

I. Introduction: Factors Affecting the 2018 Highway Plan

The Kentucky Transportation Cabinet's (KYTC) mission is to provide a safe, efficient, environmentally sound, and fiscally responsible transportation system that delivers economic opportunity and enhances the quality of life in Kentucky. With transportation needs far in excess of available resources, Kentucky's *2018 Recommended Highway Plan* (Plan) reflects KYTC's "Safety First" approach, which prioritizes spending to repair more than 1,000 deficient bridges and re-paves more than 5,000 miles of roads throughout the Commonwealth over the next six years. The emphasis on asset management includes priority funding for needed improvements throughout the Commonwealth.

Governor Bevin set the stage nearly two years ago for the data-driven approach in formulating the Highway Plan, directing the Cabinet to develop an objective and collaborative process to prioritize limited federal and state funding for critical infrastructure projects. The new, collaborative prioritization process, known as the Strategic Highway Investment Formula for Tomorrow (SHIFT), is aptly named given the shift in approach to transportation budgeting.

More than 18 months of work went into evaluating more than 1,200 projects through SHIFT using quantitative measures such as crash rates, congestion, economic growth and cost-benefit ratios. The collaborative process also included input and priority setting by local transportation leaders across the Commonwealth.

The General Assembly endorsed the Governor's approach and the priority spending on the growing backlog of pavement and bridge needs. The Governor and the General Assembly agreed that improving the Commonwealth's existing roads and bridges is critical for continued economic growth and commerce throughout Kentucky.

KYTC has the responsibility of managing and maintaining more than 14,000 bridges and 27,500 miles of roadway, meaning Kentucky has the eighth largest state road system and the seventh largest inventory of state-maintained bridges in the United States. The 2018 Plan helps ensure that available funding addresses critical needs and extends the useful life of current assets.

A. **Bridging Kentucky, KYTC Bridge Asset Management System**

Bridging Kentucky is a transformational commitment to improve the safety and soundness of bridges across the Commonwealth. Over the next six years, KYTC will rehabilitate, repair, or replace more than 1,000 critical bridges in all 120 Kentucky counties. Bridging Kentucky will reopen closed bridges, remove weight restrictions that prevent use by school buses, emergency vehicles, and businesses, and improve access and mobility for all Kentuckians.

The bridges included in this landmark program -- which follows the Governor's safety-first, data-driven approach -- are aging, deteriorated structures in need of repair or replacement. KYTC is responsible for inventorying and inspecting approximately 14,000 bridges throughout the Commonwealth, with 9,056 being state-owned and 5,216 being locally-owned structures. As part of this responsibility, KYTC evaluates the condition of the structures and determines the appropriate load rating for each.

Due to inadequate state and local funding, the backlog of bridges has been growing with more than 150 deteriorated bridges added each year.

Kentucky currently has 60 bridges in 37 counties that are closed due to deteriorated condition, impeding the movement of freight, commerce, and even school buses.

The Plan increases annual funding to address the backlog of deteriorated bridges from \$122 million annually to \$179 million annually – a nearly 50 percent increase. The Plan includes more than 400 bridge projects identified throughout the Commonwealth to be addressed within the FY 2018 – FY 2020 Biennium. Additional funding will be needed to continue to repair and replace the remaining backlog of more than 600 bridges for FY 2021 – FY 2024.

B. KYTC Pavement Asset Management

The pavement asset management plan addresses the operation and maintenance of more than 27,500 miles of state maintained roadways in Kentucky. The plan has identified \$1 billion of pavement backlog in need of repair. Currently, 3,700 miles of roadway is in deteriorated condition. Absent an increase in additional funding to address the pavement needs, the backlog will grow to approximately 6,000 miles in the next six years.

Deficient pavement conditions pose safety problems, create traffic delays, and increase maintenance costs. The Plan increases annual funding to address the backlog of pavement needs from \$175 million to \$324 million annually, an 85 percent increase from previous years. The Plan contains over 200 pavement projects identified throughout the Commonwealth. In addition to the pavement management (PM) projects outlined within the Plan, KYTC will continue the \$125 million statewide resurfacing program administered through the Division of Maintenance.

C. The KYTC SHIFT Unfunded Priority Needs

The KYTC SHIFT prioritization process identified \$8.6 billion of capital projects. However, the anticipated state and federal funding available for identified SHIFT projects during FY 2018 thru FY 2024 is \$2.6 billion. This \$6 billion gap between prioritized needs and available dollars is the basis for continued efforts to generate additional transportation funding for Kentucky's transportation system.

KYTC has determined that about \$490 million of additional state Road Fund revenue is needed each year to address the entire list of priority projects. Addressing these needs is critical to continue to move the Commonwealth forward.

The SHIFT process was an important step in justifying the need for additional funding. The Plan reduced over-programming of road projects from over 200 percent of available dollars in 2016 to 8 percent in the FY 2018 - FY 2020 biennium, and 28 percent for FY 2018 thru FY 2024. As a result, the projects in the Plan better reflect the Commonwealth's most critical needs.

The list of \$6 billion unfunded projects (along with the corresponding SHIFT score) are outlined in Appendix A of the Plan .

D. Environmental Update

Recent changes in the Commonwealth's Antidegradation Policy Implementation Methodology set forth in 401 KAR 10:030 require developing projects to address protection of water resources and recognizes the General Assembly's authority for approval of projects in the Highway Plan. Projects are included in the Highway Plan only after a measured decision that the project enhances the quality of life and vitality of the Common-

wealth, 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 legislator for consideration when evaluating projects for inclusion in the highway plan.

II. Revenue Estimates and Assumptions

The *2018 Highway Plan* is based on a total revenue of \$6.6 billion, consisting of \$2.3 billion to address the backlog of pavement and bridge needs, \$1.1 billion in federally-dedicated funds, and another \$0.6 billion for federal GARVEE debt service payments. Beyond these obligations, there is \$2.6 billion left for SHIFT funding through FY 2024. The Plan consists of projects to address bridge and pavement needs, as well as critical roadway safety improvements, road widening, reconstruction, construction of new routes, and interchange improvements. SHIFT scoring resulted in a reduction of identified priority projects from \$14.6 billion to \$8.6 billion.

The "Safety First" approach increases the yearly allocation of state and federal funding for bridge asset management by \$206 each year. The funding for bridge projects is listed in the Plan as "BR" funding, and the funding for the pavement projects is listed as "PM" funding.

FEDERAL AND STATE HIGHWAY FUNDING LEVELS AVAILABLE FOR OBLIGATION FROM 2018 THRU 2024

(As estimated by the Kentucky Transportation Cabinet)

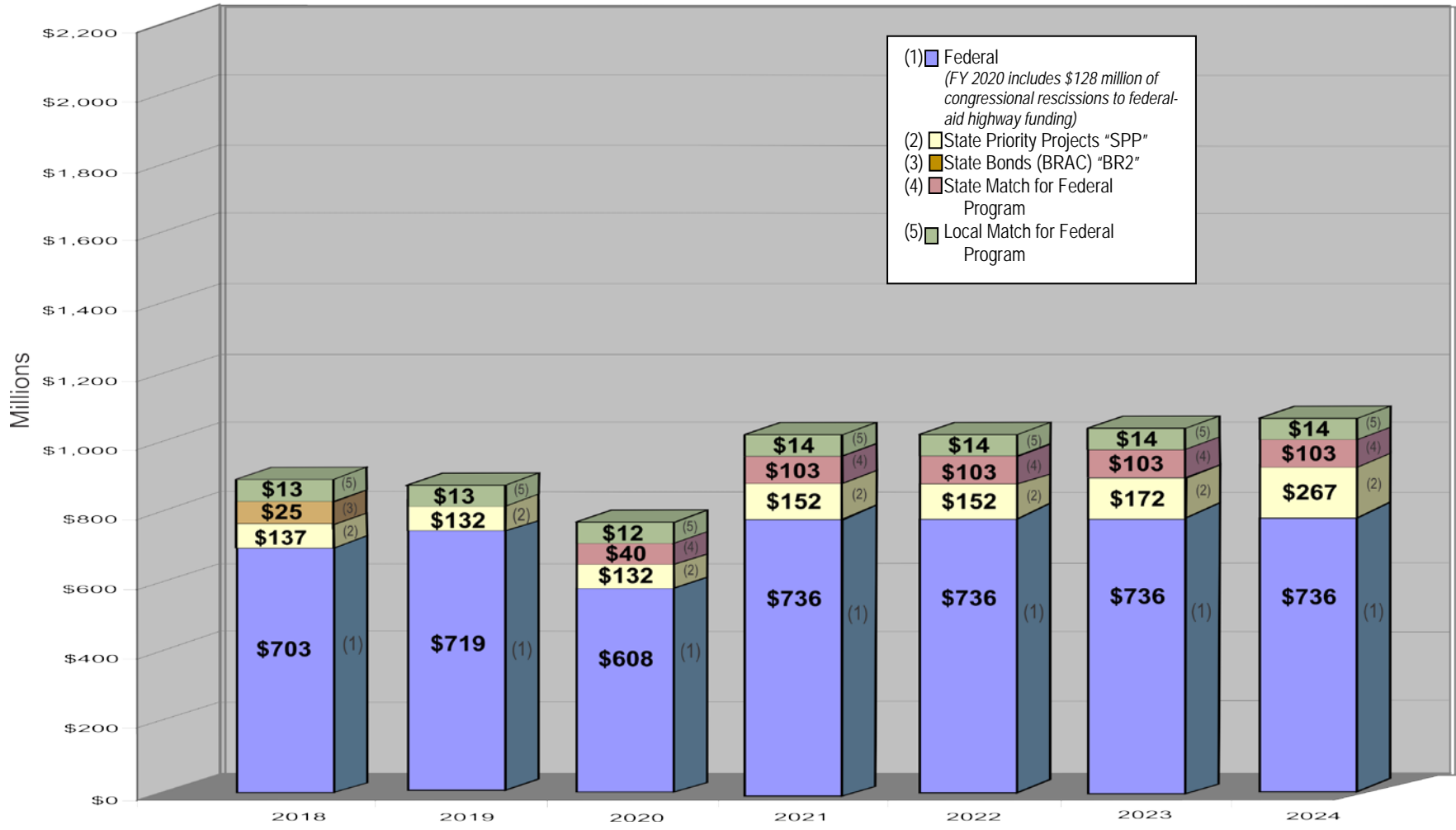


FIGURE 1

In preparing the Plan, both federal and state revenue sources have been considered and funding projections are based on the most reliable financial information available. The projected state and federal-aid highway funds made available to KYTC for major highway projects are displayed in Figure 1. Consistent with past trends and current forecasts, the development of the 2018 Plan was based on the most recent federal transportation authorization, the FAST Act, along with state revenue estimates consistent with projections made by the Consensus Forecast 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 state-funded projects is a function of available Road Fund cash and the careful management of expenses. The Cabinet is committed to maintaining cash to a “floor” of \$100 million. The cash management process (as described in Section II, Part B) 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 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 2018 - 2024 federal revenue forecasts are based on expected allocations from the FAST Act through FY 2020 and straight-line projections for FY 2021 thru FY 2024. The straight-line projections for FY 2021 thru FY 2024 is an approved methodology by FHWA for years outside the current law. State-specific levels of federal-aid highway funding were broken down into individual program funding categories, as outlined by the FAST Act’s Federal Highway Trust Fund formulas for each year.

Figure 2 shows the anticipated federal highway funding category-by-category funding expectations. The anticipated total federal-aid dollars and matching funding available to fund projects scheduled in the Plan for FY 2018 through FY 2024 is expected to be about \$5.4 billion.

Kentucky’s federal highway program will be largely matched with toll credits through FY 2020. These credits are attributed to Kentucky by federal law in accordance with 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 KYTC the flexibility to use 100% federal funding on federal-aid projects.

Currently, KYTC anticipates the expiration of all available toll credits by the end of FY 2020. Thus, beginning in FY 2021, the required matching funds for federal-aid highway funding each fiscal year will be approximately \$120 million of state road funds. These funds will be used as required matching funds and will be part of the overall budget to fund project expenditures. Also, the required state matching funds will be included within the state cash management process as described in “Section II, Part B”, thus spreading out the matching funds over the life of project expenditures.

Of particular focus 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 Plan is required to be fiscally balanced, and upon completion of the state legislative process, KYTC begins preparing the new Statewide Transportation Improvement Program (STIP). The new STIP will incorporate the federal projects from the 2018 Highway Plan into the new STIP, which will be submitted to the Federal Highway Administration (FHWA) for approval. Fiscal constraint for federal-aid highway funding is an important consideration for federal agencies, and the STIP is the document through which fiscal constraint is measured. Any state

legislative effort that results in over-programming of the federal element of the highway plan cannot be accommodated by the federal rules governing the STIP process. Failure to gain FHWA approval would result in the suspension of the annual federal-aid program and its approximate \$704 million annual allocation to Kentucky.

FAST Act Federal Funding Category	PERCENT OF REQUIRED 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	FY-2023 COMBINED FEDERAL AND MATCHING FUNDS	FY-2024 COMBINED FEDERAL AND MATCHING FUNDS	2018-2024 COMBINED FEDERAL AND MATCHING FUNDS
GARVEE BOND DEBT SERVICE									
GARVEE BOND DEBT SERVICE PAYMENTS (NH)	10%	88	88	72	72	72	51	51	
GARVEE BOND DEBT SERVICE PAYMENTS (STP)	20%	9	9	9	9	9	21	21	
COMBINED TOTAL GARVEE BOND DEBT SERVICE PAYMENTS		97	97	81	81	81	72	72	581
National Highway Performance Program									
• National Highways (NH)	20%	163.8	174.8	113.6	268.2	268.2	289.2	289.2	1,567
Surface Transportation Program									
• Surface Transportation (STP)	20%	65.0	67.7	37.8	105.6	105.6	93.6	93.6	569.0
Bridge Asset Management Program									
• Bridge Asset Management BR funding from NH Program	20%	62.7	62.7	62.7	62.7	62.7	62.7	62.7	
• Bridge Asset Management BR funding from STP Program	20%	44.8	44.8	44.8	44.8	44.8	44.8	44.8	
Combined Total Bridge Asset Management Funding (BR)		107.5	107.5	107.5	107.5	107.5	107.5	107.5	752.5
Preventive Pavement Management Program									
• Preventive Pavement Management PM funding from NH Program		119.4	119.4	119.4	119.4	119.4	119.4	119.4	
• Preventive Pavement Management PM funding from STP Program		39.8	39.8	39.8	39.8	39.8	39.8	39.8	
Combined Total Preventive Pavement Management Funding (PM)		159.2	159.2	159.2	159.2	159.2	159.2	159.2	1,114.4
Surface Transportation Program Dedicated Funding to MPO Areas									
• STP-Henderson (SHN)	20%	0.7	0.8	0.8	0.8	0.8	0.8	0.8	5.8
• STP-Louisville (SLO)	20%	22.4	23.0	23.5	23.5	23.5	23.5	23.5	163.1
• STP-Lexington (SLX)	20%	7.8	8.0	8.2	8.2	8.2	8.2	8.2	56.6
• STP-Northern Kentucky (SNK)	20%	8.9	9.1	9.2	9.2	9.2	9.2	9.2	64.2
• STP-Huntington/Ashland (SAH)	20%	1.6	1.6	1.6	1.6	1.6	1.6	1.6	10.9
Highway Safety Improvement Program and Railroad Safety									
• Highway Safety/High Risk Rural Road (SAF)	10%	41.6	42.3	43.2	47.5	47.5	47.5	47.5	317.0
• Rail Protective Devices (RRP)	10%	1.9	1.9	2.0	2.2	2.2	2.2	2.2	14.6
• Rail Separation (RRS)	10%	1.9	1.9	2.0	2.2	2.2	2.2	2.2	14.6
Other									
• Transportation Enhancement (TE)	20%	14.5	14.5	11.5	14.5	14.5	14.5	14.5	98.7
• Congestion Mitigation (CMAQ)	20%	17.1	17.4	14.1	17.7	17.7	17.7	17.7	119.4
• Forest Highways (FH)	20%	8.1	0.0	0.0	0.0	1.6	1.6	1.6	13.0
• Recreational Trails	20%	1.7	1.7	1.7	1.7	1.7	1.7	1.7	
• Metropolitan Planning	20%	3.1	3.2	3.4	3.4	3.4	3.4	3.4	
• High Priority Projects (HPP)	20%	10.3	0.0	0.0	0.0	0.0	0.0	0.0	10.3
• Kentucky Appropriations Earmarks (KYD)	20%	2.3	0.0	0.0	0.0	0.0	0.0	0.0	2.3
Fiscal Year Summary Totals		\$736.3	\$731.7	\$620.3	\$854.1	\$855.7	\$855.7	\$855.7	\$5,474.2

NOTE:
1) Mandated GARVEE Bond Debt Service Payments of \$97 million in FY 2018; \$97 million in FY 2019; \$81 million in FY2020; \$81 million in FY 2021; \$81 million in FY 2022; \$72 million in FY 2023; and \$72 million in FY 2024; having a combined total of \$581 million.
2) No projected allocations of future Congressional HPP or KYD earmark funding
3) FY 2020 anticipated funding includes \$128 million of Congressional Rescissions as outlined in FAST Act Transportation Bill.

FIGURE 2

B. State Project Funding Projections

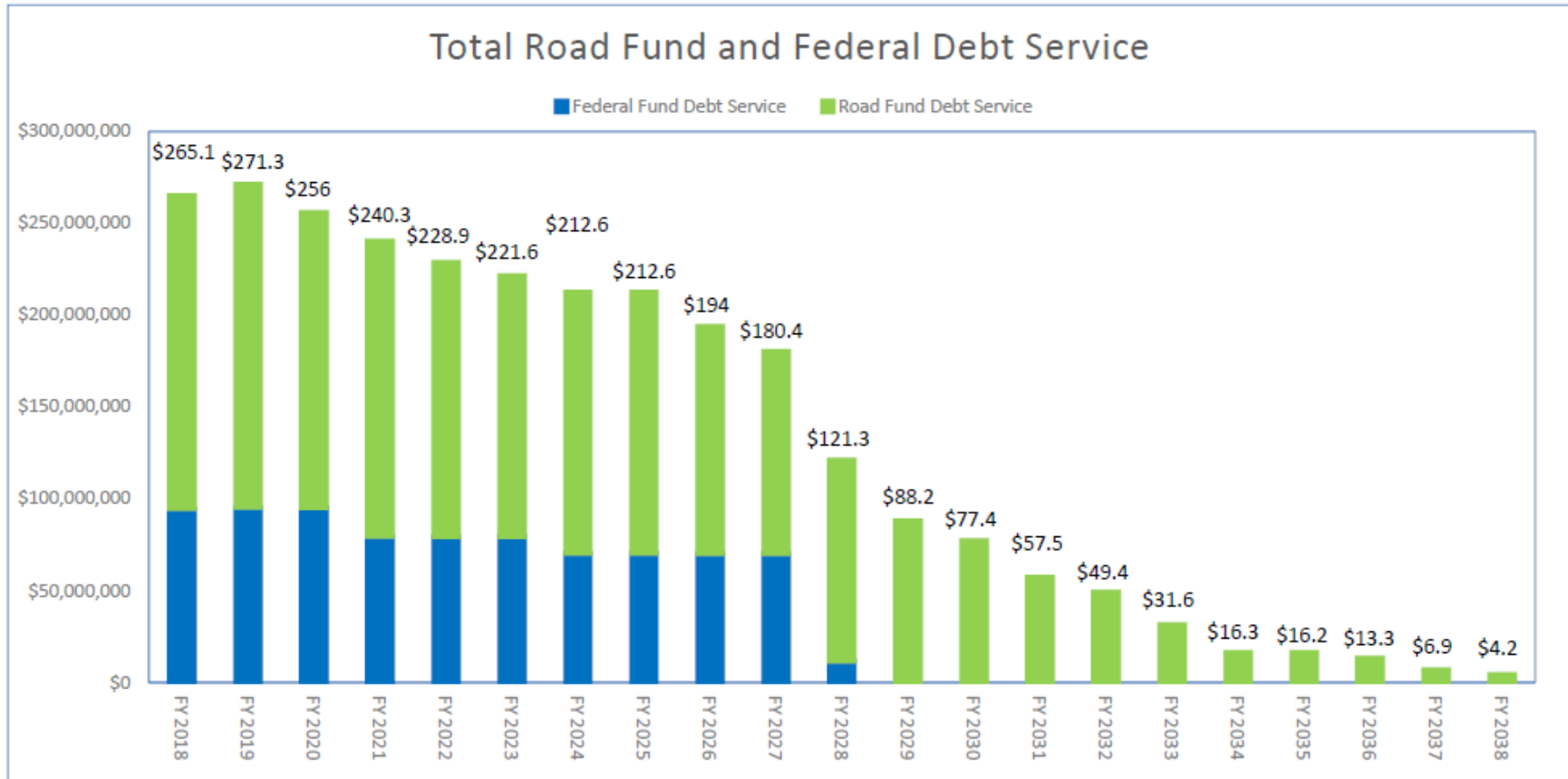
A forecast of \$1.6 billion in state road fund cash is expected to be available to support new state-funded project obligations between 2018 and 2024, which includes approximately \$450 million for required matching funds on federal-aid highway funded projects. This amount is based on a number of assumptions about project cost payouts, revenues accruing to the Road Fund, non-Six-Year Plan costs, state bond debt service payments, unexpected cost increases, and project change orders. For the purpose of this document, it is important to emphasize that any state-funded obligation targets derived through this model are *only* targets. Decisions about when to obligate state project dollars and how many projects can be afforded at any point will be made by the Secretary of Transportation and based on monthly cash management evaluations received from KYTC's Authorization Review Team (ART).

The ART consists of the KYTC's Secretary, Deputy Secretary, the State Highway Engineer and his or her deputies, and the KYTC Budget Director. These individuals meet monthly to carefully evaluate 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 ART uses these calculations to determine available funding for the upcoming fiscal year.

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:

2018	\$137 million (carry forward)
2019	\$132 million
2020	\$172 million
2021	\$255 million
2022	\$255 million
2023	\$275 million
2024	<u>\$370 million</u>
Total	\$1.6 billion

As shown in **Figure 3**, the current federal and road fund debt service totals approximately \$2.8 billion over the life of the bonds (2018 through 2038). This includes estimated road fund debt service for about \$62.5 million in authorized, but unissued debt. Any significant additional bond authorizations could lead to potential bond rating downgrades.



Total Debt Service (principal and interest) totals approximately \$2.8 billion over the life of the Bonds.

*Includes estimated Road Fund debt service for about \$62.5 million in authorized but unissued debt.

FIGURE 3

C. KYTC Mega Projects

In addition to the \$6 billion in unfunded priorities, there is further pressure on the Road Fund as approximately \$680 million (not included in the Plan) is needed to fund two major bridge projects over the span of the six year Plan.

I-69 Ohio River Crossing Project

KYTC is working closely with Indiana to develop a funding strategy for the new I-69 bridge over the Ohio River between Henderson and Evansville. The Plan includes \$500,000 in FY 2019 to continue work on the design phase of the project, \$19 million in FY 2021 for the right-of-way phase, and \$8 million in FY 2022 for the utility phase of the project. It is expected that a combination of tolls, federal grants, and state funding will be required to complete the project. The environmental process is scheduled for completion in the fall of 2019, making the project eligible for federal funding to be used for design, right of way activities, and construction.

Brent Spence Bridge Project

KYTC completed the Brent Spence Bridge Strategic Corridor Study in December 2017 which concluded that the Brent Spence Bridge Project and improvements to the I-275 interchange with I-71/I-75 are needed to relieve critical congestion along the corridor. The Plan does not include funding for any phases of the project.

In addition, the Brent Spence Bridge Strategic Corridor Study identified the need to continue the study the concept of an eastern bypass alternative in Northern Kentucky from an economic development perspective. The Plan includes \$2 million of funding to conduct a detailed study of alternative routes within an eastern bypass.

D. Appendix

Outlined in Appendix A of the Plan is the list of unfunded priority projects. KYTC has determined that approximately \$490 million each year over a 10-year period is needed to address these projects.

Outlined in Appendix B is the historic construction awards from calendar years 1990 through 2017.

