

**COMMONWEALTH OF KENTUCKY
TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
DIVISION OF PLANNING**



**ANNUAL PERFORMANCE AND
EXPENDITURE REPORT
FOR
FISCAL YEAR 2019 ANNUAL WORK PROGRAM
PROJECT SP 0019 (022)
JUNE 16, 2018 THROUGH JUNE 15, 2019**

OCTOBER 2019

Introduction

The Annual Performance and Expenditure Report is required under 23 CFR 420.117. This document outlines the transportation planning activities conducted by the Kentucky Transportation Cabinet (KYTC) under Planning (Part I) of the SPR work program for the period of June 16, 2018 through June 15, 2019 (Federal Fiscal Year 2019).

The Division of Planning achieved a great deal in FY 2019. Many analyses, studies, and traffic forecasts were completed or initiated over the year to support the KYTC construction lettings. The Division continued to improve on data collection and storage initiatives. Intermodal planning was advanced, including working to scope a forthcoming riverport study and ADA barrier data collection effort, as well as, assisting several communities with bike/ped planning. We worked closely with the Office of Special Programs on CMAQ, TE, and Safe Routes to School projects. The Division worked to improve upon the Strategic Highway Investment Formula for Tomorrow (SHIFT) which is a linchpin in Kentucky's implementation of Performance Based Planning and Programming.

All these activities occurred while the Division of Planning continued to collect necessary data, manage and report the data as required, respond to requests for data both within and outside the Cabinet, forecast future transportation demands, plan for the transportation needs within the Commonwealth, coordinate with our rural and metropolitan planning partners, address air quality concerns, support project selection for the Six-Year Highway Plan and Statewide Transportation Improvement Program, and address other State and Federal requirements.

FY 19 accomplishments are identified in this document by chapter in **red ink**. Initial budget and expenditures are also shown at the end of each chapter.

FY 2019
SPR CHAPTER FUNDING SUMMARY

<u>CHAPTER AND TITLE</u>		<u>BUDGETED</u>	<u>EXPENDED</u>
1	SPR Work Program	\$135,000	\$44,730
2	Personnel Training	\$136,000	\$70,889
3	Traffic and Equipment Management	\$2,550,000	\$2,156,195
4	Roadway Systems	\$723,000	\$465,048
5	Cartography	\$351,000	\$139,352
6	Highway Information System	\$1,870,000	\$1,280,562
7	Strategic Corridor Planning	\$2,460,000	\$2,409,228
8	Statewide Transportation Planning	\$1,875,500	\$1,452,813
9	Metropolitan Planning Organizations	\$751,500	\$574,932
10	Performance Measures and Congestion/Mobility Analysis	\$190,000	\$91,643
11	Air Quality	\$62,000	\$64,681
12	Multimodal Transportation	\$425,000	\$173,009
13	Traffic Data Forecasting	\$765,000	\$655,143
14	Bicycle and Pedestrian Program	<u>\$232,000</u>	<u>\$111,203</u>
	Planning Total	\$12,526,000	\$9,689,428
	Percent Expended		78%
15	Highway Safety Improvement Program	\$500,000	\$194,588
16	Value Engineering and Quality Assurance	<u>\$500,000</u>	<u>\$229,657</u>
	Other Items Total	\$1,000,000	\$424,245
	Percent Expended		43%
	TOTAL	\$13,526,000	\$10,113,673
	Percent Expended		75%

CHAPTER 1

SPR Work Program

RESPONSIBLE UNIT

Division of Planning
Customer Service Branch

PURPOSE AND SCOPE

The Customer Service Branch in the Division of Planning is responsible for administrative, budgetary, and expenditure tracking activities directly attributable to the completion of the SPR Planning Work Program chapters.

PROPOSED ACTIVITIES FOR 2018-2019

- Coordinate with all other branches in the Division of Planning in order to prepare the annual SPR Planning Work Program.
The Customer Service Branch created well over 400 pieces of correspondence in the form of memos and letters. Almost all of which were related to processing contracts, MOAs, letter agreements and other activities related to the SPR Work Program. 100% Complete
- Prepare monthly expenditure reports for each chapter of the SPR Planning Work Program.
Ran 12 expenditure reports, one per month. 100% Complete
- Update accomplishments of the SPR Planning Work Program quarterly.
Ran 12 expenditure reports, one per month. Communicated the results of those reports to branch managers and District Office Planning Supervisors quarterly to assist them in reporting quarterly accomplishments. 100% Complete
- Coordinate and prepare the annual SPR Planning Work Program and Accomplishments and Expenditures Report.
Ran final expenditure reports and reported total expenditures as well as percentage of budgeted amounts. Prepared FY 2020 Work Program. 100% Complete
- Kentucky Transportation Center studies, as needed. *Reimbursed the Kentucky Transportation Center for research project related to publically-funded ferries. 40% Complete.*

PRODUCTS

The Internal Customer Service Section will coordinate and prepare the annual SPR Planning Work Program and the annual SPR Planning Work Program Accomplishments and Expenditures Report. This Section will also prepare and distribute to other Branches monthly expenditure reports for all chapters in the SPR Planning Work Program. The Internal Customer Service Branch will update accomplishments to the SPR Planning Work Program quarterly and distribute these updates to other Branches.

DISTRIBUTION OF ESTIMATED COST FOR 2018-2019

	2018-2019	Expended	Percent Expended
PERSONNEL	\$35,000	\$9,634	28%
OUTSOURCING	\$100,000	\$35,096	35%
TOTAL	\$135,000	\$44,730	34%

CHAPTER 1

SPR Work Program

RESPONSIBLE UNIT

Division of Planning
Customer Service Branch

ESTIMATED OUTSOURCING EXPENSES AND PURCHASES

Outsourcing

- \$100,000 for various Kentucky Transportation Center studies.
All studies will be submitted for eligibility review prior to funding.

CHAPTER 2

Personnel Training

RESPONSIBLE UNIT

Division of Planning

PURPOSE AND SCOPE

The training of personnel is essential to the transportation program in order to keep pace with changing techniques and evaluate new procedures and developments as well as to help better develop the abilities of employees as they assume the vacated duties brought on through mass retirements, promotions, and transfers. This is particularly essential to the Cabinet’s programs as more efficient and detailed technical analyses and assistance are required.

PROPOSED ACTIVITIES FOR 2018-2019

An effort will be made to continue a level of staff training which will maintain the integrity of professional career development and improvement of technological skills. Such training will include, but not be limited to the following workshops, classes, and conference or like training. This will not include registration fees to attend annual meetings or conferences except fees for portions of such conferences that do provide eligible training. We will also provide annual in-state Traffic Count Technician Training for District personnel. Training for Highway District Office Planning personnel, ADD personnel, and MPO personnel in procedures, regulations, technical issues, etc., may also be included as necessary to provide for improved coordination and efficiency within and between the Statewide and Metropolitan planning efforts.

SEE THE FOLLOWING 5 PAGES FOR TRAINING AND CONFERENCES

PRODUCTS

Personnel with career development opportunities, improved technological skills, broadened knowledge, enhanced capabilities, and more efficient operation.

DISTRIBUTION OF ESTIMATED COST FOR 2018-2019

	2018-2019	Expended	Percent Expended
PERSONNEL	\$116,000	\$66,435	58%
OUTSOURCING		\$1,180	
OTHER	\$20,000	\$3,274	17%
TOTAL	\$136,000	\$70,889	53%

Other

- Other Operational Cost \$20,000
For items such as travel, mileage, equipment and other cost directly associated with the completion of this work chapter.

Chapter 2 Personnel Training

	SPR Work Program	Personnel Training	Traffic and Equipment Management	Roadway Systems	Cartography	Highway Information System	Strategic Corridor Planning	Statewide Transportation Planning	Metropolitan Planning Organizations	Performance Measures and Congestion/ Mobility Analysis	Air Quality	Multimodal Transportation	Traffic Data Forecasting	Bicycle and Pedestrian Program	Highway Safety Improvement Program	Quality Assurance
Conferences	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
GIS T						A	X	X		X						
GIS-KYTC						A				X		A	A	X		
KAMP Annual Meeting				A	A	X										
HIS Conf						A					X	X	X	X		
Asset Mangement Conf										X		X				
Bentley Training Conf						X										
HIDAC						A										
ACEC Partnering Conference			A			X	A	A	A	X	X	X	X	X		
TRB Annual Meeting						X	X	X	X	X	X	X	A	X		
TRB Tools of the Trade: Small and Medium Communities									X	X	X	X	A	X		
National Freight Conf												X				
Bicycle and Pedestrian Facilities Conf							X	X	X					X		
ITE Section Conference									X			X	X	X		
American Planners Association							X	X	X		X	X	X	X		
AMPO									A							
North American Travel Monitoring Expo & Conf										X			X			
AASHTO Standing Committees						X	X	X	X	X	X	X	X	A		
The Committee for Non Motorized Transportation														X		
TRB Workgroups/Research						X	X	X	X	X	X	X	A	X		
WVDOH Planning Conference									X			X	X	X		
Ohio Planning Conference									X			X	X	X		
UK Transportation Research and Innovation Program											X		X			
ASCE Conference							X									
TRB Automated Vehicle Symposium							X					X				

Chapter 2 Personnel Training

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KYTC/FHWA Freight Conference							X	X	X		A	A	A			
KSPE Conference							X									
Kentuckians for Better Transportation (KBT)							X					A				
MMUT Pooled Fund Annual Meeting													A			
Ohio Conference on Freight												A				
Mid America Freight Coalition												A				
KATE Annual Meeting													A			
Connecting to Leadership Conference														A		
Federak Aid 101									A							
ITE International Meeting							A									
TSMO Summit								A	A							
RMC Summit								A	A							
KY Bikewalk Regional Summit									A							
Indiana MPO Conference								A	A							
Nature's Call to Action Conference														A		

X =Planned to attend but did not attend

A =Planned to attend and did attend

A =Did not plan to attend but did attend

Chapter 2 Personnel Training	SPR Work Program	Personnel Training	Traffic and Equipment Management	Roadway Systems	Cartography	Highway Information System	Strategic Corridor Planning	Statewide Transportation Planning	Metropolitan Planning Organizations	Performance Measures and Congestion/ Mobility Analysis	Air Quality	Multimodal Transportation	Traffic Data Forecasting	Bicycle and Pedestrian Program	Highway Safety Improvement Program	Quality Assurance
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Training Events																
TMG													X			
High Desert Jackalope Training			A							X			X			
Adobe Illustrator					X								X			
Microstation				X	X	X	X	X	X							
HPMS						X				X		X	X			
Business Objects Training						X		X		X		X	X			
SQL Training						X				X			X			
Visual Basic (macros)						X				X			X			
Bentley InRoads							X	X	X							
Public Involvement in Transportation Decision Making Process											X	X	X	X		
Effective Communications in Public Involvement											X	X	X	X		
Fundamentals of Title VI/EJ							X	X	X		A	A	A	X		
Practical Conflict Management Skills for Env Issues											X					
Highway Capacity 2010							X	X	X	X	A	X	X			
KYTC Traffic Engineering Design							X	X	X				X	X		
Public Involvement							A	X	X		X	X	X	X		
Road Safety Audit Training							X	X	X			X		X		
Highway Safety Manual Training							A	X	X					X		
Purpose and Needs Statement Training							A							X		
NEPA							A		A							
GIS						X				X	X	X	X	X		

Chapter 2 Personnel Training	SPR Work Program	Personnel Training	Traffic and Equipment Management	Roadway Systems	Cartography	Highway Information System	Strategic Corridor Planning	Statewide Transportation Planning	Metropolitan Planning Organizations	Performance Measures and Congestion/ Mobility Analysis	Air Quality	Multimodal Transportation	Traffic Data Forecasting	Bicycle and Pedestrian Program	Highway Safety Improvement Program	Quality Assurance
Microsimulation							X	X	X				X			
Administration of FHWA Planning and Research Grants							X	X	X			X	X	X		
Planning for Operations							X	X	X	X	X	X		X		
Congestion Management and Reliability							X	X	X	X	X	X	X			
Transportation and Land Use							X	X	X			X	X			
Climate Change							X	X	X		X					
STAQS									X		X					
MOVES									X		A					
TransCAD/Modeling									X		X		X			
Census Training					X			X	X	X	X		X	X		
Training ofr State Bike/Ped Coordinator														X		
CHAF Training							X	X	X							
R Programming Course							X									
Various ACEC Planning/Design							X	X	X							
TREDIS							X	X	X							
FHWA Process Mapping							A									
Hard Shoulder Running							A									
Di-Ann Eisner, Waze							A									
Safety Analyst Gap Analyst							A									
Talking Freight Webinar							A		A							
Statewide Planning Meeting							A	A		A						
KYSITE/OITE Joint Technical Mtg							A									
KYTC Sub-Recipient Monitoring								A	A							
KY Regional Air Quality Webinar								A	A							
Project Application Process									A							

Chapter 2 Personnel Training	SPR Work Program	Personnel Training	Traffic and Equipment Management	Roadway Systems	Cartography	Highway Information System	Strategic Corridor Planning	Statewide Transportation Planning	Metropolitan Planning Organizations	Performance Measures and Congestion/ Mobility Analysis	Air Quality	Multimodal Transportation	Traffic Data Forecasting	Bicycle and Pedestrian Program	Highway Safety Improvement Program	Quality Assurance
	Traffic Bottlenecks Webinar								A							
	Bridge Day Seminar								A							
	Roadside Design							A	A							
	Air Quality Conformity								X		X					

X =Planned to attend but did not attend

A =Planned to attend and did attend

A =Did not plan to attend but did attend

CHAPTER 3

Traffic and Equipment Management

RESPONSIBLE UNIT

Division of Planning
Traffic and Equipment Management Branch

PURPOSE AND SCOPE

The primary functions of the Traffic and Equipment Management Branch are to collect, process, and store traffic data. Traffic data is used in virtually every decision made in transportation engineering. Applications of this information include, but are not limited to: project/program planning, project selection, pavement design, safety analysis, capacity analysis, air quality assessment, and federal funding.

The Branch is comprised of two Sections: the Equipment Section and the Data Section.

The Equipment Section is responsible for the procurement, distribution, operation, maintenance, and repair of all equipment used at traffic data acquisition stations. Personnel perform data collection station designs, installations, construction inspections, and maintenance at traffic data acquisition stations throughout the state. Additional duties of Equipment Section personnel include providing technical expertise and training to District personnel and performing traffic counts as necessary.

The Data Section is responsible for performing quality control, processing, and maintaining data collected from data acquisition stations located statewide. Personnel generate several different reports from said data throughout the year. These reports are prepared for the Federal Highway Administration (FHWA), Kentucky Transportation Cabinet (KYTC), Kentucky Transportation Center (KTC), various planning agencies, and other governmental agencies. Data is also made available for public consumption.

PROPOSED ACTIVITIES FOR 2018-2019

- Maintain, update, analyze, provide QA/QC, and make available data from approximately 17,300 traffic count stations including coverage, interstate, automatic traffic recorder (ATR), weigh in motion (WIM), and ramp stations. **100% Complete**
- Maintain existing database (TRADAS) in parallel with new database (Jackalope) for quality control until new database is deemed fully functional and reliable. **In June of 2019 we made full migration into Jackalope. After experiencing a few software glitches that could not be resolved in the old software, we determined to stop running parallel and make the full turn over to the new traffic software (Jackalope).**
- Download, process, and analyze data for every day of the year from approximately 95 permanent ATR stations. **100% Complete**
- Submit monthly reports of hourly ATR records to FHWA. **100% Complete**
- With KYTC District Offices, collect and process vehicle volume data from approximately 5,000 short-duration, portable-machine, coverage and ramp counts. **100% Complete**
- With KYTC District Offices, review, assign, collect, process, analyze, and distribute data from special count stations that are requested by the highway districts and other divisions. The number of special counts varies from year to year with the average being approximately 100 total, each of which typically includes multiple volume and turning movement counts. **100% Complete**
- Concurrent with coverage, interstate, ATR, WIM, and ramp counts, collect and process vehicle classification data from approximately 1,000 stations, which complies with the FHWA, *Traffic Monitoring Guide* recommendation of 25%-30% for Minor Collectors and above. **100% Complete**

CHAPTER 3

Traffic and Equipment Management

RESPONSIBLE UNIT

Division of Planning
Traffic and Equipment Management Branch

PROPOSED ACTIVITIES FOR 2018-2019 (continued)

- Provide traffic data for annual FHWA-required Highway Performance Monitoring System (HPMS) report. **100% Complete**
- Update axle and monthly factors used in adjusting short term counts from data collected at ATR and vehicle classification stations. **100% Complete**
- Update in-house databases to include any new stations or roadway alignment changes. Correct beginning and ending milepoints to better represent traffic generators. **100% Complete**
- Collect, process, and analyze continuously collected data. Submit a minimum of one-week, WIM data from permanent WIM stations to FHWA quarterly. Periodically calibrate WIM data collection equipment, as needed, in order to assure quality data. **We have WIM data however submitting it to FHWA was not completed within this scope of dates.**
- Review proper operation and coverage of ATR stations. Install additional ATR stations as necessary. **100% Complete**
- Investigate and purchase new traffic data collection equipment to provide for safer, more efficient and more accurate methods of collection. **100% Complete**
- Certify, repair, and maintain approximately 800 traffic data recorders. **100% Complete**
- Inspect, repair, and maintain, where possible, approximately 585 vehicle sensor locations (~95 ATRs and ~490 semi-permanent) **100% Complete**
- Administer contracts and provide oversight of Contractor(s) for the repair and maintenance of ATR and semi-permanent vehicle sensor locations. **100% Complete**
- Track upcoming highway projects and produce plans, specifications, and construction cost estimates for new and replacement traffic sensor installations for submittal into construction and pavement rehabilitation contracts. **100% Complete**
- Provide construction oversight, when required, and perform final inspections of new and replacement traffic sensor installations. **100% Complete**
- Provide contract management and oversight of Consultant assisting with field data collection and other tasks. Process and provide quality assurance of the provided counts. **100% Complete**
- Provide traffic count technician training and support, as needed. **100% Complete**

PRODUCTS

- Volume and classification data from ATR stations **100% Complete**
- Volume, classification, and weight data from WIM stations **Issues with WIM data but all others complete**
- Volume and classification data from short-duration machine count stations **100% Complete**
- Volume and classification data from special counts **100% Complete**
- Axle and monthly factors **100% Complete**
- Databases containing traffic count station and traffic count data information **100% Complete**
- Accurate local DVMT data for FHWA reporting through HPMS **100% Complete**

CHAPTER 3

Traffic and Equipment Management

RESPONSIBLE UNITDivision of Planning
Traffic and Equipment Management Branch**DISTRIBUTION OF ESTIMATED COST FOR 2018-2019**

	2018-2019	Expended	Percent Expended
PERSONNEL	\$2,100,000	\$1,989,356	95%
OUTSOURCED PERSONNEL	\$250,000	\$36,275	19%
OTHER	\$200,000	\$130,564	66%
TOTAL	\$2,550,000	\$2,156,195	85%

ESTIMATED OUTSOURCING EXPENSES AND PURCHASES**Outsourcing**

- \$50,000 contract for outsourced traffic counts to be performed by consultant under Statewide Traffic Counting contract.
- \$200,000 for traffic data collection station installation and maintenance

Other

- \$150,000 for purchase of new traffic data collection equipment and supplies
- \$50,000 Other Operational Cost
For items such as travel, mileage, equipment and other cost directly associated to the completion of this work chapter.

CHAPTER 4

Roadway Systems

RESPONSIBLE UNIT

Division of Planning
Transportation Systems Branch

PURPOSE AND SCOPE

The Roadway Systems Team maintains the official Department of Highways records for the following: State Primary Road System (SPRS); Designated National Truck Network (NN); Coal Haul Highway System; and Forest Highway System. The team works with Highway District Office Planning Section (HDO) and Central Office Data Management staffs and other sources as available to track changes in roadways and highway systems, accomplish systems changes, and prepare official documents for approval. The team annually gathers and compiles source data on the transportation of coal by trucks in the Commonwealth of Kentucky to prepare the tables, maps and descriptive information published in the Coal Haul Highway System Annual Report and other coal transportation information.

PROPOSED ACTIVITIES FOR 2018-2019

- Track roadway construction or maintenance projects to identify changes in roadways and their effect on roadway system designations. **Daily activity including contact and email with District Offices for project status updates. Posting notifications for Data Management when traffic dates are changed as well as updating the Project Tracker Database with current information. 100% Complete**
- Coordinate the two-way flow of information between the Highway District planning staffs and Central Office Transportation Systems and Data Management branch staffs regarding roadway construction and ownership status. **Communicate almost daily with Data Management personnel on activities regarding updating and/or revising H.I.S. based on District Planning recommendations. Phone calls, emails, regular meeting with Data Management Staff, and sometime visits are made to the respective Highway District Office to check on project status. 100% Complete**
- Generate official documentation recommending appropriate SPRS revisions to the Commissioner of the Department of Highways for approval. (KRS 177.020 and 603 KAR 3:030) **Currently official orders are required for all changes to the SPRS. Created official orders for all new construction projects and began doing official orders for data review changes as well, instead of electronic change orders. 100% Complete**
- Ensure the SPRS reflects roadways of significance, and correlates with the functional classification system and the electronic base map coverage. **Reviewed SPRS and functional class for all new road alignments along with recommendations and input from the Districts to make classification changes. Evaluate as projects were opened and official orders were generated. 100% Complete**
- Prepare quarterly reports for publication on the internet of SPRS mileage and of the designated routes and mileage of roads in the NHS and NN systems. **Reports every quarter and made sure they were published on the website. 100% Complete**
- Review revisions to the SPRS to discover any modifications made necessary to other systems such as functional classification, NHS, or NN classifications. **None required. Typically new alignment reviews check to see if any surrounding roads needed classification changes due to the new alignment. Changes to NHS and NN require a separate official order. This is a part of the process of doing an Official Order. 100% Complete**

CHAPTER 4

Roadway Systems

RESPONSIBLE UNIT

Division of Planning
Transportation Systems Branch

PROPOSED ACTIVITIES FOR 2018-2019 (continued)

- As requested by local public agencies or Highway Districts, coordinate review requests with Division of Maintenance and HDO's for revisions of NN. As appropriate, prepare request from Cabinet to FHWA for system revision. **None required. Changes to NN require a separate official order. 100% Complete**
- As necessary or appropriate, review interstate frontage roads. Coordinate documentation by HDOs of suitability for transfer to local government and prepare request from Cabinet to FHWA for permission to complete transfer of property to local government. **Completed a few frontage roads in District 6. District 2 has several currently being reviewed. District 2 will need to address certain criteria from the Federal-Aid Policy Guide 23 CFR 620B before transferring to Fiscal Court. 50% Complete**
- As necessary or appropriate, prepare and submit request for approval by AASHTO Standing Committee on Highways, U.S. Route Numbering Special Committee, for any significant change to routing of a U.S. numbered highway. **Submittals are made to the Special Committee twice a year as necessary – completed one in April 2019 to connect routing two freeways in Kentucky and Indiana that are currently routed as I-265. The extension is currently routed as Indiana State Road 265 and Kentucky State Highway 841 Gene Snyder Freeway). The roadway serves as a Bypass around the north, east, and south sides of Louisville, Kentucky. 100% Complete**
- Provide all system revision information to the Data Management branch and others as appropriate. **Daily contact with Data Management to ensure that all Systems data is accurate in HIS. 100% Complete**
- Compile data to provide ton-mile statistics to the Governor's Department for Local Government for coal transported on Kentucky Highways as required by KRS 177.977 and KRS 42.455. **The Coal Haul Report and supporting maps were published to the website in late August 2018. Website updated for Coal Haul. 100% Complete**
- Publish Kentucky's Official Coal Haul Highway System Report as required by KRS 177.977 and KRS 42.455. **Reports are drawn in Exor forms from data entered for the previous calendar year. "Ton-Miles Table" to DLG on August 30, 2018. 100% Complete**
- Provide the Division of Maintenance coal haul route information for their review of bridge weight limits. Develop the update of the Extended Weight Coal and Coal By-Products Haul Road System for replacement of the current system in the Highway Information System database. Prepare the Official Order for approval of the updated Extended Weight system. **Bridge information for review by Maintenance was sent on August 2018. The Extended Weight data was updated in HIS at the end of November 2018. Official Order updated with Secretary's signature December 11, 2018. 100% Complete**
- Review and coordinate right-of-way information between the HDO staffs and Central Office Transportation Systems and Division of Right-of-Way and Utilities staffs regarding request for official transfers. Compile data in Project Wise. **Reviewed over 50 request and completed over 12 transfers to the Division of Right-of-Way. 100% Complete**
- Compile and provide Governmental Accounting Standards Board (GASB) information on total mileage and estimate value of state roads removed from the SPRS for the FY 2018 to KYTC's Office of Budget and Fiscal Management. **Report(s) completed August 2019. There were 13.414 miles removed and 23.156 miles added to the State Systems for a total difference of 9.742 miles. 100% Complete**

CHAPTER 4

Roadway Systems

RESPONSIBLE UNIT

Division of Planning
Transportation Systems Branch

PRODUCTS

- Official Order Changes to the State Primary Road System
50 Official Orders were completed, including transfers. Discovered and processed changes resulting from roadway data collection and roadway system data reviews. 100% Complete
- State Primary Road System Official Order Listings
Update State Primary Road listings for each official order completed. Revise mileage totals and update revisions page to reflect current changes. Revised SPRS listing to the Planning webpage. 100% Complete
- Quarterly Reports on internet: State Primary Road System Mileage, Designated National Truck Network routes and mileage
Updated NHS and NTN reports on web at beginning of each quarter. Put SPRS mileage report out on the web upon Districts requests. 100% Complete
- GIS map files incorporating project design files for decision-making and use by other Branches
Incorporated project design files into GIS map documents to create decision-making maps for nearly 38 projects. Communicated with Data Management Branch on information obtained for input into HIS for HPMS reporting. 100% Complete
- Coal Haul System Report with associated maps and separate datasets to Department of Local Government, KYTC Budgets and KYTC Bridge Maintenance
Compiled Coal Haul reports and shape files. Created maps of producing counties as well as a statewide map. Mailed out 512 Coal Haul forms and 276 Coal Haul Updates. 100% Complete
- Request to FHWA for modification of National Truck Network (NN) or Official Order Change to State Designated National Truck Network
None Required
- Request to FHWA for modification of National Highway System
None Required
- Request to FHWA for permission to relinquish interstate frontage road to local government
Completed a few frontage roads in District 6. District 2 has several currently being reviewed. 50% Complete

DISTRIBUTION OF ESTIMATED COST FOR 2018-2019

	2018-2019	Expended	Percent Expended
PERSONNEL	\$720,000	\$462,003	65%
OUTSOURCING		\$20	
OTHER	\$3,000	\$3,025	101%
TOTAL	\$723,000	\$465,048	65%

CHAPTER 4

Roadway Systems

RESPONSIBLE UNIT

Division of Planning
Transportation Systems Branch

ESTIMATED OUTSOURCING EXPENSES AND PURCHASES

Other

- \$3,000 Other Operational Cost
For items such as travel, mileage, equipment and other cost directly associated to the completion of this work chapter.

CHAPTER 5

Cartography

RESPONSIBLE UNIT

Division of Planning
Transportation Systems Branch

PURPOSE AND SCOPE

The Cartography Team meets the needs of the Division, Cabinet, other state agencies, and entities outside state government for general and special purpose maps. The team creates, updates, and distributes a wide variety of standard cartographic products in electronic and/or paper format. The team creates maps depicting various analyses of highway transportation data in digital and/or printed format. They also work to develop procedural and technical standards for digital mapping.

PROPOSED ACTIVITIES FOR 2018-2019

- Provide electronic mapping for all city, county, district, state, and special-purpose cartographic products. **Over 45 County Maps, SPRS, and Functional Classification Maps were updated and exported on the internet. About 20 City Maps, SPRS, and Functional Classification Maps were updated and exported on the internet. 60% Complete**
- Maintain and publish electronic formats of cartographic products for display on the Internet. **Maps are updated regularly. 100% Complete.**
- Update the Official State Highway Map electronic files and accomplish necessary publication. Monitor inventory at 17 locations and coordinate additional deliveries as needed. **Obtained new printing contract from Finance, processed form for contract and updated RFP document for contract. Traveled to Lexington to monitor re-printing and map folding operation by Thoroughbred Printing LLC, the new vendor. Over 650,000 maps were prepared. Continue to monitor inventory and shipping of product to 17 locations. 100% Complete**
- Create reports and exhibits for various Division projects and studies to assist transportation decision-makers in their roles. **Alternative Fuel Corridors and Kentucky Air Transportation System 2020 100% Complete**
- Provide mapping and graphic assistance to other Divisions and Departments as requested. **As requested 100% Complete**
- Develop and provide to outside entities digital maps as requested. **Provided highway updates to Rand McNally and AAA. Fulfilled over 2,200 maps sales request and mailed out nearly 7,200 free official Highway Maps. 100% Complete**
- Develop and provide geographic information systems (GIS) files locating other modes of transportation. **As requested 100% Complete.**

PRODUCTS

- Official Highway Map
New contract obtained for 2018-2019 map, graphic files generated, printing QC'd and 650,000 copies printed and distributed as needed. 100% Complete
- State Primary Road System Maps
Updated county maps at least 60 times. Updated city maps 30 times. 60% Complete
- Functional Classification Maps
Same as for State Primary Road Systems. 60% Complete
- Other Highway Data Maps (i.e., traffic counts, NHS, NN, etc. maps)
100% Complete

CHAPTER 5

Cartography

RESPONSIBLE UNIT

Division of Planning
Transportation Systems Branch

PRODUCTS (continued)

- Cabinet and Planning Project Exhibit Maps/Displays
As requested – See Comments above 100% Complete
- GIS Analyses of various data for transportation decision-making
As requested – See Comments above 100% Complete
- General and special purpose maps as requested by other agencies
As requested – See Comments above 100% Complete
- Geographic information systems (GIS) electronic files
As requested – See Comments above 100% Complete

DISTRIBUTION OF ESTIMATED COST FOR 2018-2019

	2018-2019	Expended	Percent Expended
PERSONNEL	\$200,000	\$60,987	31%
OUTSOURCING		\$78,365	
OTHER	\$151,000	\$0	0%
TOTAL	\$351,000	\$139,352	40%

ESTIMATED OUTSOURCING EXPENSES AND PURCHASES

Other

- \$150,000 for Official Highway Map Publication.
- \$1,000 Other Operational Cost
For items such as travel, mileage, equipment and other cost directly associated to the completion of this work chapter.

CHAPTER 6

Highway Information System

RESPONSIBLE UNIT

Division of Planning
Data Management Branch

PURPOSE AND SCOPE

The Highway Information System chapter enables the Data Management Branch to oversee maintenance of the Transportation Cabinet's Highway Information System (HIS) database. This database serves as the Cabinet's storage unit for Geographic Information System (GIS) road centerlines and information about roadway characteristics, transportation systems, and roadway analysis. The branch contributes to the KYTC Asset Management program by providing an up-to-date route network of asset locations for other divisions and also providing asset extraction capabilities for updates to the network. The branch uses HIS information to produce the Highway Performance Monitoring System (HPMS) data submittal required annually by the Federal Highway Administration (FHWA). The HPMS submittal is also used within the Cabinet to assist with the analysis and measurement of highway system performance. The branch regularly reviews Functional Classification with the Highway District Offices, Metropolitan Planning Organizations (MPOs), and local officials. It also coordinates all Functional Classification and National Highway System (NHS) changes associated with road changes or external entity requests. The branch provides roadway information to many areas within the Cabinet, other governmental agencies, consultants, and the public via the Division's website, the Cabinet's Transportation Enterprise Database (TED), or direct requests. In order to support all of these functions with accurate and timely data, the branch routinely extracts and analyzes data from Computer-Aided Design (CAD) project construction plans, Cabinet Photo Van collection efforts, and on-site collection activities performed by branch staff.

PROPOSED ACTIVITIES FOR 2018-2019

- Maintain the Cabinet's GIS route network for Kentucky's public highways. Improve processes and procedures for reviewing, editing, and updating the network. **Updated centerline locations and attributes impacted by 95 state road projects. Processed 3,428 local road centerline location and attribute changes in 100 counties. 100% Complete**
- Provide up-to-date route network locations, route lengths, and highway data for use by internal and external customers. Ensure accuracy of information provided. **Provided up-to-date information to customers inside and outside the Cabinet using CAD design files, Photo Van data, field collection, GIS tools, and aerial imagery. 100% Complete**
- Adapt CAD project construction plans and use GIS software to generate maps for resolving road ownership and highway data questions caused by road construction impacts. **Generated 45 maps for road construction projects and distributed to appropriate staff for review and response as appropriate. 100% Complete**
- Update the route network with newly acquired road centerline data extracted from CAD project construction plans, Global Positioning System (GPS) collection methods, and Photo Van collection methods. Update and verify roadway mileage and highway data. **Used CAD design files to update new state road centerlines, mileages, and inventory on pace with project openings for 104 projects. Used GPS collection methods to field-verify information obtained with CAD design files. Used Photo Van data and images to improve accuracy of road centerlines and inventory. 100% Complete**

CHAPTER 6

Highway Information System

RESPONSIBLE UNIT

Division of Planning
Data Management Branch

PROPOSED ACTIVITIES FOR 2018-2019 (continued)

- Utilize Photo Van images and data to verify accuracy and validity of route log entries, roadway features and information, and other highway data stored within HIS. **Data in HIS regularly reviewed and updated as necessary with more accurate and valid information captured from Photo Van images and data. 100% Complete**
- Perform office reviews to verify HIS data meets the required standards established by this Division and FHWA. **Reviewed weekly reports and quality control checks to ensure proper data maintenance. Utilized HPMS Field Manual to verify data quality and completeness. Performed checks to ensure local road centerline changes met standards. 100% Complete**
- Assist the Division of Maintenance in the implementation of pavement performance measures reporting and analysis via HPMS. **Adapted Division of Maintenance pavement data to meet HPMS software requirements and ensure its successful load into the software. 100% Complete**
- Assist in the implementation of national performance measures reporting and analysis in accordance with federal legislation, regulations, policies, and/or guidelines. **Attended webinars and meetings regarding implementation. Continuing to evaluate best methods for implementation within Kentucky's data environment. 50% Complete**
- Provide guidance to Cabinet leadership and the Office of Information Technology (OIT) regarding availability and appropriateness of highway data as it relates to the redevelopment of the Cabinet's SYP database. **Provided guidance regarding the availability and appropriateness of highway data to assist OIT in its implementation of the SYP redevelopment. 50% Complete**
- Develop appropriate Cabinet sources for providing data screening methods used in the assembly of the Cabinet's Highway Plan. Modify HIS data collection, storage, and analysis processes as needed in order to satisfy Highway Plan assembly requirements. **Recommended appropriateness of data items for use in data screening methods. Oversaw the Highway Plan "Data Verification" phase. 100% Complete**
- Assist with analyses of highway system performance and the Unscheduled Projects List. Provide an up to date route network for locating Unscheduled Projects. **Maintained up-to-date route network location of Unscheduled Projects. Created HIS data extraction procedures to satisfy Highway Plan project scoring. 100% Complete**
- Update Rating Indices, Capacities, and Volume/Service Flow ratios in the HIS database and distribute to customers. **Generated new capacity and V/SF values and made available to internal data customers. Final determination on best method for incorporating these into HIS was completed 100% Complete**
- Improve production methods used to calculate Rating Indices, Capacities, and Volume/Service Flow ratios. **Implemented the capacity and V/SF tool created by the Kentucky Transportation Center (KTC) to calculate the new capacity and V/SF values. Testing of results indicates the tool generates appropriate values given data limitations. 100% Complete**
- Process and submit annual HPMS report. **HPMS submitted on time, June 15 (2,119 sample sections). Gathered and processed data from other areas of the Cabinet. 100% Complete**

CHAPTER 6

Highway Information System

RESPONSIBLE UNIT

Division of Planning
Data Management Branch

PROPOSED ACTIVITIES FOR 2018-2019 (continued)

- Improve HPMS submittal production methods. Investigate results of HPMS report and analyze potential process changes to improve submittal. **Generated the HPMS data extract using Bentley's TIG tool, resulting in improved data extraction methods. 100% Complete**
- Maintain currency of HPMS software and update procedures as required by federal legislation, regulations, policies, and/or guidelines. **Used web-based HPMS 8.0 and followed software validations and requirements. Used the latest edition of the HPMS Field Manual. Updated data storage model to reflect HPMS guidelines. 100% Complete**
- Coordinate with other Cabinet Divisions regarding their asset management needs. Assist with Cabinet-wide asset management data collection and data dissemination. **Coordinated data collection and dissemination efforts with Divisions of Maintenance, Traffic Operations, Highway Design, Right of Way and Utilities, Program Management, Motor Carriers, and Rural and Municipal Aid. Generated 58 maps for resolving road ownership and highway data questions caused by road construction impacts. Updated metadata in HIS to communicate information about data collection and usage to customers. 100% Complete**
- Work with OIT to maintain the most current version of the HIS database. Perform acceptance testing and help deploy upgrades to other data owners within the Cabinet. **Worked with OIT testing several HIS database fixes to confirm product reliability and functionality prior to installation. 100% Complete**
- Work with OIT to improve HIS data exchange with TED and other Cabinet databases. **Worked with TED and GIS Branches in OIT for reporting, mapping, and sharing of HIS data within the Cabinet. Supported OIT's implementation of new routines to more efficiently exchange data between HIS and TED. Continued development of a link between HIS and the Division of Maintenance's OMS/PMS databases (Bentley Systems contract). 95% Complete**
- Review Functional Classification in cooperation with Highway Districts and MPO's. Review Functional Classification change requests from Highway Districts and other external entities. **Updated HIS data to reflect FS changes. 100% Complete**
- Coordinate changes to the NHS and Strategic Highway Network following proper procedures for approval from FHWA and the Department Of Defense. **No NHS request or changes. 100% Complete**
- Process Superload route network changes to support the Department of Vehicle Regulation's overweight/overdimensional permitting procedures. **Superload implementation is not yet in production, so no route network changes were necessary. The related training for this task is currently in process. The production environment should be live in FY19. 95% Complete**
- Accurately locate Photo Van images to the HIS route network. Provide an up-to-date route network for image location accuracy. **Accurately located Photo Van data to HIS up-to-date route network. 100% Complete**

CHAPTER 6

Highway Information System

RESPONSIBLE UNIT

Division of Planning
Data Management Branch

PRODUCTS

- Certification of Public Road Mileage by June 1 **Submitted June 1 (80,180 centerline miles). 100% Complete**
- HPMS submittal by June 15 **Submitted June 15 (2,119 sample sections). 100% Complete**
- Weekly snapshots of HIS route network and highway data **HIS data extracted weekly and provided to TED for Cabinet-wide consumption. 100% Complete**
- Up-to-date and accurate route network locations, route lengths, and highway data to support Cabinet Performance Measures and Asset Management activities **Provided information to customers inside and outside the Cabinet with timely updates. 100% Complete**
- Maps for resolving road ownership and highway data questions caused by road construction **45 maps created. 100% Complete**
- Official Cabinet Route Logs **Updated timely due to on-the-ground changes. 100% Complete**
- Unscheduled Project locations and Highway Plan data screening outputs **Updated timely due to on-the-ground changes. 100% Complete**
- Rating Indices, Capacities, and Volume/Service Flow ratios **Generated new capacity and V/SF values and made available to internal data customers. 100% Complete**
- Route network and highway data Change Reports reflecting HIS processing activities **Completed in a timely manner for each processing activity that required notification to other stakeholders 100% Complete**
- Queries and routines for quality control of HIS data **Reviewed Quality Assurance report weekly and parameter-based inquiry (PBI) and TIG results monthly. 100% Complete**
- Functional Classification change requests **Updated HIS data to reflect FS changes. 100% Complete**
- Photo Van image locations **Updated timely due to on-the-ground changes. 100% Complete**

DISTRIBUTION OF ESTIMATED COST FOR 2018-2019

	2018-2019	Expended	Percent Expended
PERSONNEL	\$1,100,000	\$655,150	60%
OUTSOURCING	\$660,000	\$613,365	93%
OTHER	\$110,000	\$12,047	11%
TOTAL	\$1,870,000	\$1,280,562	69%

CHAPTER 6

Highway Information System

RESPONSIBLE UNIT

Division of Planning
Data Management Branch

ESTIMATED OUTSOURCING EXPENSES AND PURCHASES

Outsourcing

- \$200,000 for Local Road Centerline collection with all of the 15 Area Development Districts, with contracts less than \$100,000 for each
- \$100,000 for data research and analysis projects
- \$100,000 for database development and enhancement projects
- \$150,000 for IT database support
- \$50,000 for special roadway data collection projects
- \$60,000 for production of FHWA 536 Report (Odd Years Only)

Other

- \$50,000 for Asset Management Data Collection (Photo Van Operation)
- \$50,000 for data expansion, improvement, and maintenance
- \$10,000 for Other Operational Costs
For items such as travel, mileage, equipment and other costs directly associated to the completion of this work chapter

CHAPTER 7

Strategic Corridor Planning

RESPONSIBLE UNIT

Division of Planning
Strategic Planning Branch
Strategic Corridor Planning Team

PURPOSE AND SCOPE

The Strategic Corridor Planning Team evaluates system and corridor needs for state maintained roadways. It enhances and continues to update scoring processes for prioritizing projects considered for inclusion in the Six-Year Highway Plan through the use of SHIFT (Strategic Highway Investment Formula for Tomorrow) and the District Transportation Plan (DTP). The DTP details SHIFT processes and lists the projects resulting from Statewide and Regional scoring methods. The Strategic Corridor Planning Team also conducts technical project studies consisting of large studies to Data Needs Analysis (DNA) Studies in order to perform the necessary levels of planning to develop a conceptual and draft purpose and need statement, identifies major environmental issues including environmental justice, initiates consultation with local officials, initiates agency coordination and conducts appropriate levels of public involvement. It identifies and evaluates alternatives, generates project cost estimates and recommends phasing priorities where appropriate. The team oversees outsourced activities and works with the Highway District Offices (HDOs), Metropolitan Planning Organizations (MPOs), and Area Development Districts (ADDs) as needed to complete necessary tasks. Through analysis of data, sustainable and fundable projects will be identified.

PROPOSED ACTIVITIES FOR 2018-2019

- Continue to develop and update policy and procedures for evaluating corridor level needs. **This task is ongoing. We continue to evaluate the policy and procedures for each study, placing emphasis on the KYTC's push for Performance Based Flexible Solutions (PBFS). 100% Complete**
- Conduct corridor, scoping, small urban area, district connectivity and accessibility, data needs analyses (DNA), and other studies. **For a list of active studies and percent complete, please see the PRODUCTS below.**
- Respond to inquiries about corridor planning issues. **All inquiries to planning studies are responded to in a timely manner. Recently completed studies are available online for the public to view and posted on ProjectWise. 100% Complete**
- Identify, evaluate and prioritize corridor, scoping, and small urban area needs through data analysis and public involvement. **Corridor and Small Urban Area Studies involve the identification, evaluation, and prioritization of recommended roadway improvements through data analysis and involvement from the public, and/or local officials/stakeholders advisory committees. 100% Complete**
- Oversee outsourced activities. **Most of our studies are completed by consultants with district and Division of Planning assistance in the form of co-Project Managers who oversee the study. At the end of the FY 2019 fourth quarter, KYTC had 16 active planning studies outsourced to a consultant. 100% Complete**
- Continue to refine evaluation measures as an element of SHIFT 2.0 to score and prioritize sponsored projects from HDOs, MPOs, and ADDs for programming in the highway plan. **CHAFs are developed for long-term needs identified through our corridor and Small Urban Area studies. Our studies also provide cost estimates to be used in programming future projects. Several staff served on a workgroup which made changes to formulas and criteria used in scoring for SHIFT 2020. 100% Complete**

CHAPTER 7

Strategic Corridor Planning

RESPONSIBLE UNIT

Division of Planning
Strategic Planning Branch
Strategic Corridor Planning Team

PRODUCTS

Seven studies were completed during the period of July 1, 2018 to June 30, 2019 by consultants. The completed studies are as follows:

- US 27 Alternatives Study, Carter– 8-167.00 – September 2018
- KY 59, KY 344, KY 377 Planning Study, Lewis & Rowan Cos. – 9-231.00 – September 2018
- Outer Loop (KY 1065) Corridor Study, Jefferson Co. – N/A – April 2019 (SPR)
- Wendell H Ford Airport Access Road Study, Perry Co. – N/A – June 2019 (SPR)
- Western Bardstown Connectivity Study, Nelson Co. – 4-8809.00 – June 2019
- KY 1303 (Turkeyfoot Road) Study, Kenton Co. – N/A – June 2019 (SPR)
- Frankfort Small Urban Area Study, Franklin Co. – N/A – June 2019 (SPR)

Ongoing studies and their respective status at the end of FY 2019 are as follows:

<u>County(ies)</u>	<u>Route</u>	<u>Item No.</u>	<u>% Complete</u>
Jefferson/Shelby/Oldham	Various Routes	N/A (SPR)	99%
Pulaski	KY 635	8-9010.00	99%
All District 10 Counties	Various Routes	N/A (SPR)	99%
All District 4 Counties	Various Routes	N/A (SPR)	75%
Warren	US 68X/US 231X	N/A (SPR)	75%
Jefferson	I-65	N/A (SPR)	75%
Boone, Kenton	Various Routes	N/A (SPR)	75%
Various Counties	New Route	5-564.00	50%
Various Counties	New Route	6-458.00	50%
Anderson/Franklin	KY 151	5-806.00	40%
Various Counties	WK 9001	N/A (SPR)	30%
Bullitt, Jefferson	I-65	5-550.00	25%
Boone	New Route	6-446.00	25%
<u>County</u>	<u>Small Urban Area</u>	<u>Item No.</u>	<u>% Complete</u>
McCracken	Paducah	N/A (SPR)	99%
<u>Special Study</u>		<u>Item No.</u>	<u>% Complete</u>
Planning Guidance Manual		N/A (SPR)	60%
Truck Network Procedures Study		N/A (SPR)	50%

CHAPTER 7

Strategic Corridor Planning

RESPONSIBLE UNIT

Division of Planning
Strategic Planning Branch
Strategic Corridor Planning Team

PRODUCTS (continued)

Many of the current studies are large-scale efforts that have included or will include agency coordination and significant public involvement activities. All of the studies have required or will require coordination with the Highway District Offices and Area Development District Offices to assemble the project team, provide input on study issues, assist with scheduling meetings, and review reports. The Area Development District Offices will also develop Socioeconomic Studies/Environmental Justice reports for many of the studies.

Those projects listed above followed by (SPR) were funded with SPR Work Program funds. In addition, some SPR funding was used for management, oversight, and review of strategic corridor planning activities.

Summarizing, 23 projects have been worked on during the past fiscal year, with seven being completed, 16 in various stages of completion. Additionally, seven studies were recently awarded (and thus not shown). With the start of the new fiscal year, additional studies will soon begin.

• **Data Needs Analysis (DNA) Studies**

A DNA study will be completed for all projects in the Highway Plan, that have not already been the subject of a planning study and that are intended to be advertised for Consultant services, prior to the Advertisement. Six DNA studies were completed by District and Central Office Planners in FY 2018. These studies include projects identified by Item No.'s 2-383.00, 2-8955.00, 3-8904.10, 3-80001.00, 6-450.00, and 6-449.00.

- Priorities for Highway Plan Programming that are sustainable and fundable. The above listed studies include alternative development leading to future projects for programming or continuing phases of project development. The 2020 SHIFT process is continuing to utilize a data driven process to score and prioritize projects for the recommended highway plan in response to this sustainable and fundable priority need.

DISTRIBUTION OF ESTIMATED COST FOR 2018-2019

	2018-2019	Expended	Percent Expended
PERSONNEL	\$1,250,000	\$1,164,922	94%
OUTSOURCED PERSONNEL	\$1,200,000	\$1,237,912	104%
OTHER	\$10,000	\$6,394	64%
TOTAL	\$2,460,000	\$2,409,228	98%

CHAPTER 7

Strategic Corridor Planning

RESPONSIBLE UNIT

Division of Planning
Strategic Planning Branch
Strategic Corridor Planning Team

ESTIMATED OUTSOURCING EXPENSES AND PURCHASES

Outsourcing

- \$1,200,000 to outsource for Research and/or Planning Studies.

Other

- \$10,000 Other Operational Cost
For items such as travel, mileage, equipment and other cost directly associated to the completion of this work chapter.

CHAPTER 8

Statewide Transportation Planning

RESPONSIBLE UNIT

Division of Planning
Strategic Planning Branch

PURPOSE AND SCOPE

The Statewide Planning Team conducts a comprehensive statewide transportation planning process with the Area Development Districts (ADDs), Metropolitan Planning Organizations (MPOs), and the Highway District Offices (HDOs). This process includes consideration of all modes and the development of a policy driven and data-based approach for the identification, analysis and prioritization of needs in accordance with FAST Act requirements. The team also updates a Long-Range Statewide Transportation Plan (LRSTP) as needed and ensures that the LRSTP and the Statewide Program are FAST Act compliant. This team coordinates directly with the ADDs for their assistance through various services in support of the KYTC Statewide and Regional planning processes. Through these processes and partnerships, this team provides meaningful input to the Draft Recommended Highway Plan that includes but is not limited to the following: the Project Identification Form /Continuous Highway Analysis Framework (PIF/CHAF) database, Strategic Highway Investment Formula for Tomorrow (SHIFT), and District Transportation Plan (DTP).

PROPOSED ACTIVITIES FOR 2018-2019

KYTC Activities:

- Review and update the Transportation Cabinet Strategic Plan as needed. **Ongoing review, no changes needed. Last updated September 2015. 100% Complete**
- Review and update the LRSTP as needed. **Ongoing review, no changes needed. Last updated November 2014. 100% Complete**
- Review and update the Public Involvement Plan (PIP) as needed in association with LRSTP updates. **Ongoing review, no changes needed. Last updated February 2016. 100% Complete**
- Develop and implement processes as needed to ensure FAST Act compliance. **Ongoing Activity – Attended multiple internal and technical committee meetings as well as reviewed federal regulations. ADDs, MPOs and HDOs are informed of KYTC's progress on statewide and regional prioritization efforts as well as statewide performance targets and performance measures development through the Statewide Transportation Planners (STP) Meetings, other meetings, conference calls and e-mail correspondence. 100% Complete**
- Coordinate with other transportation modes, land use, environmental, and other resource agencies as needed. **Ongoing Activity – Attended multi-modal planning committee meetings and worked directly with the ADDs, MPOs and HDOs to obtain and confirm data used in the Continuous Highway Analysis Framework (CHAF) projects database as part of the project prioritization process. 100% Complete**
- Enhance the statewide transportation planning process by including data collection and analysis, public involvement, and coordination. **Ongoing Activity – Maintained the CHAF database with help from ADDs, MPOs and HDOs. Maintained the <http://yourturn.transportation.ky.gov> (also known as <http://transportation.ky.gov/YourTurn/Pages/default.aspx>) website with direct links to the LRSTP, PIP and LRSTP Public Involvement Notebook for public review. Also, with the assistance from ADDs, MPOs and HDOs, spot checked data provided to the Highway Performance Monitoring System (HPMS) and Planning's Highway Information System (HIS) databases. 100% Complete**

CHAPTER 8

Statewide Transportation Planning

RESPONSIBLE UNIT Division of Planning
Strategic Planning Branch

PROPOSED ACTIVITIES FOR 2018-2019 (continued)

KYTC Activities:

- Recommend sustainable and fundable projects as part of the prioritization process through performance based planning. **Continuing activity – Working with new data driven SHIFT prioritization process that identifies projects most in need of improvement in defined performance areas to aid in project selection. 100% Complete**
- Assist in the development of the KYTC draft recommended highway plan including update of project scoring, prioritization processes and other methods as needed. **Continuing activity – Used SHIFT for project evaluation, scoring and prioritization to be incorporated in a draft recommended plan for the Governor to review and revise in the fall of 2019. 75% Complete**
- Maintain and oversee further development of the PIF/CHAF database, a tool used in project prioritization and analysis. **Continuing activity – Developed and implemented the CHAF database updating and replacing the former Unscheduled Needs List (UNL)/PIF database. CHAF is continuously reviewed and updated to provide current project information. 100% Complete**
- Maintain and oversee the DTP that summarizes the methodology behind the new prioritization process known as SHIFT. **Continuing activity – The DTP has evolved to be used to document and detail SHIFT evaluation, scoring and prioritization processes of projects. 75% Complete**
- Coordinate with other Divisions, HDOs, and Agencies and incorporate applicable plans as necessary to ensure compliance with FAST Act. **Continuing activity – Coordinated through the SHIFT prioritization process to identify data driven projects using identified performance measures. 100% Complete**
- Coordinate with and assist the HDOs as needed during the Prioritization Process. **Continuing activity – Coordinating with planning partners to document SHIFT prioritization approach and outcomes. 100% Complete**
- Coordinate and oversee the ADD Regional Transportation Program. **Continuing activity – Executed new ADD contracts. Provided ADDs guidance on deliverables. Attended and addressed Regional Transportation Committees on various KYTC Planning Processes. Processed invoices, and facilitated ADD Planner Assessments. Coordinated between ADD's and HDO's on the development and presentation of SHIFT processes. 100% Complete**

ADDs Activities (assisting KYTC):

- Review and update Annual Work Program and Contracts to include allocation of staff, staff time and timeline for task completion. **The Division prepared the Annual Work Plan for the ADDs and awarded all ADDs contracts. 100 % Complete**
- Participate in an Annual Assessment Review. **The Division reviewed and conducted the assessments of the ADDs at mid fiscal year (December 2018) and at the end of the fiscal year (June 2019). 100 % Complete**
- Update Bicycle and Pedestrian Asset database. **The Bicycle and Pedestrian Asset database was updated in January 2019 with the assistance of our ADD partners. 100% Complete**

CHAPTER 8

Statewide Transportation Planning

RESPONSIBLE UNIT

Division of Planning
Strategic Planning Branch

ADDs Activities (assisting KYTC, continued)

- Coordinate and note speaking engagements with other Planning Agencies and Groups. Speaking engagements held with various local agencies/groups across the state coordinated and delivered by the ADD planners. 100 % Complete – June 2019.
- Coordinate Regional Transportation Committee (RTC) Meetings. RTC meetings coordinated by ADD planners. 100% Complete
- Review Regional Goals and Objectives. The Regional Goals and Objectives were reviewed and updated with the assistance of the ADD planners in October 2018. 100% Complete
- Review RTC Bylaws and maintain Membership List. The RTC Bylaws and Membership List was reviewed and updated with the assistance of the ADD planners in October 2018. 100% Complete
- Plan RTC activities. RTC meetings scheduled and held. 100% Complete
- Attend KYTC Statewide Transportation Planning Meetings and other approved training. Four quarterly STP meetings held and attended with ADD, MPO and HDO planners. Other approved training documented in Chapter 2 Training accomplishments. 100% Complete
- Maintain and update List of Rail Freight Loading/Unloading locations. The List of Rail Freight Loading/Unloading locations was reviewed and last updated in February 2019. 100% Completed
- Perform socioeconomic updates. The socioeconomic profiles were reviewed and updated in April 2019. 100% Complete
- Maintain a Public Involvement Process. Public Involvement Plan was reviewed with no changes needed. 100% Complete
- Review and update project information in the PIF/CHAF database. The CHAF project database (formerly PIF) was updated during the SHIFT project identification/ranking process. 100% Complete
- Maintain and provide a List of Contacts. The List of Contacts was reviewed and last updated in January 2019. 100% Complete
- Assist KYTC as needed on special projects. ADDs attended meetings and assisted with planning studies in their respective areas during the time period. See Chapter 7, Corridor Planning Accomplishments, for a complete list of projects for this period. 100% Complete
- Perform regional data collection and/or analysis (as needed). Ongoing data collection for work program deliverables. 100% Complete
- Conduct a major update to the following in this fiscal year:
 - Kentucky Highway Freight Network. The Kentucky Highway Freight Network was reviewed and updated in November 2018. 100% Complete
 - Prioritization/PIF/CHAF database review. The CHAF database (formerly PIF) was reviewed and updated in March 2019 during SHIFT prioritization. 100% Complete
 - National Highway System (NHS) Intermodal Connector List. The National Highway System (NHS) Intermodal Connector List was reviewed and updated in November 2018. 100% Complete
 - Truck Parking Inventory. The Truck Parking Inventory was reviewed and updated in May 2019. 100% Complete

CHAPTER 8

Statewide Transportation Planning

RESPONSIBLE UNIT

Division of Planning
Strategic Planning Branch

KYTC Products:

- Long-Range Statewide Transportation Plan review and update. Reviewed, no changes needed.
- Transportation Cabinet Strategic Plan Update. Reviewed, no changes needed.
- PIF/CHAF database. The Continuous Highway Analysis Framework (CHAF) database was implemented and access provided to our planning partners for review and update of their project information (formerly PIF unscheduled needs list) and used in the development of the SHIFT 2020 prioritization process.
- Annual Work Programs (AWP) and Contracts for 15 Area Development Districts. Completed revisions for FY 20 work program and forwarded for signatures. Clarified ADD deliverables and their due dates, and reviewed deliverables for completeness.
- Statewide Transportation Planning Meetings. The Division conducted four STP meetings: July 18, 2018, October 17, 2018, January 16, 2019 and April 17, 2019.
- Individual ADD Planner Assessments. The Division reviewed and conducted the assessments of the ADDs at mid fiscal year and at the end of the fiscal year.
- Public Involvement Plan Update. Reviewed, no changes needed.
- Draft Recommended Highway Plan and supporting SHIFT data. SHIFT 2020 scoring process implemented for prioritizing projects to be used in development of recommended Highway Plan in fall of 2019.
- DTP containing the SHIFT Projects. The DTP is being updated for delivery in spring 2020 to document processes and products from SHIFT 2020 scoring and prioritization.
- Rural Consultation Report. Reviewed, no changes needed. The last update of the Rural Consultation Report was in February 2016. The next Rural Consultation Report will be due February 24, 2021.

ADDs Products (assisting KYTC):

- Regional Goals and Objectives Update. Regional Transportation Planning Goals and Objectives were reviewed by each RTC with updates documented in the RTC's meeting minutes.
- AWP Timeline. Each ADD submitted to the Cabinet a Work Program Timeline specifying products, staff assigned to specific tasks and estimated percentage of total work program required to complete the tasks.
- Allocation of Resources (staff, salary, percent time charged, and percent overhead/administrative charges). Each ADD submitted to the Cabinet an Allocation of Resources for the fiscal year.
- Annual Assessment Results. Each ADD Planner participated in an assessment at mid fiscal year and the end of the fiscal year by the Cabinet to review ADD Planner performance.
- Quarterly Progress Report. ADDs submitted to the Cabinet progress reports at the end of each quarter reflecting activities performed.
- RTC Agenda, Meeting Minutes, Bylaws and Committee Activities Plan. A minimum of two notices were sent for each RTC meeting. Notices and agendas were sent and posted on ADD websites at least two weeks in advance of meetings. Minutes were prepared by ADD Planners and provided to membership within 30 days following RTC meetings. Bylaws and schedules for RTC activities were reviewed and updated by each ADD and submitted to the Cabinet.

CHAPTER 8

Statewide Transportation Planning

RESPONSIBLE UNIT

Division of Planning
Strategic Planning Branch

ADDs Products (assisting KYTC, continued):

- Projected Training List. Proposed training lists for the fiscal year were provided by each ADD.
- Public Involvement Plan. ADD PIPs were reviewed, updated and made available on each ADD website.
- Socioeconomic Profiles. American Community Survey data researched for ADD specific counties. Updated profiles included in public involvement materials on each ADD website. A major update is to be conducted in fiscal year 2022.
- Socioeconomic Studies (as needed). For Item No. 8-9010.00 Science Hill RR Crossing Study in Pulaski County, a Socioeconomic Study was completed by the Lake Cumberland ADD and included in the main study report.
- List of Resources. A list of contacts and resources was reviewed and updated by each ADD and posted on ADD websites as part of each ADDs' Public Involvement Plan (PIP). A major update is to be conducted in fiscal year 2020.
- Materials for Special Studies (as needed). No special studies needed.
- List of Rail Freight Loading/Unloading Locations. A list of rail freight loading/unloading locations was reviewed and updated by each ADD. A major update is to be conducted in fiscal year 2021.
- Regional data collected and/or analyzed (as needed). No additional data collection needed beyond this list of ADD Products.
- Provide the following major updates this fiscal year:
 - Kentucky Highway Freight Network. The Kentucky Highway Freight Network (KHFN) was reviewed and updated in November 2018. The updated information was used as an input to the SHIFT scoring process.
 - Prioritization/ PIF/CHAF data. Updated the Continuous Highway Analysis Framework (CHAF) database (formerly PIF). The updated data was used in SHIFT for project evaluation, scoring and prioritization to be incorporated in a draft recommended highway plan for the Governor to review and revise in the fall of 2019.
 - NHS Intermodal Connectors. The National Highway System (NHS) Intermodal Connector List was reviewed and updated for changes in November 2018.
 - Truck Parking Inventory. The Truck Parking Inventory was reviewed and updated for changes in May 2019.

DISTRIBUTION OF ESTIMATED COST FOR 2018-2019

	2018-2019	Expended	Percent Expended
PERSONNEL	\$1,750,000	\$1,404,314	81%
OUTSOURCED PERSONNEL	\$75,000	\$37,554	50%
OTHER	\$50,500	\$10,945	22%
TOTAL	\$1,875,500	\$1,452,813	78%

CHAPTER 8

Statewide Transportation Planning

RESPONSIBLE UNIT

Division of Planning
Strategic Planning Branch

ESTIMATED OUTSOURCING EXPENSES AND PURCHASES

Outsourcing

- \$75,000 to outsource for studies and assistance related to the Statewide Planning SPR Work Program

Other

- \$37,500 for Economic Model License
- \$13,000 Other Operational Cost
For items such as travel, mileage, equipment and other cost directly associated to the completion of this work chapter.

CHAPTER 9

Metropolitan Planning Organizations
(Areas over 50,000 Population)

RESPONSIBLE UNIT

Division of Planning
Strategic Planning Branch
MPO Team

PURPOSE AND SCOPE

The MPO Team provides technical assistance to and coordination with the Metropolitan Planning Organizations (MPOs) for developing and maintaining a continuing, cooperative, and comprehensive (3C) transportation planning process in each of the urbanized areas. This process ensures that state and local transportation projects remain eligible to receive federal funding. Specific planning activities to be conducted in each MPO area are outlined in the MPOs' Unified Planning Work Programs (UPWPs).

PROPOSED ACTIVITIES FOR 2018-2019

- Draft and administer contracts with MPOs and Local Public Agencies (LPAs), providing oversight for federal funds. **Administered multiple existing contracts and implemented new contracts with MPOs and Louisville Metro government. 100% Complete**
- Provide technical assistance, oversight and review of MPO activities, programs, documents, models, and tools. **Provided technical assistance, oversight and review as needed. 100% Complete**
- Represent the Cabinet at technical, policy, and other committee meetings, and at certification reviews. **Attended multiple committee meetings, annual site review meetings and Louisville and Lexington certification reviews. 100% Complete**
- Promote planning processes in each MPO area that are consistent with current federal regulations. **Promoted planning processes consistent with federal regulations as needed. 100% Complete**
- Work with MPOs, transit agencies, and other state transportation agencies to implement performance-based planning processes, including selection of appropriate performance targets and development and implementation of processes to achieve those targets. **Kept MPOs informed of KYTC's progress on setting statewide performance targets. All MPOs either agreed to support KYTC's targets for safety, bridge and pavement performance, system reliability, and transit asset management or established their own area-specific targets. 100% Complete**
- Work with the MPOs, Highway District Offices (HDOs), other agencies, and representatives of various modes of transportation to collect data, identify needs (including connectivity gaps in access to essential services such as housing, employment, health care, education, and recreation), identify projects to address those needs, identify funding sources, and evaluate and rank projects, encouraging consistency between local, regional and state plans and programs and across various modes of transportation. **Evaluated projects for consideration in 2018 Six-Year Highway Plan. 100% Complete**
- Participate in planning studies affecting the metropolitan planning areas, including planning studies for rural and small urban areas near metropolitan planning area boundaries. **Participated in Planning studies affecting metropolitan planning areas. 100% Complete See Chapter 7, Corridor Team Accomplishments for a complete listing of Planning studies for this period.**
- Conduct regular Statewide Transportation Planning meetings, to include discussions on current metropolitan planning issues. **Conducted four STP meetings this fiscal year. 100% Complete**

CHAPTER 9

Metropolitan Planning Organizations (Areas over 50,000 Population)

RESPONSIBLE UNIT

Division of Planning
Strategic Planning Branch
MPO Team

PROPOSED ACTIVITIES FOR 2018-2019 (continued)

- Coordinate with MPOs and other agencies on air quality issues. **Worked with MPOs, USEPA, USDOT, and environmental agencies to address air quality conformity, particularly with respect to the 1997 Ozone standard due to the South Coast court decision. 100% Complete**
 - **Attended Kentucky's Regional Air Quality Webinars**
- Collaborate with representatives of neighboring MPOs and transportation agencies to promote consistency in performance measures, performance targets, data collection and analysis, and transportation plans and programs within multi-state MPOs and between adjacent MPOs, as applicable. **Collaborated with representatives of neighboring MPOs and transportation agencies as needed. 100% Complete**
 - **Attended Indiana MPO conference**
 - **Attended meetings with five multi-state MPOs that included representatives of four neighboring state DOTs (TDOT, INDOT, ODOT, and WVDOH) and one neighboring MPO (RIC in West Virginia)**
- Develop and update metropolitan planning agreements and performance-based planning procedures, as needed. **Worked on metropolitan planning agreements and performance-based planning procedures. 100% Complete**
 - **Collaborated with the Clarksville MPO, Tennessee Department of Transportation and Clarksville Transit Authority on a new Bi-State Memorandum of Agreement. Development and execution of this agreement is approximately 75% Complete.**

PRODUCTS

- Compliant and consistent Transportation Improvement Programs (TIPs), Metropolitan Transportation Plans (MTPs) and other documents. **Current TIPs and MTPs in place for all nine MPOs.**
- A Statewide Transportation Improvement Program (STIP) that is consistent with the MPOs' TIPs. **2019-2022 STIP in place.**
- Contracts with MPOs and LPAs to carry out planning activities in the urbanized areas. **Contracts in place with all nine MPOs, TARC and Louisville Metro**
- Statewide Transportation Planning meetings. **Held four STP meetings.**
- Special studies as needed. **No special studies needed or undertaken.**

CHAPTER 9

Metropolitan Planning Organizations
(Areas over 50,000 Population)

RESPONSIBLE UNIT

Division of Planning
Strategic Planning Branch
MPO Team

DISTRIBUTION OF ESTIMATED COST FOR 2018-2019

	2018-2019	Expended	Percent Expended
PERSONNEL	\$720,000	\$564,915	79%
OUTSOURCED PERSONNEL	\$25,000	\$0	0%
OTHER	\$6,500	\$10,017	155%
TOTAL	\$751,500	\$574,932	77%

ESTIMATED OUTSOURCING EXPENSES AND PURCHASES**Outsourcing**

- \$25,000 Various studies, as needed.
Studies will be pre-approved.

Other

- \$6,500 Other Operational Cost
For items such as travel, mileage, equipment and other cost directly associated to the completion of this work chapter.

CHAPTER 10

Performance Measures and Congestion/Mobility Analysis

RESPONSIBLE UNIT

Division of Planning
Multimodal Programs Branch

PURPOSE AND SCOPE

States are required to calculate and report performance measures/targets for the Interstate and non-Interstate National Highway System (NHS) for the purpose of carrying out the National Highway Performance Program (NHPP). The Multimodal Programs Team is responsible for NHPP areas related to system performance and traffic congestion, freight movement, on-road mobile source emissions, and consideration of greenhouse gas (GHG) emission measures. The analysis includes adopting performance measurements to comply with the final rule.

To assist in calculation of performance measures, KYTC participates in the Texas Transportation Institute's (TTI) Mobility Measurement in Urban Transportation (MMUT) pooled fund study to track and guide the mobility measure research.

PROPOSED ACTIVITIES FOR 2018-2019

Using National Performance Management Research Data Set (NPMRDS) provided by FHWA, available traffic counts, and the final NPRM Rule from 23 CFR Part 490, the Division of Planning calculates performance measures and performance targets for the following categories:

System Performance

- Calculate the Level of Travel Time Reliability (LOTTTR) for four different travel time periods as a percent of the person-miles traveled on the interstate system and on the non-interstate NHS system statewide using NPMRDS. Track progress and set targets. **100% Complete**

Freight

- Measure Freight Reliability as a Truck Travel Time Reliability index (TTTR) for five different travel time periods using truck travel times from NPMRDS on the Interstate system. Track progress and set targets. **100% Complete**

Congestion Mitigation (CM)

- Assist MPO's greater than 1,000,000 population to estimate Annual Hours of Peak Hour Excessive Delay for the hours of 4:00 PM to 8:00 PM using NPMRDS. **100% Complete**
- Estimate the Percent of Non-Single Occupant Vehicle Travel (Non-SOV) based upon the American Community Survey data maintained by FHWA. Track progress and set targets. **100% Complete**

Maintenance and Distribution of Data

- Download monthly NPMRDS data as supplied by FHWA to support the development of performance measures described in the final published NPRM, keep server current, and assist in implementing improved data locations. Check changes in network bi-annually. **100% Complete**
- In coordination with Data Management Branch, develop and maintain a GIS correlation between the data negotiated by FHWA and KYTC's Highway Performance Management System (HPMS) **100% Complete**
- Assist in efforts to make travel time/speed data readily available to personnel of KYTC and partners, as appropriate. **100% Complete**

RESPONSIBLE UNIT

Division of Planning
Multimodal Programs Branch

PROPOSED ACTIVITIES FOR 2018-2019 (continued)

- Participate in the Texas Transportation Institute’s (TTI) pooled-funded Urban Mobility Study. Several elements of research affect measuring mobility, work with travel time data, and compliance with FastAct Performance Measures. **Held in Louisville, KY. 100% Complete**
- Participate in Performance Measure educational opportunities including monthly webinars, as available. **100% Complete**

PRODUCTS

- Annual percent of the person-miles traveled on the Interstate System providing for Reliable Travel. **100% Complete**
- Annual percent of the person-miles traveled on the non-Interstate NHS providing for Reliable Travel. **100% Complete**
- Annual Truck Travel-time Reliability factor for the Interstate System. **100% Complete**
- Annual percent of the Interstate System in urbanized areas with a population over 1 million, where person hours of excess delay occur. **100% Complete**
- Simplify and legally share travel time data with KYTC staff, partners, and public. **Research legal limits of sharing. 100% Complete**
- Reports and targets as specified in the final PM3 rulemaking. **100% Complete**
- Submit PM3 results for inclusion with annual HPMS reports. **100% Complete**

DISTRIBUTION OF ESTIMATED COST FOR 2018-2019

	2018-2019	Expended	Percent Expended
PERSONNEL	\$115,000	\$91,500	80%
OUTSOURCED PERSONNEL	\$60,000	\$0	0%
OTHER	\$15,000	\$143	1%
TOTAL	\$190,000	\$91,643	49%

ESTIMATED OUTSOURCING EXPENSES AND PURCHASES

Outsourcing

- \$60,000 Purchase and analysis of link level travel time data. **Assistance with Travel Time Analysis. 100% Complete**

Other

- \$5,000 Other Operational Costs. **Travel cost assigned to Training. 100% Complete**
For items such as travel, mileage, equipment and other cost directly associated to the completion of this work chapter.
- \$10,000 TTI Urban Mobility Study (pooled-fund study). **100% Complete**

CHAPTER 11

Air Quality

RESPONSIBLE UNIT

Division of Planning
Multimodal Programs Branch
Air Quality Team

PURPOSE AND SCOPE

The Air Quality Team coordinates and performs analyses necessary to determine regional air quality conformity. The team assists in the development of regulations, guidance, and best practices to ensure compliance with federal regulations and deliver transportation projects within designated nonattainment and maintenance areas. The team communicates and coordinates with KYTC Offices and partner Cabinets as needed.

PROPOSED ACTIVITIES FOR 2018-2019

- Perform Regional Air Quality (AQ) Conformity Analysis for metropolitan and rural areas as needed. Due to a Federal Court ruling back on February 20, 2018, it was required to perform an AQ analysis for CUAMPO for Christian Co, KY, and assist with KYOVA for Boyd Co, KY. Coordinated with NKY and KIPDA to help them with their IAC meetings for 1997 ozone standard, while also maintaining knowledge for 2015 ozone impacts. CUAMPO completed their AQ analysis on February 15, 2019, and KYOVA is still in their final stages of completing their analysis. 100% Complete
- Monitor AQ data submissions to other agencies – State, federal, local, and academic research. Reviewed AQ conformity analysis reports from State, Federal, and Local agencies for the AQ affected area(s). CUAMPO, KIPDA, OKI, and KYOVA were the main ones monitored. 100% Complete
- Provide Kentucky transportation-related data to KY Energy and Environment Cabinet – Division of Air Quality (EEC-DAQ). Data is commonly used for the development of the State Implementation Plans (SIPs) for AQ nonattainment and maintenance areas. Review, comment, and participate during the preparation of mobile emission budgets for the development of SIPs, SIP amendments, maintenance demonstrations, and budget adjustments. KY EEC-DAQ did not request any data from KYTC – Planning during the 2018-2019 Fiscal Year. 100% Complete
- Work with KYTC-IT to develop annual updates to the Kentucky VIN/Fleet registration age/type distribution data for use with MOVES. Explore incorporation of other useful datasets. The 2017 VIN data is complete and currently waiting on 2018 VIN data, anticipated to be available by the end of Fiscal Year 2019. 100% Complete
- Maintain expertise in MOVES_2014b or current AQ model. Perform the emissions model analysis for ozone and PM_{2.5} regional conformity analyses as needed. Performed model run for CUAMPO Christian Co. KY and KYOVA Boyd Co. KY. A new update to the MOVES model is due summer/fall of 2019. 100% Complete
- Prepare Cabinet responses to citizen/agency inquiries for signature by Governor, Secretary, or Director. Drafted letters for the director's response to requests for Louisville, KYOVA, CUAMPO, and NKY for amendments to the TIPs, MTPs, and AQ analyses. 100% Complete
- Attend necessary meetings and conferences to stay abreast of AQ issues. Attended eight AQ related meetings. 100% Complete
- Monitor changes and maintain a clearinghouse of knowledge for the Division/Cabinet concerning AQ regulations. Maintain a working knowledge of the National Ambient Air Quality Standard

CHAPTER 11

Air Quality Conformity Analysis

RESPONSIBLE UNIT

Division of Planning
Multimodal Programs Branch
Air Quality Team

PROPOSED ACTIVITIES FOR 2018-2019 (continued)

- (NAAQS) for current standards including the 8-hour ozone and PM_{2.5} standards, air quality regulations, and implementation guidance. **Partial counties of Boone, Kenton, and Campbell and the whole counties of Jefferson, Bullitt, and Oldham have been designated nonattainment for the 2015 ozone standard. All areas currently attaining for the PM_{2.5} standard. 100% Complete**
- Inform KYTC staff, KYTC management, partner cabinets, MPOs, ADDs, public officials, and the general public about air quality, conformity analysis, federal guidelines, and new developments regarding greenhouse gas/climate change requirements. Disseminate information about same. **City of Louisville completed their GHG Inventory outreach program, which was an initiative from the Mayor aided by information/data from KYTC Planning. Federal guidelines pertaining to CMAQ and PMs continue to be slowly forthcoming. 100% Complete**
 - When new ozone standards are adopted, educate local governments regarding transportation impacts. **Areas affected by the 2015 ozone standard are those with past issues, so they are aware of the impacts. 100% Complete**
 - Maintain AQ Website- Maintain appropriate active web-links. **Website received a minor update pertaining to ozone, PM_{2.5}, and GHG during Fiscal Year 2018, but major update anticipated by end of Fiscal Year 2019 or beginning of Fiscal Year 2020. 100% Complete**
 - Develop and maintain a KYTC AQ email distribution list for dissemination of AQ information. **100% Complete**
 - Participate and/or facilitate monthly AQ conference calls and quarterly meetings. This includes participating in interagency consultation calls regarding transportation conformity for updates and amendments to MTP plans, SIPs, TIPs, and STIPs. **Participated in numerous conference calls regarding amendments for KIPDA, OKI, and other areas. Partnered with FHWA for the KY AQ quarterly conference calls. 100% Complete**
 - Assist with new programs as required by FAST Act, Clean Air Act Amendment (CAAA), NAAQS, and other federal, state or local legislation. **Working closely with other branches within/outside KYTC Planning when concerning new PMs from FHWA that affect AQ. 100% Complete**
 - Work with AQ team members to ensure all AQ TDM model data is ready for MOVES use. **All data was ready for MOVES use for model runs when needed. 100% Complete**
 - Develop and maintain working knowledge of the ever-changing performance measures required by the FAST Act and how they could impact AQ. **Coordinated when possible, awaiting further FHWA guidance. 100% Complete**
 - Coordinate special AQ/MOVES training when needed. **Planned and coordinated a series of 2018-2019 AQ conference calls. Incorporated minor updates to EPA MOVES Model. 100% Complete**
 - Provide support to the KYTC Office of Local Programs and local agencies for Congestion Management and Air Quality (CMAQ) related issues, as requested. Assist District, ADD, MPO, and local government offices with the preparation of CMAQ applications including emission calculations and documentation. **Received no calls to help with CMAQ applications, but also no call for projects this Fiscal Year. 100% Complete**
 - Participate in Congestion Management, Mobility, Speed, VMT, Green Initiatives, and Safety teams as needed. **100% Complete**

CHAPTER 11

Air Quality Conformity Analysis

RESPONSIBLE UNIT

Division of Planning
Multimodal Programs Branch
Air Quality Team

PROPOSED ACTIVITIES FOR 2018-2019 (continued)

- Provide assistance with performance measures as needed when related to AQ. **100% Complete**
- Other duties and special projects as assigned. SHIFIT, TF, submitting Alternative Fuel Corridor application to FHWA, and getting approval to start a Park-n-Ride database being other major tasks assigned. **100% Complete**

PRODUCTS

- Ozone and PM_{2.5} regional conformity analysis as required for projects in nonattainment and maintenance areas. **100% Complete**
- Conforming statewide and MPO planning documents. **100% Complete**
- Data to Division of Air Quality as requested. **100% Complete**
- Emission calculations for CMAQ applications, Green House Gases/Cross Cutting (GHG/CC) as requested. **100% Complete**
- VIN/Fleet data for use with MOVES. **100% Complete**
- KYTC AQ website updates. **100% Complete**
- Performance measures pertaining to AQ. **100% Complete**

DISTRIBUTION OF ESTIMATED COST FOR 2018-2019

	2018-2019	Expended	Percent Expended
PERSONNEL	\$60,000	\$64,643	108%
OTHER	\$2,000	\$38	1%
TOTAL	\$62,000	\$64,681	105%

Other

- \$2,000 Other Operational Cost
For items such as travel, mileage, equipment and other costs directly associated to the completion of this work chapter.

CHAPTER 12

Multimodal Freight Transportation

RESPONSIBLE UNIT

Division of Planning
Multimodal Programs Branch

PURPOSE AND SCOPE

The Modal Team collects data, plans, promotes, and assists in the development of a multimodal and intermodal transportation system in Kentucky. The modal programs addressed in this chapter are public riverports, railroads, truck freight, and ferryboats. The team will administer and have oversight/support of ferry operations, Ferryboat Formula Funds (FBP), Kentucky Railroad Crossing and Safety Improvement (KRCSI) grants, Kentucky Riverport Improvement (KRI) grants, and other federal or state multimodal contracts. The team serves as staff support for the Water Transportation Advisory Board (WTAB) and Kentucky Freight Advisory Committee for Transportation (KFACT).

PROPOSED ACTIVITIES FOR 2018-2019

Public Riverports

- Maintain Kentucky's guidelines for KRI grant applications, as defined by current budget bill. **Updated guidance and application process. 100% Complete**
- Review any KRI grant applications received, request completion documents as needed. **Received seven applications. 100% Complete**
- Provide staff support for the Water Transportation Advisory Board. **Held one meeting in FY 19. 100% Complete**
- Interface with the public and private riverports in the state by responding to information requests and serving as a member of the Kentucky Association of Riverports. Conduct annual on-site visits of active public riverports in the state. **Visited six public Riverports, one developing public Riverport, and participated in KAR meetings as requested. 100% Complete**
- Actively participate on the AASHTO Water Transportation Council. (WTC). **Participated in WTC conference calls. 100% Complete**
- Maintain Kentucky's application for establishing a public riverport authority. Review and respond to applications for establishing a public riverport authority, as needed. **Responded to several inquiries about establishing a public Riverport. One application was submitted but administratively returned as incomplete. No other applications have been received to date. 100% Complete**
- Request and compile annual operations reports from riverports. **Requested in FY 17, updated as needed. 100% Complete**
- Update the KYTC Waterways Transportation Plan as needed. **Major update in FY 20. RFP has been developed. 100% Complete**
- Plan and host riverport meetings as needed. **Attended and planned several Riverport meetings and site visits. 100% Complete**
- Maintain KYTC's Riverports website. **Updated as needed. 100% Complete**

Railroads

- Oversee KRCSI program including maintaining program guidance, reviewing applications, contract administration, and project inspection, as needed. **FY 19 Solicitation for projects issued. 20 total applications received. 19 contracts executed. 95% Complete**
- Coordinate with Division of Right of Way to administer KRCSI projects as defined by the current budget bill. **19 FY 19 grants transferred to RWU for administration and oversight. 95% Complete**

CHAPTER 12

Multimodal Freight Transportation

RESPONSIBLE UNIT

Division of Planning
Multimodal Programs Branch

PROPOSED ACTIVITIES FOR 2018-2019 (continued)

- Assist with development and maintenance of the statewide railroad GIS mapping and data set using RR GIS, RR maps, RR annual reports, and aerial photographs. **Major update in process. 95% Complete**
- Update the KYTC Rail Transportation Plan as needed. **100% Complete**
- Participate in various rail studies and research with KYTC involvement. **Monitoring Midwest passenger rail study. 100% Complete**
- Collect railroad annual reports and rail accident/incident reports as directed in 603 KAR 7:090. **100% Complete**
- Actively participate on the AASHTO Rail Transportation Council. (RTC), American Railway Engineering and Maintenance-of-Way Association (AREMA), American Short Line & Regional Railroad Association (ASLRRA), and Kentucky Operation Lifesaver. Monitor, track, and distribute information about railroad line abandonments in Kentucky. **100% Complete**
- Track and share (with KY Tourism, KY Economic Development, et. al.) information regarding rail abandonments, as appropriate. **100% Complete**
- Respond to public inquiries on passenger and freight rail issues. **Responded to blocked crossing, poor crossing condition, bridge deterioration complaints. 100% Complete**
- Plan and host rail industry stakeholder meeting as needed. **Met with railroad company representatives several times. 100% Complete**
- Maintain KYTC's Railroads website. **Updated as needed. 100% Complete**

General Freight

- Provide technical assistance and disseminate information to MPOs, ADDs, HDOs, and project teams regarding freight movement, planning, and safety. **100% Complete**
- Evaluate, log, store, and update freight data from MPOs, ADDs, and HDOs as needed. **100% Complete**
- Coordinate designations to the National Highway Freight Network and the National Multimodal Freight Network, as required by FAST Act. **Updated as needed. 100% Complete**
- Review and maintain designation of the Kentucky Highway Freight Network. **100% Complete**
- Participate in regional freight planning efforts. **100% Complete**
- Continue involvement with Mid-America Freight Coalition (MAFC), Institute for Trade and Transportation Studies (ITTS), and National Cooperative Highway Research Program (NCHRP), as appropriate. **Attended MAFC Conference in Traverse City, MI and participated in scheduled conference calls. Participated in monthly ITTS conference calls. 100% Complete**
- Visit intermodal sites and communicate with rail, water, air, pipeline, and road modes to identify freight-related needs and concerns involving highways. **100% Complete**
- Continue relationships with Economic Development to identify and promote intermodal freight opportunities and locations. **100% Complete**
- Maintain the Kentucky State Freight Plan to be FAST Act compliant. **Approved by FHWA on December 4, 2017. 100% Complete**
- Update the KY Freight Modes book, as needed. **100% Complete**
- Review draft procedure and perform analysis for Freight Performance Measures. **100% Complete**

CHAPTER 12

Multimodal Freight Transportation

RESPONSIBLE UNIT

Division of Planning
Multimodal Programs Branch

PROPOSED ACTIVITIES FOR 2018-2019 (continued)

- Maintain KYTC's Freight website. **Updated as needed. 100% Complete**
- Create and implement methodology for considering freight in PIFs, plans, and projects. **Developed Freight LOS and used on multiple projects. KYTC Freight Network used in SHIFT freight scoring. 100% Complete**
- Track and share information regarding automated and connected freight vehicles, as appropriate. **100% Complete**
- Provide staff support for the KY Freight Advisory Committee for Transportation (KY FACT). **Held one meeting in FY 19. 100% Complete**
- Maintain and update Critical Urban Freight Corridor and Critical Rural Freight Corridor networks, as needed. **Worked with MPOs for CUFC updates to NHFN. 100% Complete**
- Maintain and update Critical Rural Freight Facilities, as needed. **Worked with ADDs for CRFF updates to NHFN. 100% Complete**

Ferryboats

- Coordinate the Kentucky Ferryboat Program. **100% Complete**
- Share information concerning Federal Ferryboat Formula Fund (FBP) program and administer FBP funds. Work with ferry authorities to develop fiscally constrained plans for FBP funds. **100% Complete**
- Plan and host ferryboat operators meeting as needed. **Met with ferryboat operators several times. 100% Complete.**
- Conduct annual on-site visits of Kentucky ferryboat operations. **Visited six state funded ferry operations. 100% Complete**
- Coordinate with United States Coast Guard, US Corp of Engineers, and MARAD on issues impacting all ferries. **100% Complete**
- Maintain KYTC's Ferryboat website. **Updated as needed. 100% Complete**

PRODUCTS

- Kentucky Riverport Improvement project/contract. **100% Complete**
- Updated Statewide Rail, Waterway, and Freight Plans, as needed. **100% Complete**
- Updated railroad GIS database and maps for KYTC and public purposes. **100% Complete**
- Annual Rail Report. **100% Complete**
- Annual Riverport Report. **100% Complete**
- Annual Ferryboat Report. **100% Complete**
- Ferryboat operation and FBP awards' contracts, site inspections, and invoice review/approval. **100% Complete**
- Updated Intermodal Connectors documentation as appropriate. **100% Complete**
- Rail industry stakeholders meeting as needed. **100% Complete**
- KFACT meetings as needed. **100% Complete**
- Annual Waterways/Ferryboats meeting as needed. **100% Complete**
- Contracts and guidance for KRCSI. **95% Complete**

CHAPTER 12

Multimodal Freight Transportation

RESPONSIBLE UNIT

Division of Planning
Multimodal Programs Branch

PRODUCTS (continued)

- Updated website, meeting minutes, agendas, logistics, and guidance for Water Transportation Advisory Board. **100% Complete**
- FAST Act Compliant Freight Plan. **100% Complete**

DISTRIBUTION OF ESTIMATED COST FOR 2018-2019

	2018-2019	Expended	Percent Expended
PERSONNEL	\$325,000	\$143,090	44%
OUTSOURCING		\$5,157	
OTHER	\$100,000	\$24,762	25%
TOTAL	\$425,000	\$173,009	41%

ESTIMATED OUTSOURCING EXPENSES AND PURCHASES

Other

- \$40,000 Mid America Freight Coalition, a MAASTO subcommittee paid as pooled fund study* **100% Complete**
- \$40,000 Institute for Trade and Transportation Studies, a SASHTO subcommittee paid as a pooled fund study*. Renews in FY2019 with 3 year commitment (FY2019 – 2022). **100% Complete**
- \$5,000 Operation Lifesaver - Educational Material (for school children). **100% Complete**
- \$15,000 Other Operational Cost- For items such as travel, mileage, equipment, and other costs directly associated to the completion of this work chapter.

Non Work-Program Expenses

- Tennessee Tombigbee Waterway Dues* are paid through Regional Planning (EA51 General Fund \$75,000). **100% Complete**

* Expenses paid via KYTC Research Arm/Innovation Engineer.

CHAPTER 13

Traffic Data Forecasting Statewide Transportation Modeling

RESPONSIBLE UNIT

Division of Planning
Multimodal Programs Branch
Forecasting and Modeling Team

PURPOSE AND SCOPE

The Forecasting and Modeling Team analyzes traffic trends, provides current and projected traffic volume estimates for planning, project development, environmental analysis, operations, and other purposes. Local, regional, and statewide transportation models (KySTM) are updated and maintained. Data is collected, processed, and assembled for determining route location or relocation, running scenario analysis, or as input into KySTM.

PROPOSED ACTIVITIES FOR 2018-2019

Traffic Forecasting- Reports, Studies, and Analysis

- Prepare traffic estimates for planning studies, design projects, maintenance, environmental, and other purposes, as requested. **Received 23 traffic forecast requests and 18 completed. 100% Complete**
- Administer statewide traffic forecasting contracts. Provide quality review for traffic projections prepared by the MPOs and consultants. **Provided quality review for 13 forecasting projects prepared by consultants for the Cabinet. 100% Complete**
- Maintain databases tracking traffic forecasts and traffic forecast parameters. Make databases available to other users and offices as appropriate. **Database maintained and a copy made available to other users within the Division of Planning. 100% Complete**
- Create, publish, and email monthly Traffic Forecast Status Report. Update Forecast milestone dates on Branch Calendar, at least monthly. **100% Complete**
- Maintain the traffic-forecasting web page as a tool for other users. Maintain and update internal traffic forecasting tools (e.g. pavement design spreadsheets, turning movement spreadsheets) and Traffic Forecasting report. **Updated forms on webpage. 100% Complete**
- Provide future year forecasting of K-factors/D-factors for the Highway Performance Monitoring System (HPMS) and compare result with TRADAS (or current software) outputs. **No longer needed. 100% Complete**
Participate in Regional Forecaster User's Group. This group includes forecasters from surrounding states that are trying to identify the state of practice for traffic forecasts. **No Forecaster User's Group sessions held this year. 100% Complete**
- Provide support to Division of Highway Design in implementation of new Mechanical Pavement Design Guide (MEPDG) as used in pavement design spreadsheets. **Provided traffic forecast to Central Office Highway Design and District Design staff with the new Pavement Design Form. 100% Complete**

Modeling- Reports, Studies, and Analysis

- Administer statewide modeling contracts. Provide quality review for models prepared by the MPOs and consultants. **Administered seven contracts during the year. 100% Complete**
- Maintain databases tracking traffic models, traffic modeling parameters, model use, and archive status. Make databases available to users. **Nine modeling projects initiated during the year. 100% Complete**

CHAPTER 13

Traffic Data Forecasting
Statewide Transportation Modeling

RESPONSIBLE UNIT

Division of Planning
Multimodal Programs Branch
Forecasting and Modeling Team

PROPOSED ACTIVITIES FOR 2018-2019 (continued)

- Create, publish, and email monthly Transportation Model Status Report. Update Model milestone dates in status report, ideally monthly. **100% Complete**
- Create, publish, and email quarterly Traffic Data and Model Sharing Agreements Status Report. Update Sharing Status milestone dates in status report, at least quarterly. **100% Complete**
- Use and modify existing and create new transportation models as needed to facilitate traffic forecasts, planning/regional studies, as well as special projects such as SHIFT. **Modeled and forecasted approximately 350 projects for TTS and TREDIS. 100% Complete**
- Maintain the traffic modeling web page as a tool for users. **100% Complete**
- Obtain and use vehicle registration, employment, traffic counts, and travel time data for use in Transportation Demand Models. Research other available data sources. Evaluate benefit/cost of purchased data and TDM improvements. **100% Complete**
- Participate in Transportation Model Users Group and TransCAD workshops for traffic forecasters and traffic modelers composed of members from government, academia, and the private sector. **100% Complete**
- Update and modify multi-county and regional models scripts as needed to run in TransCAD 6 or KYTC's current version. **100% Complete**
- Research state of the practice leading to better, calibrated and validated models. Attend peer reviews of TMA-MPO models and coordinate model updates as needed for small MPO models. **100% Complete**
- Offer collaboration with Project Development to identify and utilize modeling where appropriate. **100% Complete**
- Further review and propose improved freight assignment in models. **100% Complete**
- Complete Phase III of the Statewide Model. **100% Complete**
- Evaluate ongoing research by KTC regarding speed data, travel time, and other big data sources for possible future application. **100% Complete**
- Prepare inputs and perform TREDIS modeling as needed for economic impact analysis needed for the SHIFT process. **100% Complete**

PRODUCTS

- Project, Corridor, Road User Cost, and Economic Modeling analysis as requested. **100% Complete**
- Monthly Traffic Forecast Status Report. **100% Complete**
- Monthly Transportation Model Status Report. **100% Complete**
- VMT and VHT by road classification for MOVES2014b (or current version). **100% Complete**
- Quarterly Model Sharing Status Report. **100% Complete**
- Project Development coordination regarding models and forecasts. **100% Complete**
- Traffic forecast factors for HPMS. **100% Complete**

CHAPTER 13

Traffic Data Forecasting
Statewide Transportation Modeling

RESPONSIBLE UNIT

Division of Planning
Multimodal Programs Branch
Forecasting and Modeling Team

PRODUCTS (continued)

- Develop/review as requested, Transportation Demand Models such as:
 - ♦ County or highway district area macro models. **100% Complete**
 - ♦ Corridor and small area micro-simulation models. **100% Complete**
 - ♦ Continue validation and calibration of new and existing models. **100% Complete**

DISTRIBUTION OF ESTIMATED COST FOR 2018-2019

	2018-2019	Expended	Percent Expended
PERSONNEL	\$560,000	\$362,467	65%
OUTSOURCED PERSONNEL	\$200,000	\$292,567	147%
OTHER	\$5,000	\$109	1%
TOTAL	\$765,000	\$655,143	86%

ESTIMATED OUTSOURCING EXPENSES AND PURCHASES

Outsourcing

- \$100,000 for Phase II and III updates to the Statewide model
- \$100,000 for Regional model updates (Hardin-Meade & Warren Counties)

Other

- \$5,000 Other Operational Cost - For items such as travel, mileage, meeting registration, and workshop fees.

Non-Work Program Expenses

- \$5,000 VISSIM Maintenance for PTV Micro-Simulation Software.
- \$17,000 13 Caliper License fees for TransCAD and TransModeler

CHAPTER 14

Bicycle and Pedestrian Program

RESPONSIBLE UNIT

Division of Planning
Multimodal Programs Branch

PURPOSE AND SCOPE

The Bicycle and Pedestrian Team coordinates, assists, and manages the state's Bicycle and Pedestrian Program within Transportation Cabinet and coordinates associated efforts and works with other state agencies, local governments, organizations, and citizens of the Commonwealth. They work to expand active transportation opportunities in Kentucky to maximize the use of roads, streets, parks, and other publicly and privately owned lands, abandoned road beds, and other resources in the development of bikeways and walkways. Assistance is in the form of technical advice, development/review of plans, and coordinating studies. The responsibility of the Kentucky Pedestrian and Bicycle Coordinator is to prepare, assist, and promote bike/ped programs throughout the state by working with project teams to recommend opportunities and options for bike/ped facilities for proposed and ongoing highway projects, local roadway projects, and other associated bicycle and pedestrian projects. The Bicycle and Pedestrian Coordinator acts as secretariat for the Kentucky Bicycle and Bikeway Commission.

The Bicycle and Pedestrian Team coordinates with the Cabinet for Tourism, Arts and Heritage, Department for Local Government, and the Cabinet for Health and Family Services to promote bike/ped travel within the state. The KYTC Office of Local Programs and the Kentucky Department for Local Government coordinate programs that support and encourage active transportation. The Team coordinates with them regarding Scenic Byways, Transportation Alternative Projects, Recreational Trail Projects, and Congestion Mitigation and Air Quality Improvement Projects.

PROPOSED ACTIVITIES FOR 2018-2019

Planning

- Assist local governments in the development and/or improvement of local bike/ped network facilities, provide assistance to local planning efforts, and provide guidance from KYTC, FHWA, & AASHTO. Visited several communities throughout the state to provide technical information, suggestions, and a template to get started on or improve their current bicycle and pedestrian transportation networks. Reviewed current design plans communities had, and provided insight and recommendations for improvement. Notable onsite visits include, but not limited to, the city of Franklin on May 13, 2019, and the community of Paint Lick on April 9, 2019. 100% Complete
- Participate in the KYTC Strategic Highway Safety Plan update and implementation. Pedestrian and Bicycle Safety are now stand-alone sections. 100% Complete
- Participate in FHWA Pedestrian Fatality Focus Study for Louisville and Kentucky. 100% Complete
- Assist with revision and updating of the USBR bike tour system. Document, submit changes, and updates to the USBR system in KY by submittal to AASHTO for approval. All US Bicycle Routes in Kentucky, including approved corridors and identified corridors, are mapped and attributed in KYTC's Highway Information System (HIS) database. AASHTO approved USBR's include USBR-76, USBR-21, and USBR-23. AASHTO identified USBR corridors include USBR-25 and USBR-35. Datasets depicting the Bicyclist's Comfort Index (BCI) have been created and are available to view on the Bike/Ped webpage and in GIS applications. All necessary updates submitted to AASHTO for approval. Meeting at KYTC held on 3/15/19 to discuss potential signage installation for USBR-21 and USBR-23. 100% Complete

CHAPTER 14

Bicycle and Pedestrian Program

RESPONSIBLE UNIT

Division of Planning
Multimodal Programs Branch

PROPOSED ACTIVITIES FOR 2018-2019 (continued)

- Review, revise, and update the KYTC Pedestrian and Bicycle Travel Policy, as needed. Create, update, and review procedures for work associated with developing or improving bikeways and walkways. **KYTC Bike/Ped travel policy reviewed and necessary updates made. 100% Complete**
- Act as a Technical Liaison for municipalities to inform of the federal requirements for the required ADA Transition Plans (in relationship to their pedestrian planning efforts) and provide resources and material for the plan development. **Documents and templates have been created and continually updated for disbursement to local communities across the state to aid in the development and maintenance of bicycle and pedestrian facilities. Assisted and advised communities on how to create a design plan for a bicycle and pedestrian facilities network as well as offering advice on how to improve the efficiency and effectiveness of current networks. 100% Complete**

Engineering and Projects

- Respond to requests concerning planning and design guidelines regarding bike/ped facilities and provide reviews of bike/ped projects and facilities with KYTC's HDO and CO Divisions, ADDs, MPOs, and local governments. **Inquiry requests and correspondence received from various ADD's, other KYTC offices, consultants, and other customers. Received inquiry request from FHWA on 4/9/2019 regarding statewide total mileage of designated US Bike Routes; ran queries to find total and answered the request the same day. Received another request from FHWA the same day regarding statewide total rails to trails mileage, ran queries and looked through datasets to find total and answered the request the same day. Received requests in May and June from LTADD, BRADD, CVADD, and other ADD's requesting current BKPD datasets; executed queries and produced updated spreadsheets/reports depicting the most current dataset information. Received requests from other KYTC personnel seeking updated USBR data and BKPD; created reports and shapefiles and answered all requests quickly. Provided updated data from BKPD dataset to the consultant Michael Baker regarding the ADA Compliance Data Collection effort. 100% Complete**
- Review and comment on requests for signage or other options to recognize bike/ped facilities or on-road bicycle routes. **Provided MUTCD signage standards for inquiries from the city of Newport on 5/16/19. The Modal team met with Traffic Operations to discuss costs and strategies for installing signage on USBR's 21 and 23. Provided documentation and guidance to communities throughout the state for requirements to add sharrows and share the road signs. 100% Complete**
- Review the list of proposed resurfacing projects for opportunities to improve bike/ped facilities through restriping and other improvements. Review for considerations within local bike/ped plans where appropriate as part of maintenance activities. **The team requested to review the current list of possible resurfacing projects to check against the list of local government's plans for bike/ped travel roadway improvements. 100% Complete**

CHAPTER 14

Bicycle and Pedestrian Program

RESPONSIBLE UNIT

Division of Planning
Multimodal Programs Branch

PROPOSED ACTIVITIES FOR 2018-2019 (continued)

- Provide bike/ped accommodation considerations within traffic forecasts, planning studies, and other Project Development reports. **The team has continued to improve the bicycle and pedestrian consideration review process and documentation. The team has provided 13 consideration reviews for this period and been involved as part of seven project teams. 100% Complete**
- Develop, update, and standardized coordination protocols with the Divisions of Maintenance, Traffic Operations, Design, Planning, and HDOs concerning the Share the Road (STR) sign placement procedures. **The team has provided five recommendations to communities for Share the Road and other appropriate bicycle travel signage (and pavement markings). The team has improved on the recommended sign placement maps and list of warrants to determine priority for sign placement. 100% Complete**
- GIS applications- Develop and maintain a GIS of bike/ped= network facilities and plans statewide. Document linkage between the local and regional network facilities. Use national and statewide data source (Strava or other applications) to confirm bike/ped travel activity. **GIS datasets have been developed and continually updated include statewide multi-use paths, designated bicycle lanes, sidewalks, crosswalks, AASHTO designated US Bicycle Routes, bicycle trails/rail trails, and other shared-use facilities. Strava heat maps are referenced to confirm bicycle and pedestrian traffic. 100% Complete**
- Identify and obtain federal, state, local, or private funds available for developing active (bike/ped) transportation. **The team continues to work with the Cabinet for Health and Family Services to secure federal CDC funds for community planning workshops and additional resource materials. Other funds continue to be identified and pursued as appropriate and available. 100% Complete**

Education & Enforcement

- Provide technical training including best practices and bike/ped design for planners, designers, local government staff, and other KYTC staff (statewide) as needed. **100% Complete**
- Facilitate education of the public regarding non-motorized modes of transportation. Provide educational brochures and other resources to local government offices, bike shops, health departments, and other related groups. **Provided KYTC's available resources, documents, and educational materials to entities upon request. Also, when necessary, directed entities to KYTC's Bike/Ped webpages and FHWA's webpages as an additional resource. 100% Complete**
- Work with all levels of KY law enforcement to promote education and enforcement of bike/ped safety laws. Provide information brochures and make a presentation at the annual Life Savers Conference. **100% Complete**
- Respond to citizens' requests for information, maps, bike routes, walking trails, availability of funds for projects, and other related information as requested. **The team responded to all emails and calls received concerning Bike/Ped datasets, trail maps, locations of multi-use paths, bourbon trail/tourism maps, community design plan templates, and questions from KBBC commissioners, and concerning prequalification and Paula Nye Grants. 100% Complete**
- Develop and maintain a clearinghouse of information concerning active transportation for Central Office Divisions, Area Development Offices, Metropolitan Planning Organizations, and local governments. **The BKPD dataset in HIS is continually updated throughout the year from ADD**

CHAPTER 14

Bicycle and Pedestrian Program

RESPONSIBLE UNIT

Division of Planning
Multimodal Programs Branch

PROPOSED ACTIVITIES FOR 2018-2019 (continued)

data submittals and project design plans. The BKPD dataset is also available as a layer file to the Office of Information Technology's SDE server for public consumption and other customers to download. 100% Complete

- Maintain www.bikewalk.ky.gov website. The bike/ped webpages were continually updated on a weekly basis throughout the year to ensure that the most current information and resources are always readily available. Web pages regularly updated include Bike Walk Home, KBBC, Bike Ped Plans and Clubs, Sidewalk and Bike Facilities Map, Road Cycling Events and Touring Routes. 100% Complete

Kentucky Bicycle and Bikeways Commission (KBBC)

- Plan quarterly KBBC meetings. The team coordinated, conducted, and moderated four regular KBBC meetings, one annual business meeting with KYTC staff, and other organizations throughout the year. Each meeting was offered through web video or in-person. The meetings were held in accordance with KRS 61.805 to 61.850. 100% Complete
- Plan annual KBBC Conference. Prepare agenda before each KBBC meeting and minutes after each KBBC meeting. Annual conference was cancelled due to a low number of registered attendees. Prepared agendas for each of the meetings, took notes during the meetings, and prepared minutes after each meeting. Posted agendas and meetings to the KYTC bike/ped webpages. 100% Complete
- Assist KBBC on communications and technical matters. The team answered all emails and calls from and associated with the KBBC. Assisted in administering the Paula Nye Education Grant program; processed 2018 Nye Grant applications, six month progress reports and project summary reports, from 2017 and 2018 grantees. Maintained master file of all Nye Grant funds and expenditures. Coordinated effort between KYTC Office of Audits and KBBC Treasurer to complete the necessary yearly financial audit associated with the Share the Road license plate funds. 100% Complete

PRODUCTS

- Guidance for local and regional bike/ped master plans. 100% Complete
- Clearing house/tool box of bike & ped resources and related items for the creation or improvement of bike/ped projects or local master plans. 100% Complete
- Bike/ped brochures and promotional materials. 100% Complete
- Bike/ped transportation planning technical training courses. 100% Complete
- Walkability/Bikeability Audits. 100% Complete
- Quarterly and annual KBBC meetings. 100% Complete
- Nye Grant status reports. 100% Complete
- KYTC Bike/Walk webpages. 100% Complete
- BKPD dataset in HIS and Office of Information Technology's GIS SDE. 100% Complete

CHAPTER 14

Bicycle and Pedestrian Program

RESPONSIBLE UNIT

Division of Planning
Multimodal Programs Branch

DISTRIBUTION OF ESTIMATED COST FOR 2018-2019

	2018-2019	Expended	Percent Expended
PERSONNEL	\$200,000	\$110,391	56%
OTHER	\$32,000	\$812	1%
TOTAL	\$232,000	\$111,203	48%

ESTIMATED OUTSOURCING EXPENSES AND PURCHASES

Other

- \$2,000 bike/ped training course instruction with site field visits.
- \$10,000 for Kentucky Bicycle and Bikeway Commission meetings.
- \$5,000 for bike/ped brochures
- \$5,000 for bike/ped educational and safety items for drivers, cyclists, and pedestrians.
- \$10,000 Other Operational Cost -For items such as travel, mileage, equipment, GIS data for bike/ped activity (Strava), and other costs directly associated to the completion of this work chapter.

CHAPTER 15

Highway Safety Improvement Program

RESPONSIBLE UNIT

Division of Traffic Operations
Traffic Engineering Branch
Highway Safety Improvement Program Team

PURPOSE AND SCOPE

The Highway Safety Improvement Program (HSIP) Team evaluates, develops, and implements safety improvements on all roadways. The team enhances and continues to update an evaluation process for prioritizing projects for consideration for inclusion in the Highway Safety improvement Program. The team also conducts Road Safety Audit Reviews performing the necessary levels of evaluation to identify safety issues and develop a conceptual purpose and need statement. The team identifies and evaluates alternatives, generates project cost estimates, and recommends phasing priorities where appropriate. The team oversees outsourced activities and works with other Divisions, Offices, and Agencies as needed to complete necessary tasks.

PROPOSED ACTIVITIES FOR 2018-2019

- Continue to develop and update procedures for evaluating safety needs.
- Conduct Roadway Safety Audit Reviews.
- Respond to inquiries about safety issues.
- Identify, evaluate, and prioritize safety needs through data analysis, and stakeholder and public involvement.
- Evaluate identified needs District-wide/State-wide to assist in prioritizing projects for programming of Highway Safety Improvement Program funded projects.

PRODUCTS

- Crash Analysis
- Road Safety Audit Reviews
- Alternatives Studies
- Feasibility Studies
- Special Studies
- Environmental Studies
- Utility Studies
- Project Estimates
- Priorities for Highway Safety Improvement Program

CHAPTER 15

Highway Safety Improvement Program

RESPONSIBLE UNIT

Division of Traffic Operation
Traffic Engineering Branch
Highway Safety Improvement Program Team

DISTRIBUTION OF ESTIMATED COST FOR 2018-2019

	2018-2019	Expended	Percent Expended
PERSONNEL	\$500,000	\$192,754	39%
OTHER		\$1,834	
TOTAL	\$500,000	\$194,588	39%

ESTIMATED OUTSOURCING EXPENSES AND PURCHASES

- \$25,000 to each of 12 Districts to administer the Highway Safety Improvement Program (HSIP), including planning, implementation, evaluation, and reporting.

SEE ATTACHED SPREADSHEET FOR ACCOMPLISHMENTS

Dist	County	Roadway	BMP	EMP	Description	Item No.	Total Cost	Non-Hwy	Planning Cost	Design Cost	R/W Cost	Utility Cost	Const. Cost	REMARK
01	BALLARD	KY 473	1.700	2.300	RECONSTRUCT THE INTERSECTION OF KY 473 AT MOSSTOWN RD FROM 'Y' TO 'T' INTERSECTION IN BALLARD COUNTY.	01-09007.00	\$845,715						\$845,715	
01	VARIOUS	VARIOUS			PRELIMINARY DESIGN AND STUDY TO DETERMINE LOW COST IMPROVEMENTS AT VARIOUS INTERSECTIONS WITHIN DISTRICT 1. (2016BOP)	01-09008.00	\$100,000			\$100,000				THIS MODIFICATION PROVIDES ADDITIONAL DESIGN FUNDS FOR THE PROJECT. LC
01	VARIOUS	VARIOUS			PRELIMINARY DESIGN AND STUDY TO DETERMINE LOW COST IMPROVEMENTS AT VARIOUS INTERSECTIONS WITHIN DISTRICT 1. (2018BOP)	01-09012.00	\$200,000			\$200,000				
01	GRAVES	US 45	25.077	25.645	CONSTRUCTION OF A J-TURN AT THE INTERSECTION OF US 45 AND KY 408. (2018BOP)	01-09013.00	\$175,000			\$175,000				
01	VARIOUS	US 68			PERFORM LOW COST SAFETY IMPROVEMENTS ON US 68 FROM MP 1.550 TO MP 2.677 IN MCCRACKEN COUNTY AND FROM MP 0.000 TO MP 14.000 IN MARSHALL COUNTY. (2018BOP)	01-09014.00	\$550,000			\$550,000				
01	MCCRACKEN	US 45	2.200	3.000	CONSTRUCTION OF AN RCUT AT THE INTERSECTION OF US 45 AND KY 1288 IN MCCRACKEN COUNTY, KY.	01-09015.00	\$175,000			\$175,000				
02	HANCOCK	US 60	4.750	9.350	ROADSIDE SAFETY IMPROVEMENTS ALONG US 60 FROM MP 4.75 TO MP 9.35. (2014BOP)	02-00909.00	\$108,500						\$108,500	THIS MOD. PROVIDES ADDITIONAL CONSTRUCTION FUNDS TO COVER CHANGE ORDER #1 (\$94,506.00), ASPHALT BASE, ASPHALT MILLING & TEXTURING, CULVERT PIPE.
02	HENDERSON	US 41	16.000	16.400	INSTALL HIGH FRICTION SURFACE ON US 41 FROM MP 16.00 TO MP 16.40 IN HENDERSON COUNTY.	02-00913.00	\$220,000						\$220,000	
02	MUHLENBERG	US 431	0.000	28.390	REPLACEMENT OF TARGETED GUARDRAIL END TREATMENTS ON US 431 FROM MP 0.000 TO MP 28.390 (2018BOP).	02-00914.00	\$755,810						\$755,810	
02	CHRISTIAN	NB US 41	0.000	31.574	REPLACEMENT OF TARGETED GUARDRAIL END TREATMENTS ON US 41 NB FROM MP 0.000 TO MP 31.574 (2018BOP).	02-00915.00	\$506,500						\$506,500	
02	CHRISTIAN	SB US 41	0.000	31.574	REPLACEMENT OF TARGETED GUARDRAIL END TREATMENTS ON US 41 SB FROM MP 0.000 TO MP 31.574 (2018BOP).	02-00916.00	\$365,500						\$365,500	
02	MCLEAN	US 431	0.000	9.262	REPLACEMENT OF TARGETED GUARDRAIL END TREATMENTS ON US 431 FROM MP 0.000 TO MP 9.262 (2018BOP).	02-00918.00	\$376,500						\$376,500	
02	DAVISS	US 431	0.000	10.246	REPLACEMENT OF TARGETED GUARDRAIL END TREATMENTS ON US 431 FROM MP 0.000 TO MP 10.246 (2018BOP).	02-00919.00	\$343,000						\$343,000	
02	WEBSTER	US 41	0.000	6.035	REPLACEMENT OF TARGETED GUARDRAIL END TREATMENTS ON US 41 FROM MP 0.000 TO MP 6.035 (2018BOP).	02-00921.00	\$469,000						\$469,000	
02	WEBSTER	US 41	0.000	19.657	REPLACEMENT OF TARGETED GUARDRAIL END TREATMENTS ON US 41A FROM MP 0.000 TO MP 19.657 (2018BOP).	02-00922.00	\$167,900						\$167,900	
02	DAVISS	CR 1215	0.100	0.600	HIGH FRICTION SURFACE TREATMENT ON CR 1215 (VEACH RD) FROM MP 0.10 TO MP 0.60 IN DAVIESS COUNTY.	02-00923.00	\$90,000						\$90,000	
02	VARIOUS	VARIOUS			INSTALLATION OF STRIPING ON VARIOUS ROUTES IN DISTRICT 2. (2018BOP)	02-00924.00	\$570,000						\$570,000	
02	DAVISS	VARIOUS			OFFSET LEFT TURN LANES ALONG KY 2831, INSTALL SUPPLEMENTAL SIGNAL HEADS, AND REBUILD THE TRAFFIC SIGNAL AT THE INTERSECTION OF KY 2831, KY 54, & KY 81	02-09004.10	\$58,911						\$58,911	THIS MODIFICATION PROVIDES ADDITIONAL CONSTRUCTION FUNDS FOR THE PROJECT
02	DAVISS	US 431	11.155	11.322	CONSTRUCT TURN LANE IMPROVEMENTS, REBUILD THE TRAFFIC SIGNAL, AND UPDATE THE STRIPING AT THE INTERSECTION OF US 431 & GOETZ/SALEM DRIVE	02-09004.20	\$246,048						\$246,048	THIS MODIFICATION PROVIDES ADDITIONAL CONSTRUCTION FUNDS FOR THE PROJECT
02	DAVISS	US 41A	17.181	17.281	RECONSTRUCT AND CLOSE OF THE CONCRETE MEDIAN AND UPDATE THE STRIPING AND SIGNING AT THE INTERSECTION OF US 41A & RICHARDSON AVE	02-09004.30	\$16,295						\$16,295	THIS MODIFICATION PROVIDES ADDITIONAL CONSTRUCTION FUNDS FOR THE PROJECT
02	DAVISS	US 431	2.600	3.100	UPDATE THE STRIPING/PAVEMENT MARKINGS AND INSTALL GUARDRAIL DELINEATORS NEAR THE INTERSECTION OF US 431 & KY 85	02-09004.40	\$30,680						\$30,680	THIS MODIFICATION PROVIDES ADDITIONAL CONSTRUCTION FUNDS FOR THE PROJECT
02	DAVISS	US 41A	15.613	15.713	INSTALL REFLECTIVE BACKPLATES AND UPDATE THE LEFT TURN SIGNAL HEADS TO INCLUDE FLASHING YELLOW ARROW AT THE INTERSECTION OF US 41A & WASHINGTON ST	02-09004.50	\$19,671						\$19,671	THIS MODIFICATION PROVIDES ADDITIONAL CONSTRUCTION FUNDS FOR THE PROJECT
02	DAVISS	US 41A	16.168	16.268	INSTALL REFLECTIVE BACKPLATES AND UPDATE THE LEFT TURN SIGNAL HEADS TO INCLUDE FLASHING YELLOW ARROW AT THE INTERSECTION OF US 41A & 5TH ST	02-09004.60	\$19,707						\$19,707	THIS MODIFICATION PROVIDES ADDITIONAL CONSTRUCTION FUNDS FOR THE PROJECT
02	HOPKINS	KY 112	1.925	9.372	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 112 BEGINNING AT MP 1.925 AND ENDING AT MP 9.372 IN HOPKINS COUNTY. (2016BOP)	02-09006.00	\$167,802						\$167,802	THIS MODIFICATION PROVIDES ADDITIONAL CONSTRUCTION FUNDS FOR THE PROJECT
02	MUHLENBERG	US 62	4.300	4.600	RECONSTRUCT THE INTERSECTION OF US 62 AT KY 175 FROM 'Y' TO 'T' INTERSECTION AND PROVIDE INTERSECTION SIGHT DISTANCE IN MUHLENBERG COUNTY.	02-09007.00	\$60,086						\$60,086	THIS MODIFICATION PROVIDES ADDITIONAL CONSTRUCTION FUNDS FOR THE PROJECT

Dist	County	Roadway	BMP	EMP	Description	Item No.	Total Cost	Non-Hwy	Planning Cost	Design Cost	R/W Cost	Utility Cost	Const. Cost	REMARK
02	UNION	US 60	15.362	15.462	INSTALL SUPPLEMENTAL SIGNAL HEADS, REFLECTIVE BACKPLATES, AND UPDATE THE LEFT TURN SIGNAL HEADS TO INCLUDE FLASHING YELLOW ARROW AT THE INTERSECTION OF US 60, US 60B, & KY 3393	02-09008.10	\$22,942						\$22,942	THIS MODIFICATION PROVIDES ADDITIONAL CONSTRUCTION FUNDS FOR THE PROJECT
02	CHRISTIAN	KY 115	2.300	2.800	RECONSTRUCT THE SHOULDERS WITH FULL DEPTH ASPHALT ALONG KY 115 AND RESTRIPE TO PROVIDE A 6' WIDE MEDIAN NEAR THE INTERSECTION OF KY 115 AND WALTER GARRET LN.	02-09008.20	\$569,884						\$569,884	
02	CHRISTIAN	KY 1682	2.387	2.487	PRELIMINARY DESIGN AND STUDY TO DETERMINE LOW COST IMPROVEMENTS AT VARIOUS INTERSECTIONS WITHIN DISTRICT 2. 2-9008.10 - INSTALL SUPPLEMENTAL SIGNAL HEADS, REFLECTIVE BACKPLATES, AND UPDATE THE LEFT TURN SIGNAL HEADS TO INCLUDE FLASHING YELLOW ARROW AT THE INTERSECTION OF US 60, US 60B, & KY 3393. 2-9008.30 -INSTALL SUPPLEMENTAL SIGNAL HEADS, REFLECTIVE BACKPLATES, AND UPDATE THE LEFT TURN SIGNAL HEADS TO INCLUDE FLASHING YELLOW ARROW AT THE INTERSECTION OF KY 1682 & KY	02-09008.30	\$19,955						\$19,955	THIS MODIFICATION PROVIDES ADDITIONAL CONSTRUCTION FUNDS FOR THE PROJECT
02	CHRISTIAN	KY 107	18.272	18.472	INSTALLATION OF RAISED ISLAND FOR CHANNELIZING TRAFFIC FROM TWO WAY STREET TO ONE WAY COUPLET. ADDITIONAL SIGNING AND PAVEMENT MARKINGS TO DELINEATE TRAFFIC DIRECTIONS. (2018BOP)	02-09011.00	\$101,816						\$101,816	
02	VARIOUS	VARIOUS			PRELIMINARY DESIGN AND STUDY TO DETERMINE LOW COST IMPROVEMENTS AT VARIOUS INTERSECTIONS WITHIN DISTRICT 2. (2018BOP)	02-09012.00	\$200,000			\$200,000				
02	VARIOUS	KY 81			PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 81 FROM MP 17.839 TO MP 18.087 IN MCLEAN COUNTY AND FROM MP 0.000 TO MP 8.673 IN DAVIESS COUNTY. (2018BOP)	02-09013.00	\$350,000			\$350,000				
03	VARIOUS	VARIOUS			INSTALLATION OF PAVEMENT MARKERS ON VARIOUS ROUTES IN DISTRICT 3.	03-00930.00	\$310,000						\$310,000	
03	VARIOUS	VARIOUS			INSTALLATION OF STRIPING ON VARIOUS ROUTES IN DISTRICT 3. (2018BOP)	03-00931.00	\$940,000						\$940,000	
03	SIMPSON	I-65	6.500	8.000	CORRECT DRAINAGE ISSUE ALONG NB I-65. (2018BOP)	03-00968.00	\$112,000						\$112,000	
03	WARREN	US 31W	13.600	13.820	INSTALL REFLECTIVE BACKPLATES AND UPDATE THE SIGNING AND STRIPING AT THE INTERSECTION OF US 31W & FAIRFIELD AVE/CEMETERY RD	03-09010.10	\$5,000						\$5,000	THIS AUTHORIZATION PROVIDES ADDITIONAL CONSTRUCTION FUNDS FOR THE PROJECT. JL
03	WARREN	VARIOUS			INSTALL REFLECTIVE BACKPLATES AND DOUBLE RED SIGNAL HEADS, ADJUST AND ENTRANCE, AND UPDATE THE STRIPING AND SIGNING AT THE INTERSECTION OF RUSSELLVILLE RD & CAMPBELL LN	03-09010.20	\$55,000						\$55,000	THIS AUTHORIZATION PROVIDES ADDITIONAL CONSTRUCTION FUNDS FOR THE PROJECT. JL
03	WARREN	US 231	9.830	10.030	INSTALL REFLECTIVE BACKPLATES, CONSTRUCT RIGHT-IN/RIGHT-OUT ENTRANCE ALONG US 231, AND INSTALL MEDIAN ACCESS CONTROL ALONG SHIVE LANE NEAR THE INTERSECTION OF US 231 AND SHIVE LANE. (2016BOP)	03-09010.30	\$31,500						\$31,500	THIS MODIFICATION PROVIDES \$65,000 OF FEDERAL HSIP FUNDS TO COVER CHANGE ORDER NO. 1.
03	WARREN	US 231	9.830	10.030	INSTALL REFLECTIVE BACKPLATES, CONSTRUCT RIGHT-IN/RIGHT-OUT ENTRANCE ALONG US 231, AND INSTALL MEDIAN ACCESS CONTROL ALONG SHIVE LANE NEAR THE INTERSECTION OF US 231 AND SHIVE LANE. (2016BOP)	03-09010.30	\$60,000						\$60,000	THIS AUTHORIZATION PROVIDES ADDITIONAL CONSTRUCTION FUNDS FOR THE PROJECT. JL
03	WARREN	VARIOUS			INSTALL REFLECTIVE BACKPLATES AND SUPPLEMENTAL SIGNAL HEADS, CONSTRUCT MEDIAN ACCESS CONTROL ALONG US 31W AND CAMPBELL LANE, AND UPDATE THE STRIPING NEAR THE INTERSECTION OF US 31W AND CAMPBELL LN. (2016BOP)	03-09010.40	\$143,000						\$143,000	THIS AUTHORIZATION PROVIDES ADDITIONAL CONSTRUCTION FUNDS FOR THE PROJECT. JL
03	WARREN	VARIOUS			INSTALL REFLECTIVE BACKPLATES AND SUPPLEMENTAL SIGNAL HEADS, CONSTRUCT MEDIAN ACCESS CONTROL ALONG US 31W AND CAMPBELL LANE, AND UPDATE THE STRIPING NEAR THE INTERSECTION OF US 31W AND CAMPBELL LN. (2016BOP)	03-09010.40	\$33,500						\$33,500	THIS MODIFICATION PROVIDES \$65,000 OF FEDERAL HSIP FUNDS TO COVER CHANGE ORDER NO. 1.
03	WARREN	US 231	10.405	10.505	INSTALL REFLECTIVE BACKPLATES AT THE INTERSECTION OF US 231 & CAMPBELL LN/LOVERS LN	03-09010.60	\$3,000						\$3,000	THIS AUTHORIZATION PROVIDES ADDITIONAL CONSTRUCTION FUNDS FOR THE PROJECT. JL
03	WARREN	US 231	9.407	9.507	INSTALL REFLECTIVE BACKPLATES AND SUPPLEMENTAL SIGNAL HEADS AT THE INTERSECTION OF US 231 & THREE SPRINGS RD	03-09010.70	\$1,000						\$1,000	THIS AUTHORIZATION PROVIDES ADDITIONAL CONSTRUCTION FUNDS FOR THE PROJECT. JL
03	WARREN	US 231	8.752	8.902	INSTALL REFLECTIVE BACKPLATES AND UPDATE THE SIGNING AT THE INTERSECTION OF US 231 & CUMBERLAND TRACE	03-09010.80	\$4,000						\$4,000	THIS AUTHORIZATION PROVIDES ADDITIONAL CONSTRUCTION FUNDS FOR THE PROJECT. JL

Dist	County	Roadway	BMP	EMP	Description	Item No.	Total Cost	Non-Hwy	Planning Cost	Design Cost	R/W Cost	Utility Cost	Const. Cost	REMARK
03	TODD	US 68	8.450	8.950	CONSTRUCT OFFSET LEFT TURN LANES, UPDATE THE SIGNING & STRIPING, AND UPDATE THE SIGNAL TO INCLUDE REFLECTIVE BACKPLATES AT THE INTERSECTION OF US 68 & KY 181	03-09013.20	\$501,000						\$501,000	
03	WARREN	US 68	13.768	13.868	UPDATE THE SIGNAL TO INCLUDE REFLECTIVE BACKPLATES AT THE INTERSECTION OF US 68 & OLD BARREN RIVER ROAD. (2018BOP)	03-09013.40	\$26,229						\$26,229	
03	ALLEN	US 31E	7.150	7.680	MILL AND RESURFACE THE APPROACHES, UPDATE THE SIGNING AND STRIPING, AND UPDATE THE SIGNAL TO INCLUDE REFLECTIVE BACKPLATES AT THE INTERSECTION OF US 31E & KY 100	03-09013.50	\$220,000						\$220,000	
03	WARREN	US 31W	23.253	23.821	UPDATE THE SIGNING AT THE INTERSECTION OF US 31W & KY 743	03-09013.60	\$9,000						\$9,000	
03	ALLEN	KY 100	0.000	8.830	PERFORM LOW COST SAFETY IMPROVEMENTS ALONG KY 100 BETWEEN MP 0.000 AND MP 8.830 IN ALLEN COUNTY, KY.	03-09014.00	\$30,000			\$30,000				THIS MODIFICATION PROVIDES ADDITIONAL DESIGN FUNDS FOR THE PROJECT. LC
03	LOGAN	US 68	26.200	26.800	CONSTRUCTION OF A J-TURN AT THE INTERSECTION OF US 68 AND KY 73.	03-09017.00	\$1,250,000			\$100,000			\$1,150,000	
03	WARREN	US 231	10.500	11.500	PRELIMINARY DESIGN AND STUDY TO DETERMINE LOW COST IMPROVEMENTS AT INTERSECTIONS BETWEEN MILEPOINTS 10.5 TO 11.5 ALONG US 231 IN WARREN CO. (2018BOP)	03-09018.00	\$200,000			\$200,000				
03	WARREN	US 231	3.000	6.600	INTERSECTION AND CORRIDOR IMPROVEMENTS TO REDUCE CONFLICT POINT AND ENHANCE SAFETY ALONG US 231 FROM MP 3.0 TO MP 6.6. (2018BOP)	03-09019.00	\$400,000			\$400,000				
03	WARREN	US 68	7.456	7.656	REMOVE RAISED MEDIAN AND CONSTRUCT A LEFT TURN LANE AT OLD TRAM RD. (2018BOP)	03-09020.00	\$20,000			\$20,000				
03	VARIOUS	KY 185			PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 185 FROM MP 0.000 TO MP 7.232 IN BUTLER COUNTY AND FROM MP 0.000 TO MP 2.185 IN EDMONSON COUNTY. (2018BOP)	03-09021.00	\$350,000			\$350,000				
04	VARIOUS	VARIOUS			INSTALLATION OF PAVEMENT MARKERS ON VARIOUS ROUTES IN DISTRICT 4.	04-00941.00	\$215,000						\$215,000	
04	VARIOUS	VARIOUS			INSTALLATION OF STRIPING ON VARIOUS ROUTES IN DISTRICT 4. (2018BOP)	04-00942.00	\$1,125,000						\$1,125,000	
04	LARUE	KY 470	5.180	6.800	FLATTEN SLOPES, WIDEN CURVES, UPGRADE GUARDRAIL END TREATMENTS, AND EXTEND CULVERT.	04-00989.00	\$711,101				\$10,000		\$701,101	
04	TAYLOR	US 68	4.600	4.870	EXTEND THE LEFT TURN LANE ALONG EB US 68 AT THE INTERSECTION WITH KY 55 AND KY 210 IN TAYLOR COUNTY.	04-09003.10	\$277,446						\$277,446	
04	VARIOUS	VARIOUS			PRELIMINARY DESIGN AND STUDY TO DETERMINE LOW COST IMPROVEMENTS AT VARIOUS INTERSECTIONS WITHIN DISTRICT 4.	04-09006.00	\$45,000			\$45,000				THIS MODIFICATION PROVIDES ADDITIONAL DESIGN FUNDS FOR THE PROJECT. LC
04	WASHINGTON	KY 555	1.180	1.660	INSTALL REFLECTIVE BACKPLATES AND UPDATE THE STRIPING AT THE INTERSECTION OF KY 555 & US 150	04-09006.20	\$37,000						\$37,000	
04	WASHINGTON	KY 555	0.700	0.980	INSTALL REFLECTIVE BACKPLATES, SUPPLEMENTAL SIGNAL HEADS, AND GREEN EXTENSION LOOP DETECTORS AT THE INTERSECTION OF KY 555 & KY 528	04-09006.30	\$48,000						\$48,000	
04	NELSON	KY 245	4.960	5.340	INSTALL OVERHEAD ADVANCE WARNING FLASHERS AND UPGRADE THE SIGNAL BY INSTALLING DUAL RED HEADS AND REFLECTIVE BACKPLATES AT THE INTERSECTION OF KY 245 & KY 1430	04-09006.50	\$135,000						\$135,000	
04	TAYLOR	US 68	5.867	5.977	INSTALL GREEN EXTENSION LOOP DETECTORS, UPDATE THE SIGNAL BY INSTALLING REFLECTIVE BACKPLATES, AND SIGNING UPGRADES AT THE INTERSECTION OF US 68 & KY 289	04-09006.60	\$77,000						\$77,000	
04	GRAYSON	KY 1214	6.300	14.028	PERFORM LOW COST SAFETY IMPROVEMENTS ALONG KY 1214 BETWEEN MP 6.300 AND MP 14.028 IN GRAYSON COUNTY, KY.	04-09007.00	\$50,000			\$50,000				THIS MODIFICATION PROVIDES ADDITIONAL DESIGN FUNDS FOR THE PROJECT. LC
04	HARDIN	US 31W	18.032	26.191	INTERSECTION AND CORRIDOR IMPROVEMENTS TO ENHANCE SAFETY & CAPACITY ALONG US 31W FROM RING ROAD TO GRAHAM AVE. (2016BOP)	04-09008.00	\$2,075,000			\$550,000	\$1,100,000	\$425,000		THIS MODIFICATION PROVIDES \$550,000 ADDITIONAL DESIGN FUNDS AND INITIAL R/W AND UTILITY FUNDS FOR THE PROJECT.
04	TAYLOR	US 68	3.500	4.900	ADDING NEW TURN LANES, IMPROVING EXISTING TURN LANES, AND SIGNAL IMPROVEMENTS ALONG US 68 FROM MP 3.5 TO 4.9. (2018BOP)	04-09010.00	\$600,938						\$600,938	
04	VARIOUS	VARIOUS			PRELIMINARY DESIGN AND STUDY TO DETERMINE LOW COST IMPROVEMENTS AT VARIOUS INTERSECTIONS WITHIN DISTRICT 4. (2018BOP)	04-09011.00	\$275,000			\$275,000				

Dist	County	Roadway	BMP	EMP	Description	Item No.	Total Cost	Non-Hwy	Planning Cost	Design Cost	R/W Cost	Utility Cost	Const. Cost	REMARK
04	HARDIN	VARIOUS			PRELIMINARY DESIGN AND STUDY OF MINI-ROUNDBABOUTS AT VARIOUS INTERSECTIONS WITHIN THE CITY OF ELIZABETHTOWN. (2018BOP)	04-09012.00	\$550,000			\$550,000				
04	VARIOUS	KY 259			PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 259 FROM MP 16.390 TO MP 21.459 IN GRAYSON COUNTY AND MP 0.000 TO MP 1.921 IN BRECKINRIDGE COUNTY.(2018BOP)	04-09013.00	\$350,000			\$350,000				
05	VARIOUS	VARIOUS			INSTALLATION OF PAVEMENT MARKERS ON VARIOUS ROUTES IN DISTRICT 5.	05-00933.00	\$795,000						\$795,000	
05	BULLITT	KY 44	8.166	9.285	HIGH FRICTION SURFACE TREATMENT ON KY 44 FROM MP 8.166 TO MP 9.285. (2018BOP)	05-00934.00	\$97,000						\$97,000	
05	VARIOUS	VARIOUS			INSTALLATION OF STRIPING ON VARIOUS ROUTES IN DISTRICT 5. (2018BOP)	05-00935.00	\$900,000						\$900,000	
05	JEFFERSON	KY 155	11.390	11.410	SAFETY IMPROVEMENTS AT THE INTERSECTION OF KY 155 (TAYLORSVILLE RD) AND KY 1747 (HURSTBOURNE PKWY) IN JEFFERSON COUNTY. (2014BOP)	05-09008.00	\$143,422						\$143,422	THIS MODIFICATION PROVIDES ADDITIONAL FUNDS TO COVER CHANGE ORDERS NO. 1 & NO. 2.
05	JEFFERSON	KY 61	7.245	7.445	RECONSTRUCT THE RADIUS FOR THE RIGHT TURN FROM GRADE LANE TO SB KY 61, RECONSTRUCT THE SIDEWALK RAMPS, REBUILD THE TRAFFIC SIGNAL, AND UPDATE THE SIGNING STRIPING, AND PAVEMENT MARKINGS AT THE INTERSECTION OF KY 61 & GRADE LANE	05-09010.10	\$425,397						\$425,397	
05	JEFFERSON	KY 1065	0.936	1.121	CONSTRUCT RIGHT TURN LANES ALONG KY 1065, RECONSTRUCT THE SIDEWALK RAMPS, INSTALL PEDESTRIAN SIGNALS, AND UPDATE THE SIGNING, STRIPING, AND PAVEMENT MARKINGS AT THE INTERSECTION OF KY1065 & KY 1865	05-09010.30	\$418,039						\$418,039	
05	JEFFERSON	US 31W	5.216	5.366	CONSTRUCT SIDEWALKS AND SIDEWALK RAMPS, AND UPDATE THE SIGNING, STRIPING, AND PAVEMENT MARKINGS AT THE INTERSECTION OF US 31W & PENDLETON ROAD	05-09010.50	\$48,666						\$48,666	
05	SPENCER	KY 44	0.000	7.542	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 44 FROM THE BULLIT/SPENCER COUNTY LINE (MP 0.00) TO OAK TREE WAY (MP 7.542). (2016BOP)	05-09011.00	\$1,069,000						\$1,069,000	THIS AUTHORIZATION PROVIDES AN ADDITIONAL \$646,000 IN CONSTRUCTION FUNDS TO COVER THE LOW BID PLUS ENGINEERING AND AN ADDITIONAL \$423,000 IN CONSTRUCTION FUNDS TO COVER CHANGE ORDER NO. 1
05	VARIOUS	VARIOUS			PRELIMINARY DESIGN AND STUDY TO DETERMINE LOW COST IMPROVEMENTS AT VARIOUS INTERSECTIONS WITHIN DISTRICT 5. (2016BOP)	05-09013.00	\$40,000			\$40,000				THIS MODIFICATION PROVIDES AN ADDITIONAL \$40,000.00 OF HSIP FUNDS FOR DESIGN. LC
05	VARIOUS	I-71			INSTALL CABLE MEDIAN BARRIER ON I-71 IN HENRY COUNTY FROM MP 30.6 TO 38.086 AND TRIMBLE COUNTY FROM MP 38.086 TO 38.8	05-09014.00	\$1,123,090						\$1,123,090	
05	VARIOUS	KY 55			PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 55 FROM MP 11.27 TO 13.566 IN SPENCER COUNTY AND FROM MP 0.0 TO 2.184 IN SHELBY COUNTY.	05-09017.00	\$150,000			\$150,000				
05	VARIOUS	VARIOUS			PRELIMINARY DESIGN AND STUDY TO DETERMINE LOW COST IMPROVEMENTS AT VARIOUS INTERSECTIONS WITHIN DISTRICT 5. (2018BOP)	05-09018.00	\$200,000			\$200,000				
05	JEFFERSON	VARIOUS			PRELIMINARY DESIGN AND STUDY TO DETERMINE LOW COST IMPROVEMENTS AT VARIOUS INTERSECTIONS WITHIN JEFFERSON COUNTY. (2018BOP)	05-09019.00	\$900,000			\$900,000				
05	JEFFERSON	KY 155	4.490	5.990	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 155 FROM MP 4.490 TO MP 5.990 IN JEFFERSON COUNTY. (2018BOP)	05-09021.00	\$250,000			\$250,000				
05	FRANKLIN	US 421	5.315	11.132	PERFORM LOW COST SAFETY IMPROVEMENTS ON US 421 FROM MP 5.315 TO 11.132 IN FRANKLIN COUNTY. (2018BOP)	05-09022.00	\$350,000			\$350,000				
05	SHELBY	KY 1848	6.418	10.591	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 1848 FROM MP 6.418 TO MP 10.591 IN SHELBY COUNTY. (2018BOP)	05-09023.00	\$350,000			\$350,000				
06	VARIOUS	VARIOUS			INSTALLATION OF PAVEMENT MARKERS ON VARIOUS ROUTES IN DISTRICT 6.	06-00938.00	\$365,000						\$365,000	
06	VARIOUS	VARIOUS			INSTALLATION OF STRIPING ON VARIOUS ROUTES IN DISTRICT 6. (2018BOP)	06-00939.00	\$840,000						\$840,000	
06	BOONE	US 42	0.000	5.673	PERFORM LOW COST SAFETY IMPROVEMENTS ON US 42 FROM THE GALLATIN/BOONE COUNTY LINE TO KY 338. (2014BOP)	06-09010.00	\$2,213,626						\$2,213,626	
06	KENTON	KY 17	3.974	8.969	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 17 FROM KY 14 (MP 3.974) TO 0.143 MI NORTH OF HERGOTT DRIVE (MP 8.969). (2016BOP)	06-09014.00	\$75,000			\$75,000				THIS MODIFICATION PROVIDES ADDITIONAL DESIGN FUNDS FOR THE PROJECT, ITEM NO. 6-9014.00. LC

Dist	County	Roadway	BMP	EMP	Description	Item No.	Total Cost	Non-Hwy	Planning Cost	Design Cost	R/W Cost	Utility Cost	Const. Cost	REMARK
06	KENTON	KY 17	4.300	8.100	SLOPE LAYBACK TO IMPROVE SIGHT DISTANCE ALONG KY 17, REALIGNMENT OF THE INTERSECTION OF KY 17 & KY 2042, AND UPDATED SIGNING.	06-09014.01	\$185,000				\$140,000	\$45,000		
06	KENTON	KY 1829	1.700	2.250	CORRECT DROP OFFS, IMPROVE DITCHING, REMOVE TREES IN CLEAR ZONE AND INSTALL HFS FROM MP 1.7 TO MP 2.25 ON KY 1829 IN KENTON COUNTY.	06-09016.00	\$30,000			\$30,000				THIS AUTHORIZATION PROVIDES ADDITIONAL DESIGN FUNDS FOR THE PROJECT.
06	VARIOUS	VARIOUS			PRELIMINARY DESIGN AND STUDY TO DETERMINE LOW COST IMPROVEMENTS AT VARIOUS INTERSECTIONS WITHIN DISTRICT 6. (2016BOP)	06-09017.00	\$30,000			\$30,000				THIS MODIFICATION PROVIDES ADDITIONAL DESIGN FUNDS FOR THE PROJECT. LC
06	KENTON	KY 1486	2.800	3.200	INSTALL HIGH FRICTION SURFACE AND UPDATE SIGNAGE. (2018BOP)	06-09020.00	\$159,000						\$159,000	
06	VARIOUS	VARIOUS			PRELIMINARY DESIGN AND STUDY TO DETERMINE LOW COST IMPROVEMENTS AT VARIOUS INTERSECTIONS WITHIN DISTRICT 6. (2018BOP)	06-09022.00	\$350,000			\$350,000				
06	VARIOUS	I-71			CABLE MEDIAN BARRIER ON I-71 FROM MP 52.298 TO 53.433 IN CARROLL AND FROM MP 53.433 TO 56.5 GALLATIN COUNTY	06-09023.00	\$50,000			\$50,000				
06	CARROLL	KY 36	2.182	8.132	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 36 FROM MP 2.182 TO MP 8.132 IN CARROLL COUNTY. (2018BOP)	06-09024.00	\$350,000			\$350,000				
07	JESSAMINE	KY 169	16.685	19.180	IMPROVE SUPERELEVATION, ADD EMBANKMENT, IMPROVE SIGHT DISTANCE, AND REMOVE ROADSIDE HAZARDS ON KY 169 FROM KY 1267 (MP 16.685) TO JESSAMINE-WOODFORD COUNTY LINE (MP 19.180).	07-00931.00	\$468,760						\$468,760	
07	VARIOUS	VARIOUS			INSTALLATION OF STRIPING ON VARIOUS ROUTES IN DISTRICT 7. (2018BOP)	07-00950.00	\$735,000						\$735,000	
07	WOODFORD	KY 33	3.017	11.686	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 33 BEGINNING AT MP 3.017 AND ENDING AT MP 11.686 IN WOODFORD COUNTY. (2016BOP)	07-09005.00	\$205,000				\$55,000	\$150,000		
07	VARIOUS	VARIOUS			PRELIMINARY DESIGN AND STUDY TO DETERMINE LOW COST IMPROVEMENTS AT VARIOUS INTERSECTIONS WITHIN DISTRICT 7.	07-09006.00	\$115,000			\$115,000				THIS MODIFICATION PROVIDES ADDITIONAL DESIGN FUNDS FOR THE PROJECT. LC
07	MONTGOMERY	KY 11	4.022	9.131	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 11 FROM MP 4.022 TO MP 9.131 IN MONTGOMERY COUNTY. (2016BOP)	07-09007.00	\$322,650			\$40,000			\$282,650	THIS MODIFICATION PROVIDES ADDITIONAL DESIGN FUNDS AND ADDITIONAL CONSTRUCTION FUNDS FOR THE PROJECT.
07	VARIOUS	I-64			INSTALL CABLE MEDIAN BARRIER ON I-64 FROM MP 65.4 TO 67.106 IN WOODFORD COUNTY, FROM MP 67.106 TO 71.0 IN SCOTT COUNTY, AND FROM MP 71.0 TO 74.7 IN FAYETTE COUNTY	07-09008.00	\$1,303,115						\$1,303,115	
07	SCOTT	US 25	9.366	14.975	PERFORM SAFETY IMPROVEMENTS ALONG US 25 CORRIDOR IN SCOTT COUNTY FROM SHOULDERING, DRAINAGE ENHANCEMENTS, AND ROADSIDE IMPROVEMENTS. (2018BOP)	07-09010.00	\$50,000			\$50,000				
07	BOURBON	KY 537	0.000	3.500	PERFORM SAFETY IMPROVEMENTS ALONG KY 537 CORRIDOR IN BOURBON COUNTY FROM SHOULDERING, DRAINAGE ENHANCEMENTS, AND ROADSIDE IMPROVEMENTS. (2018BOP)	07-09011.00	\$50,000			\$50,000				
07	VARIOUS	VARIOUS			PRELIMINARY DESIGN AND STUDY TO DETERMINE LOW COST IMPROVEMENTS AT VARIOUS INTERSECTIONS WITHIN DISTRICT 7. (2018BOP)	07-09012.00	\$600,000			\$600,000				
07	MADISON	US 25	15.946	18.000	INTERSECTION AND CORRIDOR IMPROVEMENTS TO REDUCE CONFLICT POINTS AND ENHANCE SAFETY & OPERATIONS ALONG THE RICHMOND BYPASS BETWEEN MP 15.946 TO 18.000.	07-09013.00	\$550,000			\$550,000				
07	JESSAMINE	KY 169	12.363	16.555	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 160 FROM MP 12.363 TO MP 16.555 IN JESSAMINE COUNTY. (2018BOP)	07-09014.00	\$350,000			\$350,000				
07	FAYETTE	KY 353	1.372	10.153	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 353 FROM MP 1.372 TO MP 10.153 IN FAYETTE COUNTY. (2018BOP)	07-09015.00	\$350,000			\$350,000				
07	MONTGOMERY	KY 213	0.675	5.322	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 213 FROM MP 0.675 TO MP 5.322 IN MONTGOMERY COUNTY. (2018BOP)	07-09016.00	\$350,000			\$350,000				
07	FAYETTE	KY 57	1.292	7.800	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 57 FROM MP 1.292 TO MP 7.800 IN FAYETTE COUNTY. (2018BOP)	07-09017.00	\$200,000			\$200,000				
07	SCOTT	KY 227	0.000	5.874	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 227 FROM MP 0.000 TO MP 5.874 IN SCOTT COUNTY. (2018BOP)	07-09018.00	\$350,000			\$350,000				

Dist	County	Roadway	BMP	EMP	Description	Item No.	Total Cost	Non-Hwy	Planning Cost	Design Cost	R/W Cost	Utility Cost	Const. Cost	REMARK
07	SCOTT	US 62	5.943	7.693	INTERSECTION AND CORRIDOR IMPROVEMENTS TO REDUCE CONFLICT POINTS AND ENHANCE SAFETY & OPERATIONS ALONG THE GEORGETOWN BYPASS BETWEEN MP 5.943 TO 7.693	07-09019.00	\$100,000			\$100,000				
08	VARIOUS	VARIOUS			HORIZONTAL ALIGNMENT SIGNING ON VARIOUS ROUTES IN DISTRICT 8.	08-00939.00	\$77,300						\$77,300	OBLIGATE ADDITIONAL \$77,300.00 FEDERAL (ZS30) FUNDS TO COVER CURRENT EXPENDITURES, FINAL PAYMENT AND PREPARE TO CLOSE THE PROJECT. CID# 174202
08	VARIOUS	VARIOUS			INSTALLATION OF STRIPING ON VARIOUS ROUTES IN DISTRICT 8. (2018BOP)	08-00944.00	\$1,101,000						\$1,101,000	
08	PULASKI	KY 790	0.000	5.551	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 790 FROM WAYNE-PULASKI COUNTY LINE (MP 0.000) TO KY 90 (MP 5.551) IN PULASKI COUNTY, KY. (2014BOP)	08-09003.00	\$1,480,000						\$1,480,000	
08	PULASKI	US 27	10.330	10.430	CONSTRUCT A J-TURN AND UPDATE SIGNING AND STRIPING AT THE INTERSECTION OF US 27 AND LOST LODGE ROAD	08-09004.40	\$210,652						\$210,652	
08	PULASKI	KY 1577	2.770	3.150	CONSTRUCT A LEFT AND RIGHT TURN LANE ALONG KY 1577, ADJUST APPROACH GRADE OF GRAND CENTRAL BLVD, REBUILD FLASHING BEACON, UPDATE SIGNING AND STRIPING, AND REMOVE TREES AT INTERSECTION OF KY 1577 AND GRAND CENTRAL BLVD	08-09004.50	\$419,568						\$419,568	
08	PULASKI	KY 192	1.076	7.435	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 192 FROM KY 692 (MP 1.076) TO JAMES MEECE RD (CR-1233) AT (MP 7.435) IN PULASKI COUNTY. (2016BOP)	08-09006.00	\$80,000						\$80,000	THIS MOD. PROVIDES CONSTRUCTION FUNDS TO COVER CHANGE ORDER #1
08	PULASKI	KY 39	3.535	12.809	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 39 BEGINNING AT MP 3.535 AND ENDING AT MP 12.809 IN PULASKI COUNTY. (2016BOP)	08-09007.00	\$20,000				\$20,000			
08	VARIOUS	VARIOUS			PRELIMINARY DESIGN AND STUDY TO DETERMINE LOW COST IMPROVEMENTS AT VARIOUS INTERSECTIONS WITHIN DISTRICT 8.	08-09008.00	\$150,000			\$150,000				THIS MODIFICATION PROVIDES ADDITIONAL DESIGN FUNDS FOR THE PROJECT. LC
08	VARIOUS	VARIOUS			PRELIMINARY DESIGN AND STUDY TO DETERMINE LOW COST IMPROVEMENTS AT VARIOUS INTERSECTIONS WITHIN DISTRICT 8. (2018BOP)	08-09013.00	\$200,000			\$200,000				
08	LINCOLN	KY 78	2.909	12.168	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 78 FROM MP 2.909 TO MP 12.168 IN LINCOLN COUNTY. (2018BOP)	08-09014.00	\$350,000			\$350,000				
09	BATH	KY 36	8.000	11.847	SHOULDERING AND DRAINAGE STRUCTURES ON KY 36 FROM MP 8.00 TO MP 11.847 IN BATH COUNTY.	09-00941.00	\$67,190					\$15,000	\$52,190	THIS AUTHORIZATION PROVIDES ADDITIONAL CONSTRUCTION FUNDS TO COVER CHANGE ORDER #3 AND AN ADDITIONAL \$15,000 FOR UTILITY ADJUSTMENTS.
09	VARIOUS	VARIOUS			INSTALLATION OF PAVEMENT MARKERS ON VARIOUS ROUTES IN DISTRICT 9.	09-00947.00	\$215,000						\$215,000	
09	ROWAN	KY 158	0.000	2.766	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 158 FROM THE FLEMING/ROWAN COUNTY LINE TO KY 32. (2014BOP)	09-09000.00	\$2,175,000			\$75,000			\$2,100,000	THIS AUTHORIZATION PROVIDES ADDITIONAL DESIGN FUNDS AND CONSTRUCTION FUNDS TO COVER THE LOW BID PLUS 10% FOR ENGINEERING AND CONTINGENCY.
09	ROWAN	KY 32	0.106	13.645	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 32 FROM 0.106 MI E OF US 60 (MP 8.545) TO VETERANS LN (CR-1009) AT (MP 13.645) IN ROWAN COUNTY. (2016BOP)	09-09003.00	\$29,081						\$29,081	THIS MOD. PROVIDES ADDITIONAL CONSTRUCTION FUNDS TO COVER CHANGE ORDER #1.
09	VARIOUS	VARIOUS			PRELIMINARY DESIGN AND STUDY TO DETERMINE LOW COST IMPROVEMENTS AT VARIOUS INTERSECTIONS WITHIN DISTRICT 9.	09-09007.00	\$50,000			\$50,000				THIS MODIFICATION PROVIDES ADDITIONAL DESIGN FUNDS FOR THE PROJECT. LC
09	VARIOUS	VARIOUS			PRELIMINARY DESIGN AND STUDY TO DETERMINE LOW COST IMPROVEMENTS AT VARIOUS INTERSECTIONS WITHIN DISTRICT 9. (2018BOP)	09-09010.00	\$200,000			\$200,000				
09	ROWAN	I-64	128.955	137.268	CABLE MEDIAN BARRIER ON I-64 FROM MP 128.955 TO MP 137.268 IN ROWAN COUNTY, KY. (2018BOP)	09-09011.00	\$50,000			\$50,000				
09	BOYD	I-64	181.339	191.507	CABLE MEDIAN BARRIER ON I-64 FROM MP 181.339 TO MP 191.507 IN BOYD COUNTY, KY. (2018BOP)	09-09012.00	\$50,000			\$50,000				
09	VARIOUS	KY 36			PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 36 FROM MP 4.5 TO MP 12.807 IN NICHOLAS COUNTY AND MP 0.000 TO MP 0.890 IN BATH COUNTY. (2018BOP)	09-09013.00	\$350,000			\$350,000				
10	POWELL	KY 15	3.493	3.600	INTERSECTION IMPROVEMENTS AT KY 15 AND KY 11 IN POWELL COUNTY LOCATED IN DISTRICT 10. (2014BOP)	10-00932.00	\$410,000				\$50,000	-\$35,000	\$395,000	THIS MODIFICATION PROVIDES ADDITIONAL \$50,000 IN RIGHT OF WAY FUNDS, REDUCES THE UTILITY FUNDS BY \$35,000, AND PROVIDES \$395,000 IN CONSTRUCTION FUNDS.
10	POWELL	KY 1057	0.824	4.976	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 1057 BEGINNING AT MP 0.824 AND ENDING AT MP 4.976 IN POWELL COUNTY. (2016BOP)	10-09009.00	\$150,000					\$150,000		THIS MODIFICATION PROVIDES AN ADDITIONAL \$150,000 IN UTILITY FUNDS FOR THE PROJECT.

Dist	County	Roadway	BMP	EMP	Description	Item No.	Total Cost	Non-Hwy	Planning Cost	Design Cost	R/W Cost	Utility Cost	Const. Cost	REMARK
10	VARIOUS	VARIOUS			PRELIMINARY DESIGN AND STUDY TO DETERMINE LOW COST IMPROVEMENTS AT VARIOUS INTERSECTIONS WITHIN DISTRICT 10.	10-09011.00	\$45,000			\$45,000				THIS MODIFICATION PROVIDES ADDITIONAL DESIGN FUNDS FOR THE PROJECT. LC
10	POWELL	KY 11	7.450	14.047	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 11 FROM MP 7.450 TO MP 14.047 IN POWELL COUNTY. (2016BOP)	10-09012.00	\$2,200,643						\$2,200,643	
10	BREATHITT	KY 15	7.682	16.969	INSTALL GUARDRAIL ALONG KY 15 FROM THE TROUBLESOME CREEK BRIDGE (MP 7.682), EXTENDING NORTH TO KY 3232 (MP 16.969).	10-09013.00	\$50,500						\$50,500	THIS MODIFICATION PROVIDES ADDITIONAL FUNDS TO COVER CHANGE ORDER NO. 1 FOR ITEM NO. 10-9013.
10	ESTILL	KY 82	0.000	5.029	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 82 IN ESTILL COUNTY, KY.	10-09014.00	\$275,000			\$275,000				
10	PERRY	KY 80	0.000	7.054	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 80 FROM MP 0.000 TO MP 7.054 IN PERRY COUNTY. (2018BOP)	10-09015.00	\$350,000			\$350,000				
11	WHITLEY	KY 26	10.160	10.660	INSTALL GUARDRAIL ALON KY 26 FROM MP 10.160 TO MP 10.660. (2018BOP)	11-00966.00	\$138,545						\$138,545	
11	WHITLEY	KY 26	1.970	2.150	INSTALL GUARDRAIL ALONG KY 26 FROM MP 1.970 TO 2.150. (2018BOP)	11-00967.00	\$26,207						\$26,207	
11	WHITLEY	KY 3421	0.784	0.824	INSTALL GUARDRAIL ALONG KY 3421 FROM MP 0.784 TO 0.824. (2018BOP)	11-00968.00	\$21,895						\$21,895	
11	VARIOUS	VARIOUS			INSTALLATION OF PAVEMENT MARKERS ON VARIOUS ROUTES IN DISTRICT 11.	11-00969.00	\$255,000						\$255,000	
11	VARIOUS	VARIOUS			INSTALLATION OF STRIPING ON VARIOUS ROUTES IN DISTRICT 11. (2018BOP)	11-00970.00	\$840,000						\$840,000	
11	VARIOUS	VARIOUS			PRELIMINARY DESIGN AND STUDY TO DETERMINE LOW COST IMPROVEMENTS AT VARIOUS INTERSECTIONS WITHIN DISTRICT 11.	11-09008.00	\$120,000			\$120,000				THIS MODIFICATION PROVIDES ADDITIONAL DESIGN FUNDS FOR THE PROJECT. LC
11	LAUREL	KY 80	7.100	7.900	CONSTRUCTION OF J-TURN AT THE INTERSECTION OF KY 80 AND KY 1535. (2018BOP)	11-09014.00	\$1,312,508			\$100,000			\$1,212,508	
11	VARIOUS	VARIOUS			PRELIMINARY DESIGN AND STUDY TO DETERMINE LOW COST IMPROVEMENTS AT VARIOUS INTERSECTIONS WITHIN DISTRICT 11. (2018BOP)	11-09015.00	\$200,000			\$200,000				
11	VARIOUS	VARIOUS			PRELIMINARY DESIGN AND STUDY OF MINI-ROUNDAABOUTS AT VARIOUS INTERSECTIONS IN DISTRICT 11. (2018BOP)	11-09016.00	\$350,000			\$350,000				
11	JACKSON	US 421	22.127	29.574	PERFORM LOW COST SAFETY IMPROVEMENTS ON US 421 FROM MP 22.127 TO MP 29.574 IN JACKSON COUNTY. (2018BOP)	11-09017.00	\$350,000			\$350,000				
12	FLOYD	KY 979	0.000	0.250	CURVE REVISION ON KY 979 FROM KY 122 (MP 0.00) TO CR 1184 (MP 0.25). (2012BOP)	12-00939.01	\$119,330						\$119,330	THIS MOD. PROVIDES ADDITIONAL CONSTRUCTION FUNDS FOR THE PROJECT
12	LAWRENCE	KY 2565	3.200	3.350	REALIGNMENT OF KY 2565 BETWEEN MP 3.2 AND MP 3.35 (DEAD MAN CURVE) IN LAWRENCE COUNTY. (2016BOP)	12-00957.00	\$1,142,877						\$1,142,877	
12	PIKE	KY 194	51.885	52.975	INSTALL GUARDRAIL ALONG KY 194 FROM 500 FEET WEST OF SOLOMON HOLLOW (MP 51.885) TO 500 FEET EAST OF PHILLIPS BRANCH (MP 52.975).	12-00964.00	\$12,870						\$12,870	
12	LETCHER	KY 931	0.679	5.505	INSTALL GUARDRAIL ALONG KY 931 FROM LARRY'S ROAD (MP 0.679) TO PACK DRIVE (MP 5.505). (2018BOP)	12-00965.00	\$478,354						\$478,354	
12	VARIOUS	VARIOUS			INSTALLATION OF PAVEMENT MARKERS ON VARIOUS ROUTES IN DISTRICT 12.	12-00967.00	\$420,000						\$420,000	
12	PIKE	US 23	28.666	28.975	CONSTRUCTION OF A RIGHT TURN LANE FOR NB US 23 ONTO EB WEDDINGTON BRANCH ROAD AND INSTALLATION OF LANE SEPARATOR CURB ALONG US 23 NEAR THE INTERSECTION WITH WEDDINGTON BRANCH ROAD	12-09001.10	\$171,000						\$171,000	THIS MODIFICATION PROVIDES ADDITIONAL CONSTRUCTION FUNDS FOR THE PROJECT
12	PIKE	US 23	27.937	28.155	EXTEND THE LEFT TURN LANE FOR NB US 23 ON WB POWER DRIVE AND INSTALLATION OF LIGHTING AT THE INTERSECTION OF US 23 & POWER DRIVE	12-09001.20	\$63,864						\$63,864	THIS MODIFICATION PROVIDES ADDITIONAL CONSTRUCTION FUNDS FOR THE PROJECT
12	PIKE	US 23	28.522	28.666	INSTALLATION OF LANE SEPARATOR CURB ALONG US 23 NEAR THE INTERSECTION WITH CHILDERS ROAD	12-09001.30	\$56,900						\$56,900	THIS MODIFICATION PROVIDES ADDITIONAL CONSTRUCTION FUNDS FOR THE PROJECT
12	LAWRENCE	US 23	3.869	5.953	INSTALLATION OF SIGNS & PAVEMENT MARKINGS ALONG US 23 AND KY 645 AND MODIFICATIONS TO THE FLASHING BEACON AT THE INTERSECTION OF US 23 & KY 645	12-09001.40	\$16,833						\$16,833	THIS MODIFICATION PROVIDES ADDITIONAL CONSTRUCTION FUNDS FOR THE PROJECT
12	PIKE	KY 632	0.000	7.000	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 632 FROM KY 194 (MP 0.00) TO 0.037 MI EAST OF BLACKBERRY FRK (CR-1576) AT (MP 7.00) IN PIKE COUNTY. (2016BOP)	12-09002.00	\$50,000				\$50,000			

Dist	County	Roadway	BMP	EMP	Description	Item No.	Total Cost	Non-Hwy	Planning Cost	Design Cost	R/W Cost	Utility Cost	Const. Cost	REMARK
12	VARIOUS	VARIOUS			PRELIMINARY DESIGN AND STUDY TO DETERMINE LOW COST IMPROVEMENTS AT VARIOUS INTERSECTIONS WITHIN DISTRICT 12. (2018BOP)	12-09012.00	\$200,000			\$200,000				
12	FLOYD	KY 122	8.520	15.479	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 122 FROM MP 8.520 TO MP 15.479 IN FLOYD COUNTY. (2018BOP)	12-09013.00	\$350,000			\$350,000				
99	STATEWIDE				IMPLEMENTATION OF THE FY 2020 STATEWIDE PLANNING PROGRAM.		\$500,000		\$500,000					
01 & 02	VARIOUS	VARIOUS			INSTALLATION OF PAVEMENT MARKERS ON VARIOUS ROUTES IN DISTRICTS 1 & 2.	99-00923.00	\$375,000						\$375,000	
08, &	VARIOUS	VARIOUS			INSTALLATION OF PAVEMENT MARKERS ON VARIOUS ROUTES IN DISTRICTS 7, 8 & 10.	99-00924.00	\$710,000						\$710,000	
99	STATEWIDE	VARIOUS			HORIZONTAL CURVE BALL-BANK DATA COLLECTION ON STATE-MAINTAINED ROUTES. (2016BOP)	99-09001.00	\$1,115,000	\$1,115,000						THIS MODIFICATION PROVIDES ADDITIONAL HSIP FUNDS TO COVER THE LOW BID FOR THE DATA COLLECTION CONTRACT. LC
99	STATEWIDE				INVESTIGATE CRASH LOCATION ERRORS AND DEVELOP AN ALGORITHM TO UPDATE THE CRASH RECORD LOCATION TO THE MOST LIKELY CRASH LOCATION.		\$100,000	\$100,000						THIS AUTHORIZATION PROVIDES \$100,000 OF HSIP FUNDS TO COVER RESEARCH PROJECT.
	VARIOUS	VARIOUS			DEVELOPMENT OF A "LOCAL ROADS SAFETY PLAN" TO PROVIDE A FRAMEWORK FOR ORGANIZING STAKEHOLDERS, IDENTIFYING, ANALYZING, AND PRIORITIZING ROADWAY SAFETY IMPROVEMENTS ON LOCAL ROADS.		\$125,000	\$125,000						TO BE ADMINISTERED BY THE TECHNOLOGY TRANSFER PROGRAM AT THE UK TRANSPORTATION CENTER.
							\$57,561,818	\$1,340,000	\$500,000	\$14,715,000	\$1,415,000	\$760,000	\$38,831,818	

CHAPTER 16

Quality Assurance

RESPONSIBLE UNIT

Division of Highway Design
Quality Assurance Branch

PURPOSE AND SCOPE

The purpose of the Quality Assurance Branch is to improve Kentucky Transportation Cabinet's (KYTC) project deliverables and design policy, processes and procedures. There are three programs within the QAB designed to reach these objectives: Value Engineering (VE), Constructability Review, and Post-Construction (PC) Review.

The KYTC **Value Engineering (VE)** program was established in 1995 as an independent review process to examine potential ways to improve a project's value by increasing the design function and/or reducing its cost. The current federal transportation law specifies that all roadway projects on the NHS that have a total phase cost exceeding \$50 million and bridge projects exceeding \$40 million will require a VE study when there are any federal funds used for the project. The total phase cost of a project is that which is estimated for planning, environmental, design, right-of-way acquisition, utility relocation, and construction.

Recommendations developed in a VE study are shared with the project development team to consider for implementation. QAB staff administers the VE program, including the monitoring of implementation of approved recommendations. Occasionally, the VE program is used to address other projects or to review processes, standards and/or specifications.

The **Constructability Review** program assists Project Managers by examining projects for errors, omissions, and issues related to the constructability of a project. Constructability reviews are conducted primarily for final joint inspection plans; however, preliminary line and grade plans and check prints may also be reviewed. Constructability reviews are conducted on both roadway and structure plans.

The **Post-Construction Review (PCR)** program was established to identify issues that arise during the construction phase that could have been prevented or improved during the design phase. It also serves to educate constructors about the reasons behind design features and objectives.

QAB, along with District Office staff, identifies recently-built projects in which to review. A PCR meeting includes all design and construction professionals involved in the project. Participants discuss the issues that arose and solutions that were implemented. QAB documents this information and shares it with them on a document called a Fact Sheet. Some recurring or important issues are identified as **Elevated Issues (EI)** which are further considered for study and evaluation. Ultimately, EIs can lead to policy changes or educational material.

Data collected from each of the three programs are entered into the **Lessons Learned** database for each program. The collection of data is organized and shared with KYTC personnel and partners on QAB's website. The data is also analyzed to determine issues that may warrant further action that could lead to improvements, changes, or revisions to design processes that may improve overall project quality or cost savings. Lessons learned are also shared via the QAB newsletter, *Quality Matters*.

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PROPOSED ACTIVITIES (Annually)

- Conduct **Constructability Reviews** to improve quality of designs and identify issues that may affect the constructability of a project. **There were 66 constructability reviews completed.**
- Conduct mandated **VE** studies to meet federal guidelines. **There were two value engineering studies completed: I-265 widening + I-64/I-265 interchange; US 150 reconstruction.**
- Conduct **PCRs** for each district. Enter PCR information into database. Issue Fact Sheets for each PCR. **12 PCR reviews were conducted in six highway districts. The remaining six districts were not completed due to staff shortage. Data entered into the database and fact sheets issued.**
- Identify and follow up on issues identified as **EI**. **Investigated four EI related issues identified in PCR reviews. Researched and drafted memo about mobilization bid requirements.**
- Continue to develop and update policy and procedures for all aspects of each program.
- Publish the **Quality Matters newsletter**, containing content about findings from program reviews and design innovations. **There was one issue written, edited, and published containing eight articles. Publication was distributed statewide to consultants, academia, federal, and state employees. Added issues to website for future access.**
- Develop and publish **Tech Briefs**, each focused on a single, important topic identified through the reviews. **N/A**
- Upon special request, provide analysis of data collected through the QAB program areas.
- Train in-house and consultant personnel on findings for the betterment of designs and design processes. **N/A**
- Ensure consistency and quality of design products delivered by KYTC.
 - **This was done through the Constructability Review and Post Construction Review Programs.**
 - **Improved prequalification process for Highway Design categories**
 - **Reviewed prequalification applications from consultant firms for the following categories:**
 - **Advanced Traffic Engineering Design and Modeling**
 - **Rural Roadway Design**
 - **Urban Roadway Design**
 - **Surveying**
 - **Photogrammetry**
 - **Water and Sewer Design**
 - **Gas Design**
 - **Electric Design**
 - **Communications Design**
- **Oversee outsourced activities. None during this period**

CHAPTER 16

Quality Assurance

RESPONSIBLE UNIT

Division of Highway Design
Quality Assurance Branch

PRODUCTS

- VE Studies **Two VE studies and reports completed in FFY19**
- VE Punch Lists **Two punch lists issued. Followed up with project managers on all VE recommendations in which final decisions had not yet been reached or implemented. Documented all findings.**
- VE Project Database **Database updated with VE recommendations.**
- FHWA Annual VE Report **FY18 data submitted to FHWA**
- Constructability Project Review Reports **66 reports including marked up plans issued to project managers statewide.**
- Constructability Review Database **All data entered from reviews. Functionality enhanced.**
- Post-Construction Review Fact Sheets **Fact sheets developed and sent out to district staff for 12 reviews.**
- Post-Construction Review Database **Database updated with findings from reviews. Database updated from EI activity.**
- Quality Matters Newsletters **Published 1 issue (Spring 2019)**
- Tech Brief Publications **No activity**
- Special Studies **None during this period**

DISTRIBUTION OF ESTIMATED COST FOR 2018-2019

	2018-2019	Expended	Percent Expended
PERSONNEL	\$450,000	\$227,242	50%
OTHER	\$50,000	\$1,193	1%
TOTAL	\$500,000	\$228,435	45%

ESTIMATED OUTSOURCING EXPENSES AND PURCHASES

- \$50,000 to outsource but not limited to the following: Publishing newsletter and briefs, travel to conduct normal QAB program business, Value Engineering Training, SAVE International Membership fees, SAVE International Annual Conferences, AASHTO VE Committee Conferences, Transportation Research Board (TRB) attendance, VE studies that are state funded, participation in TRB committees, American Society for Quality (ASQ) membership and attendance to meetings, research or assistance related to Quality Assurance and Quality Control, research projects initiated by QAB.

Note: FHWA will be notified in advance when the Quality Assurance Branch needs to utilize the funds.