

I. Introduction: Factors Affecting the 2016 Highway Plan

In developing Kentucky's *2016 Highway Plan*, a number of key concerns overshadowed the presentation of the list of projects that constitute the Plan. Each of these issues helped to substantially shape the final Plan and will likely continue to exert considerable influence on the day-to-day execution of the Plan, necessitating innovative funding solutions to meet Kentucky's specific highway needs. A brief overview of each concern is provided in the following paragraphs.

A. The National Economy and Revenue Concerns

For the past few years, the national economy showed danger signs as construction indices rose dramatically prior to 2008, then fell in equally dramatic fashion with the national economic downturn that began in late 2007. As gasoline prices skyrocketed, the housing "bubble" burst, unemployment jumped, and disposable household income dwindled, Americans used much less gasoline and bought fewer vehicles. Both the Federal Highway Trust Fund (HTF) and the Kentucky State Road Fund are heavily dependent on motor fuels tax revenues to fund basic highway programs. The State Road Fund is almost equally dependent on the taxes generated by vehicle sales, and the highway-related revenues have been unsteady at best.

As federal revenues into the HTF have declined, Congress has had to infuse a total of \$82.1 billion in cash into the HTF over the past seven years just to keep it solvent. At the state level, the 2015 General Assembly "froze" the variable component of the state "gas tax" to keep revenues from "free-falling" by 10 cents per gallon in April of 2015. Congressional and state legislative actions to maintain highway program spending levels were much appreciated. We still, however, have grave concerns about the future of fossil-fuel-based, "pay-as-you-go" highway tax systems. It is against this backdrop that the *2016 Highway Plan* was developed.

B. Congressional Transportation Reauthorization

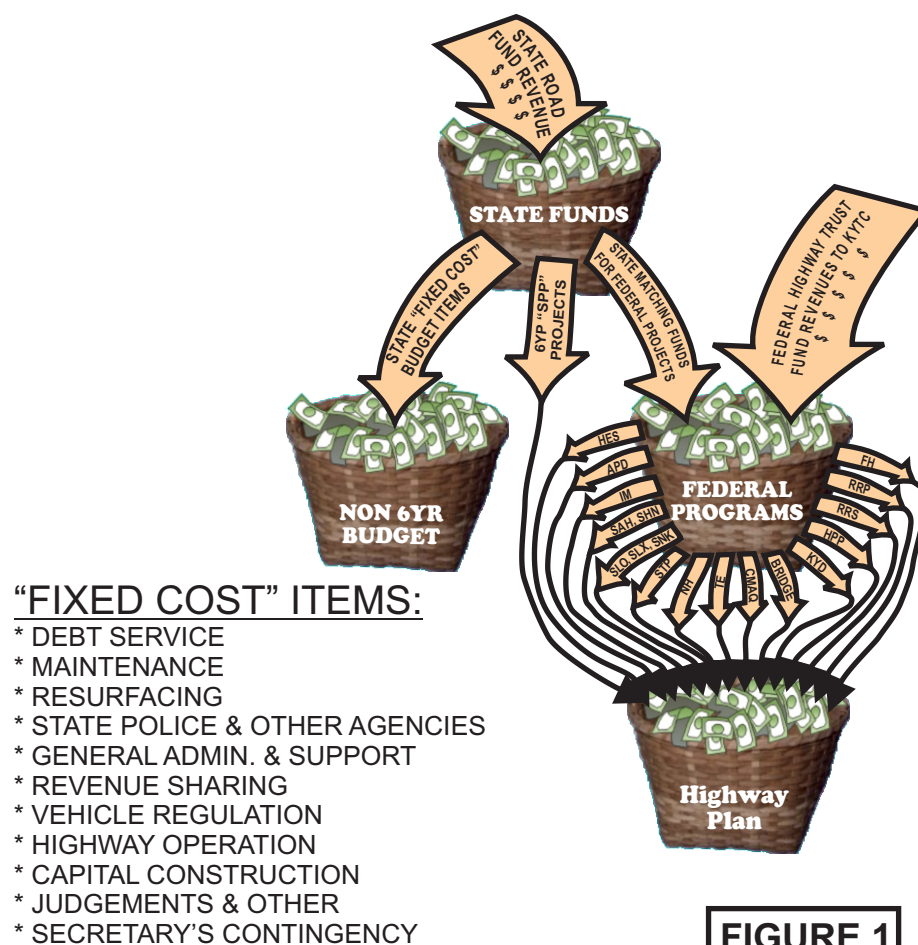
Federal transportation funding and the rules governing the use of those funds are traditionally set forth in a multi-year "authorization act" against which Congressional appropriations provide annual federal highway funding to the states through the HTF. In December of 2015, Congress passed and the President signed the "Fixing America's Surface Transportation Act" (FAST). The FAST Act was crafted to expire on October 1, 2020, and was designed as a five-year act relying on both traditional HTF collections and revenues from other sources to keep the HTF solvent through federal fiscal year 2020. Kentucky's share of FAST Act dollars is reflected in tables shown on the following pages.

C. State Road Fund Concerns

Kentucky's State Road Fund is statutorily established as the sole receptacle for dedicated revenues generated by state motor fuels taxes and vehicle sales. While this has somewhat insulated the State Road Fund from most of the State General Fund revenue shortfalls, it has also required that the Road Fund absorb all revenue declines through direct budgetary reductions. The Cabinet continually visits and revisits state cash flow considerations and the operating adjustments that regularly must be made. Decisions about budget priorities, new project funding authorizations, and even active construction projects are made in reliance upon these revenues. The Cabinet's cash flow model routinely assesses income and expenditures, and monthly adjustments are made on the basis of projections. It is expected that the nature of today's revenue climate will continue to exert considerable pressure on the resulting priority decisions for use of Road Fund revenues into the future.

D. Environmental Concerns

Recent changes in 401 KAR 10:030 Antidegradation Policy Implementation Methodology require that the development of new transportation projects address protection of water resources. The regulation recognizes the General Assembly's authority for approval of projects in the 2016 *Highway Plan*. Projects are included in the Highway Plan only after a measured decision that the project enhances the quality of life and the vitality of the Commonwealth as well as promotes the public good. The provisions of the amended regulation specify that inclusion of a project in the Highway Plan satisfies the requirements for conducting an antidegradation socioeconomic benefit demonstration. Inclusion of a project is an indication of the General Assembly's conclusion that the reduction in water quality that may occur as a result of the project is acceptable given the socioeconomic benefits to be derived. Citizens who may be concerned about the potential of a project to affect water quality should provide information to their legislators for consideration when evaluating projects for inclusion in the Highway Plan.



II. Revenue Estimates and Assumptions

One of the greatest challenges confronting the KYTC is “managing public expectations.” Highway maintenance costs are far from routine when a major bridge can cost \$200 million to replace, a mile of interstate highway pavement can cost \$5 million to \$10 million to repair, and overall identified highway needs across the Commonwealth total more than \$50 billion. In the face of these overwhelming basic needs, the *2016 Highway Plan* is predicated upon a number of assumptions about the revenue stream that is expected for future federal and state highway construction programs administered by the KYTC. An illustration of the funding process is shown as **Figure 1**, with the area of emphasis for this particular document being those funding elements that contribute directly to the Highway Plan. The discussion that follows is given as an overview of the scope and magnitude of these assumptions.

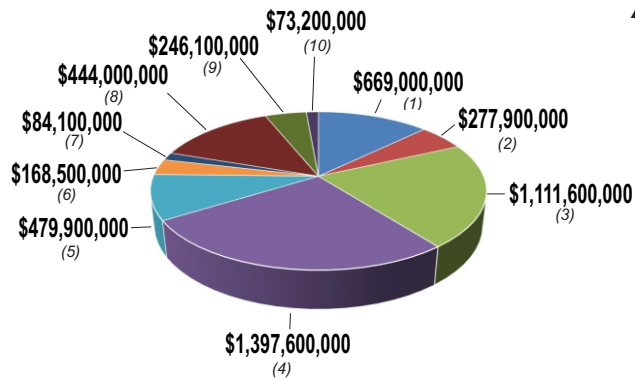
As shown in **Figure 2**, both federal and state Highway Plan revenue sources have been considered and projections made based on the most reliable financial information available. The relative proportions of federal and state highway funds made available to the KYTC for major highway projects are displayed in **Figure 3**. Consistent with past trends and current forecasts, this edition of the Highway Plan is being developed on the basis of the most recent federal transportation authorization act, the FAST Act, and state revenue estimates consistent with projections made by the Consensus Forecasting Group (CFG). The CFG is a committee of specially designated experts whose revenue forecasts are used by the Executive Branch and the General Assembly to craft the biennial state budget.

It is important to note that the ability of the Cabinet to undertake major new state-funded projects is a function of available Road Fund cash and the careful management of Road Fund expenses. The cash management process currently yields daily cash balances for internal use and provides information for monthly meetings where estimated future cash outlays can be updated and project funding decisions can be refreshed. As the KYTC has gained experience with this process, our confidence has grown in both the methodology and the resulting cash flow decisions.

A. Federal Revenue Projections

The FY 2016 - 2022 federal revenue forecasts are based on expected allocations from the FAST Act through FY 2020 and then straight-line projections for FY 2021 and FY 2022. State specific levels of funding were broken down into individual program funding categories as determined by the FAST Act’s application to Federal Highway Trust Fund formulas for each year.

2017-2022 HIGHWAY PROGRAM ANTICIPATED FUNDING LEVELS



TOTAL ESTIMATED 2017-2022 HIGHWAY PROGRAM = \$4.9 BILLION

FIGURE 2

FEDERAL AND STATE HIGHWAY FUNDING LEVELS AVAILABLE FOR OBLIGATION FROM 2016 THRU 2022

(as estimated by the Kentucky Transportation Cabinet)

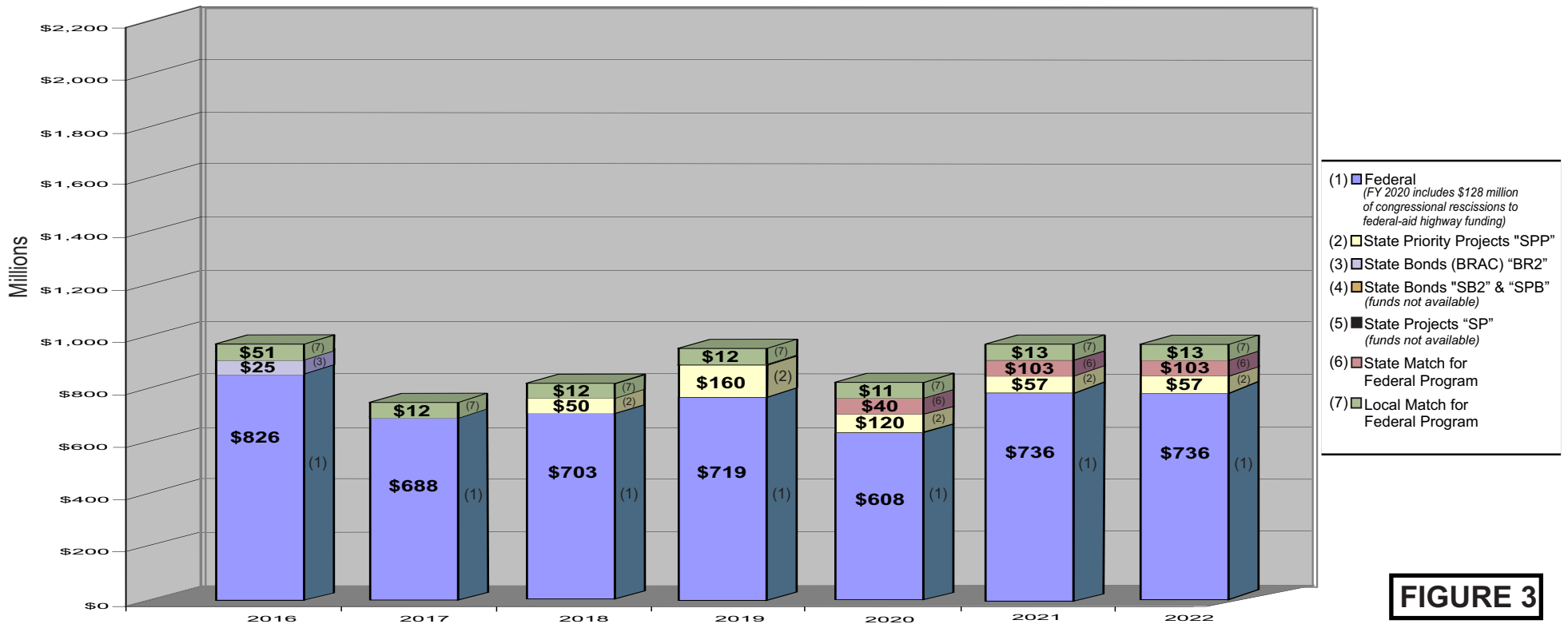


FIGURE 3

Figure 4 shows the final federal fund target amounts used to fiscally balance the 2016 Highway Plan. According to these estimates of category-by-category funding expectations, the total federal-aid dollars flowing to the Highway Plan in FY 2017 through FY 2022 is expected to be about \$4.2 billion. Combined with remaining federal FY 2016 apportioned funds, federal funding in this document totals about \$5 billion.

Kentucky's federal highway program will be largely matched with "toll credits" through FY 2020. These credits are attributed to Kentucky by federal highway law in accordance with calculations that consider past levels of state fund investments (such as state-sponsored toll roads) in the federal highway system. Toll credits do not generate cash and cannot be counted as real cash. They do, however, permit the KYTC the flexibility to use 100% federal funding on federal-aid projects. By doing so, the KYTC can allocate more of its own state revenues for state projects under complete state control and supervision. For FY 2020 through FY 2022, approximately \$246 million in state funds are projected to be needed to match federal-aid projects.

FAST Act Federal Funding Category	PERCENT OF REQUIRED MATCHING FUNDS	FY-2016 COMBINED FEDERAL AND MATCHING FUNDS	FY-2017 COMBINED FEDERAL AND MATCHING FUNDS	FY-2018 COMBINED FEDERAL AND MATCHING FUNDS	FY-2019 COMBINED FEDERAL AND MATCHING FUNDS	FY-2020 COMBINED FEDERAL AND MATCHING FUNDS	FY-2021 COMBINED FEDERAL AND MATCHING FUNDS	FY-2022 COMBINED FEDERAL AND MATCHING FUNDS	2016-2022 COMBINED FEDERAL AND MATCHING FUNDS
I. National Highway Performance Program									
• Interstate Maintenance (IM) ²	10%	95.7	113.0	112.6	123.3	85.4	122.4	136.4	788.8
• National Highways (NH) ⁴	20%	139.7	214.5	222.2	220.1	216.3	314.3	314.9	1,642
• Appalachian Development (APD) ¹	0	39.0	39.8	40.7	41.6	34.2	12.2	0.0	207.5
II. Surface Transportation Program									
• Bridge Replacement On-System (BRO) ²	20%	56.0	57.2	58.4	55.8	53.2	56.6	51.6	388.8
• Bridge Replacement On/Off (BRX) ³	20%	9.9	10.1	10.3	14.5	9.6	28.0	33.0	115.3
• Bridge Replacement Off (BRZ) ³	20%	9.4	11.8	12.1	12.4	11.2	15.2	15.2	87.3
• Surface Transportation (STP) ⁴	20%	82.6	137.3	140.2	142.5	128.4	173.4	173.4	977.8
• STP-Henderson (SHN)	20%	3.9	0.7	0.7	0.8	0.8	0.8	0.8	8.7
• STP-Louisville (SLO)	20%	93.4	22.0	22.4	23.0	23.5	23.5	23.5	231.4
• STP-Lexington (SLX)	20%	11.0	7.7	7.8	8.0	8.2	8.2	8.2	59.0
• STP-Northern Kentucky (SNK)	20%	41.2	8.8	8.9	9.1	9.2	9.2	9.2	95.7
• STP-Huntington/Ashland (SAH)	20%	5.6	1.6	1.6	1.6	1.6	1.6	1.6	15.0
III. Highway Safety Improvement Program									
• Highway Safety/High Risk Rural Road (SAF) ⁴	10%	62.8	40.8	41.6	42.3	45.4	47.5	47.5	327.9
• Rail Protective Devices (RRP)	10%	10.4	1.9	1.9	2.0	2.1	2.2	2.2	22.7
• Rail Separation (RRS)	10%	7.4	1.9	1.9	2.0	2.1	2.2	2.2	19.7
IV. Other									
• Transportation Enhancement (TE) ⁵	20%	82.4	14.3	14.5	14.5	11.6	14.5	14.5	166.4
• Congestion Mitigation (CMAQ) ⁴	20%	61.6	16.7	17.0	17.4	14.3	17.8	17.8	162.5
• Forest Highways (FH)	20%	3.8	0.0	0.0	0.0	0.0	0.0	0.0	3.8
• High Priority Projects (HPP) ⁶	20%	57.1	0.0	0.0	0.0	0.0	0.0	0.0	57.1
• Kentucky Appropriations Earmarks (KYD) ⁶	20%	4.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0
Subtotal Federal Program		\$876.9	\$700.0	\$714.9	\$731.0	\$657.1	\$849.6	\$852.0	\$5,381.4

*Includes estimated FY 2016 year-end pre-financed amounts.

1 APD at 100% federal funds, suballocated from National Highway Performance Program (NHPP).

2 Suballocated from National Highway Performance Program (NHPP).

3 Suballocated from Surface Transportation Program (STP).

4 Reflects 2% takedown for SPR.

5 Reflects carryover TE, SRTS, and TAP funds.

6 No projected allocations of future Congressional HPP or KYD earmark funding.

Note 1: FY 2020 anticipated funding includes \$128 million of Congressional Rescissions as outlined in FAST Act Transportation Bill.

Note 2: Mandated GARVEE Bond Debt Service Payments of \$76.7 million in FY 2016; \$96.3 million in FY 2017; \$97 million in FY 2018; \$97 million in FY 2019; \$81 million in FY 2020; \$81 million in FY 2021; and \$81 million in FY 2022 are to be funded from the above projected available federal funding fiscal year totals, having a combined FY 2016 through FY 2022 total of \$610 million.

Note 3: Required state match for federal program is \$246 million and required local match for federal program is \$73 million.

FIGURE 4

B. State Project Funding Projections

A forecast of \$690 million in State Road Fund cash is expected to be available to support new state-funded projects between FY 2016 and FY 2022. This amount is based on a number of assumptions about project cost payouts, revenues accruing to the Road Fund, non-Six-Year Plan costs, state matching fund payouts, unexpected cost increases, and project change orders. It would be too exhaustive to attempt to describe each of these issues in detail and, for the purposes of this document, it is important to underline that any state-funded obligation targets derived through this model are only targets. Actual decisions about when to obligate state project dollars and how much state project work can be afforded at any point will be made by the Secretary of the Cabinet and based on monthly cash management evaluations received from the KYTC's "Authorization Review Team (ART)."

The ART consists of the Cabinet's Secretary, the State Highway Engineer and deputies, and the KYTC Budget Director. These individuals meet monthly to carefully evaluate actual expenditures for the prior month and planned expenditures for upcoming months relative to future fiscal capacity calculated from ongoing project and program cost projections. The prioritization process of planned state-funded project funding decisions undergoes a rigorous two-part assessment in which the following questions are asked: (1) Is the project ready to move forward from the project development standpoint? (2) Can we afford to move the project forward considering the cash flow implications of doing so? Only a satisfactory response to both questions permits a project to move forward in the prioritization and funding process.

In summary, KYTC's current projection of state road fund revenues available for state project obligations for the six-year highway plan "SPP" projects and state matching funds for the federal-aid highway funding program will be as follows:

2016	\$0 (carry forward)
2017	\$0
2018	\$50 million
2019	\$160 million
2020	\$160 million
2021	\$160 million
2022	\$160 million
Total	\$690 million

In addition to the state project funds contained in this Highway Plan, the 2009 General Assembly authorized \$400 million of state bond projects to be financed in FY 2009 and FY 2010. The projects to be funded are identified by the acronym "SPB" and were over-programmed by the General Assembly by approximately 25% to allow for projects whose schedules may slip. The 2008 General Assembly also authorized the sale of \$50 million in state bonds for use on Fort Knox area highway projects. Recognizing that federal programs are unstable due to the national economy, the 2010 Enacted Biennial Highway Plan included an additional \$400 million of highway bonds to ensure that needed highway improvements can be pursued while the future of the federal highway program is

resolved. The impact of this additional \$400 million in state bonds (SB2) on the KYTC's debt service budget is shown on **Figure 5**. To complete the road improvements planned for Fort Knox, the 2010 General Assembly also authorized another \$112 million in state bonds for this purpose. All of the \$400 million of 2009 SPB bond funds and the \$400 million of 2010 SB2 bond funds have been obligated.

C. Federal and State Fund Interaction

Federal and state highway project funding for FY 2017 through FY 2022 totals \$4.9 billion. If we add the carry-over state and federal funding from FY 2016, the total revenue expectation that supports projects in this edition of the Highway Plan is \$5.7 billion. It is important to note that Kentucky has utilized federal pre-financing provisions heavily and continues to roll a consistent level of these carry-forward obligations from year to year. At the end of FY 2015, Kentucky had pre-financed some \$259 million in federally funded projects, supporting the associated project billings from State Road Fund cash until the federal share of these costs can be billed to the federal government the following year. By using this funding mechanism, Kentucky has maximized its ability to return federal dollars to the state more quickly, while at

the same time accelerating many federal highway projects. Federal pre-financing requires that the Road Fund keep approximately \$60 million on hand to cover the advance state fund outlays in support of the federal program acceleration. The Cabinet must continually monitor the “net cash balance” which results from month-to-month consideration of this federal program flexibility.

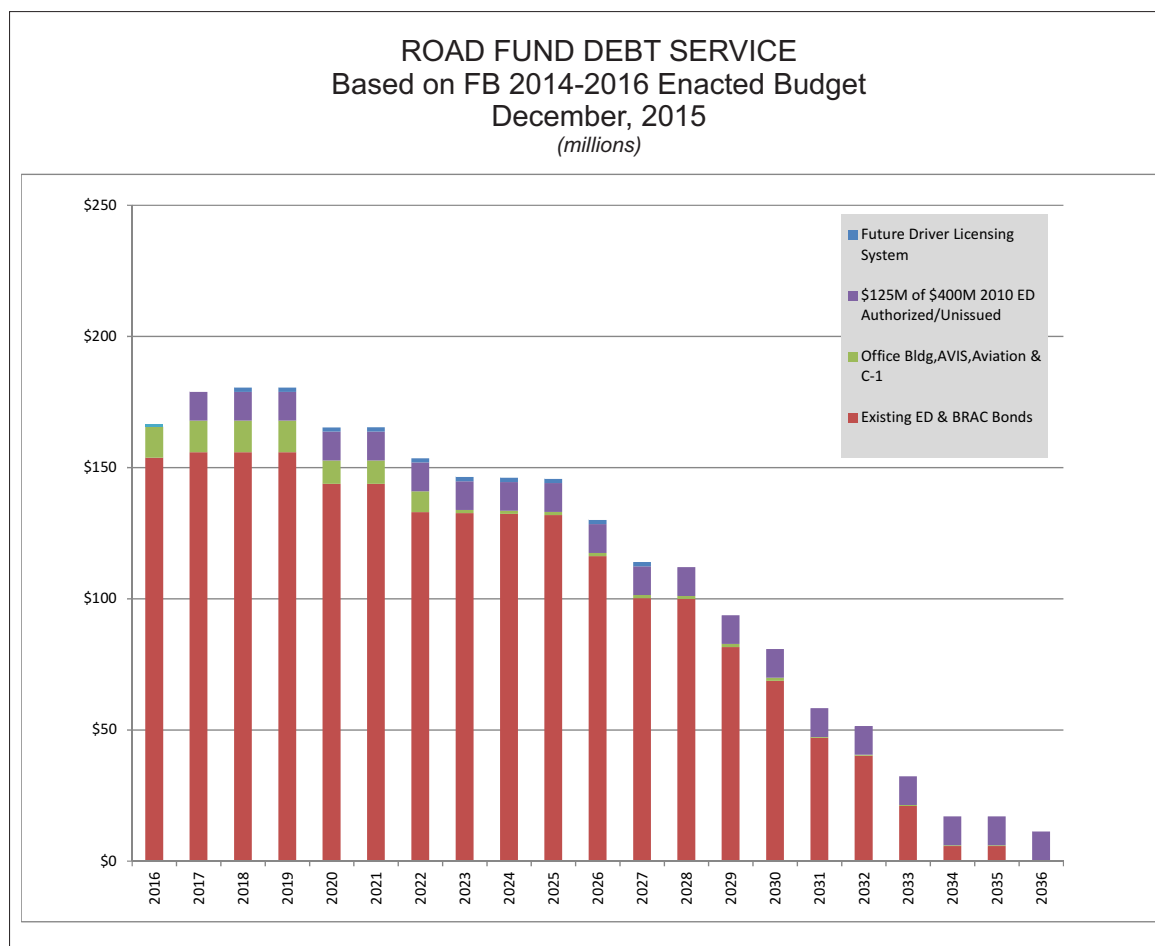


FIGURE 5

It is also important to note that the KYTC will explore all opportunities to use innovative financing options permitted under federal transportation law. In particular, we will seek to continue the use of GARVEEs to accelerate federal funding of major projects, buying essential improvements we could not otherwise immediately afford. GARVEEs use the principle of guaranteed future federal-aid highway revenues as a mechanism to support the sale of revenue bonds for specific projects. The status of \$440 million of GARVEE projects authorized by the 2005 General Assembly is outlined in Appendix A of this document. As we look forward, it is the KYTC's goal to continue to utilize this program when prudent, such as our recent decision to use \$336 million in GARVEEs to support the Louisville Bridges Project and \$270 million in GARVEEs to fund the US 68/KY 80 bridges over Kentucky Lake and Lake Barkley. GARVEE bond debt service amounts are contained in the *2016 Highway Plan* and represent commitments of future federal and state revenues to support them. These commitments allowed the "advance purchase" of projects like the Louisville Bridges and are automatic "take-downs" from annual revenues.

Appendix B of this document contains a report on the status of Road Fund bonds authorized by the 2009 and 2010 General Assemblies. This \$800 million in road bonds was authorized for the expressed purpose of funding state priority projects, many of which had been presented in previous Highway Plans. These funds have been fully obligated to projects, and the bonds are being sold as the specific project billings accrue sufficiently to avoid arbitrage. Approximately \$262 million of SB2 state road bond projects are prioritized in the FY 2016 - FY 2022 timeframe.

Appendix C of the *2016 Highway Plan* contains a status report for "Mega-Projects" that the KYTC is involved with at this time. These "Mega-Projects" are (1) the Louisville Bridges, (2) the I-75/71 Brent Spence Bridge in Northern Kentucky, and (3) the proposed I-69 improvements through western Kentucky. A discussion of the funding and project development parameters for each "Mega-Project" is provided in Appendix C.

The "SP" projects in this edition of the Plan carry forward all previously enacted projects as the "SP priorities of record." During the 2009 Legislative Session, the General Assembly prioritized over \$400 million of "SP" projects to be paid for with new state bond proceeds. These projects are listed with the fund source "SPB." Even with the addition of two new years worth of state and federal funding, the revenue gap was still a huge problem and was recognized as state and federal cost accountability issues were considered. To this end, the 2010 Enacted Biennial Highway Plan was developed with the decision to recommend an additional \$400 million of state bond sales. Projects prioritized under this heading were noted by the acronym "SB2." The 2010 and 2012 General Assemblies also identified priorities for available remaining state funds in the biennium by using the acronym "SPP," which stands for "State Priority Project." Approximately \$3.1 billion of "SPP" projects are prioritized in the FY 2016 - FY 2022 timeframe. The "SP" funding category remains "unfunded" from FY 2016 to FY 2022.

Of particular concern on the federal program side is the application of "fiscal constraint" to the federal-aid highway element of the Highway Plan. The federal portion of the 2016 Highway Plan is required by federal law to be fiscally balanced. With the approval process of the *2016 Highway Plan* completed, the KYTC will incorporate the subset of federal projects from the *2016 Highway Plan* into a new Statewide Transportation Improvement Program (STIP) and present those to the Federal Highway Administration (FHWA) for approval. Fiscal constraint is an important consideration for federal agencies, and the STIP is the document through which fiscal constraint is measured. Any state legislative efforts that result in over-programming of the federal element of the Highway Plan cannot be accommodated by the federal rules governing the STIP process. In preparing the 2016 STIP, KYTC will prioritize the federal projects to meet FHWA fiscal constraint regulations, because failure to gain FHWA approval would result in the suspension of the annual federal-aid program and its approximately \$704 million annual federal funds paid to Kentucky.

III. The 2016 Highway Plan

As mentioned throughout this narrative, the development of the *2016 Highway Plan* requires the recognition of many factors which threaten both the fiscal balance of the Plan and the delicate balance that must be struck to maintain the condition of Kentucky's highways. To achieve a highway program that has the potential to continue moving Kentucky forward, we have considered the following concepts.

A. Maximizing Reasonable Opportunity

As we seek to maximize reasonable opportunities for the *2016 Highway Plan*, we are developing the project phases already funded by previous authorizations to deliver a construction program in accordance with available state and federal funding through the upcoming biennium. Kentucky and Indiana are building the Louisville Bridges Project, working together to construct the Downtown and East End portions of the project while jointly developing the tolling implementation timetable essential to satisfying the financial commitments of the project. We are also working closely with Indiana to develop an approach to funding the new I-69 bridge over the Ohio River at Henderson and Evansville, and are working with Ohio to develop a means for making needed improvements to the I-75/I-71 Brent Spence Bridge Corridor at Covington and Cincinnati. The *2016 Highway Plan* is about maintaining highway program delivery during difficult times, while enabling maximum opportunity for success with less traditional, more innovative revenue options.

Another major focus area for KYTC in the years ahead will be active preventative maintenance activities for bridge structures across the Commonwealth. By increasing state and federal expenditures for basic bridge maintenance and repair, KYTC will take better care of our bridges throughout their entire life cycle ensuring reliability for the traveling public.

B. Program Sustainability: An Eye to the Future

Over the past several years, the KYTC has worked to “even out” construction program delivery. As **Figure 6** shows, the dollar volume of highway construction project awards increased dramatically in 2006 to \$1.0 billion, topped \$1.5 billion in 2007, and then plummeted to \$410 million in 2008. Although it is incredibly difficult to achieve, it is imperative for adequate industry competition and for competitive construction prices that the KYTC work to establish a sustainable level of construction awards into the future. It is true that materials prices fluctuate and that buying power has decreased dramatically over time, but the industry needs to know that “feast or famine” is not our preferred course. The people of Kentucky deserve a highway construction industry that is capable of surviving economic downturns, and a consistent, coherent highway program is the best assurance that our highway infrastructure will be adequately maintained and improved into the next decade.

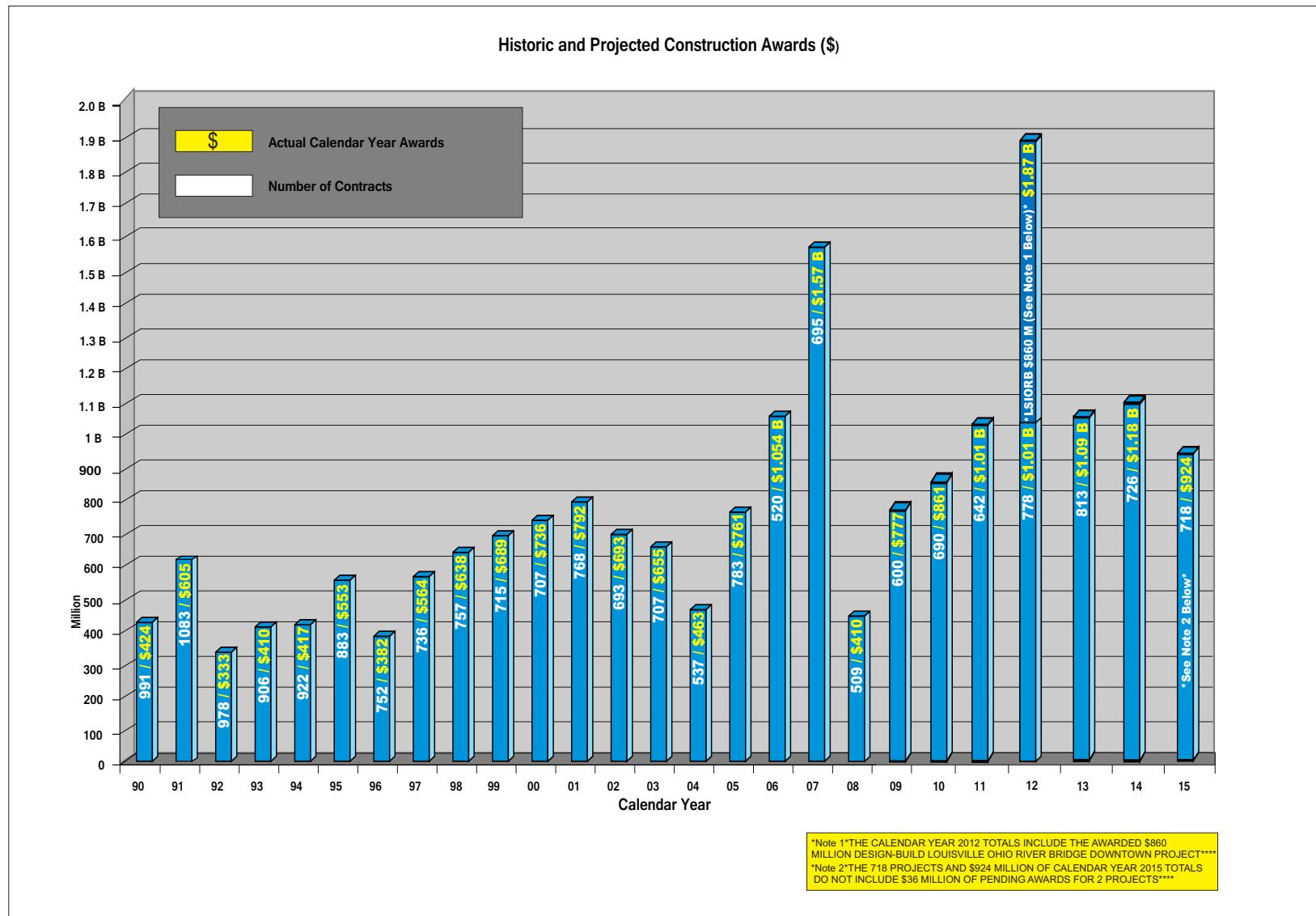


FIGURE 6

APPENDICES

Appendix A: “GARVEE” Status

Appendix B: State Bond (SPB and SB2) Program Project Status

Appendix C: Kentucky’s “Mega-Projects”