I-69 Corridor
Master Plan

Eddyville to Henderson, Kentucky
KYTC Item 2-69.10

Final Draft
March 2008

DRAFT DOCUMENTS

I-69 Corridor Master Plan

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Strategic Corridor Planning Study for I-69
Henderson to Eddyville, Kentucky
Phase II

The Kentucky Transportation Cabinet (KYTC) has undertaken a planning study for a portion of a proposed new interstate route, I-69, which is proposed to travel from Indiana, through Kentucky, and on to Tennessee. The project area for the section of I-69 addressed in this study lies in Henderson, Webster, Hopkins, Caldwell, and Lyon Counties, following the existing Wendell H. Ford Western Kentucky (Ford) and Edward T. Breathitt Pennyrile (Breathitt) Parkways.

The first phase of the strategic corridor planning study for I-69 involved the preliminary evaluation of the two parkways for existing conditions and interstate characteristics. This second phase of study involves a more detailed analysis of some of the parkway characteristics, a master plan to upgrade the existing routes to an I-69 corridor, identification of potential design exceptions along the Parkways, and preparation of a Categorical Exclusion (CE) document.

Project History

The I-69 corridor is identified in the 1991 Intermodal Surface Transportation Efficiency Act (ISTEA) as Corridor 18 (I-69) and a High Priority Corridor on the National Highway System. A national study was completed in 1993, which concluded that construction of I-69 from Canada to Mexico was feasible. The Kentucky portion of this project would serve several purposes: 1) provide a connecting link for one of the Sections of Independent Utility (SIU) identified in the national I-69 study, 2) improve traffic flow between Henderson and Eddyville, and 3) enhance economic development in this portion of Western Kentucky.

The current study is meant to determine the next steps in implementing the recommendations to designate the corridor as future I-69. This study includes three primary elements, presented in the following chapters:

- A Master Plan for I-69 corridor improvements;
- A summary of recommended Design Exceptions (DE) to submit to the Federal Highway Administration (FHWA); and
- A Categorical Exclusion (CE) document.

Additionally, this document contains supporting information on the existing conditions, technical analyses, and public involvement activities.

Master Plan

Based on the deficiencies identified through field measurement, a review of as-built plan sets, and analyses of capacity and safety along the parkways, a detailed listing of all recommended improvements has been developed and prioritized. This Master Plan document can be found in **Chapter 2**. To facilitate decisions during project programming, a spreadsheet-based tool has been developed which provides cost estimates for projects driven by user-selected parameters. A copy of this spreadsheet and a user guide are included in **Appendix B** of this report.

Design Exceptions

An overview of design exceptions and variances was prepared, identifying all features which do not meet current design criteria for interstates. **Chapter 3** presents tabulated field measurements for each of the deficiencies and preliminary cost estimates. This text also contains a list of justifiable design exceptions to request from FHWA.

Categorical Exclusion

An Environmental Overview of the study corridor was prepared and submitted to the KYTC in March 2005. Drawing from this document and Overview of Existing Conditions report (March 2005), a CE document was prepared to request FHWA acceptance of the proposed I-69 corridor location. This document is included in **Chapter 5**.

Chapter II
I-69 Master Plan

As part of the I-69 Master Plan, Wilbur Smith Associates (WSA) has developed a list of recommended improvements, divided into logical corridor improvement segments with associated costs. These segments have been prioritized based upon the geometry and operational considerations for each roadway.

Understanding that project programming is an iterative process, a model has been developed to provide KYTC staff an interactive tool to define projects and estimate costs based upon the existing deficiencies. Users have the ability to define project reach limits, select deficiencies to fix or omit, designate funding categories and review cost summary data.

The following sections outline the recommended improvements, overview the prioritization process, provide a guide to use the attached I-69 PDAT (Project Development Analysis Tool), and suggest project segments.

RECOMMENDED IMPROVEMENTS

To form a basis for project recommendations, data collection efforts were undertaken to obtain current information on existing geometry, traffic volumes, and recent vehicle crash records. This information was analyzed to determine the impacts geometric and operational conditions played on performance of the two parkways. The results of these tasks are presented in **Appendix A**.

After compiling information from these efforts, there are 12 distinct types of existing features which do not meet AASHTO Interstate standards and/or KYTC common practice. Specific information about each type of feature is presented in **Chapter 3** of this report. Each item may be considered as one of three funding categories: I-69 Fix (to be completed only with dedicated interstate funding), 3R (an item to be addressed as part of 3R routine maintenance), or 4R (an item to be addressed with 4R funding). Resurfacing, restoration, and rehabilitation work fall within the 3R category; reconstruction activities elevate a project to 4R. These recommendations are summarized in the following list.

- **Narrow Bridges**: *I-69 Fix*. Mainline structures which do not meet AASHTO width standards should be widened. Structures which have brush-block curbs should be retrofitted with approved bridge rails; concrete jersey rails were assumed for costing purposes. These are relatively low-cost fixes.
- **Vertical Clearances**: *I-69 Fix*. Overpasses along the parkways which do not meet the mandated 16 foot vertical clearance should be addressed. Though other remedies may prove less costly, complete replacement was assumed for costing.
- **Interchange Spacing**: *I-69 Fix*. Interchanges spaced less than the 1-3 miles apart required by AASHTO can be addressed by constructing auxiliary lanes between interchanges. Current traffic volumes and crash histories do not indicate interchange spacing issues are creating operational concerns.

- **Ramp Taper Lengths**: *4R*. Insufficient taper lengths on ramps should be brought into compliance with AASHTO standards and/or KYTC common practice. Systems interchanges and toll-booth style interchanges are addressed separately.
- **Toll-booth Style Interchanges**: *I-69 Fix*. Exit 24/KY 109 on the Ford Parkway and Exit 63/KY 56 on the Breathitt Parkway are toll-style interchange configurations. Though merging lengths are short at both locations, traffic volumes and crash histories do not indicate operational concerns which justify major investments to reconfigure these interchanges to typical diamonds.
- **Guardrail End Treatments**: *3R*. Outdated Type 3 and Type 7 guardrail end treatments exist on both parkways and should be updated as a part of the routine maintenance.
- **Shoulder Widths***: 3R*. Deficient shoulder widths should be updated to meet AASHTO standards as a part of routine maintenance.
- **Stopping Sight Distance**: *4R*. Vertical alignments along the parkways create several instances where stopping sight/headlight sight distances do not meet current standards. In these cases, the actual sight distances are near standards and operational factors do not indicate major investments are justified to bring these locations into formal compliance.
- **Median Width**: 3*R*. Sections of the corridor with median widths less than the required 36 feet may be addressed via the installation of a barrier median. Traffic volumes and performance history do not indicate that this measure is warranted based on current operating parameters.
- **Cross Slope and Superelevation**: *3R*. In instances where pavement cross slopes or superelevation rates do not meet current standards, routine pavement rehabilitation should bring these factors into compliance.
- **Ditch Widths and Foreslopes**: *4R*. Ditch widths and foreslopes do not meet current KYTC guidance. A detailed crash analysis does not indicate a correlation between vehicle crash rates or severity and narrow ditches. Based on current conditions, crash data does not justify investing in additional excavation and right-of-way costs to upgrade these features.
- **Systems Interchanges**: *I-69 Priority*. Modifying the systems interchanges at I-24 and the Breathitt/Ford interchange provides two-lane movements for all mainline sections, improves route continuity for interstates, and addresses design speeds in some instances. Traffic volumes and safety performance do not indicate major investments will significantly impact operations at either location.

As an independent work element within the larger I-69 study, the KY 813 interchange at Mortons Gap was studied. Three build alternatives were evaluated; the preferred alternative would reconstruct the interchange to remove the undesirable flopped diamond and replace this configuration with the preferred diamond layout. This alternative decreases the potential for wrong way entry crashes often attributed to flopped diamond interchanges, improves acceleration and deceleration lengths, is compatible with the I-69 corridor, and is the most cost effective of the alternatives considered. The estimated total cost for the recommended alternative is $7,020,000, which includes estimates for Design ($390,000), Right-of-Way ($850,000), Utilities ($600,000), and Construction ($5,180,000). A basic construction estimate to only fix the deficient mainline taper lengths comes to $3.4 million.

PRIORITIZATION

In order to establish a prioritization scheme, categories were assigned by deficiency type for each feature. Priority Category 1 is the highest group and should be addressed before progressing to the next category, moving down the list to Category 4 as the lowest priorities. The categories are defined as follows:

- **Priority 1** – Substantive improvements to address capacity or safety issues along the parkways regardless of I-69 designation
- **Priority 2** – Regulatory improvements to bring deficiencies into interstate compliance, with the exception of granted FHWA DE
- **Priority 3** – Regulatory improvements to address remaining noncompliant features, including previously exempted DE with the exception of systems interchanges
- **Priority 4** – Systems interchanges

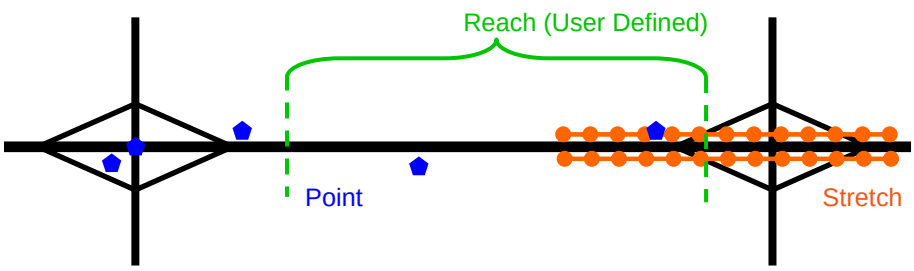
Following this chapter, **Figure 2.1** shows a series of maps of the study corridor depicting the deficiencies, color-coded by priority. Instances in which a design exception is recommended are noted. **Tables 2.1** and **2.2** also present an overview of recommendations and costs for the deficiencies along the Ford and Breathitt Parkways respectively, divided into counties.

MODEL OVERVEIW

To facilitate the project programming process, WSA developed the I-69 PDAT (Project Development Analysis Tool). This tool contains a full list of the deficiencies occurring within the study area which will need to be addressed as part of I-69. This tool allows the user to set project limits by milepoints along each parkway, select which deficiencies should be fixed or omitted, and review the associated cost estimates for this scenario (created by the user) and for the full build scenario.

As shown in **Figure 2.2** below, deficiencies, identified as part of this study, are separated into two distinct types: point features and stretches. Point features occur at a specific location which would logically be addressed as a part of a single project; costs are typically lump-sum values. Deficiency stretches are features which occur over a longer length within the corridor; costs are based on per-mile rates.

Figure 2.2
Definition of Reach, Point, and Stretch Terminology



Reaches are the milepoint boundaries for a project. The user has the ability to define reaches along each parkway and to change them throughout the process. All deficiencies falling within the milepoint limits of a reach will be included in the cost to fix that reach.

Each deficiency displays whether it is one of the 13 potential FHWA design exceptions or a design variance. Each deficiency can also be identified as a funding category: I-69 Priority, 3R Improvement, or 4R Improvement. An additional "Recommended Fix" column allows the user to select if a given deficiency should be included in the User Select Build Scenario (the set of features included in the current build package, based on user-input recommendations). Features which have already been addressed as part of previous projects may be removed from the list of deficiencies by selecting "Completed" from within this heading. For comparison, the Full Build Scenario cost estimates are provided throughout the summary information.

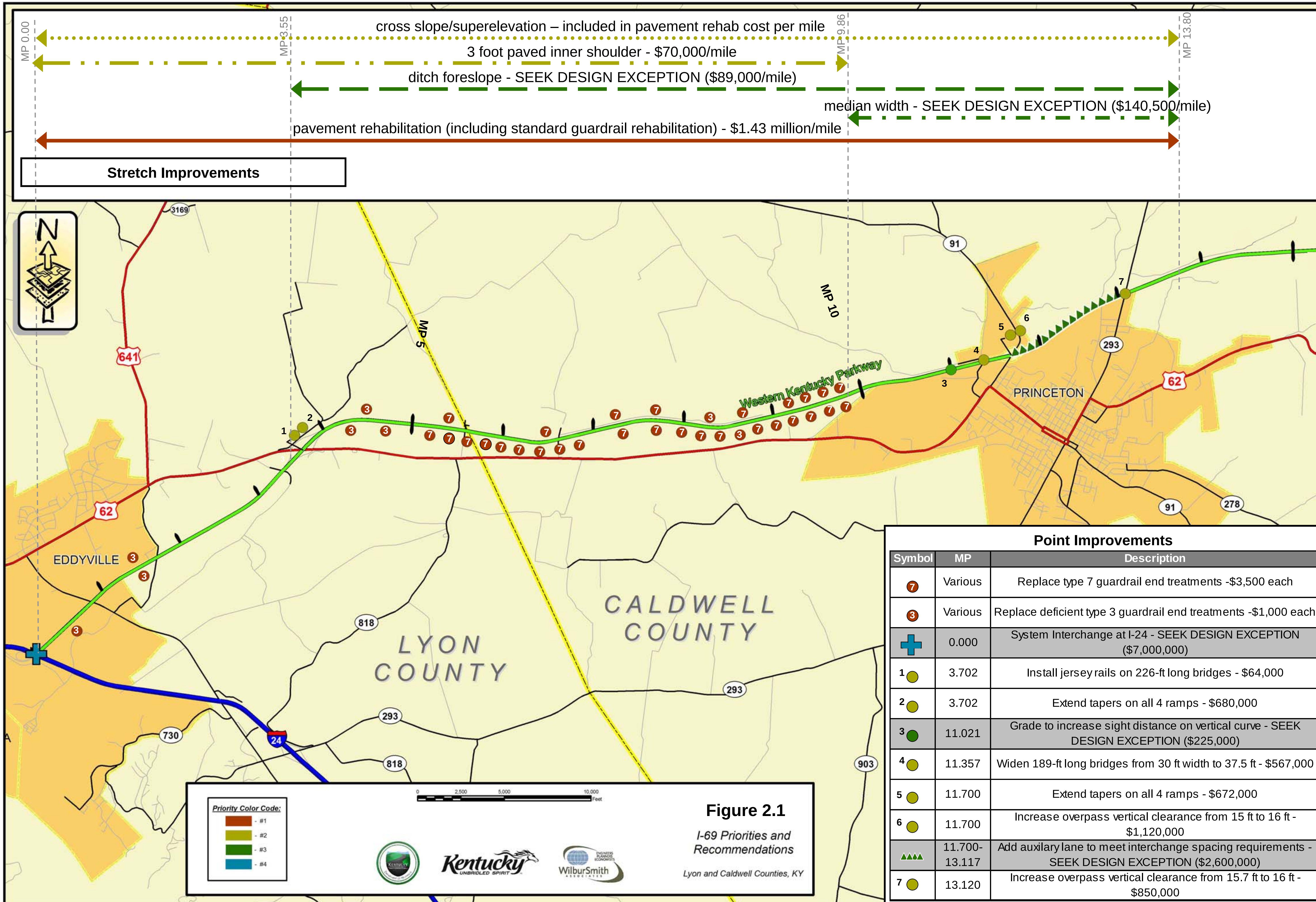
Following these inputs by the user, the model provides a set of summary cost tables. These tables include:

- Summary of Parkway by County for the User Selected Build Scenario;
- Summary of Parkway by Deficiency Type for both the User Selected and Full Build Scenarios;
- Summary of Parkway by Priority Category for both the User Selected and Full Build Scenarios;
- Summary of Parkway by Funding Category for both the User Selected and Full Build Scenarios; and
- Summary of Reach by Deficiency Type for both User Selected and Full Build Scenarios.

A full Users' Guide and electronic copy of the I-69 Project Tool are provided within **Appendix B**.

SEGMENTATION OF CORRIDOR IMPROVEMENTS

For the Master Plan, the parkways have been divided into preliminary project reaches. A reach has been defined around each interchange; a reach of 1.1 miles surrounds each interchange as spacing permits. Additional reaches are located between the reaches around interchanges. Reaches were also broken at county boundaries. The recommended project segmentation is shown in **Tables B.1** through **B.2** in **Appendix B**. **Tables B.3** through **B.8** show the model outputs for the WSA-defined User Build and Full Build Scenarios.



Point Improvements

Symbol	MP	Description
7	Various	Replace type 7 guardrail end treatments -$3,500 each
3	Various	Replace deficient type 3 guardrail end treatments -$1,000 each
+	0.000	System Interchange at I-24 - SEEK DESIGN EXCEPTION ($7,000,000)
1	3.702	Install jersey rails on 226-ft long bridges - $64,000
2	3.702	Extend tapers on all 4 ramps - $680,000
3	11.021	Grade to increase sight distance on vertical curve - SEEK DESIGN EXCEPTION ($225,000)
4	11.357	Widen 189-ft long bridges from 30 ft width to 37.5 ft - $567,000
5	11.700	Extend tapers on all 4 ramps - $672,000
6	11.700	Increase overpass vertical clearance from 15 ft to 16 ft - $1,120,000
▲▲▲	11.700-13.117	Add auxilary lane to meet interchange spacing requirements - SEEK DESIGN EXCEPTION ($2,600,000)
7	13.120	Increase overpass vertical clearance from 15.7 ft to 16 ft - $850,000

Figure 2.1

I-69 Priorities and Recommendations

Lyon and Caldwell Counties, KY

cross slope/superelevation – included in pavement rehab cost per mile

ditch foreslope - SEEK DESIGN EXCEPTION ($89,000/mile)

median width - SEEK DESIGN EXCEPTION ($140,500/mile)

pavement rehabilitation (including standard guardrail rehabilitation) - $1.43 million/mile

Stretch Improvements

MP 13.80

MP 26.50

N

293

CALDWELL COUNTY

MP 20

MP 15

MP 25

109

Western Kentucky Parkway

62

112

672

DAWSON SPRINGS

HOPKINS COUNTY

PRINCETON

139

91

278

8

9

10

11

12

13

14

15

3

7

0 2,500 5,000 10,000 Feet

Priority Color Code:

- #1
- #2
- #3
- #4

Kentucky UNBRIDLED SPIRIT

WilburSmith ASSOCIATES

Figure 2.1

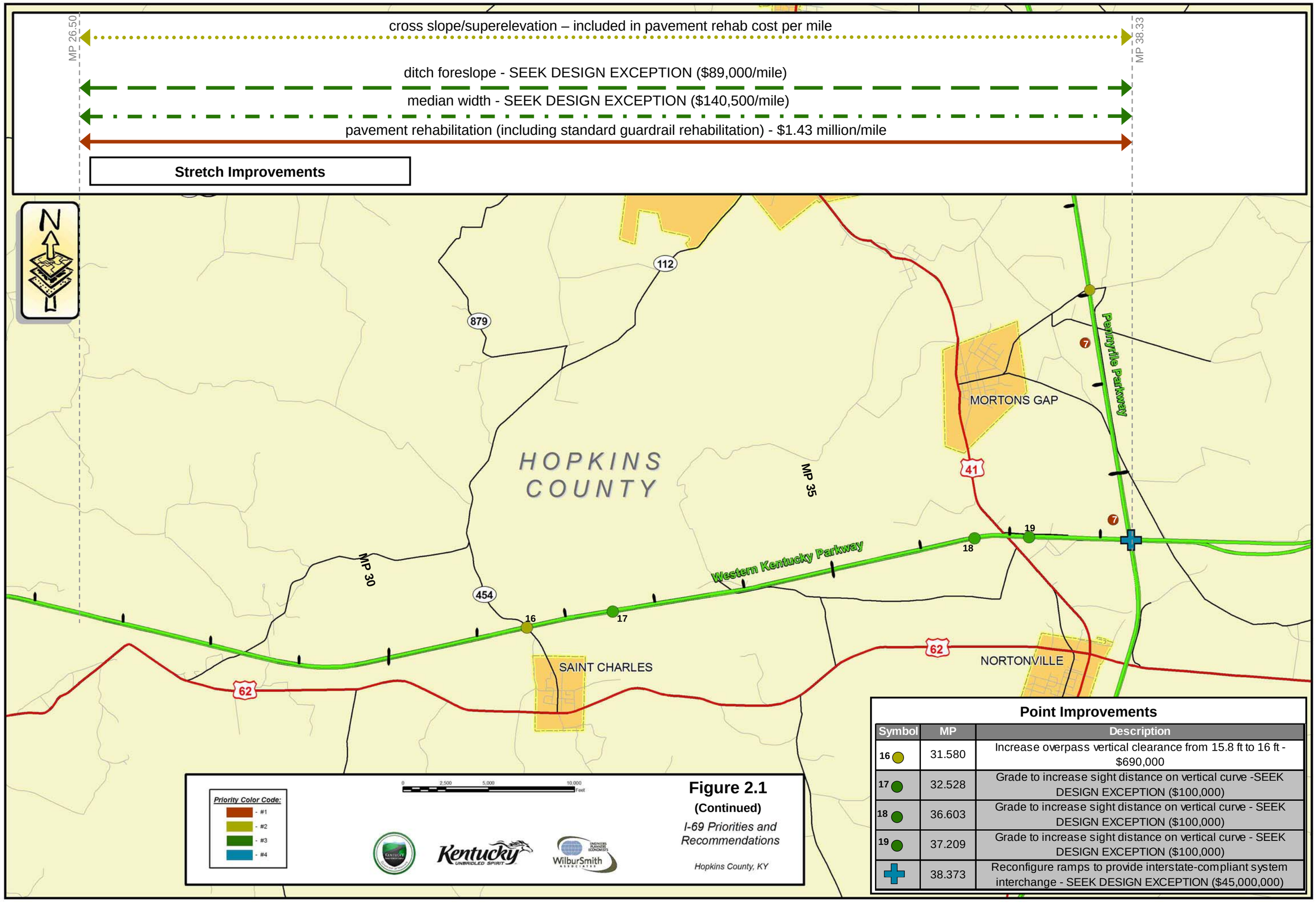
(Continued)

I-69 Priorities and Recommendations

Caldwell and Hopkins Counties, KY

Point Improvements

Symbol	MP	Description
7	Various	Replace type 7 guardrail end treatments -$3,500 each
3	Various	Replace deficient type 3 guardrail end treatments -$1,000 each
8	16.785	Grade to increase sight distance on vertical curve - SEEK DESIGN EXCEPTION ($100,000)
9	17.308	Increase overpass vertical clearance from 14.6 ft to 16 ft - $360,000
10	20.880	Increase overpass vertical clearance from 14.9 ft to 16 ft - $390,000
11	21.752	Widen 207-ft long bridges from 30 ft width to 31 ft - $84,000
12	22.003	Widen 215-ft long bridges from 30 ft width to 31 ft - $86,000
13	24.435	Reconfigure toll-style interchange to diamond - SEEK DESIGN EXCEPTION ($10,650,000)
14	24.440	Increase overpass vertical clearance from 15.5 ft to 16 ft - $765,000
15	24.887	Install jersey rails on 131-ft long bridges - $40,000



Point Improvements

Symbol	MP	Description
16	31.580	Increase overpass vertical clearance from 15.8 ft to 16 ft - $690,000
17	32.528	Grade to increase sight distance on vertical curve -SEEK DESIGN EXCEPTION ($100,000)
18	36.603	Grade to increase sight distance on vertical curve - SEEK DESIGN EXCEPTION ($100,000)
19	37.209	Grade to increase sight distance on vertical curve - SEEK DESIGN EXCEPTION ($100,000)
✚	38.373	Reconfigure ramps to provide interstate-compliant system interchange - SEEK DESIGN EXCEPTION ($45,000,000)

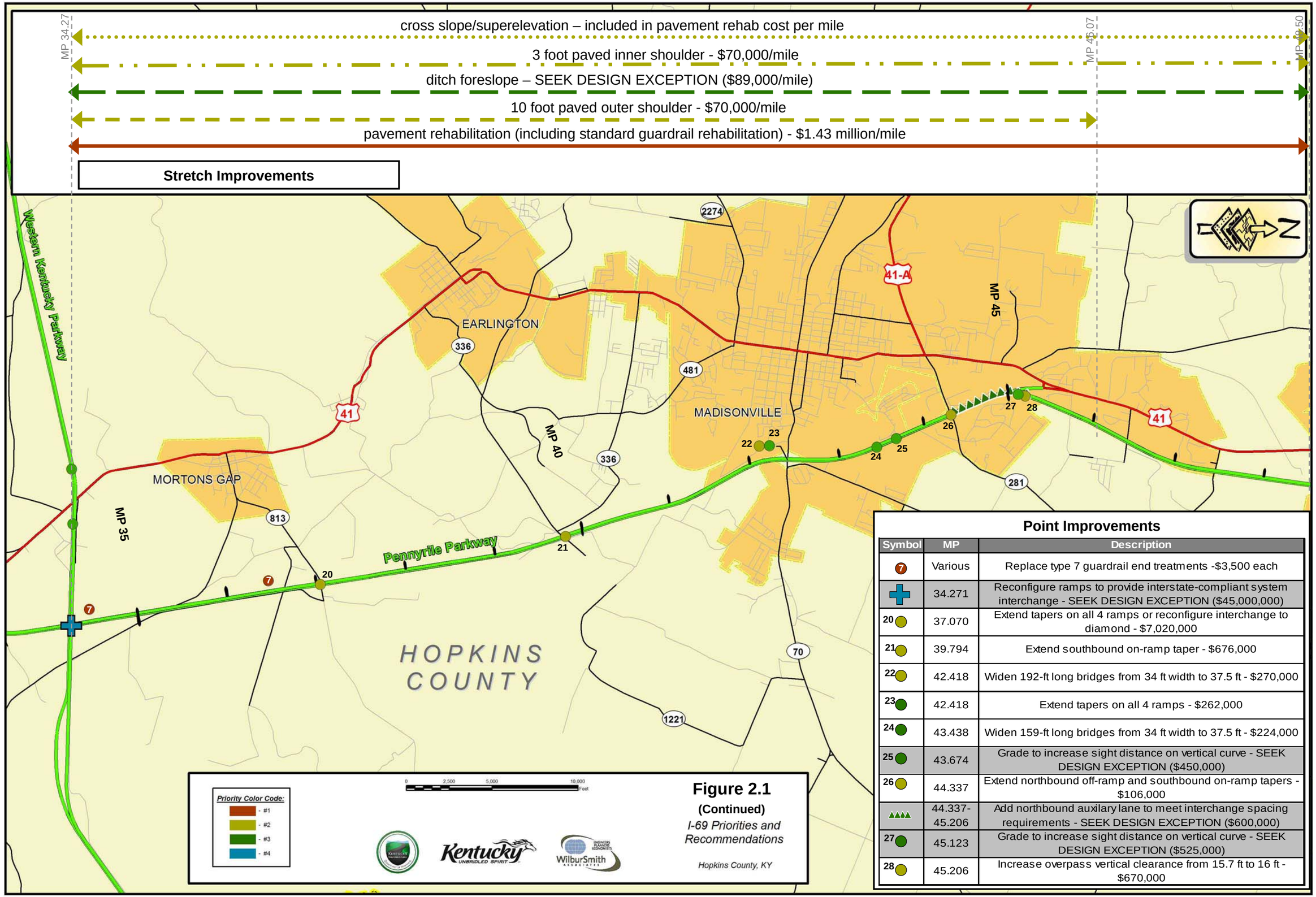


Figure 2.1
(Continued)
I-69 Priorities and Recommendations
Hopkins County, KY

Point Improvements

Symbol	MP	Description
7	Various	Replace type 7 guardrail end treatments -$3,500 each
✚	34.271	Reconfigure ramps to provide interstate-compliant system interchange - SEEK DESIGN EXCEPTION ($45,000,000)
20 ●	37.070	Extend tapers on all 4 ramps or reconfigure interchange to diamond - $7,020,000
21 ●	39.794	Extend southbound on-ramp taper - $676,000
22 ●	42.418	Widen 192-ft long bridges from 34 ft width to 37.5 ft - $270,000
23 ●	42.418	Extend tapers on all 4 ramps - $262,000
24 ●	43.438	Widen 159-ft long bridges from 34 ft width to 37.5 ft - $224,000
25 ●	43.674	Grade to increase sight distance on vertical curve - SEEK DESIGN EXCEPTION ($450,000)
26 ●	44.337	Extend northbound off-ramp and southbound on-ramp tapers - $106,000
▲▲▲▲	44.337-45.206	Add northbound auxilary lane to meet interchange spacing requirements - SEEK DESIGN EXCEPTION ($600,000)
27 ●	45.123	Grade to increase sight distance on vertical curve - SEEK DESIGN EXCEPTION ($525,000)
28 ●	45.206	Increase overpass vertical clearance from 15.7 ft to 16 ft - $670,000

cross slope/superelevation – included in pavement rehab cost per mile

3 foot paved inner shoulder - $70,000/mile

ditch foreslope – SEEK DESIGN EXCEPTION ($89,000/mile)

pavement rehabilitation (including standard guardrail rehabilitation) - $1.43 million/mile

Stretch Improvements

MP 44.50

MP 62.90

MP 50

MP 55

MP 60

HANSON

HOPKINS COUNTY

WEBSTER COUNTY

SEBREE

Pennyrile Parkway

1069

120

120

41

494

41

56

36

147

260

138

29

30

31

32

33

34

35

Point Improvements

Symbol	MP	Description
7	Various	Replace type 7 guardrail end treatments -$3,500 each
3	Various	Replace deficient type 3 guardrail end treatments -$1,000 each
29	48.979	Extend northbound on-ramp and southbound off-ramp tapers - $105,000
30	51.941	Increase overpass vertical clearance from 15.1 ft to 16 ft - $400,000
31	54.070	Install jersey rails on 174-ft long bridges - $40,000
32	54.070	Extend tapers on all 4 ramps - $200,000
33	56.523	Install jersey rails on 163-ft long bridges - $40,000
34	59.280	Widen 368-ft long bridges from 30 ft width to 31 ft - $150,000
35	60.476	Install jersey rails on 166-ft long bridges - $40,000
36	62.637	Reconfigure toll-style interchange to diamond - SEEK DESIGN EXCEPTION ($10,250,000)

Priority Color Code:

- #1
- #2
- #3
- #4

0 2,500 5,000 10,000 Feet

Kentucky UNBRIDLED SPIRIT

WilburSmith ASSOCIATES

Figure 2.1

(Continued)

I-69 Priorities and Recommendations

Hopkins and Webster Counties, KY

MP 62.90

MP 76.26

cross slope/superelevation – included in pavement rehab cost per mile

3 foot paved inner shoulder - $70,000/mile

ditch foreslope – SEEK DESIGN EXCEPTION ($89,000/mile)

pavement rehabilitation (including standard guardrail rehabilitation) - $1.43 million/mile

Stretch Improvements

WEBSTER COUNTY

HENDERSON COUNTY

MCLEAN COUNTY

SEBREE

ROBARDS

HENDERSON

MP 65

MP 70

MP 75

Pennyrile Parkway

Audubon Parkway

56

283

41

425

136

42

39

40

38

37

416

520

812

351

Point Improvements

Symbol	MP	Description
37	63.887	Widen 260-ft long bridges from 30 ft width to 31 ft - $104,000
38	65.393	Install jersey rails on 183-ft long bridges - $40,000
39	68.363	Extend northbound on-ramp and southbound off-ramp tapers - $100,000
40	68.428	Grade to increase sight distance on vertical curve - SEEK DESIGN EXCEPTION ($100,000)
41	75.360	Install jersey rails on 141-ft long bridges - $40,000
42	76.258	Extend northbound on-ramp and both southbound tapers - $160,000

Priority Color Code:

- #1
- #2
- #3
- #4

0 2,500 5,000 10,000 Feet

Kentucky UNBRIDLED SPIRIT

WilburSmith ASSOCIATES

Figure 2.1

(Continued)

I-69 Priorities and Recommendations

Webster and Henderson Counties, KY

Table 2.1
I-69 Recommendations, Ford Parkway

MP	Description	Recommendation	Cost	Priority
Various	Replace type 7 guardrail end treatments	Build	$3,500 each	1
Various	Replace deficient type 3 guardrail end treatments	Build	$1,000 each	1
Lyon County				
0.000	System Interchange at I-24	Design Exception	$7,000,000	4
0.000-5.610	Widen 3 foot paved inner shoulder to 4 foot	Build	$390,000	2
0.000-5.610	Rehabilitate pavement, addressing cross slopes, superelevation, and linear guardrail replacement	Build	$8,020,000	1
3.550-5.610	Widen and/or regrade roadside ditches	Design Exception	$180,000	3
3.702	Install jersey rails on 226-ft long bridges	Build	$64,000	2
3.702	Extend tapers on all 4 ramps	Build	$680,000	2
Caldwell County				
5.610-9.860	Widen 3 foot paved inner shoulder to 4 foot	Build	$300,000	2
5.610-21.764	Widen and/or regrade roadside ditches	Design Exception	$1,400,000	3
5.610-21.764	Rehabilitate pavement, addressing cross slopes, superelevation, and linear guardrail replacement	Build	$23,100,000	1
9.860-21.764	Install median barrier in 30 ft median	Design Exception	$1,673,000	3
11.021	Grade to increase sight distance on vertical curve	Design Exception	$225,000	3
11.357	Widen 189-ft long bridges from 30 ft width to 37.5 ft	Build	$567,000	2
11.700	Extend tapers on all 4 ramps	Build	$672,000	2
11.700	Increase overpass vertical clearance from 15 ft to 16 ft	Build	$1,120,000	2
11.700-13.117	Add auxilary lane to meet interchange spacing requirements	Design Exception	$2,600,000	3
13.120	Increase overpass vertical clearance from 15.7 ft to 16 ft	Build	$850,000	2
16.785	Grade to increase sight distance on vertical curve	Design Exception	$100,000	3
17.308	Increase overpass vertical clearance from 14.6 ft to 16 ft	Build	$360,000	2
20.880	Increase overpass vertical clearance from 14.9 ft to 16 ft	Build	$390,000	2
21.752	Widen 207-ft long bridges from 30 ft width to 31 ft	Build	$84,000	2
Hopkins County				
21.764-38.332	Widen and/or regrade roadside ditches	Design Exception	$1,500,000	3
21.764-38.332	Install median barrier in 30 ft median	Design Exception	$2,328,000	3
21.764-38.332	Rehabilitate pavement, addressing cross slopes, superelevation, and linear guardrail replacement	Build	$23,700,000	1
22.003	Widen 215-ft long bridges from 30 ft width to 31 ft	Build	$86,000	2
24.435	Reconfigure toll-style interchange to diamond	Design Exception	$10,650,000	3
24.440	Increase overpass vertical clearance from 15.5 ft to 16 ft	Build	$765,000	2
24.887	Install jersey rails on 131-ft long bridges	Build	$40,000	2
31.580	Increase overpass vertical clearance from 15.8 ft to 16 ft	Build	$690,000	2
32.528	Grade to increase sight distance on vertical curve	Design Exception	$100,000	3
36.603	Grade to increase sight distance on vertical curve	Design Exception	$100,000	3
37.209	Grade to increase sight distance on vertical curve	Design Exception	$100,000	3
38.373	Reconfigure ramps to provide interstate-compliant system interchange	Design Exception	$45,000,000	4

Table 2.2
I-69 Recommendations, Breathitt Parkway

MP	Description	Recommendation	Cost	Priority
Various	Replace type 7 guardrail end treatments	Build	$3,500 each	1
Various	Replace deficient type 3 guardrail end treatments	Build	$1,000 each	1
Hopkins County				
34.271	Reconfigure ramps to provide interstate-compliant system interchange	Design Exception	$45,000,000	4
34.271-46.070	Widen 10 ft paved outer shoulder to 12 ft	Build	$830,000	2
34.271-55.003	Widen 3 foot paved inner shoulder to 4 foot	Build	$1,450,000	2
34.271-55.003	Widen and/or regrade roadside ditches	Design Exception	$1,800,000	3
34.271-55.003	Rehabilitate pavement, addressing cross slopes, superelevation, and linear guardrail replacement	Build	$29,600,000	1
37.070	Extend tapers on all 4 ramps or reconfigure interchange to diamond	Build	$7,020,000	2
39.794	Extend southbound on-ramp taper	Build	$676,000	2
42.418	Widen 192-ft long bridges from 34 ft width to 37.5 ft	Build	$270,000	2
42.418	Extend tapers on all 4 ramps	Build	$262,000	3
43.438	Widen 159-ft long bridges from 34 ft width to 37.5 ft	Build	$224,000	3
43.674	Grade to increase sight distance on vertical curve	Design Exception	$450,000	3
44.337	Extend northbound off-ramp and southbound on-ramp tapers	Build	$106,000	2
44.337-45.206	Add northbound auxilary lane to meet interchange spacing requirements	Design Exception	$600,000	3
45.123	Grade to increase sight distance on vertical curve	Design Exception	$525,000	3
45.206	Increase overpass vertical clearance from 15.7 ft to 16 ft	Build	$670,000	2
48.979	Extend northbound on-ramp and southbound off-ramp tapers	Build	$105,000	2
51.941	Increase overpass vertical clearance from 15.1 ft to 16 ft	Build	$400,000	2
54.070	Install jersey rails on 174-ft long bridges	Build	$40,000	2
54.070	Extend tapers on all 4 ramps	Build	$200,000	2
Webster County				
55.003-65.305	Widen 3 foot paved inner shoulder to 4 foot	Build	$720,000	2
55.003-65.305	Widen and/or regrade roadside ditches	Design Exception	$920,000	3
55.003-65.305	Rehabilitate pavement, addressing cross slopes, superelevation, and linear guardrail replacement	Build	$14,700,000	1
56.523	Install jersey rails on 163-ft long bridges	Build	$40,000	2
59.280	Widen 368-ft long bridges from 30 ft width to 31 ft	Build	$150,000	2
60.476	Install jersey rails on 166-ft long bridges	Build	$40,000	2
62.637	Reconfigure toll-style interchange to diamond	Design Exception	$10,250,000	3
63.887	Widen 260-ft long bridges from 30 ft width to 31 ft	Build	$104,000	2
Henderson County				
65.305-76.258	Widen 3 foot paved inner shoulder to 4 foot	Build	$770,000	2
65.305-76.258	Widen and/or regrade roadside ditches	Design Exception	$970,000	3
65.305-76.258	Rehabilitate pavement, addressing cross slopes, superelevation, and linear guardrail replacement	Build	$15,700,000	1
65.393	Install jersey rails on 183-ft long bridges	Build	$40,000	2
68.363	Extend northbound on-ramp and southbound off-ramp tapers	Build	$100,000	2
68.428	Grade to increase sight distance on vertical curve	Design Exception	$100,000	3
75.360	Install jersey rails on 141-ft long bridges	Build	$40,000	2
76.258	Extend northbound on-ramp and both southbound tapers	Build	$160,000	2

Chapter III
I-69 Design Exceptions Notebook

Project Location

This project is situated in Lyon, Caldwell, Hopkins, Webster and Henderson Counties in Western Kentucky. The project corridor runs along the Wendell H. Ford (Western Kentucky) Parkway, from I-24 near Eddyville in Lyon County to the Edward T. Breathitt (Pennyrile) Parkway in Hopkins County, then along the Breathitt Parkway north to Henderson at or near the Henderson Bypass (KY 425) in Henderson County. The larger towns situated along and/or near the project corridor are Eddyville, Dawson Springs, Madisonville and Henderson.

Study Purpose

The purpose of this study is to review existing conditions along those segments of the Ford and the Breathitt Parkways within the project corridor, identifying locations where the Parkways do not adequately meet current AASHTO highway design guidelines for interstates. These design elements, along with the degree to which they fall short of those guidelines, have been documented in order to identify potential options for making improvements necessary to bring these elements up to current interstate standards and to identify those for which design exceptions will be appropriate.

Design Exception Criteria

There are 13 controlling design criteria (those for which design exceptions will be necessary if not met) as specified by the Federal Highway Administration (FHWA). These criteria are:

Design Speed
Lane Width
Shoulder Width
Bridge Width
Structural Capacity
Horizontal Alignment
Vertical Alignment
Grade
Stopping Sight Distance
Cross Slope
Superelevation
Vertical Clearance
Horizontal Clearance (not including clear zone)

Design Exception Features

Through field investigations, "as-built" plan checks and other supplemental information, the following design criteria has been considered along the project corridor. Specific items have been noted as being substandard for current AASHTO standards:

A. **Design Speed** – Given that the study corridor is mainly rural with Rolling Terrain, a Design Speed of 70 mph was used for determining the geometric criteria for this study. The existing roadway meets these criteria.

B. **Lane Width** – AASHTO dictates that all driving lanes for interstate routes are at least 12 feet wide. All driving lanes of the existing parkways meet these criteria.

C. **Shoulder Width** –

Outside Shoulders: AASHTO requires outside shoulders to be a minimum of 10 feet. All outside shoulders are paved the required minimum width of 10 feet and are graded a minimum of 12 feet wide with the exception of MP 34.271 to MP 46.069 on the Breathitt Parkway, which is graded (and paved) only 10 feet wide. AASHTO also states where truck traffic exceeds 250 Directional Design Hour Volume (DDHV), a paved shoulder width of 12 feet should be considered. Based on truck projections, a portion of the route (Breathitt MP 34 to MP 45) near Madisonville will surpass this threshold by the 2030 design year.

Inside Shoulders: All inside shoulders where a 36 foot wide depressed median occurs (Ford Parkway MP 0.0 to MP 9.855 & the entire length on the Breathitt Parkway) have been graded a minimum of 6 feet but have been paved only 3 feet wide. This is less than the 4 foot width AASHTO requires.

D. **Bridge Width** – Bridges on routes being incorporated into the interstate system must have a minimum width of 37.5 feet, allowing for two 12 foot driving lanes, a 10 foot outside shoulder and a 3.5 foot inside shoulder. Long bridges (200 feet long or more) may be more narrow, but must maintain a minimum width of 31 feet. This provides two 12 foot driving lanes and a minimum of 3.5 feet for both the inside and outside shoulders. 12 bridges along the Wendell H. Ford Parkway fail to meet these requirements. 8 bridges along the Edward T. Breathitt Parkway fail to meet these requirements. There are also 4 bridges along the Ford Parkway and 10 bridges along the Breathitt Parkway that have existing brush block curbs which should be updated. See **Bridge Data Tables C.1** and **C.3** in **Appendix C** for details.

E. **Structural Capacity** – There are no deficiencies concerning Structural Capacity for the existing bridges along this corridor.

F. **Horizontal Alignment** – The horizontal curvature of both parkways meets AASHTO minimum radius requirements.

G. **Vertical Alignment** – The vertical alignment is the combination of grades and sight distance. The vertical grades on the two roadways meet criteria. The stopping sight distance issues are discussed in paragraph I.

H. **Grade** – For a Design Speed of 70 mph, AASHTO limits the maximum grade for Rolling Terrain to 4.0 percent. All vertical grades on the two parkways meet this constraint.

I. **Stopping Sight Distance** – A minimum Stopping Sight Distance of 730 feet is required by AASHTO standards for a Design Speed of 70 mph. There are five vertical curves on the Ford Parkway and three vertical curves on the Breathitt Parkway that do not meet this requirement. See **Stopping Sight Distance Table C.5** for details.

J. **Cross Slope** – In general, the mainline Cross Slopes along the study corridor meet current AASHTO requirements. However, while the minimum of 1.5 percent is met (utilizing a Cross Slope of 3/16":1'), the majority fail to meet the desired 2 percent Cross Slope for driving lanes. The exception to this is a segment of the Ford Parkway (MP 0.00 – MP 3.729) that has a Cross Slope of ¼":1' or 2.08 percent. Also, Cross Slopes for paved shoulders should fall in the range of two to six percent. There is a segment of the Breathitt Parkway (MP 34.271 - MP 46.069) where the inside and outside paved shoulders are actually sloped ¾":1' (or 6.25 percent), which is technically outside of this given range of slopes. Pavement rehabilitation along the parkways has in the past brought the cross slopes to the desired 2 percent.

K. **Superelevation** – The majority of the existing Superelevation rates along the study corridor do not meet current AASHTO recommendations. The Superelevation rates taken from the existing plans were compared to current AASHTO Superelevation rates and included in **Superelevation Table C.6**. Although not matching AASHTO's rates precisely, the superelevation rates are functionally adequate and should not require any independent correction. Pavement rehabilitation along the parkways has in the past brought the superelevation rates to numeric compliance.

L. **Vertical Clearance** – AASHTO requires Vertical Clearance of structures at underpasses to be a minimum of 16 feet. There are six overpasses along the Ford Parkway and two overpasses along the Breathitt Parkway that fail to meet minimum clearance. Two of the overpasses on the Ford Parkway fail to meet clearance on the shoulder only. One of the overpasses on the Breathitt Parkway fails to meet clearance on the shoulder only. Data collected for this item have been included in **Bridge Data Tables C.2 and C.4**.

M. **Horizontal Clearance** (not including clear zone) – Horizontal clearance would include any appurtenances along the roadway including bridge rails. The only horizontal clearance issues would include the existing bridge widths. These are considered in the bridge width discussion.

Design Variances

The following design variances are essential design elements that are not included in the FHWA's 13 controlling design criteria. They also include any variances from the AASHTO Design Standards for Interstate System.

A. **Interchange Ramp Acceleration and Deceleration lengths** – Several interchange ramp acceleration and deceleration lengths do not meet AASHTO guidelines and/or KYTC common practice. See **Interchange Data Table C.7** for details.

B. **Median Width** – Median width for interstate routes should be a minimum of 36 feet wide according to current AASHTO standards. There is a portion of the Ford Parkway (MP 9.855 – MP 38.332) that does not meet this condition. See **Median/Ditch Data Table C.8** for details.

C. **Guardrail End Treatments** - There are 89 Type 7 Guardrail End Treatments (41 on the Ford Parkway and 48 on the Breathitt Parkway) that need to be replaced along the study corridor. The type 7 end treatments should be replaced with current standard end treatments. There are 30 Type 3 Guardrail End Treatments (19 on the Ford Parkway and 11 on the Breathitt Parkway) that are substandard and need to be replaced. See **Guardrail Data Table C.9** through **C.13** for details.

D. **Interchange Spacing** – According to AASHTO Design Standards for Interstate System, minimum interchange spacing in rural areas should be 3 miles or 1 mile in urban areas. There is one location on the Ford Parkway and one location on the Breathitt Parkway where the minimum spacing is not met. On the Ford Parkway, this occurs between Exit 12 (KY 91) and Exit 13 (KY 293). On the Breathitt Parkway, this occurs between Exit 44 (KY 281) and Exit 45 (US 41). Auxiliary lanes can be constructed between the two interchanges which will allow them to perform as an individual interchange.

E. **Ditch Width** – The existing ditches along both parkways are primarily 8' with 3:1 foreslope. Common practice would suggest 10' ditches with a required minimum 4:1 foreslope.

Preliminary Cost Estimates

Preliminary cost estimates to upgrade the substandard features mentioned above have been determined and are as follows:

Outside Shoulder Width – The estimated cost to widen the outside shoulder from 10 feet graded and paved to 10 feet paved and 12 feet graded, in order to accommodate widening for guardrail is:

Breathitt Parkway MP 34.271 to MP 46.069 is $825,860 (or $70,000 per mile).

Inside Shoulder Width- The estimated cost to widen the inside shoulder from 3 feet to 4 feet is:

Ford Parkway MP 0.0 to MP 9.855 is $689,850 (or $70,000 per mile).
Breathitt Parkway MP 34.271 to MP 76.258 is $2,939,090 (or $70,000 per mile).

Bridge Width – The Wendell H. Ford Parkway has 12 bridges that need widening at an estimated total cost of approximately $1.133 million. The Edward T. Breathitt Parkway has 8 bridges that need widening at an estimated total cost of approximately $748,000. There are also 4 bridges along the Ford Parkway and 10 bridges along the Breathitt Parkway that have existing brush block curbs which should be updated. These can be replaced with constant slope face wall for an estimated cost of approximately $286,000. See **Bridge Data Tables C.1** and **C.3** for details.

Stopping Sight Distance –There are five vertical curves on the Ford Parkway and three vertical curves on the Breathitt Parkway that do not meet minimum criteria. The total estimated cost to bring the vertical curves to current standards is approximately $1.7 million. See **Table C.5 Stopping Sight Distance Data** for detailed information.

Vertical Clearance - There are six overpasses along the Ford Parkway and two along the Breathitt Parkway that fail to meet minimum clearance. In order to determine preliminary costs, it is assumed that these bridges will be replaced with full shoulders. Further study may prove solutions such as undercutting or jacking as being less costly. However, the current study assumes complete replacement. The estimated cost to replace seven of the overpasses is approximately $4.5 million. See **Bridge Data Tables C.2** and **C.4** for details. The KY 109 Bridge over the Ford Parkway will likely be replaced with the reconstruction of the interchange, therefore, that cost was included in the construction estimate shown in the discussion for interchange ramps.

Interchange Ramps acceleration and deceleration lengths - Several interchange acceleration and deceleration lanes do not meet AASHTO taper length requirements. Other ramps meet or exceed these standards but do not conform to KYTC common practice. It is recommended that these tapers be lengthened as shown in **Table C.7 Interchange Data**. The preliminary total cost of improving the substandard acceleration and deceleration lanes falling below common practice is approximately $6.4 million. This does not include Ford Parkway KY 109 Exit 24 and Breathitt Parkway KY 56 Exit 63 which are existing Toll Booth style interchanges. These interchanges should be reconstructed due to the deficient ramp configurations and are estimated to cost approximately $10 million each. The above estimate also does not include the I-24/Ford Parkway system interchange or the Ford Parkway/Breathitt Parkway system interchange. The system interchanges have been studied to determine how to maintain route continuity for I-69. These are shown in the discussion for system interchanges.

Median Width – There are approximately 28.5 miles of 30 foot median along this portion of the Ford Parkway. Since widening the median will most likely be cost prohibitive, it is suggested to construct a median barrier to minimize crossover crashes. 28.5 miles of cable guardrail would cost approximately $4 million.

Guardrail End Treatments - There are 89 Type 7 Guardrail End Treatments (41 on the Ford Parkway and 48 on the Breathitt Parkway) that need to be replaced along the study corridor. There are 30 Type 3 Guardrail End Treatments (19 on the Ford Parkway and 11 on the Breathitt Parkway) that are substandard and need to be upgraded. Utilizing an average cost of $3500 per end treatment to replace the Type 7's, it will cost approximately $311,500 to replace. Utilizing an average cost of $1000 per end treatment to upgrade the Type 3's, it will cost approximately $30,000. The total cost to replace and upgrade the guardrail end treatments is $341,500. See **Guardrail Data Table C.9** for details.

Interchange Spacing - Auxiliary lanes are proposed between the Ford Parkway Exit 12 and Exit 13 interchanges which will allow them to perform as an individual interchange. The construction estimates for these auxiliary lanes is $2.6 million. An auxiliary lane is also proposed between the Northbound Breathitt Parkway Exit 45 US 41 and Exit 44 KY 281. An auxiliary lane was constructed for the southbound Breathitt Parkway between Exit 45 and Exit 44 during a pavement rehabilitation project. The estimated cost for adding the northbound auxiliary lane is $200,000.

Ditch Width – Based on investigation of segments along the Ford Parkway and the Breathitt Parkway, an estimated 22 miles of the Ford Parkway and 23 miles of the Breathitt Parkway are in cut sections. The estimated cost to widen the ditches along the Ford Parkway is $3.4 million. The estimated cost to widen the ditches along the Breathitt Parkway is $3.6 million. These estimates do not include potential right of way costs.

Systems Interchanges

There are two system interchanges within the I-69 study area: I-24 with the Ford Parkway and the Breathitt Parkway with the Ford Parkway. The implementation of I-69 will require adjustments to these locations to accommodate through interstate traffic movements.

I-24 with the Ford Parkway

The existing I-24 interchange is a trumpet-style configuration with four connecting ramps between the roadways. The inclusion of the parkway into the interstate system will make ramps A and B (eastbound I-24 to eastbound Ford and westbound Ford to westbound I-24) through interstate movements, subject to full interstate design criteria. Upgrading this facility to these standards at or near the current location will cause extensive impacts due to the proximity of various features. The I-24 interchange with KY 293 is 3.1 miles away; an inlet of Barkley Lake and its associated causeway are also located 4500 feet east of the interchange with the parkway. An inlet of Barkley Lake, its bridge and causeway stand 1300 feet west the existing interchange. An interchange with US 62 is 2 miles west of the parkway/I-24 interchange. A major electrical transmission line runs north of and parallel to I-24 in the immediate vicinity.

The creation of a modern Interstate System interchange for I-24 with future I-69 and I-66 at or near the current I-24/Ford Parkway interchange location would lead to extensive impacts and extremely high costs. A conceptual design was developed, shown in **Figure C.1** in **Appendix C**, including AASHTO-compliant through movements for each interstate and auxiliary lanes to address spacing requirements between the existing US 62 and KY 293 interchanges. This configuration relocates the Ford Parkway 3000 feet to the southeast and I-24 1500 feet north to create a three level structure. Portions of the existing I-24 alignment would be utilized as I-69 through movements and ramps. Construction limits would extend from the I-24/US 62 interchange in the east to the I-24/KY 293 interchange in the west and 2300 feet north of KY 3305 along the parkway alignment. Construction cost estimates for this configuration come to around $74 million in addition to $5.1 million for right-of-way acquisition and $5.8 million for utility relocations, resulting in a total project cost of $84.9 million.

To minimize costs and environmental impacts, it would be reasonable to seek a design exception for the I-24/Ford Parkway interchange. As shown in **Figure C.2**, adding lanes to the existing Ramps A and B will provide the required additional width/capacity. However the design speed remains at 45 mph on Ramp A and 50 mph on Ramp B. By adding a third lane to eastbound I-24 just east of the structure and extending the second lane on Ramp A back to the mainline, two lanes for both I-69 and I-24 are provided at the eastbound divergence. A third lane added to the westbound parkway north of the interchange and carried along Ramp B provides a two lane through movement on I-69 and a one lane, left handed exit ramp to eastbound I-24. Preliminary costs for this strategy are estimated at $7 million for new construction (including $3.1 million for pavement rehabilitation within the interchange area), $60,000 for additional right-of-way, and

$100,000 for utility relocations . This brings the total estimate for this interchange to $7.26 million.

Ford/Breathitt Interchange

As portions of the Ford and Breathitt Parkways are designated as I-66 and I-69, the interchange between the two roadways becomes more complex than the existing infrastructure allows. As shown in **Figure C.3,** interstate design criteria can be met for this facility by moving the I-66/I-69 split west of the existing interchange. A flyover for northbound I-69 allows I-69 to separate from I-66 eastbound movements and rejoin the existing alignment north of the existing Ford/Breathitt interchange. Six of the eight ramps at the existing interchange provide connectivity between I-66 and the remaining Breathitt parkway. All interstate through movements maintain a 2 lane, 70 mph design speed. Estimated new construction costs for this scenario are approximately $37 million (including $2.4 million for pavement rehabilitation). Right-of-way acquisition and utility relocation costs are estimated at $4 million each for a total cost of approximately $45 million anticipated for this interchange.

Design Exceptions/Variances

Attached on page III-9 is a table listing the FHWA 13 controlling design criteria and the potential design variances involved in the subject project. As the I-69 project progresses, pursuing design exceptions and/or compliance with accepted design practice for some deficiencies may become advisable. Based on current data, design exceptions may be appropriate for design speed at the Ford/Breathitt system interchange and the I-24 system interchange, stopping sight distance, superelevation, median width, interchange spacing, and ditch width.

- As explained in the system interchange discussion, it would be reasonable to request a design speed exception to accommodate the I-69 through movements at the I-24 and Ford/Breathitt system interchanges.
- Stopping sight distances are substandard on eight vertical curves in the study section. It is reasonable to request design exceptions since these vertical curves are close to meeting current criteria.
- The superelevation rates vary along the roadway. Many of the areas along the parkways have been rehabilitated, improving superelevation rates to current standards. The remaining sections will be upgraded with future pavement rehabilitation projects. Therefore, it is reasonable to request a design exception.
- The median width is deficient by AASHTO interstate standards along approximately 28.5 miles of the Ford Parkway. This can be remedied by adding a barrier median. However, a design exception may be appropriate initially due to low traffic volumes and as traffic increases along the parkway, a determination for constructing the barrier median could be considered based on safety performance at that time.
- A similar argument can be made for the interchange spacing. The spacing between Exit 12 and 13 on the Ford Parkway and between Exit 44 and 45 on the Breathitt Parkway can be resolved by adding an auxiliary lane in each direction between the interchanges. It would be appropriate to request a design exception. As traffic increases along the parkway, a determination for the need of the auxiliary lane can be made based on the resulting roadway performance and vehicle crash history.

- The ditch widths/slopes along both parkways don't meet current KYTC guidance. A design exception should be considered.

A significant consideration for approving a design exception is the relationship between the deficient features and crash rates. An analysis was completed to determine whether any correlation existed between the noncompliant features and high crash rates. The analysis did not indicate a correlation between geometry and vehicle crashes. Therefore, design exceptions are reasonable for above features. As traffic volumes increase, the safety performance of each roadway should be monitored and consideration given to any necessary hazard mitigations.

Planned Future Projects

The 2006 Enacted Six-Year Highway Plan FY 2007-2012 indicates a number of projects along the Ford Parkway and Breathitt Parkway within the study area. The following are pavement rehabilitation projects:

Wendell H. Ford Parkway

Caldwell Co.	Item No. 2-2051	MP 14.85 to 18.26	Let March '07
Hopkins Co.	Item No. 2-2049	MP 27.52 to 36.962	Let March '07

Edward T. Breathitt Parkway

Hopkins Co.	Item No. 2-2050	MP 35.55 to 37.07	Let November '06
Webster/Henderson	Item No. 2-2041	MP 61.85 to 65.393	Let December '06
Henderson Co.	Item No. 2-2038	MP 70.45 to 75.63	Let July '06

There is also a Henderson Co. (Item No. 2-8304) project to reconstruct/complete the half interchange at KY 416 (Exit 68) to facilitate access to and from the south. There is approximately $5 million of state funds with design in FY '07, right of way and utilities in FY '08 and construction in FY '09.

Tables and Attachments **Page**

Additional tables and attachments may be found in **Appendix C**.

DESIGN EXCEPTIONS SUMMARY

	Meets Criteria (Yes or No)	Cost to Cure ($)	Design Exception/Variance should be requested	Explanation
13 Design Criteria				
Design Speed	No		Yes	See the explanation for the I-24/Ford Parkway System Interchange and the Ford/Breathitt Parkway System Interchange.
Lane Width	Yes			
Shoulder Width	No	$4.45 million	No	The inside shoulders need to be widened from 3' to 4' paved from MP 0 to MP 9.855 on the Ford Parkway and for the entire length of the Breathitt Parkway. The outside shoulders need to be widened on the Breathitt Parkway from MP 34.271 to MP 46.069 to accommodate guardrail.
Bridge Width	No	$2.17 million	No	There are 12 bridges on the Ford Parkway & 8 bridges on the Breathitt Parkway that need to be widened. There are 4 bridges on the Ford Parkway & 10 bridges on Breathitt Parkway with brush blocks.
Structural Capacity	Yes			
Horizontal Alignment	Yes			
Vertical Alignment	Yes			
Grade	Yes			
Stopping Sight Distance	No	$1.7 million	Yes	There are 5 deficient vertical curves on the Ford Parkway and 3 deficient vertical curves on the Breathitt Parkway. Only one of these deficient vertical curves is a crest and all are close to meeting criteria.
Cross Slope	Yes			
Superelevation	No	N/A	Yes	Although not matching AASHTO's rates precisely the superelevation rates are functionally adequate. Pavement rehabilitation along the parkways has in the past brought the superelevation rates to numeric compliance.
Vertical Clearance	No	$4.5 million	No	There are 6 overpasses on the Ford Parkway & 2 overpasses on the Breathitt Parkway that do not meet vertical clearance requirements. This does not include the KY 109 overpass which is proposed to be reconstructed with the interchange.
Horizontal Clearance	Yes			
Design Variances				
Acceleration & Deceleration lengths	No	$6.4 million	No	This does not include the Ford Exit 24 Interchange or the Breathitt Exit 63 Interchange. These are old toll booth interchanges with reconstruction costs of $10.65 million and $10.25 million[1], respectively. This also does not include the I-24/Ford System Interchange or the Ford/Breathitt System Interchange.
Median Width	No	$4 million	Yes	There are 28 miles of 30 foot median. To fix this, a median barrier must be constructed (use cable guardrail).
Guardrail End Treatments	No	$341,500	No	There are 89 Type 7 End Treatments that need to be replaced and 30 Type 3 End Treatments that need to be upgraded.
Interchange Spacing	No	$2.8 million	Yes	Auxiliary lanes are needed on the Ford Parkway between Exit 12 and Exit 13 and on the NB Breathitt Parkway between Exit 45 to Exit 44.
Ditch Width	No	$7 million	Yes	It would cost $3.4 million to fix the Ford and $3.6 million to fix the Breathitt. This does not include potential right of way costs
I-24/Ford Parkway Interchange	No	$7.3 million[1]	Yes	Due to physical constraints, add width to existing ramps and request a design exception for 45 mph design speed.
Ford/Breathitt System Interchange	No	$45 million[1]	Yes	Construct I-66/I-69 split west of existing Ford/Breathitt Interchange.

[1] Costs include right-of-way, utilities, and construction cost estimates

Chapter IV
Public Involvement

Six meetings were conducted in the study counties over November and December 2007. Information about the Master Plan recommendations, priorities, and cost estimates was presented to attendees during each session. Display maps and tables were arranged throughout the rooms and a presentation was given detailing the study process and findings.

Local Officials Meeting

A meeting was conducted November 5, 2007, for local elected officials at the MTEC Conference Room in Madisonville. Attendees were presented with a copy of the draft recommendation maps and tables. A PowerPoint presentation provided information on the progress to date along the I-69 corridor, the remaining process to upgrade to an interstate facility, and the Master Plan recommendations. A question and answer period followed, with discussions focusing on scheduling and funding issues. A copy of the meeting minutes is included in **Appendix D**.

Public Involvement Meetings

Meetings were held in each of the five study counties to provide study information to interested members of the public. Times and dates of these events are presented below.

Caldwell County – November 26, 2007
Princeton Welcome Center Building
201 East Main Street
Princeton, KY 42445

Webster County – November 29, 2007
Sebree City Hall Court Room
36 South Spring Street
Sebree, KY 42455

Hopkins County – December 3, 2007
Parkway Plaza Mall
Madison Square Avenue
Madisonville, KY 42431

Henderson County – December 6, 2007
Henderson North Middle School
1707 Second Street
Henderson, KY 42420

Lyon County – December 13, 2007
Lyon County Public Library
261 Commerce Street
Eddyville, KY 42038

At each meeting, maps and tables displaying recommendations were placed around the room. A short presentation provided a summary of the study process and findings and a question and answer session allowed opportunities for attendees to ask questions and offer input.

Meeting minutes, containing discussion items for each session, are presented in **Appendix D**. Additionally, copies of the Official Meeting Notebooks are on file with the KYTC Division of Highway Design and Division of Planning.

KENTUCKY TRANSPORTATION CABINET
CATEGORICAL EXCLUSION
ENVIRONMENTAL DETERMINATION CHECKLIST

1. PROJECT INFORMATION

SYP Project #: 2-69.10	Route: Interstate 69 (I-69), SIU #5, Eddyville to Henderson, KY	Initiation Date: 9/23/02	County: Lyon, Caldwell, Hopkins, Webster & Henderson

Project Description:

This CE document requests an administrative action to designate portions of the Wendell H. Ford (Western Kentucky) and Edward T. Breathitt (Pennyrile) Parkways as parts of the federal Dwight D. Eisenhower System of Interstate and Defense Highways, specifically as a section of I-69 in Kentucky.

There are not any specific environmental impacts related to the designation of the Edward T. Breathitt and Wendell H. Ford Parkways as sections of I-69 in Kentucky. As individual sections of the Parkways and related interchanges are improved in the future, the appropriate level of NEPA documentation will be prepared for each of those projects.

The environmental commitments section of this CE document also includes: 1) a master plan for this section of I-69 in Kentucky to identify what is going to be redesigned, what improvements should be made, what order of priority they should have, and planning level cost estimates for the improvements; and 2) a list of recommended design exceptions and justification for segments identified along the corridor.

Project Background:

I-69 (Corridor 18) was one of several Priority Corridors first identified by the U.S. Congress as part of the federal Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 and continued in subsequent federal transportation legislation. A national feasibility study was completed in 1995 by the Federal Highway Administration, which concluded that the future construction of I-69 from Canada to Mexico was economically feasible. It would consist of an extension of existing I-69, resulting in an I-69 highway which would start at Port Huron, Michigan, on the Canadian border, run through eight states (Michigan, Indiana, Kentucky, Tennessee, Mississippi, Arkansas, Louisiana, and Texas), and end at the Texas/Mexico border.

The Corridor 18 Special Issues Study, completed in 1997, identified a Representative Corridor which best serves the purposes of Corridor 18 and yields the most benefits relative to facility costs. In Kentucky, the Representative Corridor is defined as follows:

- The Edward T. Breathitt Parkway from Henderson, Kentucky to the interchange with the Wendell H. Ford Parkway;
- The Wendell H. Ford Parkway to the interchange with I-24;
- I-24 to the interchange with the Julian M. Carroll (Purchase) Parkway; and,
- The Purchase Parkway to the Tennessee state line.

More detailed information is attached.

Purpose and Need**:**

The initial national purpose and need for I-69 includes:

- Improving the movement of goods;
- Enhancing the provision of more job opportunities to local, regional, national, and international communities (support economic development); and
- Improving system linkage.

Consideration has been given to integrating local needs and concerns for the Eddyville to Henderson segment with the national goals of I-69. Preliminary local needs and objectives considered include:

- Maximizing the use of the existing Parkways;
- Serving and enhancing local industry;
- Providing an improved facility for addressing increased truck traffic; and
- Providing a context sensitive solution for I-69.

One of the primary justifications for the national I-69 route is its anticipated role in truck freight movement connecting Canada and Mexico and points in-between. Because of this, it has been designated by Congress as a "North American trade route" and a "NAFTA corridor." The latter refers to the increased trade (and truck traffic) expected between Canada, the United States, and/or the countries of Latin America due to the passage of the federal North American Free Trade Act (NAFTA).

Previous documentation for this project is considered to be back-up information for this CE document, and is available for reference, as needed:

- National Feasibility Study for Corridor 18 (1995)
- Corridor 18 Special Issues Study (1997)

CD copies of the following documents are included with the submittal of this CE document for reference:

- Environmental Overview along the Ford and Breathitt Parkways (2005)
- Overview of Existing Conditions along the Ford and Breathitt Parkways (2005)
- I-69: Eddyville to Henderson Corridor Planning Study Executive Summary (2005)

Project : _____ County:_____ Route: _____

Existing Conditions:	Traffic Volume:
In their present form, the Ford and Breathitt Parkways do not operate in a manner that is appreciably different than they would operate were they to be designed to meet or exceed existing design guidelines for interstate highways. These two Parkways already provide many of the basic design characteristics, or physical features, that are common for interstate highway facilities, such as full control of access, divided cross-sections, two travel lanes in each direction and 70 mile-per-hour design speeds. However, it is the actual dimensions of these physical features (the width of medians, the length and curvature of ramps, the width of bridges, the height of overpasses, etc.) on the Parkways that do not always meet current interstate design standards.	Current: 9,900-26,400 vpd Design Year (2030): 19,100-50,500 vpd
Project Length: 80.3 miles Ford Parkway Begin MP: 0.0 End MP: 38.33 Breathitt Parkway Begin MP: 34.271 End MP: 76.258 I-69 would extend from I-24 near Eddyville in Lyon County, following the Wendell H. Ford Parkway to its interchange with the Edward T. Breathitt Parkway. Then it would follow the Breathitt Parkway to Henderson, Kentucky. Note: If project length is > 1 mile and on a new alignment, project may not be eligible for CE Level 1 and DEA and FHWA must be consulted.	Number of alternative(s) considered including "No Build": ☐ 1 ☐ 2 ☐ 3 ☒ 4 - *Attach all design alternates* See Section 3. ALTERNATIVES SUMMARY

2. ENVIRONMENTAL DETERMINATION

☒ Categorical Exclusion- Level 3 (Attach all project correspondence and documentation)

APPROVAL SIGNATURES

_____ _____

District Environmental Coordinator **Date**

_____ _____

Project Manager **Date**

☐ *All project commitments/mitigation and identified required future work have been entered into the CAP*

_____ _____

Division of Environmental Analysis **Date**
(required for Level 2)

_____ _____

Federal Highway Administration **Date**
(required for Level 3)

Project : _____ County:_____ Route: _____

3. ALTERNATIVES SUMMARY

Describe all alternatives that were evaluated, their impacts and the reason(s) for elimination or selection.

Through the *Overview of Existing Conditions along the Ford and Breathitt Parkways (2005),* four options for the I-69 corridor were considered:

- No Build Alternate (Alternative 1) – KYTC could elect to participate no further in the development of I-69, thus, leaving a gap in the nationally designated I-69 route. While this may cause some concern, there would still be connections to the existing Julian M. Carroll Parkway at the Tennessee border and the Edward T. Breathitt Parkway at the Indiana border. Therefore, the existing Parkways would probably still serve to carry I-69 traffic through the state of Kentucky.
- Minor Upgrades and Spot Safety Improvements to the Parkways (Alternative 2) – This alternate would address key safety and operational concerns but obtain design exceptions or approval of design flexibility for a number of circumstances where the Parkways do not meet current AASHTO guidelines.
- Partial Reconstruction and Widening of the Parkways (Alternative 3) – This alternate would enable the Parkways to meet most AASHTO guidelines but attempt to maintain improvements within the right-of-way by making extensive use of median barriers and guardrail along the parkways.
- Full Reconstruction and Widening of the Parkways (Alternative 4) – This alternate would enable the Parkways to meet full AASHTO guidelines by obtaining additional right-of-way along the Parkways to allow for widening and reconstruction.

Please see the attached discussion on Alternatives Recommendations at the end of this document for further information.

4. COMMENTS AND COORDINATION

Attach all letters, meeting minutes and copies of any newspaper advertisements.	**YES**	**NO**
1. Will the project have public, local government and resource agency outreach?	☒	☐
Identify type of outreach used:		
Meeting(s) ☒ Date(s): September 23-October 1, 2002		
Newspaper Adv. ☒ Newspaper Name Various Date(s): Prior to Meetings		
Meeting(s) with local government and affected property owners ☒ Date(s): July 16-18, 2002		
2. Was there public or agency controversy on the project? *If "Yes", explain in #*	☐	☒
3. Resolution of all public, resource agency, and property owners concerns is incomplete? *If "Yes" explain plans for resolution in #4 below.*	☐	☒

4. Describe any unresolved issues:

5. ENVIRONMENTAL COMMITMENTS, MITIGATION, REQUIRED FUTURE ACTIONS AND OTHER COMMENTS

	YES	**NO**
1. Does the project have environmental commitments, mitigation measures, additional environmental investigations, studies or approvals still to be completed? *If "Yes", DEC should advise Project Manager for consideration of CAP entry in Oracle.*	☐	☒

2. Identify all issues:

- There are not any specific environmental commitments or mitigation required for the designation of the Edward T. Breathitt and Wendell H. Ford Parkways as sections of I-69 in Kentucky.
- As individual sections of the parkways noted above are proposed for improvement, the appropriate level of NEPA documentation will be prepared.
- A master plan for this section of I-69 in Kentucky will be developed to identify what is going to be redesigned, what improvements should be made, what order of priority they should have, and planning level cost estimates for the improvements. Public involvement meetings will be held to share the master plan information with the local communities.
- A list of recommended design exceptions and justification for segments identified along the corridor will be developed.

6. ENVIRONMENTAL CONDITIONS AND CONSEQUENCES

A. Right-of-Way Impacts	**YES**	**NO**
1. Does the project require the acquisition of right-of-way?	☐	☒
2. Business or residential relocations required. No. of relocations: Residential _____ Business: _____ *	☐	☒
Suitable relocation areas available: Residential _____ Business: _____ *Describe in A.7*		
3. Full or partial property acquisition required. Estimated acreage: Fee Simple _____ Easement: _____ *	☐	☒
4. Property transfer from a State or Federal agency required. *List agency(ies) in A. 7 below*	☐	☒
5. Last resort housing required.	☐	☒
6. Cemetery affected by project	☐	☒
* *If total acreage >10 acres or total relocations are >5 –consult with DEA* * *If total acreage is >25 acres or total relocations are >10 DEA consults with FHWA*		

7. Describe Impacts/Comments:

There are not any specific impacts related to the designation of the Edward T. Breathitt and Wendell H. Ford Parkways as sections of I-69 in Kentucky. As individual sections of the Parkways and related interchanges are improved, the appropriate level of NEPA documentation will be prepared for each of those projects.

B. Economic Impacts:	**YES**	**NO**
1. The project will have economic impacts on the regional and/or local economy, such as effects on development, tax revenues and public expenditures, employment opportunities, accessibility, and retail sales.	☒	☐
2. The project will affect established businesses or business districts.	☐	☒

3. Describe Impacts/Benefits:

Included in the national goals for I-69 is that the new interstate corridor will provide more job opportunities for local communities resulting in positive economic benefits to communities along the corridor. Improved travel efficiencies and designation as a NAFTA Trade Corridor will enhance economic development in the counties along I-69. Local agencies noted this potential in their comment letters and in the public meetings which were held.

C. Social Impacts:	**YES**	**NO**
1. The project will affect neighborhoods or community cohesion for the various social groups.	☐	☒
2. The project will affect travel patterns and accessibility (e.g., vehicular, commuter, bicycle, or pedestrian).	☐	☒
3. The project will affect school districts, churches, businesses, police and fire protection, etc. Include the direct impacts and the indirect impacts that may result from the displacement of households and businesses.	☐	☒
4. The project will affect publicly owned public park, recreation area, or wildlife or waterfowl refuge. *If "Yes", Section 4(f) must be completed.*	☐	☒
5. Was Land and Water Conservation Fund Act funding used for any purpose at the publicly owned public park, recreation area, or wildlife or waterfowl refuge? *If "Yes", Section 6(f) must be completed.*	☐	☒

6. The project will impact the elderly, handicapped, non-drivers, transit-dependent, minority and ethnic groups, or the economically disadvantaged.	☐	☒
7. The project will significantly or disproportionately impact minorities or disadvantaged persons (E.O. 12898).	☐	☒

8. Describe Impacts/Benefits:

There are not any specific impacts related to the designation of the Edward T. Breathitt and Wendell H. Ford Parkways as sections of I-69 in Kentucky. As individual sections of the Parkways and related interchanges are improved, the appropriate level of NEPA documentation will be prepared for each of those projects.

D. Local Land Use and Transportation Plan:	**YES**	**NO**
1. Project consistent with local land use plan.	☒	☐
2. Project consistent with local transportation plan.	☒	☐
3. Project would induce adverse secondary and cumulative effects.	☐	☒

4. Describe Impacts:

There are not any specific impacts related to the designation of the Edward T. Breathitt and Wendell H. Ford Parkways as sections of I-69 in Kentucky. As individual sections of the Parkways and related interchanges are improved, the appropriate level of NEPA documentation will be prepared for each of those projects.

E. Historic Resources	**YES**	**NO**
1. Are NRHP listed eligible/potentially eligible sites/districts present within the project viewshed?	☐	☒
If "No", document means for assessing ages of structures within project viewshed or attach memorandum from DEA historian documenting no historic properties affected.		
If "Yes", indicate level of impact:		
☐- "No Effect" *(attach SHPO concurrence letter or DEA Historian memo)*		
☐- "No Adverse Effect" *(attach SHPO concurrence letter)*		
☐- "Adverse Effect" *(attach SHPO concurrence letter)-Section 4(f) may need to be completed.**		
Memorandum of Agreement is required? SHPO signature date:	☐	☒
** If Individual 4(f) required, project is not eligible for CE Level 1 or 2*		

2. Describe historic resource impacts:

There are not any specific impacts related to the designation of the Edward T. Breathitt and Wendell H. Ford Parkways as sections of I-69 in Kentucky. As individual sections of the Parkways and related interchanges are improved, the appropriate level of NEPA documentation will be prepared for each of those projects.

F. Archaeological Resources:	**YES**	**NO**
1. Does project involve the acquisition or easement of new right of way?	☐	☒
2. Are any new right-of-way areas undisturbed? *If "No" state basis for conclusion in box F.9.*	☐	☒
3. Are known archaeological resources affected by the project (per OSA database)?	☐	☒
4. Is there potential for archaeological resources within the project? *If "Yes", to #2 or #3, consult with DEA District archaeologist for survey.*	☐	☒
5. The project will impact archaeological resources. *If "Yes", list site number(s) that can not be avoided:*	☐	☒

6. Are there sites recommended for Phase II work? *(attach SHPO concurrence letter)* *If "Yes", list site number(s):*	☐	☒
7. Are NRHP eligible/potentially eligible sites affected by the project?	☐	☒
If "Yes", indicate level of impact; If "No", attach SHPO concurrence letter:		
☐- "No Adverse Effect" *(attach SHPO concurrence letter)*		
☐- "Adverse Effect" *(attach SHPO concurrence letter)-Section 4(f) must be completed if preservation in-place is required.**		
Memorandum of Agreement required? SHPO signature date: FHWA signature date:	☐	☒
8. Is Native American Consultation (NAC) required? *If "No", explain why in F.9 below; If "Yes", document dates of consultation below and describe the outcome in F.9 below.*	☐	☒
Dates NAC conducted: Phase I ; Phase II ; Data Rec. Plan ; Phase III		
** If Individual 4(f) required, project is not eligible for CE Level 1 or 2*		

9. Describe archaeological resource impacts:

There are not any specific impacts related to the designation of the Edward T. Breathitt and Wendell H. Ford Parkways as sections of I-69 in Kentucky. As individual sections of the Parkways and related interchanges are improved, the appropriate level of NEPA documentation will be prepared for each of those projects.

G. SECTION 4(f)

1. Are 4(f) properties affected by the project? *If "Yes" , notify DEA EPM who will consult with FHWA to determine applicability of Section 4(f).*	☐	☒
2. Is the project adjacent to a 4(f) resource*? If "Yes", DEA EPM consult with the FHWA Area Engineer to determine applicability of "constructive use."*	☐	☒
3. Avoidance of 4(f) properties is not prudent and feasible? *Only determined in consultation with FHWA*	☐	☒
Programmatic Section 4(f) ☐ Full Section 4(f) Statement ☐		
If an Individual 4(f) Statement is required, the project cannot be completed as a CE Level 1 or 2 document. However, if the impacts can be satisfied by completing a Programmatic 4(f) Statement, DEA and FHWA may approve the P4 (f) and the CE can be completed as a CE Level 1 or 2 project.		

4. Describe process followed and consultation to resolve 4(f) issue:

There are not any specific impacts related to the designation of the Edward T. Breathitt and Wendell H. Ford Parkways as sections of I-69 in Kentucky. As individual sections of the Parkways and related interchanges are improved, the appropriate level of NEPA documentation will be prepared for each of those projects.

H. SECTION 6(f)

1. Are 6(f) properties affected by the project? *If "Yes", consult with DEA and FHWA to determine applicability of Section 6(f). **	☐	☒
2. Has discussion been initiated with the Department of Local Government and the agency having responsibility for the administration of the publicly owned park, recreation area, or wildlife or waterfowl refuge.	☐	☒
3. Will a Memorandum of Agreement be required? Final Signature Date:	☐	☒
** Project may only be processed as a CE Level 3 if Section 6(f) applies.*		

4. Describe process followed and consultation to resolve 6(f) issue:

There are not any specific impacts related to the designation of the Edward T. Breathitt and Wendell H. Ford Parkways as sections of I-69 in Kentucky. As individual sections of the Parkways and related interchanges are improved, the appropriate level of NEPA documentation will be prepared for each of those projects.

I. Noise Impact (23 CFR Part 772):	**YES**	**NO**
1. There are noise sensitive receivers/land uses adjacent to the proposed project (e.g. residences, businesses, schools, parks, etc.).	☐	☒
2. Indicate if any of the following are applicable, which would necessitate a noise analysis: ☐ New roadway on new alignment; ☐ Addition of one or more through travel lanes; ☐ Significant change in vehicle mix or traffic speed; ☐ Significant change in horizontal or vertical alignment; or ☐ A change in roadway character that substantially reduces the shielding effect of landforms or noise barrriers.	☐	☒
3. Noise analysis demonstrates that noise impacts exceed the KYTC Noise Abatement Criteria Policy. *If "Yes", a significant impact may be associated with this project. Consultation with DEA is required.*	☐	☒
4. There are feasible and reasonable measures that can reduce impacts. *If "Yes", discuss in I.5 below*	☐	☒

5. Describe noise impact and abatement measures (if applicable):

There are not any specific impacts related to the designation of the Edward T. Breathitt and Wendell H. Ford Parkways as sections of I-69 in Kentucky. As individual sections of the Parkways and related interchanges are improved, the appropriate level of NEPA documentation will be prepared for each of those projects.

J. Air Quality Impacts	**YES**	**NO**
1. The project is located in an air quality nonattainment or maintenance area	☐	☒
2. The project is listed in an approved STIP and/or TIP. *If not in STIP, notify DEA SME* STIP Page # _____ TIP Page # _____	☐	☒
3. The project adds through lane capacity or signalized intersections. *If "Yes" analysis may be required. Clearance memo from DEA SME is required and must be attached.*	☐	☒
4. Are CO concentrations expected to exceed the 1-hour NAAQS of 35 ppm and 8-hour NAAQS of 9.0 ppm. *If "Yes", the project will result in a significant air quality impact and DEA must notify FHWA.*	☐	☒
If the project is listed in the current STIP and #3 is "No", then #4 can be also checked as "No" without further analysis.		

5. Impacts/Comments:

There are not any specific impacts related to the designation of the Edward T. Breathitt and Wendell H. Ford Parkways as sections of I-69 in Kentucky. As individual sections of the Parkways and related interchanges are improved, the appropriate level of NEPA documentation will be prepared for each of those projects.

K. Hazardous Materials:	**YES**	**NO**
1. Known or potentially contaminated sites (service stations, landfills, automotive repair, junkyard, structures with asbestos, etc.) along the project corridor.	☐	☒
2. Is ROW required from, or extensive excavation required adjacent to a potentially contaminated site? *If "Yes" Phase II testing is required and should be completed prior to ROW authorization request. Deferral must be approved by FHWA.*	☐	☒
3. Phase II analysis indicated the existing and/or proposed ROW is contaminated. *Extent and estimated remediation cost to be provided by DEA SME to Div. of ROW and Project Team.*	☐	☒

4. Do bridges or other structures being demolished contain asbestos material? *If "Yes", 10 day notice required and abatement may be necessary**	☐	☒
5. Additional investigations or remediation required? *If "Yes" discuss future actions and schedule for addressing in box K.6 and Section 5 (Commitments).*	☐	☒
** If more than minor amounts, project may not be eligible for CE Level 1 and DEA must be consulted.*		

6. Discuss significance of any "Yes" marked in 1-5 and any deferred necessary activities (deferrals also discussed in Section 5):

There are not any specific impacts related to the designation of the Edward T. Breathitt and Wendell H. Ford Parkways as sections of I-69 in Kentucky. As individual sections of the Parkways and related interchanges are improved, the appropriate level of NEPA documentation will be prepared for each of those projects.

L. Threatened and Endangered Species (T&E):	**YES**	**NO**
1. USFWS, KSNPC and KDFWR web sites identify potential for T&E species	☒	☐
2. Federally listed T&E potentially present in vicinity *(Attach USFWS letter) Contact DEA Biologist for habitat determination.*	☒	☐
3. Field evaluation indicates Federally listed T&E potentially present in vicinity	☐	☒
4. Biological Assessment required: ☐ Completed (attach USFWS letter) ☐ To be completed before ROW funding *(CAP entry recommended)*	☐	☒
5. Project may adversely affect federally listed T&E (formal consultation required)*	☐	☒
** If the project is likely to affect a Federally listed T&E species it is not eligible for CE Level 1 or 2 and DEA and FHWA must be consulted.*		

6. Describe T&E species concerns/protective measures:

There are not any specific impacts related to the designation of the Edward T. Breathitt and Wendell H. Ford Parkways as sections of I-69 in Kentucky. As individual sections of the Parkways and related interchanges are improved, the appropriate level of NEPA documentation will be prepared for each of those projects.

M. Wetlands Impacts:	**YES**	**NO**
1. Project involves wetlands as defined by the U.S. Army Corps of Engineers. (*"Yes", resource coordination required; "No", go to section N*). Finding and limits determined by: _____	☐	☒
2. The project will impact wetlands Estimated acreage: : (_____) *	☐	☐
3. The project will require the dredging or filling of wetlands: Estimated fill quantities: _____ Cubic Yards Estimated Dredge quantities: _____ Cubic Yards	☐	☐
4. Are USACE/DOW permits required: *If "Yes", complete the Q. Permits and Authorizations section*	☐	☐
5. Wetlands Finding:		
a. Has the Project Team evaluated all practicable alternatives and measures to the proposed construction in wetlands?	☐	☐
b. Has the Project Team complied with the Wetlands Finding Agreement? *If "No", the project can not be approved as a CE*	☐	☐
** If >0.1 acres NWP required and mitigation may be required; If > 0.5 acres IP and mitigation will be required; If > 5.0 acres, may not be eligible for Level 2 (consult with FHWA).*		

6. Describe Wetlands Impact:

There are not any specific impacts related to the designation of the Edward T. Breathitt and Wendell H. Ford Parkways as sections of I-69 in Kentucky. As individual sections of the Parkways and related interchanges are improved, the appropriate level of NEPA documentation will be prepared for each of those projects.

N. Floodplains Impacts (23 CFR Part 650, Subpart A):	**YES**	**NO**
1. Project encroaches onto the 100-year floodplain.	☐	☒
2. Is FEMA No-Impact Certification, Letter of Map Revision (LOMAR) or Conditional Letter of Map Revision (CLOMAR) required? *If "Yes", coordinate with District Drainage Engineer or Drainage Section, Div. of Highway Design and complete the Permits and Authorizations section. Attach all coordination/consultation with SME, FEMA, USACOE,DOW, and other appropriate agencies*	☐	☒

3. Describe Floodplain Impacts:

There are not any specific impacts related to the designation of the Edward T. Breathitt and Wendell H. Ford Parkways as sections of I-69 in Kentucky. As individual sections of the Parkways and related interchanges are improved, the appropriate level of NEPA documentation will be prepared for each of those projects.

O. Surface Water and Water Quality Impacts:	**YES**	**NO**
1. Project affects a surface water(s) as defined in 401 KAR 5:002 or 33CFR, Part 328.3? *Identify stream, lake, etc. and describe project impact in box O.6 below.*	☐	☒
2. Project would involve impacts to public or private drinking sources?	☐	☒
3. Project will require a channel change? Estimated linear feet: _____*	☐	☒
4. Erosion control measures: Standard ☐ Extraordinary ☐ *If extraordinary, explain in detail measures to be taken and reasons therefore in O.6 below*	☐	☒
5. Is river or stream involvement proposed? *Indicated type below check all that apply*	☐	☒
Bridge ☐ Culvert ☐ Embankment Fill ☐ Relocation ☐ Diversion ☐ Low Water Crossing ☐		
Disturbance: Temporary ☐ Permanent ☐		
** If stream impact is > 500 linear feet an Individual USACE permit is required; project may not be eligible for CE Level 1 and DEA must be consulted. If >200 linear feet, an Individual Water Quality Certification is required.*		

6. Describe surface water and water quality impacts:

There are not any specific impacts related to the designation of the Edward T. Breathitt and Wendell H. Ford Parkways as sections of I-69 in Kentucky. As individual sections of the Parkways and related interchanges are improved, the appropriate level of NEPA documentation will be prepared for each of those projects.

P. Special Use Waters	**YES**	**NO**
1. Are there any State-listed Special Use Waters in the project vicinity? *If "Yes", request assistance from DEA SME*	☐	☒
2. Federally listed Wild and Scenic Rivers are within the project limits?	☐	☒
3. If "Yes", to question 2, will there be direct or indirect impacts to the resource? *If "Yes", request assistance from DEA SME*	☐	☒
4. If "Yes" to question 3, will the project require 4(f) documentation and approval?	☐	☒
If an Individual 4(f) Statement is required, the project cannot be completed as a CE Level 1 or 2 document. However, if the impacts can be satisfied by completing a Programmatic 4(f) Statement, DEA and FHWA may approve the P4 (f) and the CE can be completed as a CE Level 1 or 2 project.		

5. Describe impacts and significance:

There are not any specific impacts related to the designation of the Edward T. Breathitt and Wendell H. Ford Parkways as sections of I-69 in Kentucky. As individual sections of the Parkways and related interchanges are improved, the appropriate level of NEPA documentation will be prepared for each of those projects.

Q. Permits and Authorizations:	**Cmplt***	**YES**	**NO**
1. Will this project affect a Waters of the U.S. requiring a nationwide USACE Section 404 permit? *If "Yes", then coordination with DEA is required.*	☐	☐	☒
2. Will this project affect a Waters of the U.S. requiring an individual USACE Section 404 permit? *If "Yes", then coordination with DEA is required. May preclude processing as a Level 1if combined with other project and impact factors (see Agreement Table 1)*	☐	☐	☒
3. Will this project require an individual KDOW Water Quality Certification? *If "Yes", then coordination with DEA is required.*	☐	☐	☒
4. Will this project affect navigable Waters of the U.S. as defined by USACE and require a Section 10 permit? *If "Yes", then coordination with DEA is required.*	☐	☐	☒
5. Will this project affect a navigable water body requiring a Coast Guard, Section 9 permit? *If "Yes", then coordination with Div. of Bridges is required.*	☐	☐	☒
6. Will project require a FEMA No-Impact Certification, Letter of Map Revision (LOMAR) or Conditional Letter of Map Revision (CLOMAR)? *If "Yes", coordinate with District Drainage Engineer or Drainage Section, Div. of Highway Design.*	☐	☐	☒
7. Will this project require a KPDES Stormwater permit for construction? *If "Yes", coordinate with Div. of Design, PS&E section.*	☐	☐	☒
8. Other. *If "Yes", list.*	☐	☐	☒
** Cmplt = Complete; Enter permit date in box provided at end of question.*			

9. Describe any significant permit conditions as well as schedules and responsible parties for securing pending permits:

There are not any specific impacts related to the designation of the Edward T. Breathitt and Wendell H. Ford Parkways as sections of I-69 in Kentucky. As individual sections of the Parkways and related interchanges are improved, the appropriate level of NEPA documentation and/or permit applications will be prepared for each of those projects.

R. Construction Impacts

Discuss potential impacts of construction activities pertaining to water quality, stream diversion, air quality, detours and delays of traffic, businesses, noise, etc:

There are not any specific impacts related to the designation of the Edward T. Breathitt and Wendell H. Ford Parkways as sections of I-69 in Kentucky. As individual sections of the Parkways and related interchanges are improved, the appropriate level of NEPA documentation will be prepared for each of those projects.

S. Additional Alternative Comments:

The I-69 Corridor (Corridor 18) consists of an extension of existing I-69 from Port Huron, Michigan, to the Texas/Mexico border. With a total length of over 1600 miles, the added sections of I-69 will undoubtedly require a construction time period of many years. This length precludes development of the full corridor as a single construction project. Further, the types of work to be undertaken vary from location to location and include widening, reconstruction, relocation, and development of an entirely new facility.

The practical approach is to undertake a series of projects that all fit into and are consistent with the overall purpose and need for I-69. In order to approach this in a realistic manner, the entire corridor must be broken into viable sections, each of which can be constructed in a reasonable time frame by the state or states involved. Each of these sections is referred to as a Section of Independent Utility, or an SIU. A given Section of Independent Utility may be in place for several years before an adjacent section is completed and open to traffic, hence the concept of having independent utility. The process of defining these sections involves identifying or framing a highway project that meets a number of principles and criteria.

The particular SIU focused on in this study is the section that spans between Henderson, Kentucky, and Eddyville, Kentucky. This project would provide a connecting link in the multi state I-69 corridor, as well as improve traffic flow between Henderson and Eddyville, and enhance economic development in this portion of Western Kentucky. (Please see attached ALTERNATIVES RECOMMENDATIONS for additional comments).

ALTERNATIVES RECOMMENDATIONS

- Major construction of an Interstate 69 route on a new alignment is recommended for dismissal from further consideration because it would not ultimately meet the purpose and need for the project. Further, routing I-69 along the Ford and Breathitt Parkways is perhaps the most context-sensitive solution possible. In particular, using the two existing Parkways as I-69 would minimize any negative impacts resulting from the construction of a new facility on new alignment, thus, providing the ultimate "minimal impact" alternative.
- It is also recommended that Alternates 3 and 4, the other major reconstruction alternates, be dismissed from further consideration in future phases of project development. Given that I-69 would be routed along the existing Parkways, avoiding or minimizing major reconstruction activities along the Parkways would further support context-sensitive design principles. Any major reconstruction would require additional right-of-way and would result in potential negative impacts. Maximizing the use of the existing right-of-way and existing infrastructure will also result in the least potential impact on the environment, the community, and local owners of homes and businesses.
- It is recommended that the No Build Alternative be dismissed from further consideration, given that it does not meet (1) the Federally legislated mandate for developing this high priority corridor and (2) the Purpose and Need for the project. This option also does not address deficiencies along the existing Parkways.
- The Ford Parkway and Breathitt Parkway adequately meet AASHTO guidelines for most of the design elements along each of these routes. There are only a few elements and/or locations where deficiencies may exist. In some cases, these are only minor and could be accepted as design exceptions. However, there are a few deficiencies that should be addressed in the near future, particularly those that deal with public safety. In the long term, the two Parkways could be upgraded over time to better meet design guidelines.
- A review of operational and safety issues support the premise that the two Parkways present no major problems along most of their lengths at present, with only a few locations exhibiting potential safety problems, based on crash history, and only one location with a potential level of service deficiency.
- Many of the deficiencies identified on the existing Parkways could be considered acceptable under the principle of design flexibility. Flexibility is allowed in AASHTO guidelines if flexible design options are supported by engineering studies. In recent years, flexibility and context-sensitive solutions have actually been encouraged due to growing public concern about the community and environmental impacts of major highway projects.
- Precedents already exist at locations along many interstate highways throughout the United States where expressways currently operate safely and effectively with design conditions that do not meet current AASHTO guidelines for interstate facilities.
- Using the existing Parkways as I-69 addresses another current "context-sensitive" issue, i.e., financial feasibility, since Alternate 2 along the existing Parkways offers the lowest cost solution at a time when all levels of government must consider that taxpayers' funds are being used more effectively. While this may not be a traditional context-sensitive issue, the fiscal context should be considered a major factor in making a decision about this project.
- Economic considerations cannot justify investing over a billion dollars for a new interstate highway or from a half-billion to a billion dollars to upgrade the Parkways without a significant improvement in operational or safety benefits for motorists. This is especially true when minor improvements can be made to the existing Parkways under Alternate 2 to address operational and safety problems for a fraction of the cost of the other alternates.
- It is recommended that Alternative 2, the Minor Upgrades and Spot Safety Improvements Alternative proceed into future phases of project development, as needed.
- If a decision is made to implement I-69 Alternate 2 along the Ford and Breathitt Parkways, a program of improvements to upgrade the Parkways could be developed. This program could be phased-in over time in a fiscally-responsible manner as funds are available and as operational conditions warrant, rather than implementing improvements that do not appear to be needed now or in the immediate future.
- Early public involvement for the I-69 project seems to indicate that the strongest local and regional support is for routing I-69 along the existing Parkways, rather than constructing a new facility elsewhere. There also appears to be strong public support for making this designation at the earliest possible date.

ATTACHMENT FOR SECTION L.2. Threatened and Endangered Species (T&E):

United States Department of the Interior

FISH AND WILDLIFE SERVICE
446 Neal Street
Cookeville, TN 38501

March 20, 2002

Michael E. Kenawell
T.H.E. Engineers, Inc.
131 Prosperous Place, Suite 15
Lexington, Kentucky 40509

Dear Mr. Kenawell:

Thank you for your letter and enclosures of February 15, 2002, concerning the proposed reconstruction of portions of the Pennyrile Parkway and Western Kentucky Parkway in Henderson, Webster, Hopkins, Caldwell, and Lyon Counties, Kentucky. The reconstructed stretch of highway would be renamed Interstate 69. Fish and Wildlife Service personnel have reviewed the information submitted and offer the following comments.

According to our records, the following threatened and endangered species are known to occur in the affected counties, and may occur in the project impact area:

Indiana bat - Myotis sodalis
Gray bat - Myotis grisescens
American burying beetle - Nicrophorus americanus
Bald eagle - Haliaeetus leucocephalus
Price's potato-bean - Apios priceana

You should assess potential impacts and determine if the proposed project may affect these species. A finding of "may affect" could require initiation of formal consultation. We would appreciate a copy of any survey report on these species done for this project, as well as your determination of effect.

The copperbelly water snake (Nerodia erythrogaster neglecta) was proposed for listing as threatened under the Endangered Species Act. However, listing of the copperbelly water snake has been at least temporarily avoided in Kentucky through the implementation of a Copperbelly Water Snake Conservation Plan. The Plan involves maintenance of existing wetlands and adjacent wooded

floodplains and uplands. Further, the plan calls for restoration of wetlands and wooded corridors that link these important habitats. With cooperation between various development and natural resource interests, future listing of the copperbelly water snake as threatened will hopefully be precluded. Even though the copperbelly water snake is no longer proposed for federal listing, it is known to occur in the vicinity of the proposed project and we would appreciate your cooperation in implementing conservation measures that benefit this rare snake.

Thank you for the opportunity to comment on this proposal. Please contact Timothy Merritt (telephone 931/528-6481, ext. 211) of my staff if you have questions regarding the information provided in this letter.

Sincerely,

Lee A. Barclay, Ph.D.
Field Supervisor

Project : _____ County:_____ Route: _____ Alternative: _____

Attach CD copies of:

- Environmental Overview along the Ford and Breathitt Parkways (2005)
- Overview of Existing Conditions along the Ford and Breathitt Parkways (2005)
- I-69: Eddyville to Henderson Corridor Planning Study Executive Summary (2005)

Appendix A
Supplemental Data Collection and Analysis

TASK 3 – ADDITIONAL DATA COLLECTION AND MAPPING

FIELD REVIEW

As part of the additional data collection phase, WSA conducted a field review along the existing sections of the Breathitt and Ford Parkways to be incorporated into the I-69 system. The supplemental information gathered during this investigation is presented in the following section.

Based upon the construction plans for the roadways, typical cross-section features have been recorded along various reaches including data on pavement widths, medians, ditches, and structures.

- Pavement – Lane and shoulder widths exist as indicated on the construction documents; all lane widths and most shoulder widths are within compliance with the applicable standards. These measurements include median and ditch information.
- Medians – Median widths generally correspond to the original construction plans but have been changed from raised medians to depressed in some sections. These widths are near AASHTO standards for the traffic volumes using the routes.
- Ditches – Existing ditches range from 6 to 18 feet wide in sections along the parkways. Over time, the earth and rock backslopes have deteriorated significantly. Thus, ditches appear narrower than indicated on construction plans. This affects performance, reflected in the number of accidents involving a vehicle running off the roadway.
- Structures – The majority of bridges on the parkways have substandard side rails, on both median and shoulder edges. Most bridges crossing the parkways meet the minimum design vertical clearance requirements mandated for the new route design; no horizontal clearance deficiencies were observed.

Measurements for medians and ditches taken from the construction documents are presented in **Table A.1**. Bridge information for the Breathitt and Ford Parkways are summarized in **Tables A.2** and **A.3**, respectively. Width and clearance data for overpasses are shown in **Tables A.4** and **A.5**.

CRASH HISTORY

Crash history data was obtained from KYTC to update data gathered during the previous study. The data used in this analysis covers crashes occurring from January 2002 through April 2006. In the study area during this time span, 396 incidents were reported on the Ford Parkway and 929 were reported along the Breathitt Parkway. Crash data was also obtained for connecting local roads in the immediate vicinity of the parkway interchanges.

KYTC procedures were applied to this new data to determine the location of high crash segments and spots, shown in **Tables A.6** and **A.7**. Figures of this data are presented in **Figure A.1** and discussed further as part of the Task 4 analysis in this Appendix.

TRAFFIC COUNTS

Traffic counts were obtained from KYTC for the ramps along both routes. The AM and PM peak hour volumes, truck percents, and ADTs for these locations are given in **Table A.8**.

Additionally, turning movement counts were performed at the base of each ramp where they join the local road network. The volumes at these locations for the AM and PM peak hours are presented in **Tables A.9** and **A.10** respectively.

MAPPING UPDATES

Additional figures related to supplemental analysis are presented in the following Task 4 discussion and figures.

TASK 4 – SUPPLEMENTAL ANALYSIS

AASHTO DESIGN POLICIES

The design standards in the January 2005 AASHTO publication *A Policy on Design Standards: Interstate System* were adopted into the Federal Register effective June 5, 2006. The standards set forth in this policy apply to all interstate highways on new right-of-way and to those undergoing complete reconstruction on existing right-of-way. Interstates undergoing 3-R improvements may use the standards that were in effect at the time of construction or in effect at the time of inclusion to the interstate system.

The standards in the 2005 edition do not substantially differ from those published in the 1991 edition of the AASHTO interstate standards manual. Example changes from the 2005 edition include

- Metric values are shown in the new edition, in addition to conventional values;
- Allowable percent grades are further divided into 5 mph increments; and
- The use of curbs in conjunction with guard rails is discouraged, but if used, the face of the curb should be behind the guard rail. This change could affect the use of curbs to control erosion of fill slopes but should have only minor effects on any 3-R improvements.

GEOMETRIC CONSIDERATIONS

To determine if the existing features on the Ford or Breathitt Parkways significantly impact vehicle crash frequency or severity, analysts examined crash data from January 2002 through April 2006. Crash locations were geospatially aligned against specific

existing roadway geometric features: ditches, medians, shoulders, bridges, and ramps, as shown in **Figure A.1**. As shown, the correlation between geometric features and high crash frequency and severity concentrations is minimal. A relationship between the crash history and traffic volumes and conflict points is more strongly established.

Ditches

Ditch slopes and widths could potentially have a primary impact on the severity of crashes. In the event of a run off the road incident, effects resulting from shorter, steeper ditches would appear as an increase in crash severity, seen through higher than average injury and fatality concentrations. The data, shown in **Table A.11**, does not indicate that these concentrations exist in narrow ditch sections.

The existing ditch cross section does not meet current AASHTO standards: a maximum slope of 4:1 is required for any foreslopes. The January 2005 *AASHTO Policy on Design Standards: Interstate System* requires that new or reconstructed interstate routes meet current standards. Resurfacing, restoration, and rehabilitation projects shall meet the standards in effect at the time of initial construction or at the time of inclusion to the Interstate System.

Existing fill slopes along the parkways presently conform to this requirement or have been fitted with guardrail. Within cut sections, a significant portion of the total corridor length has foreslopes steeper than 4:1 with backslopes cut to 2:1 or steeper. These ditches do not meet the preferred ditch cross section as recommended by the *AASHTO Roadside Design Guide*.

Medians

Substandard medians could potentially influence both the frequency and severity of crashes. Given the narrow median widths (30 to 36 feet) along both parkways, the total number of cross-median crashes is relatively small. Of 1,325 incidents along both parkways over a 4 year and 4 month period, only 13 involved a median crossing. The number of fatalities associated with these cross-median events is also small – only three deaths – but represents a disproportionate component of the total fatalities; 23% of all fatalities resulted from a cross-median crash.

Widening the existing medians or incorporating positive separations would significantly raise construction costs and increase right-of-way and environmental impacts. However, a berm or cabled rail median may be a cost effective alternative. Research shows that incorporating median barriers on high speed, fully controlled-access roadways with narrow medians reduces the number and severity of cross-median events. Installing a barrier-type median could improve safety characteristics and effectively provide space to add a lane to the existing facilities. Disadvantages accompanying this type of improvement include

- Increased initial costs for installation;
- An increased number of reported crashes due to decreased recovery distances;

- Increased maintenance requirements, both financial investments as well as extended exposure for crews to repair damaged portions; and
- Limited turning opportunities for maintenance and emergency vehicles.

The 2006 edition of the *AASHTO Roadside Design Guide* recommends median barriers for facilities serving traffic flows of at least 20,000 vehicles per day with median widths less than or equal to 30 feet; barriers should also be considered for widths less than 50 feet. Though capacity constraints do not justify adding an extra lane at present, safety concerns suggest that the use of a positive median separation should be made on a reach by reach basis.

Shoulders

AASHTO design policy mandates paved right- and left-side shoulders of 10 feet and 4 feet, respectively. The current parkway configurations do not meet these standards. Currently, there are 4 foot wide graded shoulders on the left with a paved width of 3 feet along a significant portion of the corridor. There are also bridges in place which do not meet this requirement.

Additionally, AASHTO mandates a wider shoulder for routes serving a high volume of truck traffic – greater than 250 DDHV trucks. At present, the volume does not mandate the increased shoulder width. Based on truck projections (discussed further in the following section), a portion of the route in Madisonville will surpass this threshold by the 2030 design year. By the year 2024, the section of roadway between milepoints 34 and 45 around Madisonville should reach an average of 250 DDHV trucks based on current estimations.

Bridges/Structures

Fourteen of 25 bridges along the existing route do not meet AASHTO standards for minimum horizontal clearances. These narrow structures could potentially impact both frequency and severity of crashes, leading to increased numbers of collision-type crashes and higher concentrations of injury and fatality crashes.

To investigate this possibility, analysts tracked accidents within 1/10 mile of bridge ends. As shown in **Table A.12**, there is no clear indication that narrow bridge widths are correlated to a disproportionate probability of collision crashes. There also does not seem to be an increased likelihood for crashes to be severe.

There are no recorded fatalities associated with bridges of any width on either roadway. Along the Ford Parkway, the probability of injury in a collision crash is similar for the entire roadway, for a bridge (any width), and for a narrow bridge. Along the Breathitt Parkway, there is actually a decreased probability of being injured in a collision on a bridge segment as compared to the roadway at large.

Comparing the data for individual bridges, collision-type crashes account for 30% of the total crashes and demonstrate no marked concentrations, as presented in **Table A.13**.

Ford
In a relevant collision, there is a 41% chance of injury anywhere along the parkway.
There is a 40% chance of injury on a bridge of any width.
There is a 41% chance of injury on a narrow bridge (<38 ft clearance).

Breathitt
In a relevant collision, there is a 27% chance of injury anywhere along the parkway.
There is a 15% chance of injury on a bridge of any width.
There is an 18% chance of injury on a narrow bridge (<38 ft clearance).

Based on the vehicle crash history, there is no strong support to make major investments to widen the existing structures. In cases of narrow bridges with obsolete bridge rails, rail treatments should be addressed, incorporating a widening element into the project.

Structures passing over the parkways are required to maintain a minimal vertical clearance of 16 feet. There are instances within the corridor where overpasses do not meet this standard. In these cases, the clearance should be obtained by raising the structure or lowering the paved surface of the parkway.

Ramps/Interchanges

Generally, the existing interchange ramp configurations are sufficient by current AASHTO standards excluding old toll booth intersections: Ford Parkway exit 24 at KY 109 and Breathitt Parkway exit 63 at KY 56. The loop ramps used to funnel traffic through the toll booths are not acceptable for free movement entering and exiting. Overall, the ramp acceleration/deceleration taper lanes are typically deficient by current standards. However, vehicle crash data does not indicate a significant increase in crash rates resulting at these locations. Additionally, the taper lengths do not greatly influence capacity except at the Madisonville interchange at the Breathitt Parkway with KY 281 where ramp LOS approaches E. This will be discussed in more detail in the "Capacity at Key Interchanges" section below.

Designation as an interstate facility does carry additional implications for certain ramps. Some ramp movements (between Ford and Breathitt Parkways, at I-24, and potentially at systems interchanges in Henderson) will become through I-69 movements. By AASHTO standards, these facilities must provide two driving lanes per direction. Route continuity will require additional attention at these locations as well to preserve capacity and ensure safety.

Interchange spacing requirements will also change once incorporated into the interstate system. Interchanges are required to be at least one mile apart in urban areas and three miles apart in rural areas. Sections of the current parkways near Madisonville and Princeton do not meet these standards.

OPERATIONAL CONSIDERATIONS

Crash History

As shown in **Figure A.1**, there is one high crash segment on the length of the I-69 corridor as well as multiple high crash spots. Traffic volumes and concentrations of conflict points tend to correlate to crash frequency/severity concentrations more directly than geometric features correlate.

Average Daily Traffic

To project 2006 volumes to the 2030 scenarios, a growth rate was determined for each parkway. Both parkways show relatively low annual growth rates based on local knowledge, development patterns, previous KYTC Statewide Travel Demand Model, and historic traffic data. Because the updated KYTC Statewide Travel Demand Model doesn't specifically address I-69 traffic, it was not used to further update previous forecasts. An existing annual growth rate of 1.3% was assumed for the current conditions. Because including these corridors into the interstate system will impact traffic growth rates, a rate of 2.3% annual growth was assumed along the Breathitt Parkway to account for the impacts of I-69; a rate of 2.8% was assumed along the Ford Parkway to account for the impacts of both I-69 and I-66 along this corridor.

Projected growth rates are consistent with previous studies including the conclusions reached in the *Safety and Capacity Evaluation for Interstates* Research Report conducted by the Kentucky Transportation Center. The findings from this study concluded future growth on Kentucky interstates are projected to increase at a rate of 2.0 to 2.5 percent per year. It is also consistent with original forecasts derived in the *Corridor 18 Feasibility Study* completed in November 1995, which showed 2015 daily volumes along Corridor 18 ranging between 18,400 and 25,100 south and north of Kentucky, respectively.

Recent analysis presented as part of the *I-69 Evansville to Indianapolis Tier 2 Studies, Section 1 – Draft Environmental Impact Statement* showed volumes along I-164 in Evansville to increase by 14,000 vehicles per day as a result of I-69. As shown in **Table A.14**, 2030 volumes along the Ford and Breathitt Parkways increase between 4,000 to 10,000 vehicles per day with the addition of I-69 and I-66. This is lower than the I-164 forecasted volume. Differences can be explained based on the varying dynamics of each segment including Evansville serving as an origin/destination for northern traffic; however, it is important to understand the sensitivity of these forecasts in the event projected growth is higher or lower than anticipated. This will be addressed in more detail in the "Capacity on Mainline between Interchanges" section below.

Truck percentages were carried over from the 2002 WSA study. In the previous study, no truck percentage growth was assumed with the addition of I-69. Given the emphasis on freight movements along the I-69 corridor, truck percentages were increased by 3% along the mainline to account for I-69 impacts. This results in an additional 1,500 to 3,000 trucks per day traveling the corridor as a result of I-69.

Design Hourly Volumes

Based upon 2006 traffic volumes, analysts projected balanced 30th highest design hourly volumes along the mainline and ramp pairs for the study corridor. These values are shown in **Figure A.2**. Design hourly volumes for the 2030 No I-69 scenario are shown in **Figure A.3**. The 2030 With I-69 scenario volumes are presented in **Figure A.4**. These volumes will be analyzed in more detail in the following sections.

Capacity on Mainline between Interchanges

Analysts used HCS+ software to analyze capacity at different points of interest along the corridors. For freeway facilities, level of service (LOS) provides a qualitative measure of capacity. In urban areas, LOS D or better is acceptable; in rural areas LOS C or better is acceptable. For freeways, LOS is measured in terms of density – the number of cars per lane per mile. For ramps, a density of 28 cars/lane/mile corresponds to LOS C; for mainline and weaving segments, this translates to 35 cars/lane/mile.

Each segment of the parkways between interchanges was analyzed for the 2006 directional design hourly volume based on existing geometry. Analysis showed most segments operating at LOS A currently, with the portions in Madisonville (interchanges 40 through 45) operating at LOS B. For comparison, these segments were also analyzed in the 2030 No I-69 and 2030 With I-69 scenarios to determine any potential capacity problems. Results of this analysis are presented in **Table A.15**. The resulting LOS through the 2030 With I-69 scenario are all within acceptable ranges, though degrading as volumes increase. Assuming the With I-69 scenario growth rates and truck percentages continue, the year LOS drops below acceptable levels (LOS D in rural areas, LOS E in urban settings) was also projected within a 5 year increment. Based on this analysis, the segment of I-69 between Interchange 42 and 44 in Madisonville would degrade to LOS E between 2035 and 2040.

To determine the sensitivity of the preceding analysis, the growth rate that would cause unacceptable LOS by 2030 was derived and presented in **Table A.15**. Based on this analysis, the segment of I-69 between Interchange 42 and 44 would need to grow at 3.3% instead of the forecasted 2.3% to reach unacceptable levels by 2030. This is equivalent to an increase of 22,000 vehicles along this segment as a result of I-69. Other segments within the Madisonville area resulted in growth rates between 3.3% and 4.3%.

Capacity at Key Interchanges

Capacity analysis was also completed for interchange facilities. Because of the relatively low volumes, three distinct interchanges were selected for investigation to provide an overview for the corridors.

Interchange 44 in Madisonville displays the highest volumes on ramps and mainline through movements. It was selected for analysis to determine any potential needs for additional lanes. Density, defined as cars per lane per mile, and LOS information is

presented in **Table A.16** for this location. Most segments today function at a LOS B; by the 2030 With I-69 scenario, all sections are at LOS C except the junction with the northbound off ramp which has degraded to a LOS D. These are all within acceptable levels for an urban area.

Interchange 63 at KY 56 near Sebree was chosen for analysis because it has the higher design hourly volumes of the two toll-booth configured ramps. Density and LOS information is presented in **Table A.17**. From a capacity perspective, weave segments in both directions are adequate to handle the anticipated traffic volumes.

The final interchange selected for analysis was the junction between the two parkways located in Hopkins County. This interchange serves comparably higher volumes as well. Density and LOS information is presented in **Table A.18**. All segments will function at LOS C or better for the 2030 With I-69 scenario.

Capacity between Ramps and Local Street Networks

An additional focal point for capacity analysis occurs where the parkway ramps terminate, joining the local road networks. Geometric configuration, volumes, and control methods influence operations at these intersections. The ramps at interchanges 42 and 44 in Madisonville have the highest traffic volumes; these were each analyzed for AM and PM peak hour operations. The ramps at Interchange 63 – the higher volume toll interchange – were also selected for analysis.

LOS for signalized intersections is reported for the intersection as a whole. For unsignalized intersections, LOS is calculated for each stop-controlled approach. Results for the eight primary intersections at these interchanges are reported in **Tables A.19** and **A.20** for the 2006, 2030 No I-69, and 2030 With I-69 scenarios. It should be noted that improvements to KY 70 (Center Street) are under construction and were included into both 2030 scenarios. Based on this analysis, both intersections at KY 70 resulted in LOS E and relatively long queue lengths. The southbound ramp at KY 281 (Island Ford Road) analyzed as an unsignalized intersection results in LOS E and F for the 2030 scenarios. Interchange 63 analyzed as an unsignalized intersection resulted in LOS B for the 2030 With I-69 scenario. A preliminary analysis of the other unsignalized intersections results in acceptable conditions.

Table A.1
A comparison of median and ditch characteristics according to construction plans

Roadway	MP begin	MP end	Median Width	Raised or Depressed	Median Slope	Ditch Width	Ditch Slope
Ford	0.000	0.404	36	D	4:01	12	4:1
Ford	0.404	3.546	36	D	4:01	12	4:1
Ford	3.552	10.155	36	D	4:01	8	3:1
Ford	3.729	9.855	36	D	4:01	8	3:1
Ford	9.855	10.332	30	R	1:12	8	3:1
Ford	10.188	10.341	30	R	1:12	8	3:1
Ford	10.341	11.021	30	R	1:12	8	3:1
Ford	11.021	14.856	30	R	1:12	8	3:1
Ford	14.856	21.153	30	R	1:12	8	3:1
Ford	21.153	25.655	30	R	1:12	8	3:1
Ford	25.655	31.689	30	R	1:12	8	3:1
Ford	31.689	37.264	30	R	1:12	8	3:1
Ford	37.202	40.753	30	R	1:12	8	3:1
Breathitt	34.271	35.266	36	D	3:01	6	3:1
Breathitt	36.620	46.069	36	D	4:01	6	3:1
Breathitt	46.069	50.907	36	D	4:01	8	3:1
Breathitt	49.553	53.573	36	D	4:01	8	3:1
Breathitt	53.550	57.489	36	D	4:01	8	3:1
Breathitt	57.489	62.112	36	D	4:01	8	3:1
Breathitt	62.112	65.305	36	D	4:01	8	3:1
Breathitt	65.305	70.362	36	D	4:01	8	3:1
Breathitt	70.362	76.233	36	D	4:01	8	3:1
Breathitt	70.339	78.661	36	D	4:01	8	3:1

Table A.2 EDWARD T. BREATHITT PARKWAY BRIDGE SUMMARY

Route	County	Bridge No.	Dir.	MP	FEATURES	Horizontal Clearance (curb-to-curb) (ft.)	Combined Horizontal Width of Curbs (ft.)	Type of Curb	Median Widths (ft.)	Median Type	Bridge Length	ADT	Bypass Length	Suff. Rating	Structural Defficient	Funct. Obsolete
EB 9004	Hopkins	B00095	NB	37.054	P&L RR-FLAT CREEK-KY 813	34	3	Jersey	36	Depressed	318	18,451	1	87.1	No	No
EB9004	Hopkins	B00095P	SB	37.054	P&L RR-FLAT CREEK-KY 813	34	3	Jersey	36	Depressed	318	18,451	1	90.1	No	No
EB 9004	Hopkins	B00096	NB	39.774	KY 2171	34	3	Jersey	36	Depressed	265	17,542	1	87.1	No	Yes
EB 9004	Hopkins	B00096P	SB	39.774	KY 2171	34	3	Jersey	36	Depressed	265	17,451	1	80.9	No	No
EB 9004	Hopkins	B00100	NB	42.418	KENTUCKY 70	34	3	Jersey	37	Depressed	192	17,542	1	91.2	No	No
EB 9004	Hopkins	B00100P	SB	42.418	KENTUCKY 70	34	3	Jersey	37	Depressed	192	17,542	1	78.9	No	Yes
EB 9004	Hopkins	B00101	NB	43.438	CSX RAILROAD	34	3	Jersey	36	Depressed	159	30,093	1	77.4	No	Yes
EB 9004	Hopkins	B00101P	SB	43.438	CSX RAILROAD	34	3	Jersey	36	Depressed	159	30,093	1	89.9	No	No
EB 9004	Hopkins	B00020P	SB	48.805	OTTER CREEK	38	3	Jersey	36	Depressed	144	14,549	1	95.6	No	No
EB 9004	Hopkins	B00020	NB	48.805	OTTER CREEK	38	3	Jersey	36	Depressed	144	14,549	1	95.6	No	No
EB 9004	Hopkins	B00210	RAMP C	48.970	OTTER CREEK	26.2	3	Jersey	36	Depressed	132	14,549	6	72.2	No	Yes
EB 9004	Hopkins	B00211	RAMP D	48.971	OTTER CREEK	26.2	3	Jersey	36	Depressed	182	14,549	6	72.2	No	Yes
EB 9004	Hopkins	B00021		48.979	KY 260 @ HANSON	38	3	Jersey	36	Depressed	161	14,549	1	94.6	No	No
EB 9004	Hopkins	B00021P		48.979	KY 260 @ HANSON	38	3	Jersey	36	Depressed	161	14,549	1	94.6	No	No
EB 9004	Hopkins	B00012	NB	54.070	KY 138	38	3.4	Brush-block	36	Depressed	174	15,741	1	96.3	No	No
EB 9004	Hopkins	B00012P	SB	54.070	KY 138	38	3.4	Brush-block	36	Depressed	174	15,741	1	96.3	No	No
EB 9004	Webster	B00069P	SB	56.523	KY 147	38	3.4	Brush-block	36	Depressed	163	14,015	1	97.7	No	No
EB 9004	Webster	B00069	NB	56.523	KY 147	38	3.4	Brush-block	36	Depressed	163	14,015	1	96.7	No	No
EB 9004	Webster	B00071P	SB	59.280	DEER CREEK	30	4.4	Brush-block	36	Depressed	368	14,015	1	81.4	No	No
EB 9004	Webster	B00071	NB	59.280	DEER CREEK	30	4.4	Brush-block	36	Depressed	368	14,015	1	81.4	No	No
EB 9004	Webster	B00072	NB	60.476	KY 370	38	3.4	Brush-block	36	Depressed	166	14,015	22	82.0	No	No
EB 9004	Webster	B00072P	SB	60.476	KY 370	38	3.4	Brush-block	36	Depressed	166	14,015	22	95.6	No	No
EB 9004	Webster	B00074	NB	63.887	GROVES CREEK	30	4.6	Brush-block	36	Depressed	260	11,877	1	81.6	No	No
EB 9004	Webster	B00074P	SB	63.888	GROVES CREEK	30	4.6	Brush-block	36	Depressed	260	11,877	1	81.6	No	No
EB 9004	Henderson	B00062P	SB	65.393	ACCESS RD-BIG RIVERS RR	38	3.4	Brush-block	36	Depressed	183	11,877	4	94.6	No	No
EB 9004	Henderson	B00062	NB	65.393	ACCESS RD-BIG RIVERS RR	38	3.4	Brush-block	36	Depressed	183	11,877	4	94.6	No	No
EB 9004	Henderson	B00068	NB	75.360	ELAM DITCH	38	3.4	Brush-block	36	Depressed	141	13,893	1	96.7	No	No
EB 9004	Henderson	B00068P	SB	75.360	ELAM DITCH	38	3.4	Brush-block	36	Depressed	141	13,893	1	96.7	No	No

Highlighted when measurement varies from previous information.
Lowest 20% sufficiency ratings

Table A.3 WENDELL H. FORD PARKWAY BRIDGE SUMMARY

Route	County	Bridge No.	Dir.	MP	Features Intersected	Horizontal Clearance (curb-to-curb) (ft.)	Combined Horizontal Width of Curbs (ft.)	Type of Curb	Median Widths (ft.)	Median Type	Bridge Length	ADT	Bypass Length	Suff. Rating	Structural Defficient	Funct. Obsolete
WK 9001	Lyon	B00049P [1]	WB	0.001	I-24 @ MP. 041.603	26	3.0	Jersey	38	Depressed	275	8,439	1	79.0	No	Yes
WK 9001	Lyon	B00049	EB	0.001	I-24 @ MP. 041.603	34	3.0	Jersey	38	Depressed	272	8,439	1	96.2	No	No
WK 9001	Lyon	B00052	EB	3.408	P&L RR-ELKHORN TAVERN RD	38	3.0	Jersey	38	Depressed	221	8,439	1	97.9	No	No
WK 9001	Lyon	B00052P	WB	3.408	P&L RR-ELKHORN TAVERN RD	48 (3 Lanes)	3.0	Jersey	38	Depressed	221	8,439	1	96.8	No	No
WK 9001	Lyon	B00030	EB	3.702	US 62	38	1.8	Brush-block	38	Depressed	226	8,439	1	93.2	No	No
WK 9001	Lyon	B00030P	WB	3.703	US 62	38	1.8	Brush-block	38	Depressed	226	8,439	1	93.2	No	No
WK 9001	Caldwell	B00029P	WB	11.357	P&L RAILWAY	30	4.6	Brush-block	31	Depressed	189	8,689	1	80.0	No	Yes
WK 9001	Caldwell	B00029	EB	11.357	P&L RAILWAY	30	4.6	Brush-block	31	Depressed	189	8,689	1	80.0	No	Yes
WK 9001	Caldwell	B00033P	WB	21.752	TRADEWATER RIVER	30	5.4	Brush-block	31	Depressed	207	10,453	1	70.5	No	No
WK 9001	Caldwell	B00033	EB	21.752	TRADEWATER RIVER	30	5.4	Brush-block	31	Depressed	207	10,453	1	81.8	No	No
WK 9001	Hopkins	B00138	EB	22.003	TRADEWATER RIV. OVERFLOW	30	5.4	Brush-block	31	Depressed	215	10,453	1	69.5	No	No
WK 9001	Hopkins	B00138P	WB	22.003	TRADEWATER RIV. OVERFLOW	30	5.4	Brush-block	31	Depressed	215	10,453	1	70.5	No	No
WK 9001	Hopkins	B00139P	WB	24.887	P&L RAILWAY	38	1.8	Brush-block	32	Depressed	131	9,628	1	92.0	No	No
WK 9001	Hopkins	B00139	EB	24.887	P&L RAILWAY	38	1.8	Brush-block	32	Depressed	131	9,628	1	93.0	No	No
WK 9001	Hopkins	B00140	EB	28.346	KY 112 & COPPERAS CREEK	30	4.6	Brush-block	32	Raised	278	9,628	1	74.8	No	Yes
WK 9001	Hopkins	B00140P	WB	28.346	KY 112 & COPPERAS CREEK	30	4.6	Brush-block	32	Raised	278	9,628	1	74.8	No	Yes
WK 9001	Hopkins	B00143	EB	33.872	P&L RAILWAY SPUR & OAK R	30	4.6	Brush-block	32	Raised	260	9,628	1	78.9	No	No
WK 9001	Hopkins	B00143P	WB	33.872	P&L RAILWAY SPUR -OAK RD	30	4.6	Brush-block	32	Raised	260	9,628	1	78.9	No	No
WK 9001	Hopkins	B00144	EB	36.900	CSX RAILROAD	30	4.6	Brush-block	32	Depressed	448	9,628	1	78.9	No	No
WK 9001	Hopkins	B00144P	WB	36.900	CSX RAILROAD	30	4.6	Brush-block	32	Depressed	448	9,628	1	81.9	No	No
WK 9001	Hopkins	B00145P	WB	38.311	PENNYRILLE PARKWAY	N/A	N/A	N/A	N/A	N/A	226	9,628	1	96.1	No	No
WK 9001	Hopkins	B00145	EB	38.311	PENNYRILLE PARKWAY	N/A	N/A	N/A	N/A	N/A	226	9,628	1	96.1	No	No

[1] Structure becomes ramp component of I-24 Systems Interchange and is therefore not required to meet AASHTO mainline widths

Highlighted when measurement varies from previous information.
Lowest 20% sufficiency ratings

Table A.4 EDWARD T. BREATHITT PARKWAY OVERPASS SUMMARY

					Vertical Clearances					Shoulder & Median Widths			
MP	Bridge #	Dir.	Location	County	Left Edge Passing Lane Clearance	Centerline Clearance	Right Edge Driving Lane Clearance	Median Side Shoulder Edge Clearance	Outside Shoulder Edge Clearance	Outside Shoulder Width	Median Shoulder Width	Median Width	Median Type
40.996	B00102	NB	UNDER ICRR	Hopkins	23'03"	23'00"	22'09"	23'05"	23'02"	10' Paved	4' Paved	38'	Depressed
40.996		SB	UNDER ICRR	Hopkins	23'07"	23'07"	24'00"	23'09"	24'05"	10' Paved	4' Paved	38'	Depressed
41.060	RR0602	NB	UNDER L&N RR SPUR	Hopkins	16'06"	16'03"	16'02"	16'08"	16'05"	10' Paved	4' Paved	38'	Depressed
41.060		SB	UNDER L&N RR SPUR	Hopkins	16'04"	16'06'	16'10"	16'06"	17'02"	10' Paved	4' Paved	38'	Depressed
44.000	B00219	NB	UNDER KY 281	Hopkins	18'00"	17'07"	17'08"	18'01"	17'10"	10' Paved	4' Paved	38'	Depressed
44.000		SB	UNDER KY 281	Hopkins	18'01"	18'01"	18'02"	18'01"	18'04"	10' Paved	4' Paved	38'	Depressed
45.206	B00016	NB	US 41 N.B. LANE	Hopkins	19'09"	20'07"	21'07"	19'08"	22'05"	10' Paved	4' Paved	38'	Depressed
45.206		SB	UNDER US 41 N.B. LANE	Hopkins	18'02"	17'03"	16'02"	18'5"	15'08"	10' Paved	4' Paved	38'	Depressed
46.435	B00018	NB	UNDER KY 2657 JOHN FOWLER RD	Hopkins	16'10"	16'08"	16'09"	16'04"	16'06"	10' Paved	4' Paved	36'	Depressed
46.435		SB	UNDER KY 2657 JOHN FOWLER RD	Hopkins	16'10"	16'08"	16'10"	16'02"	16'04"	10' Paved	4' Paved	36'	Depressed
47.472	B00019	NB	UNDER KY 862	Hopkins	17'02"	16'10"	16'10"	16'06"	16'05"	10' Paved	4' Paved	36'	Depressed
47.472		SB	UNDER KY 862	Hopkins	17'07"	17'07"	18'00"	16'10"	17'10"	10' Paved	4' Paved	36'	Depressed
51.941	B00011	NB	UNDER KY 2655 HERBERT BROWN RD	Hopkins	16'03"	16'07"	16'10"	15'10"	17'01"	10' Paved	4' Paved	36'	Depressed
51.941		SB	UNDER KY 2655 HERBERT BROWN RD	Hopkins	16'03"	15'10"	15'07"	16'01"	15'01"	10' Paved	4' Paved	36'	Depressed
55.449	B00068	NB	UNDER KY 2667	Webster	17'08"	17'08"	18'06"	17"11"	19'02"	10' Paved	4' Paved	36'	Depressed
55.449		SB	UNDER KY 2667	Webster	17'00"	16'05"	16'01"	17'05"	16'00"	10' Paved	4' Paved	36'	Depressed
58.396	B00070	NB	UNDER KY 2666	Webster	16'09"	16'03"	16'04"	17'01"	16'04"	10' Paved	3' Paved	36'	Depressed
58.396		SB	UNDER KY 2666	Webster	16'06"	16'05"	16'09"	16'08"	17"01"	10' Paved	4' Paved	36'	Depressed
62.637	B00073	NB	UNDER KY 56	Webster	17'01"	16'09"	16'06"	17'04"	17'02"	10' Paved (3 lanes)	4' Paved	36'	Depressed
62.637		SB	UNDER KY 56	Webster	17'05"	17'07"	17'10"	17'07"	18'10"	10' Paved (3 lanes)	4' Paved	36'	Depressed
66.835	B00063	NB	UNDER KY 2678	Henderson	18'03"	18'03"	18'10"	18'06"	19'07"	10' Paved	4' Paved	36'	Depressed
66.835		SB	UNDER KY 2678	Henderson	17'06"	17'00"	16'10"	17'11"	17'02"	10' Paved	4' Paved	36'	Depressed
68.363	B00064	NB	UNDER KY 416	Henderson	16'08"	16'08"	16'03"	16'11"	16'10"	10' Paved	4' Paved	36'	Depressed
68.363		SB	UNDER KY 416	Henderson	16'08"	16'08"	17'00"	16'11"	17'06"	10' Paved	4' Paved	36'	Depressed
69.674	B00065	NB	UNDER KY 2675	Henderson	16'08"	16'06"	16'07"	16'08"	17'00"	10' Paved	4' Paved	36'	Depressed
69.674		SB	UNDER KY 2675	Henderson	16'08"	16'05"	16'06"	16'10"	16'10"	10' Paved	4' Paved	36'	Depressed
72.346	B00066	NB	UNDER KY 136	Henderson	17'02"	16'09"	16'06"	17'05"	17'02"	10' Paved	4' Paved	36'	Depressed
72.346		SB	UNDER KY 136	Henderson	17'00"	17'02"	17'03"	17'04"	17'11"	10' Paved	4' Paved	36'	Depressed
73.256	B00067	NB	UNDER KY 2677	Henderson	16'08"	16'03"	16'02"	17'00"	16'08"	10' Paved	4' Paved	36'	Depressed
73.256		SB	UNDER KY 2677	Henderson	17'02"	17'01"	17'04"	17'04"	17'11"	10' Paved	4' Paved	36'	Depressed

Highlighted when bridge has a vertical clearance less than 16'00"
Highlighted because overpass was not on original list.
Highlighted when measurement varies from previous information.

Table A.5 WENDELL H. FORD PARKWAY OVERPASS SUMMARY

					Vertical Clearances					Shoulder & Median Widths			
MP	Bridge #	Dir.	Location	County	Left Edge Passing Lane Clearance	Centerline Clearance	Right Edge Driving Lane Clearance	Median Side Shoulder Edge Clearance	Outside Shoulder Edge Clearance	Outside Shoulder Width	Median Shoulder Width	Median Width	Median Type
0.855	B00050	EB	UNDER KY 93	Lyon	17'09"	17'09"	18'03"	17'11"	18'04"	10' Paved	4' Paved	38'	Depressed
0.855		WB	UNDER KY 93	Lyon	17'00"	16'08"	16'09"	17'04"	16'04"	10' Paved	4' Paved	38'	Depressed
5.577	B00029	EB	UNDER KY 2611	Lyon	17'07"	17'04"	17'04"	17'06"	16'08"	10' Paved	4' Paved	36'	Depressed
5.770		WB	UNDER KY 2611	Lyon	18'00"	17'10"	18'00"	17'10"	17'02"	10' Paved	4' Paved	36'	Depressed
11.700	B00037	EB	UNDER KY 91	Caldwell	16'07"	16'02"	15'09"	16'06"	15'00"	10' Paved	4' Paved	30'	Depressed
11.700		WB	UNDER KY 91	Caldwell	17'07"	18'07"	19'02"	16'08"	19'05"	10' Paved	4' Paved	30'	Depressed
13.120	B00007	EB	UNDER KY 293	Caldwell	15'06"	15'06"	15'06"	15'06"	14'05"	10' Paved	4' Paved	32'	Depressed
13.120		WB	UNDER KY 293	Caldwell	16'03"	16'07"	17'01"	15'08"	16'06"	10' Paved	4' Paved	32'	Depressed
17.308	B00060	EB	UNDER KY 2614	Caldwell	14'09"	14'10"	15'00"	14'10"	14'07"	10' Paved	4' Paved	31'	Raised
17.308		WB	UNDER KY 2614	Caldwell	15'03"	15'06"	15'10"	15'00"	15'07"	10' Paved	4' Paved	31'	Raised
18.610	B00061	EB	UNDER KY 2613	Caldwell	22'01"	22'02"	22'04"	22'03"	22'09"	10' Paved	3' Paved	30'	Depressed
18.610		WB	UNDER KY 2613	Caldwell	22'01"	22'02"	22'04"	22'03"	22'07"	10' Paved	3' Paved	30'	Depressed
20.880	B00048	EB	UNDER KY 2619	Caldwell	15'07"	15'03"	15'00"	15'08"	14'11"	10' Paved	3' Paved	31'	Depressed
20.880		WB	UNDER KY 2619	Caldwell	15'07"	15'10"	16'02"	15'05"	16'06"	10' Paved	3' Paved	31'	Depressed
24.440	B00070	EB	UNDER KY 109	Hopkins	16'01"	16'08"	16'09"	15'06"	15'06"	4' Paved (3 Lanes)	3' Paved	30'	Depressed
24.440		WB	UNDER KY 109	Hopkins	16'05"	16'10"	17'03"	15'10"	16'02"	3' Paved (3 Lanes)	3' Paved	30'	Depressed
31.580	B00117	EB	UNDER KY 454	Hopkins	17'08"	17'06"	17'01"	17'08"	15'10"	10' Paved	4' Paved	31'	Raised
31.580		WB	UNDER KY 454	Hopkins	19'01"	19'09"	20'06"	18'07"	20'04"	10' Paved	4' Paved	31'	Raised
38.000	B00145	EB	Breathitt & Ford Interchange (NB on Breathitt)	Hopkins	19'10"	19'07"	19'10"	19'11"	18'11"	4' Paved (3 Lanes)	4' Paved	35'	Depressed
38.000		EB	Breathitt & Ford Interchange (SB on Breathitt)	Hopkins	20'04"	20'01"	19'08"	20'02"	19'04"	4' Paved (3 Lanes)	4' Paved	35'	Depressed
38.000	B00145P	WB	Breathitt & Ford Interchange (NB on Breathitt)	Hopkins	19'05"	19'08"	19'05"	19'06"	18'02"	4' Paved (3 Lanes)	4' Paved	35'	Depressed
38.000		WB	Breathitt & Ford Interchange (SB on Breathitt)	Hopkins	19'07"	19'06"	19'02"	19'06"	18'05"	4' Paved (3 Lanes)	4' Paved	35'	Depressed

Highlighted when bridge has a vertical clearance less than 16'00".
Highlighted because overpass was not on original list.
Highlighted when measurement varies from previous information.

Table A.6 Vehicle Crash Analysis - Segments

Route	County	Begin MP	End MP	Length (Miles)	ADT	Number of Lanes	Divided Undivided	Rural Urban	Avg. Veh. Crash Rate	Critical Veh. Crash Rate	Vehicle Crashes				HMVM	Rates per HMVM				Critical Rate Factor
											Fatal	Injury	PDO	Total		Fatal	Injury	PDO	Total	
WK PKWY	Lyon	0.000	3.702	3.702	8,440	4	Divided	R	122	163.502	0	8	34	42	0.49	0.00	16.20	68.85	85.05	0.52
WK PKWY	Lyon	3.702	5.610	1.908	8,690	4	Divided	R	122	179.490	0	7	17	24	0.26	0.00	26.71	64.87	91.59	0.51
WK PKWY	Hopkins	24.435	38.332	13.897	9,630	4	Divided	R	122	141.801	1	45	116	162	2.12	0.47	21.28	54.84	76.59	0.54
WK PKWY	Hopkins	38.332	39.000	0.668	11,100	4	Divided	R	122	209.383	0	3	15	18	0.12	0.00	25.60	128.00	153.60	0.73
EB PKWY	Hopkins	33.000	34.271	1.271	15,400	4	Divided	R	122	174.773	0	9	28	37	0.31	0.00	29.09	90.51	119.61	0.68
EB PKWY	Hopkins	34.271	37.070	2.799	18,100	4	Divided	R	122	154.422	2	16	58	76	0.80	2.50	19.98	72.44	94.92	0.61
EB PKWY	Hopkins	37.070	41.002	3.932	18,300	4	Divided	R	122	149.121	1	24	91	116	1.14	0.88	21.10	80.02	102.00	0.68
EB PKWY	Hopkins	41.002	42.418	1.416	18,300	4	Divided	R	122	167.682	0	19	79	98	0.41	0.00	46.39	192.90	239.29	1.43
EB PKWY	Hopkins	45.200	47.472	2.272	15,100	4	Divided	R	122	161.563	1	6	46	53	0.54	1.84	11.07	84.84	97.75	0.61
EB PKWY	Hopkins	48.990	54.070	5.080	13,400	4	Divided	R	122	149.896	1	16	76	93	1.08	0.93	14.87	70.64	86.44	0.58
EB PKWY	Webster	62.637	65.305	2.668	10,900	4	Divided	R	122	165.057	1	13	31	45	0.46	2.18	28.28	67.45	97.91	0.59
EB PKWY	Henderson	65.305	68.363	3.058	10,900	4	Divided	R	122	162.151	0	9	38	47	0.53	0.00	17.08	72.13	89.22	0.55
KY 138	Hopkins	0.000	0.024	0.024	830	2	Undivided	R	244	4099.986	0	1	1	2	0.00	0.00	3176.36	3176.36	6352.72	1.55
KY 260	Hopkins	1.000	1.486	0.486	1270	2	Undivided	R	244	702.665	0	0	7	7	0.01	0.00	0.00	717.59	717.59	1.02
KY 260	Hopkins	1.950	2.151	0.201	1820	2	Divided	R	244	859.677	0	1	4	5	0.01	0.00	172.96	691.85	864.81	1.01
KY 260	Hopkins	2.151	3.000	0.849	1820	2	Undivided	R	244	521.965	0	2	6	8	0.02	0.00	81.90	245.69	327.59	0.63
KY 281	Hopkins	0.000	0.045	0.045	20400	3	Divided	U	492	1000.832	0	2	11	13	0.01	0.00	137.85	758.17	896.02	0.90
KY 281	Hopkins	0.058	0.568	0.510	20400	4	Undivided	U	458	596.994	0	23	60	83	0.16	0.00	139.88	364.90	504.77	0.85
KY 281	Hopkins	0.568	0.712	0.144	20400	4	Divided	U	281	492.176	0	8	12	20	0.05	0.00	172.31	258.47	430.78	0.88
KY 281	Hopkins	0.712	0.871	0.159	4730	4	Divided	U	281	719.143	0	2	12	14	0.01	0.00	168.26	1009.58	1177.85	1.64
KY 281	Hopkins	1.023	1.623	0.600	4730	2	Undivided	U	273	485.117	0	3	13	16	0.04	0.00	66.88	289.83	356.72	0.74
KY 70	Hopkins	18.700	19.354	0.654	8340	2	Divided	U	273	423.766	1	42	187	230	0.09	11.60	487.22	2169.29	2668.11	6.30
KY 70	Hopkins	19.354	19.392	0.038	23000	2	Divided	U	273	671.341	0	1	10	11	0.01	0.00	72.39	723.95	796.34	1.19
KY 70	Hopkins	19.392	19.868	0.476	23000	4	Divided	U	281	387.700	0	25	100	125	0.17	0.00	144.49	577.94	722.43	1.86
KY 70	Hopkins	19.868	20.167	0.299	11000	4	Divided	U	281	480.017	0	23	83	106	0.05	0.00	442.47	1596.74	2039.21	4.25
KY 336	Hopkins	1.768	2.700	0.932	2310	2	Undivided	R	244	476.835	0	3	8	11	0.03	0.00	88.17	235.12	323.28	0.68
KY 813	Hopkins	9.300	9.677	0.377	340	2	Undivided	R	244	1384.819	0	2	1	3	0.00	0.00	987.25	493.63	1480.88	1.07
KY 813	Hopkins	9.677	10.349	0.672	720	2	Undivided	R	244	769.536	0	1	3	4	0.01	0.00	130.77	392.32	523.09	0.68
KY 813	Hopkins	10.349	11.300	0.951	3320	2	Undivided	R	244	434.152	0	2	9	11	0.05	0.00	40.08	180.36	220.44	0.51
US 62	Hopkins	14.600	15.308	0.708	1650	2	Undivided	R	244	567.218	0	4	10	14	0.02	0.00	216.65	541.63	758.28	1.34
US 62	Hopkins	15.308	16.600	1.292	3680	2	Undivided	R	244	397.444	0	5	18	23	0.08	0.00	66.54	239.54	306.08	0.77
I-24	Lyon	41.603	42.600	0.997	15400	4	Divided	R	122	181.821	0	5	19	24	0.24	0.00	20.61	78.30	98.90	0.54
KY 91	Caldwell	11.200	11.320	0.120	4300	2	Undivided	U	273	805.627	0	1	3	4	0.01	0.00	122.62	367.87	490.49	0.61
KY 91	Caldwell	11.320	11.701	0.381	4870	2	Undivided	U	273	538.598	0	3	15	18	0.03	0.00	102.30	511.51	613.82	1.14
KY 91	Caldwell	11.701	11.849	0.148	3270	2	Divided	U	273	825.037	0	1	10	11	0.01	0.00	130.74	1307.40	1438.14	1.74
KY 91	Caldwell	11.849	12.266	0.417	9500	2	Undivided	U	273	451.087	0	4	16	20	0.06	0.00	63.89	255.55	319.44	0.71
KY 91	Caldwell	12.266	13.117	0.851	7190	2	Undivided	U	273	415.040	0	5	30	35	0.10	0.00	51.70	310.23	361.93	0.87
KY 293	Caldwell	6.500	7.547	1.047	3750	2	Undivided	U	273	451.921	0	6	12	18	0.06	0.00	96.69	193.38	290.08	0.64
KY 109	Hopkins	2.800	3.811	1.011	5140	2	Undivided	R	244	390.496	0	11	17	28	0.08	0.00	133.94	206.99	340.93	0.87
KY 109	Hopkins	3.811	4.800	0.989	2860	2	Undivided	R	244	445.498	1	4	5	10	0.04	22.37	89.48	111.85	223.70	0.50

NOTE: Analysis covers recorded crashes dated January 1, 2002 though April 30, 2006

High Crash Segments (CRF greater than 1.0)

Potential High Crash Segments (CRF 0.9 - 1.0)

Table A.7 High Accident Spots (1/10 Mile)

Route	Begin MP	End MP	Length (Miles)	ADT	Number of Lanes	Divided/ Undivided	Rural/ Urban	Avg. Veh. Crash Rate	Critical Veh. Crash Rate	Vehicle Crashes				MVM	Rates per MVM				Critical Rate Factor
										Fatal	Injury	PDO	Total		Fatal	Injury	PDO	Total	
EB PKWY	33.000	33.100	0.1	15400	4	Divided	R	0.07	0.229	0	1	7	8	24.34	0.00	0.04	0.29	0.33	1.44
EB PKWY	33.100	33.200	0.1	15400	4	Divided	R	0.07	0.229	0	1	4	5	24.34	0.00	0.04	0.16	0.21	0.90
EB PKWY	33.770	33.870	0.1	15400	4	Divided	R	0.07	0.229	0	1	3	4	24.34	0.00	0.04	0.12	0.16	0.72
EB PKWY	34.000	34.100	0.1	15400	4	Divided	R	0.07	0.229	0	2	3	5	24.34	0.00	0.08	0.12	0.21	0.90
EB PKWY	34.100	34.200	0.1	15400	4	Divided	R	0.07	0.229	0	3	2	5	24.34	0.00	0.12	0.08	0.21	0.90
EB PKWY	34.200	34.300	0.1	15400	4	Divided	R	0.07	0.229	0	0	8	8	24.34	0.00	0.00	0.33	0.33	1.44
EB PKWY	34.300	34.400	0.1	18100	4	Divided	R	0.07	0.215	0	0	5	5	28.61	0.00	0.00	0.17	0.17	0.81
EB PKWY	34.900	35.000	0.1	18100	4	Divided	R	0.07	0.215	2	3	2	7	28.61	0.07	0.10	0.07	0.24	1.14
EB PKWY	36.000	36.100	0.1	18100	4	Divided	R	0.07	0.215	0	2	8	10	28.61	0.00	0.07	0.28	0.35	1.63
EB PKWY	36.670	36.770	0.1	18100	4	Divided	R	0.07	0.215	0	1	5	6	28.61	0.00	0.03	0.17	0.21	0.98
EB PKWY	36.900	37.000	0.1	18100	4	Divided	R	0.07	0.215	0	1	7	8	28.61	0.00	0.03	0.24	0.28	1.30
EB PKWY	37.000	37.100	0.1	18100	4	Divided	R	0.07	0.215	0	6	17	23	28.61	0.00	0.21	0.59	0.80	3.74
EB PKWY	37.170	37.270	0.1	18300	4	Divided	R	0.07	0.214	0	1	5	6	28.92	0.00	0.03	0.17	0.21	0.97
EB PKWY	37.500	37.600	0.1	18300	4	Divided	R	0.07	0.214	0	1	4	5	28.92	0.00	0.03	0.14	0.17	0.81
EB PKWY	37.600	37.700	0.1	18300	4	Divided	R	0.07	0.214	0	2	4	6	28.92	0.00	0.07	0.14	0.21	0.97
EB PKWY	37.900	38.000	0.1	18300	4	Divided	R	0.07	0.214	0	2	2	4	28.92	0.00	0.07	0.07	0.14	0.65
EB PKWY	38.000	38.100	0.1	18300	4	Divided	R	0.07	0.214	0	2	4	6	28.92	0.00	0.07	0.14	0.21	0.97
EB PKWY	38.770	38.870	0.1	18300	4	Divided	R	0.07	0.214	0	1	3	4	28.92	0.00	0.03	0.10	0.14	0.65
EB PKWY	39.000	39.100	0.1	18300	4	Divided	R	0.07	0.214	0	2	2	4	28.92	0.00	0.07	0.07	0.14	0.65
EB PKWY	39.174	39.274	0.1	18300	4	Divided	R	0.07	0.214	0	0	7	7	28.92	0.00	0.00	0.24	0.24	1.13
EB PKWY	39.394	39.494	0.1	18300	4	Divided	R	0.07	0.214	0	1	5	6	28.92	0.00	0.03	0.17	0.21	0.97
EB PKWY	39.700	39.800	0.1	18300	4	Divided	R	0.07	0.214	0	1	11	12	28.92	0.00	0.03	0.38	0.41	1.94
EB PKWY	39.900	40.000	0.1	18300	4	Divided	R	0.07	0.214	0	1	3	4	28.92	0.00	0.03	0.10	0.14	0.65
EB PKWY	40.000	40.100	0.1	18300	4	Divided	R	0.07	0.214	0	3	10	13	28.92	0.00	0.10	0.35	0.45	2.10
EB PKWY	40.200	40.300	0.1	18300	4	Divided	R	0.07	0.214	0	1	3	4	28.92	0.00	0.03	0.10	0.14	0.65
EB PKWY	40.400	40.500	0.1	18300	4	Divided	R	0.07	0.214	0	1	5	6	28.92	0.00	0.03	0.17	0.21	0.97
EB PKWY	40.900	41.000	0.1	18300	4	Divided	R	0.07	0.214	0	2	5	7	28.92	0.00	0.07	0.17	0.24	1.13
EB PKWY	41.500	41.600	0.1	18300	4	Divided	R	0.07	0.214	0	3	2	5	28.92	0.00	0.10	0.07	0.17	0.81
EB PKWY	42.000	42.100	0.1	18300	4	Divided	R	0.07	0.214	0	2	9	11	28.92	0.00	0.07	0.31	0.38	1.78
EB PKWY	42.200	42.300	0.1	18300	4	Divided	R	0.07	0.214	0	1	4	5	28.92	0.00	0.03	0.14	0.17	0.81
EB PKWY	42.300	42.400	0.1	18300	4	Divided	R	0.07	0.214	0	3	11	14	28.92	0.00	0.10	0.38	0.48	2.26
EB PKWY	42.400	42.500	0.1	29200	4	Divided	R	0.07	0.181	0	11	45	56	46.15	0.00	0.24	0.98	1.21	6.70
EB PKWY	42.900	43.000	0.1	29200	4	Divided	U	0.11	0.247	0	1	8	9	46.15	0.00	0.02	0.17	0.20	0.79
EB PKWY	43.900	44.000	0.1	29200	4	Divided	U	0.11	0.247	0	4	10	14	46.15	0.00	0.09	0.22	0.30	1.23
EB PKWY	44.037	44.137	0.1	29200	4	Divided	U	0.11	0.247	0	0	6	6	46.15	0.00	0.00	0.13	0.13	0.53
EB PKWY	44.300	44.400	0.1	21000	4	Divided	U	0.11	0.273	0	2	20	22	33.19	0.00	0.06	0.60	0.66	2.42
EB PKWY	45.000	45.100	0.1	21000	4	Divided	R	0.07	0.203	0	1	7	8	33.19	0.00	0.03	0.21	0.24	1.19
EB PKWY	45.206	45.306	0.1	15100	4	Divided	R	0.07	0.230	0	1	7	8	23.86	0.00	0.04	0.29	0.34	1.45
EB PKWY	45.400	45.500	0.1	15100	4	Divided	R	0.07	0.230	0	1	5	6	23.86	0.00	0.04	0.21	0.25	1.09
EB PKWY	45.900	46.000	0.1	15100	4	Divided	R	0.07	0.230	0	0	5	5	23.86	0.00	0.00	0.21	0.21	0.91
EB PKWY	46.750	46.850	0.1	15100	4	Divided	R	0.07	0.230	0	1	3	4	23.86	0.00	0.04	0.13	0.17	0.73
EB PKWY	47.000	47.100	0.1	15100	4	Divided	R	0.07	0.230	0	2	11	13	23.86	0.00	0.08	0.46	0.54	2.36
EB PKWY	47.970	48.070	0.1	15100	4	Divided	R	0.07	0.230	0	1	3	4	23.86	0.00	0.04	0.13	0.17	0.73
EB PKWY	48.500	48.600	0.1	15100	4	Divided	R	0.07	0.230	0	2	2	4	23.86	0.00	0.08	0.08	0.17	0.73
EB PKWY	48.900	49.000	0.1	15100	4	Divided	R	0.07	0.230	0	1	8	9	23.86	0.00	0.04	0.34	0.38	1.64
EB PKWY	49.000	49.100	0.1	13400	4	Divided	R	0.07	0.242	0	2	8	10	21.18	0.00	0.09	0.38	0.47	1.95
EB PKWY	49.200	49.300	0.1	13400	4	Divided	R	0.07	0.242	0	1	3	4	21.18	0.00	0.05	0.14	0.19	0.78
EB PKWY	49.900	50.000	0.1	13400	4	Divided	R	0.07	0.242	0	0	4	4	21.18	0.00	0.00	0.19	0.19	0.78
EB PKWY	50.100	50.200	0.1	13400	4	Divided	R	0.07	0.242	0	1	5	6	21.18	0.00	0.05	0.24	0.28	1.17
EB PKWY	52.000	52.100	0.1	13400	4	Divided	R	0.07	0.242	0	1	6	7	21.18	0.00	0.05	0.28	0.33	1.37
EB PKWY	53.000	53.100	0.1	13400	4	Divided	R	0.07	0.242	0	0	7	7	21.18	0.00	0.00	0.33	0.33	1.37
EB PKWY	53.500	53.600	0.1	13400	4	Divided	R	0.07	0.242	1	0	4	5	21.18	0.05	0.00	0.19	0.24	0.98
EB PKWY	53.800	53.900	0.1	11800	4	Divided	R	0.07	0.255	0	2	5	7	18.65	0.00	0.11	0.27	0.38	1.47
EB PKWY	53.900	54.000	0.1	13400	4	Divided	R	0.07	0.242	0	1	6	7	21.18	0.00	0.05	0.28	0.33	1.37

NOTE: Analysis includes reported crashes dated January 1, 2002 through April 30, 2006

Table A.7 (cont) High Accident Spots (1/10 Mile)

Route	Begin MP	End MP	Length (Miles)	ADT	Number of Lanes	Divided/ Undivided	Rural/ Urban	Avg. Veh. Crash Rate	Critical Veh. Crash Rate	Vehicle Crashes				MVM	Rates per MVM				Critical Rate Factor
										Fatal	Injury	PDO	Total		Fatal	Injury	PDO	Total	
EB PKWY	54.990	55.090	0.1	11800	4	Divided	R	0.07	0.255	0	3	1	4	18.65	0.00	0.16	0.05	0.21	0.84
EB PKWY	55.200	55.300	0.1	11800	4	Divided	R	0.07	0.255	1	0	3	4	18.65	0.05	0.00	0.16	0.21	0.84
EB PKWY	56.000	56.100	0.1	11800	4	Divided	R	0.07	0.255	0	2	3	5	18.65	0.00	0.11	0.16	0.27	1.05
EB PKWY	56.500	56.600	0.1	11800	4	Divided	R	0.07	0.255	0	0	6	6	18.65	0.00	0.00	0.32	0.32	1.26
EB PKWY	56.962	57.062	0.1	11800	4	Divided	R	0.07	0.255	0	5	5	10	18.65	0.00	0.27	0.27	0.54	2.11
EB PKWY	61.600	61.700	0.1	11800	4	Divided	R	0.07	0.255	0	0	5	5	18.65	0.00	0.00	0.27	0.27	1.05
EB PKWY	62.000	62.100	0.1	11800	4	Divided	R	0.07	0.255	0	1	3	4	18.65	0.00	0.05	0.16	0.21	0.84
EB PKWY	62.537	62.637	0.1	11800	4	Divided	R	0.07	0.255	0	2	7	9	18.65	0.00	0.11	0.38	0.48	1.90
EB PKWY	62.900	63.000	0.1	10900	4	Divided	R	0.07	0.263	0	0	5	5	17.23	0.00	0.00	0.29	0.29	1.10
EB PKWY	63.100	63.200	0.1	10900	4	Divided	R	0.07	0.263	0	1	4	5	17.23	0.00	0.06	0.23	0.29	1.10
EB PKWY	63.887	63.987	0.1	10900	4	Divided	R	0.07	0.263	0	3	3	6	17.23	0.00	0.17	0.17	0.35	1.32
EB PKWY	64.087	64.187	0.1	10900	4	Divided	R	0.07	0.263	0	2	3	5	17.23	0.00	0.12	0.17	0.29	1.10
EB PKWY	64.705	64.805	0.1	10900	4	Divided	R	0.07	0.263	0	2	3	5	17.23	0.00	0.12	0.17	0.29	1.10
EB PKWY	65.300	65.400	0.1	10900	4	Divided	R	0.07	0.263	1	1	2	4	17.23	0.06	0.06	0.12	0.23	0.88
EB PKWY	65.405	65.505	0.1	10900	4	Divided	R	0.07	0.263	0	0	5	5	17.23	0.00	0.00	0.29	0.29	1.10
EB PKWY	66.700	66.800	0.1	10900	4	Divided	R	0.07	0.263	0	2	5	7	17.23	0.00	0.12	0.29	0.41	1.54
EB PKWY	66.900	67.000	0.1	10900	4	Divided	R	0.07	0.263	0	3	3	6	17.23	0.00	0.17	0.17	0.35	1.32
EB PKWY	67.700	67.800	0.1	10900	4	Divided	R	0.07	0.263	0	0	5	5	17.23	0.00	0.00	0.29	0.29	1.10
EB PKWY	67.900	68.000	0.1	10900	4	Divided	R	0.07	0.263	0	0	5	5	17.23	0.00	0.00	0.29	0.29	1.10
EB PKWY	68.200	68.300	0.1	10900	4	Divided	R	0.07	0.263	0	1	3	4	17.23	0.00	0.06	0.17	0.23	0.88
EB PKWY	72.400	72.500	0.1	13100	4	Divided	R	0.07	0.244	0	1	4	5	20.70	0.00	0.05	0.19	0.24	0.99
EB PKWY	73.900	74.000	0.1	13100	4	Divided	R	0.07	0.244	0	0	4	4	20.70	0.00	0.00	0.19	0.19	0.79
EB PKWY	75.300	75.400	0.1	13100	4	Divided	R	0.07	0.244	0	2	4	6	20.70	0.00	0.10	0.19	0.29	1.19
EB PKWY	75.900	76.000	0.1	13100	4	Divided	R	0.07	0.244	0	0	4	4	20.70	0.00	0.00	0.19	0.19	0.79
EB PKWY	76.000	76.100	0.1	13100	4	Divided	R	0.07	0.244	0	1	4	5	20.70	0.00	0.05	0.19	0.24	0.99
EB PKWY	76.200	76.300	0.1	17900	4	Divided	U	0.11	0.288	0	2	4	6	28.29	0.00	0.07	0.14	0.21	0.74
EB PKWY	77.200	77.300	0.1	18900	4	Divided	U	0.11	0.283	0	2	6	8	29.87	0.00	0.07	0.20	0.27	0.95
EB PKWY	77.300	77.400	0.1	18900	4	Divided	U	0.11	0.283	0	0	5	5	29.87	0.00	0.00	0.17	0.17	0.59
EB PKWY	77.499	77.599	0.1	18900	4	Divided	U	0.11	0.283	0	1	9	10	29.87	0.00	0.03	0.30	0.33	1.18
WK PKWY	0.000	0.100	0.1	8440	4	Divided	R	0.07	0.294	0	1	11	12	13.34	0.00	0.07	0.82	0.90	3.06
WK PKWY	0.900	1.000	0.1	8440	4	Divided	R	0.07	0.294	0	1	3	4	13.34	0.00	0.07	0.22	0.30	1.02
WK PKWY	3.000	3.100	0.1	8440	4	Divided	R	0.07	0.294	0	1	3	4	13.34	0.00	0.07	0.22	0.30	1.02
WK PKWY	4.100	4.200	0.1	8690	4	Divided	R	0.07	0.290	0	1	5	6	13.73	0.00	0.07	0.36	0.44	1.50
WK PKWY	5.510	5.610	0.1	8690	4	Divided	R	0.07	0.290	0	3	2	5	13.73	0.00	0.22	0.15	0.36	1.25
WK PKWY	6.000	6.100	0.1	8690	4	Divided	R	0.07	0.290	0	1	3	4	13.73	0.00	0.07	0.22	0.29	1.00
WK PKWY	6.700	6.800	0.1	8690	4	Divided	R	0.07	0.290	0	2	2	4	13.73	0.00	0.15	0.15	0.29	1.00
WK PKWY	13.000	13.100	0.1	13400	4	Divided	R	0.07	0.242	0	2	2	4	21.18	0.00	0.09	0.09	0.19	0.78
WK PKWY	16.000	16.100	0.1	10500	4	Divided	R	0.07	0.267	0	5	4	9	16.59	0.00	0.30	0.24	0.54	2.03
WK PKWY	17.900	18.000	0.1	10500	4	Divided	R	0.07	0.267	0	0	5	5	16.59	0.00	0.00	0.30	0.30	1.13
WK PKWY	18.500	18.600	0.1	10500	4	Divided	R	0.07	0.267	0	1	4	5	16.59	0.00	0.06	0.24	0.30	1.13
WK PKWY	21.700	21.800	0.1	10500	4	Divided	R	0.07	0.267	0	2	4	6	16.59	0.00	0.12	0.24	0.36	1.35
WK PKWY	21.964	22.064	0.1	10500	4	Divided	R	0.07	0.267	0	3	4	7	16.59	0.00	0.18	0.24	0.42	1.58
WK PKWY	23.900	24.000	0.1	10500	4	Divided	R	0.07	0.267	0	0	4	4	16.59	0.00	0.00	0.24	0.24	0.90
WK PKWY	24.335	24.435	0.1	10500	4	Divided	R	0.07	0.267	0	1	6	7	16.59	0.00	0.06	0.36	0.42	1.58
WK PKWY	24.987	25.087	0.1	9630	4	Divided	R	0.07	0.278	0	1	3	4	15.22	0.00	0.07	0.20	0.26	0.95
WK PKWY	25.900	26.000	0.1	9630	4	Divided	R	0.07	0.278	0	1	3	4	15.22	0.00	0.07	0.20	0.26	0.95
WK PKWY	26.900	27.000	0.1	9630	4	Divided	R	0.07	0.278	0	2	2	4	15.22	0.00	0.13	0.13	0.26	0.95
WK PKWY	28.100	28.200	0.1	9630	4	Divided	R	0.07	0.278	0	0	4	4	15.22	0.00	0.00	0.26	0.26	0.95
WK PKWY	30.000	30.100	0.1	9630	4	Divided	R	0.07	0.278	0	0	4	4	15.22	0.00	0.00	0.26	0.26	0.95
WK PKWY	30.200	30.300	0.1	9630	4	Divided	R	0.07	0.278	0	3	2	5	15.22	0.00	0.20	0.13	0.33	1.18
WK PKWY	30.600	30.700	0.1	9630	4	Divided	R	0.07	0.278	0	1	3	4	15.22	0.00	0.07	0.20	0.26	0.95
WK PKWY	31.000	31.100	0.1	9630	4	Divided	R	0.07	0.278	0	0	5	5	15.22	0.00	0.00	0.33	0.33	1.18
WK PKWY	31.581	31.681	0.1	9630	4	Divided	R	0.07	0.278	0	1	3	4	15.22	0.00	0.07	0.20	0.26	0.95
WK PKWY	33.100	33.200	0.1	9630	4	Divided	R	0.07	0.278	0	0	4	4	15.22	0.00	0.00	0.26	0.26	0.95

NOTE: Analysis includes reported crashes dated January 1, 2002 through April 30, 2006

Table A.7 (cont) High Accident Spots (1/10 Mile)

Route	Begin MP	End MP	Length (Miles)	ADT	Number of Lanes	Divided/ Undivided	Rural/ Urban	Avg. Veh. Crash Rate	Critical Veh. Crash Rate	Vehicle Crashes				MVM	Rates per MVM				Critical Rate Factor
										Fatal	Injury	PDO	Total		Fatal	Injury	PDO	Total	
WK PKWY	33.890	33.990	0.1	9630	4	Divided	R	0.07	0.278	0	1	3	4	15.22	0.00	0.07	0.20	0.26	0.95
WK PKWY	36.100	36.200	0.1	9630	4	Divided	R	0.07	0.278	0	1	4	5	15.22	0.00	0.07	0.26	0.33	1.18
WK PKWY	36.900	37.000	0.1	9630	4	Divided	R	0.07	0.278	0	3	4	7	15.22	0.00	0.20	0.26	0.46	1.66
WK PKWY	38.000	38.100	0.1	9630	4	Divided	R	0.07	0.278	0	5	6	11	15.22	0.00	0.33	0.39	0.72	2.60
WK PKWY	38.200	38.300	0.1	9630	4	Divided	R	0.07	0.278	0	3	3	6	15.22	0.00	0.20	0.20	0.39	1.42
WK PKWY	38.311	38.411	0.1	11100	4	Divided	R	0.07	0.261	0	0	9	9	17.54	0.00	0.00	0.51	0.51	1.96
WK PKWY	38.400	38.500	0.1	11100	4	Divided	R	0.07	0.261	0	1	3	4	17.54	0.00	0.06	0.17	0.23	0.87
KY 91	11.600	11.700	0.1	4870	2	Undivided	U	0.26	0.798	0	3	12	15	7.70	0.00	0.39	1.56	1.95	2.44
KY 91	11.700	11.800	0.1	3270	2	Divided	U	0.26	0.935	0	0	12	12	5.17	0.00	0.00	2.32	2.32	2.48
KY 91	11.811	11.911	0.1	9500	2	Undivided	U	0.26	0.632	0	1	8	9	15.01	0.00	0.07	0.53	0.60	0.95
KY 91	12.060	12.160	0.1	9500	2	Undivided	U	0.26	0.632	0	1	6	7	15.01	0.00	0.07	0.40	0.47	0.74
KY 91	12.200	12.300	0.1	9500	2	Undivided	U	0.26	0.632	0	4	10	14	15.01	0.00	0.27	0.67	0.93	1.47
KY 91	12.300	12.400	0.1	7190	2	Undivided	U	0.26	0.694	0	0	6	6	11.36	0.00	0.00	0.53	0.53	0.76
KY 91	12.600	12.700	0.1	7190	2	Undivided	U	0.26	0.694	0	1	4	5	11.36	0.00	0.09	0.35	0.44	0.63
KY 91	12.900	13.000	0.1	7190	2	Undivided	U	0.26	0.694	0	2	6	8	11.36	0.00	0.18	0.53	0.70	1.01
KY 109	3.700	3.800	0.1	5140	2	Undivided	R	0.24	0.744	0	6	9	15	8.12	0.00	0.74	1.11	1.85	2.48
KY 260	1.900	2.000	0.1	2705	2	Divided	R	0.24	0.967	0	0	4	4	4.28	0.00	0.00	0.94	0.94	0.97
KY 260	2.200	2.300	0.1	1820	2	Undivided	R	0.24	1.158	0	2	2	4	2.88	0.00	0.70	0.70	1.39	1.20
KY 281	0.000	0.100	0.1	20400	3	Divided	U	0.48	0.810	0	3	23	26	32.24	0.00	0.09	0.71	0.81	1.00
KY 281	0.400	0.500	0.1	20400	4	Undivided	U	0.44	0.756	0	8	25	33	32.24	0.00	0.25	0.78	1.02	1.35
KY 281	0.509	0.609	0.1	20400	4	Undivided	U	0.44	0.756	0	7	12	19	32.24	0.00	0.22	0.37	0.59	0.78
KY 281	0.640	0.740	0.1	20400	4	Divided	U	0.28	0.536	0	9	20	29	32.24	0.00	0.28	0.62	0.90	1.68
KY 281	1.130	1.230	0.1	4730	2	Undivided	U	0.26	0.807	0	1	8	9	7.48	0.00	0.13	1.07	1.20	1.49
KY 281	1.400	1.500	0.1	4730	2	Undivided	U	0.26	0.807	0	1	4	5	7.48	0.00	0.13	0.54	0.67	0.83
KY 293	6.880	6.980	0.1	3750	2	Undivided	U	0.26	0.884	0	1	3	4	5.93	0.00	0.17	0.51	0.67	0.76
KY 293	7.500	7.600	0.1	4010	2	Undivided	U	0.26	0.861	0	2	2	4	6.34	0.00	0.32	0.32	0.63	0.73
KY 336	2.200	2.300	0.1	2310	2	Undivided	R	0.24	1.037	0	2	2	4	3.65	0.00	0.55	0.55	1.10	1.06
KY 425	4.700	4.800	0.1	8320	2	Divided	U	0.26	0.660	1	1	3	5	13.15	0.08	0.08	0.23	0.38	0.58
KY 813	9.300	9.400	0.1	340	2	Undivided	R	0.24	2.892	0	2	1	3	0.54	0.00	3.72	1.86	5.58	1.93
KY 813	10.249	10.349	0.1	720	2	Undivided	R	0.24	1.862	0	0	5	5	1.14	0.00	0.00	4.39	4.39	2.36
KY 813	10.400	10.500	0.1	3320	2	Undivided	R	0.24	0.886	0	1	3	4	5.25	0.00	0.19	0.57	0.76	0.86
US 62	11.500	11.600	0.1	4450	2	Undivided	R	0.24	0.787	0	1	3	4	7.03	0.00	0.14	0.43	0.57	0.72
US 62	15.000	15.100	0.1	1650	2	Undivided	R	0.24	1.213	0	0	5	5	2.61	0.00	0.00	1.92	1.92	1.58
US 62	15.208	15.308	0.1	1650	2	Undivided	R	0.24	1.213	0	3	4	7	2.61	0.00	1.15	1.53	2.68	2.21
US 62	15.310	15.410	0.1	3680	2	Undivided	R	0.24	0.849	0	1	5	6	5.82	0.00	0.17	0.86	1.03	1.21
US 62	15.600	15.700	0.1	3680	2	Undivided	R	0.24	0.849	0	2	4	6	5.82	0.00	0.34	0.69	1.03	1.21

NOTE: Analysis includes reported crashes dated January 1, 2002 through April 30, 2006

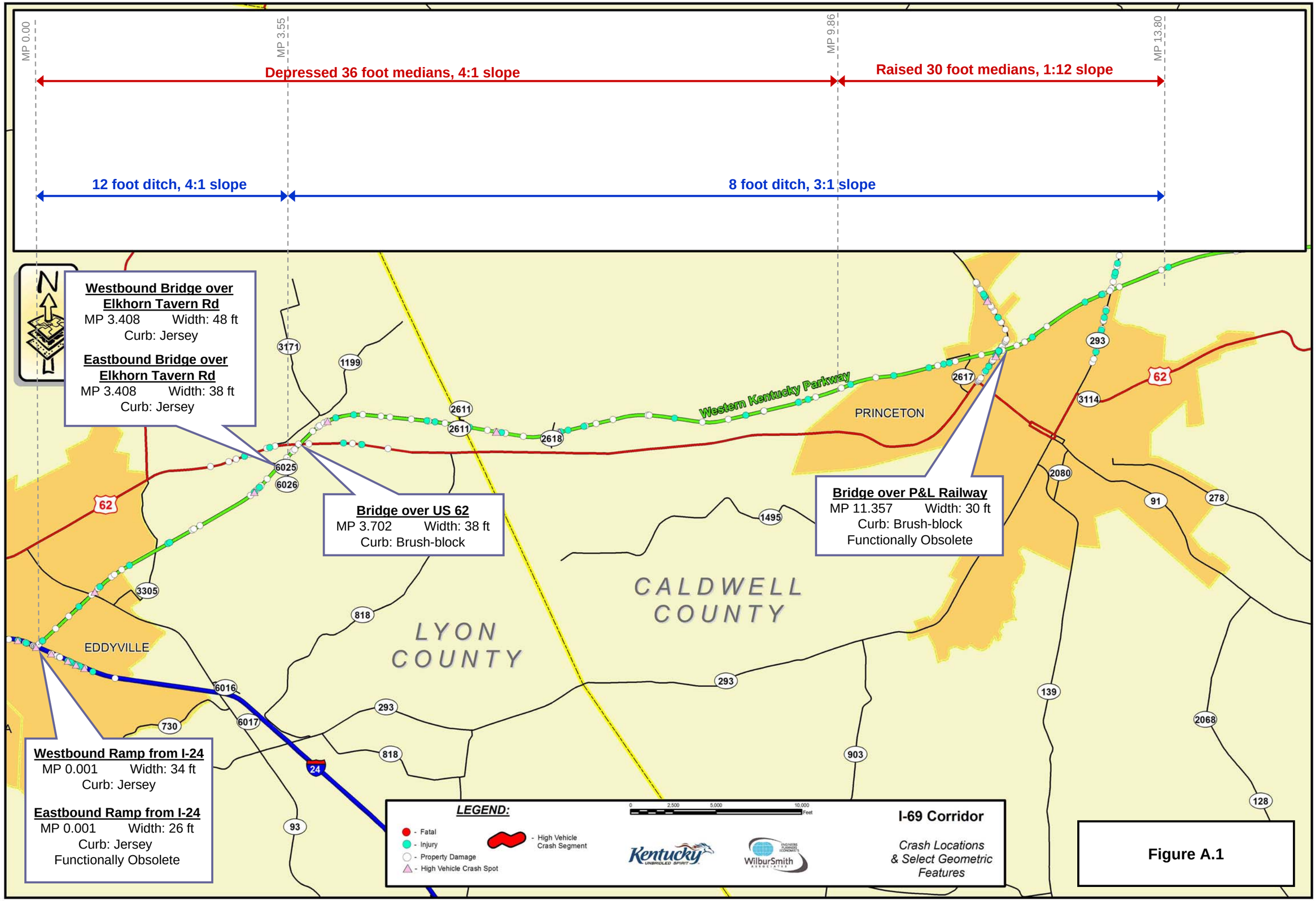
Table A.7 (cont) High Accident Spots (1/10 Mile)

Route	Begin MP	End MP	Length (Miles)	ADT	Number of Lanes	Divided/ Undivided	Rural/ Urban	Avg. Veh. Crash Rate	Critical Veh. Crash Rate	Vehicle Crashes				MVM	Rates per MVM				Critical Rate Factor
										Fatal	Injury	PDO	Total		Fatal	Injury	PDO	Total	
I-24	41.500	41.600	0.1	25100	4	Divided	R	0.05	0.154	0	0	6	6	39.67	0.00	0.00	0.15	0.15	0.98
I-24	41.800	41.900	0.1	15400	4	Divided	R	0.05	0.187	0	0	5	5	24.34	0.00	0.00	0.21	0.21	1.10
I-24	42.000	42.100	0.1	15400	4	Divided	R	0.05	0.187	0	2	3	5	24.34	0.00	0.08	0.12	0.21	1.10
I-24	42.200	42.300	0.1	15400	4	Divided	R	0.05	0.187	0	1	5	6	24.34	0.00	0.04	0.21	0.25	1.32
I-24	40.700	40.800	0.1	25100	4	Divided	R	0.05	0.154	1	1	2	4	39.67	0.03	0.03	0.05	0.10	0.65
I-24	41.000	41.100	0.1	25100	4	Divided	R	0.05	0.154	0	0	4	4	39.67	0.00	0.00	0.10	0.10	0.65
I-24	41.400	41.500	0.1	25100	4	Divided	R	0.05	0.154	0	3	4	7	39.67	0.00	0.08	0.10	0.18	1.15
I-24	42.100	42.200	0.1	15400	4	Divided	R	0.05	0.187	0	2	4	6	24.34	0.00	0.08	0.16	0.25	1.32
KY 56	13.700	13.800	0.1	4250	2	Undivided	R	0.24	0.801	0	1	3	4	6.72	0.00	0.15	0.45	0.60	0.74
KY 70	18.900	19.000	0.1	8340	2	Divided	U	0.26	0.660	0	13	40	53	13.18	0.00	0.99	3.03	4.02	6.09
KY 70	19.000	19.100	0.1	8340	2	Divided	U	0.26	0.660	0	4	20	24	13.18	0.00	0.30	1.52	1.82	2.76
KY 70	19.100	19.200	0.1	8340	2	Divided	U	0.26	0.660	0	4	18	22	13.18	0.00	0.30	1.37	1.67	2.53
KY 70	19.200	19.300	0.1	8340	2	Divided	U	0.26	0.660	0	4	34	38	13.18	0.00	0.30	2.58	2.88	4.37
KY 70	19.300	19.400	0.1	8340	2	Divided	U	0.26	0.660	0	4	34	38	13.18	0.00	0.30	2.58	2.88	4.37
KY 70	19.400	19.500	0.1	23000	4	Divided	U	0.28	0.520	0	1	25	26	36.35	0.00	0.03	0.69	0.72	1.38
KY 70	19.500	19.600	0.1	23000	4	Divided	U	0.28	0.520	0	8	22	30	36.35	0.00	0.22	0.61	0.83	1.59
KY 70	19.600	19.700	0.1	23000	4	Divided	U	0.28	0.520	0	10	28	38	36.35	0.00	0.28	0.77	1.05	2.01
KY 70	19.700	19.800	0.1	23000	4	Divided	U	0.28	0.520	0	4	11	15	36.35	0.00	0.11	0.30	0.41	0.79
KY 70	19.800	19.900	0.1	23000	4	Divided	U	0.28	0.520	0	3	24	27	36.35	0.00	0.08	0.66	0.74	1.43
KY 70	19.924	20.024	0.1	11000	4	Divided	U	0.28	0.636	0	11	47	58	17.38	0.00	0.63	2.70	3.34	5.25
KY 70	20.041	20.141	0.1	11000	4	Divided	U	0.28	0.636	0	11	22	33	17.38	0.00	0.63	1.27	1.90	2.99

NOTE: Analysis includes reported crashes dated January 1, 2002 through April 30, 2006

High Crash Spots (CRF greater than 1.0)

Potential High Crash Spots (CRF 0.9 - 1.0)



NOTE: Crash analysis includes reported crashes dated January 2002 through April 2006

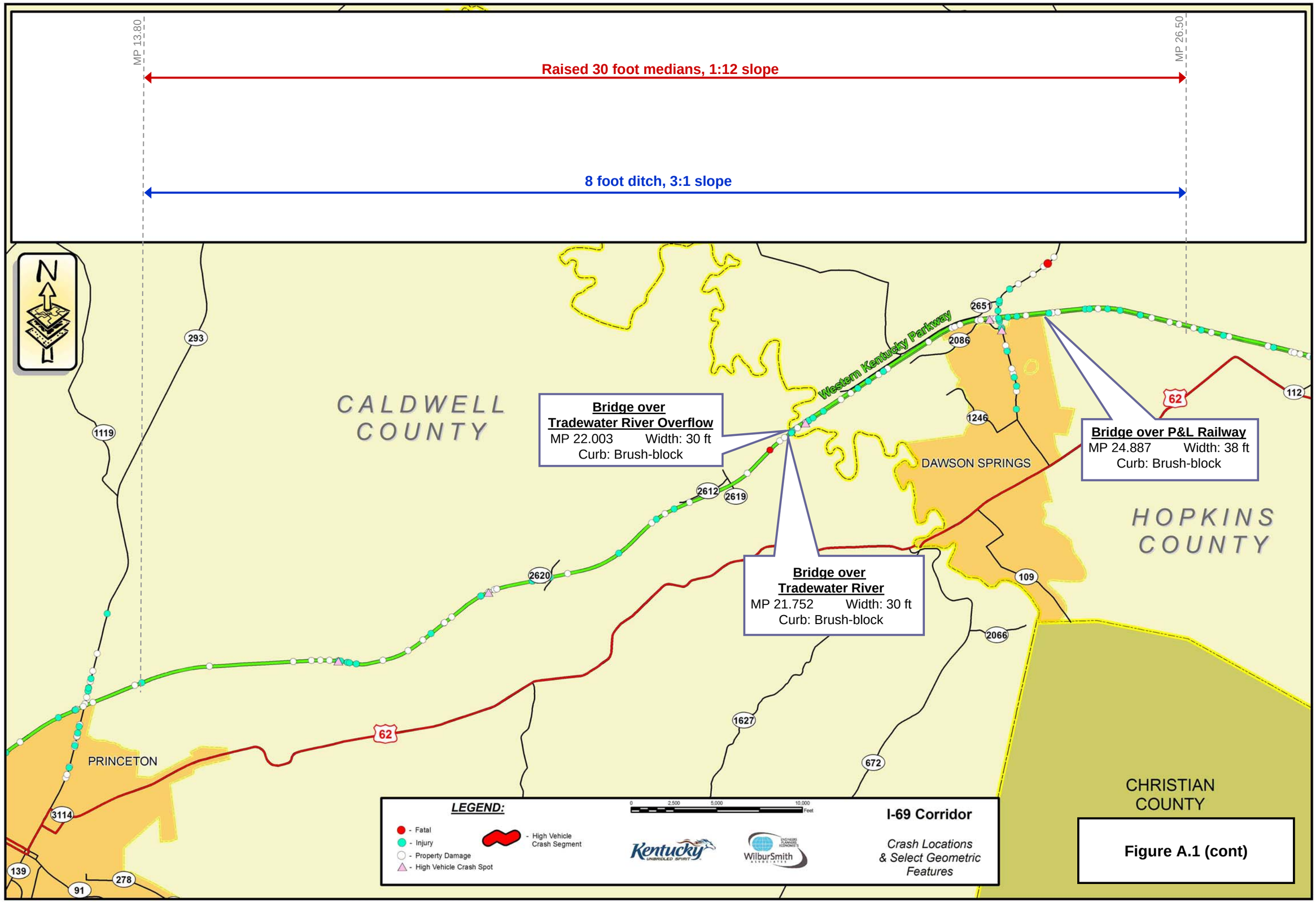


Figure A.1 (cont)

NOTE: Crash analysis includes reported crashes dated January 2002 through April 2006

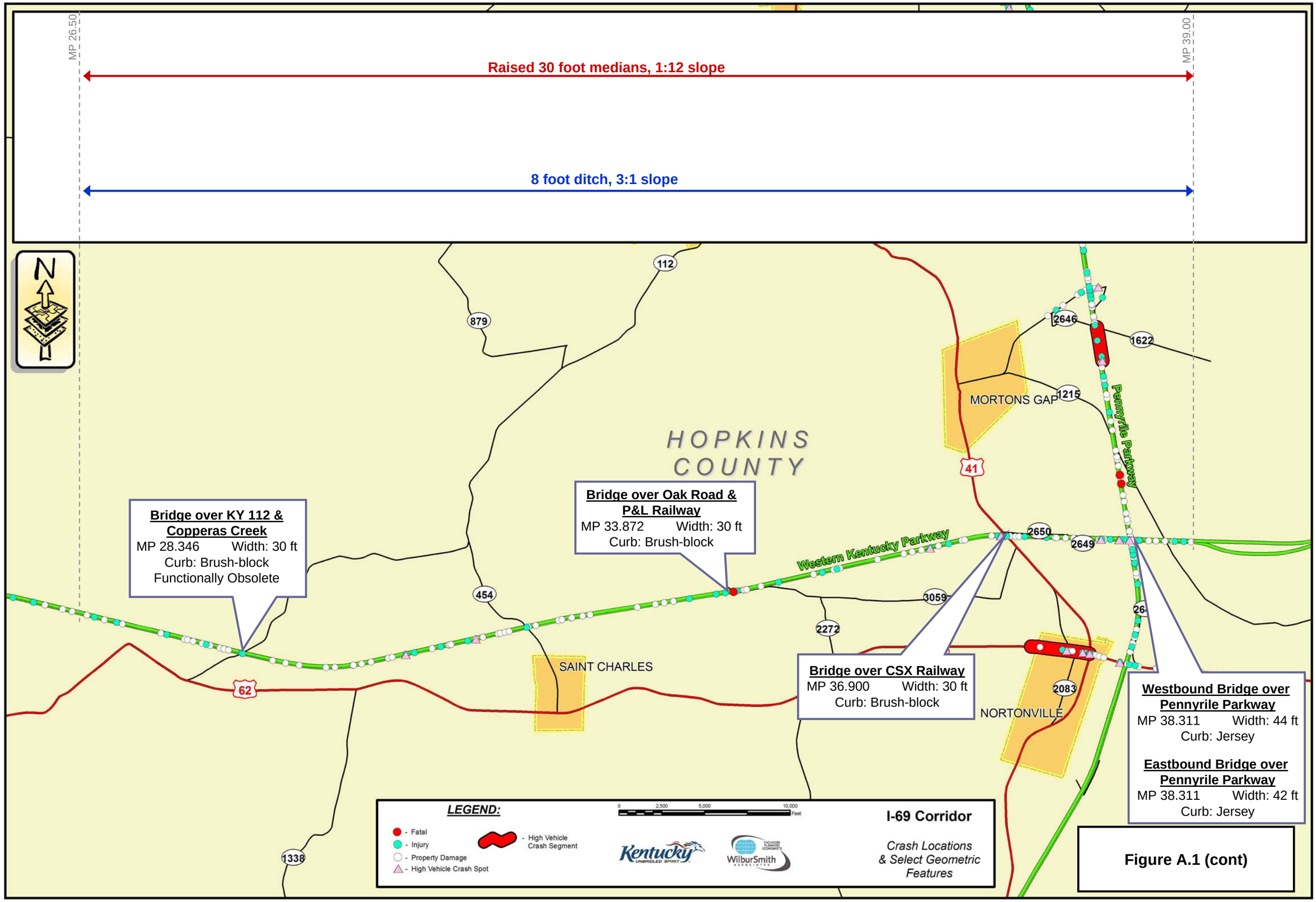


Figure A.1 (cont)

NOTE: Crash analysis includes reported crashes dated January 2002 through April 2006

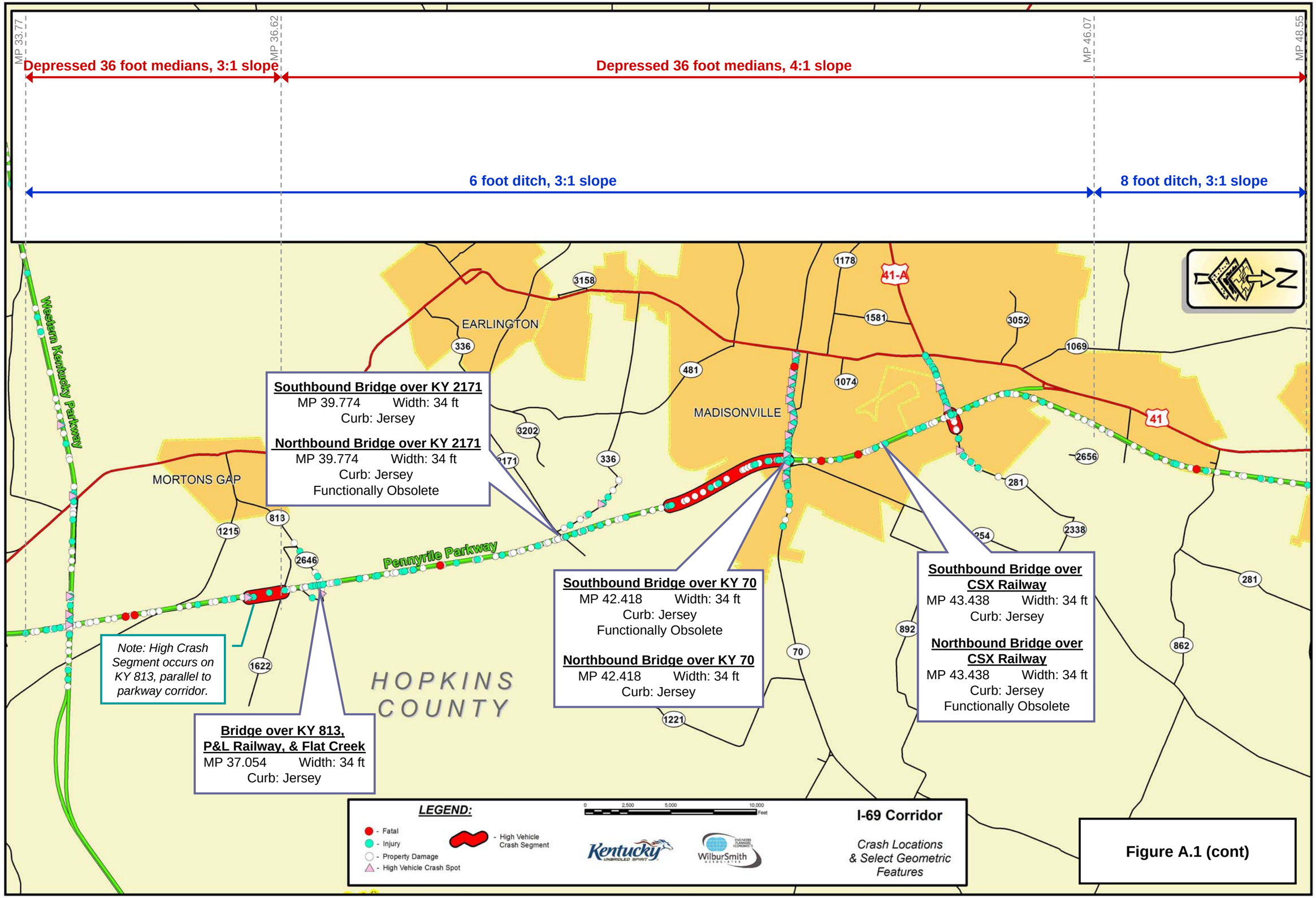


Figure A.1 (cont)

NOTE: Crash analysis includes reported crashes dated January 2002 through April 2006

MP 48.50

MP 62.90

Depressed 36 foot medians, 4:1 slope

8 foot ditch, 3:1 slope

Bridge over Otter Creek
MP 48.970 Width: 26.2 ft
Curb: Jersey
Functionally Obsolete

Bridge over KY 260
MP 48.979 Width: 38 ft
Curb: Jersey

Bridge over KY 147
MP 56.523 Width: 38 ft
Curb: Brush-block

Bridge over Deer Creek
MP 59.280 Width: 30 ft
Curb: Brush-block

Bridge over KY 370
MP 60.476 Width: 38 ft
Curb: Brush-block

Bridge over KY 138
MP 54.070 Width: 38 ft
Curb: Brush-block

Bridge over Otter Creek
MP 48.805 Width: 38 ft
Curb: Jersey

HOPKINS COUNTY

WEBSTER COUNTY

MCLEAN COUNTY

SEBREE

Pennyrile Parkway

120 1405 494 41 2663 2664 2662 2661 2667 2666 147 370 260 138

LEGEND:

- Fatal
- Injury
- Property Damage
- High Vehicle Crash Spot
- High Vehicle Crash Segment

0 2,500 5,000 10,000 Feet

I-69 Corridor

Crash Locations & Select Geometric Features

Figure A.1 (cont)

NOTE: Crash analysis includes reported crashes dated January 2002 through April 2006

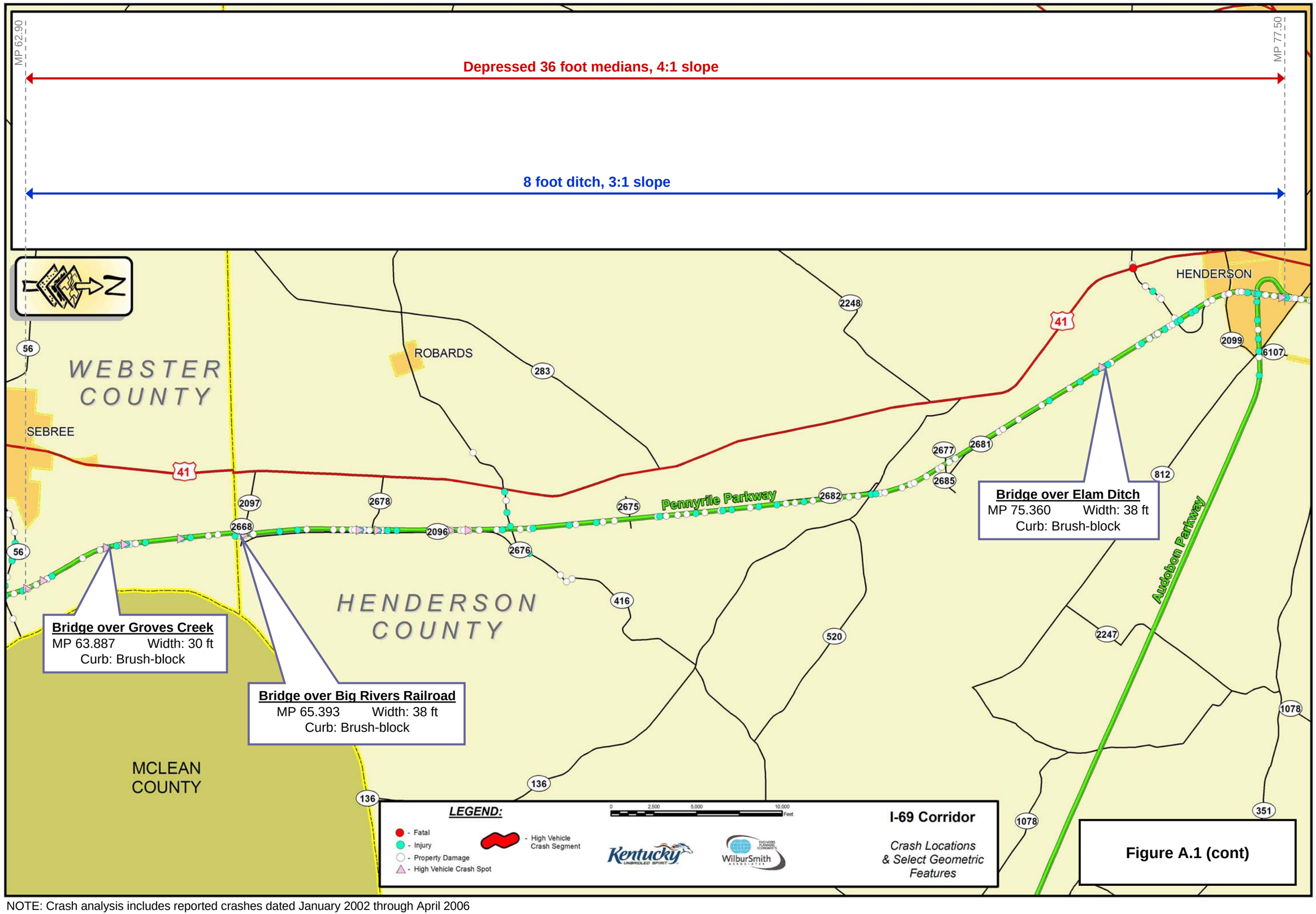


Figure A.1 (cont)

NOTE: Crash analysis includes reported crashes dated January 2002 through April 2006

Table A.8
2006 Count Volumes and Percent Truck Data

Parkway	Exit #	Cross Street	Ramp (direction + on/off)	AM Peak Volume	PM Peak Volume	Ramp % Trucks	ADT
Ford	1	I-24	EB I24 to EB On	202	274	37%	3691
Ford	1	I-24	WB Off to EB I24	8	11	37%	168
Ford	1	I-24	WB Off to WB I24	196	276	39%	3658
Ford	1	I-24	EB On from WB I24	14	24	44%	206
Ford	4	US 62	WB Off	57	56	28%	667
Ford	4	US 62	EB On	17	52	17%	512
Ford	4	US 62	WB On	32	33	30%	331
Ford	4	US 62	EB Off	38	33	34%	388
Ford	12	KY 91	WB On	45	55	14%	742
Ford	12	KY 91	EB Off	31	44	13%	665
Ford	12	KY 91	WB Off	121	128	15%	1500
Ford	12	KY 91	EB On	56	112	13%	1533
Ford	13	KY 293	WB On	164	57	8%	1042
Ford	13	KY 293	WB Off	21	34	21%	401
Ford	13	KY 293	EB Off	70	122	12%	1017
Ford	13	KY 293	EB On	39	27	23%	387
Ford	24	KY 109	WB Off	42	52	16%	681
Ford	24	KY 109	WB On	62	69	26%	779
Ford	24	KY 109	EB On	57	50	16%	629
Ford	24	KY 109	EB Off	76	73	23%	750
Ford/Breathitt	38/34	Breathitt/Ford	SB Brt to WB Ford	136	165	31%	1799
Ford/Breathitt	38/34	Breathitt/Ford	WB Ford to SB Brt	79	93	38%	1148
Ford/Breathitt	38/34	Breathitt/Ford	WB Ford to NB Brt	163	147	23%	2290
Ford/Breathitt	38/34	Breathitt/Ford	NB Brt to WB Ford	16	15	36%	192
Ford/Breathitt	38/34	Breathitt/Ford	NB Brt to EB Ford	95	95	36%	1239
Ford/Breathitt	38/34	Breathitt/Ford	EB Ford to NB Brt	124	153	30%	1760
Ford/Breathitt	38/34	Breathitt/Ford	EB Ford to SB Brt	7	22	43%	202
Ford/Breathitt	38/34	Breathitt/Ford	SB Brt to EB Ford	187	223	12%	2767
Breathitt	37	KY 813	NB Off	78	72	50%	999
Breathitt	37	KY 813	NB On	105	143	23%	1881
Breathitt	37	KY 813	SB Off	88	118	23%	1803
Breathitt	37	KY 813	SB On	76	61	46%	1053
Breathitt	40	KY 2171, KY 336	SB Off	86	152	12%	1455
Breathitt	40	KY 2171, KY 336	NB On	97	116	15%	1093
Breathitt	40	KY 2171, KY 336	SB On	56	62	14%	781
Breathitt	40	KY 2171, KY 336	NB Off	66	84	29%	827
Breathitt	42	KY 70	SB Off	460	546	5%	6226
Breathitt	42	KY 70	NB On	380	488	4%	5820
Breathitt	42	KY 70	SB On	167	280	9%	3323
Breathitt	42	KY 70	NB Off	345	240	9%	3217
Breathitt	44	KY 281	SB Off	354	238	9%	3041
Breathitt	44	KY 281	NB On	287	301	10%	3542
Breathitt	44	KY 281	SB On	367	643	8%	6737
Breathitt	44	KY 281	NB Off	522	482	9%	6435
Breathitt	45	US 41	SB On	386	338	6%	3162
Breathitt	45	US 41	NB Off	338	285	6%	3108
Breathitt	49	KY 260	SB Off	48	52	13%	686
Breathitt	49	KY 260	NB On	63	59	10%	718
Breathitt	49	KY 260	SB On	172	152	7%	1356
Breathitt	49	KY 260	NB Off	79	110	7%	1267
Breathitt	54	KY 138	SB Off	10	18	19%	198
Breathitt	54	KY 138	NB On	23	14	16%	193
Breathitt	54	KY 138	SB On	123	65	11%	1079
Breathitt	54	KY 138	NB Off	46	110	10%	1081
Breathitt	63	KY 56	SB On	80	112	18%	1102
Breathitt	63	KY 56	SB Off	13	32	21%	1176
Breathitt	63	KY 56	NB Off	97	74	31%	406
Breathitt	63	KY 56	NB On	54	35	21%	473
Breathitt	68	KY 416	SB Off	99	49	24%	861
Breathitt	68	KY 416	NB On	100	113	21%	911
Breathitt	76	KY 425	NB On	290	216	17%	2770
Breathitt	76	KY 425	NB Off	59	68	37%	601
Breathitt	76	KY 425	SB Off	48	86	39%	652
Breathitt	76	KY 425	SB On	42	77	29%	628
Breathitt	77	Audobon Pkwy	SB Off	138	230	19%	2378
Breathitt	77	Audobon Pkwy	SB On	106	47	31%	957
Breathitt	77	Audobon Pkwy	NB On	260	173	22%	2504
Breathitt	77	Audobon Pkwy	NB Off	83	103	30%	953

Table A.9
2006 AM Peak Hour Volumes at Ramp Base Intersections

Interchange	N/S Street	E/W Street	Control	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
4	WB Ramp	US 62	Stop	39	100	0	0	106	0	0	0	0	1	0	20
4	EB Ramp	US 62	Stop	0	143	4	21	83	0	0	0	46	0	0	0
12	KY 91	WB Ramp	Stop	22	544	0	0	469	36	0	0	0	52	1	148
12	KY 91	EB Ramp	Stop	0	546	70	61	460	0	20	0	18	0	0	0
13	KY 293	WB Ramp	Stop	70	53	0	0	64	74	0	0	0	17	4	2
13	KY 293	EB Ramp	Stop	0	88	32	4	77	0	30	0	27	0	0	0
24	KY 109	WB Ramp	Stop	0	129	23	27	126	0	8	0	29	0	0	0
24	KY 109	EB Ramp	Stop	48	121	0	0	159	11	0	0	0	36	0	30
24	KY 109	KY 1220	Stop	9	126	1	0	131	3	6	0	23	4	0	0
24	KY 109	KY 2086	Stop	3	140	26	24	173	2	3	0	7	17	0	29
40	KY 2171	KY 336	Stop	15	62	1	1	23	41	44	3	54	2	2	0
40	KY 2171	NB Ramp	Stop	104	6	0	0	1	1	0	0	52	104	6	0
40	SB Ramp	KY 336	Stop	0	0	0	42	0	39	33	42	0	0	55	22
42	SB Ramp	KY 70	Signal	0	0	0	256	0	180	0	500	67	95	772	0
42	NB Ramp	KY 70	Signal	258	36	57	51	0	368	447	327	0	0	296	235
44	SB Ramp	KY 281	Stop	0	0	0	58	0	244	0	382	288	72	613	0
44	NB Ramp	KY 281	Signal	367	0	62	0	0	0	186	237	0	0	297	69
45	KY 41 with Ramps		Stop	0	350	0	293	396	0	339	0	90	0	0	0
49	SB Ramp	KY 260	Stop	0	0	0	13	0	44	0	90	107	43	100	0
49	NB Ramp	KY 260	Stop	35	0	33	0	0	0	46	56	0	0	120	15
54	SB Ramp	KY 138	Stop	0	0	0	0	0	5	0	32	45	59	41	0
54	NB Ramp	KY 138	Stop	15	0	28	0	0	0	12	19	0	0	90	7
63	SB Ramp	KY 56	Stop	17	0	7	0	0	0	50	63	0	0	57	26
63	NB Ramp	KY 56	Stop	0	0	0	11	0	77	0	47	21	21	71	0
68	SB Ramp	KY 416	Stop	0	0	0	66	0	19	0	54	0	0	26	0
68	NB Ramp	KY 416	Stop	0	0	0	0	0	0	34	79	0	0	20	43

Table A.10
2006 PM Peak Hour Volumes at Ramp Base Intersections

Interchange	N/S Street	E/W Street	Control	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
4	WB Ramp	US 62	Stop	28	113	0	0	169	8	0	0	0	1	0	39
4	EB Ramp	US 62	Stop	0	137	4	46	122	0	5	0	37	0	0	0
12	KY 91	WB Ramp	Stop	36	350	0	0	301	26	0	0	0	61	0	35
12	KY 91	EB Ramp	Stop	0	369	110	43	319	0	18	0	37	0	0	0
13	KY 293	WB Ramp	Stop	30	154	0	0	56	42	0	0	0	39	0	4
13	KY 293	EB Ramp	Stop	0	102	18	0	96	0	71	0	42	0	0	0
24	KY 109	WB Ramp	Stop	0	137	39	25	124	0	4	0	63	0	0	0
24	KY 109	EB Ramp	Stop	40	152	0	0	153	9	0	0	0	49	0	26
24	KY 109	KY 1220	Stop	22	113	2	1	125	5	6	0	20	3	0	0
24	KY 109	KY 2086	Stop	10	161	21	21	176	7	4	0	2	15	0	26
40	KY 2171	KY 336	Stop	28	38	0	4	33	51	33	8	82	2	18	8
40	KY 2171	NB Ramp	Stop	81	3	0	0	5	8	2	0	75	0	0	0
40	SB Ramp	KY 336	Stop	0	0	0	77	0	59	48	44	0	0	57	27
42	SB Ramp	KY 70	Signal	0	0	0	279	0	278	0	812	198	142	649	0
42	NB Ramp	KY 70	Signal	144	20	85	21	0	126	447	631	0	0	477	304
44	SB Ramp	KY 281	Stop	0	0	0	58	0	192	0	541	560	68	614	0
44	NB Ramp	KY 281	Signal	446	0	58	0	0	0	261	324	0	0	232	40
45	KY 41 with Ramps		Stop	0	295	0	204	349	0	293	0	79	0	0	0
49	SB Ramp	KY 260	Stop	0	0	0	17	0	51	0	120	59	39	121	0
49	NB Ramp	KY 260	Stop	71	0	32	0	0	0	55	74	0	0	105	11
54	SB Ramp	KY 138	Stop	0	0	0	4	0	17	0	25	23	38	46	0
54	NB Ramp	KY 138	Stop	37	0	101	0	0	0	9	20	0	0	48	2
63	SB Ramp	KY 56	Stop	25	0	31	0	0	0	75	86	0	0	93	10
63	NB Ramp	KY 56	Stop	0	0	0	13	0	32	0	96	17	11	45	0
68	SB Ramp	KY 416	Stop	0	0	0	28	0	36	0	60	0	0	47	0
68	NB Ramp	KY 416	Stop	0	0	0	0	0	0	26	86	0	0	55	48

Table A.11
Crash Statistics by Ditch Widths

Ford/Western Kentucky Parkway	**Fatal**	**Injury**	**Prop Dam.**	**Total**
Total ROR Accidents	1	25	52	78
ROR accidents in 12 ft ditch section	0	2	1	3
ROR accidents in 8 ft ditch section	1	23	51	75
Breathitt/Pennyrile Parkway				
Total ROR Accidents	1	49	115	165
ROR accidents in 8 ft ditch section	0	27	64	91
ROR accidents in 6 ft ditch section	1	18	45	64

NOTE: Analysis includes reported crashes occurring January 2002 through April 2006

Table A.12
Collisions on Parkway Bridges

		Fatal	Injury	Prop Damage only	Total
Ford	Total Crashes	2	111	283	396
	Total Relevant Collisions	0	52	76	128
	Relevant Coll on any Bridge	0	8	12	20
	Relevant Coll on Narrow Bridge	0	7	8	15
ETB	Total Crashes	9	199	724	932
	Total Relevant Collisions	4	63	170	237
	Relevant Coll on any Bridge	0	5	28	33
	Relevant Coll on Narrow Bridge	0	3	14	17

NOTES:
[1] Analysis includes reported crashes occurring January 2002 through April 2006
[2] Relevant collisions were determined to include collisions with fixed objects in non-intersections and outside of gore, collisions on shoulders, and other roadway/midblock collisions.

Table A.13
Crash History Summary for Bridges along Parkways

	Bridge	N=Narrow (<38 ft); W = Wider than 38'	Total Crashes	Related Crashes
Ford	MP 0 (I-24)	N	9	5
	MP 3.4 (RR/Elkhorn Tavern)	W	0	0
	MP 3.7 (US 62)	W	0	0
	MP 11.4 (RR)	N	0	0
	MP 21.75 (Tradewater Riv)	N	6	2
	MP 22 (Tradewater Overflow)	N	7	3
	MP 24.9 (RR)	W	0	0
	MP 28.4 (KY 112)	N	3	2
	MP 33.9 (RR/Oak Rd)	N	3	1
	MP 36.9 (RR)	N	4	2
	MP 38.3 (ETB)	?	9	5
	WKY Bridge Total	**---**	**41**	**20**
ETB	MP 37.5 (RR/KY 813)	N	13	4
	MP 39.8 (KY 2171)	N	12	6
	MP 42.4 (KY 70)	N	66	7
	MP 43.4 (RR)	N	6	0
	MP 48.8 (Otter Creek)	W	1	1
	MP 48.9 (Otter Creek) RAMPS	N	1	0
	MP 49 (KY 260)	W	14	5
	MP 54.1 (KY 138)	W	3	0
	MP 56.5 (KY 147)	W	6	3
	MP 59.3 (Deer Creek)	N	1	0
	MP 60.5 (KY 370)	W	2	1
	MP 63.9 (Groves Creek)	N	2	0
	MP 65.4 (RR)	W	5	3
	MP 75.4 (Elam Ditch)	W	6	3
	ETB Bridge Total	**---**	**138**	**33**

NOTE: Analysis includes reported crashes occurring January 2002 through April 2006

Table A.14
Daily Traffic Characteristics

				Daily Vehicles					Daily Vehicles (Trucks Only)				
	Between Exits		2006 ADT	Growth Rate (No I-69)[1]	Growth Rate (With I-69)	2030 ADT (No I-69)	2030 ADT (With I-69)	Difference (2030)	2006 % Trucks	2030 % Trucks (With I-69)	2006 ADT (Trucks Only)	2030 ADT (Trucks Only: No I-69)	2030 ADT (Trucks Only: With I-69)
Ford	1	4	8,800	1.3%	2.8%	12,000	17,100	5,100	30%	33%	2,904	3,960	5,643
	4	12	9,200	1.3%	2.8%	12,500	17,800	5,300	30%	33%	3,036	4,125	5,874
	12	13	11,000	1.3%	2.8%	15,000	21,300	6,300	30%	33%	3,630	4,950	7,029
	13	24	9,800	1.3%	2.8%	13,400	19,000	5,600	27%	30%	2,940	4,020	5,700
	24	38	9,600	1.3%	2.8%	13,100	18,600	5,500	27%	30%	2,880	3,930	5,580
Breathitt	34	37	19,000	1.3%	2.3%	25,900	32,800	6,900	21%	24%	4,560	6,216	7,872
	37	40	20,400	1.3%	2.3%	27,800	35,200	7,400	21%	24%	4,896	6,672	8,448
	40	42	21,200	1.3%	2.3%	28,900	36,600	7,700	21%	24%	5,088	6,936	8,784
	42	44	27,000	1.3%	2.3%	36,800	46,600	9,800	16%	19%	5,130	6,992	8,854
	44	45	20,800	1.3%	2.3%	28,400	35,900	7,500	21%	24%	4,992	6,816	8,616
	45	49	14,600	1.3%	2.3%	19,900	25,200	5,300	26%	29%	4,234	5,771	7,308
	49	54	13,600	1.3%	2.3%	18,500	23,500	5,000	23%	26%	3,536	4,810	6,110
	54	63	12,000	1.3%	2.3%	16,400	20,700	4,300	28%	31%	3,720	5,084	6,417
	63	68	10,800	1.3%	2.3%	14,700	18,600	3,900	29%	32%	3,456	4,704	5,952
	68	76	12,600	1.3%	2.3%	17,200	21,700	4,500	24%	27%	3,402	4,644	5,859
	76	77	16,000	1.3%	2.3%	21,800	27,600	5,800	20%	23%	3,680	5,014	6,348

[1] *Historic growth rates are based on twelve years of historical travel data provided by the KYTC and modeling of the corridor*

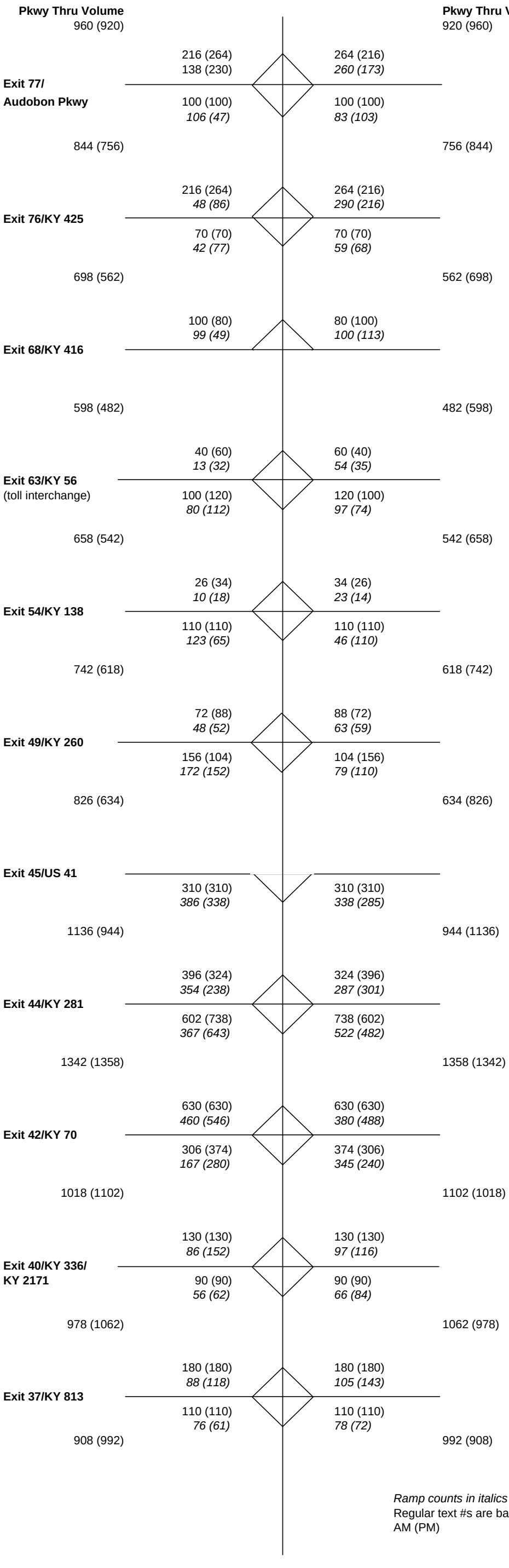


Figure A.2

N

Breathitt
2006
DESIGN HOUR VOLUMES

Ramp counts in italics are actual 2006 counts
Regular text #s are balanced DHV
AM (PM)

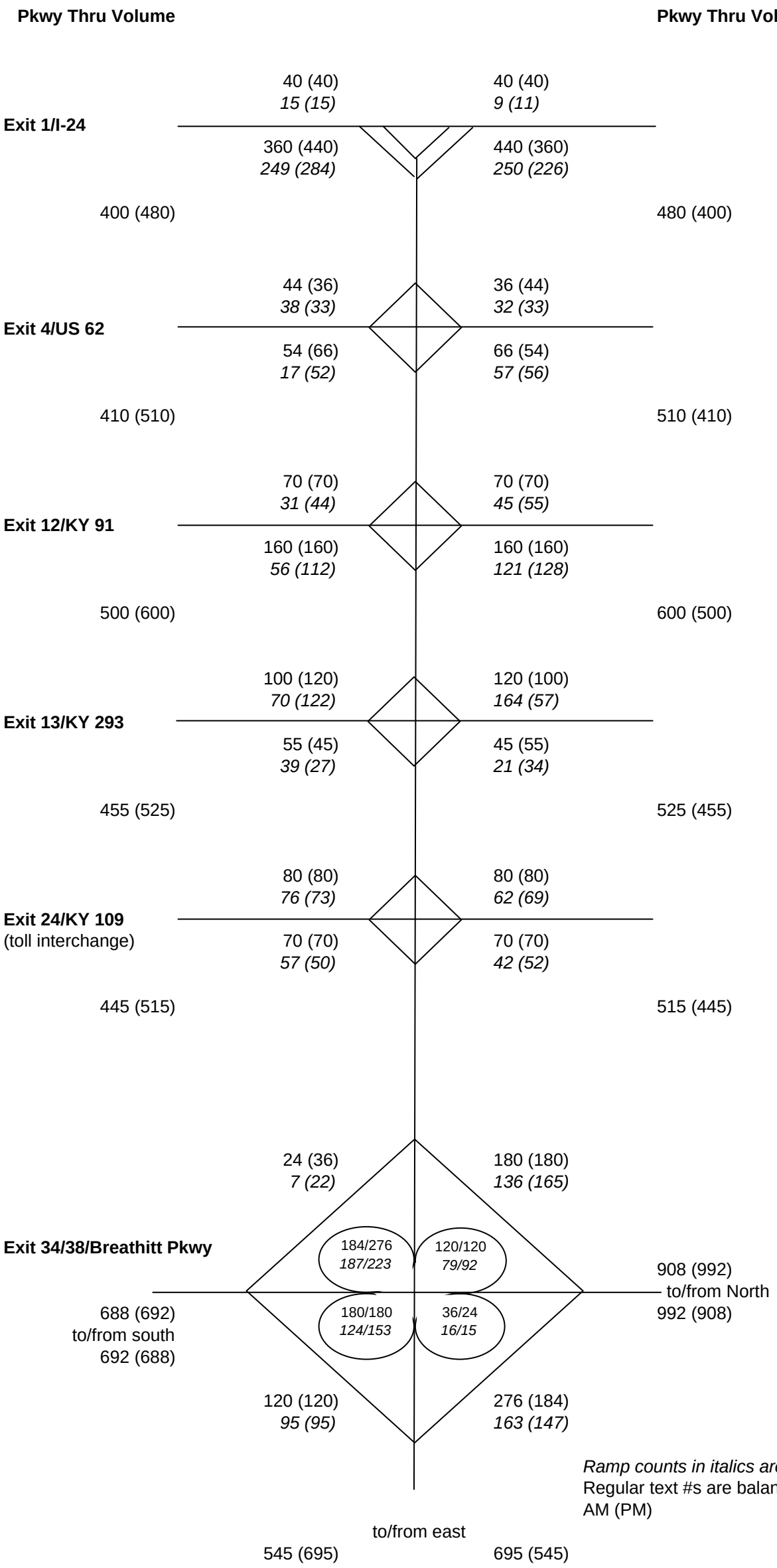


Figure A.2

Western/Ford

2006 N

DESIGN HOUR VOLUMES

Ramp counts in italics are actual 2006 counts
Regular text #s are balanced DHV
AM (PM)

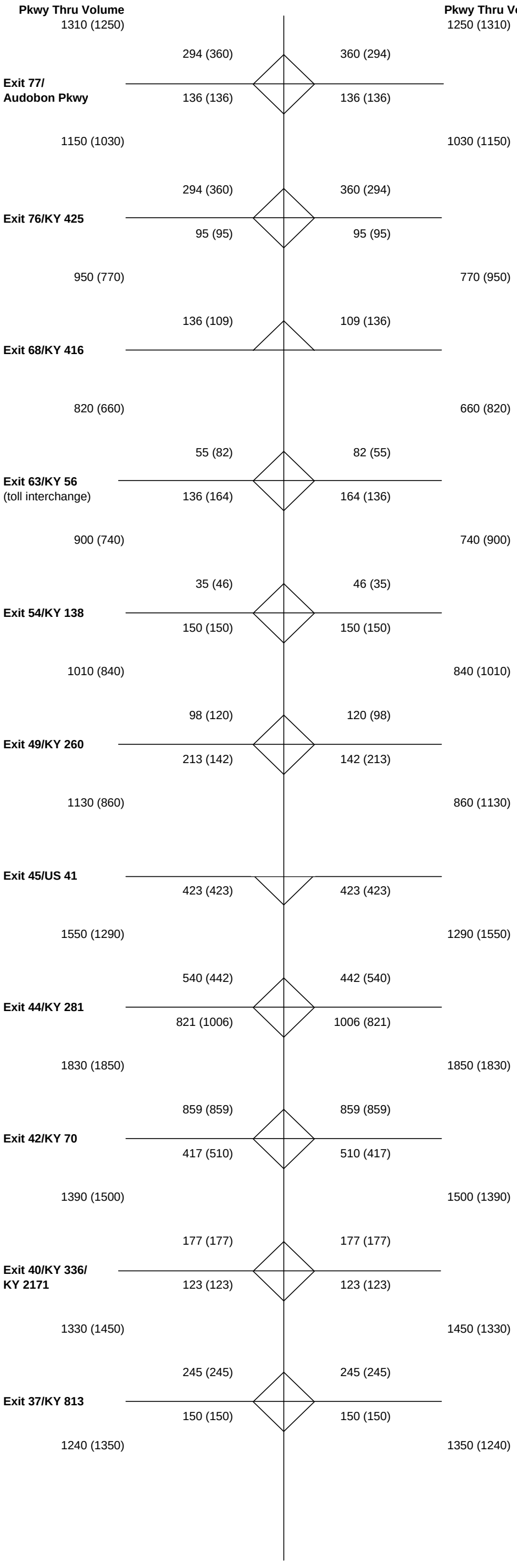


Figure A.3

N

Breathitt
2030 Without I-69
DESIGN HOUR VOLUMES

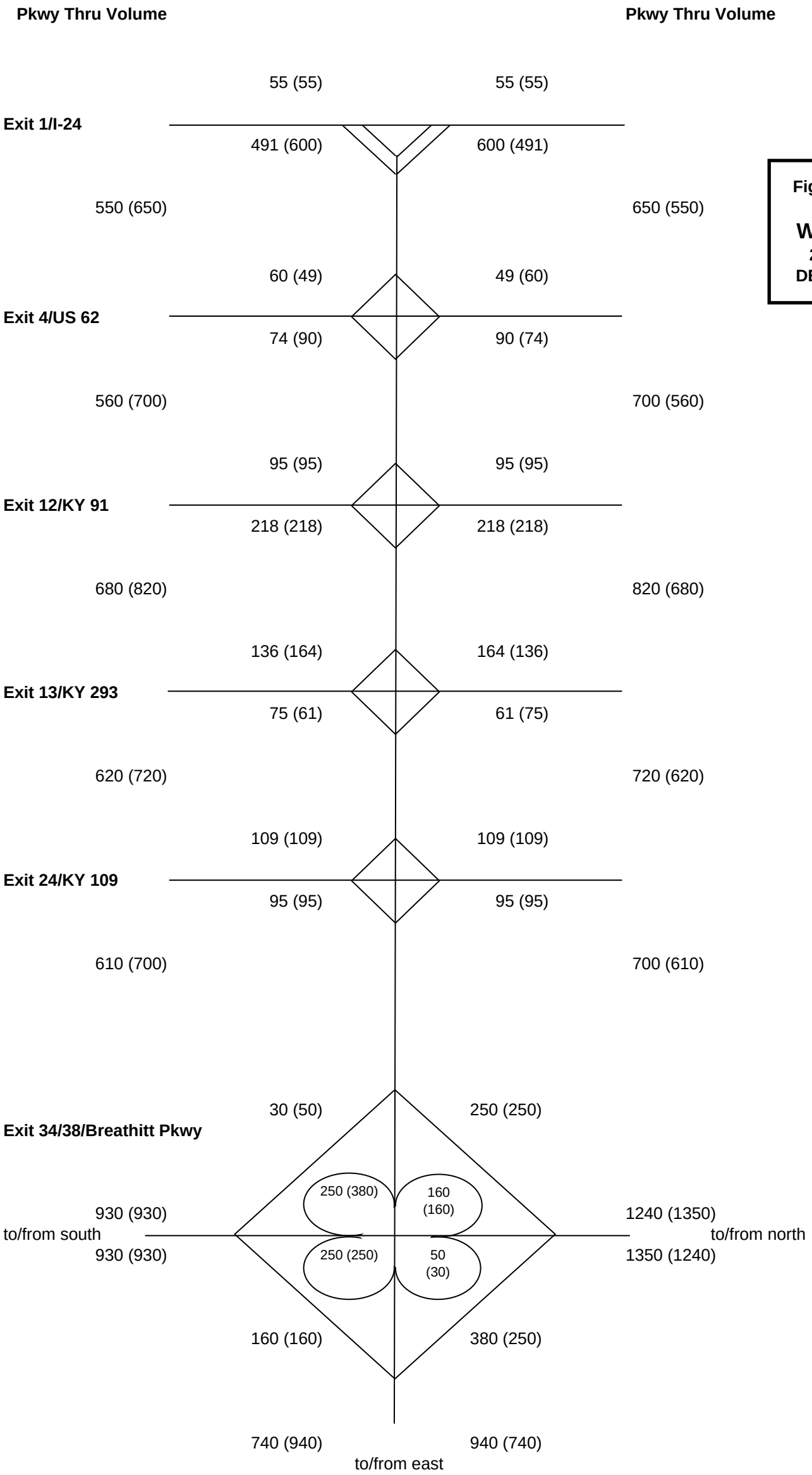


Figure A.3

Western/Ford
2030 Without I-69 N
DESIGN HOUR VOLUMES

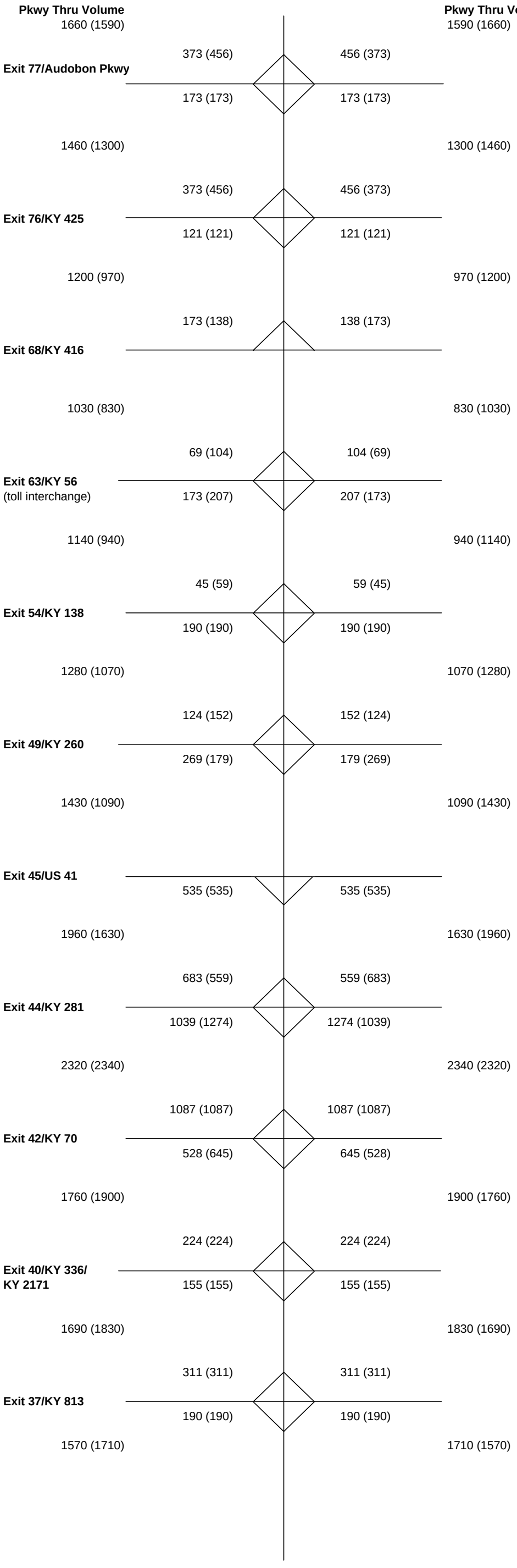


Figure A.4

N

Breathitt
2030 With I-69
DESIGN HOUR VOLUMES

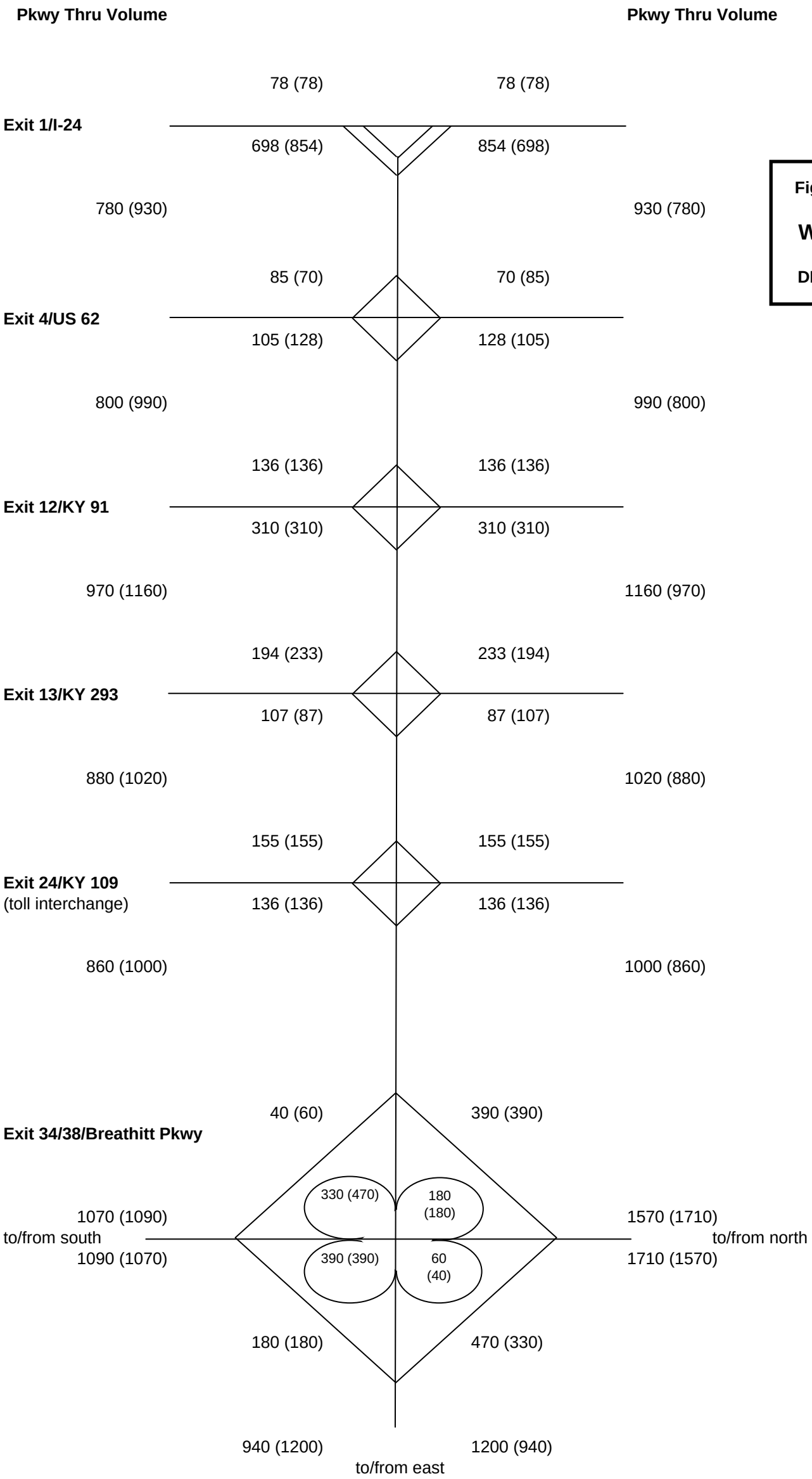


Figure A.4

Western/Ford
2030 With I-69 N
DESIGN HOUR VOLUMES

Table A.15
LOS Information for Mainline Reaches

	Between Exits		Rural / Urban	Existing % Trucks	2006 Scenario		2030 without I-69 Scenario			2030 with I-69 Scenario					Deteriorating Service			
					2006 DDHV	2006 LOS	Growth Rate (No I-69)	2030 DDHV (No I-69)	2030 LOS (No I-69)	Growth Rate (with I-69)	2030 DDHV (with I-69)	Future % Trucks	2030 DDHV (trucks only: with I-69)	2030 LOS (with I-69)	Year of poor LOS	Poor LOS	Volume for LOS D/E	Growth Rate for Poor Service by 2030
Ford	1	4	Rural	30	480	A	1.3%	650	A	2.8%	930	33	188	B	2060-2065	D	2450	7.0%
	4	12	Rural	30	510	A	1.3%	700	A	2.8%	990	33	196	B	2055-2060	D	2250	6.4%
	12	13	Urban	30	600	A	1.3%	820	A	2.8%	1160	33	234	B	2055-2060	E	2650	6.4%
	13	24	Rural	27	525	A	1.3%	720	A	2.8%	1020	30	190	B	2055-2060	D	2350	6.4%
	24	38	Rural	27	515	A	1.3%	700	A	2.8%	1000	30	186	B	2055-2060	D	2300	6.4%
Breathitt	34	37	Rural	21	992	A	1.3%	1350	B	2.3%	1710	24	262	C	2040-2045	D	2400	3.8%
	37	40	Rural	20	1062	A	1.3%	1450	B	2.3%	1830	23	282	C	2040-2045	D	2550	3.7%
	40	42	Urban	20	1102	B	1.3%	1500	B	2.3%	1900	23	293	C	2045-2050	E	3000	4.3%
	42	44	Urban	16	1358	B	1.3%	1850	C	2.3%	2340	19	295	C	2035-2040	E	2950	3.3%
	44	45	Urban	21	1136	B	1.3%	1550	B	2.3%	1960	24	287	C	2040-2045	E	2750	3.7%
	45	49	Rural	26	826	A	1.3%	1130	B	2.3%	1430	29	244	B	2045-2050	D	2250	4.3%
	49	54	Rural	23	742	A	1.3%	1010	A	2.3%	1280	26	204	B	2055-2060	D	2550	5.3%
	54	63	Rural	28	658	A	1.3%	900	A	2.3%	1140	31	214	B	2055-2060	D	2250	5.3%
	63	68	Rural	29	598	A	1.3%	820	A	2.3%	1030	32	198	B	2060-2065	D	2250	5.7%
	68	76	Rural	24	698	A	1.3%	950	A	2.3%	1200	27	195	B	2055-2060	D	2350	5.2%
	76	77	Urban	20	844	A	1.3%	1150	B	2.3%	1460	23	212	B	2055-2060	E	2250	4.2%

Table A.16
LOS and Density for AM/PM peak hours around Breathitt Interchange 44

		2006		2030 without I-69		2030 with I-69	
	Component	**Density[1]**	**LOS**	**Density[1]**	**LOS**	**Density[1]**	**LOS**
Northbound	Mainline south of Exit	14.3 / 14.1	B / B	19.5 / 19.3	C / C	25.7 / 25.4	C / C
	Off Ramp Junction	17.1 / 16.9	B / B	22.9 / 22.7	C / C	29.7 / 29.5	D / D
	On Ramp Junction	13.6 / 15.6	B / B	17.1 / 19.8	B / B	21.1 / 24.5	C / C
	Mainline north of Exit	11.0 / 13.2	A / B	15.0 / 18.0	B / B	19.6 / 23.5	C / C
Southbound	Mainline north of Exit	13.2 / 11.0	B / A	18.0 / 15.0	B / B	23.5 / 19.6	C / C
	Off Ramp Junction	14.2 / 11.9	B / B	19.1 / 16.0	B / B	24.8 / 20.8	C / C
	On Ramp Junction	17.4 / 17.3	B / B	22.3 / 22.2	C / C	27.7 / 27.4	C / C
	Mainline south of Exit	14.1 / 14.3	B / B	19.3 / 19.5	C / C	25.4 / 25.7	C / C

[1] Density measured as passenger cars/lane/mile

Note: Measurements report AM / PM peak hour values

Table A.17
LOS and Density for AM/PM peak hours around Breathitt Interchange 63

	2006		2030 without I-69		2030 with I-69	
Component	**Density[1]**	**LOS**	**Density[1]**	**LOS**	**Density[1]**	**LOS**
NB Weave Segment	5.8 / 6.2	A / A	9.4 / 9.2	A / A	13.4 / 12.8	B / B
SB Weave Segment	6.0 / 5.3	A / A	8.8 / 7.8	A / A	12.3 / 11.0	B / B

[1] Density measured as passenger cars/lane/mile

Note: Measurements report AM / PM peak hour values

Table A.18
LOS and Density for AM/PM peak hours at Breathitt/Ford Interchange

		2006		2030 without I-69		2030 with I-69	
	Component	**Density[1]**	**LOS**	**Density[1]**	**LOS**	**Density[1]**	**LOS**
Eastbound Ford	Off Ramp to SB Breathitt	6.1 / 7.0	A / A	8.3 / 9.5	A / A	12.0 / 14.0	B / B
	Mainline Segment	4.7 / 5.3	A / A	6.5 / 7.2	A / A	9.4 / 10.8	A / A
	Weave to/from North	11.5 / 14.5	B / B	17.6 / 22.4	B / C	29.7 / 36.7	D / E
	Mainline Segment	4.7 / 6.4	A / A	6.5 / 8.7	A / A	8.7 / 11.7	A / B
	On Ramp from NB Breathitt	6.5 / 8.3	A / A	8.9 / 11.3	A / B	11.6 / 14.9	B / B
Westbound Ford	Off Ramp to NB Breathitt	9.5 / 7.4	A / A	12.7 / 10.1	B / B	16.7 / 13.1	B / B
	Mainline Segment	7.4 / 4.0	A / A	6.2 / 5.5	A / A	8.4 / 7.0	A / A
	Weave to/from South	7.6 / 6.6	A / A	10.8 / 9.3	B / A	14.5 / 12.1	B / B
	Mainline Segment	3.7 / 3.0	A / A	5.0 / 4.0	A / A	7.0 / 5.4	A / A
	On Ramp from SB Breathitt	6.1 / 5.2	A / A	8.3 / 7.2	A / A	12.2 / 10.4	B / B
Northbound Breathitt	Off Ramp to EB Ford	8.8 / 8.8	A / A	11.8 / 11.8	B / B	14.3 / 14.0	B / B
	Mainline Segment	6.0 / 5.9	A / A	8.0 / 8.0	A / A	9.8 / 9.6	A / A
	Weave to/from West	10.5 / 10.1	B / B	15.6 / 15.0	B / B	23.5 / 22.4	C / C
	Mainline Segment	7.5 / 7.6	A / A	10.1 / 10.1	A / A	13.4 / 13.4	B / B
	On Ramp from WB Ford	11.0 / 10.1	B / B	15.1 / 13.9	B / B	19.6 / 18.1	B / B
Southbound Breathitt	Off Ramp to WB Ford	11.5 / 12.6	B / B	15.7 / 17.1	B / B	20.5 / 22.3	C / C
	Mainline Segment	7.6 / 8.5	A / A	10.3 / 11.5	A / B	12.7 / 14.2	B / B
	Weave to/from East	14.9 / 18.9	B / B	22.4 / 28.9	C / D	30.1 / 38.2	D / E
	Mainline Segment	6.8 / 6.8	A / A	9.2 / 9.2	A / A	11.1 / 11.1	B / B
	On Ramp from EB Ford	7.7 / 7.8	A / A	10.5 / 10.5	B / B	12.5 / 12.7	B / B

[1] *Density measured as passenger cars/lane/mile*

Note: Measurements report AM / PM peak hour values

Table A.19
AM/PM LOS, Delay, and Queue Lengths at Key Signalized Intersections

		2006			2030 without I-69			2030 with I-69		
Exit	Intersection	Delay (sec)	LOS	Queue* (ft)	Delay (sec)	LOS	Queue* (ft)	Delay (sec)	LOS	Queue* (ft)
42	KY 70 & NB Ramps	26.1 / 24.3	C / C	280 / 49	33.8 / 27.9	C / C	385 / 219	57.0 / 44.6	E / D	502 / 259
42	KY 70 & SB Ramps	24.1 / 23.8	C / C	181 / 249	27.4 / 33.3	C / C	312 / 367	31.6 / 74.3	C / E	396 / 469
44	KY 281& NB Ramps	18.8 / 17.9	B / B	105 / 127	22.1 / 20.9	C / C	169 / 220	25.5 / 25.0	C / C	231 / 302

** Longest 95th percentile queue for movements coming off ramp*
Note: Measurements reported for AM / PM peak hours

Table A.20
AM/PM LOS, Delay, and Queue Lengths at Key Unsignalized Intersections

		2006			2030 without I-69			2030 with I-69		
Exit	Intersection	Delay (sec)	LOS	Queue* (ft)	Delay (sec)	LOS	Queue* (ft)	Delay (sec)	LOS	Queue* (ft)
44	SB Ramp at KY 281	17.3 / 16.4	C / C	48 / 37	59.1 / 42.6	F / E	175 / 129	>100 / >100	F / F	Err / 307
63	SB Ramp at KY 56	10.3 / 10.4	B / B	<10 / <10	11.3 / 11.4	B / B	<10 / <10	12.9 / 13.2	B / B	<10 / 15
63	NB Ramp at KY 56	9.6 / 9.5	A / A	<10 / <10	10.1 / 9.8	B / A	13 / <10	10.7 / 10.2	B / B	18 / <10
12	WB Ramp at KY 91	20.7 / 16.8	C / C	34 / 21	57.2 / 28.8	F / D	117 / 54	>100 / >100	F / F	Err / 248
12	EB Ramp at KY 91	23.2 / 13.3	C / B	13 / <10	62.0 / 16.8	F / C	47 / 11	>100 / 36.7	F / E	146 / 44

** Longest 95th percentile queue for movements coming off ramp*
Note: Measurements reported for AM / PM peak hours

Appendix B
I-69 PDAT User Guide and Outputs

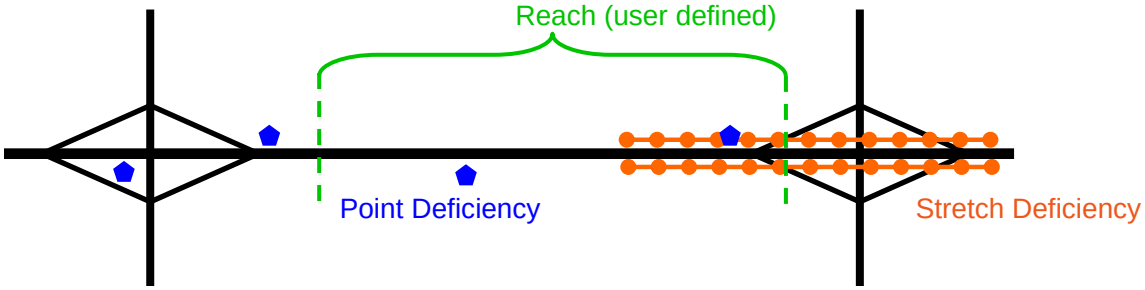
OVERVIEW

The I-69 PDAT (Project Development Analysis Tool) workbook is designed to provide KYTC staff an interactive tool to define projects and estimate costs based on existing deficiencies along the I-69 corridor. Users have the ability to define project reaches, select deficiencies to fix or omit, designate funding categories, and review cost summary data.

INTRODUCTION

Deficiencies, identified as part of the I-69 Strategic Corridor Planning Study, are separated into two distinct types: point features and stretches. Point features occur at a specific location which would logically be addressed as a part of a single project; costs are typically lump-sum values. Deficiency stretches are features which occur over a longer length of the corridor; costs are based on per-mile rates.

Reaches are the milepoint boundaries for a project. The user has the ability to define reaches along each parkway and to change them throughout the process. All the deficiencies falling within the milepoint limits of a reach will be included in the cost to fix that reach.



Point Deficiencies

Narrow Structures
Low Overpasses
Ramp Tapers
Guardrail End Treatments
Interchange Spacing
Toll Interchanges

Stretch Deficiencies

Shoulder Widths
Cross Slopes
Median Widths

Each deficiency displays whether it is one of the 13 potential FHWA design exceptions or a design variance based on AASHTO/KYTC standards. Each deficiency can also be identified as a funding/priority category:

- I-69 Priority Improvements are necessary for interstate compliance[1]; these deficiencies should be addressed unless a design exception is permitted in select cases;
- 3R Improvements are recommended to be addressed as a component of routine route maintenance; and
- 4R Improvements are recommended to be addressed in major reconstruction projects, scheduled whenever adjacent features/areas require replacement.

An additional "Recommended Fix" column allows the user to select if a given deficiency should be included in the User Select Build Scenario (the set of features included in the current build package, based on user-input recommendations). For comparison, the Full Build Scenario cost estimates are provided throughout the summary information. An additional option in this column allows the user to track which project components have already been constructed; these items are not included in further cost estimates.

Based on the Phase II Strategic Planning Study, a final column also presents the priority category for each deficiency. The following categories were developed:

- Priority 1 – Substantive improvements to address capacity or safety issues along the parkways regardless of I-69 designation
- Priority 2 – Regulatory improvements to bring deficiencies into interstate compliance, with the exception of granted FHWA DE
- Priority 3 – Regulatory improvements to address remaining noncompliant features, including previously exempted DE with the exception of systems interchanges
- Priority 4 – Systems interchanges

Following these inputs by the user, the model provides a set of summary cost tables. These tables include:

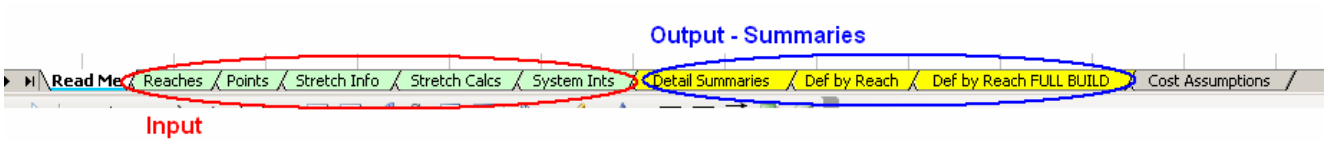
- Summary of Parkway by County for the User Selected Build Scenario
- Summary of Parkway by Deficiency Type for both the User Selected and Full Build Scenarios
- Summary of Parkway by Funding Category for both the User Selected and Full Build Scenarios
- Summary of Parkway by Priority Category for both the User Selected and Full Build Scenarios
- Summary of Reach by Deficiency Type for both User Selected and Full Build Scenarios

WORKBOOK COMPONENTS

The tool is divided into two primary sections. The first five green tabs contain input fields where the user can define reaches and select deficiencies for inclusion. The

[1] Compliance based on 2005 AASHTO publication *A Policy on Design Standards: Interstate System*

remaining three yellow tabs provide cost summary outputs for both the Full Build and User Select Build Scenarios. Additional supporting information is contained in any following tabs. User input cells are indicated by a green fill.



The REACHES tab provides the user an opportunity to set project reaches, defined by milepoints along each parkway. The Breathitt and Ford Parkways are separate entities; a single reach cannot include portions of both parkways. The tool is set up to divide the entire length of each parkway into reaches. Up to 22 reaches per parkway can be defined and named, ordered sequentially by increasing milepoint designations. A quick summary of costs for the User Select Build Scenario is presented on this tab as well.

Study Area Boundaries:

Ford/Western KY Parkway
MP 0.0 (I-24) to
MP 38.332 (Breathitt)

Breathitt/Pennyrile Parkway
MP 34.271 (Ford) to
MP 76.258 (KY 425)

The POINTS tab lists each identified point-type deficiency located within the study limits along the two parkways. Each row references a location, a length, the AASHTO requirement for the particular feature, whether it is a potential design exception or not, a funding category, the associated cost, and which project reach the point feature falls within. The user may select if any point feature will be included or omitted by selecting Yes/No in the "Recommended Fix" column. If a point deficiency has already been corrected, selecting Completed in this column will cause this feature to be removed from all cost estimates.

	A	B	C	D	E	F
1	Direction	Parkway	County	MP	Def Type	Existing Length (ft)
2	SB	ETB	Hopkins	35.5	Sort Ascending	50
3	SB	ETB	Hopkins	37	Sort Descending	50
4	NB	ETB	Hopkins	37.07		0
5	NB	ETB	Hopkins	37.07	(All)	0
6	SB	ETB	Hopkins	37.07	(Top 10...)	0
7	SB	ETB	Hopkins	37.07	(Custom...)	0
8	SB	ETB	Hopkins	39.794	Brush-block bridge	1000
9	NB	ETB	Hopkins	42.418	Interchange - Toll Config	192
10	NB	ETB	Hopkins	42.418	Interchange Spacing	0
11	NB	ETB	Hopkins	42.418	Narrow bridge	0
12	SB	ETB	Hopkins	42.418	Narrow Brush-block bridge	192
13	SB	ETB	Hopkins	42.418	Overpass Vertical Clearance	0
14	SB	ETB	Hopkins	42.418	Ramp Accel	0
15	NB	ETB	Hopkins	43.438	Ramp Decel	159
16	SB	ETB	Hopkins	43.438	Type 3 GR	159
17		ETB	Hopkins	43.674	Type 7 GR	SSD = 595 ft
18	NB	ETB	Hopkins	44.337	Vertical curve	0 [2]
					Ramp Accel	
					(Blanks)	
					(NonBlanks)	

For faster data manipulation, the AutoFilter command may be used by clicking the arrow in the corner of the "Deficiency Type" column header box in the POINTS tab. This brings down a drop list; highlighting a single deficiency type will show all of that type of deficiencies. For example, selecting "Vertical Curve" will show only the vertical curve entries. Select "(All)" from the drop list to again view all entries.

It is important to note that the recommended fix option for each deficiency is independent of every other deficiency. The user should be cognizant of this when selecting features to be fixed and make selections accordingly. For instance, selecting to widen a shoulder would impact any guardrail falling within the area, so the user must include these in the select build scenario.

The STRETCH INFO tab defines the stretch-type features located on each parkway, providing the actual ranges where the deficiencies occur. AASHTO requirements, the potential for a design exception, and the total cost for the deficiency type by parkway are provided on this page as well. The funding category is set by the user for each stretch deficiency on this page.

Though pavement rehabilitation is not explicitly required by AASHTO standards, a rehabilitation cost estimate is provided on this tab based on 2006 KYTC construction costs to provide a more accurate investment scenario. Standard linear guardrail rehabilitation (excluding the replacement of deficient end treatment types) is included in this cost.

The STRETCH CALCS tab performs the calculations to distribute the stretch features between reaches. It shows lengths and costs for each of the stretch deficiencies. This page allows the user to select if a feature will or will not be costed for each reach by selecting Yes/No/Completed in the "Recommended Fix" column. Location-specific stretch recommendations should be updated if reach boundaries are changed.

The SYSTEMS INTS tab provides summary graphics and information about each of the two systems interchanges. Due to the complexity and magnitude of these two locations, they are not included in the cost estimates for either parkway but are pulled out as stand-alone entities. A cell for each interchange lets the user determine if the system should be included in the select build scenario.

The DETAIL SUMMARIES tab provides multiple cost summary tables. In most cases, a User Selected Build Scenario (orange) summary and a Full Build Scenario (blue) summary are provided for comparison. On this page, costs are shown at a parkway level by deficiency type, by county, and by priority/funding category.

The remaining two output tabs, DEF BY REACH and DEF BY REACH FULL BUILD provide more detailed cost data for each reach for the User Selected and Full Build Scenarios, respectively. These tables present the cost to fix each deficiency type within a given reach. For example, $4,000 may be required in Reach ABC to widen the narrow structures falling within that milepoint range.

The COST ASSUMPTIONS tab provides an overview of the dollar values assigned to fix certain deficiency types. Bridge widening, vertical realignment, ramp taper lengthening, vertical clearance, and interchange reconstruction costs were determined on a case-by-case basis are therefore shown only in the list on the POINTS tab. Additional details on the costing methodology may be found in the Design Exceptions notebook. All costs given are in 2007 dollars.

Tables B.1 and B.2

Defined reaches for Breathitt and Ford Parkways, WSA recommendations

Reaches on ETB

BMP	EMP	Reach Name	County	Total Point Cost	Total Stretch Cost	Total Reach Cost
34.271	36.52	B1	Hopkins	$ 3,500	$ 3,530,930	**$ 3,534,430**
36.52	37.62	Exit 37	Hopkins	$ 3,430,500	$ 1,727,000	**$ 5,157,500**
37.62	39.244	B2	Hopkins	$ -	$ 2,549,680	**$ 2,549,680**
39.244	40.344	Exit 40	Hopkins	$ 676,000	$ 1,727,000	**$ 2,403,000**
40.344	41.868	B3	Hopkins	$ -	$ 2,392,680	**$ 2,392,680**
41.868	43.27	Exit 42	Hopkins	$ 532,000	$ 2,201,140	**$ 2,733,140**
43.27	44.671	Exit 44	Hopkins	$ 330,000	$ 2,199,570	**$ 2,529,570**
44.671	45.771	Exit 45	Hopkins	$ 670,000	$ 1,727,000	**$ 2,397,000**
45.771	48.429	B4	Hopkins	$ -	$ 4,007,860	**$ 4,007,860**
48.429	49.529	Exit 49	Hopkins	$ 105,000	$ 1,650,000	**$ 1,755,000**
49.529	53.52	B5	Hopkins	$ 400,000	$ 5,986,500	**$ 6,386,500**
53.52	54.62	Exit 54	Hopkins	$ 245,500	$ 1,650,000	**$ 1,895,500**
54.62	55.003	B6	Hopkins	$ 9,000	$ 574,500	**$ 583,500**
55.003	62.807	B7	Webster	$ 286,000	$ 11,706,000	**$ 11,992,000**
62.807	63.187	Exit 63	Webster	$ -	$ 570,000	**$ 570,000**
63.187	65.305	B8	Webster	$ 104,000	$ 3,177,000	**$ 3,281,000**
65.305	67.813	B9	Henderson	$ 40,000	$ 3,762,000	**$ 3,802,000**
67.813	68.913	Exit 68	Henderson	$ 100,000	$ 1,650,000	**$ 1,750,000**
68.913	75.634	B10	Henderson	$ 40,000	$ 10,081,500	**$ 10,121,500**
75.634	76.258	Exit 76	Henderson	$ 160,000	$ 936,000	**$ 1,096,000**
				$ -	$ -	**$ -**
				$ -	$ -	**$ -**
	76.258				**TOTAL**	**$ 70,937,860**

Reaches on WKY

BMP	EMP	Reach Name	County	Total Point Cost	Total Stretch Cost	Total Reach Cost
0	0.551	Exit 1	Lyon	$ 1,000	$ 826,500	**$ 827,500**
0.551	3.152	W1	Lyon	$ 2,000	$ 3,901,500	**$ 3,903,500**
3.152	4.252	Exit 4	Lyon	$ 729,000	$ 1,650,000	**$ 2,379,000**
4.252	5.61	W2	Lyon	$ 15,000	$ 2,037,000	**$ 2,052,000**
5.61	9.855	W3	Caldwell	$ 75,500	$ 6,367,500	**$ 6,443,000**
9.855	11.021	W4	Caldwell	$ 14,000	$ 1,667,380	**$ 1,681,380**
11.021	12.57	Exit 12	Caldwell	$ 2,359,000	$ 2,215,070	**$ 4,574,070**
12.57	13.67	Exit 13	Caldwell	$ 850,000	$ 1,573,000	**$ 2,423,000**
13.67	21.764	W5	Caldwell	$ 835,000	$ 11,574,420	**$ 12,409,420**
21.764	23.885	W6	Hopkins	$ 86,000	$ 3,033,030	**$ 3,119,030**
23.885	24.985	Exit 24	Hopkins	$ 805,000	$ 1,573,000	**$ 2,378,000**
24.985	38.332	W7	Hopkins	$ 690,000	$ 19,086,210	**$ 19,776,210**
				$ -	$ -	**$ -**
				$ -	$ -	**$ -**
				$ -	$ -	**$ -**
				$ -	$ -	**$ -**
				$ -	$ -	**$ -**
				$ -	$ -	**$ -**
				$ -	$ -	**$ -**
				$ -	$ -	**$ -**
				$ -	$ -	**$ -**
	38.332				**TOTAL**	**$ 61,966,110**

Table B.3 - Cost Summary by Deficiency Type

	User Select Build Scenario			Full Build Scenario		
Def Type	**ETB**	**WKY**	**Grand Total**	**ETB**	**WKY**	**Grand Total**
Brush-block bridge	$ 200,000	$ 86,000	**$ 286,000**	$ 200,000	$ 86,000	**$ 286,000**
Interchange Config	$ -	$ -	**$ -**	$ 17,270,000	$ 10,650,000	**$ 27,920,000**
Narrow bridge	$ 494,000	$ -	**$ 494,000**	$ 494,000	$ -	**$ 494,000**
Narrow Brush-block bridge	$ 254,000	$ 737,000	**$ 991,000**	$ 254,000	$ 737,000	**$ 991,000**
Overpass Vertical Clearance	$ 1,070,000	$ 4,175,000	**$ 5,245,000**	$ 1,070,000	$ 4,175,000	**$ 5,245,000**
Ramp Accel	$ 2,953,000	$ 672,000	**$ 3,625,000**	$ 2,953,000	$ 672,000	**$ 3,625,000**
Ramp Decel	$ 2,083,000	$ 680,000	**$ 2,763,000**	$ 2,083,000	$ 680,000	**$ 2,763,000**
Type 7 GR	$ 66,500	$ 101,500	**$ 168,000**	$ 66,500	$ 101,500	**$ 168,000**
Vertical curve	$ -	$ -	**$ -**	$ 1,075,000	$ 625,000	**$ 1,700,000**
Type 3 GR	$ 11,000	$ 10,000	**$ 21,000**	$ 11,000	$ 10,000	**$ 21,000**
10 ft graded outer shoulder	$ 825,860	$ -	**$ 825,860**	$ 825,860	$ -	**$ 825,860**
3 ft paved inner shoulder	$ 2,939,090	$ 689,850	**$ 3,628,940**	$ 2,939,090	$ 689,850	**$ 3,628,940**
Cross Slope / Superelevation	$ -	$ -	**$ -**	$ -	$ -	**$ -**
Ditch Foreslope	$ -	$ -	**$ -**	$ 3,736,843	$ 3,095,420	**$ 6,832,263**
Interchange Spacing	$ -	$ -	**$ -**	$ 600,000	$ 2,600,000	**$ 3,200,000**
Pavement Rehabilitation	$ 60,041,410	$ 54,814,760	**$ 114,856,170**	$ 60,041,410	$ 54,814,760	**$ 114,856,170**
Median Width	$ -	$ -	**$ -**	$ -	$ 4,001,019	**$ 4,001,019**
Grand Total	**$ 70,937,860**	**$ 61,966,110**	**$ 132,903,970**	**$ 93,619,703**	**$ 82,937,549**	**$ 176,557,252**

Systems Interchanges	**$ 7,260,000**
Select Build Final Total	**$ 140,163,970**

Systems Interchanges	**$129,900,000**
Full Build Final Total	**$306,457,252**

Table B.4 - Cost Summary by County

	User Select Build Scenario			
County	ETB	WKY	Systems	Grand Total
Lyon		$ 9,162,000	$ 7,260,000	$ 16,422,000
Caldwell		$ 27,530,870		$ 27,530,870
Hopkins	$ 38,325,360	$ 25,273,240	$ -	$ 63,598,600
Webster	$ 15,843,000			$ 15,843,000
Henderson	$ 16,769,500			$ 16,769,500
Grand Total	$ 70,937,860	$ 61,966,110	$ 7,260,000	$ 140,163,970

Results only valid if reaches are broken at county lines.

Table B.5 - Cost Summary by Funding Category

	User Select Build Scenario			Full Build Scenario		
Funding Category	ETB	WKY	Grand Total	ETB	WKY	Grand Total
3R	$ 64,083,860	$ 55,702,110	$ 119,785,970	$ 64,083,860	$ 59,703,129	$ 123,786,989
4R	$ 5,036,000	$ 1,352,000	$ 6,388,000	$ 16,867,843	$ 5,072,420	$ 21,940,263
I-69 Priority	$ 1,818,000	$ 4,912,000	$ 6,730,000	$ 12,668,000	$ 18,162,000	$ 30,830,000
Grand Total	$ 70,937,860	$ 61,966,110	$ 132,903,970	$ 93,619,703	$ 82,937,549	$ 176,557,252

Systems Interchanges	$ 7,260,000	Systems Interchanges	$129,900,000
Select Build Final Total	$ 140,163,970	Full Build Final Total	$306,457,252

Table B.6 - Cost Summary by Priority Level

	User Select Build Scenario			Full Build Scenario		
Priority	**ETB**	**WKY**	**Grand Total**	**ETB**	**WKY**	**Grand Total**
1	$60,118,910	$54,926,260	**$115,045,170**	$60,118,910	$54,926,260	**$115,045,170**
2	$10,324,950	$7,039,850	**$17,364,800**	$10,324,950	$7,039,850	**$17,364,800**
3	$494,000	$0	**$494,000**	$23,175,843	$20,971,439	**$44,147,282**
Grand Total	**$70,937,860**	**$61,966,110**	**$132,903,970**	**$93,619,703**	**$82,937,549**	**$176,557,252**

Systems Interchanges (4)	**$**	**7,260,000**	**Systems Interchanges (4)**	**$129,900,000**
Select Build Final Total	**$**	**140,163,970**	**Full Build Final Total**	**$306,457,252**

Table B.7

Cost Summary by Reach and Deficiency Type for User Select Build Scenario

*Costs do not include system interchanges

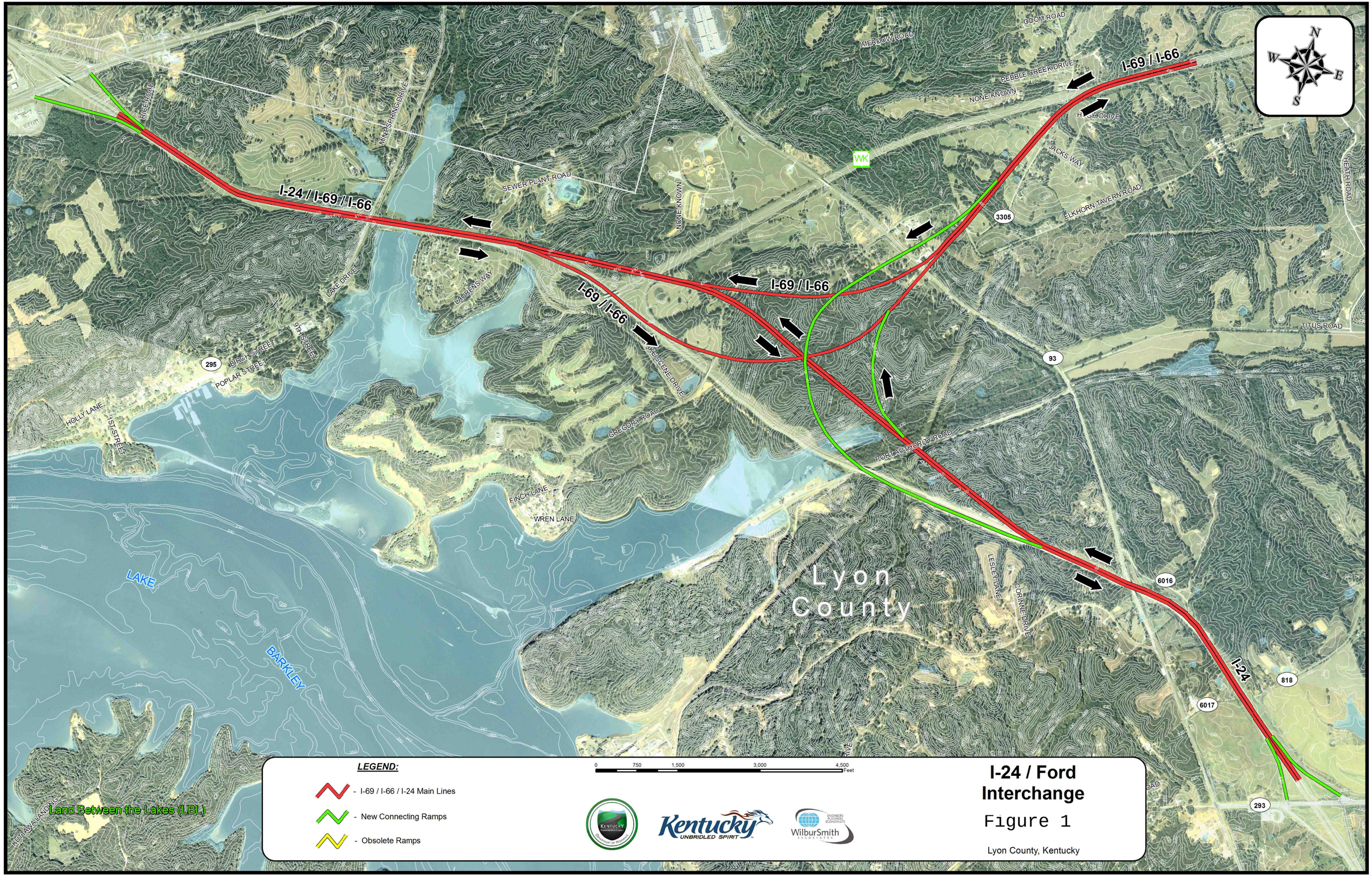
Parkway	Reach	Range	Range	Type 7 GR	Ramp Accel	Ramp Decel	Narrow bridge	Vertical curve	Overpass Vertical Clearance	Type 3 GR	Brush-block bridge	Narrow Brush-block bridge	Interchange Config	10 ft graded outer shoulder	3 ft paved inner shoulder	Cross Slope / Superelevation	Ditch Foreslope	Median Width	Pavement Rehabilitation	Interchange Spacing	TOTAL
Edward T Breathitt Parkway	B1	34.27	36.52	$3,500	$0	$0	$0	$0	$0	$0	$0	$0	$0	$157,430	$157,430	$0	$0	$0	$3,216,070	$0	$ 3,534,430
	Exit 37	36.52	37.62	$3,500	$1,762,000	$1,665,000	$0	$0	$0	$0	$0	$0	$0	$77,000	$77,000	$0	$0	$0	$1,573,000	$0	$ 5,157,500
	B2	37.62	39.24	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$113,680	$113,680	$0	$0	$0	$2,322,320	$0	$ 2,549,680
	Exit 40	39.24	40.34	$0	$676,000	$0	$0	$0	$0	$0	$0	$0	$0	$77,000	$77,000	$0	$0	$0	$1,573,000	$0	$ 2,403,000
	B3	40.34	41.87	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$106,680	$106,680	$0	$0	$0	$2,179,320	$0	$ 2,392,680
	Exit 42	41.87	43.27	$0	$150,000	$112,000	$270,000	$0	$0	$0	$0	$0	$0	$98,140	$98,140	$0	$0	$0	$2,004,860	$0	$ 2,733,140
	Exit 44	43.27	44.67	$0	$50,000	$56,000	$224,000	$0	$0	$0	$0	$0	$0	$98,070	$98,070	$0	$0	$0	$2,003,430	$0	$ 2,529,570
	Exit 45	44.67	45.77	$0	$0	$0	$0	$0	$670,000	$0	$0	$0	$0	$77,000	$77,000	$0	$0	$0	$1,573,000	$0	$ 2,397,000
	B4	45.77	48.43	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$20,860	$186,060	$0	$0	$0	$3,800,940	$0	$ 4,007,860
	Exit 49	48.43	49.53	$0	$55,000	$50,000	$0	$0	$0	$0	$0	$0	$0	$0	$77,000	$0	$0	$0	$1,573,000	$0	$ 1,755,000
	B5	49.53	53.52	$0	$0	$0	$0	$0	$400,000	$0	$0	$0	$0	$0	$279,370	$0	$0	$0	$5,707,130	$0	$ 6,386,500
	Exit 54	53.52	54.62	$3,500	$100,000	$100,000	$0	$0	$0	$2,000	$40,000	$0	$0	$0	$77,000	$0	$0	$0	$1,573,000	$0	$ 1,895,500
	B6	54.62	55	$7,000	$0	$0	$0	$0	$0	$2,000	$0	$0	$0	$0	$26,810	$0	$0	$0	$547,690	$0	$ 583,500
	B7	55	62.81	$49,000	$0	$0	$0	$0	$0	$7,000	$80,000	$150,000	$0	$0	$546,280	$0	$0	$0	$11,159,720	$0	$ 11,992,000
	Exit 63	62.81	63.19	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$26,600	$0	$0	$0	$543,400	$0	$ 570,000
	B8	63.19	65.31	$0	$0	$0	$0	$0	$0	$0	$0	$104,000	$0	$0	$148,260	$0	$0	$0	$3,028,740	$0	$ 3,281,000
	B9	65.31	67.81	$0	$0	$0	$0	$0	$0	$0	$40,000	$0	$0	$0	$175,560	$0	$0	$0	$3,586,440	$0	$ 3,802,000
	Exit 68	67.81	68.91	$0	$50,000	$50,000	$0	$0	$0	$0	$0	$0	$0	$0	$77,000	$0	$0	$0	$1,573,000	$0	$ 1,750,000
	B10	68.91	75.63	$0	$0	$0	$0	$0	$0	$0	$40,000	$0	$0	$0	$470,470	$0	$0	$0	$9,611,030	$0	$ 10,121,500
	Exit 76	75.63	76.26	$0	$110,000	$50,000	$0	$0	$0	$0	$0	$0	$0	$0	$43,680	$0	$0	$0	$892,320	$0	$ 1,096,000
	0	0	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$ -
	0	0	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$ -
	TOTAL			$ 66,500	$ 2,953,000	$ 2,083,000	$ 494,000	$ -	$ 1,070,000	$11,000	$200,000	$ 254,000	$ -	$825,860	$ 2,939,090	$ -	$ -	$ -	$60,041,410	$ -	$ 70,937,860
Western KY Parkway	Exit 1	0	0.551	$0	$0	$0	$0	$0	$0	$1,000	$0	$0	$0	$0	$38,570	$0	$0	$0	$787,930	$0	$ 827,500
	W1	0.551	3.152	$0	$0	$0	$0	$0	$0	$2,000	$0	$0	$0	$0	$182,070	$0	$0	$0	$3,719,430	$0	$ 3,903,500
	Exit 4	3.152	4.252	$0	$100,000	$580,000	$0	$0	$0	$3,000	$46,000	$0	$0	$0	$77,000	$0	$0	$0	$1,573,000	$0	$ 2,379,000
	W2	4.252	5.61	$14,000	$0	$0	$0	$0	$0	$1,000	$0	$0	$0	$0	$95,060	$0	$0	$0	$1,941,940	$0	$ 2,052,000
	W3	5.61	9.855	$73,500	$0	$0	$0	$0	$0	$2,000	$0	$0	$0	$0	$297,150	$0	$0	$0	$6,070,350	$0	$ 6,443,000
	W4	9.855	11.02	$14,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,667,380	$0	$ 1,681,380
	Exit 12	11.02	12.57	$0	$572,000	$100,000	$0	$0	$1,120,000	$0	$0	$567,000	$0	$0	$0	$0	$0	$0	$2,215,070	$0	$ 4,574,070
	Exit 13	12.57	13.67	$0	$0	$0	$0	$0	$850,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,573,000	$0	$ 2,423,000
	W5	13.67	21.76	$0	$0	$0	$0	$0	$750,000	$1,000	$0	$84,000	$0	$0	$0	$0	$0	$0	$11,574,420	$0	$ 12,409,420
	W6	21.76	23.89	$0	$0	$0	$0	$0	$0	$0	$0	$86,000	$0	$0	$0	$0	$0	$0	$3,033,030	$0	$ 3,119,030
	Exit 24	23.89	24.99	$0	$0	$0	$0	$0	$765,000	$0	$40,000	$0	$0	$0	$0	$0	$0	$0	$1,573,000	$0	$ 2,378,000
	W7	24.99	38.33	$0	$0	$0	$0	$0	$690,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$19,086,210	$0	$ 19,776,210
	0	0	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$ -
	0	0	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$ -
	0	0	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$ -
	0	0	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$ -
	0	0	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$ -
	0	0	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$ -
	0	0	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$ -
	0	0	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$ -
	0	0	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$ -
	0	0	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0		$ -
	TOTAL			$101,500	$ 672,000	$ 680,000	$ -	$ -	$ 4,175,000	$10,000	$ 86,000	$ 737,000	$ -	$ -	$ 689,850	$ -	$ -	$ -	$54,814,760	$ -	$ 61,966,110
TOTAL - Both Parkways				**$168,000**	**$ 3,625,000**	**$ 2,763,000**	**$ 494,000**	**$ -**	**$ 5,245,000**	**$21,000**	**$286,000**	**$ 991,000**	**$ -**	**$825,860**	**$ 3,628,940**	**$ -**	**$ -**	**$ -**	**$ 114,856,170**	**$ -**	**$ 132,903,970**

Table B.8

Cost Summary by Reach and Deficiency Type for Full Build Scenario

*Costs do not include system interchanges

Parkway	Reach	Range		Type 7 GR	Ramp Accel	Ramp Decel	Narrow bridge	Vertical curve	Overpass Vertical Clearance	Type 3 GR	Brush-block bridge	Narrow Brush-block bridge	Interchange Config	10 ft graded outer shoulder	3 ft paved inner shoulder	Cross Slope / Superelevation	Ditch Foreslope	Median Width	Pavement Rehabilitation	Interchange Spacing	TOTAL
Edward T Breathitt Parkway	B1	34.27	36.52	$3,500	$0	$0	$0	$0	$0	$0	$0	$0	$0	$157,430	$157,430	$0	$200,161	$0	$3,216,070	$0	$ 3,734,591
	Exit 37	36.52	37.62	$3,500	$1,762,000	$1,665,000	$0	$0	$0	$0	$0	$0	$7,020,000	$77,000	$77,000	$0	$97,900	$0	$1,573,000	$0	$ 12,275,400
	B2	37.62	39.24	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$113,680	$113,680	$0	$144,536	$0	$2,322,320	$0	$ 2,694,216
	Exit 40	39.24	40.34	$0	$676,000	$0	$0	$0	$0	$0	$0	$0	$0	$77,000	$77,000	$0	$97,900	$0	$1,573,000	$0	$ 2,500,900
	B3	40.34	41.87	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$106,680	$106,680	$0	$135,636	$0	$2,179,320	$0	$ 2,528,316
	Exit 42	41.87	43.27	$0	$150,000	$112,000	$270,000	$0	$0	$0	$0	$0	$0	$98,140	$98,140	$0	$124,778	$0	$2,004,860	$0	$ 2,857,918
	Exit 44	43.27	44.67	$0	$50,000	$56,000	$224,000	$450,000	$0	$0	$0	$0	$0	$98,070	$98,070	$0	$124,689	$0	$2,003,430	$600,000	$ 3,704,259
	Exit 45	44.67	45.77	$0	$0	$0	$0	$525,000	$670,000	$0	$0	$0	$0	$77,000	$77,000	$0	$97,900	$0	$1,573,000	$0	$ 3,019,900
	B4	45.77	48.43	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$20,860	$186,060	$0	$236,562	$0	$3,800,940	$0	$ 4,244,422
	Exit 49	48.43	49.53	$0	$55,000	$50,000	$0	$0	$0	$0	$0	$0	$0	$0	$77,000	$0	$97,900	$0	$1,573,000	$0	$ 1,852,900
	B5	49.53	53.52	$0	$0	$0	$0	$0	$400,000	$0	$0	$0	$0	$0	$279,370	$0	$355,199	$0	$5,707,130	$0	$ 6,741,699
	Exit 54	53.52	54.62	$3,500	$100,000	$100,000	$0	$0	$0	$2,000	$40,000	$0	$0	$0	$77,000	$0	$97,900	$0	$1,573,000	$0	$ 1,993,400
	B6	54.62	55	$7,000	$0	$0	$0	$0	$0	$2,000	$0	$0	$0	$0	$26,810	$0	$34,087	$0	$547,690	$0	$ 617,587
	B7	55	62.81	$49,000	$0	$0	$0	$0	$0	$7,000	$80,000	$150,000	$10,250,000	$0	$546,280	$0	$694,556	$0	$11,159,720	$0	$ 22,936,556
	Exit 63	62.81	63.19	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$26,600	$0	$33,820	$0	$543,400	$0	$ 603,820
	B8	63.19	65.31	$0	$0	$0	$0	$0	$0	$0	$0	$104,000	$0	$0	$148,260	$0	$188,502	$0	$3,028,740	$0	$ 3,469,502
	B9	65.31	67.81	$0	$0	$0	$0	$0	$0	$0	$40,000	$0	$0	$0	$175,560	$0	$223,212	$0	$3,586,440	$0	$ 4,025,212
	Exit 68	67.81	68.91	$0	$50,000	$50,000	$0	$100,000	$0	$0	$0	$0	$0	$0	$77,000	$0	$97,900	$0	$1,573,000	$0	$ 1,947,900
	B10	68.91	75.63	$0	$0	$0	$0	$0	$0	$0	$40,000	$0	$0	$0	$470,470	$0	$598,169	$0	$9,611,030	$0	$ 10,719,669
	Exit 76	75.63	76.26	$0	$110,000	$50,000	$0	$0	$0	$0	$0	$0	$0	$0	$43,680	$0	$55,536	$0	$892,320	$0	$ 1,151,536
	0	0	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$ -
	0	0	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$ -
	TOTAL			**$66,500**	**$2,953,000**	**$2,083,000**	**$494,000**	**$1,075,000**	**$1,070,000**	**$11,000**	**$200,000**	**$254,000**	**$17,270,000**	**$825,860**	**$2,939,090**	**$0**	**$3,736,843**	**$0**	**$60,041,410**	**$600,000**	**$93,619,703**
Western KY Parkway	Exit 1	0	0.551	$0	$0	$0	$0	$0	$0	$1,000	$0	$0	$0	$0	$38,570	$0	$0	$0	$787,930	$0	$ 827,500
	W1	0.551	3.152	$0	$0	$0	$0	$0	$0	$2,000	$0	$0	$0	$0	$182,070	$0	$0	$0	$3,719,430	$0	$ 3,903,500
	Exit 4	3.152	4.252	$0	$100,000	$580,000	$0	$0	$0	$3,000	$46,000	$0	$0	$0	$77,000	$0	$62,300	$0	$1,573,000	$0	$ 2,441,300
	W2	4.252	5.61	$14,000	$0	$0	$0	$0	$0	$1,000	$0	$0	$0	$0	$95,060	$0	$120,862	$0	$1,941,940	$0	$ 2,172,862
	W3	5.61	9.855	$73,500	$0	$0	$0	$0	$0	$2,000	$0	$0	$0	$0	$297,150	$0	$377,805	$0	$6,070,350	$0	$ 6,820,805
	W4	9.855	11.02	$14,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$103,774	$163,823	$1,667,380	$0	$ 1,948,977
	Exit 12	11.02	12.57	$0	$572,000	$100,000	$0	$225,000	$1,120,000	$0	$0	$567,000	$0	$0	$0	$0	$137,861	$217,635	$2,215,070	$2,600,000	$ 7,754,566
	Exit 13	12.57	13.67	$0	$0	$0	$0	$0	$850,000	$0	$0	$0	$0	$0	$0	$0	$97,900	$154,550	$1,573,000	$0	$ 2,675,450
	W5	13.67	21.76	$0	$0	$0	$0	$100,000	$750,000	$1,000	$0	$84,000	$0	$0	$0	$0	$720,366	$1,137,207	$11,574,420	$0	$ 14,366,993
	W6	21.76	23.89	$0	$0	$0	$0	$0	$0	$0	$0	$86,000	$0	$0	$0	$0	$188,769	$298,001	$3,033,030	$0	$ 3,605,800
	Exit 24	23.89	24.99	$0	$0	$0	$0	$0	$765,000	$0	$40,000	$0	$10,650,000	$0	$0	$0	$97,900	$154,550	$1,573,000	$0	$ 13,280,450
	W7	24.99	38.33	$0	$0	$0	$0	$300,000	$690,000	$0	$0	$0	$0	$0	$0	$0	$1,187,883	$1,875,254	$19,086,210	$0	$ 23,139,347
	0	0	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$ -
	0	0	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$ -
	0	0	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$ -
	0	0	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$ -
	0	0	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$ -
	0	0	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$ -
	0	0	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$ -
	0	0	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$ -
	0	0	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$ -
	0	0	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$ -
	TOTAL			**$101,500**	**$672,000**	**$680,000**	**$0**	**$625,000**	**$4,175,000**	**$10,000**	**$86,000**	**$737,000**	**$10,650,000**	**$0**	**$689,850**	**$0**	**$3,095,420**	**$4,001,019**	**$54,814,760**	**$2,600,000**	**$82,937,549**
TOTAL - Both Parkways				**$168,000**	**$ 3,625,000**	**$ 2,763,000**	**$494,000**	**$ 1,700,000**	**$ 5,245,000**	**$21,000**	**$286,000**	**$ 991,000**	**$ 27,920,000**	**$825,860**	**$ 3,628,940**	**$ -**	**$ 6,832,263**	**$ 4,001,019**	**$ 114,856,170**	**$ 3,200,000**	**$ 176,557,252**



LEGEND:

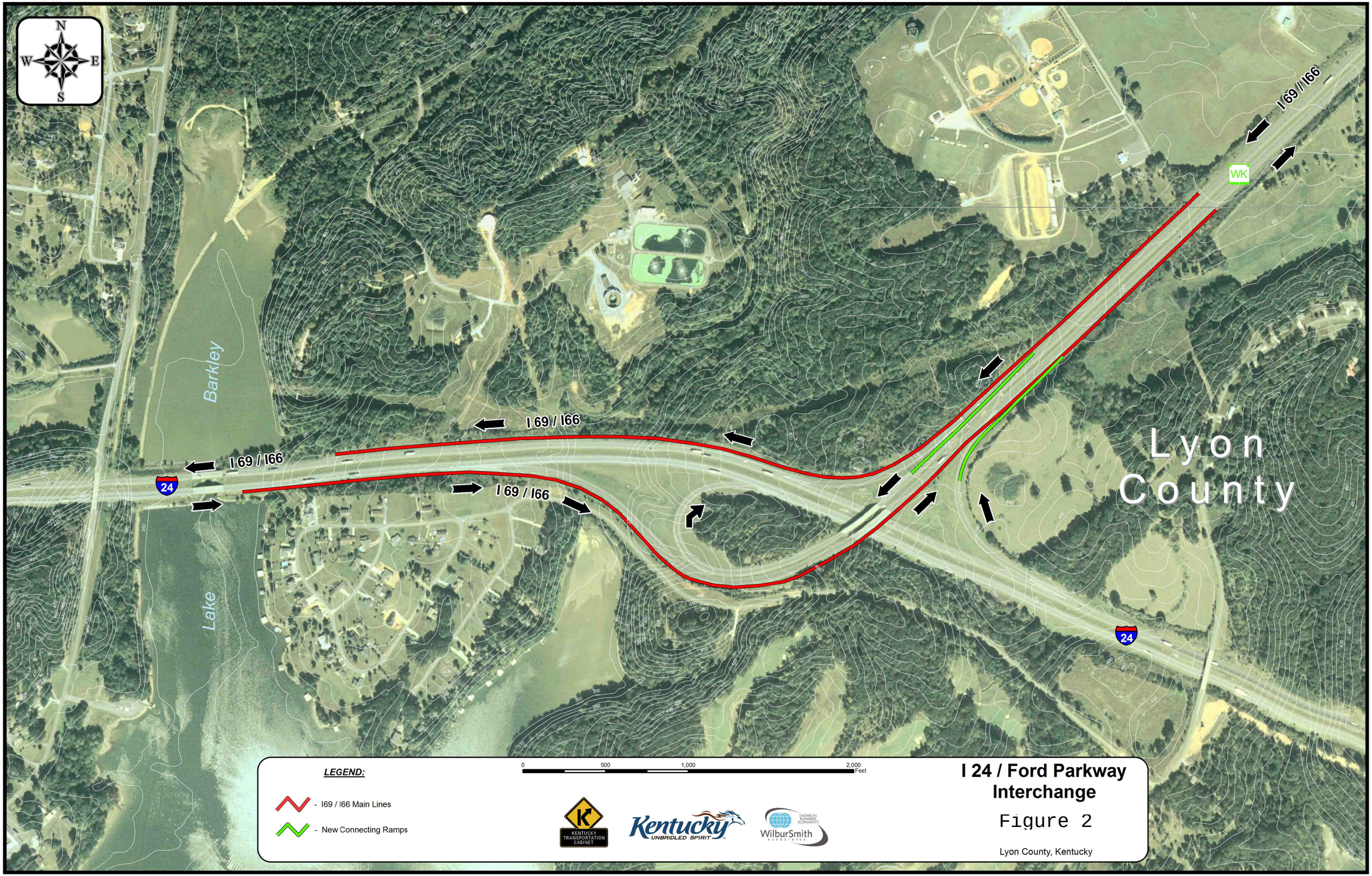
- I-69 / I-66 / I-24 Main Lines
- New Connecting Ramps
- Obsolete Ramps

0 750 1,500 3,000 4,500 Feet

I-24 / Ford Interchange

Figure 1

Lyon County, Kentucky



I 24 / Ford Parkway Interchange

Figure 2

Lyon County, Kentucky

N
W E
S

Hopkins
County

MORTONS GAP

41

1215

PR

I 69

813

I 69

I 66 / I69

I 66

WK

I 69 / I66
(WHFP)

I 69

41

ETB

PR

3059

2272

LEGEND:

- I69 / I66 Main Lines
- New Connecting Ramps
- Obsolete Ramps

0 750 1,500 3,000 4,500 Feet

Ford / Breathitt Interchange

Figure 3

Hopkins County, Kentucky

WENDELL H. FORD PARKWAY BRIDGE SUMMARY
Table C.1

WENDELL H. FORD PARKWAY BRIDGE SUMMARY

Route	County	Bridge No.	Dir.	MP	Features Intersected	Horizontal Clearance (curb-to-curb) (ft.)	Combined Horizontal Width of Curbs (ft.)	Type of Curb	Median Widths (ft.)	Median Type	Bridge Length	ADT	Suff. Rating	Structural Defficient	Funct. Obsolete	Cost to Widen
WK 9001	Lyon	B00049	EB	0.001	I-24 @ MP. 041.603	34	3.0	Jersey	38	Depressed	272	8,439	96.2	No	No	
WK 9001	Lyon	B00052	EB	3.408	P&L RR-ELKHORN TAVERN RD	38	3.0	Jersey	38	Depressed	221	8,439	97.9	No	No	
WK 9001	Lyon	B00052P	WB	3.408	P&L RR-ELKHORN TAVERN RD	48 (3 Lanes)	3.0	Jersey	38	Depressed	221	8,439	96.8	No	No	
WK 9001	Lyon	B00030	EB	3.702	US 62	38	1.8	Brush-block	38	Depressed	226	8,439	93.2	No	No	$23,000
WK 9001	Lyon	B00030P	WB	3.703	US 62	38	1.8	Brush-block	38	Depressed	226	8,439	93.2	No	No	$23,000
WK 9001	Caldwell	B00029P	WB	11.357	P&L RAILWAY	30	4.6	Brush-block	31	Depressed	189	8,689	80.0	No	Yes	$283,500
WK 9001	Caldwell	B00029	EB	11.357	P&L RAILWAY	30	4.6	Brush-block	31	Depressed	189	8,689	80.0	No	Yes	$283,500
WK 9001	Caldwell	B00033P	WB	21.752	TRADEWATER RIVER	30	5.4	Brush-block	31	Depressed	207	10,453	70.5	No	No	$42,000
WK 9001	Caldwell	B00033	EB	21.752	TRADEWATER RIVER	30	5.4	Brush-block	31	Depressed	207	10,453	81.8	No	No	$42,000
WK 9001	Hopkins	B00138	EB	22.003	TRADEWATER RIV. OVERFLOW	30	5.4	Brush-block	31	Depressed	215	10,453	69.5	No	No	$43,000
WK 9001	Hopkins	B00138P	WB	22.003	TRADEWATER RIV. OVERFLOW	30	5.4	Brush-block	31	Depressed	215	10,453	70.5	No	No	$43,000
WK 9001	Hopkins	B00139P	WB	24.887	P&L RAILWAY	38	1.8	Brush-block	32	Depressed	131	9,628	92.0	No	No	$20,000
WK 9001	Hopkins	B00139	EB	24.887	P&L RAILWAY	38	1.8	Brush-block	32	Depressed	131	9,628	93.0	No	No	$20,000
WK 9001	Hopkins	B00140	EB	28.346	KY 112 & COPPERAS CREEK	30	4.6	Brush-block	32	Raised	278	9,628	74.8	No	Yes	$56,000
WK 9001	Hopkins	B00140P	WB	28.346	KY 112 & COPPERAS CREEK	30	4.6	Brush-block	32	Raised	278	9,628	74.8	No	Yes	$56,000
WK 9001	Hopkins	B00143	EB	33.872	P&L RAILWAY SPUR & OAK R	30	4.6	Brush-block	32	Raised	260	9,628	78.9	No	No	$52,000
WK 9001	Hopkins	B00143P	WB	33.872	P&L RAILWAY SPUR -OAK RD	30	4.6	Brush-block	32	Raised	260	9,628	78.9	No	No	$52,000
WK 9001	Hopkins	B00144	EB	36.900	CSX RAILROAD	30	4.6	Brush-block	32	Depressed	448	9,628	78.9	No	No	$90,000
WK 9001	Hopkins	B00144P	WB	36.900	CSX RAILROAD	30	4.6	Brush-block	32	Depressed	448	9,628	81.9	No	No	$90,000
WK 9001	Hopkins	B00145P	WB	38.311	PENNYRILLE PARKWAY	N/A	N/A	N/A	N/A	N/A	226	9,628	96.1	No	No	
WK 9001	Hopkins	B00145	EB	38.311	PENNYRILLE PARKWAY	N/A	N/A	N/A	N/A	N/A	226	9,628	96.1	No	No	

Bridges under 200 feet long need to be 37.5 feet wide
Bridges over 200 feet long need to be 31 feet wide

Need to be widened
Lowest 20% sufficiency ratings
Brush block upgraded to constant slope face

WENDELL H. FORD PARKWAY OVERPASS SUMMARY
Table C.2

WENDELL H. FORD PARKWAY OVERPASS SUMMARY

					Vertical Clearances					Shoulder & Median Widths				
MP	Bridge #	Dir.	Location	County	Left Edge Passing Lane Clearance	Centerline Clearance	Right Edge Driving Lane Clearance	Median Side Shoulder Edge Clearance	Outside Shoulder Edge Clearance	Outside Shoulder Width	Median Shoulder Width	Median Width	Median Type	Cost to obtain Clearance
0.855	B00050	EB	UNDER KY 93	Lyon	17'09"	17'09"	18'03"	17'11"	18'04"	10' Paved	4' Paved	38'	Depressed	
0.855		WB	UNDER KY 93	Lyon	17'00"	16'08"	16'09"	17'04"	16'04"	10' Paved	4' Paved	38'	Depressed	
5.577	B00029	EB	UNDER KY 2611	Lyon	17'07"	17'04"	17'04"	17'06"	16'08"	10' Paved	4' Paved	36'	Depressed	
5.770		WB	UNDER KY 2611	Lyon	18'00"	17'10"	18'00"	17'10"	17'02"	10' Paved	4' Paved	36'	Depressed	
11.700	B00037	EB	UNDER KY 91	Caldwell	16'07"	16'02"	15'09"	16'06"	15'00"	10' Paved	4' Paved	30'	Depressed	$1,120,000
11.700		WB	UNDER KY 91	Caldwell	17'07"	18'07"	19'02"	16'08"	19'05"	10' Paved	4' Paved	30'	Depressed	
13.120	B00007	EB	UNDER KY 293	Caldwell	15'06"	15'06"	15'06"	15'06"	14'05"	10' Paved	4' Paved	32'	Depressed	$850,000
13.120		WB	UNDER KY 293	Caldwell	16'03"	16'07"	17'01"	15'08"	16'06"	10' Paved	4' Paved	32'	Depressed	
17.308	B00060	EB	UNDER KY 2614	Caldwell	14'09"	14'10"	15'00"	14'10"	14'07"	10' Paved	4' Paved	31'	Raised	$360,000
17.308		WB	UNDER KY 2614	Caldwell	15'03"	15'06"	15'10"	15'00"	15'07"	10' Paved	4' Paved	31'	Raised	
18.610	B00061	EB	UNDER KY 2613	Caldwell	22'01"	22'02"	22'04"	22'03"	22'09"	10' Paved	3' Paved	30'	Depressed	
18.610		WB	UNDER KY 2613	Caldwell	22'01"	22'02"	22'04"	22'03"	22'07"	10' Paved	3' Paved	30'	Depressed	
20.880	B00048	EB	UNDER KY 2619	Caldwell	15'07"	15'03"	15'00"	15'08"	14'11"	10' Paved	3' Paved	31'	Depressed	$390,000
20.880		WB	UNDER KY 2619	Caldwell	15'07"	15'10"	16'02"	15'05"	16'06"	10' Paved	3' Paved	31'	Depressed	
24.440	B00070	EB	UNDER KY 109	Hopkins	16'01"	16'08"	16'09"	15'06"	15'06"	4' Paved (3 Lanes)	3' Paved	30'	Depressed	**
24.440		WB	UNDER KY 109	Hopkins	16'05"	16'10"	17'03"	15'10"	16'02"	3' Paved (3 Lanes)	3' Paved	30'	Depressed	
31.580	B00117	EB	UNDER KY 454	Hopkins	17'08"	17'06"	17'01"	17'08"	15'10"	10' Paved	4' Paved	31'	Raised	$690,000
31.580		WB	UNDER KY 454	Hopkins	19'01"	19'09"	20'06"	18'07"	20'04"	10' Paved	4' Paved	31'	Raised	
38.000	B00145	EB	Breathitt & Ford Interchange (NB on Breathitt)	Hopkins	19'10"	19'07"	19'10"	19'11"	18'11"	4' Paved (3 Lanes)	4' Paved	35'	Depressed	
38.000		EB	Breathitt & Ford Interchange (SB on Breathitt)	Hopkins	20'04"	20'01"	19'08"	20'02"	19'04"	4' Paved (3 Lanes)	4' Paved	35'	Depressed	
38.000	B00145P	WB	Breathitt & Ford Interchange (NB on Breathitt)	Hopkins	19'05"	19'08"	19'05"	19'06"	18'02"	4' Paved (3 Lanes)	4' Paved	35'	Depressed	
38.000		WB	Breathitt & Ford Interchange (SB on Breathitt)	Hopkins	19'07"	19'06"	19'02"	19'06"	18'05"	4' Paved (3 Lanes)	4' Paved	35'	Depressed	

Highlighted when bridge has a vertical clearance less than 16'

** Will be rebuilt with Interchange reconstruction

EDWARD T. BREATHITT PARKWAY BRIDGE SUMMARY
TABLE C.3

EDWARD T. BREATHITT PARKWAY BRIDGE SUMMARY

Route	County	Bridge No.	Dir.	MP	FEATURES	Horizontal Clearance (curb-to-	Combined Horizontal Width of	Type of Curb	Median Widths (ft.)	Median Type	Bridge Length	ADT	Suff. Rating	Structural Defficient	Funct. Obsolete	Cost to Widen
EB 9004	Hopkins	B00095	NB	37.054	P&L RR-FLAT CREEK-KY 813	34	3	Jersey	36	Depressed	318	18,451	87.1	No	No	
EB9004	Hopkins	B00095P	SB	37.054	P&L RR-FLAT CREEK-KY 813	34	3	Jersey	36	Depressed	318	18,451	90.1	No	No	
EB 9004	Hopkins	B00096	NB	39.774	KY 2171	34	3	Jersey	36	Depressed	265	17,542	87.1	No	Yes	
EB 9004	Hopkins	B00096P	SB	39.774	KY 2171	34	3	Jersey	36	Depressed	265	17,451	80.9	No	No	
EB 9004	Hopkins	B00100	NB	42.418	KENTUCKY 70	34	3	Jersey	37	Depressed	192	17,542	91.2	No	No	$135,000
EB 9004	Hopkins	B00100P	SB	42.418	KENTUCKY 70	34	3	Jersey	37	Depressed	192	17,542	78.9	No	Yes	$135,000
EB 9004	Hopkins	B00101	NB	43.438	CSX RAILROAD	34	3	Jersey	36	Depressed	159	30,093	77.4	No	Yes	$112,000
EB 9004	Hopkins	B00101P	SB	43.438	CSX RAILROAD	34	3	Jersey	36	Depressed	159	30,093	89.9	No	No	$112,000
EB 9004	Hopkins	B00020P	SB	48.805	OTTER CREEK	38	3	Jersey	36	Depressed	144	14,549	95.6	No	No	
EB 9004	Hopkins	B00020	NB	48.805	OTTER CREEK	38	3	Jersey	36	Depressed	144	14,549	95.6	No	No	
EB 9004	Hopkins	B00210	RAMP C	48.970	OTTER CREEK	26.2	3	Jersey	36	Depressed	132	14,549	72.2	No	Yes	
EB 9004	Hopkins	B00211	RAMP D	48.971	OTTER CREEK	26.2	3	Jersey	36	Depressed	182	14,549	72.2	No	Yes	
EB 9004	Hopkins	B00021		48.979	KY 260 @ HANSON	38	3	Jersey	36	Depressed	161	14,549	94.6	No	No	
EB 9004	Hopkins	B00021P		48.979	KY 260 @ HANSON	38	3	Jersey	36	Depressed	161	14,549	94.6	No	No	
EB 9004	Hopkins	B00012	NB	54.070	KY 138	38	3.4	Brush-block	36	Depressed	174	15,741	96.3	No	No	$20,000
EB 9004	Hopkins	B00012P	SB	54.070	KY 138	38	3.4	Brush-block	36	Depressed	174	15,741	96.3	No	No	$20,000
EB 9004	Webster	B00069P	SB	56.523	KY 147	38	3.4	Brush-block	36	Depressed	163	14,015	97.7	No	No	$20,000
EB 9004	Webster	B00069	NB	56.523	KY 147	38	3.4	Brush-block	36	Depressed	163	14,015	96.7	No	No	$20,000
EB 9004	Webster	B00071P	SB	59.280	DEER CREEK	30	4.4	Brush-block	36	Depressed	368	14,015	81.4	No	No	$75,000
EB 9004	Webster	B00071	NB	59.280	DEER CREEK	30	4.4	Brush-block	36	Depressed	368	14,015	81.4	No	No	$75,000
EB 9004	Webster	B00072	NB	60.476	KY 370	38	3.4	Brush-block	36	Depressed	166	14,015	82.0	No	No	$20,000
EB 9004	Webster	B00072P	SB	60.476	KY 370	38	3.4	Brush-block	36	Depressed	166	14,015	95.6	No	No	$20,000
EB 9004	Webster	B00074	NB	63.887	GROVES CREEK	30	4.6	Brush-block	36	Depressed	260	11,877	81.6	No	No	$52,000
EB 9004	Webster	B00074P	SB	63.888	GROVES CREEK	30	4.6	Brush-block	36	Depressed	260	11,877	81.6	No	No	$52,000
EB 9004	Henderson	B00062P	SB	65.393	ACCESS RD-BIG RIVERS RR	38	3.4	Brush-block	36	Depressed	183	11,877	94.6	No	No	$20,000
EB 9004	Henderson	B00062	NB	65.393	ACCESS RD-BIG RIVERS RR	38	3.4	Brush-block	36	Depressed	183	11,877	94.6	No	No	$20,000
EB 9004	Henderson	B00068	NB	75.360	ELAM DITCH	38	3.4	Brush-block	36	Depressed	141	13,893	96.7	No	No	$20,000
EB 9004	Henderson	B00068P	SB	75.360	ELAM DITCH	38	3.4	Brush-block	36	Depressed	141	13,893	96.7	No	No	$20,000

Bridges under 200 feet long need to be 37.5 feet wide
Bridges over 200 feet long need to be 31 feet wide

Need to be widened
Lowest 20% sufficiency ratings
Brush block upgraded to constant slope face

EDWARD T. BREATHITT PARKWAY OVERPASS SUMMARY
TABLE C.4

EDWARD T. BREATHITT PARKWAY OVERPASS SUMMARY

					Vertical Clearances					Shoulder & Median Widths				
MP	Bridge #	Dir.	Location	County	Left Edge Passing Lane Clearance	Centerline Clearance	Right Edge Driving Lane	Median Side Shoulder Edge	Outside Shoulder Edge Clearance	Outside Shoulder Width	Median Shoulder	Median Width	Median Type	Cost to Obtain Clearance
40.996	B00102	NB	UNDER ICRR	Hopkins	23'03"	23'00"	22'09"	23'05"	23'02"	10' Paved	4' Paved	38'	Depressed	
40.996		SB	UNDER ICRR	Hopkins	23'07"	23'07"	24'00"	23'09"	24'05"	10' Paved	4' Paved	38'	Depressed	
41.060	RR0602	NB	UNDER L&N RR SPUR	Hopkins	16'06"	16'03"	16'02"	16'08"	16'05"	10' Paved	4' Paved	38'	Depressed	
41.060		SB	UNDER L&N RR SPUR	Hopkins	16'04"	16'06'	16'10"	16'06"	17'02"	10' Paved	4' Paved	38'	Depressed	
44.000	B00219	NB	UNDER KY 281	Hopkins	18'00"	17'07"	17'08"	18'01"	17'10"	10' Paved	4' Paved	38'	Depressed	
44.000		SB	UNDER KY 281	Hopkins	18'01"	18'01"	18'02"	18'01"	18'04"	10' Paved	4' Paved	38'	Depressed	
45.206	B00016	NB	US 41 N.B. LANE	Hopkins	19'09"	20'07"	21'07"	19'08"	22'05"	10' Paved	4' Paved	38'	Depressed	
45.206		SB	UNDER US 41 N.B. LANE	Hopkins	18'02"	17'03"	16'02"	18'5"	15'08"	10' Paved	4' Paved	38'	Depressed	$670,000
46.435	B00018	NB	UNDER KY 2657 JOHN FOWLER RD	Hopkins	16'10"	16'08"	16'09"	16'04"	16'06"	10' Paved	4' Paved	36'	Depressed	
46.435		SB	UNDER KY 2657 JOHN FOWLER RD	Hopkins	16'10"	16'08"	16'10"	16'02"	16'04"	10' Paved	4' Paved	36'	Depressed	
47.472	B00019	NB	UNDER KY 862	Hopkins	17'02"	16'10"	16'10"	16'06"	16'05"	10' Paved	4' Paved	36'	Depressed	
47.472		SB	UNDER KY 862	Hopkins	17'07"	17'07"	18'00"	16'10"	17'10"	10' Paved	4' Paved	36'	Depressed	
51.941	B00011	NB	UNDER KY 2655 HERBERT BROWN R	Hopkins	16'03"	16'07"	16'10"	15'10"	17'01"	10' Paved	4' Paved	36'	Depressed	$400,000
51.941		SB	UNDER KY 2655 HERBERT BROWN R	Hopkins	16'03"	15'10"	15'07"	16'01"	15'01"	10' Paved	4' Paved	36'	Depressed	
55.449	B00068	NB	UNDER KY 2667	Webster	17'08"	17'08"	18'06"	17"11"	19'02"	10' Paved	4' Paved	36'	Depressed	
55.449		SB	UNDER KY 2667	Webster	17'00"	16'05"	16'01"	17'05"	16'00"	10' Paved	4' Paved	36'	Depressed	
58.396	B00070	NB	UNDER KY 2666	Webster	16'09"	16'03"	16'04"	17'01"	16'04"	10' Paved	3' Paved	36'	Depressed	
58.396		SB	UNDER KY 2666	Webster	16'06"	16'05"	16'09"	16'08"	17"01"	10' Paved	4' Paved	36'	Depressed	
62.637	B00073	NB	UNDER KY 56	Webster	17'01"	16'09"	16'06"	17'04"	17'02"	10' Paved (3 lanes	4' Paved	36'	Depressed	
62.637		SB	UNDER KY 56	Webster	17'05"	17'07"	17'10"	17'07"	18'10"	10' Paved (3 lanes	4' Paved	36'	Depressed	
66.835	B00063	NB	UNDER KY 2678	Henderson	18'03"	18'03"	18'10"	18'06"	19'07"	10' Paved	4' Paved	36'	Depressed	
66.835		SB	UNDER KY 2678	Henderson	17'06"	17'00"	16'10"	17'11"	17'02"	10' Paved	4' Paved	36'	Depressed	
68.363	B00064	NB	UNDER KY 416	Henderson	16'08"	16'08"	16'03"	16'11"	16'10"	10' Paved	4' Paved	36'	Depressed	
68.363		SB	UNDER KY 416	Henderson	16'08"	16'08"	17'00"	16'11"	17'06"	10' Paved	4' Paved	36'	Depressed	
69.674	B00065	NB	UNDER KY 2675	Henderson	16'08"	16'06"	16'07"	16'08"	17'00"	10' Paved	4' Paved	36'	Depressed	
69.674		SB	UNDER KY 2675	Henderson	16'08"	16'05"	16'06"	16'10"	16'10"	10' Paved	4' Paved	36'	Depressed	
72.346	B00066	NB	UNDER KY 136	Henderson	17'02"	16'09"	16'06"	17'05"	17'02"	10' Paved	4' Paved	36'	Depressed	
72.346		SB	UNDER KY 136	Henderson	17'00"	17'02"	17'03"	17'04"	17'11"	10' Paved	4' Paved	36'	Depressed	
73.256	B00067	NB	UNDER KY 2677	Henderson	16'08"	16'03"	16'02"	17'00"	16'08"	10' Paved	4' Paved	36'	Depressed	
73.256		SB	UNDER KY 2677	Henderson	17'02"	17'01"	17'04"	17'04"	17'11"	10' Paved	4' Paved	36'	Depressed	

Highlighted when bridge has a vertical clearance less than 16'

Stopping Sight Distance
Table C.5

Vertical Stopping Sight Distance Deficiencies							
STATION	MILEPOST	TYPE	REQUIRED SSD	EXISTING SSD	Existing Vertical Curve Length	Proposed Vertical Curve Length	Estimated Cost to Cure
STA. 1935+00 - STA. 1942+00	FORD MP 11.021 - MP 11.154	SAG	730'	669'	700'	775'	$225,000
STA. 2239+32 - STA. 2247+32	FORD MP 16.785 - MP 16.937	SAG	730'	716'	800'	825'	$100,000
STA. 3072+85 - STA. 3084+85	FORD MP 32.528 - MP 32.755	SAG	730'	726'	1200'	1225'	$100,000
STA. 3288+00 - STA. 3294+00	FORD 36.603 - MP 36.717	SAG	730'	714'	600'	625'	$100,000
STA. 3320+00 - STA. 3326+00	FORD MP 37.209 - MP 37.323	SAG	730'	714'	600'	625'	$100,000
STA. 840+50 - STA. 845+50	BREATHITT MP 43.674 - 43.769	SAG	730'	595'	500'	650'	$450,000
STA. 917+00 - STA. 927+00	BREATHITT MP 45.123 - MP 45.312	CREST	730'	676'	1000'	1175'	$525,000
STA. 3210+50 - STA. 3215+50	BREATHITT MP 68.428 - MP 68.523	SAG	730'	717'	500'	525'	$100,000

Note: Assumed $100,000 minimum cost to cure.

SUPERELEVATIONS DATA
TABLE C.6

PI Sta.	Radius	Existing Superelevation	Current AASHTO Superelevation	
1410+51.06	5729.58	2.80%	3.57%	
1504+44.93	5729.58	2.80%	3.57%	
1571+98.56	4092.56	3.90%	4.81%	
1632+27.14	11459.15	1.56% RC	1.9% *	
1689+38.92	2864.79	5.50%	6.48%	
1753+53.27	5729.58	2.80%	3.57%	
1795+12.84	2864.79	5.50%	6.48%	
1843+24.81	22918.31	1.56% RC	1.5% *	
1867+34.21	11459.15	1.56% RC	1.9% *	
1887+39.25	4583.66	3.50%	4.36%	
1912+46.30	5729.58	2.80%	3.57%	
1985+23.42	5729.58	2.80%	3.57%	
2027+51.18	11459.16	?	1.9% *	
2106+45.70	11459.16	?	1.9% *	
2232+18.00	4583.66	3.50%	4.36%	
2299+06.26	5729.58	2.80%	3.57%	
2371+90.00	5729.58	2.80%	3.57%	
2412+18.12	5729.58	2.80%	3.57%	
2463+47.25	5729.58	2.80%	3.57%	
2495+76.17	5729.58	2.80%	3.57%	
2622+03.66	5729.58	2.80%	3.57%	
2708+86.96	7639.44	2.00%	2.75%	
2902+76.42	11459.16	1.56% NC	1.9% *	
3048+57.61	22918.32	0.00%	1.5% *	
3152+67.61	22918.32	0.00%	1.5% *	
3296+68.47	5729.58	2.80%	3.57%	
3422+09.41	4583.66	3.50%	4.36%	Eastbound
3441+43.85	4583.66	3.50%	4.36%	Eastbound
3483+94.17	7639.44	2.00%	2.75%	Eastbound
3490+97.51	5729.58	2.80%	3.57%	Westbound
200+17.96	11459.16	?	1.9% *	
300+35.45	7640	?	1.75% *	
670+00.82	22918.32	?	1.5% *	
709+74.50	7639.44	?	2.75%	
760+88.60	4583.66	?	4.36%	
807+22.58	7639.44	?	2.75%	
925+73.96	7639.44	?	2.75%	
1993+31.82	3819.72	4.20%	5.11%	
2030+02.99	11459.16	1.56% RC	1.9% *	
2239+78.52	22918.32	1.56% RC	1.5% *	
2371+69.60	5729.58	2.80%	3.57%	
2424+53.38	11459.16	2.00%	1.9% *	
2555+94.63	22918.31	1.56% RC	1.5% *	
2610+71.98	11459.16	1.56% RC	1.9% *	
2652+18.78	7639.44	2.00%	2.75%	
2760+09.09	5729.58	2.80%	3.57%	
2860+99.12	7639.44	2.00%	2.75%	
2913+85.02	7639.44	2.00%	2.75%	
2966+77.77	5729.58	2.80%	3.57%	
3078+48.13	22918.32	1.56% RC	1.5% *	
3211+03.48	22918.32	1.56% RC	1.5% *	
3443+02.08	7639.44	2.00%	2.75%	
3666+55.48	2864.79	5.50%	6.48%	
3726+71.95	1909.86	8.30%	7.93%	
3750+36.72	1909.86	8.30%	7.93%	

* Below desired 2%

Interchange Data
Table C.7

EXIT NUMBER/ ROUTE NUMBER	RAMP NAME	EXISTING ACCEL. LENGTH	REQUIRED ACCEL. LENGTH (4)	EXISTING DECEL. LENGTH	REQUIRED DECEL. LENGTH (4)	WIDTH AT GORE	RADIUS OF LAST CURVE ACCEL.	RADIUS OF FIRST CURVE DECEL.	MAXIMUM GRADE ACCEL.	MAXIMUM GRADE DECEL.	GRADE (%)	COST TO CURE (1) (5)
I-24 Ford Parkway	SYSTEM INTERCHANGE											**$7,260,000 (10)**
EXIT 4 / US 62	A			447	468	34		716.19			-4	$530,000
	B	350	820			18*	954.92				in v.c.	$50,000
	C			459.25	390	34		1909.85			1.5	$50,000
	D	350	580			18*	1273.23				1.5	$50,000
Total for Interchange												**$680,000**
EXIT 12 / KY 91	A			436	440	32		963.63			2.5	$50,000
	B	417	1000			18	1430				0.5	$59,000
	C			440	390	32		2300			-1.98	$50,000
	D	450	1230			18	690				3.8	$513,000
Total for Interchange												**$672,000**
EXIT 13 / KY 293	WB off			560	340	36		1145.92			3	
	EB on	1301	580			20	1145.92				-3.94	
	EB off			517	340	36		954.93			-0.44	
	WB on	828	580			20	954.93				-1.5	
Total for Interchange												**$0**
EXIT 24 / KY 109	TOLL INTERCHANGE											**$10,650,000 (3)**
EXIT 34/38 Breathitt/Ford Pkwy	SYSTEM INTERCHANGE											**$45,000,000 (10)**
EXIT 37 / KY 813	A	0	820			18*	716.2				0.6	$82,000
Flop Diamond	B			0	490	34*		430			0	$1,590,000
	C	0	1230			18*	430				1.8	$1,680,000
	D			0	490	24*		430			2	$75,000
Total for Interchange (6)												**$3,427,000**
EXIT 40/ KY 2171/ KY 336	A	1000	1230			20	324.05				1	$676,000
Earlington Bypass	B			560	390	36		572.93			-0.4	
	C	1000	820			20	716.2				-0.4	
	D			560	440	36		458.37			-1	
Total for Interchange												**$676,000**
EXIT 42 / KY 70 (2)	A	0	600			17	1909.86				-1.28	$50,000
	B			0	560	29		1909.86			0.46	$56,000
	C			0	560	29		954.93			0.8	$56,000
	D	0	780			17*	1909.86				1.5	$100,000
Total for Interchange												**$262,000**
EXIT 44 / KY 281	A			0	560	29*		1432.39			0.05	$56,000
Island Ford	B	0	1000			21	1432.39				0.5	$50,000
	C			0	560	29*		1432.39			-1.1	(8)
	D	0	1000			21	1432.39				1.28	(9)
Total for Interchange												**$106,000**

Interchange Data
Table C.7

EXIT NUMBER/ ROUTE NUMBER	RAMP NAME	EXISTING ACCEL. LENGTH	REQUIRED ACCEL. LENGTH (4)	EXISTING DECEL. LENGTH	REQUIRED DECEL. LENGTH (4)	WIDTH AT GORE	RADIUS OF LAST CURVE ACCEL.	RADIUS OF FIRST CURVE DECEL.	MAXIMUM GRADE ACCEL.	MAXIMUM GRADE DECEL.	GRADE (%)	COST TO CURE (1) (5)
EXIT 45 / US 41	NB off			470	560							(9)
Flyover	SB on	520	1000									(8)
Total for Interchange												**(8) (9)**
EXIT 49 / KY 260	A	450	580			18	954.93				2	$55,000
	B			456	390	20*		1206.23			1	$50,000
	C	1000	580			*	1527.89				1.52	
	D			561	440	36		1273.24			-0.5	
Total for Interchange												**$105,000**
EXIT 54 / KY 138	SE			450	340	36		1909.86			0	$50,000
	NE	500	580			15*	954.93				1.64	$50,000
	NW			450	340	15*		716.2			-1.32	$50,000
	SW	500	580			15*	1145.92				0.3	$50,000
Total for Interchange												**$200,000**
EXIT 63 / KY 56	TOLL INTERCHANGE											**$10,250,000 (3)**
EXIT 68 / KY 416	B			459	340	36		716.2			vertical curve	$50,000
Half Interchange	D	500	580			20*	1214.34				vertical curve	$50,000
Total for Interchange												**$100,000**
EXIT 76 / KY 425	A	450	580			20*	818.51				-0.59	$55,000
Henderson Byp. Trumpet	B			450	340	33		954.93			0.196	$50,000
	C (clover)			850 (7)	490	36		381.97			-1	
	D (flyover)	450	580			20*	674.07				2.2	$55,000
Total for Interchange												**$160,000**

* Difficult to determine from existing plans
(1) Determined by per foot cost
(2) Existing curves meet 70 mph design. However, short ramps exist. Checked acceleration & deceleration lengths from stop condition.
(3) Estimate from BG Pkwy & US 127 interchange actual construction cost, plus right-of-way and Utilities costs based on regional data
(4) When decel & accel length is greater than required, still lenghened ramps to recommended lengths from Design Manual (560 feet for decel & 1000 feet for accel lanes)
(5) Used $50,000 as minimum cost if any improvements were made
(6) Replace bridges
(7) Includes length of spiral
(8) Auxiliary lane constructed between Exit 45 US 41 SB ramp to Exit 44 Ramp C during a pavement rehab project
(9) Auxiliary lane proposed between Exit 45 US 41 NB ramp to Exit 44 Ramp D (cost included in Interchange Spacing numbers)
(10) Costs for system interchanges include construction, right-of-way, utilities, and pavement rehabilitation

Median/Ditch Data
Table C.8

A comparison of median and ditch characteristics according to parkway construction plans grouped by plan packages

Roadway	MP begin	MP end	Median Width	Raised or Depressed	Median Slope	Ditch Width	Ditch Slope
Ford	0.000	0.404	36	D	4:01	12	4:1
Ford	0.404	3.546	36	D	4:01	12	4:1
Ford	3.552	10.155	36	D	4:01	8	3:1
Ford	3.729	9.855	36	D	4:01	8	3:1
Ford	9.855	10.332	30	R	1:12	8	3:1
Ford	10.188	10.341	30	R	1:12	8	3:1
Ford	10.341	11.021	30	R	1:12	8	3:1
Ford	11.021	14.856	30	R	1:12	8	3:1
Ford	14.856	21.153	30	R	1:12	8	3:1
Ford	21.153	25.655	30	R	1:12	8	3:1
Ford	25.655	31.689	30	R	1:12	8	3:1
Ford	31.689	37.264	30	R	1:12	8	3:1
Ford	37.202	40.753	30	R	1:12	8	3:1
Breathitt	34.271	35.266	36	D	3:01	6	3:1
Breathitt	36.620	46.069	36	D	4:01	6	3:1
Breathitt	46.069	50.907	36	D	4:01	8	3:1
Breathitt	49.553	53.573	36	D	4:01	8	3:1
Breathitt	53.550	57.489	36	D	4:01	8	3:1
Breathitt	57.489	62.112	36	D	4:01	8	3:1
Breathitt	62.112	65.305	36	D	4:01	8	3:1
Breathitt	65.305	70.362	36	D	4:01	8	3:1
Breathitt	70.362	76.233	36	D	4:01	8	3:1
Breathitt	70.339	78.661	36	D	4:01	8	3:1

GUARDRAIL DATA SUMMARY
TABLE C.9

	GUARDRAIL LENGTH	TYPE 1 END TREATMENT	TYPE 2A END TREATMENT	TYPE 3 END TREATMENT	TYPE 4A END TREATMENT	TYPE 7 END TREATMENT
FORD PARKWAY	87,500	125	1	30	10	41
BREATHITT PARKWAY	117,500	81		16	7	48
TOTALS	205,000	206	1	46	17	89

The Type 7 end treatments need to be replaced.

Number of Type 7 end treatments that need to be replaced =	89
Estimated cost for Type 7 end treatments =	$3,500
Total Cost =	$311,500

The type 3 end treatments that are shaded do not meet current standards and need to be replaced.

Number of type 3 end treatments that need to be replaced =	30
Estimated Cost for Type 3 end treatments =	$1,000.00
Total Cost =	$30,000.00

Guardrail Data
Table C.10

Wendell H. Ford Parkway Eastbound			
Mile Marker	**End Treatment Type**	**Approximate Length (ft)**	**Comments**
0	1	100,B,100	Bridge
	3	2000	
	1	600	Underpass
1			
	3	100	
	1	250	
	3	650	
2			
	3	300	
	1	50	
3	1	150	
	1	75	
	1	50,B	Extended to off ramp
	1	100,B,50	Bridge
4			
	1	800	
	3	250	
	3	50	
5	7	350	
	7	350	
	7	700	Underpass
	7	50	
6			
	7	100	
	7	75	
	7	150	
	7	150	
	7	250	
7			
	7	50	
	1	50	
	1	250	
	7	1000	
8			
	7	50	
	7	75	
	7	150	
	3	75	
	7	600	
9			
	7	100	
	7	75	
	7	350	
	7	350	
	7	150	
10			

Guardrail Data
Table C.10 (continued)

Wendell H. Ford Parkway Eastbound			
Mile Marker	**End Treatment Type**	**Approximate Length (ft)**	**Comments**
	1	600	
	1	350	
11	1	1500,B	Extended to off ramp
	1	600	Underpass
12			
	3	50	
	1	350	
	1	75	
13			
	1	75	Underpass
	3	400	
	1	450	
	1	200	
14			
	1	250	
	1	100	
	1	450	
15	3	1500	
	3	650	
16			
	7	1800	
	3	50	
17			
	7	50	
	7	50	Underpass
	7	500	
18			
	7	200	
	1	900	
	1	50	Underpass
19	1	1000	
	1	1000	
	1	700	
20			
	4A	900	
	1	250	
	4A	75	Underpass
21			
	1	700	
22	1	350,B,800,B,150	2 Bridges
	1	800	
	1	150	
23	1	1500	
	1	100	
	1	100	
24	1	350	

Guardrail Data
Table C.10 (continued)

Wendell H. Ford Parkway Eastbound			
Mile Marker	**End Treatment Type**	**Approximate Length (ft)**	**Comments**
25	1	1200,B,750	Bridge
	1	500	
	1	200	
	1	50	
26			
	1	350	
	1	500	
	1	50	
	1	600	
27			
	2A	1700	
28	1	700	
	3	100,B,25	Bridge
	1	150	
29			
	1	200	
30			
	3	600	
	4A	100	
	1	750	
31			
	1	650	
	1	75	Underpass
	3	150	
32	3	350	
	1	1600	
	3	700	
33			
	1	700	
	1	800,B,25	Bridge
34			
	4A	350	
	4A	350	
35			
	4A	50	
	7	550	
36			
	1	400	
37	1	800,B,800	Bridge
	1	75	
38			

Deficient Type 3's (follow ditch grade)
Deficient Type 7's (all Type 7's)

Guardrail Data
Table C.11

Wendell H. Ford Parkway Westbound			
Mile Marker	**End Treatment**	**Approximate Length (ft)**	**Comments**
38			
	1	200	
	1	50	
37	1	500,B,700	Bridge
	1	200	
36			
	1	50	
	1	50	
	1	100	
	7	100	
	1	50	
35			
	1	600	
	4A	300	
34	1	75,B,150	Bridge
	1	500	
33	1	150	
	1	400	
	1	75	
	7	100	
32	4A	300	
	1	75	Underpass
	1	750	
31			
	1	850	
	3	75	
	3	800	
30			
	1	200	
29			
	1	150	
	1	75,B,150	Bridge
	1	50	
28			
	1	50	
27	1	700	
	1	700	
26	1	100	
	1	50	
	1	75	
25	1	700,B,1400	Bridge
24	1	1000	
	1	800	
	1	50	
	1	150	
23	1	800	
	1	300	
	1	250	
22	1	75,B,700,B,100	2 Bridges
21			
	1	100	Underpass

Guardrail Data
Table C.11 (continued)

Wendell H. Ford Parkway Westbound			
Mile Marker	**End Treatment**	**Approximate Length (ft)**	**Comments**
	1	900	
	1	1000	
20			
	1	900	
	1	1000	
19	4A	650	
	3	100	Underpass
	1	900	
	3	75	
18			
	7	50	
	7	50	
	7	50	Underpass
	7	50	
17			
	3	1800	
16			
	7	700	
15	3	1400	
	1	450	
	1	100	
	1	100	
14	1	150	
	1	400	
	1	500	Extended to off ramp
	1	750	Underpass
13	1	50	
	1	75	
	3	50	
	1	100	
12			
	1	75	Underpass
	1	600,B,700	Bridge
11			
	1	75	
	1	75	
	1	50	
	1	50	
10			
	7	50	
	7	50	
	7	50	
	7	50	
9			
	7	150	
	3	100	
	1	75	
8			
	7	200	
	7	150	
7			

Guardrail Data
Table C.11 (continued)

Wendell H. Ford Parkway Westbound			
Mile Marker	**End Treatment**	**Approximate Length (ft)**	**Comments**
	7	100	
	3	100	
	1	50	
6			
	7	900	Underpass
	4A	500	
5	3	300	
	3	700	
	1	900	
4			
	1	600,B,700	Bridge
	1	100,B,75	Bridge
	3	250	
3			
	1	75	
	1	150	
	1	100	
2			
	3	700	
	1	1300	
1	1	800	Underpass

Deficient Type 3's (follow ditch grade)
Deficient Type 7's (all Type 7's)

Guardrail Data
Table C.12

Edward T. Breathitt Parkway Northbound			
Mile Marker	**End Treatment Type**	**Approximate Length (ft)**	**Comments**
35	1	900	
36			
	1	550	
37	1	200	
	1	100	
38			
	1	700	
	3	100	
39			
	1	100	
	1	50	
	1	1400,B	Extended to off ramp
40			
41	1	2200	2 Underpasses
42			
	1	50	
	1	200,B,300	Bridge
43			
	1	1000,B,1400	Bridge
44			
	1	300	Underpass
	1	500	Extended to off ramp
45			
	1	1150	
46	1	800	
	1	250	
47			
	1	600	
	1	700	
	1	500	
48			
	1	600	
49	4A	75,B,500,B,50	2 Bridges
	1	1000	
50			
	1	3500	
51			
	1	200	
	1	400	
52			
	4A	600	
	1	500	
	1	800	
53	1	650	
	1	1900	
54	7	150,B,25	Bridge
55	7	500	
	7	100	
56	7	400	
	7	600,B,50	Bridge
57	7	900	
	7	900	

Guardrail Data
Table C.12 (continued)

Edward T. Breathitt Parkway Northbound			
Mile Marker	**End Treatment Type**	**Approximate Length (ft)**	**Comments**
58			
	7	50	
	7	200	
	7	200	
59			
	7	600,B,1900	
60			
	1	600,B,2000	Bridge
61			
	7	150	
	7	1300	
62			
	7	950	
63	7	4000,B,1300	Bridge
64			
65			
	7	900,B,600	Bridge
66			
	1	100	
	1	100	
67	3	600	
	1	400	
	1	1000	
68			
	1	100	
	1	500	
69			
	3	500	
70			
71			
	7	150	
	7	75	
72			
	7	100	
	7	500	
73			
	7	100	
	1	75	
74			
	7	50	
	7	150	
	1	500	
75	7	2300,B,2300	Bridge
76			
	7	450	
	7	600	
77			
78	7	150	
	1	75	
	1	500,B	Extended to off ramp

Deficient Type 3's (follow ditch grade)
Deficient Type 7's (all Type 7's)

Guardrail Data
Table C.13

Edward T. Breathitt Parkway Southbound			
Mile Marker	**End Treatment Type**	**Approximate Length (ft)**	**Comments**
78			
	7	75	Underpass
	7	500	
77			
	7	350	Underpass
	7	300	
76			
75	1	2000,B,2000	Bridge
	7	350	
	4A	400	
	7	50	
74			
	7	50	
	1	100	
73			
	1	50	
	1	50	
72			
	1	100	
	7	150	
71			
70			
	1	200	Underpass
69	1	900	
	1	500	Underpass
68			
	1	500	
	1	75	
	1	500	
	1	150	
67	1	600	
	1	50	
	1	400	
	3	1000	
66			
	1	800,B,800	Bridge
65			
64	1	1300,B,3200	Bridge
63			
	7	500	
	7	75	
	7	75	
62			
	7	1100	
61	7	2700,B,500	Bridge
60			
	7	1500,B,1200	Bridge
59			
	7	100	
	7	1200	Underpass
58			
	1	900	
	7	75	
	3	75	
57	3	1500	
	3	75	
	3	100	
	3	150,B,800	Bridge

Guardrail Data
Table C.13 (continued)

Edward T. Breathitt Parkway Southbound			
Mile Marker	**End Treatment Type**	**Approximate Length (ft)**	**Comments**
	3	400	
56	3	800	
	7	150	
	7	1000	
	1	100	
55			
	3	1500	
	3	200	
	1	150	Extended to off ramp
54			
	3	600	
	3	700	
53	1	600	
	1	700	
	3	600	
52			
	1	600	
51	1	3000	
50			
	1	100	
49	4A	1200	Bridge
	1	600	
48			
	1	100	
	1	600	
	1	1200	
47			
46	1	1500	
	4A	1500	
45			
	1	700	
	1	50	
	4A	50	
44			
	1	2200	
43			
	1	1400	Bridge
42	1	300	
41	4A	3000	
40	1	2000	Extended to off ramp
39			
	1	1000	
38	1	50	
37	1	3500	
	1	50	
	7	200	
36			
	1	200	
35	7	75	

Deficient Type 3's (follow ditch grade)
Deficient Type 7's (all Type 7's)

I-69 Corridor
Eddyville to Henderson, Kentucky
Local Officials Meeting
Monday, November 5, 2007
MTEC Conference Room, Madisonville

A meeting with elected officials for the I-69 Corridor Planning Study was held at 10:00 AM on Monday, November 5, 2007, in Madisonville, Kentucky. The purpose of the meeting was to provide information on the I-69 Corridor Planning Study, including a draft set of recommendations to bring the existing parkways into interstate compliance. Meeting attendees included the following:

1.	Dan Bozarth	Pennyrile Area Development District
2.	Donald Carroll	Hopkins County Judge Executive
3.	William Corum	Hopkins County Economic Development Corporation
4.	Will Cox	Mayor of Madisonville
5.	Tom Davis	City of Henderson
6.	Danny Koon	Hopkins County Economic Development Corporation
7.	Rachel McCubbin	Office of Jim Bunning, US Senate
8.	Craig Morris	Pennyrile Area Development District
9.	Jerry Rhoads	State Senate
10.	Dorsey Ridley	State Senate
11.	Frank Stafford	Mayor of Mortons Gap
12.	George Warren	Henderson-Henderson County Chamber of Commerce
13.	Jody Wassmer	Owensboro Chamber of Commerce
14.	Jennifer Wedding	Green River Area Development District
15.	Edward West	Office of Congressman Ed Whitfield
16.	Harriett Whitaker	Madisonville-Hopkins County Chamber of Commerce
17.	Nick Hall	KYTC District 2
18.	Kevin McClearn	KYTC District 2
19.	Ted Merryman	KYTC District 2
20.	Steve Ross	KYTC Division of Planning
21.	Jim Wilson	KYTC Division of Planning
22.	Bill Gulick	Wilbur Smith Associates
23.	Rebecca Ramsey	Wilbur Smith Associates
24.	Samantha Wright	Wilbur Smith Associates

A summary of the key components and discussion items for this meeting is provided below, following the agenda outline.

1. Introductions

Jim Wilson began the meeting, welcoming participants and providing a brief introduction. This study focuses on one of three sections of the future I-69 Corridor in Kentucky, lying along portions of the existing Ford and Breathitt Parkways. The consulting firm (Wilbur

Smith Associates) has performed a detailed study of the existing conditions of the Parkways to determine which features will need to be upgraded to meet interstate standards and are preparing a Master Plan of Improvements.

Meeting attendees were given an opportunity to introduce themselves.

2. Project Background

Samantha Wright gave a short presentation of the project history for this segment of I-69, from its original identification in 1991 to the current studies undertaken. In 2005, an Existing Conditions Study was completed on the Ford and Breathitt Parkways identifying deficient features.

3. Project Progress and Activities To-Date

As part of the current study, these deficiencies have been analyzed to develop a Master Plan of Improvements for the route. After looking at plan sets, field conditions, traffic characteristics, and crash records, a list of recommendations and cost estimates have been developed.

4. Master Plan of Improvements

Bill Gulick continued the presentation, explaining the current draft version of the recommendations. There are two ways in which the study route can become a part of the interstate: (1) as an administrative act within FHWA which requires full compliance with interstate standards in a 12 year period, or (2) by a Congressional designation which makes federal funding available to address deficiencies. The way pursued for this portion of the route will have major implications on the project timeline and feasibility.

The recommended Master Plan, presented in the handouts in both map and tabular form, identifies deficiencies as improvements or as potential design exceptions. For the items identified as design exceptions, it is recommended that KYTC apply to FWHA to waive the requirement. There is no guarantee that FHWA will accept these requests, so the overall Master Plan cost estimates are subject to change. There are other standards which do not fall within one of the 13 design exception categories but were also evaluated as part of the Master Plan; these items are collectively referred to as “design variances.” A tool was developed to allow the KYTC to adjust cost estimates and project limits as parameters change.

Bill Gulick reviewed the prioritization categories developed and briefly explained the deficiencies identified as part of the study. A question and answer session followed the presentation:

Q: Do the priority categories break down according to potential funding sources?

A: The categories were developed with funding sources in mind, though there is not necessarily a direct correlation item-by-item.

Q: Is FHWA more likely today to grant design exceptions in light of funding shortfalls?

A: No. The design exceptions the consultant recommends are justifiable. The team met with FHWA staff previously to provide a preview of its recommendations.

Q: If the state invests the $145 million to fix this Section of Independent Utility, is it possible that it can be designated as an interstate without the adjacent sections?

A: Yes, there are other instances throughout the country where this is the case.

Q: Do the traffic volume projections used in the analysis reflect the effects of other sections of I-69?

A: Yes, these were accounted for in the growth rates and truck percentages.

Q: During the study, did the team look at other segments of interstate to see if any additional requirements can be waived?

A: The team is familiar with other facilities upgrading to interstate standards but there is not much evidence of the standards being waived. Because it is possible to incorporate the route by legislative act which gains access to federal funding and waives the 12 year timeline to correct deficiencies, this is a more common approach.

Q: What type of state matching accompanies federal funding?

A: This is typically 80-20. This money comes to the state to address all of its interstate mileage, so any funds would have to be divided between I-65, I-75, I-66, I-64, and others. Historically, Kentucky uses all of its interstate mileage money each year.

Q: Is the route currently accepted as I-69 by FHWA?

A: Not at this time. The environmental document has not been submitted at this time, which would begin the 12 year period in which deficiencies must be addressed. Because the KYTC is pursuing the studies to upgrade to interstate standards, FHWA did grant approval to post the "Future I-69 corridor" signs located along the parkways but this does not imply acceptance as an interstate.

Q: When do you expect to see I-69 on the ground?

A: If the route is declared as an interstate by Congress, it could be as little as 6 months after. Moving through the FHWA process, it would take considerably longer.

5. Public Open Houses

Samantha Wright reviewed the date, time and location information for the upcoming public meetings (also provided along with the handouts). There is an open house scheduled for each of the 5 project counties during November and December of this year.

6. Other Issues

Bill Gulick gave a synopsis of the KY 813 study for officials with an interest in this area. The formal study is completed: three alternatives were evaluated to correct the flop diamond interchange with short ramp tapers at Breathitt Parkway Exit 37. The recommended alternative would bring this interchange up to full interstate compliance.

With no further questions, the meeting adjourned at 11:05 AM.

SUMMARY
Public Involvement Meeting

I-69 Strategic Corridor Planning Study
Henderson to Eddyville, Kentucky
KYTC Item No. 2-69.10

City of Princeton Welcome Center Building
201 East Main Street
Princeton, KY 42445
November 26, 2007 from 5:00-7:00 PM Central Time

A public involvement open house meeting was held on Monday, November 26, 2007, from 5:00 p.m. to 7:00 p.m. at the City of Princeton Welcome Center Building in Princeton, Kentucky. The purpose of the meeting was to provide information to the public on the status of the I-69 Corridor project and study recommendations. The following Kentucky Transportation Cabinet (KYTC) and consultant staff were in attendance:

Nick Hall	KYTC, Highway District 2
Ted Merryman	KYTC, Highway District 2
Keith Todd	KYTC, Highway District 2
Daryl Greer	KYTC, Central Office, Division of Planning
Jim Wilson	KYTC, Central Office, Division of Planning
Ken Sperry	HMB Professional Engineers
Bill Gulick	Wilbur Smith Associates
Samantha Wright	Wilbur Smith Associates

The format of this meeting was informal from 5:00 P.M. to 7:00 P.M. Central Time, with a short presentation at 5:30 P.M. Upon arrival, attendees were greeted at the door and asked to sign the attendance list. At this station, attendees were given a study information sheet with a study area map and description of the project.

The meeting room was arranged with a series of maps showing recommended improvements for the Western Kentucky and Pennyrile Parkways. KYTC and consultant staff members were available to answer questions and discuss issues. Information presented on the maps included:

- Locations along the Parkways where existing conditions do not meet interstate standards;
- Features that are recommended for improvement with associated cost estimates and priorities; and
- Features that are not recommended for improvement at this time (design exceptions).

A 10 minute presentation was given by Samantha Wright at 5:30, including an overview of the project background and the recent study to consider upgrades along the Parkways.

A total of 18 persons registered their attendance at the two-hour public session. Comments received during the meeting included the following:

- What is the status of the US 641 study and where might it connect into the Western Kentucky Parkway, US 62 and I-24?

  Keith Todd, the public relations officer, provided a brief update and indicated that separate meetings will be held to discuss the details of the US 641 project.

- Does the close interchange spacing near Princeton mean that some interchanges will have to close?

  Samantha explained existing interchanges would not close and that an extra lane, or auxiliary lane, can often be used to fix the interchange spacing.

- How will the height-deficient bridges be fixed?

  Bill Gulick explained that not all of the Parkway bridges are deficient. For those that do not have sufficient height over the roadway or the shoulder, the road will likely be lowered rather than the bridges being raised.

- What is the timeframe and how much funding is available for the project?

  Samantha indicated that there is no additional funding for this project set aside in the current Six Year Highway Plan. Bill explained that the KYTC would have 12[1] years to upgrade the recommended Parkways once they enter a request to FHWA to designate the I-69 corridor. This funding would have to come through the regular state/federal match program, with some federal interstate funding available. If the corridor were to be designated I-69 through an act of Congress, it would automatically qualify for federal interstate funds.

- If a median barrier were used to fix the narrow medians along the Parkways, how frequent would the crossovers be?

  Bill explained that the general rule for this is about every five miles.

The meeting displays will be available at the KYTC District offices following the series of five public meetings, and additional public comments could be submitted. The public meeting information and comments received will be included in the official meeting record.

The meeting closed at 7:00 p.m.

[1] Information received from FHWA following this meeting indicates the time period to address deficiencies was extended to 25 years under SAFETEA-LU legislation.

SUMMARY
Public Involvement Meeting

I-69 Strategic Corridor Planning Study
Henderson to Eddyville, Kentucky
KYTC Item No. 2-69.10

Sebree City Hall Court Room
36 South Spring Street
Sebree, KY 42455
November 29, 2007 from 5:00-7:00 PM Central Time

A public involvement open house meeting was held on Thursday, November 29, 2007, from 5:00 p.m. to 7:00 p.m. at the Sebree City Hall Court Room in Sebree, Kentucky. The purpose of the meeting was to provide information to the public on the status of the I-69 Corridor project and study recommendations. The following Kentucky Transportation Cabinet (KYTC) and consultant staff were in attendance:

Nick Hall	KYTC, Highway District 2
Kevin McClearn	KYTC, Highway District 2
Steve Ross	KYTC, Central Office, Division of Planning
Jim Wilson	KYTC, Central Office, Division of Planning
Bill Gulick	Wilbur Smith Associates
Brad Johnson	Wilbur Smith Associates
Samantha Wright	Wilbur Smith Associates

The format of this meeting was informal from 5:00 P.M. to 7:00 P.M. Central Time, with a short presentation at 5:30 P.M. Upon arrival, attendees were greeted at the door and asked to sign the attendance list. At this station, attendees were given a study information sheet with a study area map and description of the project.

The meeting room was arranged with a series of maps showing recommended improvements for the Western Kentucky and Pennyrile Parkways. KYTC and consultant staff members were available to answer questions and discuss issues. Information presented on the maps included:

- Locations along the Parkways where existing conditions do not meet interstate standards;
- Features that are recommended for improvement with associated cost estimates and priorities; and
- Features that are not recommended for improvement at this time (design exceptions).

A 10 minute presentation was given by Samantha Wright at 5:30, including an overview of the project background and the recent study to consider upgrades along the Parkways.

A total of 18 persons registered their attendance at the two-hour public session. Comments received during the meeting included the following:

- Improvements to the Sebree interchange should be higher on the priorities list. This is too dangerous of a location to be a Priority #3 improvement. Industrial growth is also expected at this location and will lead to increased volume on the ramps, including trucks. The priorities should not be based on cost.
- What is the timeframe for this project and where does the money come from?

Samantha indicated that there is no additional funding for this project set aside in the current Six Year Highway Plan. Bill explained that the KYTC would have 12[1] years to upgrade the recommended Parkways once they enter a request to FHWA to designate the I-69 corridor. This funding would have to come through the regular state/federal match program, with some federal interstate funding available. If the corridor were to be designated I-69 through an act of Congress, it would automatically qualify for federal interstate funds.

- It is very difficult for a truck driver to maneuver the Sebree interchange, particularly when the truck is loaded.
- Will additional right-of-way be needed to facilitate mainline and interchange improvements?

  Samantha noted that the two system interchanges and two toll-booth interchanges would require additional right-of-way, but all other improvements are anticipated to be completed within the existing right-of-way.

The meeting displays will be available at the KYTC District offices following the series of five public meetings, and additional public comments could be submitted. The public meeting information and comments received will be included in the official meeting record.

The meeting closed at 7:00 p.m.

[1] Information received from FHWA following this meeting indicates the time period to address deficiencies was extended to 25 years under SAFETEA-LU legislation.

SUMMARY
Public Involvement Meeting

I-69 Strategic Corridor Planning Study
Henderson to Eddyville, Kentucky
KYTC Item No. 2-69.10

Parkway Plaza Mall
Madison Square Drive
Madisonville, KY 42431
December 3, 2007 from 5:00-7:00 PM Central Time

A public involvement open house meeting was held on Monday, December 3, 2007, from 5:00 p.m. to 7:00 p.m. at the Parkway Plaza Mall in Madisonville, Kentucky. The purpose of the meeting was to provide information to the public on the status of the I-69 Corridor project and study recommendations. The following Kentucky Transportation Cabinet (KYTC) and consultant staff were in attendance:

Nick Hall	KYTC, Highway District 2
Kevin McClearn	KYTC, Highway District 2
Ted Merryman	KYTC, Highway District 2
Kenny Potts	KYTC, Highway District 2
Keith Todd	KYTC, Highway District 2
Steve Ross	KYTC, Central Office, Division of Planning
Jim Wilson	KYTC, Central Office, Division of Planning
Bill Gulick	Wilbur Smith Associates
Brad Johnson	Wilbur Smith Associates
Rebecca Ramsey	Wilbur Smith Associates

The format of this meeting was informal from 5:00 P.M. to 7:00 P.M. Central Time, with a short presentation at 5:30 P.M. Upon arrival, attendees were greeted at the door and asked to sign the attendance list. At this station, attendees were given a study information sheet with a study area map and description of the project.

The meeting room was arranged with a series of maps showing recommended improvements for the Western Kentucky and Pennyrile Parkways. KYTC and consultant staff members were available to answer questions and discuss issues. Information presented on the maps included:

- Locations along the Parkways where existing conditions do not meet interstate standards;
- Features that are recommended for improvement with associated cost estimates and priorities; and
- Features that are not recommended for improvement at this time (design exceptions).

A 20 minute presentation was given by Brad Johnson at 5:30, including an overview of the project background and the recent study to consider upgrades along the Parkways.

A total of 40 persons registered their attendance at the two-hour session. Questions and comments received during the meeting included the following:

- Where is the money to accomplish these repairs going to come from?

If this portion is adopted into the interstate system by Congressional act, federal Interstate Maintenance (IM) funding becomes available to finance repairs and upgrades. Every year, Kentucky has always used all of this available money on its existing network.

- What type of matching scenario can be expected?

  Typically, an 80/20 match scenario is used to divide funding.

- How have SAFETEA-LU funds been applied?

  Under SAFETEA-LU, $50 million was distributed between the eight states along the I-69 corridor; these funds in Kentucky were applied to this study.

- What type of timeline is expected before I-69 becomes a reality?

  There are a lot of other unfunded projects in Kentucky which would also be competing for state funding so it is difficult to predict. If the route is adopted congressionally, the parkways immediately become I-69.

- What can the community or region do to move forward on this project?

  Relying on an administrative act within FHWA, it will be difficult to find funding to meet the necessary 12-year timeline[1]. If Congress adopts the route into the interstate system, that constrained timeline is removed. Community leaders should promote this segment of I-69 at the Congressional level to see faster results.

- How far ahead is Indiana and what should Kentucky do to catch up?

  Despite an earlier start than Kentucky, Indiana is not too far ahead in creating their sections of I-69. Because they are constructing a new alignment, there is a longer process they must complete.

- Where does the Evansville to Henderson section stand?

  Current estimates for the Evansville to Henderson segment come to $400-$500 million. The route will travel from I-164 to south of Henderson along the Pennyrile Parkway. For the bridge portion of this section, Indiana has agreed to pay 38% while Kentucky will cover 62%.

- What will be done to protect the illegal movement of people and goods along the I-69 corridor?

  This study focuses on the portion of the route between Henderson and Eddyville in Kentucky; these issues will be primarily addressed at national borders which are beyond the scope of this study.

The meeting displays will be available at the KYTC District offices following the series of five public meetings, and additional public comments may be submitted. The public meeting information and comments received will be included in the official meeting record.

The meeting closed at 7:00 p.m.

[1] Information received from FHWA following this meeting indicates the time period to address deficiencies was extended to 25 years under SAFETEA-LU legislation.

SUMMARY
Public Involvement Meeting

I-69 Strategic Corridor Planning Study
Henderson to Eddyville, Kentucky
KYTC Item No. 2-69.10

Henderson North Middle School
1707 Second Street
Henderson, KY 42420
December 6, 2007, from 5:00-7:00 PM Central Time

A public involvement open house meeting was held on Thursday, December 6, 2007, from 5:00 p.m. to 7:00 p.m. at the North Middle School in Henderson, Kentucky. The purpose of the meeting was to provide information to the public on the status of the I-69 Corridor project and study recommendations. The following Kentucky Transportation Cabinet (KYTC) and consultant staff were in attendance:

Nick Hall	KYTC, Highway District 2
Kevin McClearn	KYTC, Highway District 2
Ted Merryman	KYTC, Highway District 2
Keith Todd	KYTC, Highway District 2
Steve Ross	KYTC, Central Office, Division of Planning
Jim Wilson	KYTC, Central Office, Division of Planning
Bill Gulick	Wilbur Smith Associates
Rebecca Ramsey	Wilbur Smith Associates
Samantha Wright	Wilbur Smith Associates

The format of this meeting was informal from 5:00 P.M. to 7:00 P.M. Central Time, with a short presentation at 5:30 P.M. Upon arrival, attendees were greeted at the door and asked to sign the attendance list. At this station, attendees were given a study information sheet with a study area map and description of the project.

The meeting room was arranged with a series of maps showing recommended improvements for the Western Kentucky and Pennyrile Parkways. KYTC and consultant staff members were available to answer questions and discuss issues. Information presented on the maps included:

- Locations along the Parkways where existing conditions do not meet interstate standards;
- Features that are recommended for improvement with associated cost estimates and priorities; and
- Features that are not recommended for improvement at this time (design exceptions).

A 15 minute presentation was given by Samantha Wright at 5:30, including an overview of the project background and the recent study to consider upgrades along the Parkways.

A total of 32 persons registered their attendance at the two-hour public session. Comments and questions received during the meeting included the following:

- When will all these improvements start occurring?

  Samantha Wright explained that the study will result in prioritized recommendations of deficiencies to be fixed, but no funds are set aside in the Six Year Plan to move further ahead at this point. Bill Gulick elaborated: This study is necessary to define projects and

estimate costs to be able to include elements in the Six Year Plan. Once this document is complete, projects recommended here will be able to compete with other project statewide to get funding for design through construction phases. This document may also be used to work through the FHWA interstate designation process.

- How often does Congress actually designate a roadway to the interstate system?

  Bill listed several routes which have become interstates by Congressional designation. Although it isn't rare, it is difficult to actually tell how often this happens.

- When can the parkways actually be called I-69?

  Samantha indicated that the timeline depends on the process followed. If this section is designated by Congress, the signs can go up immediately. If KYTC works through FHWA, there is a 12 year period[1] where all deficiencies must be fixed and then the route will be I-69.

- What is the process to move the Sebree interchange to a higher priority?

  Samantha explained that the priority system is based on safety issues, costs, and funding sources. More expensive items will likely take longer to get funding than low cost items. We can recommend changing the priority level in this study, but if the Sebree interchange is seen as a high priority need, someone needs to adopt that project and seek support and funding independent of the I-69 corridor.

- The suggestion was made that tolling long distance through and truck trips should be considered to generate revenue, though local trips should remain uncharged. This was not looked at as a part of this study.

- What impacts will the increased traffic have on the roadway surface?

  Samantha explained that the I-69 corridor will run along the existing right-of-way with possible exceptions around systems and toll interchanges. Traffic projections through 2030 do not indicate that an additional lane per direction is warranted. Bill added that the roadways are composed of two sections: surface and subsurface. As a designated interstate, the federal Interstate Maintenance (IM) funding becomes available to make routine upgrades and resurface, which will help keep the driving surface smooth. This route will still have to compete with other Kentucky interstates for funds.

- Will the median barrier run the entire length of the corridor?

  Samantha indicated on the display maps that the narrow median stretches generally along the Western Kentucky Parkway from Princeton to the interchange with the Pennyrile Parkway. There are different types of median barriers; the one shown in the presentation is composed of upright metal posts and wires strung between them. They are a safety precaution to reduce the likelihood of cross-median crashes.

- Does this study recommend any additional interchanges along the parkways?

  Bill explained that this study focused on upgrading the existing infrastructure, rather than looking for new elements to incorporate into I-69. The Robards interchange does have funding in the current Six Year Plan.

Other concerns were primarily related to the Ohio River crossing at Henderson. The corridor map from the EIS was available for viewing for interested parties following the presentation.

[1] Information received from FHWA following this meeting indicates the time period to address deficiencies was extended to 25 years under SAFETEA-LU legislation.

The meeting displays will be available at the KYTC District offices following the series of five public meetings, and additional public comments could be submitted. The public meeting information and comments received will be included in the official meeting record.

The meeting closed at 7:00 p.m.

SUMMARY
Public Involvement Meeting

I-69 Strategic Corridor Planning Study
Henderson to Eddyville, Kentucky
KYTC Item No. 2-69.10

Lyon County Public Library
261 Commerce Street
Eddyville, KY 42038
December 13, 2007 from 5:00-7:00 PM Central Time

A public involvement open house meeting was held on Thursday, December 13, 2007, from 5:00 p.m. to 7:00 p.m. at the Lyon County Public Library in Eddyville, Kentucky. The purpose of the meeting was to provide information to the public on the status of the I-69 Corridor project and study recommendations. The following Kentucky Transportation Cabinet (KYTC), Area Development District (ADD), and consultant staff were in attendance:

Craig Morris	Pennyrile ADD
Allen Thomas	KYTC, Highway District 1
Keith Todd	KYTC, Highway District 1
Steve Ross	KYTC, Central Office, Division of Planning
Jim Wilson	KYTC, Central Office, Division of Planning
Bill Gulick	Wilbur Smith Associates
Brad Johnson	Wilbur Smith Associates
Rebecca Ramsey	Wilbur Smith Associates

The format of this meeting was informal from 5:00 P.M. to 7:00 P.M. Central Time, with a short presentation at 5:30 P.M. Upon arrival, attendees were greeted at the door and asked to sign the attendance list. At this station, attendees were given a study information sheet with a study area map and description of the project.

The meeting room was arranged with a series of maps showing recommended improvements for the Western Kentucky and Pennyrile Parkways. KYTC and consultant staff members were available to answer questions and discuss issues. Information presented on the maps included:

- Locations along the Parkways where existing conditions do not meet interstate standards;
- Features that are recommended for improvement with associated cost estimates and priorities; and
- Features that are not recommended for improvement at this time (design exceptions).

A 20 minute presentation was given by Brad Johnson at 5:30, including an overview of the project background and the recent study to consider upgrades along the Parkways.

A total of 10 persons registered their attendance at the two-hour public session. Comments received during the meeting included the following:

- Traffic volumes will increase when the route is designated as an interstate and safety and capacity conditions will worsen. Improvements should be deferred until volumes warrant changes. The design should include the anticipated higher traffic volumes.
- Will this project get federal funds?

Bill Gulick explained that each year, the state of Kentucky gets all the federal funding they are eligible for and each year the state spends every bit of it. I-69 is not going to increase the amount of money we get from the federal government; this project will have to compete with others throughout the state to get funding. If I-69 is going to be a regional priority and you want to see it moving toward completion, someone locally needs to begin supporting it before Congress.

- Will the proposed improvements occur with maintenance projects or be completed as stand alone I-69 projects?

  Bill explained the prioritization scheme: category 1 items are recommended to be completed whether the route becomes an interstate or not. More expensive items are not likely to be as valuable based on the traffic volumes today and will likely be deferred until necessary for interstate compliance.

- Where does I-69 exist today?

  Brad told that the route is in place from Port Huron, Michigan to north of Indianapolis, Indiana. Tennessee and Arkansas are also working on components of it. Even though Indiana began working on I-69 before Kentucky, they are creating a new alignment so the process they must pursue takes longer; Kentucky is not too far behind.

- If the route is designated by Congress, what is the timeframe to complete the improvements? What needs to happen before seeking congressional support?

  Bill reviewed the process: if I-69 goes through the FHWA regulatory path to become an interstate, the state has 25 years to bring items up to standards. If Congress passes a bill to declare it an interstate, there is no timeline. The study is ready to begin seeking congressional support.

- Has a similar study been complete for the portion of the route on the Purchase Parkway?

  A study has not been started yet; however, the I-69 funding available to Kentucky will likely be spent to complete studies on other portions similar to the one we are presenting here.

The meeting displays will be available at the KYTC District offices following the series of five public meetings, and additional public comments could be submitted. The public meeting information and comments received will be included in the official meeting record.

The meeting closed at 7:00 p.m.