FEIS alternative that did not include tolling, the bridge would carry approximately ten additional cars per minute or approximately 2 -3 cars per lane per minute. Operationally, this increase of traffic would create some additional delay in trying to clear the 2nd Street signals at Main Street in Louisville. During non-peak periods, traffic will move freer which will allow additional diversion from I-65. Approximately 7000 cars are expected to diverge to the US 31 Bridge during an average 24 hour period. Significant roadways exist within both the Downtown Louisville and the Clarksville and Jeffersonville systems to allow dispersion of the additional traffic along the existing roadways without any additional operational effects to those systems.

SECTION 12

CONCLUSION

The GEC has prepared this document in accordance with the best current information available and is accurate within acceptable parameters. Cost estimates are provided in accordance with bids received from the associated design-build team bids. Other costs have been developed in accordance with acceptable practices for estimating those financial elements. The mitigation plan and contingencies are reasonable and adequate for projects of this type. The construction schedule provided is in accordance with the schedule provided with the design-build team's proposal. Failure to meet the completion date will result in substantial financial penalties to the design-build contractor.

APPENDIX A

Geometric Design Criteria

Geometric Design Criteria

GENERAL

The DBT's shall design and construct all roadway geometrics in accordance with the requirements for the Project, including the Mandatory Standards and Project-specific requirements. The design shall follow that depicted in the Conceptual Plans and the criteria outlined in this section. The Downtown Crossing consists of design and construction of the Kennedy Interchange and the southern approaches to the I-65 Ohio River bridge crossings (Section 1) and the new I-65 northbound Ohio River bridge crossing and the existing John F. Kennedy Bridge conversion (Section 2) shall meet or exceed the Mandatory Standards, Project permits, and any other Kentucky KYTC policies not defined here. The design and construction of the northern approaches to the I-65 Ohio River bridge crossings (Section 3) shall meet or exceed the Mandatory Standards, Project permits, and any other INDOT policies not defined here.

The East End Crossing consists of the Kentucky approach (Section 4) includes a four-lane reconstruction of KY 841 from I-71 to US 42, an auxiliary lane will also be constructed between I-71 and US 42 in each direction, and new four-lane construction from US 42 to the new Ohio River East End Bridge, providing two lanes in each direction, for a distance of approximately 3.4 miles. The construction includes an approximately 2000-foot long tunnel beneath US 42 and the historic Drumanard Estate, with two tunnel bores, each carrying two lanes with shoulders with one for northbound and one for southbound traffic. The new construction will also continue the four-lane construction with a bridge over Harrods Creek and River Road and approach spans to the new Ohio River Bridge that traverses Transylvania Beach Road. Section 4 has been broken out into Sections 4A and 4B. Section 4A consists of the reconstruction of KY 841 from the I-71 connections to the northerly abutment of the proposed Harrods Creek/River Road bridge (approx. Sta. 149+77.99 northbound and 149+37.99 southbound). Section 4B consists of continuing the extension of KY 841 from the northerly abutment of the proposed Harrods Creek/River Road bridge to the north to the limits of the Kentucky Approach where it ties into the East End Bridge over the Ohio River. The East End Bridge (Section 5) section consists of the construction of a new approximately 2,500 – foot long 4-lane cable – stayed bridge over the Ohio River, which will be capable of being re-stripped to provide six-lanes in the future when traffic demands. The bridge will also provide a 13-foot wide combined pedestrian and bicycle pathway on the southwesterly side of the bridge. - The Indiana approach (Section 6) consists of a four-lane extension of SR 265 from SR 62 to the new East End bridge, providing two-lanes in each direction, for a distance of approximately 4.1 miles. The interchange at SR 265 and the SR 62 / Port Road will be reconstructed and a new full-diamond interchange will be constructed at an extension of Old Salem Road.

MANDATORY STANDARDS

The geometric design of the project shall conform to the requirements for design in INDOT, KYTC, FHWA and AASHTO publications. Unless specified otherwise, all Mandatory Standards listed or referenced herein shall be interpreted as the current edition adopted by the KYTC and the INDOT.

PERFORMANCE REQUIREMENTS

The DBT's are responsible for the quality, accuracy, and completeness of the design and adherence to all criteria identified in the project documents. If the DBT's elects to submit an Innovative Technical Concept (ITC), that concept shall meet or exceed the requirements for number of lanes, levels of service, weaving, merging, average speed and delays identified in the Conceptual Plans and the Interchange Justification Study (IJS).

DESIGN EXCEPTIONS

Sections 1 and 2

For Sections 1 and 2, design exceptions shall not be allowed in the design of this Project. The 13 controlling criteria for determining a design exception within the Sections 1 and 2 Project limits are defined in the KYTC Design Manual.

Section 3

For Section 3, level 1 design exceptions shall not be allowed in the design of this Project. Level 1 design criteria are defined in the IDM. Intersection sight distance criteria shall also be satisfied for the Project except as noted below.

- A. 6th Street: Right turn southbound Broadway Street to westbound 6th Street: There is a design exception required in the Conceptual Plans for intersection sight distance. The line of sight for the right turn from southbound Broadway Street to westbound 6th Street for both passenger cars and trucks extends outside of the existing Right-of-Way. This condition currently exists at this low speed urban intersection.

To retain this condition, the DBT shall prepare a level 2 design with Local Agency concurrence in accordance with the IDM.

Sections 4, 5 and 6

All design Deviations or design exceptions from Project Standards shall be submitted to IFA for review and approval in accordance with the IDM. All requests for Deviations and exceptions shall be submitted with a justification report detailing the reasons to retain a nonstandard or substandard feature or for providing an improvement that does not bring the feature up to standard. Requests for design Deviations and exceptions shall be submitted not later than the Stage 1 Design Review and approved by IFA, in writing, before the affected Design Units will be Released-for-Construction.

DESIGN CRITERIA

Refer to the RFP - Project Scope document for both the Downtown Crossing and the East End Crossing for the functional classification and required design speeds for each facility, sight distance, curvature, and superelevation shall meet the required criteria for design speeds of each roadway except for horizontal stopping sight distance on Section 1 ramps, at locations controlled by a barrier wall on the inside of a curve; a 35 mph design speed may be used. Acceleration/deceleration lane lengths, taper rates, lane balance, etc. shall meet AASHTO guidelines.

Section 1

Lane Widths:

Interstate	12-foot lanes
Ramps	Varies; 15-foot for single lane ramp 12-foot multiple lane ramp
Adams Street	16-foot lane

Normal Lane Cross Slope:

Interstate	2 percent
Ramps	2 percent
Adams Street	2 percent

Shoulder Widths*:

Mainline Interstates with Median Barriers	12-foot Both Sides
One Lane Ramps	6-foot Left 8-foot Right
Two Lane Ramps	8-foot Left 12-foot Right
Three (or more) Lane Ramps	12-foot Both Sides

*Shoulder widening may be required to meet horizontal stopping site distance requirements on structures where stopping site distance is controlled by structure barrier walls.

Grades:

Interstate	4 percent Maximum
Ramps	6 percent Maximum

Vertical Clearances:

Interstates and Interstate to Interstate Ramps	16-foot – 6-inch Minimum
Arterial*	16-foot – 6-inch Minimum
Collector	14-foot – 6-inch Minimum
Local	14-foot – 6-inch Minimum
Railroads	23-foot – 0-inch Minimum
Overhead Signs and Trusses	18-foot – 0-inch Minimum
Pedestrian Overpasses	17-foot – 0-inch Minimum

*For a new arterial bridge, a 14-foot – 6-inch minimum clearance may be used when an alternate facility with a 16-foot – 0-inch clearance is available.

Superelevation:

Due to the large number of bridges and being an urban location, the maximum superelevation rate for all facilities within the Section 1 Project limits shall be 6 percent.

Superelevation transitions can be accomplished in a variety of methods, generally ranging from one-third of the transition in the curve to all of the transition on the tangent preceding the curve. The Kentucky Standard Drawings show all of the transition on the tangent for multi-lane facilities, but one-third in the curve for two-lane roadways. The AASHTO “A Policy on Geometric Guidelines for Highways and Streets” includes discussion noting that various facilities utilize various methods, but also give a table of suggested methods.

The following criteria shall be utilized for design:

- A. Interstate facilities with three lanes rotated about a grade point; 85 percent on tangent, 15 percent in curve (from AASHTO “A Policy on Geometric Guidelines for Highways and Streets” table).
- B. Interstate facilities with two lanes rotated about a grade point; 80 percent on tangent, 20 percent in curve (from AASHTO “A Policy on Geometric Guidelines for Highways and Streets” table).
- C. All other ramps and Collector-Distributor’s (not including city street system); 67 percent on tangent, 33 percent in curve (minimum noted in AASHTO “A Policy on Geometric Guidelines for Highways and Streets” discussion).
- D. City street system must be coordinated with Louisville-Jefferson County criteria. (Due to low design speeds in the urban area, and existing conditions, superelevation is not generally required on the city streets.)

Mandatory Geometric Elements

In addition to meeting the above criteria, four specific features are considered mandatory to address historical traffic operation and safety issues within the Kennedy Interchange.

- A. The elimination of the current traffic weaving movements from I-64 westbound and I-71 southbound to I-65 northbound and southbound.
- B. The elimination of the current traffic weaving movements from I-65 northbound and southbound to I-64 eastbound and I-71 northbound.
- C. Introduction of “Collector-Distributor” (CD) systems on I-65 between I-64 and the Liberty Street and adjacent streets, interchange.
- D. The elimination of the weave with I-64 westbound movements for Story Avenue entrance ramp movements to I-65.

Other Mandatory Elements

The low shoulder point elevation of interstate mainlines and interstate to interstate ramps, except for those roadways protected by the levee system, shall be a minimum of one foot above the base flood elevation (100 year flood).

Section 2

The DBT shall utilize the INDOT design criteria for Project Section 3 ramps 1 and 2 (I-65 northbound exit ramp to Court Avenue and Court Avenue entrance ramp to I-65 southbound) that are within the Section 2 Project limits.

Geometric Design Criteria for Section 2

I-65	
Cross Section	
Travel Lane Width	12'
Shoulder Width Right (Barrier)	$12'^{2c}, \pm 9'-5 \frac{3}{4}''^{2a}$
Shoulder Width Left (Barrier)	$12'^{2c}, \pm 9'-5 \frac{3}{4}''^{2a}$
Travel Lane Normal Cross Slope	2%
Shoulder Normal Cross Slope	2%
Horizontal Alignment	
Maximum super-elevation rate ^{2b}	
Vertical Alignment	
Minimum Grade	0.5%
Maximum Grade	4.0%
Vertical Clearance (Minimum)	

I-65	
Collector Under	14'-6"
Local Under	14'-6"
Overhead Signs and Trusses	18'-0"
Bridge Width	
New Bridge or Reconstructed Bridge	Full paved approach roadway width
Existing Bridge to Remain in Place	Full paved approach roadway width
Notes:	
2a. The existing John F. Kennedy (JFK) Bridge out to out deck width is 94'-3".	
2b. Utilize Section 1 design criteria at the south end of both I-65 Ohio River Bridges.	
2c. The new I-65 northbound Ohio River bridge shall have 12' wide shoulders. Provide 12' wide shoulders on the approaches to the existing JFK Bridge. Provide taper adjacent to the existing JFK Bridge to match its proposed shoulder width.	

Section 3

All interstate facilities within the Section 3 Project limits shall meet desirable design criteria as defined in the IDM except as shown below:

Lane Widths:

Interstate	12-foot lanes
US 31	12-foot lanes
Ramps	Varies; 16-foot for single-lane ramp 12-foot for multiple-lane ramp
Local Streets	12-foot desirable, 11-foot minimum Right Turn Lanes: 12-foot desirable, 11-foot minimum Left Turn lanes: 16-foot desirable, 12-foot minimum

NOTE: Lane widths for Local Streets shall not be less than existing lane widths at tie-in points.

Curb offset/gutter width: Left and Right and intermittent median curb: 2-Foot minimum
 Continuous median: 2-foot desirable, 1-foot minimum

Shoulder Widths:

Mainline Interstates with Median Barriers	12-foot Left	10-foot Right*
One Lane Ramps	4-foot Left*	8-foot Right*
Multi-Lane Ramps	4-foot Left*	10-foot Right*
US 31	6-foot Left	6-foot Right

*Where shoulder is located adjacent to roadside barrier, the shoulder widths listed above shall be increased by 2-foot minimum.

Shoulder widening may be required to meet sight distance requirements where the sight distance is controlled by roadside barrier.

Grades:

Interstate	4 percent Maximum
Ramps	6 percent Maximum
	7 percent Maximum on down grade

Vertical Clearances:

Interstates and Interstate to Interstate Ramps	16-foot – 6-inch Minimum
Arterial *	16-foot – 6-inch Minimum
Collector	14-foot – 6-inch Minimum
Local	14-foot – 6-inch Minimum
Railroads	23-foot – 0-inch Minimum
Overhead signs	17-foot – 6-inch Minimum
Signals	17-foot – 0-inch Minimum

*For a new arterial bridge, a 14-foot – 6-inch minimum clearance may be used when an alternate facility with a 16-foot – 0-inch clearance is available.

Superelevation:

Within the Section 3 Project limits, the maximum superelevation rate for I-65 is 8 percent with all other facilities being 6 percent.

Superelevation transitions can be accomplished in a variety of methods, generally ranging from one-third of the transition in the curve (one-half maximum) to all of the transition on the tangent preceding the curve. The IDM shows a range of 80 percent to 90 percent of the transition on the tangent for multi-

lane and 70 percent to 80 percent on the tangent for two-lane roadways. The AASHTO “A Policy on Geometric Guidelines for Highways and Streets” includes discussion noting that various facilities utilize various methods, but also give a table of suggested methods.

The following criteria shall be utilized for the design:

The city street system must be coordinated with City of Jeffersonville and Town of Clarksville criteria. (Due to low design speeds in the urban area, and existing conditions, superelevation is not generally required on the city streets)

Mandatory Geometric Elements

In addition to meeting the above criteria, the following features are considered mandatory to address traffic operation and safety issues within the Indiana Approach to the Ohio River bridges.

Maintain “Fly-over” Access for US 31 northbound to I-65 northbound and northbound frontage road

Extend 6th Street across I-65 with access to I-65 northbound and southbound

Section 4

All interstate facilities within the Section 4 Project limits shall meet desirable design criteria. Within Section 4A (southern most) KYTC Standards will be used and within Section 4B (northern most) IDM Standards will be used.

Lane Widths:

Mainline	12-foot lanes
Ramps (single lane)	15-foot
Ramps (two-lane)	24-foot

Shoulder Widths:

Mainline	12-foot Left*	10-foot Right*
Mainline (tunnel)	4-foot Left*	12-foot Right*
Ramps (single lane)	4-foot Left*	8-foot Right*
Ramps (two lane)	4-foot Left*	10-foot*

* Where shoulder is located adjacent to roadside barrier, the shoulder widths listed above shall be increased by 2-foot minimum.

Grades:

Mainline	4 percent Maximum
Ramps	4 percent Maximum

Vertical Clearances:

Mainline	16-foot – 6-inch Minimum
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Mainline Tunnel	17-foot
Ramps	16-foot – 6-inch Minimum
Arterial	16-foot – 6-inch Minimum
Collector	14-foot – 6-inch Minimum
Local	14-foot – 6-inch Minimum
Overhead signs	17-foot – 6-inch Minimum
Signals	17-foot – 0-inch Minimum

Superelevation:

Within the Section 4 Project limits, the maximum superelevation rate for the Freeway is 8 percent with all other facilities, including structures, being 6 percent.

Superelevation transitions can be accomplished in a variety of methods, generally ranging from one-third of the transition in the curve (one-half maximum) to all of the transition on the tangent preceding the curve. The IDM shows a range of 80 percent to 90 percent of the transition on the tangent for multi-lane and 70 percent to 80 percent on the tangent for two-lane roadways. The AASHTO “A Policy on Geometric Guidelines for Highways and Streets” includes discussion noting that various facilities utilize various methods, but also give a table of suggested methods.

Section 5

All interstate facilities within the Section 5 Project limits shall meet desirable design criteria as defined in the IDM except as shown below:

Lane Widths:

Mainline	12-foot lanes
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Shoulder Widths:

Mainline	12-foot Left	12-foot Right
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Grades:

Mainline	0.5 percent Minimum 3.0 percent Maximum
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Vertical Clearances:

Mainline	71 foot above Ohio River normal pool stage 18 foot over Upper River Road
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Superelevation:

Within the Section 5 Project limits, the maximum superelevation rate for the Freeway is 6 percent.

Superelevation transitions can be accomplished in a variety of methods, generally ranging from one-third of the transition in the curve (one-half maximum) to all of the transition on the tangent preceding the curve. The IDM shows a range of 80 percent to 90 percent of the transition on the tangent for multi-lane and 70 percent to 80 percent on the tangent for two-lane roadways. The AASHTO “A Policy on Geometric Guidelines for Highways and Streets” includes discussion noting that various facilities utilize various methods, but also give a table of suggested methods.

Section 6

All interstate facilities within the Section 6 Project limits shall meet desirable design criteria as defined in the IDM except as shown below:

Lane Widths:

Mainline	12-foot lanes
Ramps (single lane)	16-foot
Ramps (two lane)	24-foot
SR 62	12-foot

Shoulder Widths:

Mainline	4-foot Left*	12-foot Right*
Ramps (single lane)	4-foot Left*	8-foot Right*
Ramps (two lane)	4-foot*	10-foot Right*
SR 62	NA	10-foot Right*

*Where shoulder is located adjacent to roadside barrier, the shoulder widths listed above shall be increased by 2-foot minimum.

Grades:

Mainline	4 percent Maximum 0.3 percent Minimum
Ramps	5 percent Maximum
SR 62	5 percent Maximum

Vertical Clearances:

Mainline	16-foot – 6-inch Minimum
Ramps	16-foot – 6-inch Minimum
Arterial	16-foot – 6-inch Minimum
Collector	14-foot – 6-inch Minimum
Local	14-foot – 6-inch Minimum
Railroads	23-foot – 0-inch Minimum
Overhead signs	17-foot – 6-inch Minimum
Signals	17-foot – 0-inch Minimum

Superelevation:

Within the Section 6 Project limits, the maximum superelevation rate for the Freeway is 8 percent with all other facilities being 6 percent.

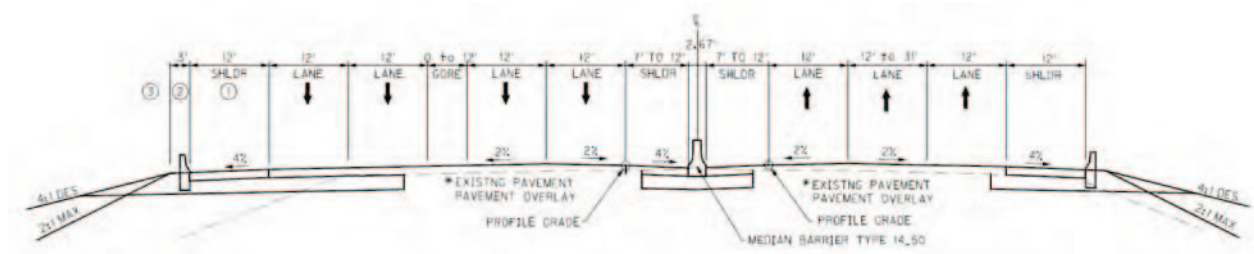
Superelevation transitions can be accomplished in a variety of methods, generally ranging from one-third of the transition in the curve (one-half maximum) to all of the transition on the tangent preceding the curve. The IDM shows a range of 80 percent to 90 percent of the transition on the tangent for multi-lane and 70 percent to 80 percent on the tangent for two-lane roadways. The AASHTO “A Policy on Geometric Guidelines for Highways and Streets” includes discussion noting that various facilities utilize various methods, but also give a table of suggested methods.

APPENDIX B

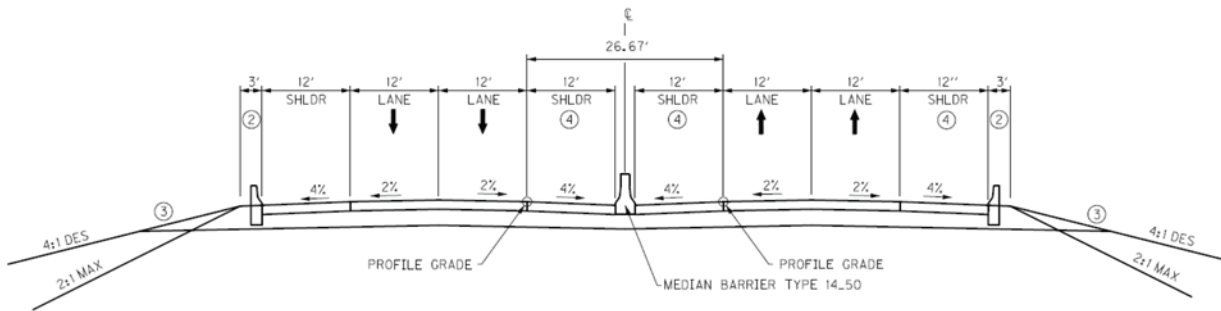
Typical Sections

DOWNTOWN CROSSING

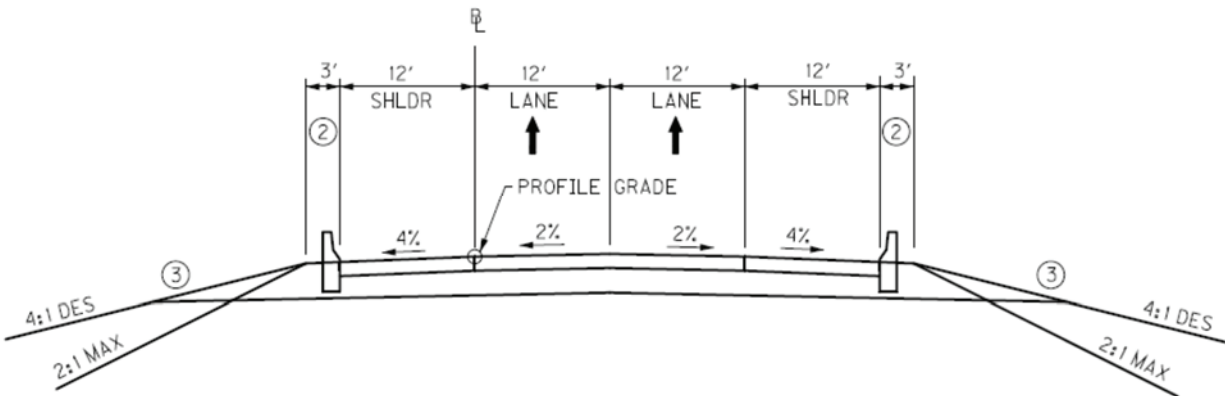
I-65 KENTUCKY



Southern Tie-in

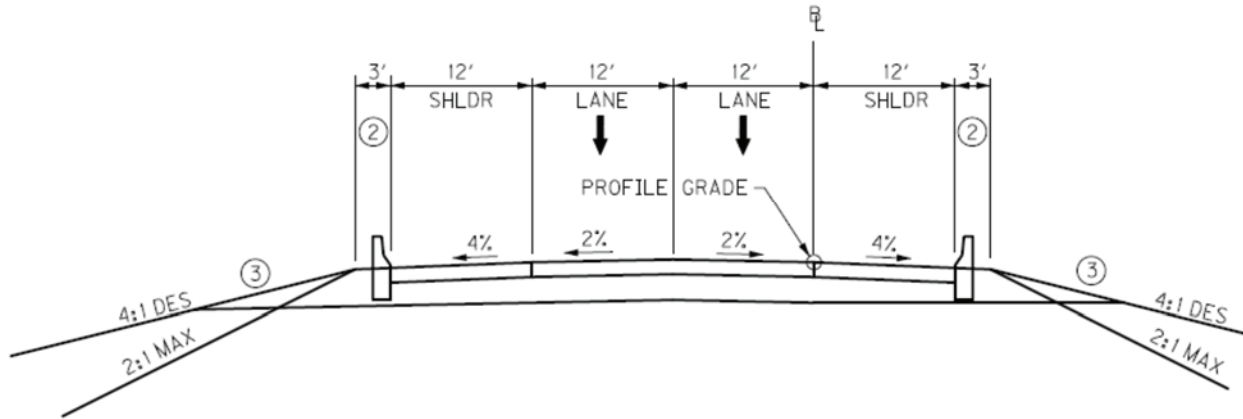


Within Interchange (non-bifurcated)

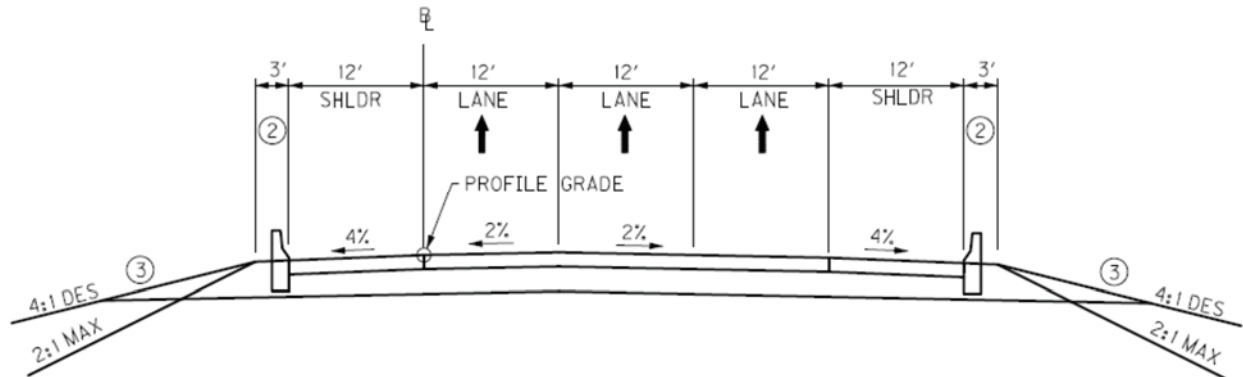


NB Within Interchange (bifurcated)

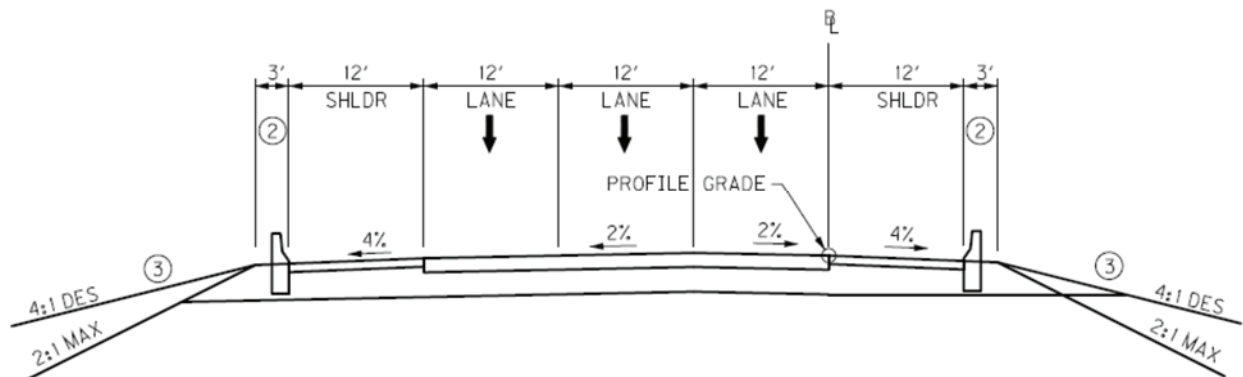
I-65 KENTUCKY



SB Within Interchange (bifurcated)

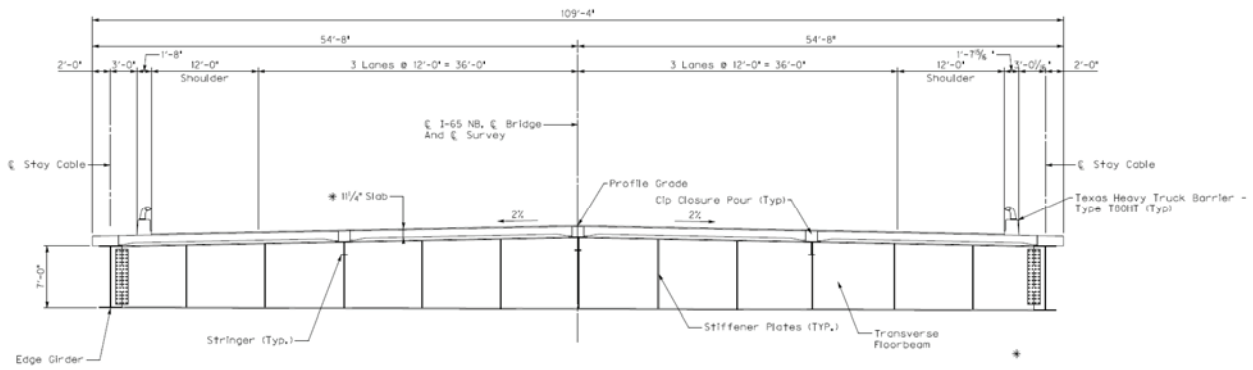


NB At River Bridge Approach



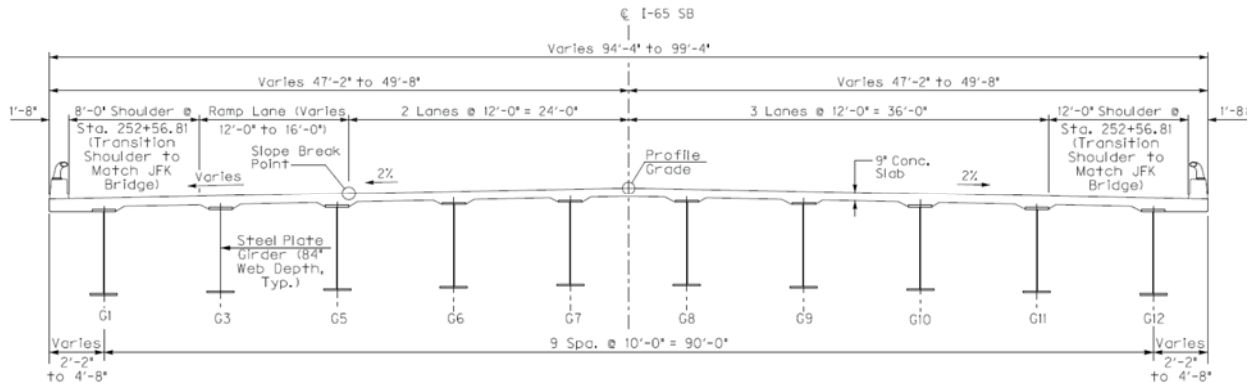
SB At River Bridge Approach

I-65 River Bridges



**DECK TYPICAL CROSS SECTION
MAIN SPANS BRIDGE**

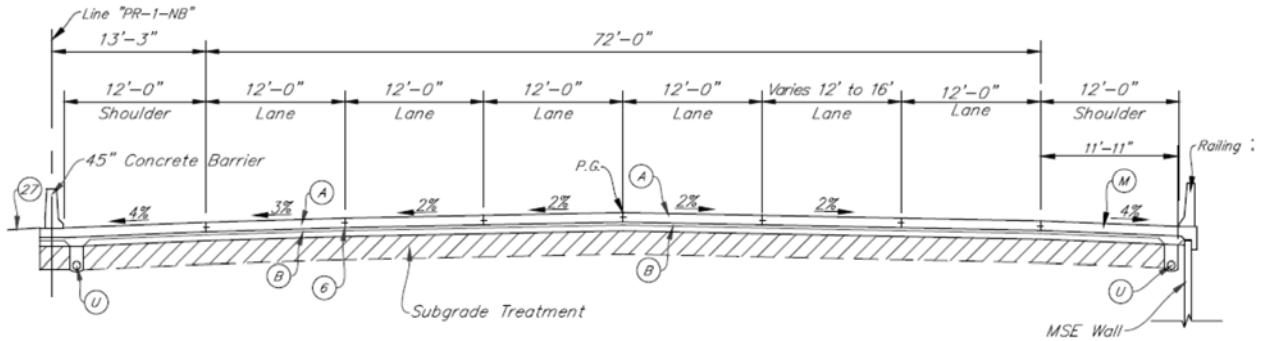
NB River Bridge



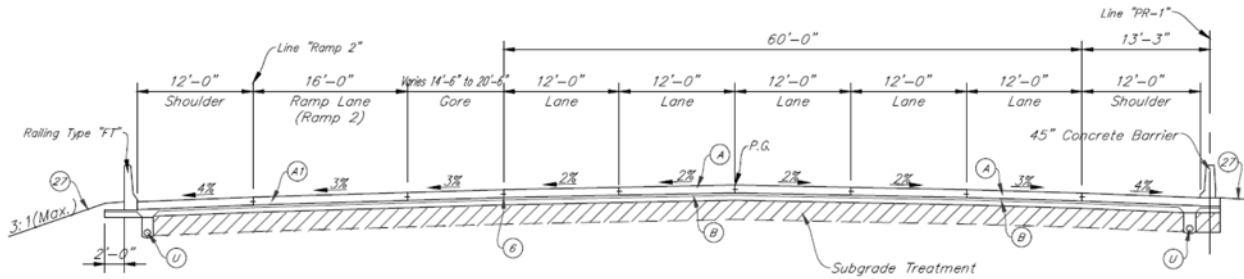
SB River Bridge

(Existing Kennedy Bridge)

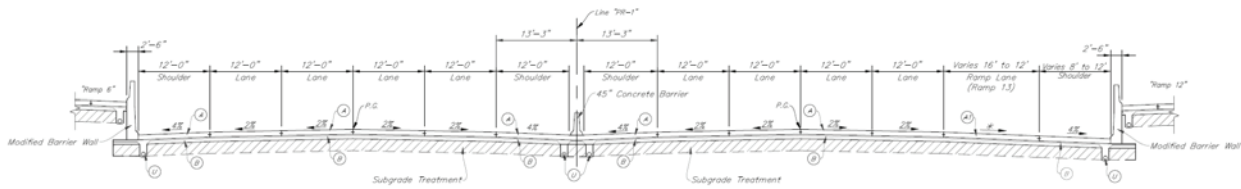
I-65 INDIANA



NB At River Bridge Approach (bifurcated)

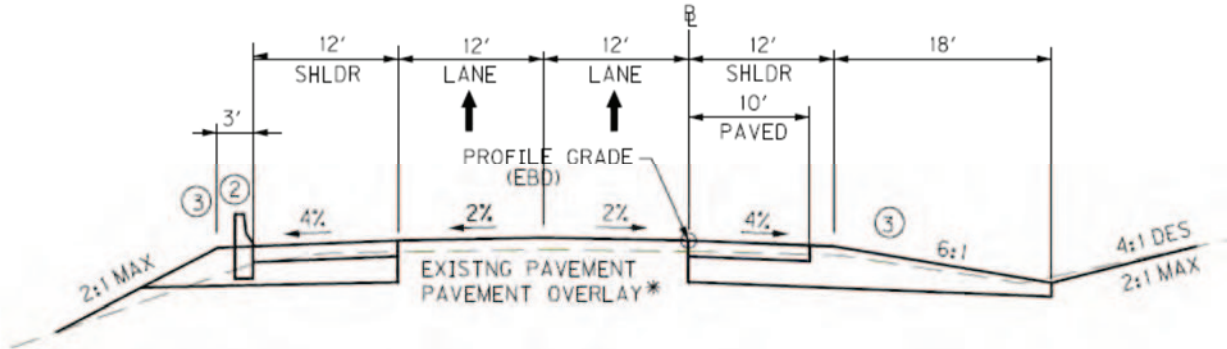


SB At River Bridge Approach (bifurcated)

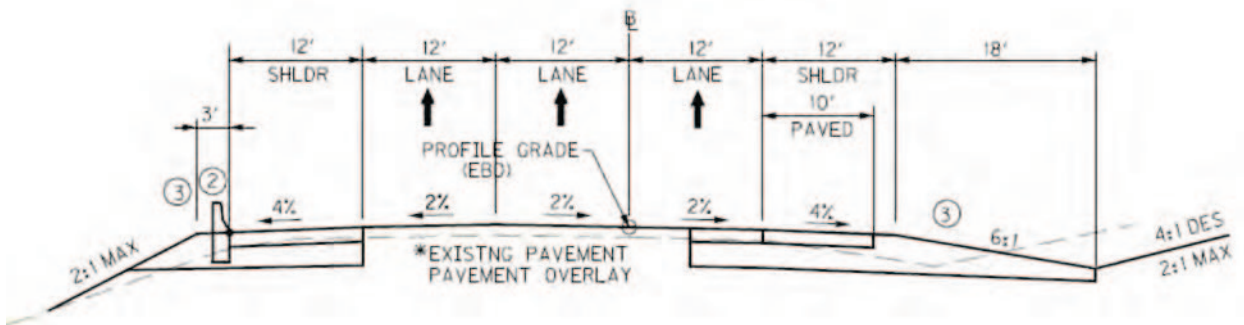


Within Interchange Areas (non-bifurcated)

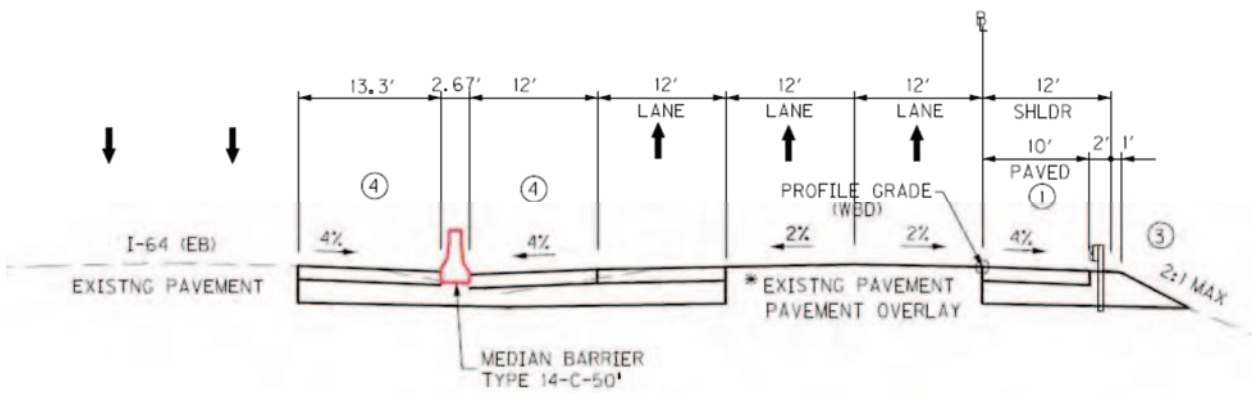
I-64 KENTUCKY



I-64 East Bound – 2 Lanes

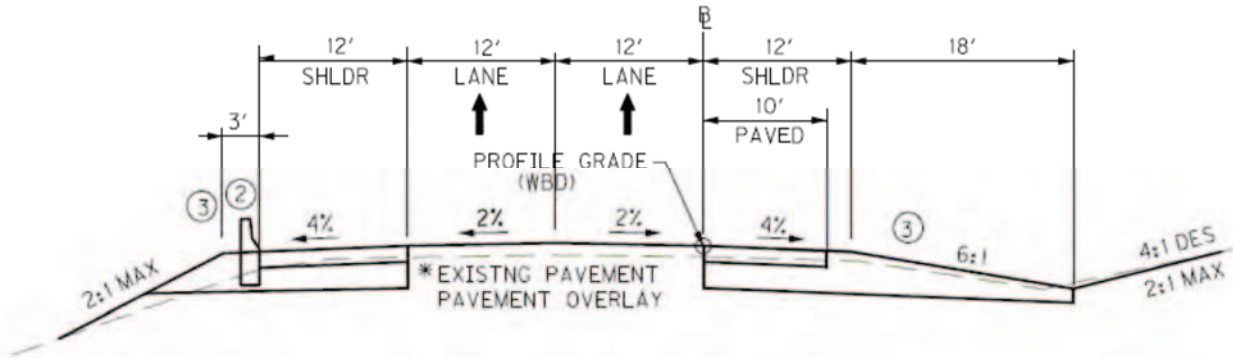


I-64 East Bound – 3 Lanes

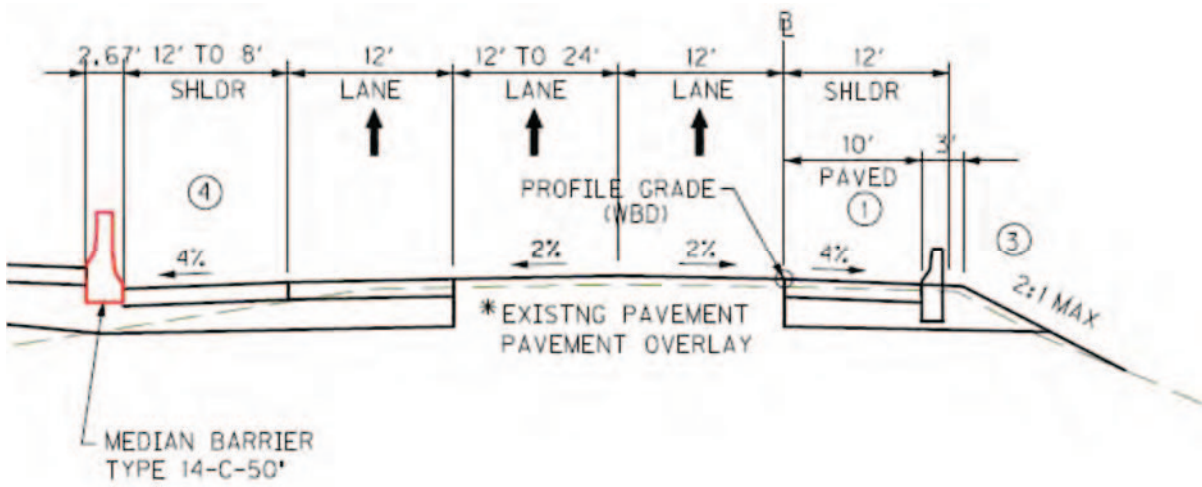


I-64 West Bound – Eastern Tie-down

I-64 KENTUCKY

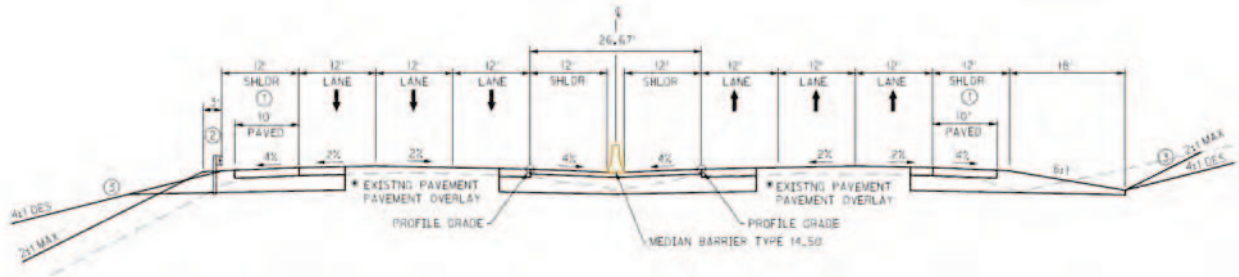


I-64 West Bound – 2 Lanes



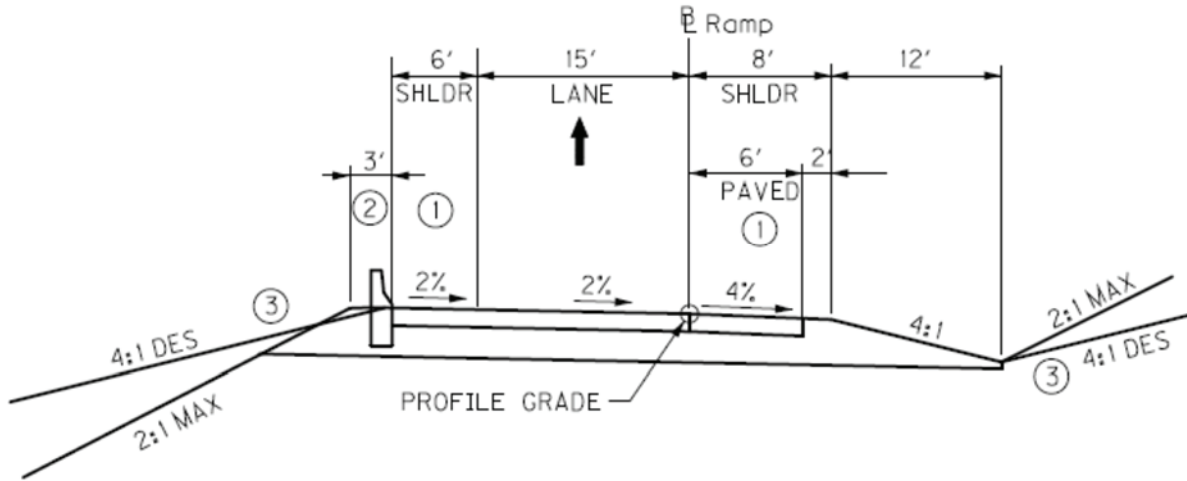
I-64 West Bound – 3 Lanes

I-71 KENTUCKY

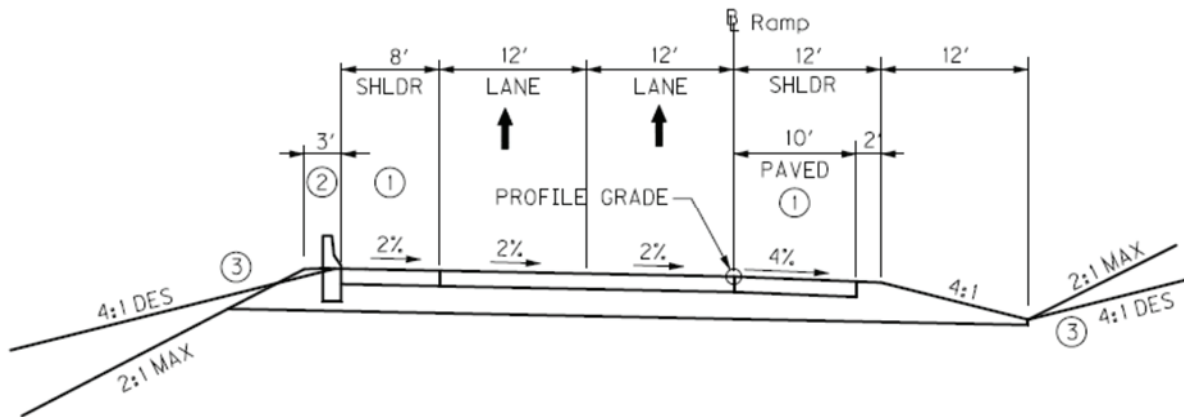


Widening and Overlay

RAMPS - KENTUCKY

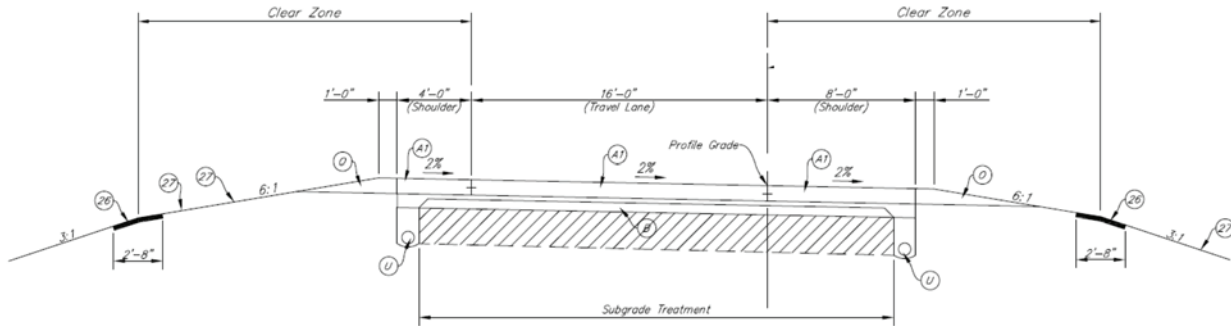


Single Lane Ramps

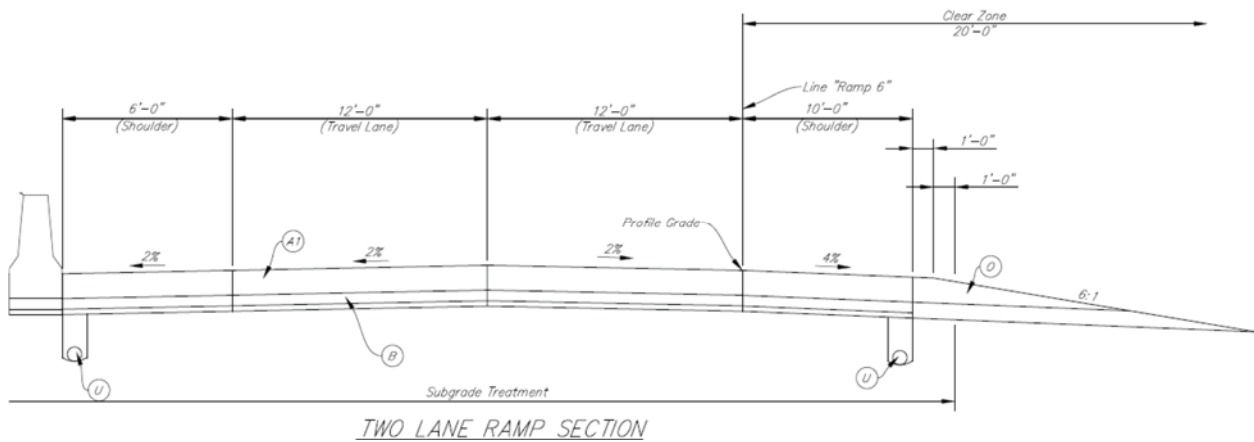


Multi-Lane Ramps

RAMPS - INDIANA



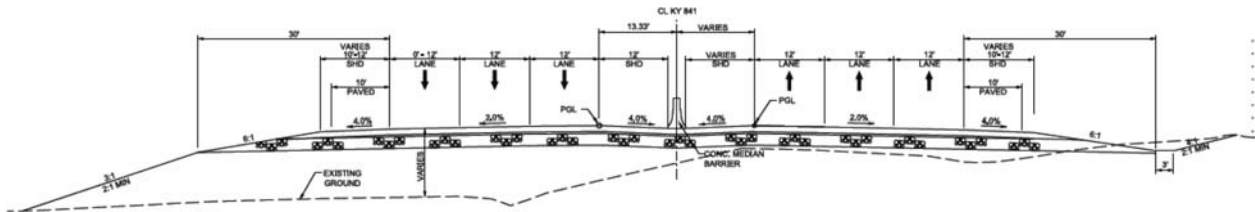
Single Lane Ramps



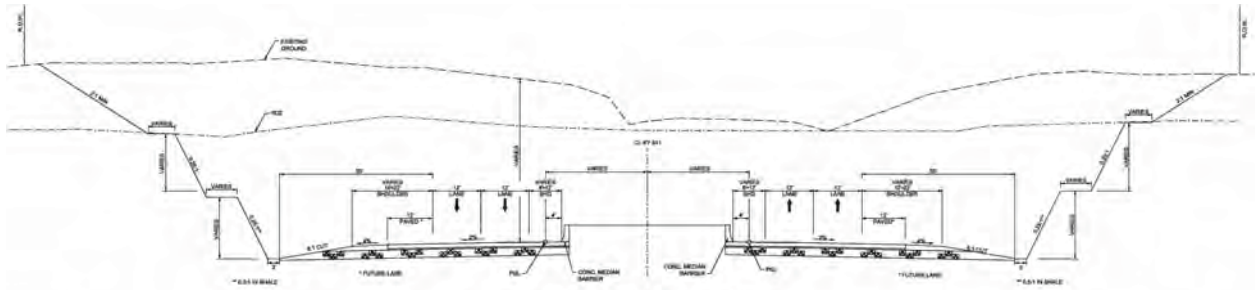
Multi-Lane Ramps

EAST END CROSSING

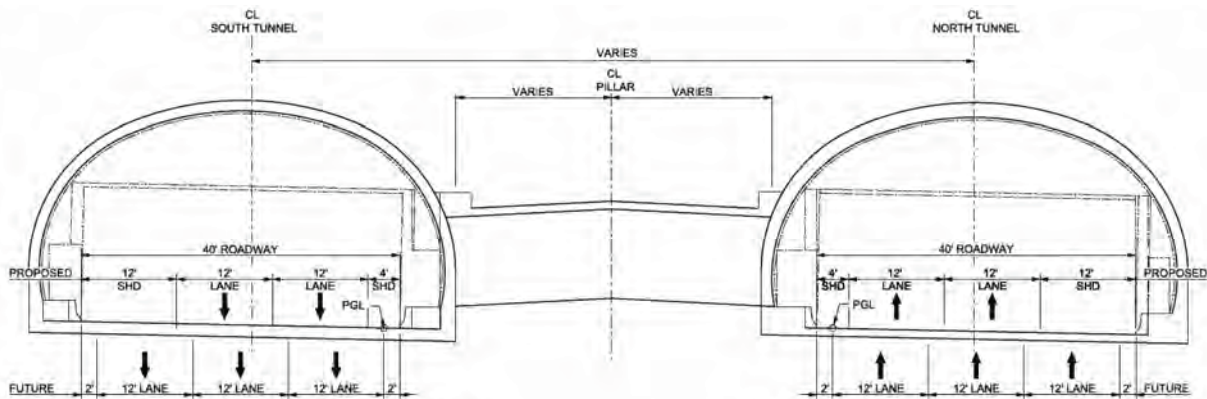
Freeway – Kentucky



KY 841 TYPICAL SECTION

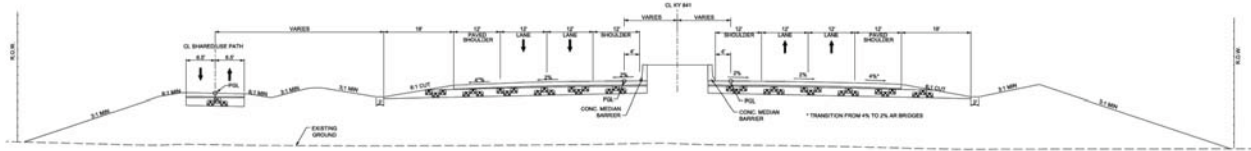


KY 841 ROCK CUT TYPICAL SECTION

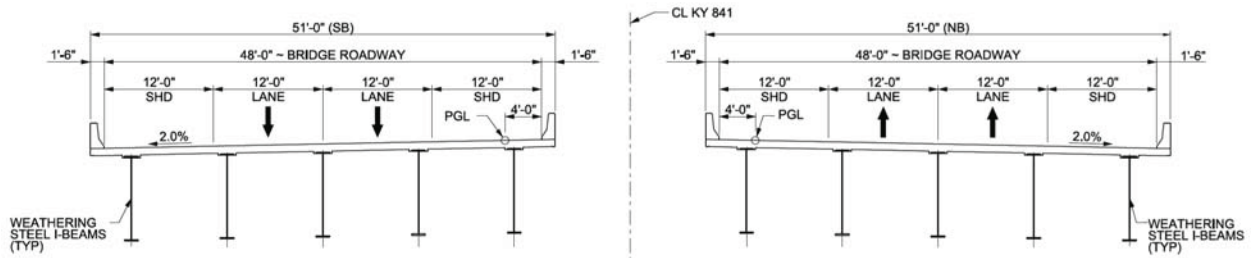


**TUNNEL CROSS SECTION – (SOUTH BORE)
SOUTH PORTAL 40' ROADWAY**

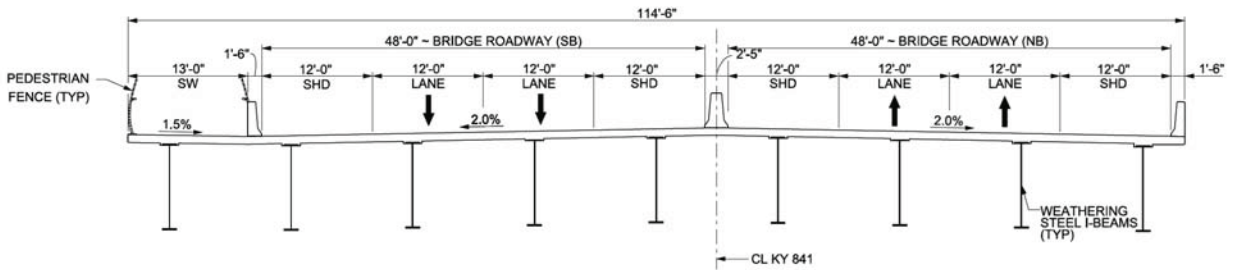
**TUNNEL CROSS SECTION – (NORTH BORE)
SOUTH PORTAL 40' ROADWAY**



KY 841 TYPICAL SECTION

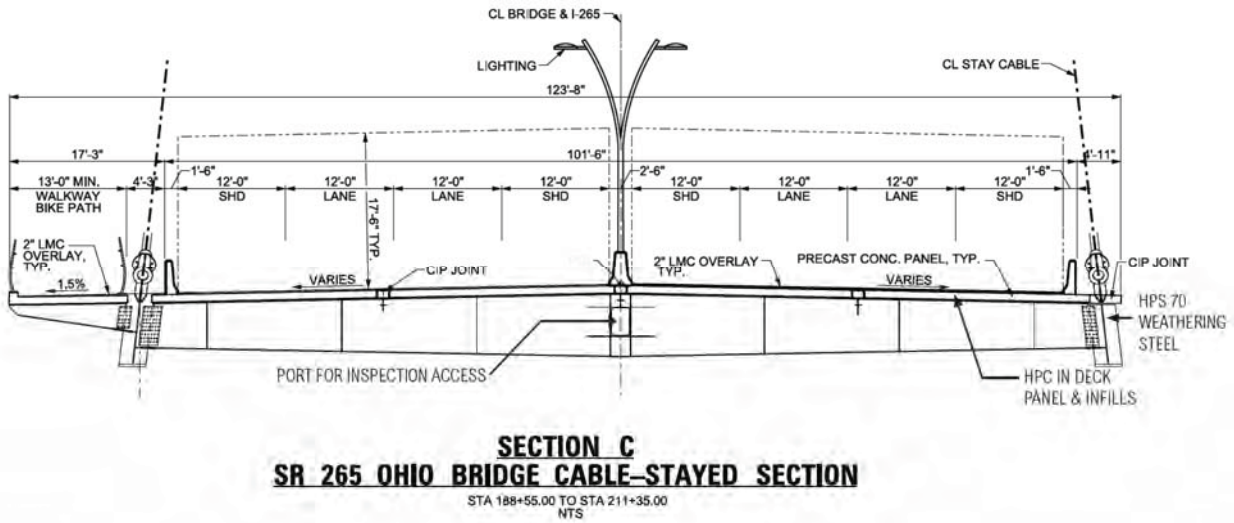


KY 841 HARRODS CREEK BRIDGE TYPICAL SECTION

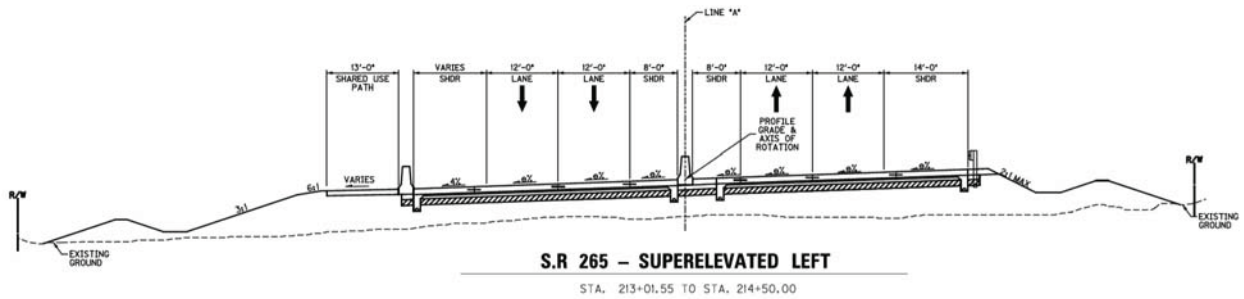


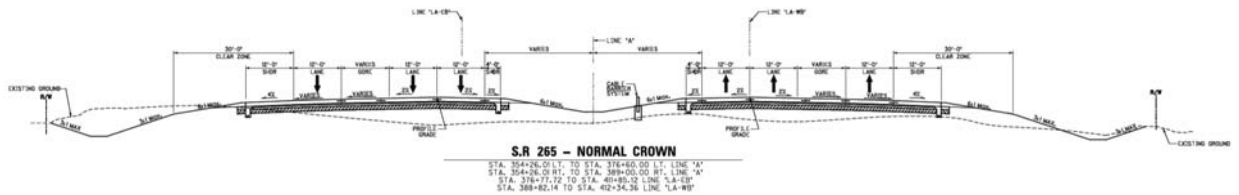
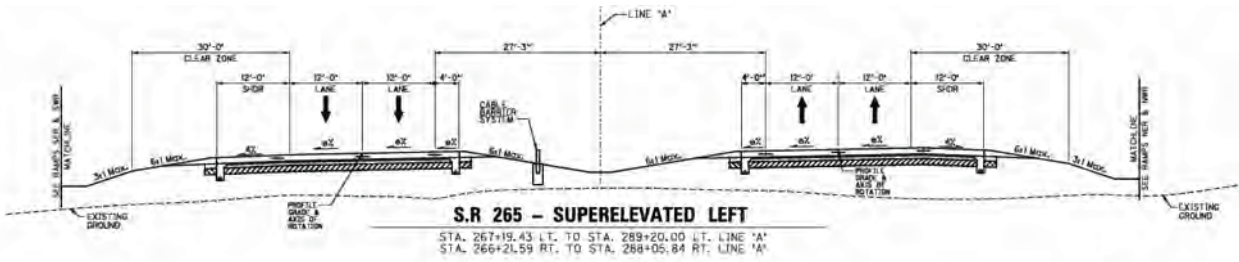
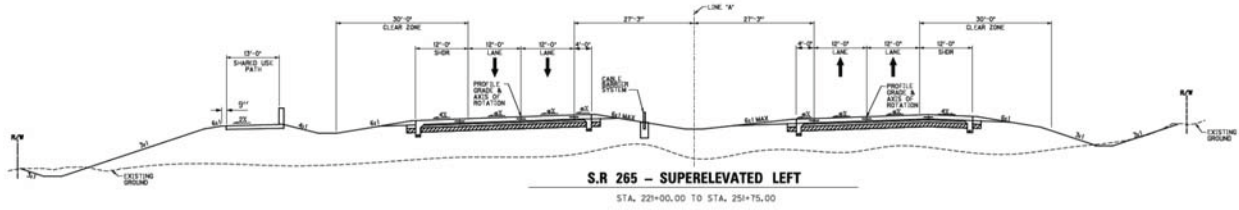
KY 841 APPROACH BRIDGE TYPICAL SECTION

Freeway – River Crossing

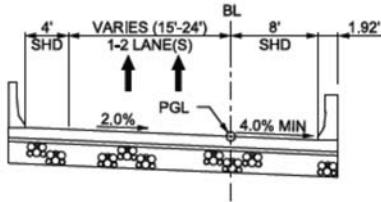


Freeway – Indiana

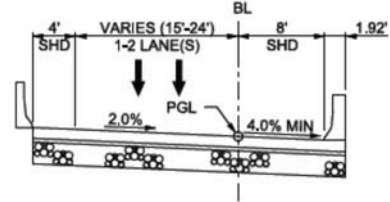




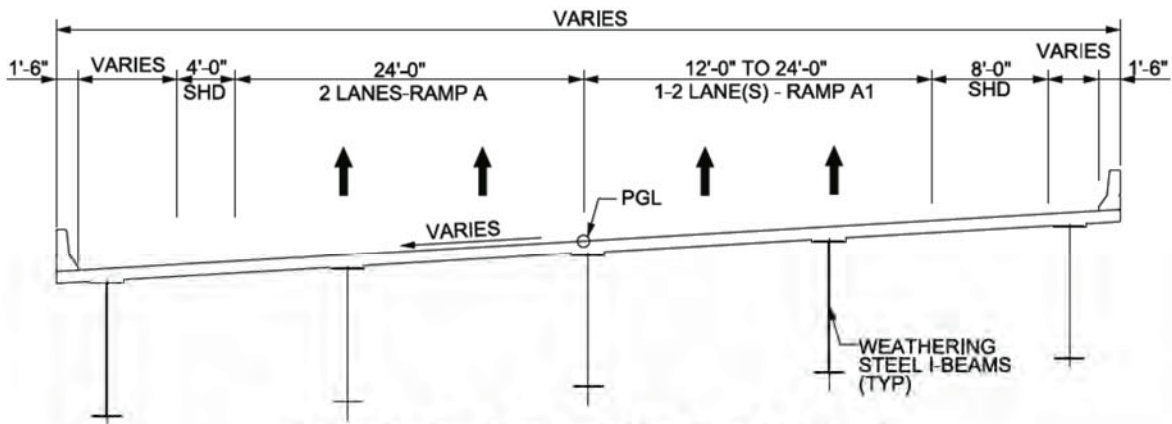
Ramps - Kentucky



RAMP A /A1 – TYPICAL SECTION

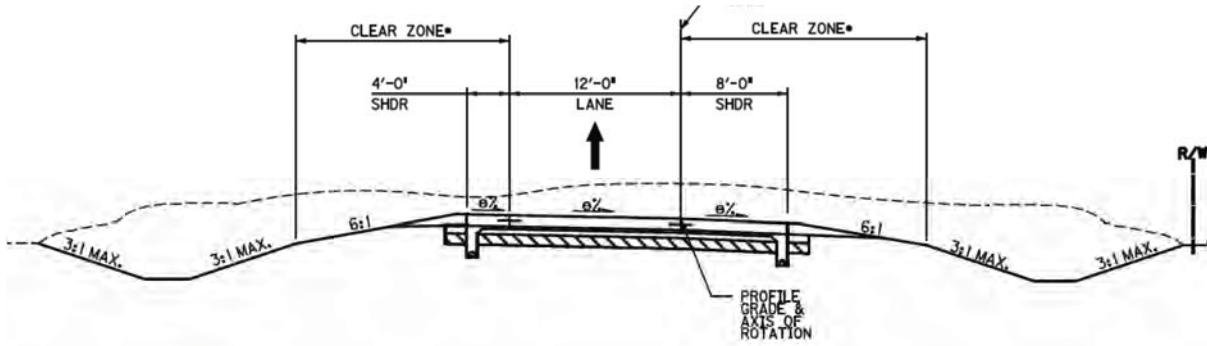


RAMP B /B1– TYPICAL SECTION

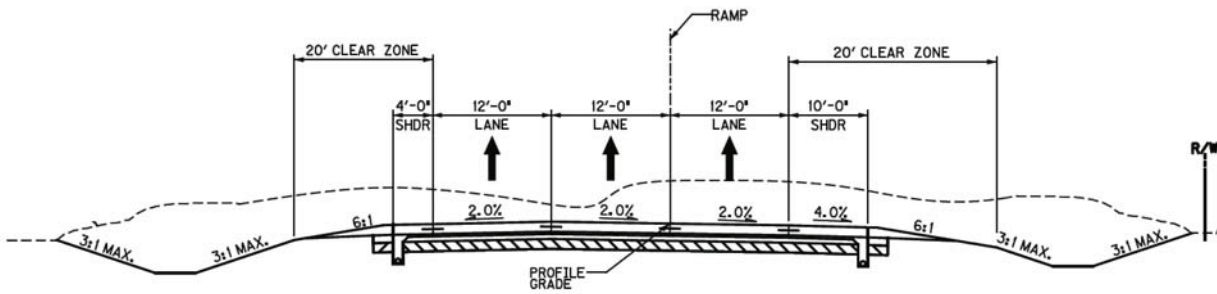


RAMP A /A1 BRIDGE SECTION

Ramps - Indiana

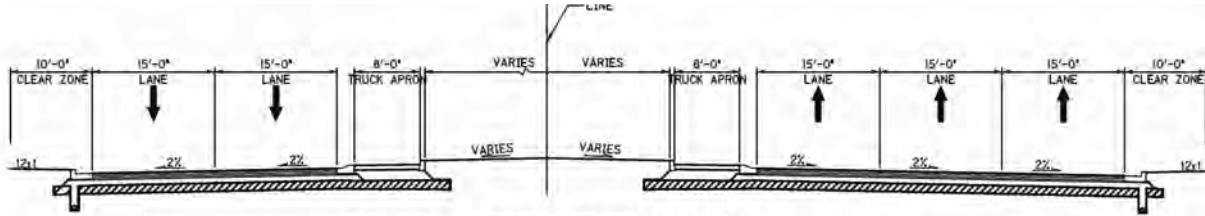


Single Lane Ramps

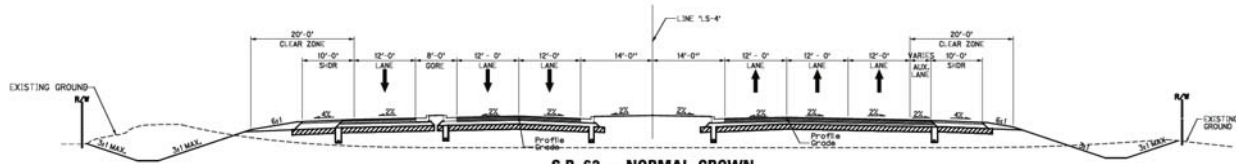


Multi Lane Ramps

State Route 62



S.R. 62 – ROUNDABOUT SECTION



S.R. 62 – NORMAL CROWN

APPENDIX C

Pavement Design Criteria

Pavement Design Criteria

DOWNTOWN CROSSING

Mainline and Shoulders

The asphalt pavement alternate on I-65, I-64, I-71 mainline and shoulders shall be as follows:

A. Kentucky:

I. Driving Lanes

- a. 1.25 inches CL4 Asph Surf 0.38A PG76-22
- b. 4.0 inches CL4 Asph Base 1.0D PG76-22
- c. 4.25 inches CL4 Asph Base 1.0D PG64-22
- d. 4.5 inches CL4 Asph Base 1.0D PG64-22
- e. 4 inches Drainage Blanket Type II-Asph
- f. Asphalt Curing Seal (1.6 lb/sq yd); Sand for Blotter (5 lb/sq yd)
- g. 4 inches DGA Base
- h. Asphalt Curing Seal (2.0 lb/sq yd); Sand for Blotter (5 lb/sq yd)
- i. 12 inches Cement Stabilized Roadbed (Cement 6% by weight @ 108 lb/cu yd)

II. Shoulders (Shoulders less than 6 feet in width can use driving lane design)

- a. 1.25 inches CL3 Asph Surf 0.38D PG64-22
- b. 4.0 inches CL3 Asph Base 1.0D PG64-22
- c. 4.25 inches CL3 Asph Base 1.0D PG64-22
- d. 4.5 inches CL3 Asph Base 1.0D PG64-22
- e. 4 inches Drainage Blanket Type II-Asph
- f. Asphalt Curing Seal (1.6 lb/sq yd); Sand for Blotter (5 lb/sq yd)
- g. 4 inches DGA Base
- h. Asphalt Curing Seal (2.0 lb/sq yd); Sand for Blotter (5 lb/sq yd)
- i. 12 inches Cement Stabilized Roadbed (Cement 6% by weight @ 108 lb/cu yd)

B. Indiana:

- a. 165 lb/syd QC/QA-HMA, 5,76, Surface, 9.5 mm, on
- b. 275 lb/syd QC/QA-HMA, 5, 76, Intermediate, 19.0 mm, on
- c. 440 lb/syd QC/QA-HMA, 5, 64, Base, 25.0 mm, on
- d. 300 lb/syd QC/QA-HMA, 5, 76, Intermediate, OG19.0 mm, on
- e. 440 lb/syd QC/QA-HMA, 5, 64, Base, 25.0 mm, on
- f. Subgrade Treatment, Type IA. Underdrains per IDM chapter 52.

The concrete pavement alternate on I-65, I-64, I-71 mainline and shoulders shall be as follows:

- A. Kentucky:
 - I. Driving Lanes
 - a. JPC Pavement-12 inches
 - b. 6 inches Crushed Stone Base
 - c. Asphalt Curing Seal (2.0 lb/sq yd); Sand for Blotter (5 lb/sq yd)
 - d. 12 inches Cement Stabilized Roadbed
 - II. Shoulders
 - a. JPC Shoulder-12 Inches (All shoulders shall have dowel bars in the transverse joints)
 - b. 6 inches Crushed Stone Base
 - c. Asphalt Curing Seal (2.0 lb/sq yd); Sand for Blotter (5 lb/sq yd)
 - d. 12 inches Cement Stabilized Roadbed (Cement 6% by weight @ 108 lb/cu yd)
- B. Indiana:
 - a. 14 inches Plain Jointed QC/QA PCCP with tied QC/QA PCCP shoulders and D-1 joints spaced at 15 feet with 1.5" diameter dowel bars, on
 - b. Subbase for PCCP, on
 - c. Subgrade Treatment, Type IA. Underdrains per IDM chapter 52

Ramps

The asphalt pavement alternate on I-65, I-64, I-71 ramps and shoulders shall be as follows:

- A. Kentucky (All Ramp shoulders can use the mainline shoulder design above):
 - a. 1.25 inches CL4 Asph Surf 0.38A PG76-22
 - b. 4.0 inches CL4 Asph Base 1.0D PG76-22
 - c. 4.25 inches CL4 Asph Base 1.0D PG64-22
 - d. 4.5 inches CL4 Asph Base 1.0D PG64-22
 - e. 4 inches Drainage Blanket Type II-Asph
 - f. Asphalt Curing Seal (1.6 lb/sq yd); Sand for Blotter (5 lb/sq yd)
 - g. 4 inches DGA Base
 - h. Asphalt Curing Seal (2.0 lb/sq yd); Sand for Blotter (5 lb/sq yd)
 - i. 12 inches Cement Stabilized Roadbed (Cement 6% by weight @ 108 lb/cu yd)
- B. Indiana (Ramp and Shoulders)
 - I. Ramps 1, 2, 3, 4, 6 from Ramp 8A to US 31, 7, 8, 10, 11, 12, 17, 18 from Stansifer Ave. to Ramp 20 and US 31
 - a. 165 lb/syd QC/QA-HMA, 2, 64, Surface, 9.5 mm, on
 - b. 275 lb/syd QC/QA-HMA, 2, 64, Intermediate, 19.0 mm, on
 - c. 250 lb/syd QC/QA-HMA, 5, 76, Intermediate, OG19.0 mm, on
 - d. 385 lb/syd QC/QA-HMA, 2, 64, Base, 19.0 mm, on
 - e. Subgrade Treatment, Type IA. Underdrains per IDM chapter 52.

- II. Ramps 8A, 9, 14, 19 and 6 from Ramp 15 to Ramp 8A
 - a. 165 lb/syd QC/QA-HMA, 3, 70, Surface 9.5 mm, on
 - b. 275 lb/syd QC/QA-HMA, 3, 70, Intermediate, 19.0 mm, on
 - c. 250 lb/syd QC/QA-HMA, 5, 76, Intermediate OG19.0 mm, on
 - d. 385 lb/syd QC/QA-HMA, 3, 64, Base, 19.0 mm, on
 - e. Subgrade Treatment, Type IA. Underdrains per IDM chapter 52.
- III. Ramps 5, 13, and 15
 - a. 165 lb/syd QC/QA-HMA, 4, 76, Surface, 9.5 mm, on
 - b. 275 lb/syd QC/QA-HMA, 4, 76, Intermediate 19.0 mm, on
 - c. 330 lb/syd QC/QA-HMA, 4, 64, Base 19.0 mm, on
 - d. 250 lb/syd QC/QA-HMA, 5, 76, Intermediate OG19.0 mm, on
 - e. 330 lb/syd QC/QA-HMA, 4, 64, Base 19.0 mm, on
 - f. Subgrade Treatment, Type IA. Underdrains per IDM chapter 52.
- IV. Ramps 20, 18 from Ramp 20 to Ramp 15 and 21 north of Ramp 20
 - a. 165 lb/syd QC/QA-HMA, 4, 76, Surface, 9.5 mm, on
 - b. 275 lb/syd QC/QA-HMA, 4, 76, Intermediate 19.0 mm, on
 - c. 385 lb/syd QC/QA-HMA, 4, 64, Base 19.0 mm, on
 - d. 250 lb/syd QC/QA-HMA, 5, 76, Intermediate OG19.0 mm, on
 - e. 385 lb/syd QC/QA-HMA, 4, 64, Base 19.0 mm, on
 - f. Subgrade Treatment, Type IA. Underdrains per IDM chapter 52.
- V. Ramp 21 from Ramp 20 to I-65 SB (entrance ramp)
 - a. 12.5 inches Plain Jointed QC/QA PCCP with tied QC/QA PCCP shoulders and 1.5 in diameter Dowel Bars and D-1 joints spaced at 15 feet, on
 - b. Subbase for PCCP, on
 - c. Subgrade Treatment, Type IA. Underdrains per IDM Chapter 52

The concrete pavement alternate on I-65, I-64, I-71 ramps and shoulders shall be as follows:

- A. Kentucky:
 - I. Driving Lanes
 - a. JPC Pavement-12 inches (All shoulders shall have dowel bars in the transverse joints)
 - b. 6 inches Crushed Stone Base
 - c. Asphalt Curing Seal (2.0 lb/sq yd); Sand for Blotter (5 lb/sq yd)
 - d. 12 inches Cement Stabilized Roadbed (Cement 6% by weight @ 108 lb/cu yd)
 - II. Shoulders
 - a. JPC Shoulder-12 inches (All shoulders shall have dowel bars in the transverse joints)
 - b. 6 inches Crushed Stone Base
 - c. Asphalt Curing Seal (2.0 lb/sq yd); Sand for Blotter (5 lb/sq yd)
 - d. 12 inches Cement Stabilized Roadbed (Cement 6% by weight @ 108 lb/cu yd)

- B. Indiana: (Ramps and Shoulders)
 - I. Ramps 1, 2, 3, 4, 6, 7, 8, 10, 11, 12, 17, 18 from Stansifer to Ramp 20, 8A, 9, 14, 19, and US 31
 - a. 9.5 inches Plain Jointed QC/QA PCCP with tied QC/QA PCCP shoulders and 1.25 in diameter Dowel Bars and D-1 joints spaced at 15 feet, on
 - b. Subbase for PCCP, on
 - c. Subgrade Treatment, Type IA. Underdrains per IDM Chapter 52.
 - II. Ramp 5, 13 and 15
 - a. 10.0 inches Plain Jointed QC/QA PCCP with tied QC/QA PCCP shoulders and 1.5 in diameter Dowel Bars and D-1 joints spaced at 15 feet, on
 - b. Subbase for PCCP, on
 - c. Subgrade Treatment, Type IA. Underdrains per IDM Chapter 52.
 - III. Ramps 18 from Ramp 20 to Ramp 15, 20 and 21
 - a. 12.5 inches Plain Jointed QC/QA PCCP with tied QC/QA PCCP shoulders and 1.5 in diameter Dowel Bars and D-1 joints spaced at 15 feet, on
 - b. Subbase for PCCP, on
 - c. Subgrade Treatment, Type IA. Underdrains per IDM Chapter 52

Local Streets

The pavement design for local streets shall be as follows:

- A. Kentucky (No alternate design for local streets in Louisville):
 - a. 1.5 inches CL3 Asph Surf 0.38B PG64-22
 - b. JPC Pavement-9 inches
 - c. 6 inch DGA Base
- B. Indiana with Underdrains:
 - I. Court Ave (Curbed Section)
 - a. 165 lb/syd QC/QA-HMA, 2, 64, Surface, 9.5 mm, on
 - b. 275 lb/syd QC/QA-HMA, 2, 64, Intermediate, 19.0 mm, on
 - c. 300 lb/syd QC/QA-HMA, 5, 76, Intermediate, OG19.0 mm, on
 - d. 330 lb/syd QC/QA-HMA, 2, 64, Base, 19.0 mm, on
 - e. Subgrade Treatment, Type IA. Underdrains per IDM chapter 52.
 - II. 10th St and Stansifer Ave (Curbed Section)
 - a. 165 lb/syd QC/QA-HMA, 4, 76, Surface, 9.5 mm, on
 - b. 275 lb/syd QC/QA-HMA, 4, 76, Intermediate, 19.0 mm, on
 - c. 300 lb/syd QC/QA-HMA, 5, 76, Intermediate, OG19.0 mm, on
 - d. 385 lb/syd QC/QA-HMA, 4, 64, Base, 19.0 mm, on
 - e. Subgrade Treatment, Type IA. Underdrains per IDM chapter 52.
- C. Indiana without Underdrains:
 - I. 6th St, Missouri Ave, LSR-1 from Court Ave to 6th St (Curbed Sections)

- a. 165 lb/syd QC/QA-HMA, 2, 64, Surface, 9.5 mm, on
- b. 275 lb/syd QC/QA-HMA, 2, 64, Intermediate, 19.0 mm, on
- c. 660 lb/syd QC/QA-HMA, 2, 64, Base, 19.0 mm, on
- d. Subgrade Treatment, Type XX.

General Notes (Kentucky)

1. Cement subgrade stabilization shall extend from shoulder break to shoulder break on all typical sections requiring treatment.
2. Asphalt seal required from outside edge of paved shoulders to a point two feet down the ditch or fill slope. Two applications of the following:
 - a. Asphalt Curing Seal 2.4 lb/sq yd
 - b. Asphalt Seal Aggregate 20 lb/sq yd (Size No. 8 or 9M)
3. The Material Transfer Vehicle (MTV) will be required for placement of all asphalt base and surface courses on mainline I-64, I-65 and I-71. The MTV will also be required on all system ramps unless waived by the Engineer due to constructability issues.
4. All longitudinal joints including shoulder joints in JPC pavement will be tied. Hooks bolts with expansion anchors will not be permitted.
5. All joints in JPC pavement will be sealed with silicone sealant per KYTC Standard Drawing RPX-020-05.
6. In sections with guardrail, asphalt or concrete pavement shall extend to the face of the guardrail.
7. No alternate to the full-depth pavement designs will be considered except as they may relate to subgrade improvement (i.e. chemical modification). The total depth of asphalt, concrete, or aggregate base may not be reduced but may be increased.

Pavement Overlay/Rehabilitation Minimum Requirements (Kentucky)

Design-Build Teams may submit ITC's related to pavement overlays. The following minimum standards will be required for any overlay or pavement salvage alternate proposed:

1. All roadway sections will replace or place new longitudinal pavement edge drains and headwalls according to KYTC standards.
2. Any existing shoulders, or portion thereof, that will become driving lanes in the new interchange configuration shall be replaced full-depth with a pavement structure equivalent to the adjacent existing driving lanes and proposed overlay. The minimum width of full-depth shoulder reconstruction shall be six (6) feet to facilitate constructability.
3. Positive pavement drainage will be required from any existing driving lane pavement through proposed widening or shoulder reconstruction to be outletted via pavement edge drains. Pavement drainage for any new pavement on the high side of a superelevated section adjacent to existing pavement shall be directed away from existing pavement by

- reverse subgrade cross-slope. Longitudinal pavement drains shall not be constructed within the limits of the travel lanes.
4. A minimum depth of drainage blanket of four (4) inches will be required adjacent to existing concrete. The bottom of the new drainage blanket shall align with the bottom of the existing concrete pavement.
 5. KYTC requires that for any JPC Overlay that the overlay and widening slab thickness be consistent.
 6. KYTC requires that a minimum of 1.5 inches of the existing asphalt surface be removed by milling prior to any final overlay.
 7. No ITC will be accepted for I-65 pavement. DBT's are advised that a proposal for I-65 may be considered as a change proposal after award of the contract. Sufficient pavement testing pursuant to Section 15 in the Project Scope will be required.

The following supplemental information is provided to facilitate state of the practice pavement design methodologies. This information shall be used for any analysis presented:

1) AADTT = 25,000

2) Vehicle Class Distribution

I-65 - Use TTC 1 (MEPDG Table 9-3)

I-64, I-71, All Ramps - Use TTC 2 (MEPDG Table 9-3)

3) Existing Pavement Structure Moduli (See KTC Report "Summary of FWD Testing Louisville-Southern Indiana Ohio River Bridge Project-Downtown")

4) DBT's should assume that the existing pavement in the area shaded orange on the Pavement Testing chart consists of 18 inches of asphalt on 6 inches of #2 stone.

General Notes (Indiana)

1. The design life failure mode that is anticipated is the terminal IRI for these pavement sections.
2. The curbed pavement design is based upon using a modified curb and gutter with a 7-inch height at connection to new pavement.
3. The pavement is designed with service life of 20 years for HMA pavement and 30 years for concrete pavement.
4. As per Chapter 52 of the IDM, the underdrains and drainage layer should be eliminated for the connecting roadway sections between the ramps, or for any roadway that does not require underdrains. For HMA the O.G. layer and the bottom base layer should be combined. For PCCP the dense graded subbase should be used.

EAST END CROSSING

Mainline and Shoulders

The asphalt pavement alternative on mainline and shoulders shall be as follows:

A. Kentucky

I. Driving Lanes

- a. 1 ¼ in. CL 4 Asph. Surf. 0.38A PG 76-22
- b. 3¼ in. CL4 Asph. Base 1.0D PG 76-22
- c. 8 in. (4 in. + 4 in.) CL4 Asph. Base 1.0D PG 64-22
- d. 4 in. Drainage blanket-TY II Asphalt
- e. 5.0 lb/sq. yd. Sand for blotter
- f. lb/sq. yd. Asphalt curing seal
- g. 4 in. (Variable) DGA Base
- h. 2-foot rock roadbed

II. Shoulders

- a. 1¼ in. CL3 Asph. Surf. 0.38D PG 64-22
- b. 11 ¼ in. (4 in. +4 in.+3 ¼ in.) CL3 Asph. Base 1.0D PG 64-22
- c. 4 in. Drainage blanket-TY II asphalt
- d. 5.0 lb/sq. yd. Sand for blotter
- e. 1.6 lb/sq. yd. Asphalt curing seal
- f. 4 in. (Variable) DGA Base
- g. 2-foot rock roadbed

The ramp pavements and shoulders shall be the same as the mainline pavement and shoulders.

III. Tunnel - PCC pavement shall be:

- a. Travel lanes: 12-inch PCCP with 1.5-inch dowel bars @ 20-inch centers, 15-foot joint spacing
- b. Inside and outside shoulders: 12-inch PCCP, 15-foot' joint spacing. Tied to travel lanes using #5 bars @ 20-inch spacing
- c. 4-inch crushed stone base
- d. Subgrade treatment: 2-foot rock roadbed
- e. Silicone seal for transverse joints

The PCC pavement shall be constructed through the tunnel and extend 200 feet from each portal. It should be noted that there is not a HMA option for the driving lanes and shoulders through the tunnel.

B. Indiana Outside the O&M Section

I. Driving Lanes

- a. 165 lb/sy QC-QA-HMA 3,70, surface, 9.5 mm, on
- b. 275 lb/sy QC-QA-HMA 3,70, intermediate, 19.0 mm, on
- c. 330 lb/sy QC-QA-HMA 3,64, base, 19.0 mm, on
- d. 250 lb/sy QC-QA-HMA 5,76, intermediate, O.G., 19.0 mm, on

- e. 330 lb/sy QC-QA-HMA 3,64 base, 19.0 mm, on
 - f. Subgrade treatment: 1B for soil and 1C for rock per Project Standards
 - g. Construct underdrains in accordance with IDM
- II. Shoulders - Match mainline pavement thickness.
- C. Indiana Within the O&M Section
- I. For pavement sections within the O&M Limits Developer shall design, maintain and rehabilitate roadway pavements within the O&M Limits using Good Industry Practices and in accordance with a nationally accepted pavement design procedure.
 - a. Pavement structural layers for all new roadways within the O&M Section shall be designed with no reduction of, or restrictions to allowable legal load limits.
 - b. Materials for roadway pavement surfaces may be hot-mixed asphalt (HMA) or portland cement concrete (PCC).
 - c. All travel lanes and shoulders shall have the same structural section.
 - II. At Substantial Completion and at the Expiry Date, the Developer shall provide a consistent pavement type throughout each roadway element.
 - III. During the operating period, designs for all pavement rehabilitation activities shall be prepared and submitted for IFA review and comment.

The PCC pavement alternative on mainline and shoulders shall be as follows:

- A. Kentucky
- I. Travel lanes
 - a. 12-inch PCCP with 1.5-inch dowel bars @ 20-inch centers, 15-foot joint spacing
 - b. 4-inch crushed stone base
 - c. Subgrade treatment: 2-foot rock roadbed
 - d. Silicone seal for transverse joints
 - II. Shoulders
 - a. 12-inch PCCP, 15-foot' joint spacing. Tied to travel lanes using #5 bars @ 20-inch spacing
 - b. 4-inch crushed stone base
 - c. Subgrade treatment: 2-foot rock roadbed
 - d. Silicone seal for transverse joints
- B. Indiana
- I. - Travel lanes:
 - a. 10-inch PCC pavement, 14-foot widened slab driving lanes, 1.25- inch dowel bars at 12" c-c spacing, 15-foot' joint spacing
 - b. 9-inch Subbase for PCCP consisting of 3-inch coarse aggregate No.8 and 6"
 - c. Compacted aggregate, size No. 53
 - d. Subgrade treatment: 1B for soil and 1C for rock per Project Standards
 - e. Construct underdrains in accordance with Project Standards
 - f. Use silicone joint sealer for transverse joints
 - II. Shoulders

- a. 10-inch PCC pavement, 15-foot joint spacing. Tied to travel lanes using #5 bars @ 30-inch spacing
- b. 9-inch Subbase for PCCP consisting of 3-inch coarse aggregate No.8 and 6" Compacted aggregate, size No. 53
- c. Subgrade treatment: 1B for soil and 1C for rock per Project Standards
- d. Construct underdrains in accordance with Project Standards
- e. Use silicone joint sealer for transverse joints

General Notes

Developer shall prepare and submit Pavement Design Reports for review and comment by IFA for Design Review with the Stage 1 Design Documents. Pavement Design Reports shall be signed and sealed by a Registered Professional Engineer.

Pavement Design Reports shall include, at a minimum, the following:

- a. All design inputs, including design method, design life, analysis parameters, performance criteria, traffic load spectra, climate, pavement structural cross section, subgrade and subbase drainage, materials characteristics and input parameters including soil subgrade. Discussion of the input parameters, rationale and assumptions used.
- b. Site plan showing the limits of the roadway element covered by the design report. Typical cross section drawings for the recommended pavement design strategy.

Prior to handback, Developer shall provide calculations and condition distress surveys that address both pavement functional and structural requirements.

Quiet Pavement Requirements

The final pavement surface for all travel lanes, shall be designed to reduce tire-pavement noise using one of the following methods:

- a. HMA Pavements: Surface Course shall be 165 lb/sq. yd. HMA-9.5 mm with PG 76-22 Asphalt, or approved equal.
- b. PCC Pavements: Next Generation Concrete Surface (NGCS) texturing method using revised IGGA Guide Specifications for NGCS Construction on Newly Constructed Roadways, or another proven concrete surface texture method that will reliably produce less than 103 decibels over 90% of the surface area.

Rehabilitations during the Term shall use the pavement surface courses as described above to provide quiet pavement surface.

Developer shall test and report pavement noise levels using On Board Sound Intensity (OBSI) - AASHTO TP76-11 test method for both HMA and PCC pavements. Initial testing shall be done no sooner than 60 days before the roadway is open to traffic. After Substantial Completion, Developer shall conduct and report OBSI tests every 3 years during the Term. In addition, OBSI testing and reporting shall be performed within 30 days after a pavement rehabilitation that includes surface courses.

APPENDIX D

Design Manuals, Policies and Guidance

Downtown Crossing - Sections 1, 2, 3

It is the responsibility of the DBT to acquire and utilize the necessary manuals that apply to the design and construction work required to complete this Project. Unless specified otherwise, all Mandatory Standards listed or referenced within the Project Scope shall be interpreted as the current edition adopted by KYTC and INDOT on or before June 16, 2012. The KYTC and the INDOT standards and design manuals take precedence over others listed unless noted otherwise in the Contract Documents.

Mandatory Standards are unique depending on the location of the work. Sections 1 and 2 shall conform to the KYTC standards and Specifications with Section 3 conforming to the INDOT standards and Specifications. More specifically, the Indiana bridge approaches to the JFK Bridge and the new I-65 northbound bridge shall conform to the KYTC standards, up to and including the Indiana abutments located just on the north side of West Market Street in Jeffersonville, Indiana. However, any ground improvements such as paving, curb, sidewalk, drainage, etc. under these Indiana bridge approaches shall be per the INDOT standards.

The following is a list of publications that shall be used for the design and construction. This list may not be comprehensive. In addition, while not specifically checked, a Mandatory Standard may be required for other elements of the design.

Author/Agency	Title
AASHTO	A Policy on Design Standards - Interstate System
AASHTO	A Policy on Geometric Guidelines for Highways and Streets (Green Book)
AASHTO	An Informational Guide to Roadway Lighting
AASHTO	Guide for the Development of Bicycle Facilities
AASHTO	Guide for the Planning, Design, and Operation of Pedestrian Facilities
AASHTO	Guide Specifications for Bridge Temporary Works,
AASHTO	Highway Drainage Guidelines
AASHTO	Highway Safety Manual
AASHTO	LRFD Bridge Construction Specifications,
AASHTO	LRFD Bridge Design Specifications
AASHTO	Manual for Bridge Evaluation
AASHTO	Model Drainage Manual
AASHTO	Roadside Design Guide
AASHTO	Roadway Lighting Design Guide
AASHTO	Standard Specifications for Highway Bridges

Author/Agency	Title
AASHTO	Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals
AASHTO/AWS	D1.5 Bridge Welding Code
ACI	207.1 R-96, Mass Concrete.
ACI	305 R-99, Hot Weather Concreting.
ACI	306 R-02, Cold Weather Concreting.
AISC	Manual of Steel Construction
CEB-FIB	Model Code 1990, Chapter 2: Material Properties, for time dependent properties of concrete only.
City of Jeffersonville	Drainage Ordinance 2006-OR-020
Department of Justice	2010 Standards for Accessible Design
FHWA	Geotechnical Engineering Circulars
FHWA	IF-090919 Connection Details for Prefabricated Bridge Elements and Systems
FHWA	Manual on Uniform Traffic Control Devices
FHWA	Roadway Lighting Handbook Addendum “Designing the Lighting System- Using Pavement Luminance”
FHWA	Standard Alphabets for Highway Signs and Pavement Markings
FHWA	Standard Highway Signs and Markings Book
FHWA	Traffic Control Devices Handbook
IDEM	Indiana Storm Water Quality Manual
IESNA	Roadway Lighting, RP-8-00,
INDOT	Design Manual (including policy memos)
INDOT	Standard Specifications for Roads and Structures
INDOT	Approved Materials List
INDOT	Geotechnical Manual
INDOT	Manual on Uniform Traffic Control Devices
INDOT	Special Provisions and Plan Details
INDOT	Standard Drawings
INDOT	Standard Highway Signs
INDOT	Supplemental Specifications
ITE	Traffic Engineering Handbook
KYTC	List of Approved materials
KYTC	Standard Specifications for Road and Bridge Construction
KYTC	Active Sepias
KYTC	CADD Standards
KYTC	Drainage Guidance Manual
KYTC	Geotechnical Guidance Manual
KYTC	Highway Design Manual (including policy memos)
KYTC	Standard Drawings
KYTC	Standard Specifications for Road and Bridge Construction

Author/Agency	Title
KYTC	Structural Design Guidance Manual (including policy memos)
KYTC	Traffic Operations Guidance Manual
Louisville Metro Government	Standard Drawings
MSD	Design Manual
MSD	Green Management Practices (GMP) Manual
MSD	Standard Drawings and Specifications
NFPA	National Electrical Code
NFPA	National Electrical Safety Code,
PTI	Guide Specification, Grouting of Post-Tensioned Structures,
PTI	Guide Specification, Recommendations for Stay Cable Design, Testing and Installation
Town of Clarksville	Drainage Ordinance 2005-SW-03

East End Crossing - Sections 4, 5, 6

Developer shall design and construct the Work in accordance with the relevant requirements of the Project Standards. In some instances, only specific sections of the referenced standard apply, as specified in these Technical Provisions.

Developer shall use the most current version of each listed standard or reference as of the Setting Date unless expressly stated otherwise in the PPA Documents.

Any standards, manuals and guidelines that are not included within the definition of Project Standards shall be approved prior to use by Developer. Any manuals or documents other than those listed below require IFA's prior approval before use in the Work. Obtain advance prior written approval from IFA for any Deviation from the Project Standards, in addition to complying with any other requirements regarding requested Deviations.

The design of all Work on the Kentucky Approach, with the exception of the East End Bridge Kentucky Approach Spans, shall conform to the current applicable KYTC standards listed below. The design of all Work on the Indiana Approach and East End Bridge shall conform to current Department standards listed below. The construction of all Work on the East End Crossing shall conform to current Department standards listed below

Developer shall be responsible to communicate with the applicable Utility Owner to determine the applicable Adjustment Standards for any Adjustment Work.

Author/Agency	Title
INDOT	Standard Specifications
INDOT	Recurring Special Provisions
INDOT	INDOT Standard Drawings and Recurring Plan Details
INDOT	Design Manual (IDM) including Design Memoranda and Geotechnical Memoranda
INDOT	Approved Materials List
INDOT	Indiana Manual on Uniform Traffic Control Devices (IMUTCD)
INDOT	Traffic Management Strategic Deployment Plan
INDOT	Work Zone Safety Mobility Policy-October 2007
INDOT	Professional Services Contract Administration Manual
INDOT	Sign Design Guide
INDOT	Construction Memorandums
INDOT	Geotechnical Manual
INDOT	Public Involvement Manual
INDOT	Total Storm Management Manual
INDOT	Utility Accommodation Policy
KYTC	Highway Design Manual (KHDM)
KYTC	Aesthetic Design Guidelines for the Kentucky East End Approach

KYTC	Drainage Manual (KDM)
KYTC	Standard Specifications and Standard Drawings
KYTC	Standard Drawings Manual
KYTC	Highway Design Guidance Manual (HDGM)
KYTC	Special Provisions Technical Advisories
KYTC	Design Manual
KYTC	Professional Services Guidance Manual
KYTC	Traffic Operations Guidance Manual
KYTC	Geotechnical Guidance Manual
KYTC	Traffic Operations Manual
KYTC	Standard Drawings Sepia List
KYTC	Utility and Rail Manual
KYTC	Permits Manual
KYTC	Special Geologic Considerations, GT-609-5 for Acid-Producing Shales
KYTC & KY Environ. and Public Protection Cabinet	Best Management Practices (BMPs) for Controlling Erosion, Sediment, and Pollutant Runoff from Construction Sites – Planning and Technical Specifications Manual
AASHTO	T88, T194 and T289
AASHTO	A Guide for Transportation Landscape and Environmental Design
AASHTO	Guide for the Planning, Design, and Operation of Pedestrian Facilities
AASHTO	Guide for the Development of Bicycle Facilities
AASHTO	A Guide for Achieving Flexibility in Highway Design
AASHTO	A Policy on Geometric Design of Highways and Streets
AASHTO	Roadside Design Guide, 4th Edition
AASHTO	Highway Safety Design and Operations Guide
AASHTO	Roadway Lighting Design Guide
AASHTO	Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals, 5th Edition
AASHTO	An Informational Guide for Roadway Lighting
AASHTO	Standard Specifications for Transportation Materials and Methods of Sampling and Testing
AASHTO	Guide Specifications for Structural Design of Sound Barriers
AASHTO	LRFD Bridge Design Specifications, 6th Edition
AASHTO	Standard Specifications for Highway Bridges, 17th Edition (for checking HS25 load only)
AASHTO	Guide Manual for Condition Evaluation and Load and Resistance Factor (LRFD) Highway Bridges, 2nd Edition with 2011 interim revisions
AASHTO	Guide Design Specifications for Bridge Temporary Works, 1995 with 2008 interim revisions
AASHTO	Geometric Design of Highways and Streets, 6th Edition
AASHTO	Bridge Security Guidelines, 1st Edition

AASHTO/AWS	D1.5M/D1.5:2008 Bridge Welding Code, 2010, 6th Edition with 2011 Interims
FHWA	Flexibility in Highway Design
FHWA	Code of Federal Regulations, Title 23 (Highways), Chapter 1, Part 752 Landscape and Roadside Development
FHWA	FHWA Railroad-Highway Grade Crossing Handbook
FHWA	Manual on Uniform Traffic Control Devices (MUTCD)
FHWA	Standard Highway Signs Book
FHWA	Design and Construction of Mechanically Stabilized Earth Walls and Reinforced Soil Slopes, Volume I & II
FHWA	Alternative Intersection/Interchanges: Informational Report (AIIR) FHWA – HRT-09-060
FHWA	Roadway Lighting Handbook
FHWA	Geotechnical Engineering Circular No. 7: Soil Nail Walls
FHWA	Geotechnical Engineering Circular No. 4: Ground Anchors and Anchored Systems
FHWA	FHWA-NHI-05-046, Earth Retaining Structures
FHWA	FHWA-HI-99-007, Rock Slopes
FHWA	FHWA-NHI-01-023, Shallow Foundations
FHWA	FHWA/NHI 10-016-IF-99-025 Drilled Shafts: Construction Procedures and LRF Design Methods Manual
FHWA	Technical Manual for Design and Construction of Road Tunnels – Civil Elements, Report No. FHWA – NHI-10-034
FHWA	Program Guide Utility Relocation and Accommodation
ADA	Americans with Disabilities Act Accessibility Guidelines
ANSI A300 (Part 1)	Tree Care Operations – Tree, Shrub and Other Woody Plant Maintenance – Standard Practices
ANSI A300 (Part 2)	Tree Care Operations – Tree, Shrub and Other Woody Plant Maintenance – Standard Practices – Part 2 – Fertilization
ANSI A300 (Part 3)	Tree Care Operations – Tree, Shrub and Other Woody Plant – Standard Practices – Part 3 – Tree Support Systems
ANSI Z60.1	American Standard for Nursery Stock
ANSI Z133.1	Safety Requirements for Pruning, Trimming, Repairing, Maintaining, and Removing Trees, and for Cutting Brush
ANSI/IESNA RP-8-00	American National Standard Practice for Roadway Lighting
ASTM	Annual Books of Standards
Hortus Third	A Concise Dictionary of Plants Cultivated in the United States and Canada (L. H. Bailey Hortorium, 1976)
IDEM	Indiana Storm Water Quality Manual
IDNR	Indiana Drainage Handbook
IDNR	Guidelines for the Hydrologic-Hydraulic Assessment of Floodplains in Indiana
IEEE	National Electric Safety Code

IES	Roadway Lighting Handbook, RP-8, Addendum: “Designing the Lighting System – Using Roadway Lighting”
IES	DG-5-94, Recommended Lighting for Walkways and Class 1 Bikeways
IES	RP-19-01, Roadway Sign Lighting
IES	RP-22-96, American National Standard for Tunnel Lighting
IES	RP-8-00, American National Standards for Roadway Lighting
IGGA	Guide Specification - Next Generation Concrete Surface (NGCS) Construction on Newly Constructed Roadways
ITE	Manual of Transportation Engineering Studies
ITE	Traffic Engineering Handbook
ITE	Preemption of Traffic Signals Near Railroad Crossings: An ITE Recommended Practice
MSD	Design Manual
JEDEC	Joint Electronic Device Engineering Council
MoDOT	Missouri’s Experience with a Diverging Diamond Interchange
NCHRP	NCHRP Report 480, A Guide to Best Practices for Achieving Context Sensitive Solutions
NCHRP	Report 350. Recommended Procedures for the Safety Performance Evaluation of Highway Features
NEMA	National Electrical Manufacturer Association
NFPA	National Electric Code
NFPA	National Electric Safety Code
NFPA	502-Standard for Road Tunnels, Bridges and Other Limited Access Highways
PTI	Recommendations for Stay-Cable Design, Testing, and Installation
TRB	Highway Capacity Manual
TRB	NCHRP Report 529, Guideline and Recommended Standard for Geofoam Application in Highway Embankments
	Bellcore Technical Advisories and technical requirements

APPENDIX E

Operations and Maintenance Cost Analysis

2013

*Community Transportation Solutions
General Engineering Consultant*



Confidential

**OPERATIONS AND MAINTENANCE
COST ANALYSIS**

Louisville-Southern Indiana Ohio River Bridges Project

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1.0 INTRODUCTION

The Louisville-Southern Indiana Ohio River Bridges (LSIORB) Project is a \$2.6 billion mega-project developed to improve cross-river mobility between Jefferson County, Kentucky and Clark County, Indiana. This Operations and Maintenance cost analysis report uses the updated as-bid construction costs from the Downtown Crossing.

For procurement and execution the project was broken down into two procurements — the Downtown Crossing and the East End Crossing. The Downtown Crossing consists of a new bridge constructed adjacent to the existing I-65 bridge, known as the Kennedy Bridge (designated Section 1). The structure will improve the capacity of I-65 by adding six new lanes northbound, while permitting the conversion of the existing Kennedy Bridge to six lanes southbound. Improvements for capacity will also be provided through the reconstruction of three interstate junctions; I-64, I-65, and I-71 known as the Kennedy Interchange, or locally as Spaghetti Junction, in the Downtown Louisville area (designated Section 2). Additional lanes and improvements to the existing I-65 interchanges are also anticipated for the re-construction of I-65 in Jeffersonville, Indiana (designated Section 3). The Downtown Crossing was procured as a design-build project. The Kennedy Bridge and Kentucky interchange portion of the Downtown Crossing will be operated and maintained by KYTC with the Indiana approach being maintained by Indiana Department of Transportation (INDOT).

The East End Crossing consists of a second bridge located approximately eight miles upstream or east of the Kennedy Bridge (designated Section 5). This bridge will offer a connection between KY 841 (Gene Snyder Freeway) in Kentucky to IN 265 (Lee Hamilton Highway) in Indiana (designated Sections 4 and 6 respectively). The new freeway will include a tunnel under the Drumanard historic estate. The bridge and connecting roadways will provide four lanes (two in each direction). The East End Crossing was procured by the Indiana Finance Authority (IFA) as a public-private partnership (P3). As part of the P3 contract the Developer will maintain the Indiana approach roadway (IN 265) the Ohio River Bridge and its Kentucky approach to approximately River Road. The remainder of the Kentucky approach including the tunnel will be maintained by KYTC (Section 4 was divided into two and this section designated as Section 4a).

Vital to the success of the LSIORB Project is an analysis of the relative incurred costs over time. Thus, the cost of facility ownership is the sum total of all expenditures made over the course of a facility's design life. Generally this includes planning, design and construction, maintenance and repair, replacement, alterations, normal operations and disposal.

The purpose of this document is to provide the background and methodology for the estimated expenses for operations and maintenance (O&M), life cycle, and long term capital costs of the LSIORB Project. Supporting data and information used to develop the LSIORB O&M Cost Analysis were collected from International Bridge Facilities, including the Detroit River International Crossing (DRIC) and the Peace Bridge, as well as other bridge and toll authorities. The essential framework is based on a review of publically available financial statements, published budget reports, accepted industry practices, professional experience, and engineering judgment. This data was supplemented by KYTC for recent rehabilitation project costs and frequencies for the existing Kennedy Bridge.

This Operation and Maintenance Cost Analysis is meant to provide Kentucky Public Transportation Infrastructure Authority (KPTIA) with cost data necessary to support financial planning. This financial analysis is not intended to be a part of the National Environmental Protection Act regulatory analysis and reporting.

The Operation and Maintenance Cost Analysis is the primary source documentation and justification for the data presented in the O&M Excel spreadsheet prepared by Community Transportation Solutions (CTS). The analysis is based on a 50 fiscal year timeline starting in FY 2013, running thru 2062. All costs presented are in 2012 dollars. This document is intended as a support for the Excel spreadsheet. Due to the extensive nature and size of the spreadsheet; it has not been included within the body of this summary, the spreadsheet includes the following worksheets:

Worksheet Title	Description/Comments
Modified Alternative Scope Construction Cost	Design, Program Management, construction, ROW, Utility costs by Section (both Year of Expenditure and 2012 Cost sheets)
Expense Detail	Summary of the individual Expense sheets. Calculated for 2012 1 st year of operations
Scale Factors	Provides factors to scale the LSIORB project from the DRIC project and provides a "sanity check" comparator.
Physical Assets	Summary of project assets by lane mile(roadway), and sq. ft., (bridges)
Lane Miles	Lane miles by Section, including bridges
Maintenance and Repair	M&R and Capital Expenditures, costs start on year 1 which equals year of completion.
DRIC Interchange	Summary of the M&R costs for the DRIC I-75 Interchange
General Expenditures	Summary of Administration and Maintenance costs
Utilities	Summary of electrical costs by Section and Tunnel

Worksheet Title	Description/Comments
Tunnel Utilities	Itemized electrical costs for the tunnel
Labor Breakdown	Itemized labor costs for each labor classification required
Labor Burden	Calculation for labor burden for each labor classification
Staff	Summary of required staffing levels
Traffic	Traffic growth projection statistics and AADT totals.
Section Costs	Summary of Pre-construction, Construction, and Construction Administration costs by Section
Kennedy Life Cycle Cost	Life Cycle Costs for the Existing Kennedy bridge.
Kennedy Maintenance and Repair	Recent actual maintenance costs for the existing Kennedy bridge
Skyway	Physical assets and O&M costs for the Chicago Skyway
Indiana Toll Road	Physical assets and O&M costs for the Indiana Toll Road

The financial analysis and this supporting document were revised in 2013 to support KPTIA bonding analysis and documentation. The revision reflects the updated cost for Sections 1-3 including actual as bid construction cost and schedule, and KYTC updated estimates for construction administration and inspection, construction contingency, and other KYTC estimated costs for the construction term. For the Indiana Finance Authority's portion of the project, Sections 4-6, the costs were not updated to reflect as bid costs but the construction schedule was revised to reflect the as-bid schedule. The Excel spreadsheet still contains data for the IFA portion of the project but that information has not been updated or revised and should therefore not be used for the purposes of this report.

2.0 BACKGROUND

This Operations and Maintenance Cost Analysis divides long-term expenses into three broad categories, operations and maintenance (O&M), life cycle costs (M&R), and capital costs. Life cycle costs also include long term capital costs, but are discussed separately. Initial capital costs are not included in this analysis.

2.1 Operations and Maintenance

Both fixed and variable operations and maintenance (O&M) costs include salaries and fringe benefit burden, divided into administration, facility maintenance, and traffic operations. Maintenance activities do not prolong the useful life of a facility or increase the facility's value, but are meant to preserve a facility over time as intended for its initial design. Maintenance of a facility is typically based upon the characteristics of service such as hours of use, square feet of space, and miles driven. Provided that the facility is utilized

in the manner for which it was originally designed, maintenance is typically intermittent over the design life.

2.2 Life Cycle Costs

Maintenance and repair (M&R) activities are often referred to as lifecycle costs. These activities are considered necessary to ensure the useful life of a facility over time and are required to provide continuous uninterrupted service attributed to failure. Repairs are continuous over the life cycle of the facility due to misuse, age and normal wear. Regardless of the reason, the need for repair is expected and therefore included in the budget.

2.3 Capital Costs

Capital improvements of public infrastructure such as a bridge are typically categorized into expansion or replacement as a result of becoming structurally deficient or functionally obsolete. This does not include the rehabilitation or renovation of a facility even if the activities are required to upgrade or achieve applicable regulatory standards. Capital improvements include:

- The replacement or rehabilitation of a facility that no longer has the ability to perform the functions for which it was originally designed
- The redesign or expansion of an existing facility to accommodate changes in functionality or demand use

Given that the design life of most of the facilities exceed the 60 year analysis period and that traffic growth will not require expansion during this period generally no capital costs will be incurred. The exception to this is the replacement of the existing Kennedy Bridge which may exceed its useful life within the next 40 years. The capital costs for the Kennedy Bridge were estimated and included in the analysis.

Vehicle (initial fleet) and related maintenance are excluded as a capital cost.

3.0 QUANTITATIVE ANALYSIS

Mathematical scaling was the primary methodology used to determine the incurred O&M costs of the LSIORB Project. The physical aspects of comparable projects, relying on a ratio with specific restrictions of magnitude, were used to extrapolate a cost-estimate. The two projects used as a scaling comparison are the Detroit River International Crossing (DRIC) and the Peace Bridge. Each was chosen for similarities in cost, size and physical attributes. Both of these are international crossings operated under a separate jurisdiction from the adjacent Department of Transportation facilities allowing a straightforward analysis of costs. Therefore, no adjustment is necessary in the comparison between an international and domestic facility.

The Detroit River International Crossing (DRIC) and the LSIORB Project are similar from a traffic volume and physical characteristic standpoint, utilize deicing agents during winter weather, and are similar in terms of the span length and configuration. The DRIC is expected to be built between Detroit, Michigan and Windsor, Ontario. The US cost of the DRIC Project is \$1.85 billion (2010 US\$) and includes a 7,907 foot cable-stay bridge with 2,400 ft. main span, a full interchange and connecting roadways with Interstate 75.

Costs related to the existing Kennedy Bridge were compared to the existing Peace Bridge located in Buffalo, New York. The Peace Bridge is an international bridge between Canada and the United States at the east end of Lake Erie at the source of the Niagara River, about 12.4 miles upriver of Niagara Falls. It connects the City of Buffalo, New York, in the United States to the Town of Fort Erie, Ontario, in Canada. It is operated and maintained by the Buffalo and Fort Erie Public Bridge Authority. The Peace Bridge consists of five arched spans over the Niagara River and a Parker through-truss span over the Black Rock Canal on the American side of the river with a total length is 5,800 feet.

Both of the comparison projects, the DRIC and the Peace Bridge have well developed operations and maintenance data that have been used as a viable reference. In situations in which a comparison could not be made, data from other sources was used.

4.0 GENERAL ASSUMPTIONS

- Operation and Maintenance (O&M) expenses have been calculated to describe the limits and scope of the 2011 “Modified Alternative” LSIORB Project as bid in 2012.
- Baseline Operation and Maintenance (O&M) expenses for the Project were determined using data from the existing system, at the start of construction for Sections 1 and 3. All other section baseline expenses will begin post-construction. Construction dates are consistent with the as-bid schedules for the Downtown and East End Crossing Projects.

Calendar Year	2012	2013	2014	2015	2016	2017
Construction						
Section 1 - Kennedy Interchange						
Section 2 - I-65 Downtown Bridge						
Section 3 - Downtown Indiana Approach						
Section 4 - East End Kentucky Approach						
Section 5 - East End Bridge						
Section 6 - East End Indiana Approach						

- Post Notice to Proceed, the contractor will be responsible for all Maintenance and Repair (M&R) for Sections 1 – 3 for the duration of construction. The contractor will assume normal maintenance activities during the construction period, including normal maintenance and repair. Since normal maintenance activities during construction are a standard construction contract requirement in Indiana and Kentucky it is assumed that these costs are captured in the construction cost estimate. Life cycle and O&M costs for the project will begin upon completion.
- The incurred costs have been calculated both in current 2012 US dollars as well as Year of Expenditure (YOE) to reflect inflation using a 2.5% annual rate. Construction costs for the Downtown Crossing are reported as-bid which reflects a Year of Expenditure (YOE) cost. All O&M costs were developed in 2012 US dollars and are presented in the YOE tables inflated at a 2.5% annual rate.
- The analysis assumes the existing transportation system is not expanded beyond the current “Modified Alternative” project for the duration of the analysis.

4.1 Operations and Maintenance

Operations and Maintenance (O&M) costs are assumed to begin year 1, which is the first year post-construction. Traffic volumes, which are used for staffing growth, are based on the *Louisville-Southern Indiana Ohio River Bridges Traffic & Revenue Study*, October 24 2013, prepared by Steer Davies Gleave.

4.2 Life Cycle Costs

4.2.1 *Maintenance & Repair Costs*

Maintenance and Repair (M&R)/Life cycle costs are assumed to begin year 1, which is the first year post-construction. Life cycle costs for roadways and interchange bridges were

scaled against the DRIC Project. The tunnel costs were scaled by project costs against the calculated new Kennedy Bridge life cycle costs as 75% of bridge cost. According to a publication dated 2005 in the proceedings of the American Society of Civil Engineers (ASCE) Construction Research Congress, tunnel O&M and large bridge costs are similar for the first 65 years.

4.2.2 Capital Costs

Capital costs are defined as expenses that increase the life of the facility. This analysis assumes replacement cost of the facility (2012 new build cost) at the end of its design life. Capital costs are assumed to start year 1, which is the first year post-construction. The following are the assumed design lives of each facility:

- Roadways – 40 years
- Interchange Bridges – 70 years
- Ohio River Bridges – 100 years
- Tunnel – 100 years

Because the design life for the major bridges and tunnel is significantly longer than the analysis period, the O&M Analysis only programs major maintenance activities during the analysis period, such as major deck rehab, not full depth deck replacement. Full depth deck replacements for the regular highway bridges have been assumed within the analysis period.

5.0 LINE-ITEM BUDGETARY EXPENSES

Specific variables used in the O&M analysis include human resources, general overhead expenditures, and utilities based on the percent cost of the LSIORB Project (including roadway, bridge and tunnel) on each of the six sections and combined.

5.1 Human Resources Cost

Human resources cost is paid by the facility owner in order to acquire, maintain, develop and dismiss human resources. This analysis assumes that KYTC will maintain and operate Section 1, 2 and 4a with state forces but does estimate the costs of those forces to the project even though those costs may not be discreetly accounted for as a project cost. This report will focus exclusively on human resources costs such as:

- Base salaries and bonus
- Salary burden including FICA, Medicare, healthcare, unemployment insurance, retirement, disability insurance, workman's compensation, and paid time off

- Salary burden rates for part-time employees limited to FICA, Medicare, and unemployment insurance

Base salary data is scaled per KYTC feedback as approximately 50% of the reported median salary paid in the Louisville, Kentucky area as of August 2010. Position classifications are as required for the execution of various facility activities and are broken down into three categories; Administrative, Maintenance, and Traffic.

Baseline staffing levels have been determined for all six LSIORB Project sections combined. It is anticipated that staffing will be increased on an incremental basis over time reflective of increases in traffic volume. The core staff determined at baseline (starting 1 year post-construction) is divided into three categories presented below with the number of full-time employment (FTE) positions indicated.

5.1.1 *Administrative Staffing*

Administrative staffing levels have been developed for all six LSIORB Project sections. However, for simplicity an assessment of core staff is scaled by the incurred construction cost-estimate of each section. Regardless of which sections would be included in a financing scenario (design-build or P3), the staff would remain the same. Therefore, an economy of scale is achieved as additional sections are added due to operational efficiencies resulting in a decrease in overall cost of service. It is assumed that the Downtown portion of the project, while administered by KYTC, would incur administrative costs as described herein although those costs may not be charged directly to the project during the O&M phase. Thus, the costs presented are conservative. The following are the staff positions and numbers included in the baseline cost:

Executive Staff	FTE
Project Manager	1
Finance Manager	1
Operations Manager	1
Maintenance Engineer	1

Support Staff	FTE
Accountant I	1
Information Technology Specialist	2
Executive Secretary	1
Receptionist	1
Security Manager	2

5.1.2 Maintenance Staffing

The size and composition of the maintenance staff for the LSIORB Project was scaled based on the O&M parameters outlined in the DRIC. The tunnel staff and labor positions were scaled using the Newfoundland Fixed Link Pre-feasibility Study by Hatch Mott MacDonald in an attempt to draw similar comparisons regarding the level of maintenance required to ensure a good state of repair. As previously described, maintenance staff dedicated to road and bridge activities will increase based on traffic and demand over time. Three shifts will be staffed, Monday through Friday and a single shift on weekends. The following are the staff positions and numbers included in the cost:

Maintenance Staff: Roadways and Bridges	FTE
Maintenance Supervisor	3
Electrician	5
General Maintenance Worker II	12
Senior General Laborer (temporary/part-time)	15

5.1.3 Traffic Staffing

This Operation and Maintenance Cost Analysis assumes that tolling will be electronic toll collection therefore there will be no toll collection or traffic control staff associated with the tolling operation. The staff costs will only include operations staff associated with the Louisville-Southern Indiana Regional Traffic Management Center (TRIMARC) traffic operations facility in which traffic will be monitored through standard ITS applications. It is assumed that dedicated operations staff will be supplied to the regional center to monitor and respond to issues on the portion of the project that is the responsibility of KYTC. For the tunnel those operations positions could be located elsewhere but the cost is assumed to be the same.

It is assumed that traffic operations will be provided through TRIMARC, however, the project will not be responsible for the overall operation of the regional center, but will be responsible for providing staff dedicated to the project. The following are the staff positions included in the cost:

Traffic Staff	FTE
Senior Traffic Supervisor	2
Traffic Supervisor	5

5.2 General Overhead Expenses

General overhead expenditures are recurring expenses that cannot be tied directly to a specific facility activity. These costs are spread over the categories of business (e.g., rent), communications (e.g., telephone, internet service, video cameras, other ITS technologies), human resource development (e.g., travel, training, meetings), necessary to maintain and

operate the facilities. Some of these costs may not be charged directly to the project during the O&M phase they are accounted for in this analysis.

An additional overhead expense included in the LSIORB Project O&M Cost Analysis accounts for winter deicing materials (salt/sand). The cost-estimate is based on data from the Transportation Research Board (TRB) which identifies cost allocated to the number of lane miles. Supplemental costs were estimated for labor and mechanical application of the materials.

The General Overhead Expenses included the following assumptions:

- Law enforcement and emergency response services are not included in the costs.
- Tolling will be provided through a fully Automated Electronic Tolling (AET) system. The ongoing operations and maintenance is assumed to be subcontracted to a third party provider. The third party provider will be responsible for maintenance, equipment replacement and upgrading, enrollment, collection, enforcement, and accounting. For the purpose of this study the initial capital costs are included in this report. The ongoing capital, operational and collection costs are provided separately.
- All administration and maintenance facilities are assumed to be rented. Therefore, only lease costs are included in the analysis.

5.3 Utilities

Utilities are a significant and ongoing expenditure including electricity involved with the operation of ventilation, VMS signage and signaling, water sump pumps, lighting and mechanical systems. Utility costs for the roadways are calculated by lane mile provided.

KYTC will provide all electric utilities for roadway and tunnel lighting and mechanical equipment as detailed in the *Tunnel Operations and Maintenance Study*, dated June 6, 2007. The table below provides a breakdown of the “Average Retail Price of Electricity to Ultimate Customers by End-Use Sector” which is used in calculating the tunnel utility cost.

State	Residential	Commercial	Industry	Transportation	All Sectors
Indiana	9.19	8.03	5.74	9.04	7.47
Kentucky	8.38	7.64	5.19	--	6.97

Values for 2010 are preliminary estimates based on a cutoff model sample reported in cents per kilowatt hour (June 2010)

6.0 REFERENCES

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5. U.S. Energy Information Administration: Independent Statistics and Analysis (September 20, 2010). Retrieved From: http://www.eia.doe.gov/cneaf/electricity/epm/table5_6_a.html
6. Community Transportation Solutions, General Engineering Contractor (June 6, 2007). Final Preliminary Design Operation and Maintenance Study (Internal Document).
7. Ohio River Bridges Project 2010 Updated Financial Plan, December 2010.

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APPENDIX A

Operations and Maintenance Cost Summary (2017-2060)

Year	O&M Cost	M&R Costs	Kennedy Replacement
2017	\$ 3,386,199	\$ 753,107	
2018	\$ 4,171,991	\$ 869,477	
2019	\$ 4,300,946	\$ 869,477	
2020	\$ 4,277,066	\$ 869,477	
2021	\$ 4,305,357	\$ 869,477	
2022	\$ 4,281,477	\$ 869,477	
2023	\$ 4,305,357	\$ 869,477	
2024	\$ 4,281,477	\$ 3,171,380	
2025	\$ 4,305,357	\$ 3,171,380	
2026	\$ 4,281,477	\$ 3,171,380	
2027	\$ 4,531,023	\$ 3,171,380	
2028	\$ 4,281,477	\$ 3,171,380	
2029	\$ 4,305,357	\$ 12,182,991	
2030	\$ 4,281,477	\$ 12,182,991	
2031	\$ 4,305,357	\$ 12,182,991	
2032	\$ 4,281,477	\$ 12,182,991	
2033	\$ 4,305,357	\$ 12,182,991	
2034	\$ 4,281,477	\$ 9,612,268	
2035	\$ 4,305,357	\$ 9,612,268	
2036	\$ 4,281,477	\$ 9,612,268	
2037	\$ 4,531,023	\$ 9,612,268	
2038	\$ 4,281,477	\$ 9,612,268	
2039	\$ 4,305,357	\$ 3,516,950	
2040	\$ 4,281,477	\$ 3,516,950	
2041	\$ 4,305,357	\$ 3,516,950	
2042	\$ 4,281,477	\$ 3,516,950	
2043	\$ 4,305,357	\$ 3,516,950	
2044	\$ 4,281,477	\$ 4,133,858	
2045	\$ 4,305,357	\$ 4,133,858	
2046	\$ 4,281,477	\$ 4,133,858	
2047	\$ 4,531,023	\$ 4,133,858	
2048	\$ 4,281,477	\$ 4,133,858	
2049	\$ 4,305,357	\$ 4,060,470	
2050	\$ 4,281,477	\$ 4,060,470	
2051	\$ 4,305,357	\$ 4,060,470	
2052	\$ 4,281,477	\$ 4,060,470	
2053	\$ 4,305,357	\$ 4,060,470	\$ 138,613,420
2054	\$ 4,281,477	\$ 40,158,739	\$ 138,627,659
2055	\$ 4,305,357	\$ 40,158,739	\$ 138,438,833
2056	\$ 4,281,477	\$ 40,158,739	
2057	\$ 4,531,023	\$ 40,158,739	
2058	\$ 4,281,477	\$ 40,158,739	
2059	\$ 4,305,357	\$ 817,098	
2060	\$ 4,357,082	\$ 817,098	

Note: All costs in 2012 dollars.

APPENDIX F

CER Atkins Input on Toll Collection

MEMORANDUM

To: John Sacksteder, **Community Transportation Solutions**, General Engineering Consultant 305 N. Hurstbourne Lane, Suite 100, Louisville, KY 40223, 502.394.3847

From: Tom Delaney, Vice President, Senior Practice Manager, **Atkins North America, Inc.**
482 South Keller Road, Orlando, FL 32810, 407.647.7572

Date: May 24, 2013

Re: Toll Collection System Cost Estimate and Operations and Maintenance (OPEX) Cost Analysis

As requested by the Kentucky Transportation Cabinet we have prepared input for the Consulting Engineer's Report (CER) being developed by Community Transportation Solutions (CTS). The purpose of this memorandum is to provide information regarding the development, installation, operations and maintenance of the LSIORB Project toll collection system as part of the CER in Section 7, Toll Collections. Atkins used the best information available to determine reasonable and expected costs for design, construction, installation, operations and maintenance for the toll collection system. The toll collection project descriptions and anticipated operational levels and maintenance requirements for the roadside toll collection system and back office operations used for the toll collection system capital costs (CAPEX) and the operations and maintenance estimated costs (OPEX) are based upon a set of assumptions that are the best available information at this time. Some of the assumptions are based upon toll industry norms that have been applied where there was not a set policy or standard to use due to no final set of LSIORB rules and regulations regarding violation enforcement, or general operating policies or business rules. All assumptions used in the calculation of the OPEX are identified and listed within this document.

General Description

The toll collection system to be installed for the LSIORB Project will be a unified toll collection system that will encompass all three Ohio River bridge crossings. The LSIORB Project bridges are being constructed through two distinct design and construction contracts. This will require the toll system contractor to communicate and coordinate closely with the East End Bridge Developer and the Downtown Crossing Design-Build Contractor regarding the placement, development and installation of the roadside toll equipment and utility conduits for electric and fiber as well as the placement of the toll zone buildings.

Toll collection will be accomplished through a competitively selected toll operations services contractor operating under the management and oversight of the Indiana and Kentucky staff. An RFP to deploy All Electronic Tolling (no cash) will be issued requesting technical and price proposals from proposers interested in providing design, integration, implementation, operation, and maintenance for the tolling components listed below:

Tolling Component One - Roadside and Back Office Component
Tolling Component Two - Electronic Toll Collection Component

Tolling Component Three - Operations Services Component

As an all-electronic toll (AET) System, tolls will only be collected using electronic toll collection (ETC) via radio frequency transponders or through video toll collection (VTC) using license plate information. It is anticipated that motorists equipped with transponders will pay a discounted toll compared to video toll customers due to transaction processing cost differentials. Transponders and license plates will be detected at all Toll Zones with the processing of all toll transactions to occur at a back office Customer Service Center.

The LSIORB Project toll collection system for the three bridges will consist of four mainline and two ramp Toll Zones. The new East End Bridge will have two mainline sets of toll zone gantries spanning two travel lanes and two shoulders in each north and south direction on the Kentucky side of the Ohio River. The reconstructed Kennedy Bridge carrying southbound traffic, will have one mainline set of toll zone gantries spanning five travel lanes and two shoulders and one ramp set of toll gantries spanning one travel lane and two shoulders. The Downtown Crossing Bridge, located east and parallel to the Kennedy Bridge, will carry northbound traffic with one mainline set of toll zone gantries spanning six travel lanes and two shoulders and one set of ramp toll zone gantries spanning two travel lanes and two shoulders. All toll zone gantries for the Downtown Crossing Bridges will be on the Indiana side of the Ohio River. Figures 1 and 2 depict the relative location of the toll zone gantries for the bridges.

Subject to the final design location of the mainline toll zone gantries, some travel lanes and shoulders for the Downtown Crossing Bridge and the Kennedy Bridge will be required to accommodate reversible tolling due to potential or probable traffic shifts during the rehabilitation of the Kennedy Bridge. This requirement is dictated by bi-directional traffic on each bridge during various stages of construction and reconstruction of the bridges. In addition, the provision of reversible lanes will allow bi-directional tolling on both Downtown Crossing Bridges should either bridge face reduced or no capacity due to bridge lane closures. Proposals and bids for Tolling Component One are required to address the reversible tolling requirement.

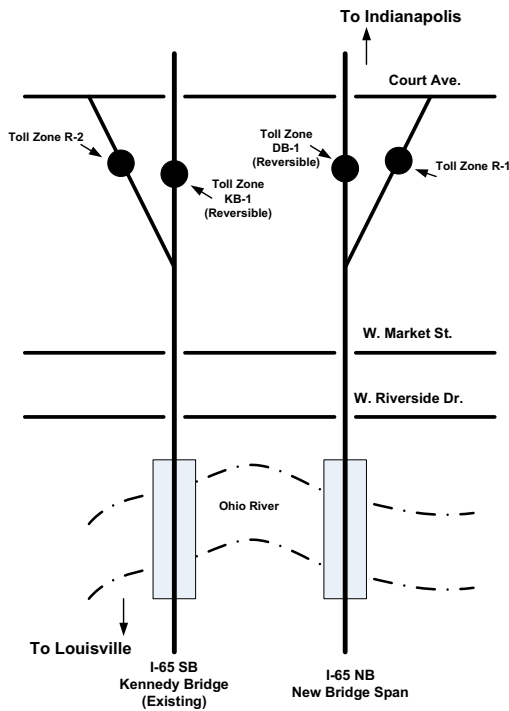


Figure 1 - Downtown and Kennedy Bridges

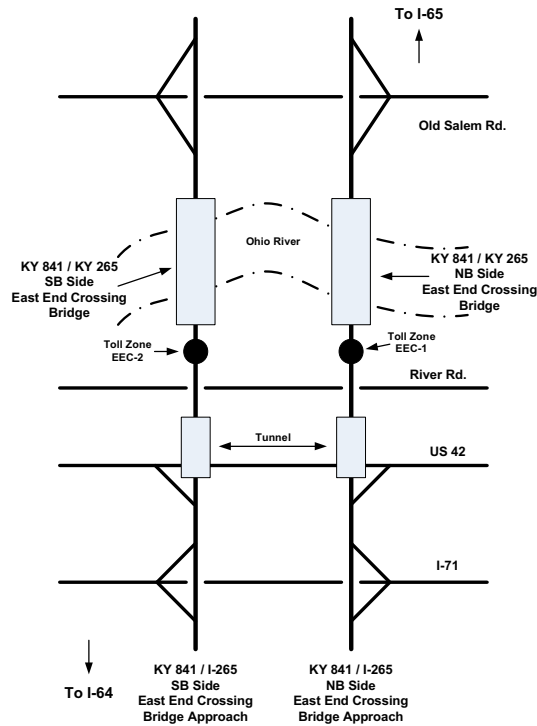


Figure 2 - East End Bridge

In total, under the current concept, the toll collection system for the LSIORB Project will consist of 19 travel lanes of which 6 shall be reversible and 11 shoulders of which 2 shall be reversible for a total of 38

effective toll lanes. Table 1 lists the effective toll lanes by each bridge’s toll zone. All effective toll lanes shall include ETC readers and antennae, automatic vehicle classification (AVC), video cameras, vehicle separators and any other components that will ensure full toll transaction coverage of the roadside toll zones.

Effective Toll Lane Summary						
Toll Zone Number	Toll Zone Locations	Left Shoulder	Travel Lanes	Travel Lanes Width	Right Shoulder	Effective Toll Lanes
R-1	Ramp 1 - I-65 NB to Court Avenue	4 ft	3	12 ft	12 ft	4
DB-1	Downtown Bridge - I-65 Northbound	12 ft	6	12 ft	12 ft	8
KB-1	Kennedy Bridge - I-65 Southbound	12 ft	5	12 ft	12 ft	7
R-2	Ramp 2 - Court Avenue to I-65 SB	6 ft	1	16ft	12 ft	3
EEC-1	East End Crossing - Northbound	10 ft	2	12 ft	14 ft	4
EEC-2	East End Crossing Southbound	14 ft	2	12 ft	10 ft	4
TOTALS		5	19		6	30
Reversible Lanes						
DB-1R	Downtown Bridge - I-65 Southbound Reversible during Phased Reconstruction on Kennedy Bridge		3	12 ft	12ft	4
KB-1R	Kennedy Bridge - I-65 Northbound Reversible during Construction of Downtown Bridge	12 ft	3	12 ft		4
TOTALS - Reversible		1	6		1	8
3/11/2013						

Table 1 – Toll Lane Summary

Under the design/build construction contracts for all of the bridges, it is anticipated that the toll system roadside contractor will be responsible for the construction of any necessary toll zone buildings housing toll collection equipment including the provision of emergency generator power. In addition to the normal aspects of designing and implementing the toll collection system, the roadside contractor is required to coordinate the construction of any necessary buildings, access, emergency power, conduit runs and any other necessary items to operate the toll collection system at all toll zones within each construction contractor’s project footprint limits.

Toll operations services will include toll collection, toll zone management, banking services, accounting and internal audit, customer service, video tolling and invoicing, violation processing and enforcement and toll equipment maintenance.

A Customer Service Center (CSC) will be located within the geographic shadows of the LSIORB Project, convenient to the customer base in leased retail space in a commercial center. A Video Processing

Center (VPC) will also be co-located with the CSC to take advantage of economies of scale and synergies available between the staff, support systems, and facilities of the two operations.

It is intended that the LSIORB Project toll collection system will be interoperable with E-ZPass® agencies and other ETC systems so that LSIORB customers from other states can use the LSIORB Bridges without the need to have multiple transponders in their vehicles.

Toll Collection System Cost Estimate

The toll collection system cost estimate consists of three parts. Part one is the cost estimate for the roadside toll collection system and the back office system, including initial orders of transponders and spare parts. Part two is the cost estimate for the provision of the toll zone vaults (buildings) located at East End Bridge and the Downtown Crossing Bridges. Part three is the cost estimate for operations center, Customer Service Center and a small Walk-in Service Center start-up prior to the go-live revenue collection on the East End Bridge or January 2017, whichever comes first.

Due to the fact that the toll system is currently under the request for proposal process for the solicitation of bids no details or assumptions as to how the overall cost estimate was derived are provided in this document. A detailed engineer's estimate will be provided to the Kentucky Transportation Cabinet prior to the submission deadline for the toll system contractor proposals. The current estimate for the three parts listed above is approximately thirty-six million dollars (\$36,000,000).

Toll System Operations and Maintenance

The estimate of operations and maintenance costs includes administration costs, costs of toll collection and maintenance, customer service, video processing and invoicing, violation processing, banking and other costs associated with the LSIORB Project.

During and after construction activities under Component One, the roadside toll system integrator under the RBOC award will remain responsible for all roadside toll zone infrastructure maintenance of the tolling equipment and the toll zone building. The back office Customer Service Center maintenance, including software upgrades, will also remain the responsibility of the back office contractor.

Atkins has developed the OPEX based upon expected levels of traffic as developed by Steer Davies Gleave as stated in the Louisville-Southern Indiana Ohio River Bridges Traffic & Revenue Study, updated April 2013 (Draft). Key to developing an OPEX estimate is the processing and managing requirements for various toll customer accounts. The LSIORB Project toll system will have three different types of customer accounts. The three account types are 1) transponder based, 2) registered video (a vehicle license plate is associated with a pre-paid video account) and 3) unregistered video (requiring DMV look-up for the vehicle owner and then subsequent invoicing for the toll). Each type of account has a different cost associated with it which is generally in direct correlation to the effort required to process toll collection. Tolls rates for each type of account transaction are based upon this correlation.

Key variable factors that will affect the OPEX are the assumptions made regarding transponder penetration rates. The Traffic and Revenue Study establishes an anticipated transponder penetration

rate of 67% in the initial year then increasing thereafter by 1% each year to a maximum of 79% in 2030. Atkins has incorporated this transponder penetration rate into the OPEX calculations. Table 2 presents the estimated OPEX for the first half fiscal year and forty (40) full fiscal years of toll operations and maintenance (1/1/2017 to 6/30/2058) for the East End Bridge and the Downtown Bridges combined.

The estimate of operations and maintenance costs includes administration costs, toll collection and maintenance, customer service, video processing and invoicing, violation processing, banking and other costs associated with the LSIORB Project. Operating and maintenance expenses included in the calculations for OPEX include:

1. Account Maintenance (Opening and closing customer accounts, managing customer account, mailing transponders and similar account activities);
2. Cost of Transponders (Commencing the third year of operations; the initial transponder purchase is captured in the toll system CAPEX cost estimate);
3. Transaction Image Human Review (Video images taken of vehicle license plates for non-transponder based transactions);
4. Credit Card Processing (Accepting prepaid toll payments for account establishment, invoice and violation notice payments, and replenishment of prepaid accounts);
5. Annual Equipment Maintenance (Maintenance performed on toll lanes and transaction host systems for both roadside and back office);
6. Spare Parts;
7. Invoices and Violation Notices (Processing costs for video toll invoices and for violations resulting from non-payment of tolls);
8. DMV Lookup Costs (Payment to DMVs for the look up of license plate numbers to obtain vehicle owner information for the processing of video toll transactions).

Fiscal Year	Estimated OPEX	Fiscal Year	Estimated OPEX	Fiscal Year	Estimated OPEX
2017	\$ 4,393,000	2031	\$ 15,663,000	2045	\$ 25,484,000
2018	\$ 8,832,000	2032	\$ 16,226,500	2046	\$ 26,312,000
2019	\$ 11,247,000	2033	\$ 16,859,000	2047	\$ 27,197,500
2020	\$ 11,937,000	2034	\$ 17,480,000	2048	\$ 28,014,000
2021	\$ 12,224,500	2035	\$ 18,112,500	2049	\$ 28,888,000
2022	\$ 12,374,000	2036	\$ 18,779,500	2050	\$ 29,819,500
2023	\$ 12,592,500	2037	\$ 19,435,000	2051	\$ 30,728,000
2024	\$ 12,857,000	2038	\$ 20,125,000	2052	\$ 31,671,000
2025	\$ 13,144,500	2039	\$ 20,849,500	2053	\$ 32,694,500
2026	\$ 13,443,500	2040	\$ 21,608,500	2054	\$ 33,706,500
2027	\$ 13,800,000	2041	\$ 22,344,500	2055	\$ 34,753,000
2028	\$ 14,248,500	2042	\$ 23,092,000	2056	\$ 35,857,000
2029	\$ 14,697,000	2043	\$ 23,851,000	2057	\$ 36,984,000
2030	\$ 15,191,500	2044	\$ 24,656,000	2058	\$ 38,134,000
				Total	\$890,307,000

Table 3 provides the listing of assumptions used in developing the OPEX estimates under the 70% transponder penetration rate scenario.

Tolling OPEX Analysis – List of Assumptions

Ref#	Input	Description	Value in use
1.	Initial ETC penetration	Estimated initial ETC penetration for the first year of AET operations, provided by SDG.	67%
2.	Percent increase in ETC	Annual increase in ETC penetration under AET operations expressed as percentage of the previous year's value	1%
3.	Maximum ETC penetration at the end of the 10-year period	Maximum estimated ETC penetration expressed as overall percentage	79%
4.	High OCR/Auto %	Rate of video transactions with successful automatic OCR license plate identification expressed as a percentage of total video transactions. Value is based on experience with other AET facilities.	70%
5.	Human Review %	Rate of video transactions reviewed manually, expressed as a percentage of total video transactions.	30%
6.	Cost per image reviewed manually	Cost to manually review an image	\$0.10 per image
7.	Unusable images %	Rate of image rejected through the manual review process expressed as percent of total video transactions. These images are not usable due to various reasons (e.g., not license plate present, blurry image, no image, etc.). This constitutes technical or system leakage.	4% (or 13% of human reviewed images)
8.	I-Toll	Percent of video transactions converted to ETC because the license plate number is associated with a valid ETC account.	10%
9.	Unregistered video accounts (UVA)	Percent of total video transactions processed as UVA transactions, expressed as a percentage of total video transactions. Value is based on analysis made by others (Parsons) after adjustments for I-Toll and Unusable images.	Initial year 54%, decreasing to 32%
10.	Registered video accounts (RVA)	Percent of total video transactions processed as RVA transactions, expressed as a percentage of total video transactions. Value is based on analysis made by others (Parsons) after adjustments for I-Toll and Unusable images.	Initial year 33%, increasing to 55%
11.	In-state % lookup	Percentage of video transactions from in-state vehicles, expressed as a percentage of total video transactions sent for in-state DMV lookup.	80%
12.	Out-of-state % lookup	Percentage of video transactions from out-of-state vehicles, expressed as a percentage of total video transactions sent for out-of-state DMV lookup.	20%
13.	In-state lookup cost	Assumption is that in-state DMV lookups will bear no cost to the agencies.	\$0
14.	Out-of-state	Fee charged by out-of-state DMV for vehicle registrant	\$1.00 per invoice

Ref#	Input	Description	Value in use
	lookup cost	information. Fee is charged per lookup request. This is a blended estimated rate used to assign a value that the agencies may be charged for out of state owner registration information. <i>Note: One lookup request is assumed per invoice (i.e. monthly transactions are aggregated and a single lookup fee is incurred for that month's invoice). Assume most conservative scenario where DMV lookup information cannot be reused for a subsequent month's invoice.</i>	
15.	No. of transactions 1 st invoice	Average number of transactions included in the first invoice. This number is estimated based on data from other agencies sending video invoices.	5 transactions per 1 st invoice
16.	No. of transactions 2 nd invoice	Average number of transactions included in the second invoice. This number is estimated based on data from other agencies sending video invoices.	10 transactions per 2 nd invoice
17.	ETC auto-pay %	Percent of ETC transactions that are automatically paid from valid pre-paid accounts, expressed as a percentage of ETC and I-Toll transactions. The difference between the total ETC and I-Toll transactions and those that are paid via pre-paid balances will go through the invoice process.	99%
18.	ETC – 1 st invoice paid	Assumption is that those ETC accounts that are not in good standing or are invalid where payment is not automatically processed will be processed as video invoices. This is expressed as the percent of invoices sent to ETC customers that are paid.	50%
19.	ETC – 2 nd invoice paid	(See previous comment) Percent of 2 nd invoices sent to ETC customers that are paid.	40%
20.	ETC – Violation notices to Collections paid	Percent of ETC violation notices sent to Collections that are paid, expressed as a percent of all ETC violation notices sent to Collections. <i>Note: it should be noted that Leakage is a resulting number in the analysis, that is, it is not an input. Leakage is based on percent collections, unusable images, non-payment, etc. This comment applies throughout this list of assumptions.</i>	15%
21.	RVA auto-pay %	Percent of RVA transactions that are automatically paid from registered video accounts, expressed as a percentage of total RVA transactions. The difference between the total RVA transactions and those that are paid via the auto-pay process will go through the invoice process.	95%
22.	RVA – 1 st invoice paid	Percent of RVA invoices that are paid with the 1 st invoice, expressed as a percentage of RVA number of 1 st invoices sent.	50%
23.	RVA – 2 nd invoice paid	Percent of RVA invoices that are paid with the 2 nd invoice, expressed as a percentage of RVA number of 2 nd invoices sent.	40%
24.	RVA – Violation	Percent of RVA violation notices sent to Collections	15%

Ref#	Input	Description	Value in use	
	notices to Collections paid	that are paid, expressed as a percent of all RVA violation notices sent to Collections.		
25.	UVA – 1 st invoice paid	Percent of UVA invoices that are paid with the 1 st invoice, expressed as a percentage of UVA number of 1 st invoices sent. Estimate is based on invoice collection rates from other agencies with AET operations.	50%	
26.	UVA – 2 nd invoice paid	Percent of UVA invoices that are paid with the 2 nd invoice, expressed as a percentage of UVA number of 2 nd invoices sent. Estimate is based on invoice collection rates from other agencies with AET operations.	40%	
27.	UVA – Violation notices to Collections paid	Percent of UVA violation notices sent to Collections that are paid, expressed as a percent of all UVA violation notices sent to Collections.	15%	
28.	2 nd invoice fee	Fee added to all 2 nd invoices	\$7.50	
29.	Invoice cost	Cost for processing each invoice (stuffing envelope, postage, etc.)	\$1.50	
30.	Violation notice cost	Cost for processing each invoice (stuffing envelope, postage, etc.)	\$3.00	
31.	Credit Card fee	Fee assessed to process ETC replenishments and/or invoice payments, expressed as a percentage of realized revenues.	2%	
32.	Number of Toll Accounts	Number of toll accounts hosted by the back office, categorized by ETC or Video account. The number of accounts is estimated using a trip frequency distribution table based on inputs from a survey conducted by SDG as well as other sources on infrequent customers. An assumption is made on which customers will opt for a tag-based account (frequent users) and which ones will be video-based (infrequent users). It should be noted that while frequent users make most of the trips, it is the infrequent users group that represents the larger number of customers.	Trip Frequency	% trips
			Regular (≥ 4/week)	33%
			Frequent (1-3 x/week)	34%
			Moderate (1-3 x/month)	30%
			Infrequent (≤ 3/year)	3%
33.	Monthly account maintenance fee	Estimated fee for maintaining/hosting a toll account. In the analysis, the fee is applied to all active accounts, which are assumed to be all except the infrequent video users, in which case the monthly fee is applied to 3 out of the 12 months only. The fee is estimated based on data from other agencies' back office operations contracts.	\$1.50/month per toll account.	
34.	Number of tags per account	This estimate is used to estimate the cost of tags required on an ongoing basis (operational period) as the number of accounts increases over time. <i>Note: the initial tag inventory is covered in the CAPEX analysis</i>	2 tags per account	

Ref#	Input	Description	Value in use
35.	Cost of tags	The cost assumed is based on multi-protocol IAG tags (hard-case). <i>Note: cost can be decreased if tag selected is the sticker type; the \$20 per tag represents a conservative scenario from a cost perspective.</i>	\$20 per tag
36.	Lane maintenance	The cost to maintain an AET lane has been estimated based on maintenance data from other agencies. The cost is expressed as an average per lane per year.	\$15,000 per lane per year
37.	Spare parts	This estimate is expressed as percentage of the total lane maintenance cost. This cost is an ongoing operational expense. <i>Note: the CAPEX analysis includes an initial spare parts inventory</i>	15%
38.	Inflation adjustment	Costs in the analysis have been increased on an annual basis, expressed as a percentage. <i>Note: This 2.5 percent rate is the same one used by SDG for increasing toll rates in the T&R analysis.</i>	2.5%
39.	Contingency factor	Contingency factor applied to overall OPEX costs	15%

Table 3 – Tolling OPEX Analysis – List of Assumptions

Additional Information

Additional information regarding revenue collected from invoice and violation notice fees as part of managing ETC and Video customer accounts and revenue leakage is being provided by Atkins to Steer Davies Gleave for input into the LSIORB Traffic and Revenue Study.

**CERTAIN INFORMATION RELATING TO
THE TRANSPORTATION CABINET AND THE COMMONWEALTH**

KENTUCKY TRANSPORTATION CABINET

General

The Department of Highways was established as an agency of the Commonwealth by the 1912 General Assembly. Pursuant to Executive Orders 72-288 and 73-543, confirmed by the Kentucky General Assembly by legislation enacted in 1974, the Department of Transportation (the "Department"), predecessor to the Transportation Cabinet, was created as the successor to, and represented a reorganization and consolidation of, the Departments of Highways, Motor Transportation and Aeronautics. The Department also succeeded to certain specific functions and responsibilities of the Department of Public Safety and the Department of Revenue as such functions and responsibilities related to transportation. Pursuant to legislation enacted in 1982, the Transportation Cabinet was created as a successor to and succeeded to all duties of the Department.

The Transportation Cabinet is responsible for the construction, reconstruction and maintenance of the Commonwealth's primary road system, which carries an estimated 85% of the Commonwealth's motor vehicle traffic. This represents nearly 40.8 billion vehicle miles of travel. The system consists of some 28,237 miles of parkways, interstate highways, the economic development road system, primary roads, secondary roads, rural secondary roads and supplemental roads, and includes nearly 9,000 bridges. Additionally, the Transportation Cabinet provides direction for licensed airports and heliports throughout the Commonwealth.

The Transportation Cabinet also regulates the operation of motor vehicles upon Kentucky's public highways and registers approximately 4.0 million vehicles and licenses 3.0 million drivers. The Transportation Cabinet is also responsible for administratively enforcing Kentucky and federal laws and regulations pertaining to commercial vehicles in regard to weight and size limits, operating authority, safety, and tax compliance.

Organization and Management

The Transportation Cabinet is organized into four major operating departments: Highways, Rural and Municipal Aid, Vehicle Regulation, and Aviation. Eleven offices perform staff functions: Office of the Secretary, Budget and Fiscal Management, Legal Services, Inspector General, Information Technology, Support Services, Audits, Human Resources Management, Transportation Delivery, Civil Rights and Small Business Development and Public Affairs. The Transportation Cabinet employs approximately 4,750 people on a full-time basis.

The Transportation Cabinet is headed by a Secretary of Transportation, who is appointed by the Governor. Each Department is organized under an appointed Commissioner and each Office is supervised by an Executive Director. The engineering functions of the organization are under the supervision of a Commissioner of Highways, a State Highway Engineer and three Executive Directors, who also serve at the pleasure of the Governor. Middle management of the Transportation Cabinet is composed primarily of career employees, most of whom are members of the classified service, which is the Commonwealth's merit system for employees. Virtually all engineering personnel are protected

under the classified service, assuring stability and continuity in the programs of the Transportation Cabinet.

Operations and Maintenance

The Transportation Cabinet provides transportation services to the traveling public through a network of highly developed programs and operating units. To assure prompt and efficient delivery of services across the Commonwealth, the Transportation Cabinet operates 12 regional district offices, and highway maintenance facilities in each of the 120 counties.

The Transportation Cabinet relies on automated systems for tracking and assessing the activities in virtually all functional areas. The Transportation Cabinet uses a sophisticated automated maintenance management system that provides managers with performance data on all aspects of roadway maintenance work. The Transportation Cabinet also maintains an extensive and detailed database of the Commonwealth's highway infrastructure.

Capital Planning For Highways

General. The Commonwealth's road planning process is structured to ensure the development of a continuous and credible highway improvement program that complements the Commonwealth's overall transportation system. The process and its products have evolved considerably over the past decade as the Transportation Cabinet has lengthened its planning horizon and the General Assembly has assumed a more participatory role.

Prior to 1982, the Transportation Cabinet had internally identified, planned, and designed potential projects. Those projects which were approved by the Secretary were made a part of the Transportation Cabinet's five-year program and moved to construction as funds became available. In the 1982 Regular Session of the Kentucky General Assembly, legislation was enacted calling upon the Transportation Cabinet to present each regular session of the General Assembly with a proposed highway construction program for the next three biennial periods. This proposed program for the three biennial periods is referred to as the "Six-Year Plan."

The Six-Year Plan consists of a biennial construction program and a four-year preconstruction planning document. It is through this plan that legislative involvement in the project development process has been assured. In recent years, the Six-Year Plan has formed the foundation for development by the Transportation Cabinet of a more forward-looking transportation planning tool, which is formally known as the "Statewide Transportation Plan." This plan, required first by the 1991 Federal Authorization Act, Intermodal Surface Transportation Efficiency Act (ISTEA) and continued in the Transportation Equity Act for the 21st Century (TEA-21) in 1998, the Safe, Accountable, Flexible, Efficient Transportation Equity Act, A Legacy for Users (SAFETEA-LU) in 2005 and the Moving Ahead for Progress in the 21st Century (MAP-21) in 2012, integrates all modes of transportation and expands the horizon of project needs identification beyond the six-year period prescribed by Kentucky statutes and allows a more far-sighted approach to transportation planning.

Implementation of the Six-Year Plan. Kentucky's Six-Year Plan is funded through the use of Commonwealth and federal highway dollars. Commonwealth funds are generally derived from fuel and motor vehicle excise taxes and other revenues to the Road Fund, plus the proceeds from road bonds issued by the Turnpike Authority. Commonwealth funds are allocated to the Transportation Cabinet on a biennial basis and are used to finance state-funded projects or to match federal aid funds at various participation ratios dictated by the federal government. The majority of Kentucky's federal-aid highway funds are appropriated annually from the Federal Highway Trust Fund operated by the U.S. Department of Transportation. The annual federal-aid highway fund appropriation is governed by a multi-year federal

authorization act. The most recent authorization act, MAP-21, was enacted on July 6, 2012, and extends the Federal surface transportation programs for highways, highway safety, and transit until September 30, 2014.

These federal-aid monies are generated by federal excise taxes and are made available in specific dollar amounts for specific types of improvements (i.e., national highway system, surface transportation program, bridge replacement projects, etc.). In general, all federal dollars must be spent within the appropriate funding category; however, MAP-21 does give the states some flexibility to transfer funds between program categories.

Revenue Sources of the Transportation Cabinet

General. The Transportation Cabinet is funded through appropriations from a diversified revenue base, including the Road Fund, federal funds, restricted agency funds, and the Commonwealth's General Fund. In addition, the Transportation Cabinet expends funds on behalf of various government agencies and other organizations, including the Turnpike Authority, that participate in the construction and maintenance of highway projects. In the case of the Turnpike Authority, these funds are generated through the issuance of revenue bonds.

Chapter 48 of the Kentucky Revised Statutes provides that "money derived from the excise or license taxation relating to gasoline and other motor fuels, and moneys derived from fees, excise or license taxation relating to registration, operation or use of vehicles for use on public highways" must be deposited in the Road Fund. The Kentucky Constitution mandates that such revenues be applied solely for highway-related uses. Section 230 of the Kentucky Constitution states in part as follows:

No money derived from the excise or license taxation relating to gasoline and other motor fuels, and no monies derived from fees, excise or license taxation relating to registration, operation, or use of vehicles on public highways shall be expended for other than the cost of administration, statutory refunds and adjustments, payment of highway obligations, costs for construction, reconstruction, rights-of-way, maintenance and repair of public highways and bridges, and expense of enforcing state traffic and motor vehicle laws.

Following is a brief description of the various sources of revenue deposited in the Road Fund. The table under "THE TRANSPORTATION CABINET - Historical Available Road Fund Revenues, Expenses and Lease Rentals" herein provides an accounting of the portion of these revenue sources over each of the past five Fiscal Years that were available to pay debt service. These amounts are shown exclusive of any taxes, fees and miscellaneous revenues that are dedicated for other uses.

Motor Vehicle Usage Tax. Motor vehicle usage taxes are currently imposed on the sale or transfer of new or used motor vehicles at the rate of 6 percent of the vehicle's value. The value on which the tax is assessed on new cars is a percentage of the manufacturer's suggested retail price and for used cars and trucks is based on a notarized affidavit, prepared by both the buyer and seller, attesting to the actual cash consideration paid for the vehicle. See "Recent Changes to Road Fund Receipts" for a description of a new usage tax allowance credit.

During the past five Fiscal Years, the motor vehicle usage taxes have made up approximately 38 percent of the total monies deposited to the Road Fund and available to pay lease rentals. See "THE TRANSPORTATION CABINET — Historical Available Road Fund Revenues, Expenses and Lease Rentals" herein.

Motor Fuel Taxes. Motor fuel taxes are levied on gasoline, liquefied petroleum gas and special fuels (predominantly diesel fuel) sold for use in motor vehicles operated on public highways and set by statute. The law provides for a variable tax rate equal to 9 percent of the average wholesale price (awp) of gasoline, which was, until July 1, 2005, subject to a statutory floor of \$1.11 per gallon for both gasoline and special fuels (primarily diesel) and shall be rounded to the third decimal. The awp is calculated by the Department of Revenue for each calendar quarter using the awp from the first month of the previous quarter. The law further limits the awp increase to ten percent from one fiscal year to the next, effectively capping the annual growth. In addition to the variable tax, the law provides for a supplemental highway-user motor fuel tax that is a fixed rate of 5 cents per gallon for gasoline and 2 cents per gallon for special fuels. See “THE TRANSPORTATION CABINET - Recent Changes to Road Fund Receipts” herein.

In addition to the above, firms operating commercial trucks in Kentucky are assessed a surtax of two percent of the awp on gasoline and 4.7 percent of the awp on special fuels on the amount of fuel used in operation on the public highways of the Commonwealth. By statute, this rate cannot be less than 3.6 cents per gallon on gasoline and 8.4 cents per gallon on special fuels. The current surtax rate effective October 1, 2013 was 5.76 cents for gasoline and 13.53 cents for special fuels which shall remain in effect through December 31, 2013.

These taxes made up approximately 40 percent of deposits in Fiscal Years 2011 and 2012 and 41 percent of deposits in Fiscal Year 2013 that were available for lease rentals. See “THE TRANSPORTATION CABINET — Historical Available Road Fund Revenues, Expenses and Lease Rentals” herein.

Further, a substantial portion of these motor fuels taxes is statutorily dedicated to a revenue sharing program and not available to pay lease rentals. See “THE TRANSPORTATION CABINET - Claims on Certain Transportation Cabinet Revenues” herein.

Weight Distance Tax. The weight distance tax is assessed on trucks operating on Kentucky roads at declared weights of 60,000 pounds or more at a rate of 2.85 cents per mile.

Truck Licenses and Fees. This category consists primarily of truck proportional registration fees, regular truck license fees, and highway special permits. Commercial trucks are assessed a per vehicle registration fee from \$24 to \$1,410 annually, based on the gross weight of the vehicle. Proportional registration fees are imposed on motor carriers and collected in their home state, then distributed to states in which the carrier operates, based on mileage driven. Kentucky’s share of these funds represents collections on Kentucky-based carriers in excess of what is distributed to other states for those carriers, as well as distributions from other states based on mileage driven in Kentucky by out-of-state carriers. Highway special permits are derived from the issuance of permits to operate a truck that exceeds state regulations for weight and/or dimensional limitations.

Passenger Vehicle Licenses and Fees. Regular passenger vehicle licenses and specialty passenger vehicle licenses are the two main components of this category. The 2006 General Assembly increased the annual registration fee for cars and light trucks from \$15 to \$21 effective January 2007. Of the \$21 fee, \$11.50 is deposited in the State Road Fund.

Motor Vehicle Operator Licenses. Until June of 2005, the cost for a motor vehicle operator’s license was \$8 for a four-year license. Effective July 1, 2005 the cost for a four-year license increased to \$20, increasing Road Fund receipts available to pay lease rentals approximately \$11,000,000 annually commencing in Fiscal Year 2006.

Recent Changes to Road Fund Receipts

In recent years, the statutory changes enacted by the Kentucky General Assembly and various court cases have resulted in a number of changes that affect Road Fund receipts. A brief outline of some of the most notable tax modifications follows.

Motor Vehicle Usage Tax. The 2006 General Assembly enacted legislation providing that the retail price established by a notarized affidavit shall not be less than fifty-percent of the difference between (i) the trade-in value, as established by a reference guide, of the purchased motor vehicle offered for registration and (ii) the trade-in value, as established by a reference guide, of the motor vehicle offered in trade as part of the total purchase consideration given. If a notarized affidavit is not available, the retail price of the purchased vehicle shall be the average trade-in value of the vehicle as prescribed by the reference guide established by the Department of Revenue. A similar assessment, known as the motor vehicle rental usage tax, is charged on the value of contracts for leased and rented vehicles. It is estimated that this change resulted in an increase in Road Fund receipts available to pay lease rentals of \$10,000,000 to \$15,000,000 annually beginning in Fiscal Year 2007.

The 2006 General Assembly also enacted changes to the Road Fund tax base dealing with the Motor Vehicle Usage Tax collection from non-resident purchasers of motor vehicles in Kentucky. Effective July 1, 2004, Indiana began imposing a sales tax on non-resident automobile purchases within the state. It has been Kentucky's practice to grant a motor vehicle usage tax credit to Kentucky residents for tax paid to any other state that imposed a tax on Kentucky residents at the time of purchase. In reaction to the loss of tax revenue due to the change in Indiana law, the 2006 General Assembly changed the Kentucky statutes to require that non-residents pay the Kentucky sales tax on vehicles if their state of residence does not permit Kentucky residents to purchase motor vehicles free of that state's sales tax. The sales tax paid to Kentucky is deposited to the Road Fund. This change resulted in an increase to Road Fund receipts available to pay lease rentals of \$6,377,000 beginning in Fiscal Year 2007. Receipts collected during Fiscal Year 2011 were \$10,388,000.

The Extraordinary Session of the 2009 General Assembly enacted legislation creating a trade-in allowance against the Motor Vehicle Usage Tax. The allowance permits buyers of new vehicles in the Commonwealth who trade-in a used vehicle towards that purchase to pay the Motor Vehicle Usage Tax based only upon the value of the new vehicle in excess of the value of the trade-in vehicle, as opposed to the entire value of the new vehicle. As originally enacted, the trade-in allowance was effective for vehicles purchased between September 1, 2009 and August 31, 2010, or until the total amount of allowance used reached \$25 million. The Extraordinary Session of the 2010 General Assembly modified the period for the trade-in allowance by extending it through June 30, 2011; however, the total trade-in allowance of \$25 million remained the funding cap. This \$25 million funding cap was reached on August 16, 2010 and as of that time the trade-in allowance was discontinued.

The 2013 General Assembly enacted legislation to make permanent a trade-in allowance for new vehicles in the Commonwealth for buyers who trade-in a used vehicle towards a purchase. The purchaser pays the Motor Vehicle Usage Tax based on the value of the new vehicle in excess of the value of the trade-in vehicle. The trade-in allowance is effective July 1, 2014 and it is estimated it will reduce Road Fund receipts available to pay lease rentals by \$35,000,000 annually beginning in July 2015.

Motor Fuel Taxes. The motor fuel tax statutes provide for a variable tax rate equal to 9 percent of the awp of gasoline, which was, until July 1, 2005, subject to a statutory floor of \$1.11 per gallon for both gasoline and special fuels (primarily diesel). The awp is calculated by the Department of Revenue for each calendar quarter using the awp from the first month of the previous quarter. The law further limits the awp increase to ten percent from one fiscal year to the next, effectively capping the annual growth. However, the law does not place an annual limit on the decline of the awp other than the awp

shall not be assumed to be below the statutory floor. Thus, the awp may increase by no more than ten percent each fiscal year during times of increasing fuel prices but may decrease without restriction to the statutory floor during times of decreasing fuel prices.

Since 2004 there have been several changes to the awp, both from legislative actions and through the automatic adjustment provisions. A complete history of those changes is displayed in the table titled KENTUCKY GASOLINE MOTOR FUEL TAX RATE HISTORY that follows this section. The most recent legislative action affecting the awp occurred in the 2009 General Assembly during which H.B.374 was enacted to establish \$1.786 cents per gallon as the new statutory floor for purposes of applying the statutory motor fuel tax provisions. This legislation became effective June 1, 2009, thus making permanent a minimum motor fuel tax of 21.1 cents per gallon of gasoline and 18.1 cents per gallon for special fuels.

Effective July 1, 2013, the awp of fuel for purposes of applying the statutory motor fuel tax provision was \$2.878. This awp resulted in a motor fuel tax of 30.9 cents per gallon of gasoline and 27.9 cents per gallon for special fuels and will be effective through September 30, 2013. Based on the preliminary results of the July 2013 motor fuel wholesale market survey it is anticipated that the current awp of fuel for purposes of applying the statutory motor fuel tax provision will remain in effect for the October to December 2013 quarter. Based on the preliminary results of the October 2013 quarterly survey, the motor fuel tax rate is anticipated to decline by 1.5 cents per gallon for the period of January through March 2014.

The following table displays the history of changes to the gasoline motor fuel tax rate in Kentucky. This table does not reflect the motor fuel tax for special fuels, which is 3 cents per gallon less than the gasoline motor fuel tax.

KENTUCKY GASOLINE MOTOR FUEL TAX RATE HISTORY
(rates below reflect cents per gallon)

<u>Effective</u> <u>Begin</u> <u>End</u>		<u>Gasoline Tax Rate</u> <u>KRS 138.220(1)</u>	<u>Motor Fuel</u> <u>User Tax</u> <u>KRS</u> <u>138.220(2)</u>	<u>Total Motor</u> <u>Fuel Tax</u>	<u>Comments</u>
7/1/1986	6/30/2004	\$1.11 X 9% = 10 Cents	5 Cents	15 Cents	\$1.11 was the awp floor from 1986-2004
7/1/2004	6/30/2005	\$1.22 X 9% = 11 Cents	5 Cents	16 Cents	Effective 7/1/2005 awp floor made permanent by HB267 2005 General Assembly
7/1/2005	6/30/2006	\$1.34 X 9% = 12.1 Cents	5 Cents	17.1 Cents	Effective 7/1/2006 awp floor made permanent by HB280 2006 General Assembly
7/1/2006	6/30/2007	\$1.47 X 9% = 13.3 Cents	5 Cents	18.3 Cents	
7/1/2007	6/30/2008	\$1.62 X 9% = 14.6 Cents	5 Cents	19.6 Cents	
7/1/2008	9/30/2009	STATUTORY FLOOR \$1.79 X 9% = 16.1 Cents	5 Cents	21.1 Cents	Effective June 1, 2009 the awp floor made permanent by HB374 2009 General Assembly
10/1/2009	12/31/2009	\$1.86 X 9% = 16.8 Cents	5 Cents	21.8 Cents	
1/1/2010	6/30/2010	\$1.97 X 9% = 17.7 Cents	5 Cents	22.7 Cents	
7/1/2010	9/30/2010	\$2.17 X 9% = 19.5 Cents	5 Cents	24.5 Cents	
10/1/2010	12/31/2010	\$2.13 X 9% = 19.2 Cents	5 Cents	24.2 Cents	
1/1/2011	6/30/2011	\$2.162 X 9% = 19.5 Cents	5 Cents	24.5 Cents	
7/1/2011	6/30/2012	\$2.378 X 9% = 21.4 Cents	5 Cents	26.4 Cents	
7/1/2012	6/30/2013	\$2.616 X 9% = 23.5 Cents	5 Cents	28.5 Cents	
7/1/2013	9/30/2013	\$2.878 X 9% = 25.9 Cents	5 Cents	30.9 Cents	
10/1/2013	12/31/2013	\$2.878 X 9% = 25.9 Cents	5 Cents	30.9 Cents	
1/1/2014	3/31/2014	\$2.708 X 9% = 24.4 Cents	5 Cents	29.4 Cents	ANTICIPATED based on the preliminary October 2013 market survey

In addition to the above motor fuel tax rates, Kentucky imposes a 1.4 cents per gallon underground storage tank fee on the sale of motor fuels. These funds are dedicated to the environmental clean-up of leaking underground fuel storage tanks and are not deposited to the Road Fund.

Road Fund Revenue Estimate Fiscal Year 2014

The Fiscal Year 2014 Road Fund revenue estimate of \$1,568.0 million was officially published by the Consensus Forecast Group (CFG) in December 2011. This Road Fund estimate is the basis for expenditures found in H.B. 2, the Transportation Cabinet's budget bill enacted in April 2012 by the 2012 Extraordinary Session of the General Assembly. The Fiscal Year 2014 revenue estimate anticipates a 5.1% growth in receipts as compared to Fiscal Year 2013 actual receipts of \$1,491.6 million. On October 15, 2013, CFG issued a preliminary revision to the official revenue estimates for Fiscal Year 2014 by increasing the estimate to \$1,581.3 million; however, the General Assembly has not taken any action in connection with such increased estimate.

Claims on Certain Transportation Cabinet Revenues

There are a number of statutory requirements affecting certain Road Fund revenues. A total of 48.2 percent of the collections of motor fuels, normal, normal use and surtaxes are restricted and reserved for use on county, municipal, and state rural secondary roads. Effective July 1, 2005, one cent of the motor fuels normal tax was excluded from the above restriction. Effective July 1, 2006, the General Assembly excluded an additional 1.1 cents of the motor fuels normal tax from the revenue sharing provision above. See "THE TRANSPORTATION CABINET – Recent Changes to Road Fund Receipts" herein. Chapter 177 of the Kentucky Revised Statutes requires that 22.2 percent of these motor fuels tax receipts be expended by the Transportation Cabinet on the rural secondary road system. Chapter 177 also directs that 7.7 percent and 18.3 percent of the motor fuels tax be distributed, based on statutory formula, to municipal and county governments, respectively, for use on urban roads and streets and county roads and bridges. Finally, the statutes require that 0.1 percent of the motor fuels tax collections, up to a maximum of \$190,000, be set aside for the Kentucky Transportation Center. See "THE TRANSPORTATION CABINET – Revenue Sources of the Transportation Cabinet -Motor Fuel Taxes" herein.

Kentucky law establishes an account within the Road Fund, the Energy Recovery Road Fund, into which all fees relating to the extended weight coal haul system are to be credited. Sixty percent of these funds are to be used by the Transportation Cabinet in maintaining the Commonwealth's portion of this road system, and 40 percent of which are to be distributed to the counties for the purpose of maintaining county roads on this system.

A portion of the receipts to the Road Fund resulting from the issuance or renewal of operator's licenses are also statutorily restricted. See "THE TRANSPORTATION CABINET – Revenue Sources of the Transportation Cabinet – Motor Vehicle Operator Licenses" herein. Chapter 186 of the Kentucky Revised Statutes requires that 50 cents for each four-year original or renewal operator's license be dedicated to expansion of the Kentucky driver education program. For each original or renewal motorcycle operator's license and each instruction permit, \$4 must be dedicated for the purpose of a motorcycle safety education program. Additionally, Chapter 186 provides that \$1 from each operator's license fee is to be set aside exclusively to cover the cost of issuing a photo license.

Historical Available Road Fund Revenues, Expenses and Lease Rentals

The table below illustrates the Transportation Cabinet's historical total available Road Fund revenues, expenses and lease rental obligations for the past five Fiscal Years. The figures are derived from the Transportation Cabinet's Financial Report to Management. Motor fuel revenues are shown net of the required allocations for urban roads and streets, for rural and secondary roads, for county roads and bridges, and for the Kentucky Transportation Center. Truck licenses and fees revenues are shown net of required allocations for the Energy Recovery Road Fund. Operating and maintenance expenses reflect only those related to Commonwealth highway and highway-related projects payable from the Road Fund.

**Transportation Cabinet's
Historical Available Road Fund Revenues,
Expenses and Lease Rentals⁽¹⁾**
(AMOUNTS IN THOUSANDS)
FOR THE FISCAL YEAR ENDED JUNE 30

	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>Unaudited 2013</u>
TOTAL AVAILABLE ROAD FUND REVENUES:					
TAXES:					
Vehicle Usage ⁽²⁾	\$336,365	\$332,738	\$408,849	\$438,035	\$461,659
Motor Fuels ⁽³⁾	351,545	368,898	381,540	417,188	427,086
Weight Distance	76,877	72,306	75,610	76,584	75,689
TRUCK LICENSES AND FEES	64,437	61,050	64,957	72,349	69,159
PASSENGER VEHICLE LICENSES AND FEES	43,715	44,058	44,299	44,950	45,436
OTHER RECEIPTS ⁽⁴⁾	19,175	17,702	19,548	21,543	18,403
VEHICLE OPERATORS LICENSES	15,848	16,046	15,710	15,683	15,883
INTEREST INCOME	10,662	3,634	1,995	3,081	-399
TOTAL AVAILABLE ROAD FUND REVENUES:	<u>\$918,624</u>	<u>\$916,432</u>	<u>\$1,012,508</u>	<u>\$1,089,413</u>	<u>\$1,112,916</u>
OPERATING & MAINTENANCE EXPENSES:					
Personnel Cost	\$175,072	\$186,520	\$188,976	\$186,596	\$196,979
Personal Service	12,221	11,438	9,704	9,769	11,704
Operating Expense	157,479	169,231	167,998	177,817	163,350
Grants	6	3	2	759	76
Capital Outlay	1,226	2,296	4,851	4,096	4,375
Capital Construction	1,797	2,125	1,259	2,211	1,831
Highway Materials	41,797	61,069	67,070	54,162	45,200
Other Agency Cost ⁽⁵⁾	77,756	77,751	83,674	86,233	93,746
TOTAL OPERATING & MAINTENANCE	<u>\$467,354</u>	<u>\$510,433</u>	<u>\$523,534</u>	<u>\$521,643</u>	<u>\$517,261</u>
NET AVAILABLE ROAD FUND REVENUES:	<u>\$451,270</u>	<u>\$405,999</u>	<u>\$488,974</u>	<u>\$567,770</u>	<u>\$595,655</u>
LEASE RENTALS: ⁽⁶⁾⁽⁷⁾					
Economic Development Road Projects	\$116,114	\$30,989	\$97,069	\$99,772	\$135,379
Resource Recovery Road Projects ⁽⁸⁾	2,686	0	0	0	0
State Property and Building Commission	7,303	9,884	10,919	10,837	9,985
ALCo Project Notes	63	16	0	0	0
TOTAL LEASE RENTALS:	<u>\$126,166</u>	<u>\$40,889</u>	<u>\$107,988</u>	<u>\$110,609</u>	<u>\$145,364</u>
GROSS COVERAGE ⁽⁷⁾⁽⁹⁾	7.28x	22.41x	9.38x	9.85x	7.66x
NET COVERAGE ⁽⁷⁾⁽⁹⁾	3.58x	9.93x	4.53x	5.13x	4.10x

NOTES TO THE SCHEDULE OF HISTORICAL AVAILABLE ROAD FUND REVENUES, EXPENSES, AND PAYMENT OF LEASE RENTALS

- (1) This schedule displays detailed information relating to the Commonwealth of Kentucky's Road Fund that can be used to calculate the coverage of available revenues compared to lease rental payments. For this table display, the Transportation Cabinet has revised and updated the categories into which revenues are subdivided to better reflect the significant sources of revenue available to make lease payments. These revisions and updates do not affect the total revenue available, only the way in which the revenue is categorized. Total Available Road Fund Revenues represent total revenues available to the Road Fund exclusive of taxes, fees, and miscellaneous revenues that are dedicated for other uses and not available to make lease rental payments to the Kentucky Turnpike Authority or the State Property and Buildings Commission ("SPBC"). Operating and Maintenance Expenses include certain non-construction maintenance, operating, regulatory, and administrative expenses related to the public highways. Net Available Road Fund Revenues represent Total Available Revenues less Operating and Maintenance Expenses.
- (2) The Kentucky motor vehicle usage tax is imposed on the sale or transfer of new or used motor vehicles at the rate of 6 percent of the vehicle's value. See "THE TRANSPORTATION CABINET – Revenues Sources of the Transportation Cabinet and Recent Changes to Road Fund Receipts.
- (3) The Kentucky motor fuel tax rates are set by statute and are subject to quarterly adjustments based on changes in the awp of fuel. See "THE TRANSPORTATION CABINET – Revenues Sources of the Transportation Cabinet and Recent Changes to Road Fund Receipts.
- (4) Other receipts consist primarily of general fees to the public, which includes the sale of maps, road plans, driver history records, and various other miscellaneous sales to the general public. Motor vehicle titling fees and one-time sale proceeds from one-time sales of Transportation Cabinet assets also significantly contribute to this category.
- (5) The Kentucky General Assembly routinely appropriates Road Fund revenues to agencies outside of the Transportation Cabinet to fund the costs of traffic law enforcement, the collection of Road Fund tax revenues, and other administrative support functions related to the Transportation Cabinet.
- (6) Lease Rentals paid by the Transportation Cabinet to the Kentucky Turnpike Authority include amounts representing the following: principal and interest requirements on Turnpike Authority Bonds, net of Debt Service Reserve Fund investment earnings and amounts required by the Turnpike Authority for administrative and other expenses; and any amounts to be transferred into the Redemption Account from the Debt Service Reserve Fund. Amounts paid to the SPBC include principal and interest requirements on bonds issued to finance the construction of a new office building for the Transportation Cabinet, bonds issued to finance the development of a new vehicle registration system and bonds issued to finance the expansion of a runway at the Blue Grass Field Airport in Lexington, KY. The Lease Rentals for the ALCo Project Notes include interest payments and estimated payments to the trustee.
- (7) Lease Rental payments applicable to Economic Development Bonds made during FY2010 were reduced by refinancing outstanding principal and interest of approximately \$81.0 million, the impact of which is an increase in the gross and net coverage.
- (8) Pursuant to a 1976 amendment to Kentucky law, the Transportation Cabinet and the authority became authorized to enter into agreements and leases to provide for the construction and financing of resource recovery road projects. The 1976 amendment described these projects as "express highways or super highways designed to serve as a modern, heavy-duty motorway capable of carrying vehicles transporting coal, and also servicing the general public." The authority financed various projects through issuance of bonds in 1977, 1978 and 1979, the remaining maturities of which were paid in full on July 1, 2009.
- (9) Gross Coverage equals Total Available Road Fund Revenues divided by Total Lease Rentals. Net Coverage equals Net Available Road Fund Revenues divided by Total Lease Rentals.

Outstanding Obligations Secured by Road Fund and Transportation Cabinet Leases

Pursuant to Kentucky statutes, the Transportation Cabinet and other Commonwealth entities have entered into leases and agreements for various types of highway projects. In 1980, the Kentucky General Assembly empowered the Turnpike Authority of Kentucky (“TAK”) to issue obligations to finance economic development road projects which currently include the construction, reconstruction or relocation of any highway, road or thoroughfare, or such part or parts thereof, as designated by the Transportation Cabinet as a part of the economic development road system of the Commonwealth. There are currently approximately \$1.5 billion of such TAK bonds outstanding. In addition, the State Property and Buildings Commission has approximately \$69.5 million of outstanding road fund revenue bonds. The Kentucky General Assembly may authorize additional debt serving secured by the Road Fund to support various capital initiatives of the Commonwealth.

Basis of Accounting

The Transportation Cabinet’s financial statements are maintained and reported on two bases of accounting. The interim financial statements are prepared on a modified cash basis of accounting and are prepared primarily for budgetary and cash management purposes. Under this basis of accounting, revenue is recorded when received in cash and expenditures are recorded when disbursements are made. Expenditures for liabilities incurred before year-end may be processed for a period of 30 days after the close of the Fiscal Year.

The (annual, as of June 30) audited financial statements are prepared on an accrual basis of accounting in compliance with Generally Accepted Accounting Principles as outlined by the Governmental Accounting Standards Board. A copy of the Transportation Cabinet’s audited financial statements is included as a supplement to *The Kentucky Comprehensive Annual Financial Report*, published annually by the Commonwealth. See “THE COMMONWEALTH — Financial Information Regarding the Commonwealth, the Transportation Cabinet and the Authority” and “— Certain Financial Information Incorporated by Reference; Availability from NRMSIR and the Commonwealth.”

The interim financial statements reconcile directly with the audited financial statements. Under the interim financial statements, the Transportation Cabinet maintains six operating funds: the Road Fund, the Federal Fund, the General Fund, the Agency Fund, Capital Projects Fund and the Other Expendable Trust Fund. General operating revenues such as motor fuel receipts, license and privilege taxes, departmental fees, and toll revenues are recorded in the Road Fund. Federal grants are recorded in the Federal Fund, and transfers from the Commonwealth’s General Fund are recorded in the General Fund. Receipts dedicated to specific programs or purposes and related expenditures are recorded in the Agency Fund. Transactions relating to the acquisition, construction or renovation of the Transportation Cabinet’s major capital facilities and the acquisition of major equipment are accounted for in the Capital Projects Fund. The Other Expendable Trust Fund includes expenditures for the Human Service Transportation Delivery system. This pays the contract service providers for transportation of claimants to and from medical and rehabilitation appointments.

Cash Management

Beginning with the enactment of the 2000-2002 Biennial Budget, the General Assembly established the Prefinancing Road Projects Program (the “Program”) authorizing the Transportation Cabinet to develop and implement a program to accelerate projects contained in the Biennial Highway Construction Plan. The Program permitted the Transportation Cabinet to initiate work on highway projects in excess of available budget authority by employing a cash flow financing program. In accordance with the General Assembly’s on-going authorization for the Program, the Transportation Cabinet has used the Road Fund cash balance to accelerate highway projects.

Prior to Fiscal Year 2000, the Transportation Cabinet managed the highway program on an obligation basis by setting aside the entire cost of a highway project phase at the time work was approved to begin. Typically highway projects take a number of years to complete; therefore, a considerable cash balance had accumulated in the Road Fund as project dollars waited to be spent. The Road Fund cash balance did not represent free, uncommitted funds but rather funds on deposit until expenses became due over time.

Using the cash flow financing approach, the Transportation Cabinet has used the Road Fund cash balance to expedite the start and completion of highway projects. Before the start of the Program in July 2000, the Road Fund cash balance was approximately \$690,000,000. The Road Fund cash balance as of November 1, 2013 was approximately \$536,000,000.

The Transportation Cabinet has developed a number of cash management practices and tools to forecast and monitor cash activity on an on-going basis. The goal is to maximize available resources for the delivery of services while ensuring that funds are sufficient to meet current obligations. The authorizing legislation requires that the Transportation Cabinet continuously ensure that funds are available to meet expenditures and the Transportation Cabinet provides periodic updates regarding Program status to the Office of the State Budget Director, the Finance and Administration Transportation Cabinet and the General Assembly.

Budget Process of the Transportation Cabinet

The General Assembly is required by the Kentucky Constitution to adopt measures providing for the state's revenues and appropriations for each fiscal year. The Governor is required by law to submit a biennial State Budget (the "State Budget") to the General Assembly during the legislative session held in each even numbered year. State Budgets have generally been adopted by the General Assembly during those legislative sessions, which end in mid-April, to be effective upon the Governor's signature for appropriations commencing for a two-year period beginning the following July 1.

The Transportation Cabinet budget for the biennium is prepared in accordance with Chapter 48 of the Kentucky Revised Statutes and based on two-year projections made in light of long-range program requirements and revenue estimates. The biennial budget request is prepared by the Transportation Cabinet and presented to the Governor for submission to the Kentucky General Assembly at its biennial session. The estimates of revenues are made by the consensus forecasting process as prescribed by Chapter 48.115 of the Kentucky Revised Statutes.

The 2009 General Assembly enacted legislation, H.B. 423, which significantly amended Chapter 48 of the Kentucky Revised Statutes regarding the way in which the Governor and the General Assembly must develop and enact the biennial budget for the Transportation Cabinet. Beginning with the Fiscal Year 2011-2012 biennial budget period, the Governor is now required to submit to the General Assembly a branch budget recommendation for the Transportation Cabinet, apart from the recommendation of other executive agencies. The Transportation Cabinet's branch budget recommendation must include a branch budget bill and a separate bill that lists projects for the biennial highway construction plan. The General Assembly is required to enact the biennial budget in the fashion described.

Transportation Cabinet budget development is initially dependent upon determining (1) available funds both dedicated and undedicated, (2) lease rental obligations, (3) operating requirements and (4) construction program requirements. The budget is developed from the analysis of the above factors, prior year expenditures and new demands on the transportation program for the fiscal period in question.

The construction program requirements consist of the estimated cost of new construction by project within each system of highways, by phase and by quarter. Cost estimates are based upon the

estimated contractual and non-contractual costs of preliminary engineering, acquiring rights-of-way, construction, relocating utilities, design and other factors.

The operating requirements for the Transportation Cabinet are formulated by the Transportation Cabinet Budget Office from requests from each budget unit, with subsequent analysis, discussions and adjustments. Final approval of the agency biennial budget request is given by the Secretary of the Transportation Cabinet prior to submission to the Office of the State Budget Director.

In order to provide efficient budget control during the budget execution process, close liaison is maintained between the budget units, the Transportation Cabinet's Budget Office and the Office of the State Budget Director. Proposed changes in policy and programs are studied with a view to their effect on the budget. Routine financial reconciliations are conducted monthly between the Budget Office and various units of the Transportation Cabinet as well as with the Finance and Administration Transportation Cabinet.

THE COMMONWEALTH

The Commonwealth of Kentucky, nicknamed the Bluegrass State, was the first state west of the Alleghenies to be settled by pioneers. Kentucky is bounded by the Ohio River to the north and the Mississippi River to the west, and is bordered by the States of Illinois, Indiana, Ohio, West Virginia, Tennessee, Missouri and the Commonwealth of Virginia.

The Kentucky economy, once dominated by coal, horses, bourbon and tobacco has become a diversified, modern, international economy -- illustrated by the fact that Kentucky's manufacturing employment concentration as a percentage of non-farm employment is now higher than the national average, and recessionary employment declines in these sectors were more muted in Kentucky than the national equivalent. The Commonwealth's parks, horse breeding and racing industry, symbolized by the Kentucky Derby, play an important role in expanding the tourism industry in the Commonwealth.

By most accounts, the losses endured by Kentucky from the national recession that ended in June 2009 were less severe than most states. The loss of household wealth was muted in Kentucky since the Commonwealth did not experience a pronounced run-up in home values prior to the recession. Additionally, Kentucky's abundance of coal provided stable employment and wealth in the mining sector throughout the recession. Finally, Kentucky has a broad mix of manufacturing employment rather than an overreliance in a single industry. The automobile industry was one of the first sectors to rebound from the recession, and Kentucky is overrepresented in the automotive industries.

Like most states, Kentucky non-farm employment was particularly hard hit by the 2007 recession. After peaking almost simultaneously with the start of the recession, the trough occurred in the third quarter of Fiscal Year 2010, nine quarters later. The weakness in employment has been stubborn across nearly every sector of Kentucky employment, with mining being the primary exception.

For the first half of Fiscal Year 2014, Kentucky is expected to lag the national economy in major areas of economic activity. This continues the recently observed pattern of decreased collections of sales and use taxes in the Commonwealth while consumer spending has remained relatively consistent at the national level. With continued slow growth forecasted in wages and salaries and consumers adjusting to the expiration of the payroll tax cut, a period of continued cautious consumer spending is expected.

Financial Information Regarding the Commonwealth

The Commonwealth annually publishes The Kentucky Comprehensive Annual Financial Report with respect to the Fiscal Year of the Commonwealth most recently ended. The CAFR includes certain

financial statements of the Commonwealth as well as general financial information pertaining to the Accounting System and Budgetary Controls, Debt Administration, Cash Management, Risk Management, General Fund Budgetary Basis and Governmental Funds GAAP Basis. In addition, the Notes to Financial Statements as set forth in the CAFR contain information regarding the basis of preparation of the Commonwealth's financial statements, Funds and Pension Plans. The "Statistical Section" of the CAFR includes information on Commonwealth revenue sources, Commonwealth expenditures by function, taxes and tax sources, taxable property, assessed and estimated values, property tax, levies and collections, demographic statistics (population, per capita income and unemployment rate), construction and bank deposits, sources of personal income and largest Commonwealth manufacturers. Recent data indicates that Kentucky may rebound more quickly than other states if the resurgence of the domestic auto industry can be sustained, if Kentucky's expanded role in auto parts manufacturing remains, and if Kentucky's relative insulation from the catastrophic losses of household wealth brought about by the national housing bubble continues.

The Commonwealth has filed *The Kentucky Comprehensive Annual Financial Report* for Fiscal Year 2012 with the following Nationally Recognized Municipal Securities Information Repository ("NRMSIR") in accordance with Rule 15c2-12 under the Securities Exchange Act of 1934, as amended ("Rule 15c2-12"):

Municipal Securities Rulemaking Board
Electronic Municipal Market Access System ("EMMA")
Internet: <http://emma.msrb.org>

A copy of *The Kentucky Comprehensive Annual Financial Report* for Fiscal Year 2012 may be obtained from EMMA or from the Office of Financial Management, 702 Capitol Avenue, Suite 76, Frankfort, Kentucky 40601, (502)564-2924. Additionally, *The Kentucky Comprehensive Annual Financial Report* for Fiscal Year 2012 and certain other fiscal years may be found on the Internet at:

<http://finance.ky.gov/services/statewideacct/Pages/ReportsandPublications.aspx>

Only information contained on the Internet web page identified above is incorporated herein and no additional information that may be reached from such page by linking to any other page should be considered to be incorporated herein.

Budgetary Process in the Commonwealth

The General Assembly is required by the Kentucky Constitution to adopt measures providing for the state's revenues and appropriations for each fiscal year. The Governor is required by law to submit a biennial State Budget (the "State Budget") to the General Assembly during the legislative session held in each even numbered year. State Budgets have generally been adopted by the General Assembly during those legislative sessions, which end in mid-April, to be effective upon the Governor's signature for appropriations commencing for a two year period beginning the following July 1.

In the absence of a legislatively enacted budget, the Supreme Court has ruled that the Governor has no authority to spend money from the state treasury except where there is a statutory, constitutional or federal mandate and the Commonwealth may be prevented from expending funds for certain state governmental functions, including the ability to pay principal of and interest, when due, on obligations that are subject to appropriation.

Investment Policy

The Commonwealth's investments are governed by KRS 42.500 et seq. and KAR Title 200 Chapter 14. The State Investment Commission, comprised of the Governor, the Treasurer, Secretary of the Finance and Administration Transportation Cabinet and gubernatorial appointees of the Kentucky Banker's Association, is charged with the oversight of the Commonwealth's investment activities. The Commission is required to meet at least quarterly, and delegates day to day investment management to the Office of Financial Management. OFM engaged PFM Asset Management LLC ("PFM") to conduct an evaluation of existing statutes and regulations, general investment functions, and portfolio performance benchmarks reporting and suggested best practices. PFM has made its recommendations to OFM and the State Investment Commission, and some recommendations are being implemented. The Kentucky State Investment Commission Investment Program Review dated March 22, 2012 prepared by PFM may be found on the Internet at:

<http://finance.ky.gov/services/ofm/Documents/SIC%20Invest%20Prog%20Rev.pdf>

At November 30, 2013, the Commonwealth's operating portfolio was approximately \$3.143 billion in cash and securities. The composition of investments was as follows: U.S. Treasury securities (23%); securities issued by agencies and instrumentalities of the United States Government (33%); mortgage-backed securities and collateralized mortgage obligations (11%); repurchase agreements collateralized by the aforementioned (12%); municipal securities (2%); and corporate and asset-backed securities, including money market securities (19%). The portfolio had a current yield of 0.47% and an effective duration of 0.98 years.

The Commonwealth's investments are currently categorized into three investment pools; the Short Term, Limited Term and Intermediate Term Pools. The purpose of these pools is to provide economies of scale that enhance yield, ease administration and increase accountability and control. The Short Term Pool consists primarily of the General Fund and related accounts. The Limited Term Pool is a money market like pool which focuses on principal protection for certain agency funds. The Intermediate Term Pool represents a combination of Agency Fund investments, state held component unit funds, fiduciary funds held for the benefit of others, and also bond proceeds for capital construction projects, held until spent for their intended purpose. Bond proceeds were previously invested separately until July 2010 when they were added into the Intermediate Term Pool to provide additional economies of scale.

The Commonwealth engages in selective derivative transactions. These transactions are entered into only with an abundance of caution and for specific hedge applications to minimize yield volatility in the portfolio. The State Investment Commission expressly prohibits the use of margin or other leveraging techniques. The Commonwealth executes a variety of transactions which may be considered derivative transactions, which include: the securities lending program, over the counter treasury options, interest rate swaps, mortgage-backed securities, collateralized mortgage obligations and asset-backed securities.

The Commonwealth has used over the counter treasury options since the mid 1980s to hedge and add value to the portfolio of treasury securities. These transactions involve the purchase and sale of put and call options on a covered basis, holding either cash or securities sufficient to meet the obligation should it be exercised. The State Investment Commission limits the total option commitment to no more than 20% of the total portfolio of treasury and agency securities. Historically, actual commitments have been less than ten percent of the portfolio. The Commonwealth has had no options positions outstanding since April 2004.

The Commonwealth has had a securities lending program since the mid 1980s. The Commonwealth is able to enter into either a principal relationship or an agent relationship. In a principal

relationship the Commonwealth reverses its treasury and agency securities in exchange for 102% of “Eligible Collateral,” marked to market daily. “Eligible Collateral” is defined as securities authorized for purchase pursuant to KRS 42.500. In an agent program the agent, Deutsche Bank, lends the Commonwealth’s treasuries and agencies, takes the cash received from the loan and invests it in Eligible Collateral authorized for purchase pursuant to KRS 42.500. The income generated by these transactions is split between the agent and the Commonwealth.

On June 30, 2003, the State Investment Commission adopted Resolution No. 03-03, which amended the Commonwealth’s investment policy concerning asset based interest rate swaps. The change modifies the exposure limits from a \$200 million notional amount to a net market value approach, the absolute value of which cannot exceed \$50 million for all counterparties. The Commonwealth engages in asset based interest rate swaps to better manage its duration and to stabilize the volatility of interest income. The Commonwealth has not had any asset-based interest rate swaps outstanding since June 2006.

House Bill 5 of the First Extraordinary Session of 1997 was enacted on May 30, 1997. The Bill amended KRS 42.500 to authorize the purchase of additional investment securities with excess funds available for investment. The new classes of investment securities include: United States dollar denominated corporate securities, issued by foreign and domestic issuers, including sovereign and supranational governments, rated in one of the three highest categories by a nationally recognized rating agency, and asset-backed securities rated in the highest category by a nationally recognized rating agency. The Commonwealth currently holds several asset-backed securities that have been downgraded from the highest rating category.

KAR Title 200 Chapter 14 provides, among other things that: corporate securities, inclusive of Commercial Paper, Banker’s Acceptances and Certificates of Deposit are limited to \$25 million per issuer and a stated final maturity of five years or less. Money market securities rated A1 P1 or higher are limited to 20% of the investment pools. Asset-Backed Securities (“ABS”) are limited to 20% of the investment pools. Mortgage-Backed Securities (“MBS”) and Collateralized Mortgage Obligations (“CMO”) are also limited to a maximum of 25% of the investment pools. ABS, MBS and CMO must have a weighted average life of four years or less at time of purchase. Changes have been proposed for these regulations which generally would tighten the securities eligible for purchase while allowing a larger position certain of those security types.

DESCRIPTION OF BOOK-ENTRY ONLY SYSTEM

Introduction

Unless otherwise noted, the information contained in this APPENDIX K has been provided by The Depository Trust Company, New York, New York (“DTC”). None of the Authority, the Commonwealth, the Trustee or the Underwriters makes any representation as to the accuracy or the completeness of such information. The Beneficial Owners of the Series 2013 Obligations should confirm the following information with DTC, the Direct Participants or the Indirect Participants.

None of the Authority, the Commonwealth, the Trustee or the Underwriters will have any responsibility or obligation to Direct Participants, Indirect Participants, or any Beneficial Owner with respect to (a) the accuracy of any records maintained by DTC, any Direct Participant or any Indirect Participant; (b) any notice that is permitted or required to be given to the Owners of Series 2013 Obligations under the Indenture; (c) the payment by DTC or any Direct Participant or Indirect Participant of any amount with respect to the principal or interest due with respect to the Owner of the Series 2013 Obligations; (d) any consent given or other action taken by DTC as the Owner of Series 2013 Obligations; or (e) any other matter regarding DTC.

General

The Series 2013 Obligations will be delivered in book-entry-only form. DTC will act as securities depository for the Series 2013 Obligations. The Series 2013 Obligations will be issued as fully registered securities registered in the name of Cede & Co. (DTC’s partnership nominee) or other such name as may be requested by an authorized representative of DTC. One fully registered bond certificate will be issued for each maturity of each Series of the Series 2013 Obligations, in the aggregate principal amount of such maturity, and will be held by the Trustee.

DTC is a limited purpose trust company organized under the New York Banking Law, a “banking organization” within the meaning of the New York Banking Law, a member of the Federal Reserve System, a “clearing corporation” within the meaning of the New York Uniform Commercial Code, and a “clearing agency” registered pursuant to the provisions of Section 17A of the Securities Exchange Act of 1934, as amended. DTC holds and provides asset servicing for over 3.5 million issues of U.S. and non-U.S. equity, corporate and municipal debt issues, and money market instruments from over 100 countries that DTC’s participants (“Direct Participants”) deposit with DTC. DTC also facilitates the post-trade settlement among Direct Participants of sales and other securities transactions, in deposited securities through electronic computerized book-entry transfers and pledges between Direct Participants’ accounts, thereby eliminating the need for physical movement of securities certificates. Direct Participants include both U.S. and non-U.S. securities brokers and dealers, banks, trust companies, clearing corporations, and certain other organizations. DTC is a wholly-owned subsidiary of The Depository Trust & Clearing Corporation (“DTCC”). DTCC is the holding company for DTC National Securities Clearing Corporation and Fixed Income Securities Clearing Corporation, all of which are registered clearing agencies. DTCC is owned by the users of its regulated subsidiaries. Access to the DTC system is also available to both U.S. and non-U.S. securities brokers and dealers, banks, trust companies, and clearing corporations that clear through or maintain a custodial relationship with a Direct Participant, either directly or indirectly (the “Indirect Participants”). The DTC Rules applicable to its Participants are on file with the Securities and Exchange Commission.

Purchases of Series 2013 Obligations under the DTC system must be made by or through Direct Participants, which will receive a credit for the Series 2013 Obligations on DTC’s records. The

ownership interest of each actual purchaser of each Series 2013 Obligation (“Beneficial Owner”) is in turn to be recorded on the Direct and Indirect Participants’ records. Beneficial Owners will not receive written confirmation from DTC of their purchase. Beneficial Owners are, however, expected to receive written confirmations providing details of the transaction, as well as periodic statements of their holdings, from the Direct or Indirect Participant through which the Beneficial Owner entered into the transaction. Transfers of ownership interests in the Series 2013 Obligations are to be accomplished by entries made on the books of Direct and Indirect Participants acting on behalf of Beneficial Owners. Beneficial Owners will not receive certificates representing their ownership interests in Series 2013 Obligations, except in the event that use of the book-entry system for the Series 2013 Obligations is discontinued.

To facilitate subsequent transfers, all Series 2013 Obligations deposited by Direct Participants with DTC are registered in the name of DTC’s partnership nominee, Cede & Co. or such other name as may be requested by an authorized representative of DTC. The deposit of Series 2013 Obligations with DTC and their registration in the name of Cede & Co. or such other nominee do not affect any change in beneficial ownership. DTC has no knowledge of the actual Beneficial Owners of the Series 2013 Obligations; DTC’s records reflect only the identity of the Direct Participants to whose accounts such Series 2013 Obligations are credited, which may or may not be the Beneficial Owners. The Direct and Indirect Participants will remain responsible for keeping account of their holdings on behalf of their customers.

Conveyance of notices and other communications by DTC to Direct Participants, by Direct Participants to Indirect Participants, and by Direct Participants and Indirect Participants to Beneficial Owners will be governed by arrangements among them, subject to any statutory or regulatory requirements as may be in effect from time to time.

Neither DTC nor Cede & Co. (nor such other DTC nominee) will consent or vote with respect to the Series 2013 Obligations unless authorized by a Direct Participant in accordance with DTC’s procedures. Under its usual procedures, DTC mails an Omnibus Proxy to the Authority as soon as possible after the record date. The Omnibus Proxy assigns Cede & Co.’s consenting or voting rights to those Direct Participants to whose accounts the Series 2013 Obligations are credited on the record date (identified in a listing attached to the Omnibus Proxy).

Payments of principal of and interest on the Series 2013 Obligations will be made to Cede & Co., or such other nominee as may be requested by an authorized representative of DTC. DTC’s practice is to credit Direct Participants’ accounts, upon DTC’s receipt of funds and corresponding detailed information from the Authority or the Trustee on payable dates in accordance with their respective holdings shown on DTC’s records. Payments by Participants to Beneficial Owners will be governed by standing instructions and customary practices, as is the case with Series 2013 Obligations held for the accounts of customers in bearer form or registered in “street name,” and will be the responsibility of such Participant and not of DTC nor its nominee, the Trustee, or the Authority, subject to any statutory or regulatory requirements as may be in effect from time to time. Payment of principal and interest is the responsibility of the Authority or the Trustee, disbursement of such payments to Direct Participants will be the responsibility of DTC, and disbursement of such payments to the Beneficial Owners will be the responsibility of Direct and Indirect Participants.

DTC may discontinue providing its services as securities depository with respect to the Series 2013 Obligations at any time by giving reasonable prior notice to the Authority or the Trustee. Under such circumstances, in the event that a successor securities depository is not obtained, Series 2013 Obligation certificates are required to be printed and delivered.

The Authority may decide to discontinue use of the system of book-entry-only transfers through DTC (or a successor securities depository). In that event, Series 2013 Obligation certificates will be printed and delivered to DTC.

The information in this section concerning DTC and DTC's book-entry system has been obtained from sources that the Authority, the Commonwealth and the Underwriters believe to be reliable, but none of the Authority, the Commonwealth or the Underwriters takes responsibility for the accuracy thereof.

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FORM OF CONTINUING DISCLOSURE UNDERTAKING

To the extent that (i) Rule 15c2-12 (the “Rule”) of the Securities and Exchange Commission (“SEC”) under the Securities Exchange Act of 1934, as amended (the “1934 Act”), requires the Underwriters to determine, as a condition to purchasing \$275,670,369.25 principal amount of the Kentucky Public Transportation Infrastructure Authority First Tier Toll Revenue Bonds, Series 2013 (Downtown Crossing Project), consisting of \$174,865,000 First Tier Toll Revenue Bonds, Series 2013A (Current Interest Bonds), \$27,476,179.95 First Tier Toll Revenue Bonds, Series 2013B (Capital Appreciation Bonds), and \$73,329,189.30 First Tier Toll Revenue Bonds, Series 2013C (Convertible Capital Appreciation Bonds), and \$452,200,000 Subordinate Toll Revenue Bond Anticipation Notes, Series 2013 (Downtown Crossing Project), consisting of \$426,045,000 Subordinate Toll Revenue Bond Anticipation Notes, Tax-Exempt Series 2013A and \$26,155,000 Subordinate Toll Revenue Bond Anticipation Notes, Taxable Series 2013B (collectively, the “Bonds”), that the Kentucky Public Transportation Infrastructure Authority (the “Authority”) will covenant to the effect of this Undertaking, and (ii) the Rule as so applied is authorized by a Federal law that as so construed is within the powers of Congress, the Authority agrees with the record and beneficial owners from time to time of the Bonds (“Bondholders”) to provide:

1. Within 150 days after the end of the 2014 Fiscal Year and each subsequent Fiscal Year, to the Electronic Municipal Market Access System (“EMMA”) (<http://emma.msrb.org>) established by the Municipal Securities Rulemaking Board (the “MSRB”), core financial information and operating data for the prior fiscal year, including (i) the Authority System’s audited financial statements, prepared in accordance with generally accepted accounting principles in effect from time to time, and (ii) material historical financial and operating data concerning the Authority System and the Pledged Receipts of the Authority System generally of the type found in the Authority’s Official Statement dated December 12, 2013 (the “Official Statement”), including, until the completion of construction of the Project, under the captions “DEVELOPMENT AND FINANCING PLAN – Sources of Funding for the Downtown Crossing Segment” and updates of construction activity and capital spending on the construction of the Project, and, upon the tolling of the System, relating to the following information in the form of tables:

- (a) current toll rates in a format similar to the table set forth under the caption of the Official Statement entitled “THE SYSTEM – Initial Toll Rates”;
- (b) historical traffic transactions for the System, setting forth (1) vehicle type by ETC, registered video and other video, daily traffic, traffic shares by vehicle classification, traffic shares by collection method, and annual revenue, in a format similar to the table set forth under the caption of the Official Statement entitled “TRAFFIC AND REVENUE STUDY”;
- (c) Pledged Receipts;
- (d) Downtown Crossing Cash Flow in a format similar to the table entitled “Downtown Crossing Cash Flow” set forth under the caption of the Official Statement entitled “PROSPECTIVE FINANCIAL INFORMATION”;
- (e) debt coverage ratios in a format similar to the table entitled “Debt Coverage Ratios” set forth under the caption of the Official Statement entitled “PROSPECTIVE FINANCIAL INFORMATION”;

- (f) information relating to the issuance of Additional Bonds, including principal amount, amortization and interest rates;
- (g) changes in debt service on Bonds due to the issuance of Additional Bonds or redemptions in a format similar to the table entitled “First Tier Bonds Net Debt Service” set forth under the caption of the Official Statement entitled “PROSPECTIVE FINANCIAL INFORMATION”;
- (h) payments of Rent by the Transportation Cabinet under the Lease or material adverse changes in resources available under the Road Fund of the Commonwealth;
- (i) monthly during the Construction Period, a report (A) of the amount of Project Costs expended to date as well as during the preceding calendar month and the amount of Project Costs estimated to be required to complete the Project, (B) providing an assessment of the overall construction progress of the Project since the date of the last report and to date, together with an assessment of how such progress compares to the Construction Schedule, (C) specifying the projected Substantial Completion Date, (D) providing a detailed description of all material problems (including actual and anticipated cost and/or schedule overruns, if any) encountered or anticipated in connection with the construction of the Project since the date of the last report, together with an assessment of how such problems may impact the Construction Schedule and the meeting of critical dates thereunder and a detailed description of the proposed solutions to any such problems, (E) specifying the delivery status of major equipment and the effect, if any, that the anticipated delivery dates of such equipment has on the overall Construction Schedule, (F) specifying any proposed or pending change orders, and (G) specifying any material changes or deviations from the Authority’s or the Transportation Cabinet’s land procurement plans or schedule; and
- (j) as soon as available, but no later than sixty (60) days after the end of the first, second and third quarterly period of each Fiscal Year, an unaudited income statement and balance sheet of the Authority as of the end of such period and the related unaudited statements of operations and of cash flow of the Authority for such period and for the portion of the Fiscal Year through the end of such period, setting forth in each case in comparative form the figures for the previous period.

Notwithstanding the foregoing, in the event audited financial statements are not available at the time of the required filing, the Authority may timely file unaudited financial statements and shall file the audited financial statements when available.

2. In a timely manner not in excess of five (5) Business Days after the occurrence of any event described below, notice to EMMA, of any of the following events with respect to the Bonds:

- (a) principal and interest payment delinquencies;
- (b) non-payment related defaults if material;
- (c) in the case of credit enhancement that is provided in connection with the issuance of the Bonds, unscheduled draws on such credit enhancement reflecting financial difficulties and substitution of credit providers, or their failure to perform;
- (d) unscheduled draws on debt service reserves reflecting financial difficulties;
- (e) adverse tax opinions or the issuance by the IRS of a proposed or final determination of taxability, Notices of Proposed Issue (IRS Form 5701-TEB) or other material notices or

determinations with respect to the tax status of the Bonds or other material events affecting the tax status of the Bonds;

- (f) modifications to rights of security holders if material;
- (g) bond calls if material, and tender offers;
- (h) defeasances;
- (i) release, substitution, or sale of property securing repayment of the securities if material;
- (j) bankruptcy, insolvency, receivership, or similar event of the Authority;
- (k) consummation of a merger, consolidation, or acquisition involving the Authority, or sale of all or substantially all of the assets of the Authority, other than in the ordinary course of business, the entry into a definitive agreement to undertake such action or the termination of a definitive agreement relating to such actions, other than pursuant to its terms, if material;
- (l) appointment of a successor or additional trustee or the change of name of a trustee, if material; and
- (m) rating changes; and

3. In a timely manner, to the MSRB, notice of any failure by the Authority to comply with paragraph 1 above.

With respect to event (c) the Authority does not undertake to provide any notice with respect to credit enhancement added after the primary offering of the securities, unless the Authority applies for or participates in obtaining the enhancement.

Event (d) is included pursuant to a letter from the SEC staff to the National Association of Bond Lawyers dated September 19, 1995.

Event (e) is relevant only to the extent interest on the Bonds is tax-exempt.

With respect to event (g) the Authority does not undertake to provide the above-described event notice of a mandatory redemption through sinking fund installments, not otherwise contingent upon the occurrence of an event, if (i) the terms, dates and amounts of redemption are set forth in detail in the final official statement (as defined in the Rule), (ii) the only open issue, which securities will be redeemed in the case of a partial redemption, (iii) notice of redemption is given to the Bondholders as required under the terms of the securities and (iv) public notice of redemption is given pursuant to Exchange Act Release No. 23856 of the SEC, even if the originally scheduled amounts are reduced prior to optional redemptions or security purchases.

4. No Bondholder may institute any suit, action or proceeding at law or in equity (“Proceeding”) for the enforcement of any covenant herein or for any remedy for breach thereof, unless such Bondholder has filed with the Authority evidence of ownership and a written notice of and request to cure such breach, and the Authority has not complied within a reasonable time; provided, however, that any Proceeding challenging the adequacy of any information provided pursuant to paragraphs (1) and (2) above may be brought only by the Trustee or the holders of a majority in aggregate principal amount of the Bonds affected thereby which at the time are outstanding. All Proceedings may be instituted only as specified herein, in the Federal or State courts located in the City of Frankfort, Kentucky, and for the

equal benefit of all holders of the Outstanding Bonds benefited by the same or a substantially similar covenant. No remedy may be sought or granted other than specific performance of the covenant at issue. Failure by the Authority to comply with this Continuing Disclosure Undertaking shall not be an event of default under the Bonds.

5. Any amendment to this Undertaking will take effect only if:

- (a) the amendment is made in connection with a change in circumstances that arises from a change in legal requirements, change in law, or change in the identity, nature, or status of the Authority, or type of business conducted; this Undertaking, as amended, would have complied with the requirements of the Rule at the time of sale of the Bonds to the Underwriters, after taking into account any amendments or interpretations of the Rule, as well as any change in circumstances; and the amendment does not materially impair the interests of Bondholders, as determined by parties unaffiliated with the Authority (such as, but without limitation, the Authority's financial advisor or bond counsel) and the annual financial information containing (if applicable) the amended operating data or financial information will explain, in narrative form, the reasons for the amendment and the "impact" (as that word is used in the letter from the staff of the SEC to the National Association of Bond Lawyers dated June 23, 1995) of the change in the type of operating data or financial information being provided; or
- (b) all or any part of the Rule, as interpreted by the staff of the SEC at the date hereof, ceases to be in effect for any reason, and the Authority elects that this Undertaking will be deemed terminated or amended (as the case may be) accordingly.

6. (a) For the purposes of this Undertaking, a beneficial owner of a security includes any person who, directly or indirectly, through any contract, arrangement, understanding, relationship, or otherwise has or shares investment power which includes the power to dispose, or to direct the disposition of, such security, except that:

(1) a person will be deemed to be the beneficial owner of a security if that person has the right to acquire beneficial ownership of such security, as defined above in this paragraph 6(a), within 60 days, including but not limited to any right to acquire: (A) through the exercise of any option, warrant or right; (B) pursuant to the power to revoke a trust, discretionary account or similar arrangement; or (C) pursuant to the automatic termination of a trust, discretionary account or similar arrangement;

(2) a person who in the ordinary course of business is a pledgee of securities under a written pledge agreement will not be deemed to be the beneficial owner of such pledged securities until the pledgee has taken all formal steps to declare a default and determines that the power to dispose or to direct the disposition of such pledged securities will be exercised, provided that:

- (i) the pledge agreement is bona fide;
- (ii) the pledgee is:
 - (A) a broker or dealer registered under Section 15 of the 1934 Act;
 - (B) a bank as defined in Section 3(a)(6) of the 1934 Act;

- (C) an insurance company as defined in Section 3(a)(19) of the 1934 Act;
 - (D) an investment company registered under Section 8 of the Investment Company Act of 1940, as amended;
 - (E) an investment adviser registered under Section 203 of the Investment Advisers Act of 1940, as amended;
 - (F) an employee benefit plan, or pension fund which is subject to the provisions of the Employee Retirement Income Security Act of 1974 or an endowment fund;
 - (G) a parent holding company, provided the aggregate amount held directly by the parent, and directly and indirectly by its subsidiaries which are not persons specified in items (A) through (F) of this clause (ii) does not exceed 1% of the securities of the subject class; or
 - (H) a group, provided that all the members are persons specified in items (A) through (G) of this clause (ii); and
- (iii) the pledge agreement, prior to default, does not grant to the pledgee the power to dispose or direct the disposition of the pledged securities, other than the grant of such power(s) pursuant to a pledge agreement under which credit is extended subject to Regulation T (12 CFR 220.1 to 220.8) and in which the pledgee is a broker or dealer registered under section 15 of the 1934 Act.

(b) Any assertion of beneficial ownership must be filed, with full documentary support, as part of the written request described in paragraph 4 hereof.

Terms not defined herein are used as defined in the Rule or in the Official Statement.

Dated: December __, 2013

KENTUCKY PUBLIC TRANSPORTATION
INFRASTRUCTURE AUTHORITY

By: _____
Chairman

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FORM OF OPINION OF BOND COUNSEL

Kentucky Public Transportation Infrastructure Authority
Frankfort, Kentucky

Re: \$275,670,369.25 Kentucky Public Transportation Infrastructure Authority First Tier Toll Revenue Bonds, Series 2013 (Downtown Crossing Project) and
\$452,200,000 Kentucky Public Transportation Infrastructure Authority Subordinate Toll Revenue Bond Anticipation Notes, Series 2013 (Downtown Crossing Project)

We have examined a certified copy of the transcript of proceedings of the Kentucky Public Transportation Infrastructure Authority (the "Authority"), relating to the authorization, sale and issuance of its (i) \$174,865,000 First Tier Toll Revenue Bonds, Series 2013A (Current Interest Bonds) (the "Series 2013A Bonds"), (ii) \$27,476,179.95 First Tier Toll Revenue Bonds, Series 2013B (Capital Appreciation Bonds) (the "Series 2013B Bonds"), (iii) \$73,329,189.30 First Tier Toll Revenue Bonds, Series 2013C (Convertible Capital Appreciation Bonds) (the "Series 2013C Bonds" and, together with the Series 2013A Bonds and the Series 2013B Bonds, the "Series 2013 Bonds") (iv) \$426,045,000 Subordinate Toll Revenue Bond Anticipation Notes, Tax-Exempt Series 2013A (the "Series 2013A Tax-Exempt Notes") and (v) \$26,155,000 Subordinate Toll Revenue Bond Anticipation Notes, Taxable Series 2013B (the "Series 2013B Taxable Notes" and, together with the Series 2013A Tax-Exempt Notes, the "Series 2013 Notes"), each dated the date of their initial delivery.

The Series 2013 Bonds and the Series 2013 Notes are being issued pursuant to the Constitution and laws of the Commonwealth of Kentucky (the "Commonwealth"), including particularly Chapter 175B of the Kentucky Revised Statutes (the "Act"), in accordance with a General Trust Indenture dated as of December 1, 2013 between the Authority and The Bank of New York Mellon Trust Company, N.A., Louisville, Kentucky, as trustee (the "Trustee"), and in accordance with Series Trust Indenture Number 2013-1, Series Trust Indenture Number 2013-2, Series Trust Indenture Number 2013-3 and Series Trust Indenture Number 2013-4, each dated as of December 1, 2013, between the Authority and the Trustee (collectively, the "Indenture").

In addition, the Authority and Transportation Cabinet of the Commonwealth of Kentucky (the "Cabinet") have entered into a Lease dated as of December 1, 2013 (the "Lease") whereby the Authority, as lessor, leases the Authority System, as defined in the Indenture, to the Cabinet, as lessee, for a term extending to and including June 30, 2014, and pursuant to which the Cabinet has the exclusive option to renew the Lease for the next biennial term and for successive biennial terms thereafter until all Bonds, as defined in the Indenture, issued under the Indenture have been retired.

We have examined the Indenture, the Lease, such portions of the Constitution, statutes and laws of the United States, the Constitution, statutes and laws of the Commonwealth, and such applicable court decisions, regulations, rulings and opinions as we have deemed necessary or relevant for the purposes of the opinions set forth below.

We have examined records and the transcript of proceedings relating to the authorization and issuance of the Series 2013 Bonds and the Series 2013 Notes, including a specimen Series 2013 Bond and Series 2013 Note, and other relevant matters. We have also made such investigation as we have deemed necessary for the purposes of such opinion and relied upon certificates of officials of the Commonwealth and the Authority as to certain factual matters.

Based upon the foregoing, it is our opinion, under the law existing on the date of this opinion, that:

1. The Authority is an independent de jure municipal corporation and political subdivision of the Commonwealth constituting a governmental agency and instrumentality of the Commonwealth, and existing pursuant to authority of the Act.
2. The Indenture has been duly authorized, executed and delivered by the Authority and is a valid and binding obligation of the Authority, enforceable in accordance with its terms.
3. The Lease has been duly authorized, executed and delivered by the Authority and the Cabinet and is a valid and binding obligation of the Authority and the Cabinet, enforceable in accordance with its terms.
4. The Series 2013 Bonds and the Series 2013 Notes have been duly authorized and issued by the Authority and are valid and binding limited and special obligations of the Authority, enforceable in accordance with their respective terms.
5. The Series 2013 Bonds are payable as to principal, premium, if any, and interest from, and are secured by a pledge of and a first lien on, the Trust Estate created by the Indenture, which consists of the Pledged Receipts, as defined in the Indenture, the funds and accounts established by the Indenture (other than the Rebate Fund, the General O&M Reserve Fund, the M&R Reserve Fund, the Tolling O&M Reserve Fund and the General Reserve Fund), any and all other property of any kind and nature from time to time hereafter, by delivery or by writing of any kind pledged, assigned or transferred as additional security, and all right, title and interest of the Authority in and to the Lease.
6. The Series 2013 Notes are payable as to principal, premium, if any, and interest from, and are secured by a subordinate pledge of and lien on, the Trust Estate and a pledge of and lien on the proceeds of the Refunding Bonds, as defined in the Series Trust Indenture Number 2013-4.
7. The Series 2013 Bonds and the Series 2013 Notes are special and limited obligations of the Authority payable solely and only as provided for by the Indenture. The Series 2013 Bonds and the Series 2013 Notes do not pledge the general credit or taxing power, if any, of the Commonwealth, the Authority, the Cabinet or any other agency or political subdivision of the Commonwealth.
8. Under the laws, regulations, rulings and judicial decisions in effect as of the date hereof, interest on the Series 2013 Bonds and the Series 2013A Tax-Exempt Notes is excludible from gross income for Federal income tax purposes, pursuant to the Internal Revenue Code of 1986, as amended (the "Code"). Furthermore, interest on the Series 2013 Bonds and the Series 2013A Tax-Exempt Notes will not be treated as a specific item of tax preference, under Section 57(a)(5) of the Code, in computing the alternative minimum tax for individuals and corporations. In rendering the opinions in this paragraph, we have assumed continuing compliance with certain covenants designed to meet the requirements of Section 103 of the Code. We express no other opinion as to

the federal or state tax consequences of purchasing, holding or disposing of the Series 2013 Bonds and the Series 2013 Notes.

9. Interest on the Series 2013B Taxable Notes is not excludable from gross income for Federal income tax purposes.

10. The interest on the Series 2013 Bonds and the Series 2013 Notes is exempt from income taxation and the Series 2013 Bonds and the Series 2013 Notes are exempt from ad valorem taxation by the Commonwealth and any of its political subdivisions.

Our opinion set forth above is subject to the qualification that the enforceability of the Indenture, the Lease, the Series 2013 Bonds and the Series 2013 Notes and agreements relating thereto may be limited by bankruptcy, reorganization, moratorium, insolvency or other similar laws relating to or affecting the enforcement of creditors' rights, and to the exercise of judicial discretion in accordance with general equitable principles.

In rendering our opinion (i) as to the due authorization, execution and delivery of the Indenture and the Lease by the Authority, we have relied on the opinions of counsel to the Authority and (ii) as to the due authorization, execution and delivery of the Lease by the Cabinet, and enforceability of the Lease with respect to the Cabinet, we have relied on the opinions of counsel to the Cabinet.

Very truly yours,

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ACCREDITED VALUE TABLES FOR THE SERIES 2013B BONDS

Date	CABs - 7/01/2019 3.75%	CABs - 7/01/2020 4.25%	CABs - 7/01/2021 4.6%	CABs - 7/01/2022 5%	CABs - 7/01/2023 5.15%	CABs - 7/01/2025 5.7%	CABs - 7/01/2026 5.9%	CABs - 7/01/2027 6.1%	CABs - 7/01/2028 6.25%	CABs - 7/01/2029 6.375%	CABs - 7/01/2030 6.5%	CABs - 1 7/01/2031 6.6%	CABs - 7/01/2032 6.65%
12/20/2013	4,071.30	3,799.20	3,550.00	3,281.00	3,079.65	2,615.30	2,412.90	2,217.55	2,044.55	1,886.65	1,736.75	1,601.75	1,487.65
1/1/2014	4,075.90	3,804.10	3,554.95	3,285.95	3,084.45	2,619.80	2,417.15	2,221.60	2,048.40	1,890.25	1,740.15	1,604.90	1,490.60
7/1/2014	4,152.30	3,884.90	3,636.70	3,368.10	3,163.85	2,694.45	2,488.45	2,289.40	2,112.40	1,950.55	1,796.75	1,657.90	1,540.15
1/1/2015	4,230.20	3,967.50	3,720.35	3,452.30	3,245.35	2,771.25	2,561.90	2,359.20	2,178.40	2,012.70	1,855.10	1,712.60	1,591.40
7/1/2015	4,309.50	4,051.80	3,805.90	3,538.60	3,328.90	2,850.25	2,637.45	2,431.15	2,246.50	2,076.85	1,915.40	1,769.10	1,644.30
1/1/2016	4,390.30	4,137.90	3,893.45	3,627.10	3,414.65	2,931.45	2,715.25	2,505.30	2,316.70	2,143.05	1,977.65	1,827.50	1,698.95
7/1/2016	4,472.60	4,225.80	3,983.00	3,717.75	3,502.55	3,015.00	2,795.35	2,581.70	2,389.10	2,211.35	2,041.95	1,887.80	1,755.45
1/1/2017	4,556.50	4,315.60	4,074.60	3,810.70	3,592.75	3,100.95	2,877.85	2,660.45	2,463.75	2,281.85	2,108.30	1,950.10	1,813.85
7/1/2017	4,641.90	4,407.35	4,168.35	3,905.95	3,685.25	3,189.30	2,962.75	2,741.60	2,540.75	2,354.60	2,176.80	2,014.45	1,874.15
1/1/2018	4,728.95	4,501.00	4,264.20	4,003.60	3,780.15	3,280.20	3,050.15	2,825.25	2,620.15	2,429.65	2,247.55	2,080.90	1,936.45
7/1/2018	4,817.60	4,596.65	4,362.30	4,103.70	3,877.50	3,373.70	3,140.10	2,911.40	2,702.00	2,507.10	2,320.60	2,149.60	2,000.85
1/1/2019	4,907.95	4,694.30	4,462.60	4,206.30	3,977.35	3,469.85	3,232.75	3,000.20	2,786.45	2,587.00	2,396.05	2,220.55	2,067.35
7/1/2019	5,000.00	4,794.05	4,565.25	4,311.45	4,079.75	3,568.75	3,328.10	3,091.70	2,873.50	2,669.45	2,473.90	2,293.80	2,136.10
1/1/2020	-	4,895.95	4,670.25	4,419.25	4,184.80	3,670.45	3,426.30	3,186.00	2,963.30	2,754.55	2,554.30	2,369.50	2,207.15
7/1/2020	-	5,000.00	4,777.65	4,529.75	4,292.60	3,775.05	3,527.35	3,283.20	3,055.95	2,842.35	2,637.35	2,447.70	2,280.55
1/1/2021	-	-	4,887.55	4,642.95	4,403.10	3,882.65	3,631.45	3,383.30	3,151.45	2,932.95	2,723.05	2,528.50	2,356.35
7/1/2021	-	-	5,000.00	4,759.05	4,516.50	3,993.30	3,738.55	3,486.50	3,249.90	3,026.45	2,811.55	2,611.90	2,434.70
1/1/2022	-	-	-	4,878.00	4,632.80	4,107.10	3,848.85	3,592.85	3,351.45	3,122.90	2,902.90	2,698.10	2,515.65
7/1/2022	-	-	-	5,000.00	4,752.10	4,224.15	3,962.40	3,702.45	3,456.20	3,222.45	2,997.25	2,787.15	2,599.30
1/1/2023	-	-	-	-	4,874.45	4,344.55	4,079.25	3,815.35	3,564.20	3,325.20	3,094.70	2,879.15	2,685.75
7/1/2023	-	-	-	-	5,000.00	4,468.40	4,199.60	3,931.75	3,675.60	3,431.15	3,195.25	2,974.15	2,775.05
1/1/2024	-	-	-	-	-	4,595.75	4,323.50	4,051.65	3,790.45	3,540.55	3,299.10	3,072.30	2,867.30
7/1/2024	-	-	-	-	-	4,726.70	4,451.05	4,175.20	3,908.90	3,653.40	3,406.35	3,173.65	2,962.65
1/1/2025	-	-	-	-	-	4,861.40	4,582.35	4,302.55	4,031.05	3,769.85	3,517.05	3,278.40	3,061.15
7/1/2025	-	-	-	-	-	5,000.00	4,717.55	4,433.80	4,157.05	3,890.00	3,631.35	3,386.60	3,162.95
1/1/2026	-	-	-	-	-	-	4,856.70	4,569.05	4,286.95	4,014.00	3,749.35	3,498.35	3,268.10
7/1/2026	-	-	-	-	-	-	5,000.00	4,708.40	4,420.90	4,141.95	3,871.20	3,613.80	3,376.75
1/1/2027	-	-	-	-	-	-	-	4,852.00	4,559.05	4,274.00	3,997.05	3,733.05	3,489.05
7/1/2027	-	-	-	-	-	-	-	5,000.00	4,701.55	4,410.20	4,126.95	3,856.25	3,605.05
1/1/2028	-	-	-	-	-	-	-	-	4,848.45	4,550.80	4,261.05	3,983.50	3,724.95
7/1/2028	-	-	-	-	-	-	-	-	5,000.00	4,695.85	4,399.55	4,114.95	3,848.80
1/1/2029	-	-	-	-	-	-	-	-	-	4,845.50	4,542.55	4,250.75	3,976.75
7/1/2029	-	-	-	-	-	-	-	-	-	5,000.00	4,690.15	4,391.05	4,109.00
1/1/2030	-	-	-	-	-	-	-	-	-	-	4,842.60	4,535.95	4,245.60
7/1/2030	-	-	-	-	-	-	-	-	-	-	5,000.00	4,685.60	4,386.80
1/1/2031	-	-	-	-	-	-	-	-	-	-	-	4,840.25	4,532.65
7/1/2031	-	-	-	-	-	-	-	-	-	-	-	5,000.00	4,683.35
1/1/2032	-	-	-	-	-	-	-	-	-	-	-	-	4,839.05
7/1/2032	-	-	-	-	-	-	-	-	-	-	-	-	5,000.00

ACCRETED VALUE TABLES FOR THE SERIES 2013C BONDS

Date	CCABs 07/01/2033 6.4%	CCABs 07/01/2034 6.45%	CCABs 07/01/2039 6.6%	CCABs - 07/01/2043 6.75%	CCABs 07/01/2046 6.875%
12/20/2013	2,742.95	2,730.30	2,692.75	2,655.75	2,625.35
1/1/2014	2,748.20	2,735.60	2,698.10	2,661.15	2,630.75
7/1/2014	2,836.15	2,823.85	2,787.15	2,751.00	2,721.20
1/1/2015	2,926.90	2,914.90	2,879.15	2,843.80	2,814.75
7/1/2015	3,020.60	3,008.90	2,974.15	2,939.80	2,911.50
1/1/2016	3,117.25	3,105.95	3,072.30	3,039.00	3,011.60
7/1/2016	3,217.00	3,206.10	3,173.65	3,141.60	3,115.10
1/1/2017	3,319.95	3,309.50	3,278.40	3,247.60	3,222.20
7/1/2017	3,426.20	3,416.25	3,386.60	3,357.25	3,332.95
1/1/2018	3,535.80	3,526.40	3,498.35	3,470.55	3,447.55
7/1/2018	3,648.95	3,640.15	3,613.80	3,587.65	3,566.05
1/1/2019	3,765.75	3,757.55	3,733.05	3,708.75	3,688.65
7/1/2019	3,886.25	3,878.70	3,856.25	3,833.90	3,815.45
1/1/2020	4,010.60	4,003.80	3,983.50	3,963.30	3,946.60
7/1/2020	4,138.95	4,132.95	4,114.95	4,097.10	4,082.25
1/1/2021	4,271.40	4,266.20	4,250.75	4,235.35	4,222.55
7/1/2021	4,408.05	4,403.80	4,391.05	4,378.30	4,367.75
1/1/2022	4,549.15	4,545.85	4,535.95	4,526.05	4,517.85
7/1/2022	4,694.70	4,692.45	4,685.60	4,678.80	4,673.15
1/1/2023	4,844.95	4,843.75	4,840.25	4,836.75	4,833.80
7/1/2023	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00

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