

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



**ANNUAL PERFORMANCE AND  
EXPENDITURE REPORT  
FOR  
FISCAL YEAR 2018 ANNUAL WORK PROGRAM  
PROJECT SP 0018 (001)  
JUNE 16, 2017 THROUGH JUNE 15, 2018**

**SEPTEMBER 2018**

## 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, 2017 through June 15, 2018 (Fiscal Year 2018).

The Division of Planning overcame many challenges during the period of this work program. Many analyses, studies, and traffic forecasts were completed or initiated during the past years to support the KYTC lettings. The Division continued to work to increase our utilization of our roadway data management software, Highways by EXOR. Improvements to the quality of the data were made through collection efforts with our Area Development District (ADD) partners, and efficiencies in this program resulted in our ability to collect updated data quicker than was previously expected. Planning continued work with our ADD partners to maintain the digital base map of roadways and utilize that information to create visual representations of the state highway systems for use by KYTC, other agencies, and the general public. The Division continued efforts at intermodal planning and completed an update of the Freight Plan. The Division made great efforts to aid the Cabinet and our MPO partners in reviewing various Notices of Proposed Rule Making. We worked closely with the Office of Special Programs in getting CMAQ, TE, and Safe Routes to School projects into the MPO Transportation Improvement Programs so funding could be authorized. The Division implemented the Strategic Highway Investment Formula for Tomorrow (SHIFT) which is a linchpin in Kentucky's implementation of Performance Based Planning and Programming and helped in the development of the 2018 Draft Recommended Highway Plan. The inaugural PM3 results for 2017 were successfully submitted. The Division assisted four cities and one MPO with creating their first bike plans.

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 18 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 2018**  
**SPR CHAPTER FUNDING SUMMARY**

<b><u>CHAPTER AND TITLE</u></b>		<b><u>BUDGETED</u></b>	<b><u>EXPENDED</u></b>
1	SPR Work Program	\$120,000	\$7,560
2	Personnel Training	\$120,000	\$54,255
3	Traffic and Equipment Management	\$2,200,000	\$1,851,284
4	Roadway Systems	\$603,000	\$499,933
5	Cartography	\$516,000	\$187,483
6	Highway Information System	\$1,810,000	\$1,150,142
7	Strategic Corridor Planning	\$2,152,500	\$2,005,045
8	Statewide Transportation Planning	\$1,038,000	\$1,402,260
9	Metropolitan Planning Organizations	\$531,500	\$573,870
10	Performance Measures and Congestion/Mobility Analysis	\$315,000	\$153,624
11	Air Quality	\$52,000	\$42,919
12	Multimodal Transportation	\$325,000	\$165,655
13	Traffic Data Forecasting	\$675,000	\$542,365
14	Bicycle and Pedestrian Program	<u>\$260,000</u>	<u>\$159,695</u>
	Planning Total	\$10,718,000	\$8,796,090
	Percent Expended		82%
15	Highway Safety Improvement Program	\$500,000	\$408,729
16	Value Engineering and Quality Assurance	<u>\$500,000</u>	<u>\$414,295</u>
	Other Items Total	\$1,000,000	\$823,024
	Percent Expended		83%
	TOTAL	\$11,718,000	\$9,619,114
	Percent Expended		82%

**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 2017-2018**

- 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 2019 Work Program. 100% Complete*
- Kentucky Transportation Center studies, as needed. *No studies were paid for out of this chapter*

**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 2017-2018**

	<b>2017-2018</b>	<b>Expended</b>	<b>Percent Expended</b>
<b>PERSONNEL</b>	<b>\$20,000</b>	<b>\$7,560</b>	<b>38%</b>
<b>OUTSOURCING</b>	<b>\$100,000</b>	<b>\$0</b>	<b>0%</b>
<b>TOTAL</b>	<b>\$120,000</b>	<b>\$7,560</b>	<b>7%</b>

**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 2017-2018**

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 3 PAGES FOR PROPOSED 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 2017-2018**

	<b>2017-2018</b>	<b>Expended</b>	<b>Percent Expended</b>
<b>PERSONNEL</b>	<b>\$100,000</b>	<b>\$33,803</b>	<b>34%</b>
<b>OTHER</b>	<b>\$20,000</b>	<b>\$20,452</b>	<b>103%</b>
<b>TOTAL</b>	<b>\$120,000</b>	<b>\$54,255</b>	<b>46%</b>

**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

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	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
<b>Conferences</b>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
GIS T						X	A			X						
GIS-KYTC				X	X	X	X	X		X		X	X	X		
KAMP Annual Meeting				A	A	X										
COGNA Annual Meeting																
HIS Conf			X			A						X	X			
Asset Mangement Conf										X		X				
Bentley Training Conf						X										
HIDAC						X										
ACEC Partnering Conference			A	A	A	X	A	A	A	A	A	A	A	X		
TRB Annual Meeting						X	A	X	X	X	X	X	X	X		
TRB Tools of the Trade: Small and Medium Communities							X		X	X	X	X	X	X		
National Freight Conf							X					X				
Bicycle and Pedestrian Facilities Conf							X		X					X		
ITE Section Conference							X	X	X			X	X	X		
American Planners Association							X	X	X		X	X	X	X		
AMPO									X							
NADO																
North American Travel Monitoring Expo & Conf			A										X			
AASHTO Standing Committees			X			X	X			X	X	X	X	X		
The Committee for Non Motorized Transportation														X		
TRB Workgroups/Research						X	X	X	X	X	X	X	X	X		
WVDOH Planning Conference									X							
Ohio Planning Conference									X							
UK Transportation Research and Innovation Program							X									
ASCE Conference							X									
TRB Automated Vehicle Symposium																
KYTC/FHWA Freight Conference												X	X			
Kentuckians foe Better Transportation (KBT)									A							
KSPE Conference									A							
Joint Meeting of AASHTO's SCOP/SCOPM/TAM									A							
ITS Peer Exchange									A							
IDSDM Highway Safety Manual									A							
IHEEP Conference									A							
Bridge Preservation Conference									A							
Leadercast Conference									A							
AASHTO Meeting										A			A			
Nature's Call to Action Conference							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 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
ITS & Autonomous Vehicles							A									
FHWA RC TDF Modeling 101							A	A	A	A	A		A			
2018 ADHS Workshop							A									
TransCAD Training 101													A			
Tableau Training													A			
AASHTO BrM							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 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 2017-2018

- 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. **All traffic count data were checked for quality control and assurance of data prior to entering into database. Data was updated as it was received. Data was continuously maintained and made available via regularly updated information on the Division of Planning website and by request from the TEMAC Branch. 100% Complete**
- Maintain existing database (TRADAS) in parallel with new database (Jackalope) for quality control until new database is deemed fully functional and reliable. **Have maintained parallel operation of the new and old databases since the beginning of count season. Intend to do so throughout the entire season, assess the new database, and abandon the old for next count season if able.**
- Download, process, and analyze data for every day of the year from approximately 95 permanent ATR stations. **Available ATR data was downloaded daily. All ATR data was checked for quality control and assurance of data upon entering into database. 100% Complete**
- Submit monthly reports of hourly ATR records to FHWA. **Monthly reports of hourly ATR records were generated and sent to FHWA monthly. 100% Complete**
- With KYTC District Offices, collect and process vehicle volume data from approximately 5,000 short-duration, portable-machine, coverage and ramp counts. **Received approximately 4,720 counts of approximately 5,230 assigned (90.2% complete) from District Offices for short-duration counts in calendar year 2017. Assigned approximately 5,250 short-duration counts to Districts in calendar year 2018.**

## CHAPTER 3

## Traffic and Equipment Management

### RESPONSIBLE UNIT

Division of Planning  
Traffic and Equipment Management Branch

### PROPOSED ACTIVITIES FOR 2017-2018 (continued)

- 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. **Approximately 110 special counts (100% of those received) were reviewed, assigned, processed, analyzed and distributed in calendar year 2017.**
- 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. **Vehicle classification data was collected and processed from approximately 1235 stations of approximately 4,500 non-local roads (~27%) in calendar year 2017.**
- Provide traffic data for annual FHWA-required Highway Performance Monitoring System (HPMS) report. **All data required of the Data Team for the annual FHWA HPMS report was provided. 100% Complete**
- Update axle and monthly factors used in adjusting short term counts from data collected at ATR and vehicle classification stations. **Updated seasonal, axle and design hour factors at the end of calendar year 2017. 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. **All in-house databases were updated in a timely manner as needed. 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. **WIM data was collected daily from approximately 40 traffic data collection stations and was processed and analyzed weekly. 100% Complete. File format issues (FHWA switched from the 2001 Traffic Monitoring Guide (TMG) format to the 2013 TMG format this fiscal year) were still hindering complete quality assurance capabilities. We are in the process of switching databases to provide QA/QC capabilities. Once the quality assurance issue is rectified, continuous data (in lieu of monthly, one-week data) will be submitted to FHWA. This includes past data and all future data. WIM data collection sites are monitored daily and maintained by Equipment Team personnel, when possible. Maintenance activities beyond the capabilities of in-house personnel are assigned to private electrical consultants through a maintenance contract.**
- Review proper operation and coverage of ATR stations. Install additional ATR stations as necessary. **Review of functional classifications and geographic locations of all ATR sites was performed. 100% Complete**
- Investigate and purchase new traffic data collection equipment to provide for safer, more efficient and more accurate methods of collection. **Investigated new technologies including but not limited to new automatic data recorder (ADR) hardware, Bridge WIM detectors, overhead laser detectors, side-fire, laser detectors, video drone data collectors, and modems. Purchases included but were not limited to piezoelectric sensors, pneumatic tubing, miscellaneous portable count materials, and protective clothing. 100% Complete**

## CHAPTER 3

## Traffic and Equipment Management

### RESPONSIBLE UNIT

Division of Planning  
Traffic and Equipment Management Branch

### PROPOSED ACTIVITIES FOR 2017-2018 (continued)

- Certify, repair, and maintain approximately 800 traffic data recorders. The TEMAC Equipment Team certified approximately 800 automatic data recorders (ADRs). ADRs were maintained and repaired throughout the year, as required. 100% Complete
- Inspect, repair, and maintain, where possible, approximately 585 vehicle sensor locations (~95 ATRs and ~490 semi-permanent). Permanent vehicle sensor locations were inspected concurrent with annual short-term traffic data collection. Sites requiring maintenance were noted and, where feasible, repaired by Equipment Team personnel. Maintenance activities beyond the capabilities of in-house personnel are assigned to private electrical consultants through a maintenance contract as funding allows. 100% Complete
- Administer contracts and provide oversight of Contractor(s) for the repair and maintenance of ATR and semi-permanent vehicle sensor locations. Major maintenance activities (at a minimum, the replacement of in-pavement sensors) for six ATR stations were assigned to the electrical contractors.
- 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. Approximately 30 sets (100% of requested) of plans and specifications including approximately 50 ATR and semi-permanent count station sites were produced and submitted by the Equipment Team for highway construction and pavement rehabilitation contracts.
- Provide construction oversight, when required, and perform final inspections of new and replacement traffic sensor installations. Performed final inspections on approximately 60 newly installed traffic sensor stations. Provided construction oversight periodically, as required. 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. Assigned and provided oversight for approximately 425 individual traffic counts. Processed and provided quality assurance of all submitted counts.
- Provide traffic count technician training and support, as needed. Individual traffic count technician training and support was provided throughout the year as requested.

### PRODUCTS

- Volume and classification data from ATR stations. Data was retrieved for a minimum of six months from 73 ATR stations. Automatic Traffic Recorder (ATR) data was downloaded and processed daily and a report of hourly records was submitted to FHWA monthly. Data was analyzed to ensure proper operation of ATRs. Maintenance issues were referred to the Equipment Team and repaired where feasible. As funding permits, sites that require in-pavement sensor maintenance will be repaired by electrical contractors through the maintenance agreements or by future projects let by the Division of Planning.

**CHAPTER 3**

## Traffic and Equipment Management

**RESPONSIBLE UNIT**

Division of Planning  
 Traffic and Equipment Management Branch

**PRODUCTS (continued)**

- Volume, classification, and weight data from WIM stations. WIM data is collected daily from approximately 40 traffic data collection stations and is processed and analyzed weekly. 100% Complete. File format issues (FHWA switched from the 2001 Traffic Monitoring Guide (TMG) format to the 2013 TMG format this fiscal year) are still hindering complete quality assurance capabilities. We are in the process of switching databases to provide QA/QC capabilities. Once the quality assurance issue is rectified, continuous data (in lieu of monthly, one-week data) will be submitted to FHWA. This includes past data and all future data. WIM data collection sites are monitored daily and maintained by Equipment Team personnel, when possible. Maintenance activities beyond the capabilities of in-house personnel are assigned to private electrical consultants through a maintenance contract.
- Volume and classification data from short-duration machine count stations. Received approximately 4,720 counts of approximately 5,230 assigned (90% Complete) from District Offices for short-duration counts in calendar year 2017. Assigned approximately 5,250 short-duration counts to Districts in calendar year 2018. Of 286 interstate sites, completed data collection from 233. We were unable to collect data from remaining stations due to construction in the vicinity and/or malfunctioning sensors.
- Volume and classification data from special counts. Approximately 110 special counts (100% of those received) were reviewed, assigned, processed, analyzed and distributed.
- Axle and monthly factors Updated seasonal, axle and design hour factors at the end of calendar year 2017. 100% Complete
- Databases containing count station and count data information Database information for count station and count data was updated as needed.
- Accurate local DVMT data for FHWA reporting through HPMS. Accurate local DVMT data for FHWA was reported through HPMS.

**DISTRIBUTION OF ESTIMATED COST FOR 2017-2018**

	<b>2017-2018</b>	<b>Expended</b>	<b>Percent Expended</b>
<b>PERSONNEL</b>	<b>\$1,750,000</b>	<b>\$1,596,807</b>	<b>92%</b>
<b>OUTSOURCED PERSONNEL</b>	<b>\$250,000</b>	<b>\$12,177</b>	<b>5%</b>
<b>OTHER</b>	<b>\$200,000</b>	<b>\$241,540</b>	<b>121%</b>
<b>TOTAL</b>	<b>\$2,200,000</b>	<b>\$1,850,524</b>	<b>85%</b>

**CHAPTER 3**

Traffic and Equipment Management

**RESPONSIBLE UNIT**

Division of Planning  
Traffic and Equipment Management Branch

**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 2017-2018

- 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 notification 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. **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. Map updated December 2016. 100% Complete**

## CHAPTER 4

## Roadway Systems

### RESPONSIBLE UNIT

Division of Planning  
Transportation Systems Branch

### PROPOSED ACTIVITIES FOR 2017-2018 (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. **Did several official orders to reclassify SPRS road system as well as functional class at the districts requests. 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. **These require that the District (for KYTC) address certain criteria from the Federal-Aid Policy Guide 23 CFR 620B. 100% 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 – one was completed for the Fall 2017 meeting in July 2018 to establish-designate Interstate I-65 from the William H. Natcher Parkway near Bowling Green, Kentucky, to US 60 South of Owensboro, 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. **Reports are drawn in Exor forms from data entered for the previous calendar year. "Ton-Miles by County will be posted by the end of September 2018 to Office of Budget and Fiscal Management. – Currently having issues with Exor Database, not able to complete the data entry phase for FY 2018. 70% Complete**
- Publish Kentucky's Official Coal Haul Highway System Report as required by KRS 177.977 and KRS 42.455. **New Coal Haul Report and supporting maps will be published to the website in September. Website updated for Coal Haul – Updated listing and map in September. 70% 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 will be send at end of September. The Extended Weight data will be updated in HIS at the end of September 2018. Official Order updates for the Secretary's signature. 70% Complete**



## CHAPTER 4

## Roadway Systems

### RESPONSIBLE UNIT

Division of Planning  
Transportation Systems Branch

### PROPOSED ACTIVITIES FOR 2017-2018 (continued)

- 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. Several state routes were transferred to local government, a total of 6.967 miles of roadway was removed from the State Primary Road System. 16 Official Order were send to Right-of-Way and Utilities and the Secretary of the Finance and Administration Cabinet. 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 2017 to KYTC's Office of Budget and Fiscal Management. GASB report was send to the Office of Budget and Fiscal Management in July 2017. A total of 6.967 miles was removed from the State Primary Road System and 10.519 miles was added to the State Primary Road System. 100% Complete

### PRODUCTS

- Official Order Changes to the State Primary Road System 29 Official Orders pertaining to several state and/or local roads were completed, including transfers. Discovered and processed changes resulting from roadway data collection and roadway system data reviews. 90% 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 40 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 shapefiles. Created maps of producing counties as well as a statewide map. Mailed out approx. 500 Coal Haul forms and approx. 200 Coal Haul Updates. 80% 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 None Required

**CHAPTER 4**

Roadway Systems

**RESPONSIBLE UNIT**Division of Planning  
Transportation Systems Branch**DISTRIBUTION OF ESTIMATED COST FOR 2017-2018**

	<b>2017-2018</b>	<b>Expended</b>	<b>Percent Expended</b>
<b>PERSONNEL</b>	<b>\$600,000</b>	<b>\$495,799</b>	<b>83%</b>
<b>OTHER</b>	<b>\$3,000</b>	<b>\$4,133</b>	<b>138%</b>
<b>TOTAL</b>	<b>\$603,000</b>	<b>\$499,932</b>	<b>83%</b>

**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 2017-2018

- Provide electronic mapping for all city, county, district, state, and special-purpose cartographic products. Over 170 County Maps, SPRS, and Functional Classification Maps were updated and exported on the internet. About 118 City Maps, SPRS, and Functional Classification Maps were updated and exported on the internet. District Maps for SPRS and Functional Class were exported and updated. All 12 District maps updated. 100% Complete
- Maintain and publish electronic formats of cartographic products for display on the Internet. Web pages updated regularly. Over 360 SPRS/Functional Maps. Maintained the planning studies web page which includes 306 studies and over 2,000 report documents for SPAC. Worked on New Web Page format – over 40 Web pages updated. Created 54 new web page sites for Planning and others. 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. Reviewed updated highway information from Districts and Systems Team to ensure routes are correct on Official Highway Map. Obtained printing exception from Finance, processed form for contract and updated RFP document for contract. Revised coloration of map to match KY Tourism materials and updated roads on statewide map and 15 inset maps as required. Prepared for publication and press-checked printing of 800,000 maps. Continue to monitor inventory and shipping of product to 17 locations. Created alternate format digital versions of the map for publication on the web page and for usage in GIS software. 100% Complete
- Create reports and exhibits for various Division projects and studies to assist transportation decision-makers in their roles. Complied 500 Route segments as well as a statewide map. Created several maps for each District for use in developing District/Regional Transportation Plans, such as Priority Routes, Several SHIFT District Maps, Created numerous exhibits and posters for KYTC's Projects. 100% Complete
- Provide mapping and graphic assistance to other Divisions and Departments as requested. Updated and produced a new map of all Scenic Byways; updated the data for all state rest areas; and, updated a new Functional Classification Code. There were several maps prepared for Multimodal Freight Transportation NTN, NHS, TWC, Interstate and Parkways. Prepared five "YOU ARE HERE" enlarged maps for all rest areas and welcome centers. 100% Complete
- Develop and provide to outside entities digital maps as requested. Responded to nearly 2,300 map sales request/emails – mailed out 11,782 maps. Provided some highway updates to Rand McNally and AAA. Map Sales generated \$430. 100% Complete

**CHAPTER 5**

Cartography

**RESPONSIBLE UNIT**

Division of Planning  
Transportation Systems Branch

**PROPOSED ACTIVITIES FOR 2017-2018 (continued)**

- Develop and provide geographic information systems (GIS) files locating non-roadway modes of transportation. **Air Map Quality Map & Web page 100% Complete**

**PRODUCTS**

- Official Highway Map **Contract obtained for 2018-19 map, graphic files generated, roadway updates made to statewide map and 15 inset maps, quality review and 800,000 copies printed and distributed as needed. 100% Complete**
- State Primary Road System Maps **Updated county maps at least 170 times. Updated city maps 118 times. 100% Complete**
- Functional Classification Maps **Same as for State Primary Road Systems. 100% Complete**
- Other Highway Data Maps (i.e., traffic counts, NHS, NN, etc. maps) **100% Complete**  
**Statewide Coal Haul Map**  
**National Highway System (NHS)**  
**FHWA Urbanized Areas**  
**County Reference Map**
- Cabinet and Planning Project Exhibit Maps/Displays **100% Complete**  
**Highway District SHIFT Map**  
**Air Quality**  
**Provide highway updates to Rand McNally, AAA**
- 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 **Map 21 Associated shapefiles. 100% Complete**

**DISTRIBUTION OF ESTIMATED COST FOR 2017-2018**

	<b>2017-2018</b>	<b>Expended</b>	<b>Percent Expended</b>
<b>PERSONNEL</b>	<b>\$375,000</b>	<b>\$73,740</b>	<b>20%</b>
<b>OTHER</b>	<b>\$141,000</b>	<b>\$113,743</b>	<b>81%</b>
<b>TOTAL</b>	<b>\$516,000</b>	<b>\$187,483</b>	<b>37%</b>

**CHAPTER 5**

Cartography

**RESPONSIBLE UNIT**

Division of Planning  
Transportation Systems Branch

**ESTIMATED OUTSOURCING EXPENSES AND PURCHASES**

**Outsourcing**

- \$10,000 for highway map outsourced production assistance.

**Other**

- \$140,000 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 2017-2018

- 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 110 state road projects. Processed 4,691 local road centerline location and attribute changes in 103 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 58 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 2017-2018 (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. 25% 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. 25% 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 (2,067 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 2017-2018 (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/over dimensional 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. 50% 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 (80,054 centerline miles). 100% Complete**
- HPMS submittal by June 15 **Submitted June 15 (2,067 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 **58 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 2017-2018**

	<b>2017-2018</b>	<b>Expended</b>	<b>Percent Expended</b>
<b>PERSONNEL</b>	<b>\$1,100,000</b>	<b>\$694,661</b>	<b>64%</b>
<b>OUTSOURCING</b>	<b>\$600,000</b>	<b>\$401,990</b>	<b>67%</b>
<b>OTHER</b>	<b>\$110,000</b>	<b>\$1,933</b>	<b>2%</b>
<b>TOTAL</b>	<b>\$1,810,000</b>	<b>\$1,098,584</b>	<b>61%</b>

**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
- \$0 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 the state maintained roadways. It enhances and continues to update an evaluation process for prioritizing projects for consideration for inclusion in the Six-Year Highway Plan, the District Transportation Plan (Consisting of the Unscheduled Projects List) and the Unscheduled Needs List. It 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 2017-2018

- 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, 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 2018 fourth quarter, KYTC had 14 active planning studies outsourced to a consultant. 100% Complete
- Evaluate identified needs statewide to assist in prioritizing projects 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. This process is ongoing. This year the SHIFT program was implemented as a data analysis tool based on identified needs to assist in prioritizing projects for the Highway Plan. 100% Complete

## CHAPTER 7

## Strategic Corridor Planning

### RESPONSIBLE UNIT

Division of Planning  
Strategic Planning Branch  
Strategic Corridor Planning Team

### PRODUCTS

Five studies were completed during the period of July 1, 2017 to June 30, 2018. Four were completed by consultants, with one a special study handled through KTC (Kentucky Transportation Center). The completed studies are as follows:

- Autonomous Vehicle Policy Study, Statewide – N/A – September 2017 (SPR)
- KY 86 Scoping Study, Breckenridge & Hardin Co.'s – 4-8901.00 – April 2018
- Grayson Small Urban Area Study, Carter Co. – N/A – June 2018 (SPR)
- Maysville Small Urban Area Study, Mason Co. – N/A – June 2018 (SPR)
- Pembroke Connector Scoping Study, Christian Co. – 2-381.00 – June 2018 (SPR)

Ongoing studies and their respective status at the end of FY 2018 are as follows:

<u>County</u>	<u>Route</u>	<u>Item No.</u>	<u>% Complete</u>
Lewis/Rowan	KY 59/KY 344/KY 377	9-231.00	99%
Lincoln	US 27	8-167.00	99%
All District 4 Counties	Various Routes	N/A (SPR)	75%
All District 10 Counties	Various Routes	N/A (SPR)	75%
Warren	US 68X/US 231X	N/A (SPR)	50%
Kenton	KY 1303	N/A (SPR)	70%
Jefferson	KY 1065	N/A (SPR)	80%
Nelson	Various Routes	4-8809.00	45%
Anderson/Franklin	KY 151	5-806.00	40%
Perry	Airport Access Road	N/A	65%
Boone	Various Routes	N/A	40%
Pulaski	KY 635	8-9010.00	10%

<u>County</u>	<u>Small Urban Area</u>	<u>Item No.</u>	<u>% Complete</u>
Franklin	Frankfort	N/A (SPR)	25%
McCracken	Paducah	N/A (SPR)	20%

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.

## CHAPTER 7

## Strategic Corridor Planning

### RESPONSIBLE UNIT

Division of Planning  
Strategic Planning Branch  
Strategic Corridor Planning Team

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, 19 projects have been worked on during the past fiscal year, with five being completed, 14 in various stages of completion, and an additional four recently awarded (and thus not shown). With the start of the new fiscal year, additional projects 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. Eight DNA studies were completed by District and Central Office Planners in FY 2018. These studies include projects identified by Item No.'s 2-899.00, 4-8954.00, 5-80004.00, 7-8810.00, 8-8952.00, 9-8903.00, 9-8807.00, and 10-376.00.

- 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 new 2018 SHIFT process utilized 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 2017-2018

	2017-2018	Expended	Percent Expended
<b>PERSONNEL</b>	<b>\$950,000</b>	<b>\$916,062</b>	<b>97%</b>
<b>OUTSOURCED PERSONNEL</b>	<b>\$1,200,000</b>	<b>\$1,080,483</b>	<b>90%</b>
<b>OTHER</b>	<b>\$2,500</b>	<b>\$8497</b>	<b>340%</b>
<b>TOTAL</b>	<b>\$2,152,500</b>	<b>\$2,005,042</b>	<b>94%</b>

### ESTIMATED OUTSOURCING EXPENSES AND PURCHASES

#### Outsourcing

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

#### Other

- \$25,000 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 development of a policy driven and data-based approach to identification, analysis and prioritization of needs. The team also updates a Long-Range Statewide Transportation Plan (LRSTP) as needed and ensures that the LRSTP and LRSTP Program are FAST Act compliant. Through these processes and partnerships, this team provides meaningful input to the Highway Plan through the Unscheduled Needs List (UNL) and District/Regional Transportation Plan (DTP).

### PROPOSED ACTIVITIES FOR 2017-2018

- Review and update the Public Participation Plan as needed. *Ongoing review, no changes needed. Last updated February 2016. 100% Complete*
- 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 Long-Range Statewide Transportation Plan as needed. *Ongoing review, no changes needed. Last updated November 2014. 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. Maintain that 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. *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 Project Information Forms (PIF) database and Continuous Highway Analysis Framework (CHAF) 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 Statewide Project Identification Forms (PIF) database and Continuous Highway Analysis Framework (CHAF) database with help from planning partners (ADDs, MPOs and HDOs). Maintain and kept the <http://yourturn.transportation.ky.gov> website with direct link from the KYTC webpage to the LRSTP, PIP and other Statewide Public Involvement Documents. Also, with the assistance from ADDs, MPOs and HDOs, spot checked data provided to the PIF database from the Highway Performance Monitory System (HPMS) and Planning's Highway Information System (HIS) databases, while working to develop the CHAF database. 100% Complete*

## CHAPTER 8

## Statewide Transportation Planning

### RESPONSIBLE UNIT

Division of Planning  
Strategic Planning Branch

### PROPOSED ACTIVITIES FOR 2017-2018 (continued)

- Identify, evaluate, and prioritize transportation projects through data analysis and public involvement. **Continuing activity: Coordinated public involvement and project identification activities with ADDs, MPOs and HDOs integrating PIF and CHAF databases for data storage. Developed the 2018 Strategic Highway Investment Formula for Tomorrow (SHIFT) and used SHIFT for project evaluation, scoring and prioritization. This effort included creating a prioritization website for sharing documents and information with SHIFT participants. 100% Complete**
- Recommend sustainable and fundable projects 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**
- Develop the draft recommended highway plan including update of project scoring, prioritization processes and other methods as needed. **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 2017. 100% Complete**
- Maintain and oversee further development of the Project Identification Form/Unscheduled Needs List (an online database for use as a tool in project prioritization and analysis). **Continuing activity – Developed CHAF database for a new and improved PIF database. CHAF is continuously reviewed and updated to provide the most current list of project information and/or unscheduled needs list. 100% Complete**
- Maintain and oversee the DTP that summarizes the Strategic Highway Investment Formula for Tomorrow (SHIFT) prioritization process, and may grow to include expanding accessibility/mobility studies. This SHIFT Kentucky Ahead effort is used in developing a list of projects identified through supporting arguments for prioritization by following Performance Based-Planning and Programming (PBPP) principles in compliance with FAST Act initiatives. **Continuing activity – The DTP has evolved to be used to document and detail SHIFT evaluation, scoring and prioritization processes of projects. 100% Complete**
- Coordinate with other Divisions, Districts, 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 and oversee the ADD Regional Transportation Program. **Continuing activity – Executed new ADD contracts. Provided ADDs guidance on deliverables. Attended and addressed Regional Transportation Committees. Processed invoices, and facilitated ADD Planner Assessments. Coordinated between ADD's and HDO's on the development and presentation of SHIFT processes. 100% Complete**
- Coordinate with and assist the HDOs as they develop their DTP. **Continuing activity – Coordinating with planning partners to document SHIFT prioritization approach and outcomes. 100% Complete**

**CHAPTER 8**

## Statewide Transportation Planning

**RESPONSIBLE UNIT**

Division of Planning  
Strategic Planning Branch

**PROPOSED ACTIVITIES FOR 2017-2018 (continued)**

- Provide guidance and review of Socio-economic reports for quality and consistency. **Continuing activity – Reviewed the following Socio-economic reports developed by the ADDs in FY 2018: 100% Complete**
  - Turkeyfoot Road (KY 1303) Planning Study in Kenton County
  - US 68X & US 231X Scoping Study in Warren County
  - Outer Loop (KY 1065) Corridor Planning Study in Jefferson County
  - Item No. 4-8809.00 Western Bardstown Connectivity Study in Nelson County
  - Item No. 5-806.00 KY 151 Scoping Study in Anderson and Franklin Counties
  - Wendell H. Ford Airport Access Scoping Study in Perry County
  - Frankfort Small Urban Area Study in Franklin County
  - Paducah Small Urban Area Study in McCracken County

**PRODUCTS**

- Long-Range Statewide Transportation Plan **Reviewed, no changes needed.**
- Transportation Cabinet Strategic Plan **Reviewed, no changes needed.**
- Unscheduled Needs List **The Continuous Highway Analysis Framework (CHAF) database was implemented and access provided to our planners partners for review and update of their Unscheduled Needs List and project information.**
- Annual Work Programs and Contracts for 15 Area Development Districts **The Division prepared the Annual Work Plan for the ADDs and awarded all ADD contracts.**
- Statewide Transportation Planning Meetings **The Division conducted two STP meetings: October 18, 2017 and April 18, 2018.**
- Individual ADD Planner Assessments **The Division reviewed and conducted the assessments of the ADDs at mid-year and end of the year.**
- Public Participation Plan **Reviewed, no changes needed.**
- Draft Recommended Highway Plan **The Division prepared the Recommended Highway Plan and provided to the Governor.**
- District/Regional Transportation Plan containing the SHIFT Projects. **The DTP has evolved to be used to document and describe “SHIFT” activities and processes, for project sponsoring, evaluation, scoring and prioritization.**

**DISTRIBUTION OF ESTIMATED COST FOR 2017-2018**

	<b>2017-2018</b>	<b>Expended</b>	<b>Percent Expended</b>
<b>PERSONNEL</b>	<b>\$1,000,000</b>	<b>\$1,390,936</b>	<b>139%</b>
<b>OUTSOURCED PERSONNEL</b>	<b>\$25,000</b>	<b>\$0</b>	<b>0%</b>
<b>OTHER</b>	<b>\$13,000</b>	<b>\$11,323</b>	<b>88%</b>
<b>TOTAL</b>	<b>\$1,038,000</b>	<b>\$1,402,259</b>	<b>135%</b>



**CHAPTER 8**

Statewide Transportation Planning

**RESPONSIBLE UNIT**

Division of Planning  
Strategic Planning Branch

**ESTIMATED OUTSOURCING EXPENSES AND PURCHASES**

**Outsourcing**

- \$25,000 to outsource for studies and assistance related to the Statewide Planning SPR Work Program

**Other**

- \$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 2017-2018

- 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 MPO 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. 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 safety targets or established their own area-specific safety 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 funding sources, complete Project Identification Forms (PIFs) 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 the Plano Road Corridor Plan and Policy Development Study, Fairview Avenue Safety and Capacity/LOS Study, US 31W Bypass Study, and Multimodal Implementation Plan (Bowling Green); Lexington Area MPO Bicycle and Pedestrian Master Plan and Transit Stops Inventory Project (Lexington); Owensboro-Daviess County Bicycle and Pedestrian Master Plan; and TARC Comprehensive Operations Analysis/Long Range Plan (Louisville). 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 2017-2018 (continued)**

- Conduct regular Statewide Transportation Planning meetings, to include discussions on current metropolitan planning issues. Conducted two STP meetings this fiscal year. July meeting was canceled to allow for SHIFT activities and January meeting was cancelled due to inclement weather. 100% Complete
- 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
- 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 the Charleston, WV MPO on issues related to KYOVA. 100% Complete
- Develop and update metropolitan planning agreements, as needed. New agreements in place for Lexington, Cincinnati, Clarksville, and Huntington. 100% 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. 2017-2020 STIP complete and updated as needed.
- Contracts with MPOs and LPAs to carry out planning activities in the urbanized areas. Contracts in place with all nine MPOs and Louisville Metro.
- Statewide Transportation Planning meetings. Held two STP meetings.
- Special studies as needed. No special studies undertaken.

**DISTRIBUTION OF ESTIMATED COST FOR 2017-2018**

	2017-2018	Expended	Percent Expended
<b>PERSONNEL</b>	\$500,000	\$565,203	113%
<b>OUTSOURCED PERSONNEL</b>	\$25,000	\$0	0%
<b>OTHER</b>	\$6,500	\$8,666	134%
<b>TOTAL</b>	\$531,500	\$573,869	108%

**CHAPTER 9**

Metropolitan Planning Organizations  
(Areas over 50,000 Population)

**RESPONSIBLE UNIT**

Division of Planning  
Strategic Planning Branch  
MPO Team

**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.

**RESPONSIBLE UNIT**

Division of Planning  
Multimodal Programs Branch

**PURPOSE AND SCOPE**

The FAST Act continues MAP-21's overall performance management approach, within which States invest resources in projects that collectively will make progress toward national goals. States are required to calculate 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 a greenhouse gas (GHG) emission measures. The analysis includes reviewing, commenting, and complying with FHWA's Notice of Proposed Rule Making (NPRM) relating to these measures, as well as adapting 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 2017-2018**

Using previously collected National Performance Management Research Data Set (NPMRDS), available traffic counts and the final NPRM for 23 CFR Part 490, the Division of Planning will calculate performance measures and performance targets for the following categories:

**System Performance**

- Measure the Travel Time Reliability as a percent of the person-miles traveled on the interstate system and on the non-interstate NHS system. **100% Complete**
- Estimate percent change in tailpipe CO<sub>2</sub> referred to as Greenhouse Gas measures for Interstate and non-Interstate NHS. **100% Complete. This measure was not implemented.**

**Freight**

- Measure Freight Reliability as a Truck Travel Time Reliability index from five different travel time metrics using truck travel times on the Interstate system. **100% Complete**

**Congestion Mitigation (CM)**

- Estimate Annual Hours of Peak Hour Excessive Delay. **100% Complete**
- Estimate the Percent of Non-Single Occupant Vehicle Travel (Non-SOV). **100% Complete**

**Maintenance and Distribution of Data**

- Download monthly 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 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**
- 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 Fast Act Performance Measures. **100% Complete**
- Participate in Performance Measure educational opportunities including monthly webinars, as available. **100% Complete**

**CHAPTER 10**Performance Measures and Congestion/Mobility Analysis  
(continued)**RESPONSIBLE UNIT**Division of Planning  
Multimodal Programs Branch**PRODUCTS**

- Percent of the person-miles traveled on the Interstate System providing for Reliable Travel. **100% Complete**
- Percent of the person-miles traveled on the non-Interstate NHS providing for Reliable Travel. **100% Complete**
- Percent of change in tailpipe CO2 emissions on the NHS compared to Calendar year 2017. **100% Complete. Not required**
- Percent of the non-Interstate NHS in urbanized areas with a population over 1 million, where peak hour travel times meet expectations. **100% Complete**
- Simplify, streamline, process, and legally share travel time data with KYTC staff, partners, and public. **100% Complete**
- Require reporting from final PM3 requirements **100% Complete. Targets Shared**

**DISTRIBUTION OF ESTIMATED COST FOR 2017-2018**

	<b>2017-2018</b>	<b>Expended</b>	<b>Percent Expended</b>
<b>PERSONNEL</b>	<b>\$250,000</b>	<b>\$145,297</b>	<b>59%</b>
<b>OUTSOURCED PERSONNEL</b>	<b>\$50,000</b>	<b>\$8,237</b>	<b>17%</b>
<b>OTHER</b>	<b>\$15,000</b>	<b>\$88</b>	<b>1%</b>
<b>TOTAL</b>	<b>\$315,000</b>	<b>\$153,622</b>	<b>49%</b>

**ESTIMATED OUTSOURCING EXPENSES AND PURCHASES****Outsourcing**

- \$50,000 Develop Statewide historical Performance Measure values. **100% Complete. Work completed in house**

**Other**

- \$5,000 Other Operational Costs  
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)

## CHAPTER 11

## Air Quality

### RESPONSIBLE UNIT

Division of Planning  
Multimodal Programs Branch  
Air Quality Team

### PURPOSE AND SCOPE

The Air Quality Team will coordinate and perform analyses necessary to determine regional air quality conformity. The team will also assist 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 will communicate and coordinate with KYTC Offices and partner Cabinets as needed.

### PROPOSED ACTIVITIES FOR 2017-2018

- Perform Regional Air Quality (AQ) Conformity Analysis for metropolitan and rural areas as needed. **Due to a Federal Court ruling back in February, 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. 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 I 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. **Provided KY EEC-DAQ requested data for the new 2015 Ozone standard and RFG analysis for areas around the State. 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. **At the end of fiscal year 2018, the 2017 registration data was in the process of being completed and ready for review and analysis. 100% Complete**
- Maintain expertise in MOVES\_2014a or current AQ model. Performing the emissions model analysis for ozone and PM<sub>2.5</sub> regional conformity analyses as needed. **Performed model run for CUAMPO Christian Co. KY and KYOVA Boyd Co. KY. 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, and NKY for amendments to the TIPs or MTPs 100% Complete**
- Attend necessary meetings and conferences to stay abreast of the AQ issues. **Attended 6 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 (NAAQS) for current standards including the 8-hour ozone and PM<sub>2.5</sub> 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. No changes to PN2.5 status. 100% Complete**

## CHAPTER 11

## Air Quality

### RESPONSIBLE UNIT

Division of Planning  
Multimodal Programs Branch  
Air Quality Team

### PROPOSED ACTIVITIES FOR 2017-2018 (continued)

- 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. **Coordinated with City of Louisville to aid in their GHG Inventory outreach program, which was an initiative from the Mayor. Federal guidelines pertaining to CMAQ have been out on hold. 100% Complete**
- When new ozone standards are adopted, educate local governments to understand transportation impacts. **Only areas affected by new ozone standard are those that have had issues in the past are aware of the impacts. 100% Complete**
- Maintain AQ Website- Maintain appropriate active web-links. In the next fiscal year, the AQ website will get updated. **Updates related to ozone, PM2.5, and GHG have been added to website. However, more updates are needed, but have been on hold due to work load and the cabinet switching over from an old site to new. Said updates will be completed in next fiscal year. 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 conference calls regarding amendments for KIPDA, OKI, other areas, and FHWA 100% Complete**
- Assist with new programs as required by FAST Act, Clean Air Act Amendment (CAAA), NAAQS, and others. **Working closely with other branches within/outside planning when concerning new PMs from Federal Highways that affect AQ. 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, and awaiting further guidance from FHWA. 100% Complete**
- Monitor the new ozone standard taking effect fall 2017 and plan accordingly for transportation impacts should any occur. **Standard did not take effect until spring 2018, but have coordinated with proper agencies and staff to assist where needed. 100% Complete**
- Work with FHWA-KY to host biennial statewide air quality conference. **Changed to an AQ series of webinars to be hosted several times throughout 2018. 100% Complete**
- Coordinate special AQ/MOVES training when needed. **Planned and coordinated a series of 2018 AQ conference calls spread throughout 2018. Updates to EPA MOVES Model incorporated 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, MPA, and local government offices with the preparation of CMAQ applications including emission calculations and documentation. **Received no calls to help with CMAQ applications. 100% Complete**
- Other duties and special projects as assigned. **SHIFT, TF, Modeling, GHG Inventory for Louisville, write FHWA application for Alternative fuels on behalf of KY. 100% Complete**



**CHAPTER 11**

Air Quality

**RESPONSIBLE UNIT**

Division of Planning  
 Multimodal Programs Branch  
 Air Quality Team

**PRODUCTS**

- Ozone and PM<sub>2.5</sub> regional conformity analysis as required for 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, Green House Gases/Cross Cutting (GHG/CC) as requested. **100% Complete**
- VIN/Fleet data for use with MOVES. **100% Complete**
- KYTC AQ website maintenance. **100% Complete**
- FHWA-KYTC AQ Biennial AQ Conference. **100% Complete**
- Emission calculations for CMAQ applications. **100% Complete**

**DISTRIBUTION OF ESTIMATED COST FOR 2017-2018**

	<b>2017-2018</b>	<b>Expended</b>	<b>Percent Expended</b>
<b>PERSONNEL</b>	<b>\$50,000</b>	<b>\$42,914</b>	<b>86%</b>
<b>OTHER</b>	<b>\$2,000</b>	<b>\$4</b>	<b>1%</b>
<b>TOTAL</b>	<b>\$52,000</b>	<b>\$42,918</b>	<b>83%</b>

**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 will collect data, plan, promote, and assist in the development of a multimodal and intermodal transportation system in Kentucky. The 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 Short Line 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 2017-2018

#### 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. **Received 10 applications. 100% Complete**
- Provide staff support for the Water Transportation Advisory Board. **Held 2 meetings in FY 18. 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 developed public riverports and attended KAR meetings as requested. 100% Complete**
- Actively participate on the AASHTO Standing Committee on Water Transportation (SCOWT) **Attended SCOWT conference calls and SCOWT Meeting in DC. 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. **No public Riverport 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 Plan as needed. **Gathered ideas for next Waterways Plan/Study. 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 18 Solicitation for projects issued at the end of FY 18. 21 total applications received. 50% Complete**
- Coordinate with Division of Right of Way to administer KRCSI projects as defined by the current budget bill. **FY 17 grants all transferred to RWU for administration and oversight. 100% Complete**

## CHAPTER 12

## Multimodal Freight Transportation

### RESPONSIBLE UNIT

Division of Planning  
Multimodal Programs Branch

### PROPOSED ACTIVITIES FOR 2017-2018 (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. **Updated as needed. 100% Complete**
- Update the KYTC Rail 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 Standing Committee on Rail Transportation (SCORT), American Railway Engineering and Maintenance-of-Way Association (AREMA), American Short Line & Regional Railroad Association (ASLRRA), and Kentucky Operation Lifesaver. **100% Complete**
- 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 many 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

- 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 by Carol Brent as needed. 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 Columbus, OH, ITTS Peer Conference in Pittsburg, PA, and ITTS Freight in the Southeast Conference in St. Louis. 100% Complete**
- Visit intermodal sites and communicate with rail, water, 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**
- Update information for FHWA Intermodal Connectors as needed. **Updated by Carol Brent as needed. 100% Complete**
- Update the State Freight Plan to be FAST Act compliant. **Approved by FHWA on 12/4/2017. 100% Complete.**
- Update the KY Freight Modes book, as needed. **100% Complete**

## CHAPTER 12

## Multimodal Freight Transportation

### RESPONSIBLE UNIT

Division of Planning  
Multimodal Programs Branch

### PROPOSED ACTIVITIES FOR 2017-2018 (continued)

- Review draft procedure and perform analysis for Freight Performance Measures. **Attended FHWA Performance Measures Workshop. 100% Complete**
- 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 SHOFT 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. **Held 1 meeting in FY 18. 100% Complete**
- Designate and maintain Critical Urban Freight Corridor and Critical Rural Freight Corridor networks, per FAST Act guidance. **Worked with MPOs for CUFC updates to NHFN. 100% Complete**
- Designate and maintain Critical Rural Freight Facilities, per FAST Act guidance. **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. **Did not complete fiscally constrained plans for FBP funds. 50% 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. **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**

**CHAPTER 12**

Multimodal Freight Transportation

**RESPONSIBLE UNIT**

Division of Planning  
Multimodal Programs Branch

- Contracts and guidance for KRCSI **100% Complete**
- 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 2017-2018**

	<b>2017-2018</b>	<b>Expended</b>	<b>Percent Expended</b>
<b>PERSONNEL</b>	<b>\$225,000</b>	<b>\$158,113</b>	<b>71%</b>
<b>OTHER</b>	<b>\$100,000</b>	<b>\$7,541</b>	<b>8%</b>
<b>TOTAL</b>	<b>\$325,000</b>	<b>\$165,654</b>	<b>51%</b>

**ESTIMATED OUTSOURCING EXPENSES AND PURCHASES**

**Other**

- \$40,000 Mid America Freight Coalition, a MAASHTO subcommittee paid as a pooled fund\* study **100% Complete**
- \$40,000 Institute for Trade and Transportation Studies, a SAASHTO subcommittee paid as a pooled fund\* study. Renews in FY2018 with 3 year commitment (FY2018 – 2020) **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 \$50,000) **100% Complete**

\* Expenses paid via KYTC Research Arm/Innovation Engineer.

## CHAPTER 13

### Traffic Data Forecasting Statewide Traffic Model

#### 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 traffic models (KySTM) are updated and maintained. Data is collected, processed, and assembled for determining route location or relocation, selecting among alternate routes, or as input into KySTM.

#### PROPOSED ACTIVITIES FOR 2017-2018

##### Traffic Forecasting- Reports, Studies, and Analysis

- Prepare traffic estimates for planning studies, design projects, maintenance, and other purposes, as requested and/or needed. **Received 31 traffic forecast requests and 28 completed. 100% Complete**
- Administer statewide traffic forecasting contracts. Provide quality review for traffic projections prepared by the MPOs and consultants. **Provided quality review for 4 forecasting projects prepared by Districts as part of their design contract and 8 by Central Office Planning as part of their planning contracts. 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. Provided a monthly report to all District and Design end users of forecasts. 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. ESAL 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. **Provided factors for HPMS in May 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 were held during the year. 100% Complete**
- Provide support to Division of Highway Design in implementation of new Mechanical Pavement Design Guide (MEPDG). **Created new Pavement Design Form with Highway Design 100% Complete**

##### Modeling- Reports, Studies, and Analysis

- Administer statewide modeling contracts. Provide quality review for models prepared by the MPOs and consultants. **Administered 3 contracts during the year 100% Complete**
- Maintain databases tracking traffic models, traffic modeling parameters, model use, and archive status. Make databases available to users. **16 Modeling projects initiated during the year 100% Complete**

## CHAPTER 13

### Traffic Data Forecasting Statewide Traffic Model

#### RESPONSIBLE UNIT

Division of Planning  
Multimodal Programs Branch  
Forecasting and Modeling Team

#### PROPOSED ACTIVITIES FOR 2017-2018 (continued)

- Create, publish, and email monthly Traffic Model Status Report. Update Model milestone dates in status report, at least monthly. **Reports made available monthly 100% Complete**
- Create, publish, and email monthly Traffic Data and Model Sharing Agreements Status Report. Update Sharing Status milestone dates in status report, at least monthly. **Database maintained and reports made available monthly 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. **Completed Phase I to update the Statewide Model Freight and Network components. 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 Travel Demand Models. Research other available data sources. Evaluate benefit/cost of purchased data and TDM improvements. **100% Complete**
- Participate in Traffic Model Users Group and TransCAD workshop for traffic forecasters and traffic modelers composed of members from government, academia, and the private sector. **100% Complete**
- Participate in Caliper workshops and Model Users Groups held at adjacent states or local agencies and foster a peer exchange with such agencies regarding statewide model and regional models. **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 or recommended. **100% Complete**
- Further review and propose improved freight assignment in models. **100% Complete**
- Explore options to improve zone-splitting in 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 Traffic Model Status Report **100% Complete**
- Monthly Traffic Data and Model Sharing Status Report **100% Complete**



**CHAPTER 13**

Traffic Data Forecasting  
 Statewide Traffic Models

**RESPONSIBLE UNIT**

Division of Planning  
 Multimodal Programs Branch  
 Forecasting and Modeling Team

**PRODUCTS (continued)**

- Project Development coordination regarding models and forecasts **100% Complete**
- Traffic forecast factors for HPMS **100% Complete**
- Updated tools for consultants and District (e.g. ESAL Calculator, travel-time data, look-up tables) **100% Complete**
- Develop, as needed, Travel Demand Models such as:
  - ♦ County or highway district area macro models **100% Complete**
  - ♦ Corridor and small area micro-simulation models **100% Complete**
  - ♦ Continued validation and calibration of new and existing models **100% Complete**

**DISTRIBUTION OF ESTIMATED COST FOR 2017-2018**

	<b>2017-2018</b>	<b>Expended</b>	<b>Percent Expended</b>
<b>PERSONNEL</b>	<b>\$450,000</b>	<b>\$356,182</b>	<b>80%</b>
<b>OUTSOURCED PERSONNEL</b>	<b>\$220,000</b>	<b>\$185,931</b>	<b>85%</b>
<b>OTHER</b>	<b>\$5,000</b>	<b>\$250</b>	<b>5%</b>
<b>TOTAL</b>	<b>\$675,000</b>	<b>\$542,363</b>	<b>81%</b>

**ESTIMATED OUTSOURCING EXPENSES AND PURCHASES****Outsourcing**

- \$160,000 for updates to the Statewide model (\$90,000 needed in FY 2019 to complete model update)
- \$60,000 for 2015 & 2016 Link level speed data

**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 Team will coordinate and manage the state's Pedestrian and Bicycle Program within the Kentucky Transportation Cabinet, coordinate associated efforts, and work with other State Cabinets and organizations to further the programs mission and work. The team will work to expand active transportation opportunities in Kentucky by maximizing 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. The Team will provide assistance to state agencies, local governments, and other groups as requested. This assistance will be in the form of technical advice, development 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 within proposed and ongoing highway projects, local roadway projects, and other associated bicycle and pedestrian projects. The Bicycle and Pedestrian Coordinator will also act as secretariat for the Kentucky Bicycle and Bikeway Commission (KBBC).

The Pedestrian and Bicycle Program Team will coordinate and partner with the Cabinet for Tourism, Arts and Heritage, the Kentucky 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 will coordinate with them, regarding Scenic Byways, Transportation Alternatives, Recreational Trail Programs, and CMAQ programs.

### PROPOSED ACTIVITIES FOR FY 2018

#### 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. **The Team worked with 1 MPO (Owensboro) and 25 other local governments to update or create new master plans for bicycle and pedestrian travel and facilities. 100% Complete**
- Participate in the KYTC Strategic Highway Safety Plan update and implementation. Pedestrian and Bicycle Safety are now stand-alone sections. **The Team helped to develop and implement the bicycle and pedestrian portion of the long term highway safety plan. Currently this plan is being implemented. 100% Complete**
- Participate in FHWA Pedestrian Fatality Focus Study for Louisville and Kentucky. **The Team attended two conference calls for this study. 100% Complete**
- Assist with revision and updating of the US Bike Route Touring Network. Provide changes to the USBR system by submittal to AASHTO for approval. **The Team is worked with multiple organization, local governments, and the Highway District Offices to officially approve (through AASHTO) USBR 23 and USBR 21. 100% Complete**
- Review, revise, and update the Pedestrian and Bicycle Travel Policy, as needed. **The policy was reviewed; no updates needed at this time. 100% Complete**

## CHAPTER 14

## Bicycle and Pedestrian Program

### RESPONSIBLE UNIT

Division of Planning  
Multimodal Programs Branch

### PROPOSED ACTIVITIES FOR FY 2018 (continued)

- Create, update, and review procedures for tasks and work associated with developing or improving bikeways and walkways. The Team has improved the bicycle and pedestrian consideration review process and documentation. The Team has provided 15 consideration reviews for this time period and been involved as part of three project Teams. 100% Complete
- Act as Technical Liaison to municipalities to develop required ADA Transition Plans. The Team worked with 1 MPO (Owensboro) and 25 other local governments to improve or create plans for bicycle and pedestrian facilities. Material and resources were provided for ADA transition plans as associated with the pedestrian planning process. 100% Complete

#### Engineering and Projects

- Answer 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. The Team continues to coordinate with various LPA projects (6 detailed reviews completed) and with the TAP Program through the Office of Local Programs to improve and maintain bike/ped facility projects. 100% Complete
- Review and comment on requests for signage or other options to recognize bike/ped facilities or on-road bicycle routes. The Team has provided recommendations (5 communities) for Share the Road and other appropriate bicycle travel signage (and pavement markings). The Team provided recommendations for several pedestrian travel warning signs and placements for appropriate marked crosswalks. 100% Complete
- Review the list of proposed resurfacing projects for opportunities as part of Maintenance activities to improve bike/ped facilities through restriping and other improvements. Review for considerations with local bike/ped plans where appropriate. The Team has 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
- Provide bike/ped accommodation considerations within traffic forecast, planning study, and other Project Development reports. The Team has improved the bicycle and pedestrian consideration review process and documentation. The Team has provided 15 consideration reviews for this time period and been involved as part of three project Teams. 100% Complete
- Develop/update and standardized coordination protocols with HDO, Maintenance, Traffic Operations, Design, and Planning concerning the Share the Road (STR) sign placement procedures. The Team has provided recommendations (15 communities) for Share the Road and other appropriate bicycle travel signage (and pavement markings). The Team has improved on the recommended sign placement PDF maps and the 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. The Biker/Ped Team coordinated the KY Transportation Center's (KTC) and ADD's collection of the data for a GIS database of bike/ped facilities within state right of way. The ADD collection efforts provide bike/ped facility data for all roadways within city boundaries, then QA/QC'd KTC data. This data is displayed and available via online interactive maps. 100% Complete

## CHAPTER 14

## Bicycle and Pedestrian Program

### RESPONSIBLE UNIT

Division of Planning  
Multimodal Programs Branch

### PROPOSED ACTIVITIES FOR 2017-2018 (continued)

- Coordinate to identify and obtain federal, state, local, or private funds available to the Cabinet. **The Team continues to partner with the State Health Department to secure CDC (Federal) funds for community planning workshops and additional resource materials. Other funds will be identified and pursued as appropriate and available. 100% Complete**

#### **Education & Enforcement**

- Provide technical training including bike/ped best practices and design for planners, designers, local government staff, and other KYTC staff (statewide) as needed and appropriate. **The Team provided and attended several planning/design workshops this past year (3). 100% Complete**
- Facilitate education of the public regarding non-motorized modes of transportation, as opportunity arises. Provide educational brochures and other resources to local government offices, bike shops, health departments, and other related groups. **The Team successfully migrated all planning and education materials to the new Bike/Walk web pages. The Team has updated the resource materials for bike/ped travel planning, as well as the laws and rules of the road for bike/ped travel (online brochure). 100% Complete**
- Work with local 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. **The Team has provided material and coordinated with several local law enforcement agencies (4), the Eastern KY University Criminal Justice College, and KY State Police. 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 Bike/Ped Team responded to 9 different letters or emails that were sent to upper management specifically related to bicycling or pedestrian planning and travel concerns in KY. The team response to an average of 25 emails a day for this purpose as well. 100% Complete**
- Develop and maintain a clearinghouse of information concerning active transportation for CO Divisions, ADDs, MPOs, and the local government. **The team updates the website and other data resources for this purpose every month. 100% Complete**
- Maintain [www.bikewalk.ky.gov](http://www.bikewalk.ky.gov) website. **The Team continues to maintain and update 10 pages on the KYTC web site associated with the Bike/Ped program and bike/ped travel. The switch to a new web software system and web platform is complete. 100% Complete**

#### **Kentucky Bicycle and Bikeways Commission (KBBC)**

- Plan quarterly KBBC meetings. **The Team coordinated and conducted 4 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. **The Team coordinated and planned the 2017 end of year KBBC Annual Conference in Louisville, KY at the Parklands. 100% Complete**
- Prepare agenda before each KBBC meeting and minutes after each KBBC meeting. **100% Complete**

**CHAPTER 14**

Bicycle and Pedestrian Program

**RESPONSIBLE UNIT**

Division of Planning  
Multimodal Programs Branch

**PROPOSED ACTIVITIES FOR 2017-2018 (continued)**

- Assist KBBC on communications and technical matters. The Team answered over 500 emails and calls associated with the KBBC. **The Team worked with the KYTC Office of Audits and KBBC Treasurer to complete the necessary yearly financial audit associated with the Share the Road License Plates funds. 100% Complete**
- Assist in administering the Paula Nye Education Grant program. **The Team worked with 11 different organizations to processes and reviewed 14 different 2017 Paula Nye Grant applications. The agreement contracts for awarded grants have been processed and received (and kept on record). 100% Complete**

**PRODUCTS**

- Guidance for local and regional bike/ped master plans. **Updated and 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. **Updated and 100% Complete**
- Bike/ped brochures and promotional materials. **Updated and 100% Complete**
- Bike/ped technical training courses. **5 training workshops were held this year. 100% Complete**
- Walkability/Bikeability Audits. **5 walkability audits were conducted and 3 bikeability audits were done. 100% Complete**
- Quarterly and annual KBBC meetings. **All meetings and all required materials/documents 100% Complete**
- Nye Grant status reports. **Master reporting document has been updated with all of the appropriate organizations required accounting and other materials. 100% Complete.**
- KYTC Bike/Walk web pages. **Web pages current and future (new) web pages have been 100% Complete**

**DISTRIBUTION OF ESTIMATED COST FOR FY 2018**

	<b>2017-2018</b>	<b>Expended</b>	<b>Percent Expended</b>
<b>PERSONNEL</b>	<b>\$150,000</b>	<b>\$149,437</b>	<b>100%</b>
<b>OUTSOURCED</b>	<b>\$0</b>	<b>\$7,928</b>	
<b>OTHER</b>	<b>\$110,000</b>	<b>\$2,329</b>	<b>3%</b>
<b>TOTAL</b>	<b>\$260,000</b>	<b>\$159,694</b>	<b>62%</b>

**CHAPTER 14**

Bicycle and Pedestrian Program

**RESPONSIBLE UNIT**

Division of Planning  
Multimodal Programs Branch

**ESTIMATED OUTSOURCING EXPENSES AND PURCHASES**

**Other**

- \$75,000 ADA Inventory
- \$10,000 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.
- \$5,000 Other Operational Cost -For items such as travel, mileage, equipment and other cost 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. It enhances and continues to update an evaluation process for prioritizing projects for consideration for inclusion in the Highway Safety improvement Program. It also conducts Road Safety Audit Reviews performing the necessary levels of evaluation to identify and develop a conceptual purpose and need statement of safety issues needs. It identifies and evaluates alternatives, generates project cost estimates and recommends phasing priorities where appropriate. The team oversees outsourced activities and works with the other Division and Agencies as needed to complete necessary tasks.

**PROPOSED ACTIVITIES FOR 2017-2018**

- 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 public involvement.
- Evaluate identified needs District wide/Statewide to assist in prioritizing projects for programming in the Highway Safety Improvement Program.

**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 2017-2018**

	<b>2017-2018</b>	<b>Expended</b>	<b>Percent Expended</b>
<b>PERSONNEL</b>	<b>\$500,000</b>	<b>\$407,492</b>	<b>82%</b>
<b>OTHER</b>	<b>\$0</b>	<b>\$1,237</b>	
<b>TOTAL</b>	<b>\$500,000</b>	<b>\$408,729</b>	<b>82%</b>

**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	Design Cost	R/W Cost	Utility Cost	Const. Cost	REMARK
01	MCCRACKEN	KY 1954	0.000	3.040	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 1954 FROM KY 348 TO 0.085 MI SOUTH OF KY 3075. (2014BOP)	01-09002	\$1,883,630				\$1,883,630	
01	MCCRACKEN	US 45X	2.230	2.330	UPDATE STRIPING, CROSSWALKS, AND PAVEMENT MARKINGS, RECONSTRUCT SIDEWALK RAMPS, AND RECONSTRUCT CURB LINES TO REDUCE PAVEMENT WIDTH ALONG APPROACHES AT INTERSECTION OF US 45X AND JEFFERSON STREET. (2016BOP)	01-09004.10	\$88,733				\$88,733	
01	MCCRACKEN	US 60	11.000	11.150	INSTALL DUAL RED SIGNAL HEADS AND REFLECTIVE BACKPLATES, CONSTRUCT RIGHT TURN LANE ALONG EB US 60, UPDATE STRIPING, CROSSWALKS, PAVEMENT MARKINGS, AND RECONFIGURE ENTRANCE NEAR INTERSECTION OF US 60 AND FRIEDMAN LN. (2016BOP)	01-09004.20	\$190,000				\$190,000	
01	MCCRACKEN	US 45X	10.194	10.333	INSTALL REFLECTIVE BACKPLATES, RESURFACE ALL FOUR APPROACH LEGS, AND RECONFIGURE AND RESTRIPE THRU AND TURNING LANES, AND UPDATE SIGNING AT INTERSECTION OF US 45 AND BROADWAY STREET. (2016BOP)	01-09004.30	\$175,364				\$175,364	
01	GRAVES	US 45X	26.785	27.165	INSTALL AN INTERSECTION CONFLICT WARNING SYSTEM AND UPDATE STRIPING AND SIGNING AT INTERSECTION OF US 45 AND KY 849. (2016BOP)	01-09004.40	\$255,637				\$255,637	
01	CALLOWAY	US 641	7.092	7.220	REMOVE EXISTING RIGHT TURN SLIP RAMP AND CONSTRUCT RIGHT TURN LANE ALONG NB US 641, INSTALL REFLECTIVE BACKPLATES, AND RECONSTRUCT SIDEWALK RAMPS AT THE INTERSECTION OF US 641 AND KY 821. (2016BOP)	01-09004.50	\$195,000				\$195,000	
01	CRITTENDEN	US 60	15.647	23.018	PERFORM LOW COST SAFETY IMPROVEMENTS ON US 60 FROM KY 654 (MP 15.647) TO THE CRITTENDEN/UNION COUNTY LINE (MP 23.018). (2016BOP)	01-09005	\$2,208,150				\$2,208,150	
01	CALLOWAY	US 641			PERFORM LOW COST SAFETY IMPROVEMENTS ON US 641 BEGINNING AT MP 0.498 AND ENDING AT MP 3.556 IN CALLOWAY COUNTY. (2016BOP)	01-09006	\$1,391,780				\$1,391,780	
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	\$85,000		\$25,000	\$60,000		
01	VARIOUS	VARIOUS			PRELIMINARY DESIGN AND STUDY TO DETERMINE LOW COST IMPROVEMENTS AT VARIOUS INTERSECTIONS WITHIN DISTRICT 1. (2016BOP)	01-09008	\$150,000	\$150,000				
01	MARSHALL	US 62	0.000	7.200	PERFORM LOW COST SAFETY IMPROVEMENTS ALONG US 62 BETWEEN MP 0.000 AND MP 7.200 IN MARSHALL COUNTY, KY.	01-09009	\$275,000	\$275,000				
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	\$295,000	\$10,000			\$285,000	
02	HENDERSON	VARIOUS			REPLACE TURNDOWN END TREATMENTS ON VARIOUS ROUTES LOCATED IN DISTRICT 2 ALONG KY-425, US-41, US-41A, US-60 IN HENDERSON CO, AND KY-54 IN DAVIESS CO, KY. (2014BOP)	02-00989	\$36,000				\$36,000	THIS MOD. PROVIDES ADDITIONAL CONSTRUCTION FUNDS TO COVER CHANGE ORDER #1 (\$13,960.80), DGA BASE AND ENGINEERING.
02	OHIO	KY 54	0.000	6.018	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 54 FROM THE DAVIESS/OHIO COUNTY LINE TO KY 69. (2014BOP)	02-09002	\$67,128				\$67,128	THIS MOD. PROVIDES ADDITIONAL CONSTRUCTION FUNDS TO COVER CHANGE ORDER #1 (\$139,504.16), HEADWALL ADJUSTMENTS, SAFETY BOX INLET, CULVERT PIPE AN OTHER ITEMS.
02	VARIOUS	VARIOUS			INTERSECTION IMPROVEMENTS AT VARIOUS LOCATIONS IN DAVIESS, HENDERSON, AND MCLEAN COUNTIES LOCATED IN DISTRICT 2. (2014BOP)	02-09004	\$60,000	\$60,000				THIS MODIFICATION PROVIDES ADDITIONAL DESIGN FUNDS. TJ
02	HENDERSON	US 41A	17.181	17.281	RECONSTRUCT AND CLOSE OFF THE CONCRETE MEDIAN AND UPDATE THE STRIPING AND SIGNING AT THE INTERSECTION OF US 41A & RICHARDSON AVE. (2016BOP)	02-09004.30	\$18,000				\$18,000	
02	MCLEAN	US 431	2.600	3.100	UPDATE THE STRIPING/PAVEMENT MARKINGS AND INSTALL GUARDRAIL DELINEATORS NEAR THE INTERSECTION OF US 431 & KY 85. (2016BOP)	02-09004.40	\$25,000				\$25,000	
02	HENDERSON	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. (2016BOP)	02-09004.50	\$19,000				\$19,000	
02	HENDERSON	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 & WASHINGTON ST. (2016BOP)	02-09004.60	\$19,000				\$19,000	
02	OHIO	US 231	1.810	6.590	PERFORM LOW COST SAFETY IMPROVEMENTS ON US 231 FROM KY 505 (MP 1.810) TO CR 1610 (MP 6.590). (2016BOP)	02-09005	\$1,390,470				\$1,390,470	
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	\$70,000		\$20,000	\$50,000		
02	VARIOUS	VARIOUS			PRELIMINARY DESIGN AND STUDY TO DETERMINE LOW COST IMPROVEMENTS AT VARIOUS INTERSECTIONS WITHIN DISTRICT 2.	02-09008	\$150,000	\$150,000				
02	HENDERSON	US 41	0.200	0.300	MILL, RESURFACE, AND UPDATE THE STRIPING, PAVEMENT MARKINGS, AND SIGNING AT THE INTERSECTION OF US 41 & KY 2097.	02-09008.40	\$56,000				\$56,000	
02	UNION	KY 130	9.850	15.060	PERFORM LOW COST SAFETY IMPROVEMENTS ALONG KY 130 BETWEEN MP 9.850 AND MP 15.060 IN UNION COUNTY, KY.	02-09009	\$275,000	\$275,000				
05	METCALFE	US 68	10.470	19.553	MINOR SHOULDER WIDENING ON US 68 FROM MP 10.470 TO MP 19.553 IN METCALFE COUNTY. (2016BOP)	03-00926	\$2,333,650				\$2,333,650	



Dist	County	Roadway	BMP	EMP	Description	Item No.	Total Cost	Design Cost	R/W Cost	Utility Cost	Const. Cost	REMARK
03	BARREN	US 31E	0.000	6.700	GUARDRAIL END TREATMENT UPGRADES ON US 31E FROM MP 0.00 TO MP 6.7 IN BARREN COUNTY.	03-00927	\$910,681				\$910,681	
03	BARREN	US 31E	6.700	17.200	GUARDRAIL END TREATMENT UPGRADES ON US 31E FROM MP 6.7 TO MP 17.2 IN BARREN COUNTY.	03-00928	\$705,650				\$705,650	
03	BARREN	US 68	0.000	18.883	GUARDRAIL END TREATMENT UPGRADES ON US 68 FROM MP 0.000 TO MP 18.883 IN BARREN COUNTY. (2016BOP)	03-00929	\$253,980				\$253,980	
03	SIMPSON	KY 100	0.000	8.375	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 100 FROM LOGAN-SIMPSON CO. LINE TO ALLEN ROAD (MP 8.375) IN SIMPSON COUNTY, KY. (2014BOP)	03-09008	\$1,002,100				\$1,002,100	
03	WARREN	VARIOUS			INTERSECTION IMPROVEMENTS AT VARIOUS LOCATIONS IN WARREN COUNTY LOCATED IN DISTRICT 3. (2014BOP)	03-09010	\$85,000	\$85,000				THIS MODIFICATION PROVIDES ADDITIONAL DESIGN FUNDS FOR THE PROJECT. LC
03	WARREN	US 31W	13.600	13.820	INSTALL REFLECTIVE BACKPLATES AND UPDATE SIGNING AND STRIPING AT INTERSECTION OF US 31W AND FAIRVIEW AVE/CEMETERY RD. (2016BOP)	03-09010.10	\$18,000				\$18,000	
03	WARREN	US 68	9.150	9.500	INSTALL REFLECTIVE BACKPLATES AND DOUBLE RED SIGNAL HEADS, ADJUST ENTRANCE, AND UPDATE STRIPING AND SIGNING AT INTERSECTION OF RUSSELLVILLE RD AND CAMPBELL LN. (2016BOP)	03-09010.20	\$21,000				\$21,000	
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	\$149,000				\$149,000	
03	WARREN	US 31W	10.450	10.650	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	\$138,000				\$138,000	
03	WARREN	US 31W	13.362	13.462	INSTALL REFLECTIVE BACKPLATES AND SUPPLEMENTAL SIGNAL HEADS, AND UPDATE A PEDESTRIAN SIGNAL HEAD AT THE INTERSECTION OF US 31W & LEHMAN AVE. (2016BOP)	03-09010.50	\$22,000				\$22,000	
03	WARREN	US 231	10.405	10.505	INSTALL REFLECTIVE BACKPLATES AT THE INTERSECTION OF US 231 & CAMPBELL LN/LOVERS LN. (2016BOP)	03-09010.60	\$19,000				\$19,000	
03	WARREN	US 231	9.407	9.507	INSTALL REFLECTIVE BACKPLATES AND SUPPLEMENTAL SIGNAL HEADS AT THE INTERSECTION OF US 231 & THREE SPRINGS RD. (2016BOP)	03-09010.70	\$20,000				\$20,000	
03	WARREN	US 231	8.752	8.902	INSTALL REFLECTIVE BACKPLATES AND UPDATE THE SIGNING AT THE INTERSECTION OF US 231 & CUMBERLAND TRACE. (2016BOP)	03-09010.80	\$18,000				\$18,000	
03	WARREN	US 31W	11.688	11.882	ADJUST THE CONFIGURATION AND SLIGHTLY MODIFY THE SHAPE OF THE ROUNDABOUT, AND UPDATE THE SIGNING AND STRIPING AT THE INTERSECTION OF US 31W & UNIVERSITY BLVD. (2016BOP)	03-09010.90	\$30,000				\$30,000	
03	BARREN	KY 63	6.344	13.171	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 63 FROM CR 1186 (MP 6.344) TO LN 9008 UNDERPASS (MP13.171). (2016BOP)	03-09011	\$335,000		\$170,000	\$165,000		
03	VARIOUS	VARIOUS			PRELIMINARY DESIGN AND STUDY TO DETERMINE LOW COST IMPROVEMENTS AT VARIOUS INTERSECTIONS WITHIN DISTRICT 3. (2016BOP)	03-09013	\$205,000	\$205,000				
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	\$275,000	\$275,000				
04	NELSON	KY 49	4.520	9.442	MINOR SHOULDER WIDENING ON KY 49 FROM MP 4.520 TO MP 9.442 IN NELSON COUNTY.	04-00938	\$13,720				\$13,720	THIS MOD. PROVIDES ADDITIONAL CONSTRUCTION FUNDS TO COVER CHANGE ORDER #1 (\$56,700.00) DROP BOX INLET, CULVERT PIPE, CHANNEL LINING.
04	HARDIN	KY 316	6.500	6.900	INTERSECTION IMPROVEMENTS AT KY 361 (MP 6.50) AND DECKARD SCHOOL ROAD (CR-1073) IN HARDIN COUNTY, KY.	04-00986	\$17,000				\$17,000	THIS MOD. PROVIDES ADDITIONAL CONSTRUCTION FUNDS TO COVER CHANGE ORDER #1 (\$15,498.60), ASPHALT SURFACE, EROSION CONTROL BLANKET AND EDGE KEY.
04	HARDIN	VARIOUS			INTERSECTION IMPROVEMENTS AT VARIOUS LOCATIONS IN HARDIN, NELSON, AND TAYLOR COUNTIES LOCATED IN DISTRICT 4. (2014BOP)	04-09003	\$49,000				\$49,000	THIS MODIFICATION PROVIDES \$49,000.00 OF HSIP CONSTRUCTION FUNDS TO COVER KYTC INSTALL ITEMS ON THE PROJECT. (\$31,250 - 9158701C, \$17,750 - 9158702C) LC
04	NELSON	US 62	20.141	27.006	PERFORM LOW COST SAFETY IMPROVEMENTS ON US 62 FROM KY 1858 (MP 20.141) TO CS 4021 (MP 27.006). (2016BOP)	04-09004	\$1,528,800				\$1,528,800	
04	GRAYSON	US 62	25.659	30.239	PERFORM LOW COST SAFETY IMPROVEMENTS ON US 62 BEGINNING AT MP 25.659 AND ENDING AT MP 30.239 IN GRAYSON COUNTY. (2016BOP)	04-09005	\$1,499,291		\$125,000	\$100,000	\$1,274,291	
04	VARIOUS	VARIOUS			PRELIMINARY DESIGN AND STUDY TO DETERMINE LOW COST IMPROVEMENTS AT VARIOUS INTERSECTIONS WITHIN DISTRICT 4.	04-09006	\$150,000	\$150,000				
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	\$125,000	\$125,000				
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	\$450,000	\$450,000				

Dist	County	Roadway	BMP	EMP	Description	Item No.	Total Cost	Design Cost	R/W Cost	Utility Cost	Const. Cost	REMARK
05	JEFFERSON	I 65	135.380	135.700	INSTALL HIGH FRICTION SURFACE ON I-65 MAINLINE THROUGH "HOSPITAL CURVE" AND INSTALL LINEAR DELINEATION PANELS ON CENTER AND OUTSIDE BARRIER WALLS.	05-00929	\$145,381				\$145,381	
05	VARIOUS	VARIOUS			HORIZONTAL ALIGNMENT SIGNING ON VARIOUS ROUTES IN BULLITT, FRANKLIN, JEFFERSON, AND TRIMBLE COUNTIES IN DISTRICT 5. (2016BOP)	05-00931	\$360,000				\$360,000	
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	\$1,353,140	\$17,000			\$1,336,140	
05	JEFFERSON	VARIOUS			INTERSECTION IMPROVEMENTS AT VARIOUS LOCATIONS IN JEFFERSON COUNTY LOCATED IN DISTRICT 5. (2014BOP)	05-09010	\$150,000	\$150,000				
05	JEFFERSON	KY 61	7.245	7.445	RECONSTRUCT RADIUS FOR RIGHT TURN FROM GRADE LANE TO SB KY 61, RECONSTRUCT SIDEWALK RAMPS, REBUILD TRAFFIC SIGNAL, AND UPDATE SIGNING, STRIPING, AND PAVEMENT MARKINGS AT INTERSECTION OF KY 61 AND GRADE LANE. (2016BOP)	05-09010.10	\$65,000		\$40,000	\$25,000		
05	JEFFERSON	KY 1065	0.936	1.121	CONSTRUCT RIGHT TURN LANES ALONG KY 1065, RECONSTRUCT SIDEWALK RAMPS, INSTALL PEDESTRIAN SIGNALS, AND UPDATE SIGNING, STRIPING, AND PAVEMENT MARKINGS AT THE INTERSECTION OF KY 1065 AND KY 1865. (2016BOP)	05-09010.30	\$166,000		\$16,000	\$150,000		
05	JEFFERSON	US 31W	5.216	5.366	CONSTRUCT SIDEWALKS AND SIDEWALK RAMPS, AND UPDATE SIGNING, STRIPING, AND PAVEMENT MARKINGS AT INTERSECTION OF US 31W AND PENDLETON ROAD. (2016BOP)	05-09010.50	\$15,000		\$15,000			
05	SHELBY OLDHAM	KY 53	10.040 0.000	19.609 2.650	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 53 BEGINNING AT MP 10.040 IN SHELBY COUNTY AND EXTENDING TO MP 2.65 IN OLDHAM COUNTY. (2016BOP)	05-09012	\$200,000	\$200,000				THIS MODIFICATION PROVIDES ADDITIONAL DESIGN FUNDS FOR THE PROJECT. LC
05	VARIOUS	VARIOUS			PRELIMINARY DESIGN AND STUDY TO DETERMINE LOW COST IMPROVEMENTS AT VARIOUS INTERSECTIONS WITHIN DISTRICT 5. (2016BOP)	05-09013	\$150,000	\$150,000				
05	HENRY	I 71	30.600	38.086	INSTALL CABLE MEDIAN BARRIER ON I-71 IN HENRY AND TRIMBLE COUNTIES. (2016BOP)	05-09014	\$50,000	\$50,000				
05	JEFFERSON	VARIOUS			KYTC-LOUISVILLE METRO JOINT ROADWAY SAFETY PLAN FOR ALL PUBLIC ROADS IN THE LOUISVILLE METRO AREA. (2018BOP)	05-09015	\$500,000	\$500,000				
06	CAMPBELL	KY 2345	2.050	2.350	PAVEMENT REPAIRS ON KY 2345 FROM 0.041 MILE NORTH OF WESLEY DRIVE (MP 2.050) TO 0.183 MILE NORTH OF SENTINAL DRIVE (MP 2.350).	06-00924	\$10,000				\$10,000	THIS MOD. PROVIDES ADDITIONAL CONSTRUCTION FUNDS TO COVER CHANGE ORDER #2 (\$21,420.35) ASPHALT SURFACE, DGA BASE, LEVELING & WEDGING.
06	BRACKEN	KY 22	0.000	4.387	MINOR SHOULDER WIDENING FROM THE PENDLETON/BRACKEN COUNTY LINE (MP 0.00) TO KY 10 (MP 4.387) IN BRACKEN COUNTY.	06-00935	\$30,000				\$30,000	THIS MOD. PROVIDES ADDITIONAL CONSTRUCTION FUNDS TO COVER CHANGE ORDER #1 (\$41,440.00), SHOULDER RMBLE STRIPS, DROP BOX INLET, EROSION CONTROL.
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	\$75,000		\$75,000			
06	BOONE	US 25	7.593	7.693	UPDATE SIGNAL HEADS TO INCLUDE REFLECTIVE BACKPLATES AT THE INTERSECTION OF US 25 AND KY 536. (2016BOP)	06-09013.10	\$48,321				\$48,321	
06	BOONE	US 25	9.050	9.410	STRIPING UPDATES, INCLUDING NEW PEDESTRIAN SIGNALS, AND RECONSTRUCT THE SIDEWALK RAMPS AT THE INTERSECTION OF US 25 AND KY 1829. (2016BOP)	06-09013.20	\$207,845				\$207,845	
06	KENTON	KY 17	23.562	23.740	STRIPING AND SIGNING UPDATES ALONG KY 17 BETWEEN EAST 6TH ST AND EAST 4TH ST, AND MINOR ACCESS CONTROL AT INTERSECTION OF KY 17 AND EAST 4TH ST. (2016BOP)	06-09013.30	\$68,540				\$68,540	
06	KENTON	KY 1120	0.690	0.800	STRIPING AND SIGNING UPDATES ALONG KY 1120 BETWEEN THE SB KY 17 ONE-WAY COUPLET AND NB KY 17. (2016BOP)	06-09013.40	\$40,161				\$40,161	
06	KENTON	KY 371	3.115	3.320	STRIPING UPDATES AND INSTALL LANE SEPARATOR CURB ALONG KY 371, AND INSTALL REFLECTIVE BACKPLATES AT THE INTERSECTION OF KY 371 AND KY 2373. (2016BOP)	06-09013.50	\$92,380				\$92,380	
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	\$1,483,697	\$25,000			\$1,458,697	
06	VARIOUS	VARIOUS			PRELIMINARY DESIGN AND STUDY TO DETERMINE LOW COST IMPROVEMENTS AT VARIOUS INTERSECTIONS WITHIN DISTRICT 6. (2016BOP)	06-09017	\$150,000	\$150,000				
06	KENTON	KY 177	6.150	11.823	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 177 FROM MP 6.150 TO MP 11.823 IN KENTON COUNTY. (2016BOP)	06-09018	\$275,000	\$275,000				
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	\$56,500		\$56,500			
07	FAYETTE	KY 4	14.543	19.283	REPLACE TURNDOWN END TREATMENTS AND UPGRADE GUARDRAIL ALONG INNER LOOP OF NEW CIRCLE ROAD FROM NICHOLASVILLE ROAD TO NORTH EAST OF RICHMOND ROAD.	07-00937	\$85,000				\$85,000	THIS MOD. PROVIDES ADDITIONAL CONSTRUCTION FUNDS TO COVER CHANGE ORDER #1 (\$81,084.37) GUARDRAIL.

Dist	County	Roadway	BMP	EMP	Description	Item No.	Total Cost	Design Cost	R/W Cost	Utility Cost	Const. Cost	REMARK
07	FAYETTE	KY 1968	0.000	4.942	ROADSIDE IMPROVEMENTS ON KY 1968 IN FAYETTE COUNTY. (2016BOP)	07-00944	\$325,470				\$325,470	
07	BOYLE	KY 3366	0.000	2.055	INSTALLATION OF TRAFFIC SHEET SIGNS ON KY 3366 IN BOYLE COUNTY.	07-00949	-\$16,188				-\$16,188	THIS MODIFICATION ADJUSTS PREVIOUSLY AUTHORIZED CONSTRUCTION FUNDS TO COVER THE LOW BID PLUS 25% FOR ENGINEERING.
07	FAYETTE	US 25	10.801	11.735	ACCESS MANAGEMENT AND OFFSET TURN LANES ON US 25 FROM KY 4 (NEW CIRCLE RD) TO CS 3853 (SHRINERS LN).	07-09002	\$486,000				\$486,000	THIS AUTHORIZATION PROVIDES CONSTRUCTION FUNDS BASED ON THE CURRENT ESTIMATE PRIOR TO THE PROJECT BEING LET. LC
07	FAYETTE	VARIOUS			INTERSECTION IMPROVEMENTS AT VARIOUS LOCATIONS IN FAYETTE COUNTY LOCATED IN DISTRICT 7.	07-09003	\$70,000	\$70,000				THIS MODIFICATION PROVIDES ADDITIONAL DESIGN FUNDS (HSIP) FOR THE PROJECT. TJ
07	FAYETTE	US 25	9.634	9.834	RECONFIGURE THE MEDIAN NOSES, UPDATE THE SIGNING AND STRIPING, RECONSTRUCT THE SIDEWALK RAMPS, AND INSTALL A RIGHT TURN OVERLAP AT THE INTERSECTION OF US 25 AND MAN O WAR BLVD. (2016BOP)	07-09003.10	\$36,000				\$36,000	
07	FAYETTE	CS-2540	0.000	0.150	UPDATE THE SIGNAL TO INCLUDE REFLECTIVE BACKPLATES, AND UPDATE THE SIGNING, STRIPING, AND SIDEWALK RAMPS AT THE INTERSECTION OF PINK PIGEON PKWY AND MAN O WAR BLVD.(2016BOP)	07-09003.20	\$34,000				\$34,000	
07	FAYETTE	KY 1974	7.600	7.950	CROSS HATCH THE PAVED MEDIAN ALONG THE NB TATES CREEK RD APPROACH, UPDATE THE SIGNING, AND UPDATE THE SIGNAL TO INCLUDE REFLECTIVE BACKPLATES AT THE INTERSECTION OF TATES CREEK RD AND MAN O WAR. (2016BOP)	07-09003.30	\$29,000				\$29,000	
07	FAYETTE	CS-4524	14.950	15.200	ADD A SECOND LEFT TURN LANE ALONG WB MAN O WAR BLVD, AND UPDATE THE STRIPING, SIGNING, AND SIDEWALK RAMPS AT THE INTERSECTION OF MAN O WAR BLVD AND PLEASANT RIDGE DR. (2016BOP)	07-09003.40	\$261,000				\$261,000	
07	FAYETTE	US 27	5.100	5.200	EXTEND THE RIGHT-TURN LANE ON EB VIRGINIA AVE, UPDATE SIGNAL TO INCLUDE REFLECTIVE BACKPLATES, AND UPDATE STRIPING AT THE INTERSECTION OF US 27 AND VIRGINIA AVE. (2016BOP)	07-09003.50	\$81,000				\$81,000	
07	FAYETTE	US 27	4.650	4.720	UPDATE THE SIGNAL TO INCLUDE REFLECTIVE BACKPLATES, CONSTRUCT A BUS TURNOUT, AND UPDATE THE SIGNING AT THE INTERSECTION OF US 27 WITH WALLER AVE AND COOPER DR. (2016BOP)	07-09003.60	\$69,000				\$69,000	
07	MADISON	US 421	2.442	9.741	PERFORM LOW COST SAFETY IMPROVEMENTS ON US 421 FROM KY 21 (MP 2.442) TO KY 3376 (MP 9.741) IN MADISON COUNTY. (2016BOP)	07-09004	\$1,734,700				\$1,734,700	
06	VARIOUS	VARIOUS			PRELIMINARY DESIGN AND STUDY TO DETERMINE LOW COST IMPROVEMENTS AT VARIOUS INTERSECTIONS WITHIN DISTRICT 7.	07-09006	\$150,000	\$150,000				
07	MONTGOMERY	KY 11	3.928	9.131	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 11 FROM MP 4.022 TO MP 9.131 IN MONTGOMERY COUNTY. (2016BOP)	07-09007	\$275,000	\$275,000				THIS AUTHORIZATION PROVIDES INITIAL DESIGN FUNDS FOR THE PROJECT. LC
07	WOODFORD SCOTT FAYETTE	I 64	65.400	74.700	INSTALL CABLE MEDIAN BARRIER ON I-64 IN WOODFORD, SCOTT, AND FAYETTE COUNTIES. (2016BOP)	07-09008	\$50,000	\$50,000				
08	CASEY	US 127	13.800	13.900	SIGNAL REBUILD AT US 127 AND KY 70/KY 70X.	08-00941	\$29,200				\$29,200	THIS MODIFICATION ADJUSTS PREVIOUSLY AUTHORIZED CONSTRUCTION FUNDS TO COVER INSTALL ITEMS COST.
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	\$484,000		\$95,000	\$389,000		
08	RUSSELL	KY 76	7.000	7.700	REALIGN THE INTERSECTION OF KY 76 AND KY 80 (MP 7.0-7.7) IN RUSSELL COUNTY LOCATED IN DISTRICT 8.	08-09005	\$690,262				\$690,262	
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	\$1,657,700				\$1,657,700	
08	VARIOUS	VARIOUS			PRELIMINARY DESIGN AND STUDY TO DETERMINE LOW COST IMPROVEMENTS AT VARIOUS INTERSECTIONS WITHIN DISTRICT 8.	08-09008	\$150,000	\$150,000				
08	PULASKI	KY 70	3.535	11.960	PERFORM LOW COST SAFETY IMPROVEMENTS ALONG KY 70 BETWEEN MP 3.535 AND MP 11.960 IN PULASKI COUNTY, KY. (2016BOP)	08-09009	\$275,000	\$275,000				THIS AUTHORIZATION PROVIDES INITIAL DESIGN FUNDS FOR THE PROJECT. TJ
09	BOYD	KY 168			SIGNAL REBUILD AT KY 168 @ 29TH STREET IN BOYD COUNTY, KY.	09-00937	\$42,000				\$42,000	THIS MOD. PROVIDES ADDITIONAL CONSTRUCTION FUNDS TO COVER CHANGE ORDER #1 (\$27,098.00) MAST ARM POLES AND \$15,000 FOR ITEMS PROVIDED BY THE CABINET.
09	LEWIS	KY 8	14.689	14.988	INSTALL HIGH FRICTION SURFACE ON KY 8 THROUGH "DUGANS CURVE" FROM MP 14.689 TO MP 14.988 IN LEWIS COUNTY.	09-00940	\$11,510				\$11,510	THIS MODIFICATION PROVIDES CONSTRUCTION FUNDS TO COVER THE LOW BID PLUS 15% FOR ENGINEERING. LC
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	\$0					THIS MODIFICATION ADJUSTS PREVIOUSLY AUTHORIZED CONSTRUCTION FUNDS TO COVER THE LOW BID PLUS 10% FOR ENGINEERING.
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	\$0					THIS MOD. PROVIDES ADDITIONAL CONSTRUCTION FUNDS TO COVER CHANGE ORDER #2 (\$82,940.00) CONCRETE FORM LINER - POLYPROPYLENE BARRIER WALL, S&F BOX INLET & OUTLET, OTHER ITEMS.
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	\$310,000		\$310,000			

Dist	County	Roadway	BMP	EMP	Description	Item No.	Total Cost	Design Cost	R/W Cost	Utility Cost	Const. Cost	REMARK
09	BOYD	US 60	12.160	12.340	UPDATE AND MODIFY THE STRIPING AND PAVEMENT MARKINGS ALONG WINCHESTER AVE AND ITS APPROACHES FROM THE INTERSECTION WITH 13TH ST TO THE INTERSECTION WITH 12TH ST. (2016BOP)	09-09002.10	\$82,000				\$82,000	
09	ROWAN	KY 32	5.688	5.881	CONSTRUCTION OF RIGHT TURN LANES ALONG KY 32 AT THE INTERSECTION WITH PINECREST DR AND FRALEY DR. (2016BOP)	09-09002.20	\$218,380				\$218,380	
09	BOYD	US 23	19.015	19.205	STRIPING UPDATES AND CLOSING TWO MEDIAN CROSSOVERS ALONG US 23 NEAR THE INTERSECTION WITH TOWN CENTER DR. (2016BOP)	09-09002.40	\$38,200				\$38,200	
09	BOYD	US 60	11.739	11.915	STRIPING AND SIGNING UPDATES AND CLOSE ONE ENTRANCE ALONG THE WB US 60 ONE-WAY COUPLET BETWEEN MONTGOMERY AVE AND 13TH ST. (2016BOP)	09-09002.50	\$47,900				\$47,900	
09	GREENUP	US 23	0.247	0.342	RECONSTRUCT CONCRETE MEDIAN AND UPDATE STRIPING ALONG US 23 NEAR THE INTERSECTION WITH KY 693 AND UPDATE SIGNAL HEADS TO INCLUDE REFLECTIVE BACKPLATES. (2016BOP)	09-09002.60	\$45,000				\$45,000	
09	ROWAN	KY 32	8.228	8.398	INSTALL LANE SEPARATOR CURB ALONG KY 32 NEAR THE INTERSECTION WITH WEST MAIN ST. (2016BOP)	09-09002.70	\$52,950				\$52,950	
09	ROWAN	KY 32	8.545	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	\$1,585,000	\$40,000	\$10,000		\$1,535,000	
09	VARIOUS	VARIOUS			PRELIMINARY DESIGN AND STUDY TO DETERMINE LOW COST IMPROVEMENTS AT VARIOUS INTERSECTIONS WITHIN DISTRICT 9.	09-09007	\$150,000	\$150,000				
09	ROWAN	US 60	10.834	17.112	PERFORM LOW COST SAFETY IMPROVEMENTS ON US 60 FROM MP 10.834 TO MP 17.112 IN ROWAN COUNTY. (2016BOP)	09-09008	\$275,000	\$275,000				
10	VARIOUS	VARIOUS			INSTALLATION OF ENHANCED CURVE SIGNAGE ON VARIOUS ROUTES IN DISTRICT 10. (2014BOP)	10-00927	\$18,140				\$18,140	THIS MOD. PROVIDES ADDITIONAL CONSTRUCTION FUNDS TO COVER CHANGE ORDER #1 (\$18,140.00), TRAFFIC CONTROL.
10	MORGAN	KY 772	4.800	4.900	INTERSECTION AND SIGHT DISTANCE IMPROVEMENTS ON KY 772 AT KY 985 INTERSECTION (MP 4.8 - 4.9). (2014BOP)	10-00929	\$10,000			\$10,000		THIS MOD. PROVIDES ADDITIONAL UTILITY FUNDS TO COVER FINAL INVOICES. TJ
10	MORGAN	KY 772	4.800	4.900	INTERSECTION AND SIGHT DISTANCE IMPROVEMENTS ON KY 772 AT KY 985 INTERSECTION (MP 4.8 - 4.9). (2014BOP)	10-00929	\$5,000			\$5,000		THIS MOD. PROVIDES ADDITIONAL UTILITY FUNDS TO COVER ADDITIONAL INSPECTION COST. TJ
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	\$10,000		\$10,000			THIS MODIFICATION PROVIDES ADDITIONAL RIGHT OF WAY FUNDS. LC
10	POWELL	KY 9000	35.200	35.800	INSTALLATION OF HFS ON THE EASTBOUND LANES OF KY 9000 (MOUNTAIN PARKWAY) FROM MP 35.2 TO MP 35.8 IN POWELL COUNTY.	10-00938	\$90,000				\$90,000	THIS MOD. PROVIDES ADDITIONAL CONSTRUCTION FUNDS TO COVER CHANGE ORDER #1 (\$78,157.00) HIGH FRICTION SURFACE TREATMENT AND ENGINEERING.
10	POWELL	KY 11	0.000	3.598	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 11 FROM POWELL-WOLFE COUNTY LINE (MP 0.0) TO KY 15 (MP 3.598) IN POWELL COUNTY. (2016BOP)	10-09005	\$1,746,713				\$1,746,713	THIS MODIFICATION ADJUSTS PREVIOUSLY AUTHORIZED CONSTRUCTION FUNDS TO COVER THE LOW BID PLUS 10% FOR ENGINEERING.
10	BREATHITT	KY 15	8.976	9.376	INTERSECTION IMPROVEMENTS AT KY 15 (MP 8.976-9.376) AND KY 1110/FISH POND LOOP IN BREATHITT COUNTY, KY. (2016BOP)	10-09006	\$15,270				\$15,270	THIS MODIFICATION ADJUSTS PREVIOUSLY AUTHORIZED CONSTRUCTION FUNDS TO COVER THE LOW BID PLUS 15% FOR ENGINEERING.
10	ESTILL	KY 52	6.548	6.948	INTERSECTION IMPROVEMENTS AT KY 52 (MP 6.548-6.948) AND KY 499/SHADY LANE IN ESTILL COUNTY, KY. (2016BOP)	10-09007	-\$32,825				-\$32,825	THIS MODIFICATION ADJUSTS PREVIOUSLY AUTHORIZED CONSTRUCTION FUNDS TO COVER THE LOW BID PLUS 15% FOR ENGINEERING.
10	POWELL	KY 11	14.791	15.191	INTERSECTION IMPROVEMENTS AT KY 11 (MP 14.791-15.191) AND AIRPORT RD/WHITE AVE IN POWELL COUNTY, KY. (2016BOP)	10-09008	\$85,200				\$85,200	
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	\$500,000		\$300,000	\$200,000		
10	WOLFE	KY 15	9.365	9.565	INTERSECTION EMPHASIS; SAFETY IMPROVEMENTS AT THE INTERSECTION OF KY 15/KY 191 AND KY 155 IN WOLFE COUNTY, KY. (2016BOP)	10-09010	\$506,870	\$100,000			\$406,870	
10	WOLFE	KY 15	6.350	6.650	EXCAVATE ROCK CUT SLOPE TO IMPROVE INTERSECTION SIGHT DISTANCE, UPDATE CURVE DELINEATION, AND RESURFACE THE EXISTING PAVEMENT ON KY 15 IN WOLFE COUNTY, KY.	10-09011	\$233,354				\$233,354	
10	VARIOUS	VARIOUS			PRELIMINARY DESIGN AND STUDY TO DETERMINE LOW COST IMPROVEMENTS AT VARIOUS INTERSECTIONS WITHIN DISTRICT 10.	10-09011	\$100,000	\$100,000				
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	\$275,000	\$275,000				
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	\$720,400				\$720,400	
11	KNOX	KY 229	8.127	8.288	INSTALL GUARDRAIL ALONG KY 229 FROM 0.011 MILE NORTH OF KY 1304 (MP 8.127) TO 0.172 MILE NORTH OF KY 1304 (MP 8.288)	11-00959	\$45,100				\$45,100	
11	CLAY	KY 11	0.000	2.999	INSTALL GUARDRAIL ALONG KY 11 FROM THE KNOX COUNTY LINE (MP 0.000) TO 15 FEET SOUTH OF CSX RR CROSSING (MP 2.999).	11-00960	\$392,700				\$392,700	
11	KNOX	KY 1304	0.000	6.110	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 1304 FROM US 25E TO KY 11. (2014BOP)	11-09003	\$54,430				\$54,430	THIS MOD. PROVIDES ADDITIONAL CONSTRUCTION FUNDS TO COVER CHANGE ORDER #1 (\$54,423.00) ASPHALT BASE, CRUSHED AGGREGATE.
11	KNOX	US 25E	21.351	22.081	CONSTRUCTION OF J-TURN AT THE INTERSECTION OF US 25E AND KY 233. (2016BOP)	11-09005.20	\$545,134				\$545,134	

Dist	County	Roadway	BMP	EMP	Description	Item No.	Total Cost	Design Cost	R/W Cost	Utility Cost	Const. Cost	REMARK
11	VARIOUS	VARIOUS			PRELIMINARY DESIGN AND STUDY TO DETERMINE LOW COST IMPROVEMENTS AT VARIOUS INTERSECTIONS WITHIN DISTRICT 11.	11-09008	\$150,000	\$150,000				
11	LAUREL	KY 490	3.012	8.202	PERFORM LOW COST SAFETY IMPROVEMENTS ALONG KY 490 BETWEEN MP 3.012 AND MP 8.202 IN LAUREL COUNTY, KY. (2016BOP)	11-09009	\$125,000	\$125,000				
11	HARLAN	KY 840	5.400	5.908	INSTALL GUARDRAIL ALONG KY 840 FROM 0.609 MILE WEST OF US 421 (MP 5.400) TO 0.101 MILE WEST OF US 421 (MP 5.908).	11-09010	\$43,175				\$43,175	
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	\$75,000			\$75,000		THIS MODIFICATION PROVIDES ADDITIONAL UTILITY FUNDS FOR THE PROJECT. TJ
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	\$110,000				\$110,000	
12	KNOTT	KY 160	0.000	8.155	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 160 FROM KY 15 TO KY 899. (2014BOP)	12-09000	\$2,318,000	\$120,000			\$2,198,000	
12	VARIOUS	VARIOUS			INTERSECTION IMPROVEMENTS AT VARIOUS LOCATIONS IN PIKE AND LAWRENCE COUNTIES LOCATED IN DISTRICT 12.	12-09001	\$30,000	\$30,000				THIS MODIFICATION PROVIDES ADDITIONAL DESIGN FUNDS FOR THE PROJECT. LC
12	PIKE	US 23	28.666	28.975	CONSTRUCTION OF A RIGHT TURN LN FOR NB US 23 ONTO EB WEDDINGTON BRANCH RD AND INSTALLATION OF LANE SEPARATOR CURB ALONG US 23 NEAR THE INTERSECTION WITH WEDDINGTON BRANCH ROAD. (2016BOP)	12-09001.10	\$150,000				\$150,000	
12	PIKE	US 23	27.937	28.155	EXTEND THE LEFT TURN LANE FOR NB US 23 ONTO WB POWER DRIVE AND INSTALLATION OF LIGHTING AT THE INTERSECTION OF US 23 & POWER DRIVE. (2016BOP)	12-09001.20	\$114,000				\$114,000	
12	PIKE	US 23	28.522	28.666	INSTALLATION OF LANE SEPARATOR CURB ALONG US 23 NEAR THE INTERSECTION WITH CHILDERS ROAD. (2016BOP)	12-09001.30	\$39,000				\$39,000	
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. (2016BOP)	12-09001.40	\$87,000				\$87,000	
12	PIKE	US 23	27.378	29.600	RESTRIPE US 23 FROM BROAD BOTTOM ROAD TO STONE COAL ROAD. (2016BOP)	12-09001.50	\$67,000				\$67,000	
12	VARIOUS	VARIOUS			PRELIMINARY DESIGN AND STUDY TO DETERMINE LOW COST IMPROVEMENTS AT VARIOUS INTERSECTIONS WITHIN DISTRICT 12.	12-09004	\$150,000	\$150,000				
12	FLOYD	KY 122	29.736	34.191	PERFORM LOW COST SAFETY IMPROVEMENTS ALONG KY 122 BETWEEN MP 29.736 AND MP 34.191 IN FLOYD COUNTY, KY. (2016BOP)	12-09005	\$125,000	\$125,000				
12	JOHNSON	KY 1107	2.050	2.340	INSTALL GUARDRAIL ALONG KY 1170 FROM 0.192 MILE WEST OF HOLBROOK HOLLOW ROAD (MP 2.050) TO 0.098 MILE EAST OF HOLBROOK HOLLOW ROAD (MP 2.340).	12-09006	\$49,500				\$49,500	
12	PIKE	KY 122	13.523	13.598	INSTALL GUARDRAIL ALONG KY 122 FROM 125 FEET WEST OF SHELBY CREEK BRIDGE (MP 13.523) TO 125 FEET EAST OF SHELBY CREEK BRIDGE (MP 13.598).	12-09007	\$27,500				\$27,500	
99	VARIOUS	VARIOUS			HORIZONTAL CURVE BALL-BANK DATA COLLECTION ON STATE-MAINTAINED ROUTES. (2016BOP)	99-09001	\$2,135,000	\$2,135,000				
99	VARIOUS				IMPLEMENTATION OF THE FY2019 STATEWIDE PLANNING PROGRAM.		\$500,000	\$500,000				THIS AUTHORIZATION INCLUDES \$500,000 FOR THE HIGHWAY SAFETY IMPROVEMENT PROGRAM AND \$500,000 FOR VALUE ENGINEERING AND QUALITY ASSURANCE PROGRAM.
	VARIOUS				TECHNICAL SUPPORT FOR THE CABINET'S HIGHWAY SAFETY IMPROVEMENT PROGRAM, TO BE PROVIDED BY THE UK TRANSPORTATION CENTER.		\$390,000	\$390,000				THIS MOD. PROVIDES ADDITIONAL FUNDS FOR CONTINUATION OF TECHNICAL ASSISTANCE FOR FY 19-20, INCLUDING PREPARATION OF THE ANNUAL HSIP REPORT AND 5% REPORT, IMPROVEMENTS IN COLLECTION AND ANALYSIS OF SAFETY DATA, DEVELOPING SAFETY PERFORMANCE FUNCTIONS AND INCORPORATE DATA FOR USE IN SAFETY ANALYSIS, AND PLANNING.
							<b>\$47,264,474</b>	<b>\$9,362,000</b>	<b>\$1,267,500</b>	<b>\$1,229,000</b>	<b>\$35,405,974</b>	



## 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 focus on maintenance of traffic and horizontal/vertical alignments between roadways and structures, but a reviewer's unique career experience aids them in finding a myriad of other constructability related issues.

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

QAB, along with District Office staff, identifies projects that have recently completed construction. 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** databases. 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 enhance efficiency of work flow during the construction phase. **There were 55 constructability reviews completed. 52 by QAB staff and 3 contracted.**
- Conduct mandated **VE** studies to meet federal guidelines. **There were 0 VE studies required and 0 studies completed.**
- Conduct **PCRs** for each district. Enter PCR information into database. Issue Fact Sheets for each PCR. **24 PCR reviews conducted in all 12 highway districts. Data entered into database and fact sheets issued.**
- Identify and follow up on issues identified as **EI**. **QAB followed up on eight issues identified as part of the PCR meetings.**
- Continue to develop and update policy and procedures for all aspects of each program. **All internal procedures manuals were updated.**
- Educate KYTC staff and others by developing and publishing the **Quality Matters newsletter**, containing content about findings from the reviews or design innovations. **There were 3 issues published containing 15 articles.**
- Develop and publish **Tech Briefs**, each focused on a single, important topic identified through the reviews. **ADA Tech Brief final draft completed.**
- Educate KYTC staff and others on topics identified through the various reviews and analysis of the Lessons Learned data. Provide technical assistance from the programs to identify, evaluate and prioritize needs for improvements and coordinate those recommendations within the Cabinet through the collection and analysis of data.
- Train in-house and consultant personnel on findings for the betterment of designs and design processes. **Conducted training at KSPE Annual Convention**
- Ensure consistency and quality of design products delivered by KYTC.  
**This was done through the Constructability Review and Post Construction Review Programs. Conducted survey regarding quantities related to undercut. Worked with Geotech to modify their estimating procedures.**  
**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**

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### PRODUCTS

- VE Studies 0 completed in FFY18. (0 projects identified needing VE study)
- VE Punch List NA
- VE Project Database Database updated.
- FHWA Annual VE Report FY17 report completed (in FY19 due to late call by FHWA)
- Constructability Project Review Reports 55 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 24 reviews.
- Post-Construction Review Database Database updated with findings from reviews. Database updated from EI activity.
- Quality Matters Newsletter Created 3 issues (Fall 2017, Spring 2018, Summer 2018)
- Tech Brief Publication: ADA Final draft complete
- EI Research: Driveway Design Standards In progress
- Special Studies Survey about undercut quantity estimation.



**CHAPTER 16**

Quality Assurance

**RESPONSIBLE UNIT**

Division of Highway Design  
Quality Assurance Branch

**DISTRIBUTION OF ESTIMATED COST FOR 2017-2018**

	<b>2017-2018</b>	<b>Expended</b>	<b>Percent Expended</b>
<b>PERSONNEL</b>	<b>\$450,000</b>	<b>\$411,014</b>	<b>92%</b>
<b>OTHER</b>	<b>\$50,000</b>	<b>\$3,281</b>	<b>7%</b>
<b>TOTAL</b>	<b>\$500,000</b>	<b>\$414,295</b>	<b>83%</b>

**ESTIMATED OUTSOURCING EXPENSES AND PURCHASES**

- \$50,000 to outsource but not limited to the following: Publishing newsletter and briefs, 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.