

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



**ANNUAL PERFORMANCE AND  
EXPENDITURE REPORT  
FOR  
FISCAL YEAR 2020 ANNUAL WORK PROGRAM  
PROJECT SP 0020 (016)  
JUNE 16, 2019 THROUGH JUNE 15, 2020**

**SEPTEMBER 2020**

## 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, 2019 through June 15, 2020 (Fiscal Year 2020).

The Division of Planning achieved a great deal in FY 2020. Many analyses, studies, and traffic forecasts were completed or initiated over the year to support the KYTC construction lettings. The Division continued to improve on data collection and storage initiatives. Intermodal planning was advanced, including scoping and beginning a riverport study and ADA barrier data collection effort, as well as assisting several communities with bike/ped planning. We worked closely with the Office of Local Programs on CMAQ, TE, and Safe Routes to School projects. The Division worked to improve upon the Strategic Highway Investment Formula for Tomorrow (SHIFT), which is a linchpin in Kentucky's implementation of Performance Based Planning and Programming. The Statewide Corridor Plan, which strives to identify critical arterials in regards to mobility, accessibility, and safety, to feed into SHIFT was also started.

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 20 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 2020**  
**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	\$130,000	\$87,403
2	Personnel Training	\$105,000	\$47,000
3	Traffic and Equipment Management	\$2,550,000	\$2,045,847
4	Roadway Systems	\$753,000	\$483,036
5	Cartography	\$351,000	\$167,656
6	Highway Information System	\$1,770,000	\$938,784
7	Strategic Corridor Planning	\$2,960,000	\$1,856,077
8	Statewide Transportation Planning	\$1,775,500	\$1,316,587
9	Metropolitan Planning Organizations	\$751,500	\$541,812
10	Performance Measures and Congestion/Mobility Analysis	\$165,000	\$36,360
11	Air Quality	\$62,000	\$27,972
12	Multimodal Transportation	\$610,000	\$184,221
13	Traffic Data Forecasting	\$730,000	\$446,167
14	Bicycle and Pedestrian Program	<u>\$207,000</u>	<u>\$88,027</u>
	Planning Total	\$12,526,000	\$8,266,949
	Percent Expended		66%
15	Highway Safety Improvement Program	\$500,000	\$473,533
16	Value Engineering and Quality Assurance	<u>\$500,000</u>	<u>\$227,135</u>
	Other Items Total	\$1,000,000	\$700,668
	Percent Expended		70%
	TOTAL	\$13,526,000	\$8,967,617
	Percent Expended		66%

**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 2019-2020**

- Coordinate with all other branches in the Division of Planning in order to prepare the annual SPR Planning Work Program.  
*The Customer Service Branch created well over 400 pieces of correspondence in the form of memos and letters. Almost all of which were related to processing contracts, MOAs, letter agreements and other activities related to the SPR Work Program. 100% Complete*
- Prepare monthly expenditure reports for each chapter of the SPR Planning Work Program.  
*Ran 12 expenditure reports, one per month. 100% Complete*
- Update accomplishments of the SPR Planning Work Program quarterly.  
*Ran 12 expenditure reports, one per month. Communicated the results of those reports to branch managers and District Office Planning Supervisors quarterly to assist them in reporting quarterly accomplishments. 100% Complete*
- Coordinate and prepare the annual SPR Planning Work Program and Accomplishments and Expenditures Report.  
*Ran final expenditure reports and reported total expenditures as well as percentage of budgeted amounts. Prepared FY 2020 Work Program. 100% Complete*
- Kentucky Transportation Center studies, as needed. *No studies charged to 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 2019-2020**

	2019-2020	Expended	Percent Expended
<b>PERSONNEL</b>	<b>\$30,000</b>	<b>\$44,326</b>	<b>147%</b>
<b>OUTSOURCING</b>	<b>\$100,000</b>	<b>\$44,872</b>	<b>44%</b>
<b>OTHER</b>		<b>\$205</b>	
<b>TOTAL</b>	<b>\$130,000</b>	<b>\$87,403</b>	<b>67%</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**

Training 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 2019-2020**

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 7 PAGES FOR TRAINING AND CONFERENCES**

**PRODUCTS**

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

**DISTRIBUTION OF ESTIMATED COST FOR 2019-2020**

	<b>2019-2020</b>	<b>Expended</b>	<b>Percent Expended</b>
<b>PERSONNEL</b>	<b>\$75,000</b>	<b>\$45,215</b>	<b>60%</b>
<b>OTHER</b>	<b>\$30,000</b>	<b>\$1,785</b>	<b>1%</b>
<b>TOTAL</b>	<b>\$105,000</b>	<b>\$47,000</b>	<b>44%</b>

**Other**

- Other Operational Cost \$30,000  
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	X		X	X								
KYTC Arc-GIS One Day Summit				X			X	X				X		X		
Mid-America Freight Coalition												A				
Institute for Trade and Transportation Studies												X				
HIS Conf						A										
Bicycle and Pedestrian Facilities														X		
Inland Marine Expo												X				
TRB Marine Board												X				
ACEC Partnering Conference			X				A	A	A		X	X	A	X		
TRB Annual Meeting							X	X	X	X			A			
TRB Tools of the Trade: Small and Medium Communities									X	X			X			
AREMA Annual Conference												X				
Annual Kentucky/Louisville Bike & Pedestrian Summit							X	X	X					X		
ITE Section Conference									X							
American Planners Association							X	X	X							
AMPO									X							
TRB Innovations in Freight Data Workshop												X				
North American Travel Monitoring Expo & Conf			X													
AASHTO Standing Committees							X	X	X			X		A		
Inland Rivers, Ports & Terminal Conference												X				
TRB Workgroups/Research/Webinars							X	X	X				X			
WVDOH Planning Conference									X				X			
Ohio Planning Conference									X							
MAASTO Planning Committee												A				

## Chapter 2 Personnel Training

	SPR Work Program	Personnel Training	Traffic and Equipment Management	Roadway Systems	Cartography	Highway Information System	Strategic Corridor Planning	Statewide Transportation Planning	Metropolitan Planning Organizations	Performance Measures and Congestion/ Mobility Analysis	Air Quality	Multimodal Transportation	Traffic Data Forecasting	Bicycle and Pedestrian Program	Highway Safety Improvement Program	Quality Assurance
ASCE Conference							X									
TRB Automated Vehicle Symposium							X	X	X	X			X			
KYTC/FHWA Freight Conference							X	X	A			X				
KSPE Conference							X									
Kentuckians for Better Transportation (KBT)							X	X	X			A				
FHWA Earth Day Summit							X	X	X							
Intermodal Association of North America Expo												X				
National Waterways Conference Annual Meeting												X				
American Shoertline Railroad Association Convention												X				
AASHTO Waterways Council Annual & Spring Meeting												A				
Pro Walk/Pro Bike Bi-Annual Conference														X		
Ohio Conference on Freight								X	X			A				
FHWA/FTA 2019 TPM-PBPP Implementation Workshop													A			
KATE Annual Meeting													A			
Kentucky Freight Roundtable												A	A	A		
TRB Data Driven Performance Conference													A			
SUMA Pooled Fund Annual Meeting													A			
AASHTO Special Committee on Freight Annual & Spring Meetings												A				
Kentucky Heritage Council Main Street Conference														A		
Indiana MPO Conference								A	A							

X = Planned to attend but did not attend

A = Planned to attend and did attend

**A** = Did not plan to attend but did attend



## Chapter 2 Personnel Training

	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>Training Events</b>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
High Desert Jackalope Training			A													
Microstation							X	X	X							
Bentley InRoads							X	X	X							
Public Involvement in Transportation Decision Making Process														X		
Effective Communications in Public Involvement														X		
Fundamentals of Title VI/EJ							X	A	A			A	A	X		
Highway Capacity Manual							X	X	X				X			
KYTC Traffic Engineering Design							X	X	X				X			
Public Involvement							X	X	X							
Road Safety Audit Training							X	X	X							
Highway Safety Manual Training							X	X	X					X		
NEPA Highway Safety Manual							X	X	X							
Microsimulation							X	X	X				X			
Administration of FHWA Planning and Research Grants							X	X	X			X				
Planning for Operations							X	X	X							
Congestion Management and Reliability							X	X	X	X						
Transportation and Land Use							X	X	X				X			
Climate Change							X	X	X		X					
STAQS								A	A		X					
MOVES									A		X					
TransCAD/Modeling									X				X			
Census Training					X			X	X				X			

Chapter 2 Personnel Training	SPR Work Program	Personnel Training	Traffic and Equipment Management	Roadway Systems	Cartography	Highway Information System	Strategic Corridor Planning	Statewide Transportation Planning	Metropolitan Planning Organizations	Performance Measures and Congestion/ Mobility Analysis	Air Quality	Multimodal Transportation	Traffic Data Forecasting	Bicycle and Pedestrian Program	Highway Safety Improvement Program	Quality Assurance
CHAF Training							X	X	X							
R Programming Course							X			X						
Various ACEC Planning/Design							X	X	X							
Adobe Creative Suite					X											
TREDIS							X	X	X	X						
Air Quality Conformity									X		X					
NHI Clean Air Act Overview											A					
NHI SIP & TCM Requirements & Policies											A					
NHI SIP Development Process											A					
FHWA Transportation Conformity									A		A					
NHI Getting Started on Effective TPM - On Road Mobile Source Emissions Reduction Measure											A					
LAPCD Cleaning the Air Workshop											A					
TRB Forecasting Zero Emission Vehicle Fleet Scenarios and Emissions Implications											A					
Vulnerable Road Users Webinar														A		
Professional Services: Consultant Portal Prequalification Training														A		
Ped-Bike Project Tracker Training														A		
2020 SPAN "Active Living" Program Information Updates														A		
Introduction to Pedestrian and Bicycle Safety Program Management														A		
AASHTO Guiding Principles Connected Infrastructure Supporting Cooperative Automated Transportation												A				



Chapter 2 Personnel Training	SPR Work Program	Personnel Training	Traffic and Equipment Management	Roadway Systems	Cartography	Highway Information System	Strategic Corridor Planning	Statewide Transportation Planning	Metropolitan Planning Organizations	Performance Measures and Congestion/ Mobility Analysis	Air Quality	Multimodal Transportation	Traffic Data Forecasting	Bicycle and Pedestrian Program	Highway Safety Improvement Program	Quality Assurance
Crash Data Analysis Tool (CDAT) Testing Workshop							A									
Georgia DOT ITS Introduction							A									
ATDM and SmartLane Tour							A									
KYSITE Winter Technical Meeting							A									
FHWA Economic Development and Right-sizing Webinar, Virtual							A	A								
Creating Successful Virtual Public & Stakeholder Engagement, Virtual							A									
KYTC Project Manager Trainings, Virtual							A									
NOCoE Mainstreaming Integrated Corridor Management (ICM), Virtual							A									
KBT What's Ahead Webinar, Virtual							A									
KYTC District Planners Meeting, Virtual							A									
KBT Mid-Year Webinar, Virtual							A									
KYTC ArcGIS 101							A	A								
KYTC ArcGIS 102								A								
FHWA Public Involvement Webinar								A								
OKI-Cincinnati MPO sponsored-Electric & Autonomous Vehicle Workshop								A								
GIS Training								A								
Highway Capacity Analysis								A								
Business Intelligence Reporting								A								
Crowdsourcing for Local Operations								A								
Multimodal Webinar								A	A							

Chapter 2 Personnel Training	SPR Work Program	Personnel Training	Traffic and Equipment Management	Roadway Systems	Cartography	Highway Information System	Strategic Corridor Planning	Statewide Transportation Planning	Metropolitan Planning Organizations	Performance Measures and Congestion/ Mobility Analysis	Air Quality	Multimodal Transportation	Traffic Data Forecasting	Bicycle and Pedestrian Program	Highway Safety Improvement Program	Quality Assurance
FHWA/NTI Sponsored Transportation Conformity								A								
FHWA Webinar Innovative Intersection Webinar								A								
INRX & ACFE Webinar - COVID 19 Impacts on Freight								A								
MUTCD Trainings									A							
FHWA Talking Freight-SHARP2 10 county regional NCDOT model									A							

X = Planned to attend but did not attend

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## 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 2019-2020

- Maintain, update, analyze, provide QA/QC, and make available data from approximately 18,500 traffic count stations including coverage, interstate, automatic traffic recorder (ATR), weigh in motion (WIM), ramp, and local road bridge stations. **100% Complete**
- Download, process, and analyze data for every day of the year from approximately 95 permanent ATR stations. **100% Complete**
- Submit monthly reports of hourly ATR records to FHWA. **100% Complete**
- With KYTC District Offices, collect and process vehicle volume data from approximately 5,000 short-duration, portable-machine, coverage and ramp counts. **Completed ~5,500**
- 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. **Completed ~50**
- Concurrent with coverage, interstate, ATR, WIM, and ramp counts, collect and process vehicle classification data from approximately 1,000 stations, which complies with the FHWA, *Traffic Monitoring Guide* recommendation of 25%-30% for Minor Collectors and above. **100% Complete**
- Provide traffic data for annual FHWA-required Highway Performance Monitoring System (HPMS) report. **100% Complete**

## CHAPTER 3

## Traffic and Equipment Management

### RESPONSIBLE UNIT

Division of Planning  
Traffic and Equipment Management Branch

### PROPOSED ACTIVITIES FOR 2019-2020 (continued)

- Update axle and monthly factors used in adjusting short-term counts from data collected at ATR and vehicle classification stations. **100% Complete**
- Update in-house databases to include any new stations or roadway alignment changes. Correct beginning and ending milepoints to better represent traffic generators. **100% Complete**
- Collect, process, and analyze continuously collected data. Submit a minimum of one-week, WIM data from permanent WIM stations to FHWA quarterly. Periodically calibrate WIM data collection equipment, as needed, in order to assure quality data. **100% Complete**
- Review proper operation and coverage of ATR stations. Install additional ATR stations as necessary. **100% Complete**
- Investigate and purchase new traffic data collection equipment to provide for safer, more efficient and more accurate methods of collection. **100% Complete**
- Certify, repair, and maintain approximately 800 traffic data recorders. **100% Complete**
- Inspect, repair, and maintain, where possible, approximately 585 vehicle sensor locations (~95 ATRs and ~490 semi-permanent) **100% Complete**
- Administer contracts and provide oversight of Contractor(s) for the repair and maintenance of ATR and semi-permanent vehicle sensor locations. **N/A for this cycle due to leadership transition and Covid-19.**
- Track upcoming highway projects and produce plans, specifications, and construction cost estimates for new and replacement traffic sensor installations for submittal into construction and pavement rehabilitation contracts. **100% Complete**
- Provide construction oversight, when required, and perform final inspections of new and replacement traffic sensor installations. **100% Complete**
- Provide contract management and oversight of Consultant assisting with field data collection and other tasks. Process and provide quality assurance of the provided counts. **100% Complete**
- Provide traffic count technician training and support, as needed. **100% Complete**

### PRODUCTS

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

**CHAPTER 3**

Traffic and Equipment Management

**RESPONSIBLE UNIT**Division of Planning  
Traffic and Equipment Management Branch**DISTRIBUTION OF ESTIMATED COST FOR 2019-2020**

	<b>2019-2020</b>	<b>Expended</b>	<b>Percent Expended</b>
<b>PERSONNEL</b>	<b>\$2,100,000</b>	<b>\$1,524,695</b>	<b>72%</b>
<b>OUTSOURCED PERSONNEL</b>	<b>\$250,000</b>	<b>\$397,462</b>	<b>158%</b>
<b>OTHER</b>	<b>\$200,000</b>	<b>\$123,690</b>	<b>61%</b>
<b>TOTAL</b>	<b>\$2,550,000</b>	<b>\$2,045,847</b>	<b>80%</b>

**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 (e.g., piezoelectric sensors, road tube, modems)
- \$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 2019-2020

- 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 weekly updates of Project Authorizations. 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 with Data Management personnel on activities regarding updating and/or revising H.I.S. based on District Planning recommendations. Phone calls, emails, and meet with Data Management Staff. 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. Electronic change orders are created for routes with minor length changes or minor revision found during office data reviews. 100% Complete**
- Ensure the SPRS reflects roadways of significance, and correlates with the functional classification system and the electronic base map coverage. **Reviewed SPRS and functional class for all new road alignments along with recommendations and input from the Districts to make classification changes. Evaluate as projects were opened and official orders were generated. 100% Complete**
- Prepare quarterly reports for publication on the internet of SPRS mileage and of the designated routes and mileage of roads in the NHS and NN systems. **Reports every quarter and made sure they were published on the website. 100% Complete**
- Review revisions to the SPRS to discover any modifications made necessary to other systems such as functional classification, NHS, or NN classifications. **None required. Typically new alignment reviews check to see if any surrounding roads needed classification changes due to the new alignment. Changes to NHS and NN require a separate official order. This is a part of the process of doing an Official Order. 100% Complete**

## CHAPTER 4

## Roadway Systems

### RESPONSIBLE UNIT

Division of Planning  
Transportation Systems Branch

### PROPOSED ACTIVITIES FOR 2019-2020 (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. **Redesignate Julian M. Carroll PKWY as Interstate 69 in May 2020. Changes to NN require a separate official order. 100% Complete**
- As necessary or appropriate, review interstate frontage roads. Coordinate documentation by HDOs of suitability for transfer to local government and prepare request from Cabinet to FHWA for permission to complete transfer of property to local government. **Completed frontage roads approval (eight routes) in District 8 for roadway segments during construction of Louise B. Nunn (LN 9008). District 9 request three routes in Mason County. Also a request from District 2 to transfer six routes in Ohio County. Currently working on transfers for District 11 to transfer several frontage roads along US 460. 80% 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. **None submitted in 2020, will have others for the spring 2021 submittals. 100% Complete**
- Provide all system revision information to the Data Management branch and others as appropriate. **Daily contact with Data Management to ensure that all Systems data is accurate in HIS. 100% Complete**
- Compile data to provide ton-mile statistics to the Governor's Department for Local Government for coal transported on Kentucky Highways as required by KRS 177.977 and KRS 42.455. **The Coal Haul Report and supporting maps were published in October 2019. \* Website needs to be updated for 2019 Coal Haul Totals. 90% Complete \***
- Publish Kentucky's Official Coal Haul Highway System Report as required by KRS 177.977 and KRS 42.455. **Reports are drawn in Exor forms from data entered for the previous calendar year. "Ton-Miles Table" to DLG will be published Mid October 2019. 100% Complete**
- Provide the Division of Maintenance coal haul route information for their review of bridge weight limits. Develop the update of the Extended Weight Coal and Coal By-Products Haul Road System for replacement of the current system in the Highway Information System database. Prepare the Official Order for approval of the updated Extended Weight system. **Bridge information for review by Maintenance was sent on October 9, 2019. The Extended Weight data was updated in HIS mid-October. Official Order updated with Secretary's signature in November 2019. 100% Complete**
- Review and coordinate right-of-way information between the HDO staffs and Central Office Transportation Systems and Division of Right-of-Way and Utilities staffs regarding request for official transfers. Compile data in Project Wise. **Reviewed over 32 request and completed over 9 transfers to the Division of Right-of-Way. 100% Complete**
- Compile and provide Governmental Accounting Standards Board (GASB) information on total mileage and estimate value of state roads removed from the SPRS for the FY 2018 to KYTC's Office of Budget and Fiscal Management. **Report(s) completed August 2020. There were 2,319 miles removed and 3,428 miles added to the State Systems for a total difference of 1,109 miles. 100% Complete**

**CHAPTER 4**

Roadway Systems

**RESPONSIBLE UNIT**

Division of Planning

**PRODUCTS**

- Official Order Changes to the State Primary Road System 32 Official Orders were completed, including transfers. Discovered and processed changes resulting from roadway data collection and roadway system data reviews. 100% Complete
- State Primary Road System Official Order Listings Update State Primary Road listings for each official order completed. Revise mileage totals and update revisions page to reflect current changes. Revised SPRS listing to the Planning webpage. 100% Complete
- Quarterly Reports on internet: State Primary Road System Mileage, Designated National Truck Network routes and mileage Updated NHS and NTN reports on web at beginning of each quarter. Put SPRS mileage report out on the web upon Districts requests. 100% Complete
- GIS map files incorporating project design files for decision-making and use by other Branches Incorporated project design files into GIS map documents to create decision-making maps for nearly 20 projects. Communicated with Data Management Branch on information obtained for input into HIS for HPMS reporting. 100% Complete
- Coal Haul System Report with associated maps and separate datasets to Department of Local Government, KYTC Budgets and KYTC Bridge Maintenance Compiled Coal Haul reports and shape files. Created maps of producing counties as well as a statewide map. Mailed out over 500 Coal Haul forms and under 300 Coal Haul Updates. 100% Complete
- Request to FHWA for modification of National Truck Network (NN) or Official Order Change to State Designated National Truck Network Purchase Parkway conversion to I-69 – Approved February 2020 100% Complete
- Request to FHWA for modification of National Highway System Purchase Parkway conversion to I-69 – Approved February 2020 100% Complete
- Request to FHWA for permission to relinquish interstate frontage road to local government Completed a few frontage roads in District 2,8, & 9 100% Complete

**DISTRIBUTION OF ESTIMATED COST FOR 2019-2020**

	2019-2020	Expended	Percent Expended
<b>PERSONNEL</b>	<b>\$750,000</b>	<b>\$474,343</b>	<b>63%</b>
<b>OTHER</b>	<b>\$3,000</b>	<b>\$8,693</b>	<b>289%</b>
<b>TOTAL</b>	<b>\$753,000</b>	<b>\$483,036</b>	<b>64%</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 2019-2020

- Provide electronic mapping for all city, county, district, state, and special-purpose cartographic products. **Updated SPRS, and Functional Classification Maps and exported on the internet. 90% Complete**
- Maintain and publish electronic formats of cartographic products for display on the Internet. **Maps are updated regularly. Loading maps on Website after reviewing. 80% Complete**
- Update the Official State Highway Map electronic files and accomplish necessary publication. Monitor inventory at 17 locations and coordinate additional deliveries as needed. **Obtained new printing contract from Finance, processed form for contract and updated RFP document for contract. New maps are being distributed to KYTC locations and mailed out the public. 100% Complete**
- Create reports and exhibits for various Division projects and studies to assist transportation decision-makers in their roles. **Alternative Fuel Corridors and Kentucky Air Transportation System 2020 100% Complete**
- Provide mapping and graphic assistance to other Divisions and Departments as requested. **Prepared the County Quality Certification (KEDFA) 100% Complete**
- Develop and provide to outside entities digital maps as requested. **Provided highway updates to Rand McNally and AAA. Fulfilled over 2,000 maps sales request and mailed over 6,000 free official Highway Maps. 100% Complete**
- Develop and provide geographic information systems (GIS) files locating other modes of transportation. **As requested 100% Complete**

### PRODUCTS

- Official Highway Map **New contract obtained for 2020-2021 map. Maps are distributed as needed. 100% Complete**
- State Primary Road System Maps **Updated county maps at least 120 times. 100% Complete**
- Functional Classification Maps **Same as for State Primary Road Systems 90% Complete**
- Other Highway Data Maps (i.e., traffic counts, NHS, NN, etc. maps) **100% Complete**
- Cabinet and Planning Project Exhibit Maps/Displays **As requested – See Comments above 100% Complete**
- GIS Analyses of various data for transportation decision-making **As requested – See Comments above 100% Complete**
- General and special purpose maps as requested by other agencies **As requested – See Comments above 100% Complete**
- Geographic information systems (GIS) electronic files **100% Complete**

**CHAPTER 5**

Cartography

**RESPONSIBLE UNIT**

Division of Planning  
Transportation Systems Branch

**DISTRIBUTION OF ESTIMATED COST FOR 2019-2020**

	<b>2019-2020</b>	<b>Expended</b>	<b>Percent Expended</b>
<b>PERSONNEL</b>	<b>\$200,000</b>	<b>\$58,319</b>	<b>29%</b>
<b>OUTSOURCED</b>	<b>\$151,000</b>	<b>\$109,337</b>	<b>72%</b>
<b>TOTAL</b>	<b>\$351,000</b>	<b>\$167,656</b>	<b>47%</b>

**ESTIMATED OUTSOURCING EXPENSES AND PURCHASES**

**Other**

- \$150,000 for Official Highway Map Publication.
- \$1,000 Other Operational Cost

For items such as travel, mileage, equipment and other cost directly associated to the completion of this work chapter.

## CHAPTER 6

## Highway Information System

### RESPONSIBLE UNIT

Division of Planning  
Data Management Branch

### PURPOSE AND SCOPE

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

### PROPOSED ACTIVITIES FOR 2019-2020

- 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 4,200 local road centerline location and attribute changes in 100 counties. 100% Complete**
- Provide up-to-date route network locations, route lengths, and highway data for use by internal and external customers. Ensure accuracy of information provided. **Provided up-to-date information to customers inside and outside the Cabinet using CAD design files, Photo Van data, field collection, GIS tools, and aerial imagery. 100% Complete**
- Adapt CAD project construction plans and use GIS software to generate maps for resolving road ownership and highway data questions caused by road construction impacts. **Generated 62 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 110 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 2019-2020 (continued)

- Utilize Photo Van images and data to verify accuracy and validity of route log entries, roadway features and information, and other highway data stored within HIS. **Data in HIS regularly reviewed and updated as necessary with more accurate and valid information captured from Photo Van images and data. 100% Complete**
- Perform office reviews to verify HIS data meets the required standards established by this Division and FHWA. **Reviewed weekly reports and quality control checks to ensure proper data maintenance. Utilized HPMS Field Manual to verify data quality and completeness. Performed checks to ensure local road centerline changes met standards. 100% Complete**
- Assist the Division of Maintenance in the implementation of pavement performance measures reporting and analysis via HPMS. **Adapted Division of Maintenance pavement data to meet HPMS software requirements and ensure its successful load into the software. 100% Complete**
- Assist in the implementation of national performance measures reporting and analysis in accordance with federal legislation, regulations, policies, and/or guidelines. **Attended webinars and meetings regarding implementation. Continuing to evaluate best methods for implementation within Kentucky's data environment. 50% Complete**
- Provide guidance to Cabinet leadership and the Office of Information Technology (OIT) regarding availability and appropriateness of highway data as it relates to the redevelopment of the Cabinet's SYP database. **Provided guidance regarding the availability and appropriateness of highway data to assist OIT in its implementation of the SYP redevelopment. 50% Complete**
- Develop appropriate Cabinet sources for providing data screening methods used in the assembly of the Cabinet's Highway Plan. Modify HIS data collection, storage, and analysis processes as needed in order to satisfy Highway Plan assembly requirements. **Recommended appropriateness of data items for use in data screening methods. Oversaw the Highway Plan "Data Verification" phase. 100% Complete**
- Assist with analyses of highway system performance and the Unscheduled Projects List. Provide an up to date route network for locating Unscheduled Projects. **Maintained up-to-date route network location of Unscheduled Projects. Created HIS data extraction procedures to satisfy Highway Plan project scoring. 100% Complete**
- Update Rating Indices, Capacities, and Volume/Service Flow ratios in the HIS database and distribute to customers. **Generated new capacity and V/SF values and made available to internal data customers. Final determination on best method for incorporating these into HIS was completed 100% Complete**
- Improve production methods used to calculate Rating Indices, Capacities, and Volume/Service Flow ratios. **Implemented the capacity and V/SF tool created by the Kentucky Transportation Center (KTC) to calculate the new capacity and V/SF values. 100% Complete**
- Process and submit annual HPMS report. **HPMS submitted on time, June 15 (2,190 sample sections). Gathered and processed data from other areas of the Cabinet. 100% Complete**
- 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**

## CHAPTER 6

## Highway Information System

### RESPONSIBLE UNIT

Division of Planning  
Data Management Branch

### PROPOSED ACTIVITIES FOR 2019-2020 (continued)

- 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 62 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). 96% 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. **Two NHS requests or changes. 100% Complete**
- Process Superload route network changes to support the Department of Vehicle Regulation's overweight/overdimensional permitting procedures. **Superload implementation is now in production and have made route network changes were necessary. The related training for this task is currently is completed. The production environment went live in FY20. 100% 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. This has been moved to GIS Branch near the end of FY20**



**CHAPTER 6**

## Highway Information System

**RESPONSIBLE UNIT**

Division of Planning  
Data Management Branch

**PRODUCTS**

- Interstate Data Submittal by April 15 **Submitted by May 22<sup>nd</sup>. 100% Complete**
- Certification of Public Road Mileage by June 1 **Submitted June 1 (79,954 centerline miles). 100% Complete**
- HPMS submittal by June 15 **Submitted June 15 (2,190 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 **62 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 2019-2020**

	<b>2019-2020</b>	<b>Expended</b>	<b>Percent Expended</b>
<b>PERSONNEL</b>	<b>\$1,000,000</b>	<b>\$550,675</b>	<b>55%</b>
<b>OUTSOURCING</b>	<b>\$660,000</b>	<b>374,582</b>	<b>56%</b>
<b>OTHER</b>	<b>\$110,000</b>	<b>\$13,527</b>	<b>12%</b>
<b>TOTAL</b>	<b>\$1,770,000</b>	<b>\$938,784</b>	<b>53%</b>

**CHAPTER 6**

Highway Information System

**RESPONSIBLE UNIT**

Division of Planning  
Data Management Branch

**ESTIMATED OUTSOURCING EXPENSES AND PURCHASES**

**Outsourcing**

- \$230,000 for Local Road Centerline collection with all of the 15 Area Development Districts, with contracts less than \$100,000 for each
- \$130,000 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 state maintained roadways. It enhances and continues to update scoring processes for prioritizing projects considered for inclusion in the Six-Year Highway Plan through the use of SHIFT (Strategic Highway Investment Formula for Tomorrow) and the District Transportation Plan (DTP). The DTP details SHIFT processes and lists the projects resulting from Statewide and Regional scoring methods. The Strategic Corridor Planning Team also conducts technical project studies consisting of large statewide 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. Meaningful long-range planning and visioning of corridors of regional and statewide significance is a priority through the Statewide Corridor Plan, providing a stepping stone to a future corridor-based Long Range Statewide Transportation Plan. 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 2019-2020

- 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). The newly developed Planning Guidance Manual enshrines these procedures. 100% Complete**
- Conduct corridor, system, small urban area, district- and state-wide connectivity and accessibility, data needs analyses (DNA), and other studies. **For a list of active studies and percent complete, please see the PRODUCTS below.**
- Respond to inquiries about corridor planning issues. **All inquiries to planning studies are responded to in a timely manner. Recently completed studies are available online for the public to view and posted on ProjectWise. 100% Complete**
- Identify, evaluate and prioritize corridor, system, 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 2020 fourth quarter, KYTC had 25 active planning studies outsourced to a consultant. 100% Complete**

## CHAPTER 7

## Strategic Corridor Planning

### RESPONSIBLE UNIT

Division of Planning  
Strategic Planning Branch  
Strategic Corridor Planning Team

### PROPOSED ACTIVITIES FOR 2019-2020 (continued)

- Continue to refine evaluation measures as an element of SHIFT 2020 to score and prioritize sponsored projects from HDOs, MPOs, and ADDs for programming in the Highway Plan. CHAFs are developed for long-term needs identified through our corridor and Small Urban Area studies. Our studies also provide cost estimates to be used in programming future projects. Several staff served on a workgroup which made changes to formulas and criteria used in scoring for SHIFT 2020. 100% Complete

### PRODUCTS

Seven studies and one guidance manual were completed during the period of July 1, 2019 to June 30, 2020 by consultants. The completed studies are as follows:

- Middletown-Simpsonville Needs Analysis Study, Jefferson/Shelby/Oldham Cos. – July 2019 (SPR)
- District 10 Accessibility & Connectivity Study, Various Cos. – September 2019 (SPR)
- CVG Circulation Study, Boone Co. – November 2019 (SPR)
- I-65 Bridges Study, Jefferson Co. – November 2019 (SPR)
- Russellville Road (US 68X & US 231X) Study, Warren Co. – January 2020 (SPR)
- Mall Road Interchange Connector Feasibility Study, Boone Co. – 6-446.00 – March 2020
- Planning Guidance Manual – June 2020 (SPR)
- Western Kentucky Parkway Upgrade Study, Hopkins/Muhlenberg/Ohio Cos. – June 2020 (SPR)

Ongoing studies and their respective status at the end of FY 2020 are as follows:

<u>County(ies)</u>	<u>Route</u>	<u>Item No.</u>	<u>% Complete</u>
All District 4 Counties	Various Routes	N/A (SPR)	99%
Various Counties	New Route	5-564.00	99%
Various Counties	New Route	6-458.00	95%
Bullitt, Jefferson	I-65	5-550.00	85%
McCracken	US 45	N/A (SPR)	85%
Warren	US 68X	N/A (SPR)	85%
Franklin	Various Routes	5-570.00	70%
Jefferson	KY 1747	5-555.00	70%
Various Counties	KY 9, KY 10	N/A (SPR)	70%
Anderson, Franklin	KY 151	5-806.00	60%
Laurel, Knox	US 25	11-8515.00	60%
Jefferson	I-65/I-264	5-559.00	50%
Jefferson	I-64	5-553.00	50%
Jefferson	I-71/I-264	5-557.00	35%
Fayette, Jessamine	Various Routes	7-445.00	30%

**CHAPTER 7**

Strategic Corridor Planning (continued)

**RESPONSIBLE UNIT**

Division of Planning  
Strategic Planning Branch  
Strategic Corridor Planning Team

<u>County(ies)</u>	<u>Route</u>	<u>Item No.</u>	<u>% Complete</u>
Warren	I-65, KY 240, KY 242	3-402.00	30%
Russell	US 127	N/A (SPR)	20%
Jefferson	I-65	5-569.00	10%
Daviess	Various Routes	2-402.00	10%
Boyd	US 23X	9-408.00	10%
<u>County</u>	<u>Small Urban Area</u>	<u>Item No.</u>	<u>% Complete</u>
Boyd, Greenup	Boyd & Greenup Cos.	9-406.00	85%
Graves	Mayfield	N/A (SPR)	10%
<u>Special Study</u>		<u>Item No.</u>	<u>% Complete</u>
Truck Network Procedures Study		N/A (SPR)	99%
Statewide Corridor Plan		N/A (SPR)	50%
Parkway Nomenclature Study		N/A (SPR)	10%

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

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

Summarizing, 33 projects have been worked on during the past fiscal year, with eight being completed and 25 in various stages of completion. Additionally, three studies were recently awarded (and thus not shown). With the start of the new fiscal year, additional studies will soon begin.

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

Prior to Advertisement, a DNA study will be completed for all projects in the Highway Plan that have not been the subject of a planning study. One DNA study was completed by District and Central Office Planners in FY 2020, for KY 1793 in Oldham County. This was not a project in the Highway Plan; rather, the study was completed to aid the Legislature in assembling the 2020 Highway Plan.

- Priorities for Highway Plan Programming that are sustainable and fundable. The above listed studies include improvement concept development leading to future projects for programming or continuing phases of project development. The 2022 SHIFT process is continuing to utilize a data driven process to score and prioritize projects for the recommended highway plan in response to this sustainable and fundable priority need.

**CHAPTER 7**

Strategic Corridor Planning

**RESPONSIBLE UNIT**

Division of Planning  
Strategic Planning Branch  
Strategic Corridor Planning Team

**DISTRIBUTION OF ESTIMATED COST FOR 2019-2020**

	<b>2019-2020</b>	<b>Expended</b>	<b>Percent Expended</b>
<b>PERSONNEL</b>	<b>\$1,250,000</b>	<b>\$802,389</b>	<b>64%</b>
<b>OUTSOURCING</b>	<b>\$1,700,000</b>	<b>\$1,049,277</b>	<b>61%</b>
<b>OTHER</b>	<b>\$10,000</b>	<b>\$4,411</b>	<b>44%</b>
<b>TOTAL</b>	<b>\$2,960,000</b>	<b>\$1,856,077</b>	<b>62%</b>

**ESTIMATED OUTSOURCING EXPENSES AND PURCHASES**

**Outsourcing**

- \$1,700,000 to outsource for Research and/or Planning Studies.

**Other**

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

## CHAPTER 8

## Statewide Transportation Planning

### RESPONSIBLE UNIT

Division of Planning  
Strategic Planning Branch

### PURPOSE AND SCOPE

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

### PROPOSED ACTIVITIES FOR 2019-2020

#### KYTC Activities:

- Review and update the Transportation Cabinet Strategic Plan as needed. **Ongoing review, no changes needed. Last updated September 2015. 100% Complete**
- Review and update the LRSTP as needed. **Ongoing review, no changes needed. Last updated November 2014. 100% Complete**
- Review and update the Public Involvement Plan (PIP) as needed. Develop and implement processes as needed to ensure FAST Act compliance. **Ongoing review, no changes needed. Last updated February 2016. 100% Complete**
- Coordinate with other transportation modes, land use, environmental, and other resource agencies as needed. **Ongoing Activity – Attended multi-modal planning committee meetings and worked directly with the ADDs, MPOs and HDOs to obtain and confirm data used in the Continuous Highway Analysis Framework (CHAF) projects database as part of the project prioritization process. 100% Complete**
- Enhance the statewide transportation planning process by including data collection and analysis, public involvement, and coordination. . **Continuing Activity – Maintained the CHAF database with help from ADDs, MPOs and HDOs. Maintained the Your Turn Website at <http://transportation.ky.gov/YourTurn/Pages/default.aspx> with direct links to the LRSTP, PIP and LRSTP Public Involvement Notebook for public review. We also provided many of these documents along with links to the DTP and SHIFT prioritization process through the Transportation Planning link at <https://transportation.ky.gov/Planning/Pages/Transportation-Planning.aspx> located on the KYTC Division of Planning Webpage. With continued assistance from ADDs, MPOs and HDOs, the Highway Performance Monitoring System (HPMS) and Planning's Highway Information System (HIS) databases were spot-checked. 100% Complete**
- Recommend sustainable and fundable projects as part of the prioritization process through performance based planning. **Ongoing activity – Continued to work with data driven SHIFT process that helps prioritize projects in need of improvement based on defined performance management areas to aid in project selection. 100% Complete**

## CHAPTER 8

## Statewide Transportation Planning

### RESPONSIBLE UNIT

Division of Planning  
Strategic Planning Branch

### PROPOSED ACTIVITIES FOR 2019-2020 (continued)

- Assist in the development of the KYTC draft recommended highway plan including update of project scoring, prioritization processes and other methods as needed. Continuing activity – Used SHIFT for project evaluation, scoring and prioritization as a tool to consider incorporating projects in a draft recommended plan for the Governor to review and revise in the fall of 2019. 100% Complete
- Maintain and oversee further development of the CHAF database, a tool used in project prioritization and analysis. Continuing activity to review, update, and improve upon the CHAF database to provide current project information. 100% Complete
- Maintain and oversee the DTP that summarizes the methodology behind the prioritization process known as SHIFT. The DTP continues to document and detail SHIFT evaluation, scoring and prioritization processes of projects. Final approval of current DTP is forthcoming. 100% Complete
- Coordinate with other Divisions, HDOs, and Agencies and incorporate applicable plans as necessary to ensure compliance with FAST Act. Ongoing activity – Coordinated through the SHIFT prioritization process to identify data driven projects using identified performance measures. 100% Complete
- Coordinate with and assist the HDOs as needed during the Prioritization Process. Continuing activity – Coordinating with planning partners to document SHIFT prioritization approach and outcomes. 100% Complete
- Coordinate and oversee the ADD Regional Transportation Program. Ongoing activity – Executed new ADD contracts. Provided ADDs guidance on deliverables. Attended and addressed Regional Transportation Committees on various KYTC Planning Processes. Completed invoice reviews, and facilitated ADD Planner Assessments. Coordinated between ADD's and HDO's on the development and presentation of the SHIFT prioritization processes. 100% Complete
- Review and update Annual Work Program and Contracts to include allocation of staff, staff time and timeline for task completion The Division prepared the Annual Work Plan for the ADDs and awarded all ADDs contracts. 100% Complete
- Participate in an Annual Assessment Review The Division reviewed and conducted the assessments of the ADDs at mid fiscal year (December 2019) and at the end of the fiscal year (June 2020). 100% Complete
- Update Bicycle and Pedestrian Asset database The Bicycle and Pedestrian Asset database was updated on January 2020 with the assistance of our ADD partners. 100% Complete
- Coordinate and note speaking engagements with other Planning Agencies and Groups Speaking engagements held with various local agencies/groups across the state coordinated and delivered by the ADD planners. 100% Complete
- Coordinate Regional Transportation Committee (RTC) Meetings RTC meetings coordinated by ADD planners. 100% Complete
- Review Regional Goals and Objectives The Regional Goals and Objectives were reviewed and updated with the assistance of the ADD planners in October 2019. 100% Complete



## CHAPTER 8

## Statewide Transportation Planning

### RESPONSIBLE UNIT

Division of Planning  
Strategic Planning Branch

### PROPOSED ACTIVITIES FOR 2019-2020 (continued)

#### ADDs Activities (assisting KYTC):

- Review RTC Bylaws and maintain Membership List **The RTC Bylaws and Membership List was reviewed and updated with the assistance of the ADD planners in October 2019. 100% Completed**
- Plan RTC activities **RTC meetings scheduled and held. 100% Complete**
- Attend KYTC Statewide Transportation Planning Meetings and other approved training **One STP meeting was held and attended with ADD, MPO and HDO planners. Other approved training documented in Chapter 2 Training accomplishments. Virtual meeting technology was implemented to adapt to a Covid-19 pandemic. 100% Complete**
- Maintain and update List of Rail Freight Loading/Unloading locations **The List of Rail Freight Loading/Unloading locations was reviewed and last updated in February 2020. 100% Complete**
- Perform socioeconomic updates **The socioeconomic profiles were reviewed and updated in April 2020. 100% Complete**
- Maintain a Public Involvement Process **Public Involvement Plan was reviewed with no changes needed. 100% Complete**
- Review and update project information in the CHAF database – (1) **Provided CHAF user access to seventy-eight users from KYTC, ADDs and MPOs; (2) Approved and created six projects in CHAF database from Feb '20 to date. The CHAF project database (formerly PIF) was updated during the SHIFT project identification/ranking process. 100% Complete**
- Maintain and provide a List of Contacts **The List of Contacts was reviewed and last updated in January 2020. 100% Complete**
- Assist KYTC as needed on special projects **ADDs attended meetings and assisted with planning studies in their respective areas during the time period. See Chapter 7, Corridor Planning Accomplishments, for a complete list of projects for this period. 100% Complete**
- Perform regional data collection and/or analysis (as needed) **Ongoing data collection for work program deliverables. 100% Complete**
- Conduct a major update to the following in this fiscal year:
  - Major Traffic Generator/Major Freight User **The Major Traffic Generator/ Major Freight User inventory was reviewed and updated. 100% Complete**
  - Prioritization/CHAF database review **The CHAF database (formerly PIF) was reviewed and updated during SHIFT prioritization. 100% Complete**
  - List of Contacts/Resources **The List of contacts/resources was reviewed and updated. 100% Complete**
  - Long Range Plan – Your Turn Survey **The LRSTP/Your Turn Survey were reviewed and are ready to be updated in the next fiscal year. 100% Complete**

## CHAPTER 8

## Statewide Transportation Planning

### RESPONSIBLE UNIT

Division of Planning  
Strategic Planning Branch

### PRODUCTS

#### KYTC Products:

- LRSTP review and update (as needed) - Reviewed, no changes needed in FY20.
- LRSTP Your Turn Survey Report (as needed) - Reviewed, no changes needed in FY20.
- Transportation Cabinet Strategic Plan Update (as needed) - Reviewed, no changes needed in FY20.
- CHAF database - The Continuous Highway Analysis Framework (CHAF) database update implemented and planning partners' access provided to review and update their project information in the continuous development of the SHIFT prioritization process in FY20. 100% Complete
- Annual Work Programs (AWP) and Contracts for 15 Area Development Districts - Completed revisions for FY21 work program and forwarded for signatures. Clarified ADD deliverables and their due dates, and reviewed deliverables for completeness. 100% Complete
- Quarterly Statewide Transportation Planning Meetings – The Division conducted one STP meeting in FY20 on October 16, 2019. The July 2019 meeting was cancelled due to limited agenda topics to justify having a meeting. The January 2020 meeting was cancelled due to weather and the April 2020 meeting was cancelled due to the Covid-19 Pandemic. 100% Complete
- Individual ADD Planner Assessments (15 ADDs) - The Division reviewed and assessed the ADDs during June of FY20. 100% Complete
- Public Involvement Plan Update (as needed) - Reviewed, no changes needed in FY20.
- Draft Recommended Highway Plan and supporting SHIFT data - Developed the recommended Highway Plan during the fall of 2019, consideration was given to those projects prioritized in the SHIFT 2020 scoring process. 100% Complete
- DTP containing the SHIFT Projects – The final draft DTP documented the processes and products from SHIFT 2020 scoring and prioritization in FY20. 100% Complete
- Rural Consultation Report (CFR 450.210b requires every 5 years; next submittal due by February 16, 2021) - Reviewed, no changes needed in FY20. The last update of the Rural Consultation Report was in February 2016. The next Rural Consultation Report will be due February 24, 2021.

#### ADDs Products (assisting KYTC):

- Regional Goals and Objectives Update 100% Complete
- AWP Timeline 100% Completed.
- Allocation of Resources (staff, salary, percent time charged, and percent overhead/administrative charges) 100% Complete
- Annual Assessment Results 100% Complete
- Quarterly Progress Report 100% Complete
- RTC Agenda, Meeting Minutes, Bylaws and Committee Activities Plan 100% Complete
- Projected Training List 100% Complete
- Public Involvement Plan 100% Complete
- Socioeconomic Profiles 100% Complete

**CHAPTER 8**

Statewide Transportation Planning

**RESPONSIBLE UNIT**

Division of Planning  
Strategic Planning Branch

**PRODUCTS (continued)**

- Socioeconomic Studies (as needed) **Completed the following:**
  - 9-406 Boyd-Greenup SUA, Boyd & Greenup Counties, completed by FIVCO
  - Western Kentucky Parkway Improvement Study, Muhlenberg, Ohio, and Hopkins Counties, completed by Pennyrile ADD
  - 3-402 I-65 New Interchange Feasibility Study, Warren County, completed by BRADD
  - AA Highway Improvements Study, Pendleton, Bracken, Mason, Lewis & Carter County, completed by BTADD
  - 7-445 Jessamine/Fayette Connectivity Study, Fayette & Jessamine Counties, completed by BGADD
  - Kentucky & Adams Street Improvements Study, Warren County, completed by BRADD
- List of Resources **100% Complete**
- Materials for Special Studies (as needed) **100% Complete**
- List of Rail Freight Loading/Unloading Locations **100% Complete**
- Regional data collected and/or analyzed (as needed) **100% Complete**
- Provide the following major updates this fiscal year:
  - List of Contacts/Resources **100% Complete**
  - Prioritization/CHAF data **100% Complete**
  - Major Traffic Generator/Major Freight User **100% Complete**
  - Long Range Plan public outreach and feedback for Your Turn Survey **Reviewed for next FY update.**

**DISTRIBUTION OF ESTIMATED COST FOR 2019-2020**

	<b>2019-2020</b>	<b>Expended</b>	<b>Percent Expended</b>
<b>PERSONNEL</b>	<b>\$1,600,000</b>	<b>\$1,308,851</b>	<b>81%</b>
<b>OUTSOURCED PERSONNEL</b>	<b>\$75,000</b>	<b>\$0</b>	
<b>OTHER</b>	<b>\$100,500</b>	<b>\$7,736</b>	<b>76%</b>
<b>TOTAL</b>	<b>\$1,775,500</b>	<b>\$1,316,587</b>	<b>74%</b>

**ESTIMATED OUTSOURCING EXPENSES AND PURCHASES**

**Outsourcing**

- \$75,000 to outsource for studies and assistance related to the Statewide Planning SPR Work Program  
All studies will be submitted for eligibility review prior to funding.

**Other**

- \$37,500 for Economic Model License
- \$50,000 Public Outreach efforts
- \$13,000 Operational Costs for items such as travel, mileage, equipment and other costs directly associated with the completion and/or implementation 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 2019-2020

- Draft and administer contracts with MPOs and Local Public Agencies (LPAs), providing oversight for federal funds. **Administered existing contracts and drafted new contracts. 100% Complete**
- Provide technical assistance, oversight and review of MPO activities, programs, documents, models, and tools, promote planning processes in each MPO area that are consistent with current federal regulations, and coordinate with MPOs and other agencies on air quality issues as needed. **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 and Lexington and KYOVA certification reviews. 100% Complete**
- Work with the MPOs, Highway District Offices (HDOs), other agencies, and representatives of various modes of transportation to collect data, identify needs (including connectivity gaps in access to essential services such as housing, employment, health care, education, and recreation), identify projects to address those needs, identify funding sources, and evaluate and rank projects, encouraging consistency between local, regional and state plans and programs and across various modes of transportation. **Participated in the development of a Statewide Corridor Plan and refinement of methods to estimate travel time savings. Attended Bluegrass Tomorrow summit. Participated in Lexington ITS Architecture update. Participated in KIPDA – Louisville MPO's Project Prioritization and Policy Review Meetings as well as Project Management Process Workgroup. Participated in the OKI – Cincinnati MPO's Electric Vehicle and Project Prioritization Workshops. 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 various planning studies affecting the metropolitan planning areas including: TARC transit study; Boyd-Greenup Small Urban Area Study; Southeast Lexington Connectivity Study; US27 Corridor Study; Boyd-Greenup Freight Plan; Owensboro Outer Loop study; and Statewide Corridor Plan. Participated in I-64, I-65, and I-64/I-264 Planning Studies as well as the I-71/I-264 Interchange Planning Study, TARC COA/LRP Study, Louisville Metro CBD Study and initial stages of the OKI – Cincinnati MPO NKYATDM Study. Participated in US 31W Bypass Road Diet Study, Kentucky/Adams Streets Study, and I-65 New Interchange Study in Bowling Green. Participated in East Elizabethtown Connectivity Study. 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 2019-2020 (continued)

- Conduct regular Statewide Transportation Planning meetings, to include discussions on current metropolitan planning issues. **The Division conducted one STP meeting in FY20 on October 16, 2019. The July 2019 meeting was cancelled due to limited agenda topics to justify having a meeting. The January 2020 meeting was cancelled due to weather and the April 2020 meeting was cancelled due to the Covid-19 Pandemic. 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. **Coordinated with RIC and TTA through KYOVA meetings. Coordinated with TARC through KIPDA and COA/LRP Meetings, and worked with TANK through OKI meetings. 100% Complete**
- Develop and update metropolitan planning agreements and performance-based planning procedures, as needed. **100% Complete**

#### PRODUCTS

- Contracts with 9 MPOs and other LPAs to carry out planning activities in the urbanized areas. **Contracts in place with all nine MPOs, TARC and Louisville Metro. 100% Complete**
- Quarterly MPO meetings in association with Quarterly STP Meetings. **Held one STP meeting in October. 100% Complete**
- Special studies as needed. **No special studies undertaken.**

#### DISTRIBUTION OF ESTIMATED COST FOR 2019-2020

	2019-2020	Expended	Percent Expended
<b>PERSONNEL</b>	<b>\$720,000</b>	<b>\$537,996</b>	<b>74%</b>
<b>OUTSOURCED PERSONNEL</b>	<b>\$25,000</b>	<b>\$0</b>	
<b>OTHER</b>	<b>\$6,500</b>	<b>\$3,816</b>	<b>58%</b>
<b>TOTAL</b>	<b>\$751,500</b>	<b>\$541,812</b>	<b>72%</b>

#### ESTIMATED OUTSOURCING EXPENSES AND PURCHASES

##### Outsourcing

- \$25,000 various studies, as needed.  
All studies will be submitted for eligibility review prior to funding.

##### Other

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

## CHAPTER 10

## Performance Measures and Congestion/Mobility Analysis

### RESPONSIBLE UNIT

Division of Planning  
Multimodal Programs Branch

### PURPOSE AND SCOPE

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

To assist in calculation of performance measures, KYTC participates in the Texas Transportation Institute's (TTI) Support for Urban Mobility Analyses (SUMA) pooled fund study to track and guide the mobility measure research **and the Rhode Island Pooled Fund to calculate the PM3 measures.**

### PROPOSED ACTIVITIES FOR 2019-2020

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

#### **System Performance**

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

#### **Freight**

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

#### **Congestion Mitigation (CM)**

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

#### **Maintenance and Distribution of Data**

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

**CHAPTER 10**

## Performance Measures and Congestion/Mobility Analysis

**RESPONSIBLE UNIT**

Division of Planning  
Multimodal Programs Branch

**PROPOSED ACTIVITIES FOR 2019-2020 (continued)**

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

**PRODUCTS**

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

**DISTRIBUTION OF ESTIMATED COST FOR 2019-2020**

	<b>2019-2020</b>	<b>Expended</b>	<b>Percent Expended</b>
<b>PERSONNEL</b>	<b>\$100,000</b>	<b>\$36,360</b>	<b>36%</b>
<b>OUTSOURCED PERSONNEL</b>	<b>\$50,000</b>	<b>\$0</b>	
<b>OTHER</b>	<b>\$15,000</b>	<b>\$0</b>	
<b>TOTAL</b>	<b>\$165,000</b>	<b>\$36,360</b>	<b>22%</b>

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

- \$50,000 Directional Speed data into Travel Demand Models to synthesize system reliability.

**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 Support for Urban Mobility Analyses (SUMA) (pooled-fund study)

## CHAPTER 11

## Air Quality

### RESPONSIBLE UNIT

Division of Planning  
Multimodal Programs Branch

### PURPOSE AND SCOPE

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

### PROPOSED ACTIVITIES FOR 2019-2020

- Perform Regional Air Quality (AQ) Conformity Analysis for metropolitan and rural areas as needed. **None needed or requested**
- 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): OKI, KIPDA and KYOVA. 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. **Requested KY DAQ for SIP revision to MVEB for Boyd County for VOC emissions. Will provide KYOVA transportation related data to DAQ when requested. 100% Complete**
- Work with KYTC-IT to develop annual updates to the Kentucky VIN/Fleet registration age/type distribution data for use with MOVES. Explore incorporation of other useful datasets. **The 2018 and 2019 VIN data should be complete. In progress**
- Maintain expertise in MOVES\_2014b or current AQ model. Perform the emissions model analysis for ozone, Green House Gases (GHG), and PM<sub>2.5</sub> regional conformity analyses as needed. **Reviewed MOVES 214b User Guide and Manuals. In progress**
- 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, Cincinnati, and Clarksville conformity to the TIPS, MTPs, and AQ analyses. 100% Complete**
- Attend necessary meetings and conferences to stay abreast of AQ issues. **Attended eleven Air Quality related meetings and webinars. These include IAC meetings, CMAQ webinar and Alternative Fuel Corridor 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. **Boyd County designated, as Maintenance area for NAAQS 1997 8-hour ozone needs VOC emissions budget increased to maintain conformity for future regional emissions analysis. Requested EEC-DAQ for SIP revision to the MVEB for Kentucky portion of Ashland (KYOVA MPO). 100% Complete**
- Inform KYTC staff, KYTC management, partner cabinets, MPOs, ADDs, public officials, and the general public about air quality, conformity analysis, federal guidelines, and new developments regarding greenhouse gas/climate change requirements. Disseminate information about same. **Federal guidelines pertaining to CMAQ and PMs continue to be slowly forthcoming. None needed or requested. 100% Complete**



## CHAPTER 11

## Air Quality

### RESPONSIBLE UNIT

Division of Planning  
Multimodal Programs Branch

### PROPOSED ACTIVITIES FOR 2019-2020 (continued)

- Educate local governments regarding transportation impacts after adoption of new ozone standards. **Areas affected by the 2015 ozone standard are those with past issues, so they are aware of the impacts. 100% Complete**
- Maintain AQ Website- Maintain appropriate active web-links. **Updated Tracking Sheets folder and IAC lists**
- 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 conformity determination for KYOV, KIPDA, OKI, and other areas. Attended Air Quality webinar hosted by FHWA. 100% Complete**
- Assist with new programs as required by FAST Act, Clean Air Act Amendment (CAAA), NAAQS, and other federal, state or local legislation. **Working closely with other branches within/outside KYTC Planning when concerning new PMs from FHWA that affect AQ. 100% Complete**
- Coordinate with team members (travel demand modelers) to ensure all AQ TDM model data is ready for MOVES use. **All data was ready for MOVES use for model runs when needed. 100% Complete**
- Develop and maintain Park-n-Ride database for citizen/agency inquiries. **Database remains maintained, Park-N-Ride inquiries remain few. 100% Complete**
- Develop and submit annual Alternative Fuel Corridor application on behalf of KYTC for FHWA. **Because of staff changes, will look to complete on a biannual basis. Was submitted in FY 2019**
- Develop and maintain working knowledge of the ever-changing performance measures required by the FAST Act and how they could impact AQ. **Coordinated when possible, awaiting further FHWA guidance. 100% Complete**
- Coordinate special AQ/MOVES training when needed. **100% Complete**
- Provide support to the KYTC Office of Local Programs and local agencies for Congestion Management and Air Quality (CMAQ) related issues, as requested. Assist District, ADD, MPO, and local government offices with the preparation of CMAQ applications including emission calculations and documentation. **Received no calls to participate in any CMAQ applications. 100% Complete**
- Participate in Congestion Management, Mobility, Speed, VMT, Green Initiatives, and Safety teams as needed. **100% Complete**
- Provide assistance with performance measures as needed when related to AQ. **100% Complete**
- Other duties and special projects as assigned. **100% Complete**

### PRODUCTS

- Ozone and PM<sub>2.5</sub> regional conformity analysis as required for projects in nonattainment and maintenance areas. **100% Complete**
- Conforming statewide and MPO planning documents. **100% Complete**
- Data to Division of Air Quality as requested. **None to date this year**

**CHAPTER 11**

Air Quality

**RESPONSIBLE UNIT**

Division of Planning  
Multimodal Programs Branch

**PRODUCTS FOR 2019-2020 (continued)**

- Emission calculations for CMAQ applications, Green House Gases/Cross Cutting (GHG/CC) as requested. **None to date this year**
- VIN/Fleet data for use with MOVES. **None to date this year**
- KYTC AQ website updates. **100% Complete**
- Performance measures pertaining to AQ. **100% Complete**
- 2019 Alternative Fuel Corridor application for FHWA. **Not completed this year**
- Park-n-Ride database. **No updates required**

**DISTRIBUTION OF ESTIMATED COST FOR 2019-2020**

	<b>2019-2020</b>	<b>Expended</b>	<b>Percent Expended</b>
<b>PERSONNEL</b>	<b>\$60,000</b>	<b>\$27,972</b>	<b>46%</b>
<b>OTHER</b>	<b>\$2,000</b>	<b>\$0</b>	
<b>TOTAL</b>	<b>\$62,000</b>	<b>\$27,972</b>	<b>45%</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 collects data, plans, promotes, and assists in the development of a multimodal and intermodal transportation system in Kentucky. The modal programs addressed in this chapter are public riverports, railroads, truck freight, and ferryboats. The team will administer and have oversight/support of ferry operations, Ferryboat Formula Funds (FBP), Kentucky Railroad Crossing Improvement (KRCI) 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 2019-2020

#### Public Riverports

- Maintain Kentucky's guidelines for KRI grant applications, as defined by current budget bill. **With input from the Water Transportation Advisory Board, updated guidance document and created standardized form for applications. 100% Complete**
- Review any KRI grant applications received, request completion documents as needed. **Received seven applications. 100% Complete**
- Provide staff support for the Water Transportation Advisory Board. **Held one meeting in FY 19. 100% Complete**
- Interface with the public and private riverports in the state by responding to information requests and serving as a member of the Kentucky Association of Riverports. **Participated in KAR meetings as requested and KBT Waterway Committee meetings. 100% Complete**
- Conduct annual on-site visits of active public riverports in the state. **Visited seven public Riverports, four developing public Riverports, and participated in KAR meetings as requested. 100% Complete**
- Actively participate on the AASHTO Council on Water Transportation. **Attended October annual meeting in St. Louis and participated virtual Spring Meeting. 100% Complete**
- Maintain Kentucky's application for establishing a public riverport authority. Review and respond to applications for establishing a public riverport authority, as needed. **Responded to several inquiries about establishing a public Riverport. Application was revised and updated. No 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 and participate in the KYTC Waterways Transportation Plan with Public Riverports. **Major update underway in FY 20. RFP was been developed, consultant selected, and work now underway. Kickoff Meetings have been held. 100% Complete**
- Plan and host riverport meetings, as needed. **Attended and planned several Riverport meetings and site visits. 100% Complete**
- Coordinate with United States Coast Guard, US Corp of Engineers, and MARAD on issues impacting riverports. **US Corp of Engineers and MARAD serving on steering committee for Waterways Transportation Plan. 100% Complete**
- Maintain KYTC's Riverports website. **Updated as needed, also maintained and updated Public Riverport datasets and maps. 100% Complete**

## CHAPTER 12

## Multimodal Freight Transportation

### RESPONSIBLE UNIT

Division of Planning  
Multimodal Programs Branch

### PROPOSED ACTIVITIES FOR 2019-2020 (continued)

#### Railroads

- Oversee KRCI program including maintaining program guidance, reviewing applications, and contract administration, as needed. **FY 20 Solicitation for projects issued. 21 total applications received. 21 contracts executed. 100% Complete**
- Coordinate with Division of Right of Way to administer KRCI projects as defined by the current budget bill. **21 FY 20 grants transferred to RWU for administration and oversight. 100% Complete**
- Assist with development and maintenance of the statewide railroad GIS mapping and data set using RR GIS, RR maps, RR annual reports, and aerial photographs. **Major update completed. Also created Historic Rail GIS layer using historic maps. 100% Complete**
- Update the KYTC Rail Transportation Plan as needed. **100% Complete**
- Participate in various rail studies and research with KYTC involvement. **Participating in Hickman Rail Loop study for Surface Transportation Board. 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 Council on Rail, 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 blocked crossing, poor crossing condition, rail location inquiries. 100% Complete**
- Plan and host rail industry stakeholder meeting as needed. **Interfaced with railroad company representatives several times. 100% Complete**
- Maintain KYTC's Railroads website. **Updated as needed. 100% Complete**

#### General Freight

- Provide technical assistance and disseminate information to MPOs, ADDs, HDOs, and project teams regarding freight movement, planning, and safety. **Planned and hosted Kentucky Freight Roundtable in July for MPOs, ADDs, and HDOs. Met with two MPOs to discuss freight efforts. 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, maintained, and reviewed as needed and updated in Highway Information System database as needed. 100% Complete**
- Review and maintain designation of the Kentucky Highway Freight Network. **Updated, maintained, and reviewed as needed, and updated in Highway Information System database as needed. 100% Complete**

## CHAPTER 12

## Multimodal Freight Transportation

### RESPONSIBLE UNIT

Division of Planning  
Multimodal Programs Branch

### PROPOSED ACTIVITIES FOR 2019-2020 (continued)

- Participate in regional freight planning efforts. **Served on several planning studies representing freight, 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 Indianapolis, IN and participated in scheduled conference calls. Participated in monthly ITTS conference calls. 100% Complete**
- Visit intermodal sites and communicate with rail, water, air, pipeline, and road modes to identify freight-related needs and concerns involving highways, as needed. **Pandemic travel restrictions limited physical visits; virtual interactions were utilized. 100% Complete**
- Continue relationships with Economic Development to identify and promote intermodal freight opportunities and locations. **Partnering with Economic Development on Waterways Study, 100% Complete**
- Maintain the Kentucky 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. **Created, edited, and updated Freight related GIS datasets and maps for Freight Modes Book. Posted updated maps and Freight Modes Book on website. 100% Complete**
- Review draft procedure and perform analysis for Freight Performance Measures. **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 SHIFT freight scoring. 100% Complete**
- Track and share information regarding automated and connected freight vehicles, as appropriate. **100% Complete**
- Provide staff support for the KY Freight Advisory Committee for Transportation (KY FACT). **Held one meeting in FY 20 as part of Kentucky Freight Roundtable. 100% Complete**
- Maintain and update Critical Urban Freight Corridor and Critical Rural Freight Corridor networks, as needed. **Worked with MPOs for CUFC updates to NHFN. 100% Complete**
- Maintain and update Critical Rural Freight Facilities, as needed. **Worked with ADDs for CRFF updates to NHFN. 100% Complete**
- Coordinate and participate in National Truck Network Procedures study. **100% Complete**
- Coordinate and participate in Truck Parking Study and surveys. **Quick Look Truck Parking Study completed; larger truck parking study planned for FY 21. 100% Complete**

### Ferryboats

- Coordinate the Kentucky Ferryboat Program writing contracts, reviewing invoices, and compiling traffic counts. **Updated all contracts with audit input, revised Ferry Traffic Count forms and created Adverse Weather Certification. 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. **Three FBP projects completed, three more in progress. 100% Complete**

## CHAPTER 12

## Multimodal Freight Transportation

### RESPONSIBLE UNIT

Division of Planning  
Multimodal Programs Branch

### PROPOSED ACTIVITIES FOR 2019-2020 (continued)

- Plan and host ferryboat operators meeting, as needed. **Met with ferryboat operators several times. Created Ferry Annual Report form. 100% Complete**
- Conduct annual on-site visits of Kentucky ferryboat operations. **Visited three state funded ferry operations, and two privately funded operations. Pandemic travel restrictions limited physical visits; virtual interactions were utilized with other ferry operations. 100% Complete**
- Coordinate with United States Coast Guard, US Corp of Engineers, and MARAD on issues impacting all ferries. **100% Complete**
- Coordinate and participate in Ferry Operations Funding study. **Study Completed, 100% Complete**
- Maintain KYTC's Ferryboat website. **Maintained and updated Ferryboat GIS datasets, maps, Highway Information System database information and posted on website to update as needed. 100% Complete**

### PRODUCTS

- Kentucky Riverport Improvement projects/contracts. **100% Complete**
- Updated Statewide Waterway Plan as needed. **100% Complete**
- Updated railroad GIS database and maps for KYTC and public purposes. **Updates of rail GIS databases and maps was part of a larger effort that also updated riverport, freight, and ferryboat GIS databases and maps and posting them on appropriate websites. 100% Complete**
- Annual Rail Report. **100% Complete**
- Annual Riverport Report. **100% Complete**
- Annual Ferryboat Report. **100% Complete**
- Truck Parking Study, as needed. **100% Complete**
- Ferryboat Operations Funding study. **100% Complete**
- National Truck Network Procedures study. **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 (one per year anticipated). **100% Complete**
- Annual Waterways/Ferryboats meeting, as needed. **100% Complete**
- Contracts and guidance for KRCI. **100% Complete**
- Updated website, meeting minutes, agendas, logistics, and guidance for Water Transportation Advisory Board. **100% Complete**
- Maintain FAST Act Compliant Freight Plan. **100% Complete**

**CHAPTER 12**

Multimodal Freight Transportation

**RESPONSIBLE UNIT**

Division of Planning  
Multimodal Programs Branch

**DISTRIBUTION OF ESTIMATED COST FOR 2019-2020**

	<b>2019-2020</b>	<b>Expended</b>	<b>Percent Expended</b>
<b>PERSONNEL</b>	<b>\$310,000</b>	<b>\$177,364</b>	<b>57%</b>
<b>OUTSOURCED PERSONNEL</b>	<b>\$200,000</b>	<b>\$5,000</b>	<b>1%</b>
<b>OTHER</b>	<b>\$100,000</b>	<b>1,857</b>	<b>1%</b>
<b>TOTAL</b>	<b>\$610,000</b>	<b>\$184,221</b>	<b>30%</b>

**ESTIMATED OUTSOURCING EXPENSES AND PURCHASES**

**Outsourcing**

- \$120,000 Truck Parking Study **100% Complete**
- \$80,000 Ferryboat Operations Funding study **100% Complete**

**Other**

- \$40,000 Mid America Freight Coalition, a MAASTO subcommittee paid as pooled fund study\* Renewed in FY2019 with three-year commitment (FY2019, FY 2020, FY 2021). **100% Complete**
- \$40,000 Institute for Trade and Transportation Studies, a SASHTO subcommittee paid as a pooled fund study\*. Renews in FY2019 with two-year commitment (FY2020, FY 2021). **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. **100% Complete**

**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 Transportation Modeling

#### RESPONSIBLE UNIT

Division of Planning  
Multimodal Programs Branch

#### PURPOSE AND SCOPE

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

#### PROPOSED ACTIVITIES FOR 2019-2020

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

- Prepare traffic estimates for planning studies, design projects, maintenance, environmental, and other purposes, as requested. **Received 29 traffic forecast requests with 16 completed. 100% Complete**
- Administer statewide traffic forecasting contracts. Provide quality review for traffic projections prepared by the MPOs and consultants. **Provided quality review for 14 forecasting projects prepared by consultants for the Cabinet. 100% Complete**
- Maintain databases tracking traffic forecasts and traffic forecast parameters. Make databases available to other users and offices as appropriate. **Database maintained and a copy made available to other users within the Division of Planning. 100% Complete**
- Create, publish, and email monthly Traffic Forecast and Model Status Report. Update Forecast milestone dates on Branch Calendar, at least monthly. **Status reports available upon request. 100% Complete**
- Maintain the traffic forecasting web page as a tool for other users. Maintain and update internal traffic forecasting tools (e.g. pavement design spreadsheets, turning movement spreadsheets) and Traffic Forecasting report. **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. **100% Complete**
- Participate in Regional Forecaster User's Group. This group includes forecasters from surrounding states that are trying to identify the state of practice for traffic forecasts. **No Forecaster User's Group sessions held this year. 100% Complete**
- Provide support to Division of Highway Design in implementation of new Mechanical Pavement Design Guide (MEPDG) as used in pavement design spreadsheets. **Provided traffic forecast to Central Office Highway Design and District Design staff with the new Pavement Design Form. 100% Complete**

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

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



## CHAPTER 13

### Traffic Data Forecasting Statewide Transportation Modeling

#### RESPONSIBLE UNIT

Division of Planning  
Multimodal Programs Branch

#### PROPOSED ACTIVITIES FOR 2019-2020 (continued)

- Assist MPOs by offering specialized training. **100% Complete**
- Create, publish, and monitor Traffic Data and Model Sharing Agreements. Update Sharing Status milestone dates, at least quarterly. **100% Complete**
- Use and modify existing and create new transportation models as needed to facilitate traffic forecasts, planning/regional studies, as well as special projects such as SHIFT. **Successfully migrated the Statewide model to TransCAD version 7. 100% Complete**
- Maintain the traffic modeling web page as a tool for users. **100% Complete**
- Obtain and use vehicle registration, employment, traffic counts, speed data and travel time data for use in Transportation Demand Models. Research other available data sources. Evaluate benefit/cost of purchased data and TDM improvements. **100% Complete**
- Participate in Transportation Model Users Group and TransCAD workshops for traffic forecasters and traffic modelers composed of members from government, academia, and the private sector. **Invited to the Tennessee and Ohio MUG meetings. COVID resulted in a cancellation of the KY MUG meeting. 100% Complete**
- Update and modify multi-county and regional models scripts as needed to run in TransCAD 6 or KYTC's current version. **100% Complete**
- Research state of the practice leading to better-calibrated and validated models. Attend peer reviews of TMA-MPO models and coordinate model updates as needed for small MPO models. **100% Complete**
- Offer collaboration with Project Development to identify and utilize modeling where appropriate. **100% Complete**
- Further review and propose improved freight assignment in models. **100% Complete**
- 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**
- VMT and VHT by road classification using KYSTM for MOVES2014b (or current version). **100% Complete**
- Quarterly Model Sharing Status Report. **100% Complete**
- Project Development coordination regarding models and forecasts. **100% Complete**
- Growth rate analysis by exponential, regression and straight- line methods, of traffic stations using TFT. **100% Complete**

**CHAPTER 13**

Traffic Data Forecasting  
Statewide Transportation Modeling

**RESPONSIBLE UNIT**

Division of Planning  
Multimodal Programs Branch

**PRODUCTS (Continued)**

- Develop/review as requested, Transportation Demand Models such as:
  - ♦ County or highway district area macro models. **Warren/Bowling Green MPO updated**
  - ♦ Corridor and small area micro-simulation models. **At least eight micro-simulation models.**
  - ♦ Continued validation and calibration of new and existing models. **Developing Micro-simulation standards, Phase I completed**

**DISTRIBUTION OF ESTIMATED COST FOR 2019-2020**

	<b>2019-2020</b>	<b>Expended</b>	<b>Percent Expended</b>
<b>PERSONNEL</b>	<b>\$525,000</b>	<b>\$287,833</b>	<b>54%</b>
<b>OUTSOURCED PERSONNEL</b>	<b>\$200,000</b>	<b>\$158,147</b>	<b>79%</b>
<b>OTHER</b>	<b>\$5,000</b>	<b>\$187</b>	<b>1%</b>
<b>TOTAL</b>	<b>\$730,000</b>	<b>\$446,167</b>	<b>61%</b>

**ESTIMATED OUTSOURCING EXPENSES AND PURCHASES**

**Outsourcing**

- \$100,000 for Regional model updates (Hardin-Meade & Warren Counties)

**Other**

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

**Non-Work Program Expenses**

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

## CHAPTER 14

## Bicycle and Pedestrian Program

### RESPONSIBLE UNIT

Division of Planning  
Multimodal Programs Branch

### PURPOSE AND SCOPE

The Bicycle and Pedestrian Team coordinates, assists, and manages the state's Bicycle and Pedestrian Program within Transportation Cabinet and coordinates associated efforts and works with other state agencies, local governments, organizations, and citizens of the Commonwealth. The coordinator works 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. Assistance is in the form of technical advice, development/review of plans, and coordinating studies. The responsibility of the Kentucky Pedestrian and Bicycle Coordinator is to prepare, assist, and promote bike/ped programs throughout the state by working with project teams to recommend opportunities and options for bike/ped facilities for proposed and ongoing highway projects, local roadway projects, and other associated bicycle and pedestrian projects. The Bicycle and Pedestrian Coordinator acts as secretariat for the Kentucky Bicycle and Bikeway Commission.

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

### PROPOSED ACTIVITIES FOR 2019-2020

#### 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 to/from KYTC, FHWA, and AASHTO. **Provided design plan templates to several communities throughout the state to assist with developing and/or improving their current bike/ped network and facilities. Provided templates, grant applications, and technical specification documents to KBBC members to distribute to their local areas of the state that help provide guidance for local government agencies, advocacy groups, and bike clubs in enhancing their bike/ped networks. Participated in KY Heritage Councils "Main Street" Program Winter Conference to give presentation on bicycle and pedestrian planning within their communities 100% Complete**
- Participate in the KYTC Strategic Highway Safety Plan update and implementation. Pedestrian and Bicycle Safety are now stand-alone sections. **100% Complete**
- Participate in FHWA Pedestrian Fatality Focus Study for Louisville and Kentucky. **100% Complete**

## CHAPTER 14

## Bicycle and Pedestrian Program

### RESPONSIBLE UNIT

Division of Planning  
Multimodal Programs Branch

### PROPOSED ACTIVITIES FOR 2019-2020 (continued)

- Assist with revision and updating of the United States Bicycle Route (USBR) tour system. Provide documentation, submit propose re-routes as needed, and provide other updates to the USBR system in KY by submittal to AASHTO for approval. **Assisted with route revision efforts of USBR-21 in Bell County along US-25E near the Cumberland Gap corridor. Provided support and technical assistance to Dr. Fox and other local advocates for the revision. Collaborated with AASHTO to finalize route revisions. Completed spatial and tabular data updates for all USBR's (21, 23, 25, 35, and 76) in KYTC's Highway Information System (HIS) database, as well as Modal's GIS datasets on network drives. The Bicycle Comfort Index (BCI) dataset has been updated and improved to depict the level of cycling experience required to ride each section of the USBR's. All necessary updates were submitted to AASHTO for approval. 100% Complete**
- Review, revise, and update the KYTC Pedestrian and Bicycle Travel Policy, as needed. Create, update, and review procedures for work associated with developing or improving bikeways and walkways. **KYTC's bike/ped travel policies were analyzed and the necessary updates were implemented. Participated with consultant for the Development of Pedestrian Action Plan. 100% Complete**
- Act as a Technical Liaison for municipalities to inform of the federal requirements for Americans with Disabilities Act (ADA) Transition Plans (in relationship to their pedestrian planning efforts) and provide resources and material for these plan developments. **Templates and technical specification documents have been created and updated annually for the use of local communities across the state to aid in the development and maintenance of bicycle and pedestrian facilities. Worked diligently with consultant Michael Baker in the development of an updated, thorough, statewide inventory of pedestrian facilities to ensure they meet or exceed ADA requirements. The updated inventory will show which facilities do and do not meet ADA requirements, and consequent steps can to taken to correct the facilities not in compliance. Also assisted and advised communities on how to create a design plan for a bicycle and pedestrian facilities network, and provided information on how to improve the efficiency and effectiveness of current networks. 100% Complete**
- Coordinate and assist the review of federal funding applications for the Transportation Alternatives Program (TAP). Assists in the determinations of proposed activities awarded through federal funding to plan, design, construct, and inspect non-motorized facilities and treatments. **Worked with Kim Tompkins (Program Coordinator) for Transportation Alternatives Program to help secure funding for USBR-21 signage (United States Bicycle Route). 100% Complete**

## CHAPTER 14

## Bicycle and Pedestrian Program

### RESPONSIBLE UNIT

Division of Planning  
Multimodal Programs Branch

### PROPOSED ACTIVITIES FOR 2019-2020 (continued)

#### Engineering and Project Management

- Respond to requests concerning planning and design guidelines regarding bike/ped facilities. Provide reviews of bike/ped projects and facilities with KYTC's Highway District Office (HDO) and Central Office (CO) Divisions, Area Development Districts (ADDs), Metropolitan Planning Organizations (MPOs), and local governments. Answered several requests from multiple ADD's asking for a current inventory of the Bicycle and Pedestrian Facilities (BKPD) data within their district; ran necessary queries in HIS and extracted all facilities, and provided an excel spreadsheet output report with the most up-to-date inventory for the ADD's to use. Provided technical guidance to the ADD's for their FY20 BKPD updates to satisfy work program requirements. Processed all BKPD data submissions received into HIS database. Provided an in-depth response to an inquiry received from UK Landscape Architect personnel regarding technical definitions of facilities, BKPD metadata explanations, and pointed them to our statewide interactive BKPD map on our website. Also provided supplemental documentation for technical design standards. Provided complete BKPD dataset to Michael Baker for ADA compliance data collection effort. 100% Complete
- Review and comment on requests for signage or other options to recognize bike/ped facilities or on-road bicycle routes. Provided MUTCG signage standards and specified applicable sections to review for David Collette who requested signage recommendations for multi-use paths and facility crossings at rail road tracks. Provided documentation and guidance to communities throughout the state for requirements to add "Sharrows" and Share the Road signs. Share The Road sign requests completed for McLean County (KY-1046, KY-815, KY-81, KY-140), Franklin County (KY-1784), Kenton County (KY-3716), and Warren County (KY-255, KY-422, KY-103, US-68, KY-665). 100% Complete
- Provide technical assistance and training for all state agencies, local agencies, ADDs, and other organizations in policy related materials and subjects related to non-motorized travel planning, facility design (including ADA compliance), and inspection. Provided technical assistance and specification documents to KBBC members to distribute to communities across the state relating, but not limited to; bike/ped planning, design templates, advocacy, and network development. Provided assistance to ADD's regarding technical questions of bike/ped facilities and data collection techniques. Worked closely with Michael Baker to ensure ADA compliance data collection efforts were up to the Cabinet's standards and to ensure the collected data could be easily integrated into KYTC's HIS database. 100% Complete
- Review the list of proposed resurfacing projects for opportunities to improve bike/ped facilities or treatments through restriping and other improvements. Review for considerations within local bike/ped plans where appropriate as part of maintenance activities. 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. Analyzed design plans utilizing Microstation to ensure that bike/facilities were properly integrated. 100% Complete
- Provide bike/ped accommodation considerations within traffic forecasts, planning studies, and other Project Development reports. Attended 9-406 Boyd-Greenup SUA (Small Urban Area) Study and gave input in regard to bicycle and pedestrian improvements on US-23X. Attended Hurstbourne Lane 5-555 corridor study meeting. 100% Complete

## CHAPTER 14

## Bicycle and Pedestrian Program

### RESPONSIBLE UNIT

Division of Planning  
Multimodal Programs Branch

### PROPOSED ACTIVITIES FOR 2019-2020 (continued)

- Develop, update, and standardized coordination protocols with the Divisions of Maintenance, Traffic Operations, Design, Planning, and HDOs concerning Share the Road (STR) sign placement procedures. Share The Road sign requests completed for McLean County (KY-1046, KY-815, KY-81, KY-140), Franklin County (KY-1784), Kenton County (KY-3716), and Warren County (KY-255, KY-422, KY-103, US-68, KY-665). 100% Complete
- Develop and maintain a GIS of bike/ped network facilities and plans statewide. Document linkage between the local and regional network facilities. Use national and statewide data source (Strava or other applications) to confirm bike/ped travel activity. Multiple statewide GIS datasets created and regularly maintained, including bike/ped facilities, AASHTO designated US Bicycle Routes, Recreational Bike Routes, Multi-use paths (in and out of ROW), and Rail Trails. The bike/ped facilities inventory includes complete local and regional networks across the state consisting of: sidewalks, crosswalks, designated bike lanes, multi-use paths, and other shared-use facilities. Strava heat maps are referenced to monitor bicycle/pedestrian traffic. 100% Complete
- Identify and help obtain federal, state, local, or private funds available for developing active (bike/ped) transportation facilities or treatments. Worked closely with Kim Tompkins (Program Coordinator) for Transportation Alternatives Program to help secure funding for USBR-21 (United States Bicycle Route). 100% Complete
- Develop and maintain a functional system whereby all information related to non-motorized travel planning, design, and inspection (including ADA compliance) is available for consideration in local, state, and federal efforts. A statewide, interactive map of bike/ped facilities on KYTC's website has been created and is regularly updated from HIS data extracts. Users can view bike/ped networks across the state a local level and obtain can attribute data of each feature within the network. Attribute data of each feature includes, but is not limited to; begin and end milepoint based on adjacent roadway, feature width, type of surface, side of roadway feature is located on (offset), total feature length, adjacent roadway information, and location information. ADA compliance data collection was completed by Michael Baker, and will be incorporated in HIS data as well. 100% Complete

### Education & Enforcement

- Provide technical training, including best practices and bike/ped design for planners, designers, local government staff, and other KYTC staff (statewide) as needed. Presented at the Kentucky Heritage Council's Annual Winter "Main Street" Conference for the best practices for developing a bicycle and pedestrian Master Plan. Attended and participated on several conference calls with local communities implementing a bicycle and pedestrian master plan: (Middlesboro (Bell County), Madisonville (Hopkins County), Radcliff-Elizabethtown). 100% Complete
- Facilitate education of the public regarding non-motorized modes of transportation. Provide educational brochures and other resources to local government offices, bike shops, health departments, and other related groups. Provided KYTC's available resources, documents, and educational materials to entities upon request. Also, when necessary, directed entities to KYTC's Bike/Ped webpages and FHWA's webpages as additional sources for information. 100% Complete

## CHAPTER 14

## Bicycle and Pedestrian Program

### RESPONSIBLE UNIT

Division of Planning  
Multimodal Programs Branch

### PROPOSED ACTIVITIES FOR 2019-2020 (continued)

- Coordinate with all levels of KY law enforcement to promote education and enforcement of bike/ped safety laws. Provide information brochures and make a presentation at the annual Life Savers Conference. **Was not present at KYTC for Lifesavers Conference. Planned to attend a law enforcement conference with KYTC Highway Safety in Baltimore, MD, but cancelled due to COVID-19. 100% Complete**
- Respond to citizens' requests for information, maps, bike routes, walking trails, availability of funds for projects, and other related information as requested. **Responded to all emails and phone calls received concerning bike/ped datasets, trail maps, locations of multi-use paths, bourbon trail/tourism maps, community design plan templates, technical specification documents, questions from KBBC commissioners, and Paula Nye Grant application process inquiries. 100% Complete**
- Develop and maintain a clearinghouse of information concerning active transportation for CO, HDOs, ADDs, MPOs, and local governments. **The statewide Bike/Ped (BKPD) facilities dataset is regularly maintained from ADD work program submissions, Microstation design plans, and Project Notification Reports. Updates are completed utilizing the HIS database. All BKPD data from HIS is then extracted on a weekly basis and updates the following resources: the Bike/Ped facilities interactive map on KYTC's website, the layerfile on KYTC's SDE GIS server, and the downloadable shapefile on KYTC's website for public consumption. 100% Complete**
- Maintain [www.bikewalk.ky.gov](http://www.bikewalk.ky.gov) website. **All bike/ped webpages were continually updated on a regular basis throughout the year to ensure that the most current information and resources are always readily available. Webpages regularly updated include: Bike/Walk Home, KBBC, Bike Ped Plans and Clubs, Sidewalk and Bike Facilities Map, Road Cycling Events and Touring Routes. 100% Complete**

### Kentucky Bicycle and Bikeways Commission (KBBC)

- Plan quarterly KBBC meetings. **Successfully planned, coordinated, and conducted the quarterly KBBC meetings over the course of FY20. Each meeting offered the option for video conferencing, as well as in-person attendance. Created and provided meeting agenda documents, as well as meeting minutes following the meeting's conclusion. Updated the website with announcements as needed and posted meeting schedules and minutes documents. The meetings were held in accordance with KRS 61.805 to 61.850. 100% Complete**
- Plan annual KBBC Conference. Prepare agenda before and minutes after each KBBC meeting. **The annual conference was cancelled due to a low number of registered attendees, so a meeting was held at Central Office instead to review the Nye Grant applications. All Nye Grant applications received were reviewed and funds were successfully dispersed to grant recipients. All necessary accounting protocols were completed by KYTC. Prepared agendas for each of the meetings, took notes during the meetings, and prepared minutes after each meeting. Posted agendas and meetings to the KYTC bike/ped and KBBC webpages. 100% Complete**

**CHAPTER 14**

Bicycle and Pedestrian Program

**RESPONSIBLE UNIT**

Division of Planning  
Multimodal Programs Branch

**PROPOSED ACTIVITIES FOR 2019-2020 (continued)**

- Assist KBBC on communication and technical matters via email and phone calls. Administered all communication with KBBC members and answered all phone and email inquiries promptly. Provided technical specifications/design templates, coordinated efforts with conducting of the annual audit, maintained Nye Grant expenditures, processed Nye Grant applications, and kept in regularly communication with all KBBC members being sure to clearly relay every important announcement. 100% Complete
- Assist in administering and reporting of the Paula Nye Memorial Education Grant program. Prepared and maintained a master spreadsheet to track all expenditures. Reviewed and processed newly received grant applications. Answered emails and phone calls from grant applicants. Reviewed and tracked progress reports and summary reports received from grantees. Contacted organizations/groups that were not submitting reports regularly and let them know they were not in compliance with the grant’s terms; requested progress and summary reports from the aforementioned organizations/groups. Kept in close communication with KBBC members and gave regular updates regarding all aspects of the grant program. Coordinated with KBBC Treasurer and provided all required documentation for the annual audit of Share the Road license plate funds conducted by KYTC’s Office of Audits. 100% Complete

**PRODUCTS**

- Guidance for local and regional bike/ped master plans. 100% Complete
- Clearinghouse/toolbox of bike & ped resources and related items for the creation or improvement of bike/ped projects or local master plans. 100% Complete
- Bike/ped brochures and promotional materials. 100% Complete
- Bike/ped transportation planning technical training courses. 100% Complete
- Walkability/Bikeability Audits. 100% Complete
- Quarterly and annual KBBC meetings. 100% Complete
- Nye Grant status reports. 100% Complete
- Continuous update of KYTC Bike/Walk web pages. 100% Complete

**DISTRIBUTION OF ESTIMATED COST FOR 2019-2020**

	<b>2019-2020</b>	<b>Expended</b>	<b>Percent Expended</b>
<b>PERSONNEL</b>	<b>\$175,000</b>	<b>\$88,027</b>	<b>50%</b>
<b>OTHER</b>	<b>\$32,000</b>	<b>\$0</b>	
<b>TOTAL</b>	<b>\$207,000</b>	<b>\$88,027</b>	<b>42%</b>



**CHAPTER 14**

Bicycle and Pedestrian Program

**RESPONSIBLE UNIT**

Division of Planning  
Multimodal Programs Branch

**ESTIMATED OUTSOURCING EXPENSES AND PURCHASES**

**Other**

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

**CHAPTER 15**

## Highway Safety Improvement Program

**RESPONSIBLE UNIT**

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

**PURPOSE AND SCOPE**

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

**PROPOSED ACTIVITIES FOR 2019-2020**

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

**PRODUCTS**

- Network Screening
- Road Safety Audit Reviews
- Crash Analysis
- Alternatives Studies
- Feasibility Studies
- Special Studies
- Environmental Studies
- Utility Studies
- Project Estimates
- Priorities for Highway Safety Improvement Program
- Annual Listing of HSIP Projects

**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 2019-2020**

	2017-2018	Expended	Percent Expended
<b>PERSONNEL</b>	<b>\$500,000</b>	<b>\$440,463</b>	<b>88%</b>
<b>OUTSOURCED</b>	<b>\$0</b>	<b>\$32,525</b>	
<b>OTHER</b>	<b>\$0</b>	<b>\$545</b>	
<b>TOTAL</b>	<b>\$500,000</b>	<b>\$473,533</b>	<b>94%</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 THE FOLLOWING 8 PAGES FOR ACCOMPLISHMENTS**

Dist	County	Roadway	BMP	EMP	Description	Item No.	Total Cost	Non-Hwy	Planning Cost	Design Cost	R/W Cost	Utility Cost	Const. Cost	Remarks
1	MCCRACKEN	KY 1954	0.00	3.04	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 1954 FROM KY 348 TO 0.085 MI SOUTH OF KY 3075. (2014BOP)	01-9002.00	\$29,500						\$29,500	THIS MODIFICATION PROVIDES \$26,550 ADDITIONAL HSIP FUNDS WITH \$2,950 STATE MATCHING FUNDS TO COVER CURRENT EXPENDITURES AND STATE FORCE CHARGES.
1	MCCRACKEN	US 45X	2.23	2.33	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)	01-9004.10	\$14,000						\$14,000	THIS MODIFICATION PROVIDES ADDITIONAL \$12,600 OF FD52 HSIP FUNDS WITH \$1,400 STATE MATCHING FUNDS TO COVER CHANGE ORDER.
1	GRAVES	KY 58	8.00	8.30	UPDATE THE SIGNING AND STRIPING AND ACCESS MANAGEMENT IMPROVEMENTS NEAR THE INTERSECTION OF KY 58 & KY 131. (2018BOP)	01-9008.20	\$89,950						\$89,950	
1	MCCRACKEN	US 60	12.35	12.65	UPDATE THE TRAFFIC SIGNAL TO INCLUDE YELLOW ARROW, REFLECTIVE BACKPLATES, DOUBLE RED SIGNAL HEADS, AND GREEN EXTENSION LOOPS AND CLOSURE OF AN ENTRANCE NEAR THE INTERSECTION OF US 60 & KY 731. (2018BOP)	01-9008.30	\$90,000						\$90,000	
1	MCCRACKEN	US 45X	1.95	2.11	UPDATE THE TRAFFIC SIGNAL TO INCLUDE DOUBLE RED SIGNAL HEADS AND REFLECTIVE BACKPLATES, CONSTRUCT CURB BUMP OUTS, AND UPDATE THE SIGNING AND STRIPING NEAR THE INTERSECTION OF US 45X & US 60X. (2018BOP)	01-9008.40	\$100,000						\$100,000	
1	MCCRACKEN	US 60	13.40	13.58	SIGNING AND STRIPING IMPROVEMENTS NEAR THE INTERSECTION OF US 60 & S 27TH ST. (2018BOP)	01-9008.50	\$50,000						\$50,000	
1	MCCRACKEN	US 60	11.68	11.98	REBUILD THE TRAFFIC SIGNAL AND UPDATE THE STRIPING AT THE INTERSECTION OF US 60 & ALLEN LN. (2018BOP)	01-9008.60	\$160,000						\$160,000	
1	BALLARD	US 62	1.37	1.75	PERFORM LOW COST SAFETY IMPROVEMENTS ON US 62 FROM KY 1837 IN BALLARD COUNTY EXTENDING EASTWARD TO KY 998 IN MCCRACKEN COUNTY. (2018BOP),PERFORM LOW COST SAFETY IMPROVEMENTS ON US 62 FROM KY 1837 IN BALLARD COUNTY EXTENDING EASTWARD TO KY 998 IN MCCRACKEN COUNTY. (2018BOP)	01-9010.00	\$100,000			\$100,000				THIS MODIFICATION PROVIDES ADDITIONAL \$100,000 FD52 HSIP FUNDS FOR DESIGN, TOLL CREDIT MATCH.
1	MARSHALL	US 68	1.55	2.68	PERFORM LOW COST SAFETY IMPROVEMENTS ON US 68 FROM MP 1.550 TO MP 2.677 IN MCCRACKEN COUNTY AND FROM MP 0.000 TO MP 14.000 IN MARSHALL COUNTY. (2018BOP),PERFORM LOW COST SAFETY IMPROVEMENTS ON US 68 FROM MP 1.550 TO MP 2.677 IN MCCRACKEN COUNTY AND FROM MP 0.000 TO MP 14.000 IN MARSHALL COUNTY. (2018BOP)	01-9014.00	\$550,000			\$550,000				
1	MCCRACKEN	US 45	2.20	3.00	CONSTRUCTION OF AN RCUT AT THE INTERSECTION OF US 45 AND KY 1288 IN MCCRACKEN COUNTY, KY.	01-9015.00	\$175,000			\$175,000				
1	MARSHALL	US 641	0.90	1.55	CONSTRUCTION OF AN RCUT AT THE INTERSECTION OF US 641 AND KY 402 (2018BOP)	01-9016.00	\$175,000			\$175,000				
1	MCCRACKEN	US 60	3.10	4.20	INTERSECTION AND CORRIDOR IMPROVEMENTS TO REDUCE CONFLICT POINTS AND ENHANCE SAFETY ALONG US 60 FROM MP 3.10-4.20. (2018BOP)	01-9017.00	\$350,000			\$350,000				
1	MCCRACKEN	I 24	4.45	4.80	CONSTRUCT AN ACCELERATION LANE ALONG I-24 FOR THE EASTBOUND ON RAMP AT EXIT 4. (2018BOP)	01-9018.00	\$50,000			\$50,000				
1	MARSHALL	US 68	14.00	22.25	PERFORM LOW COST SAFETY IMPROVEMENTS ON US 68 FROM MP 14.00 TO MP 22.25 IN MARSHALL COUNTY, KY. (2018BOP)	01-9019.00	\$150,000			\$150,000				
1	GRAVES	KY 129	8.73	15.40	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 129 FROM MP 8.734 TO MP 15.402 IN GRAVES COUNTY, KY.	01-9020.00	\$300,000			\$300,000				
1	VARIOUS	VARIOUS			INSTALLATION OF PAVEMENT MARKERS ON VARIOUS ROUTES IN DISTRICT 1. (HSIP)(2018BOP)	01-982.00	\$45,000						\$45,000	
1	MCCRACKEN	KY 1286	4.13	4.30	INSTALLATION OF HIGH FRICTION SURFACE TREATMENT ON KY 1286 FROM MP 4.134 TO MP 4.301 IN MCCRACKEN COUNTY, KY. (2018BOP)	01-983.00	\$43,000						\$43,000	
1	CRITTENDEN	KY 120	8.85	9.12	INSTALLATION OF HIGH FRICTION SURFACE TREATMENT ON KY 120 FROM 8.849 ON MP 9.124 IN CRITTENDEN COUNTY, KY. (2018BOP)	01-984.00	\$49,000						\$49,000	
2	DAVISS	KY 2831	2.46	2.60	OFFSET LEFT TURN LANES ALONG KY 2831, INSTALL SUPPLEMENTAL SIGNAL HEADS, AND REBUILD THE TRAFFIC SIGNAL AT THE INTERSECTION OF KY 2831, KY 54, & KY 81	02-9004.10	\$140,000						\$140,000	THIS MOD PROVIDES FD52 CONSTRUCTION FUNDS TO COVER CURRENT WORK.
2	DAVISS	US 431	11.16	11.32	CONSTRUCT TURN LANE IMPROVEMENTS, REBUILD THE TRAFFIC SIGNAL, AND UPDATE THE STRIPING AT THE INTERSECTION OF US 431 & GOETZ/SALEM DRIVE	02-9004.20	\$54,000						\$54,000	THIS MOD PROVIDES FD52 CONSTRUCTION FUNDS TO COVER CURRENT WORK.
2	HENDERSON	US 41A	17.18	17.28	RECONSTRUCT AND CLOSE OFF THE CONCRETE MEDIAN AND UPDATE THE STRIPING AND SIGNING AT THE INTERSECTION OF US 41A & RICHARDSON AVE	02-9004.30	\$9,000						\$9,000	THIS MOD PROVIDES FD52 CONSTRUCTION FUNDS TO COVER CURRENT WORK.

Dist	County	Roadway	BMP	EMP	Description	Item No.	Total Cost	Non-Hwy	Planning Cost	Design Cost	R/W Cost	Utility Cost	Const. Cost	Remarks
2	MCLEAN	US 431	2.60	3.10	UPDATE THE STRIPING/PAVEMENT MARKINGS AND INSTALL GUARDRAIL DELINEATORS NEAR THE INTERSECTION OF US 431 & KY 85	02-9004.40	\$6,500						\$6,500	THIS MOD PROVIDES FD52 CONSTRUCTION FUNDS TO COVER CURRENT WORK.
2	HENDERSON	US 41A	15.61	15.71	INSTALL REFLECTIVE BACKPLATES AND UPDATE THE LEFT TURN SIGNAL HEADS TO INCLUDE FLASHING YELLOW ARROW AT THE INTERSECTION OF US 41A & WASHINGTON ST. (2016BOP)	02-9004.50	\$5,500						\$5,500	THIS MOD PROVIDES FD52 CONSTRUCTION FUNDS TO COVER CURRENT WORK.
2	HENDERSON	US 41A	16.17	16.27	INSTALL REFLECTIVE BACKPLATES AND UPDATE THE LEFT TURN SIGNAL HEADS TO INCLUDE FLASHING YELLOW ARROW AT THE INTERSECTION OF US 41A & 5TH ST. (2016BOP)	02-9004.60	\$6,500						\$6,500	THIS MODIFICATION PROVIDES ADDITIONAL HSIP FUNDS TO COVER CURRENT EXPENDITURES.
2	HOPKINS	KY 112	1.93	9.37	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 112 BEGINNING AT MP 1.925 AND ENDING AT MP 9.372 IN HOPKINS COUNTY. (2016BOP)	02-9006.00	\$170,000						\$170,000	THIS MODIFICATION PROVIDES ADDITIONAL HSIP FUNDS TO COVER CURRENT EXPENDITURES.
2	UNION	US 60	15.36	15.46	INSTALL SUPPLEMENTAL SIGNAL HEADS, REFLECTIVE BACKPLATES, AND UPDATE THE LEFT TURN SIGNAL HEADS TO INCLUDE FLASHING YELLOW ARROW AT THE INTERSECTION OF US 60, US 60B, & KY 3393. (2016BOP)	02-9008.10	\$16,500						\$16,500	THIS MODIFICATION PROVIDES ADDITIONAL HSIP FUNDS TO COVER CURRENT EXPENDITURES.
2	CHRISTIAN	KY 1682	2.39	2.49	INSTALL SUPPLEMENTAL SIGNAL HEADS, REFLECTIVE BACKPLATES, AND UPDATE THE LEFT TURN SIGNAL HEADS TO INCLUDE FLASHING YELLOW ARROW AT THE INTERSECTION OF KY 1682 & KY 109. (2016BOP)	02-9008.30	\$9,500						\$9,500	THIS MODIFICATION PROVIDES ADDITIONAL HSIP FUNDS TO COVER CURRENT EXPENDITURES.
2	MCLEAN	KY 81	17.84	18.09	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 81 FROM MP 17.839 TO MP 18.087 IN MCLEAN COUNTY AND FROM MP 0.000 TO MP 8.673 IN DAVIESS COUNTY. (2018BOP)	02-9013.00	\$350,000			\$350,000				
2	CHRISTIAN	KY 107	21.55	27.02	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 107 FROM MP 21.546 TO MP 27.016 IN CHRISTIAN COUNTY, KY. (2018BOP)	02-9014.00	\$150,000			\$150,000				
2	OHIO	KY 69	16.84	24.03	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 69 FROM MP 16.835 TO MP 24.031 IN OHIO COUNTY, KY. (2018BOP)	02-9015.00	\$150,000			\$150,000				
2	HANCOCK	US 60	4.75	9.35	ROADSIDE SAFETY IMPROVEMENTS ALONG US 60 FROM MP 4.75 TO MP 9.35. (2014BOP)	02-909.00	\$12,500						\$12,500	THIS MODIFICATION PROVIDES ADDITIONAL HSIP FUNDS TO COVER CURRENT EXPENDITURES.
2	MUHLENBERG	US 431	0.00	28.31	REPLACEMENT OF TARGETED GUARDRAIL END TREATMENTS ON US 431 FROM MP 0.000 TO MP 28.390 (2018BOP).	02-914.00	\$755,810						\$755,810	
2	CHRISTIAN	US 41	0.00	31.57	REPLACEMENT OF TARGETED GUARDRAIL END TREATMENTS ON US 41 NB FROM MP 0.000 TO MP 31.574 (2018BOP).	02-915.00	\$506,500						\$506,500	
2	CHRISTIAN	US 41	0.00	31.57	REPLACEMENT OF TARGETED GUARDRAIL END TREATMENTS ON US 41 SB FROM MP 0.000 TO MP 31.574 (2018BOP).	02-916.00	\$365,500						\$365,500	
2	UNION	US 60	0.00	26.07	REPLACEMENT OF TARGETED GUARDRAIL END TREATMENTS ON US 60 FROM MP 0.000 TO MP 26.069 (2018BOP).	02-917.00	\$82,700						\$82,700	
2	MCLEAN	US 431	0.00	9.26	REPLACEMENT OF TARGETED GUARDRAIL END TREATMENTS ON US 431 FROM MP 0.000 TO MP 9.262 (2018BOP).	02-918.00	\$376,500						\$376,500	
2	DAVIESS	US 431	0.00	10.25	REPLACEMENT OF TARGETED GUARDRAIL END TREATMENTS ON US 431 FROM MP 0.000 TO MP 10.246 (2018BOP).	02-919.00	\$343,000						\$343,000	
2	HENDERSON	US 41A	0.00	17.44	REPLACEMENT OF TARGETED GUARDRAIL END TREATMENTS ON US 41A FROM MP 0.000 TO MP 17.436 (2018BOP).	02-920.00	\$105,010						\$105,010	
2	WEBSTER	US 41	0.00	6.04	REPLACEMENT OF TARGETED GUARDRAIL END TREATMENTS ON US 41 FROM MP 0.000 TO MP 6.035 (2018BOP).	02-921.00	\$469,000						\$469,000	
2	WEBSTER	US 41	0.00	19.66	REPLACEMENT OF TARGETED GUARDRAIL END TREATMENTS ON US 41A FROM MP 0.000 TO MP 19.657 (2018BOP).	02-922.00	\$167,900						\$167,900	
2	DAVIESS	CR 1215	0.10	0.60	HIGH FRICTION SURFACE TREATMENT ON CR 1215 FROM MP 0.10 TO MP 0.60 IN DAVIESS COUNTY.	02-923.00	\$94,000						\$94,000	THIS AUTHORIZATION PROVIDES CONSTRUCTION FUNDS TO COVER THE LOW BID PLUS ENGINEERING. DAVIESS COUNTY WILL PROVIDE THE REQUIRED 10% MATCH.
2	UNION	US 60	0.00	2.92	REPLACEMENT OF TARGETED GUARDRAIL END TREATMENTS ON US 60B FROM MP 0.000 TO 2.915 IN UNION COUNTY, KY. (2018BOP)	02-926.00	\$193,200						\$193,200	
2	HENDERSON	US 60	0.00	25.11	REPLACEMENT OF TARGETED GUARDRAIL END TREATMENTS ON US 60 IN HENDERSON COUNTY. (2018BOP)	02-994.00	\$500,720						\$500,720	
2	VARIOUS	VARIOUS			INSTALLATION OF PAVEMENT MARKERS ON VARIOUS ROUTES IN DISTRICT 2. (HSIP)(2018BOP)	02-995.00	\$68,000						\$68,000	
3	SIMPSON	KY 100	0.00	8.38	(MP 2.000) FROM 0.371 MILES EAST OF HAROLD JERNIGAN ROAD EXTENDING EAST TO KY 1008 (MP 8.786)	03-9008.00	\$88,000						\$88,000	THIS MOD PROVIDES AN ADDITIONAL FUNDS TO COVER CURRENT EXPENDITURES.
3	WARREN	US 231	13.60	13.82	INTERSECTION IMPROVEMENTS AT VARIOUS LOCATIONS IN WARREN COUNTY LOCATED IN DISTRICT 3. (2014BOP)	03-9010.10	\$5,000						\$5,000	THIS MODIFICATION PROVIDES ADDITIONAL CONSTRUCTION FUNDS FOR THE PROJECT.
3	WARREN	US 231	9.15	9.50	INTERSECTION IMPROVEMENTS AT VARIOUS LOCATIONS IN WARREN COUNTY LOCATED IN DISTRICT 3. (2014BOP)	03-9010.20	\$55,000						\$55,000	THIS MODIFICATION PROVIDES ADDITIONAL CONSTRUCTION FUNDS FOR THE PROJECT.

Dist	County	Roadway	BMP	EMP	Description	Item No.	Total Cost	Non-Hwy	Planning Cost	Design Cost	R/W Cost	Utility Cost	Const. Cost	Remarks
3	WARREN	US 231	9.83	10.03	INTERSECTION IMPROVEMENTS AT VARIOUS LOCATIONS IN WARREN COUNTY LOCATED IN DISTRICT 3. (2014BOP)	03-9010.30	\$91,500						\$91,500	THIS MODIFICATION PROVIDES ADDITIONAL CONSTRUCTION FUNDS FOR THE PROJECT TO COVER CHANGE ORDER NO. 1.
3	WARREN	US 231	10.45	10.65	INTERSECTION IMPROVEMENTS AT VARIOUS LOCATIONS IN WARREN COUNTY LOCATED IN DISTRICT 3. (2014BOP)	03-9010.40	\$176,500						\$176,500	THIS MODIFICATION PROVIDES ADDITIONAL CONSTRUCTION FUNDS FOR THE PROJECT TO COVER CHANGE ORDER NO. 1.
3	WARREN	US 231	10.41	10.51	INTERSECTION IMPROVEMENTS AT VARIOUS LOCATIONS IN WARREN COUNTY LOCATED IN DISTRICT 3. (2014BOP)	03-9010.60	\$3,000						\$3,000	THIS MODIFICATION PROVIDES ADDITIONAL CONSTRUCTION FUNDS FOR THE PROJECT.
3	WARREN	US 231	9.41	9.51	INTERSECTION IMPROVEMENTS AT VARIOUS LOCATIONS IN WARREN COUNTY LOCATED IN DISTRICT 3. (2014BOP)	03-9010.70	\$1,000						\$1,000	THIS MODIFICATION PROVIDES ADDITIONAL CONSTRUCTION FUNDS FOR THE PROJECT.
3	WARREN	US 231	8.75	8.90	INTERSECTION IMPROVEMENTS AT VARIOUS LOCATIONS IN WARREN COUNTY LOCATED IN DISTRICT 3. (2014BOP)	03-9010.80	\$4,000						\$4,000	THIS MODIFICATION PROVIDES ADDITIONAL CONSTRUCTION FUNDS FOR THE PROJECT.
3	BARREN	KY 63	6.34	13.17	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 63 FROM CR 1186 (MP 6.344) TO LN 9008 UNDERPASS (MP13.171). (2016BOP)	03-9011.00	\$50,000					\$50,000		THIS MODIFICATION PROVIDES ADDITIONAL UTILITY FUNDS FOR THE PROJECT.
3	WARREN	US 68	20.89	27.28	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 53 BEGINNING AT MP 10.040 AND EXTENDING TO MP 2.65 IN OLDHAM COUNTY.	03-9012.00	\$70,000					\$70,000		
3	BARREN	KY 2207	3.20	4.48	LANE-DEPARTURE IMPROVEMENTS ALONG KY 2207.	03-9016.00	\$270,000					\$270,000		
3	LOGAN	US 68	26.20	26.80	CONSTRUCTION OF A J-TURN AT THE INTERSECTION OF US 68 AND KY 73.	03-9017.00	\$1,150,000						\$1,150,000	
3	WARREN	US 68	7.46	7.66	REMOVE RAISED MEDIAN AND CONSTRUCT A LEFT TURN LANE AT OLD TRAM RD. (2018BOP)	03-9020.00	\$80,000						\$80,000	
3	BUTLER	KY 185	0.00	7.23	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 185 FROM MP 0.000 TO MP 7.232 IN BUTLER COUNTY AND FROM MP 0.000 TO MP 2.185 IN EDMONSON COUNTY. (2018BOP)	03-9021.00	\$350,000			\$350,000				
3	WARREN	US 231	1.12	1.84	OVERLAY AND RESTRIPE US 231X BETWEEN WILKINSON TRACE AND COVINGTON ST TO CONVERT FROM A 4 LANE SECTION TO A 5 LANE SECTION. (2018BOP)	03-9022.00	\$114,353						\$114,353	
3	BARREN	US 68	0.00	10.05	PERFORM LOW COST SAFETY IMPROVEMENTS ON US 68 FROM MP 0.000 TO MP 10.049 IN BARREN COUNTY, KY. (2018BOP)	03-9023.00	\$375,000			\$375,000				
3	WARREN	KY 185	8.25	10.05	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 185 FROM MP 8.250 TO MP 10.050 IN WARREN COUNTY, KY. (2018BOP)	03-9024.00	\$200,000			\$200,000				
3	BUTLER	KY 70	11.03	11.51	INSTALLATION OF HIGH FRICTION SURFACE TREATMENT ON KY 70 FROM MP. 11.031 TO MP 11.506 IN BUTLER COUNTY, KY. (2018BOP)	03-932.00	\$110,000						\$110,000	
3	VARIOUS	VARIOUS			INSTALLATION OF PAVEMENT MARKERS ON VARIOUS ROUTES IN DISTRICT 3. (HSIP)(2018BOP)	03-967.00	\$414,000						\$414,000	
4	WASHINGTON	KY 555	1.18	1.66	INSTALL REFLECTIVE BACKPLATES AND UPDATE THE STRIPING AT THE INTERSECTION OF KY 555 & US 150	04-9006.20	\$13,500						\$13,500	THIS MOD PROVIDES AN ADDITIONAL FUNDS TO COVER CURRENT EXPENDITURES.
4	WASHINGTON	KY 555	0.70	0.98	INSTALL REFLECTIVE BACKPLATES, SUPPLEMENTAL SIGNAL HEADS, AND GREEN EXTENSION LOOP DETECTORS AT THE INTERSECTION OF KY 555 & KY 528	04-9006.30	\$9,000						\$9,000	THIS MOD PROVIDES AN ADDITIONAL FUNDS TO COVER CURRENT EXPENDITURES.
4	NELSON	KY 245	4.96	5.34	INSTALL OVERHEAD ADVANCE WARNING FLASHERS AND UPGRADE THE SIGNAL BY INSTALLING DUAL RED HEADS AND REFLECTIVE BACKPLATES AT THE INTERSECTION OF KY 245 & KY 1430	04-9006.50	\$13,500						\$13,500	THIS MOD PROVIDES AN ADDITIONAL FUNDS TO COVER CURRENT EXPENDITURES.
4	TAYLOR	US 68	5.87	5.98	INSTALL GREEN EXTENSION LOOP DETECTORS, UPDATE THE SIGNAL BY INSTALLING REFLECTIVE BACKPLATES, AND SIGNING UPGRADES AT THE INTERSECTION OF US 68 & KY 289	04-9006.60	\$9,000						\$9,000	THIS MOD PROVIDES AN ADDITIONAL FUNDS TO COVER CURRENT EXPENDITURES.
4	GRAYSON	KY 1214	6.30	14.03	PERFORM LOW COST SAFETY IMPROVEMENTS ALONG KY 1214 BETWEEN MP 6.300 AND MP 14.028 IN GRAYSON COUNTY, KY.	04-9007.00	\$16,000				\$16,000			THIS MOD PROVIDES FUNDS FOR UNANTICIPATED ROW NEEDS.
4	HARDIN	US 31W	18.03	26.19	INTERSECTION AND CORRIDOR IMPROVEMENTS TO ENHANCE SAFETY & CAPACITY ALONG US 31W FROM DIECKS DR TO GRAHAM AVE.	04-9008.00	\$50,000			\$50,000				THIS MODIFICATION PROVIDES ADDITIONAL FUNDS FOR DESIGN.
4	TAYLOR	US 68	3.50	4.90	ADDING NEW TURN LANES, IMPROVING EXISTING TURN LANES, AND SIGNAL IMPROVEMENTS ALONG US 68 FROM MP 3.5 TO 4.9. (2018BOP)	04-9010.00	\$90,000						\$90,000	THIS MOD PROVIDES ADDITIONAL FUNDS TO COVER CURRENT EXPENDITURES AND CHANGE ORDER #2.
4	HARDIN	VARIOUS			PRELIMINARY DESIGN AND STUDY OF MINI-ROUNDBABOUTS AT VARIOUS INTERSECTIONS WITHIN THE CITY OF ELIZABETHTOWN. (2018BOP)	04-9012.00	\$150,000			\$150,000				THIS MODIFICATION PROVIDES ADDITIONAL FUNDS FOR DESIGN. (100% FEDERAL)
4	GRAYSON	KY 259	16.39	21.46	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 259 FROM MP 16.390 TO MP 21.459 IN GRAYSON COUNTY AND MP 0.000 TO MP 1.921 IN BRECKINRIDGE COUNTY.(2018BOP)	04-9013.00	\$350,000			\$350,000				
4	WASHINGTON	KY 55	5.59	9.86	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 55 FROM MP 5.585 TO MP 9.862 IN WASHINGTON COUNTY, KY. (2018BOP)	04-9014.00	\$250,000			\$250,000				

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4	HARDIN	US 62	7.84	10.90	PERFORM LOW COST SAFETY IMPROVEMENTS ON US 62 FROM MP 7.844 TO MP 10.900 IN HARDIN COUNTY, KY. (2018BOP)	04-9015.00	\$200,000			\$200,000				
4	HARDIN	KY 251	0.00	1.46	OVERLAY AND RESTRIPE KY 251 TO CONVERT FROM A 4 LANE SECTION TO A 3 LANE SECTION BETWEEN W DIXIE AVE AND PEAR ORCHARD RD AND CONSTRUCT MINI ROUNDABOUTS ALONG KY 251 AT THE INTERSECTIONS WITH W POPLAR ST, BEECH ST, PANTHER LN, AND PEAR ORCHARD RD	04-9016.00	\$200,000			\$200,000				
4	HARDIN	KY 1136	9.75	10.12	CONSTRUCTION OF A ROUNDABOUT AT THE INTERSECTION OF KY 1136 & US 31W BYPASS.	04-9017.00	\$250,000			\$250,000				
4	LARUE	KY 470	5.18	6.80	FLATTEN SLOPES, WIDEN CURVES, UPGRADE GUARDRAIL END TREATMENTS, AND EXTEND CULVERT.	04-989.00	\$107,000				\$10,000		\$97,000	THIS AUTHORIZATION PROVIDES \$10,000 OF HSIP FUNDS FOR R/W AND ADDITIONAL FUNDS TO COVER A CONSTRUCTION CHANGE ORDER.
4	VARIOUS	VARIOUS			INSTALLATION OF PAVEMENT MARKERS ON VARIOUS ROUTES IN DISTRICT 4. (HSIP)(2018BOP)	04-990.00	\$55,000						\$55,000	
4	NELSON	KY 55	5.30	5.60	INSTALLATION OF HIGH FRICTION SURFACE ON KY 55 FROM MP 5.3 TO MP 5.6 IN NELSON COUNTY, KY. (2018BOP)	04-991.00	\$62,050						\$62,050	
5	JEFFERSON	KY 155	11.39	11.41	SAFETY IMPROVEMENTS AT THE INTERSECTION OF KY 155 (TAYLORSVILLE RD) AND KY 1747 (HURSTBOURNE PKWY) IN JEFFERSON COUNTY. (2014BOP)	05-9008.00	\$43,422						\$43,422	THIS MODIFICATION PROVIDES ADDITIONAL FUNDS TO COVER CHANGE ORDER NO. 2.
5	SPENCER	KY 44	0.00	7.54	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 44 FROM THE BULLIT/SPENCER COUNTY LINE (MP 0.00) TO OAK TREE WAY (MP 7.542). (2016BOP)	05-9011.00	\$423,000						\$423,000	THIS MODIFICATION PROVIDES \$423,000 OF FEDERAL HSIP FUNDS TO COVER CHANGE ORDER NO. 1.
5	JEFFERSON	VARIOUS			PRELIMINARY DESIGN AND STUDY TO DETERMINE LOW COST IMPROVEMENTS AT VARIOUS INTERSECTIONS WITHIN DISTRICT 5. (2016BOP)	05-9013.00	\$13,000			\$13,000				THIS MODIFICATION PROVIDES AN ADDITIONAL \$13,000 FD52 FUNDS TO COVER EXISTING EXPENDITURES FOR DESIGN.
5	JEFFERSON	KY 864	5.95	6.20	WIDEN KY 864 TO CREATE A NORTHBOUND LEFT TURN LANE. (2018BOP)	05-9016.00	\$25,000					\$25,000		
5	SPENCER	KY 55	11.27	13.57	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 55 FROM KY 155 IN SPENCER COUNTY TO KY 148 IN SHELBY COUNTY.	05-9017.00	\$85,000				\$35,000	\$50,000		
5	OLDHAM	I 71			STUDY, DESIGN, AND CONSTRUCT SAFETY IMPROVEMENTS ALONG I-71 IN OLDHAM COUNTY. (2018BOP)	05-9020.00	\$225,000			\$225,000				
5	JEFFERSON	KY 155	4.49	5.99	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 155 FROM MP 4.490 TO MP 5.990 IN JEFFERSON COUNTY. (2018BOP)	05-9021.00	\$250,000			\$250,000				
5	FRANKLIN	US 421	5.32	11.13	PERFORM LOW COST SAFETY IMPROVEMENTS ON US 421 FROM MP 5.315 TO 11.132 IN FRANKLIN COUNTY. (2018BOP)	05-9022.00	\$350,000			\$350,000				
5	SHELBY	KY 1848	6.42	10.59	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 1848 FROM MP 6.418 TO MP 10.591 IN SHELBY COUNTY. (2018BOP)	05-9023.00	\$350,000			\$350,000				
5	TRIMBLE	US 42	8.27	14.52	PERFORM LOW COST SAFETY IMPROVEMENTS ON US 42 FROM MP 8.268 TO MP 14.520 IN TRIMBLE COUNTY, KY. (2018BOP)	05-9025.00	\$300,000			\$300,000				
5	SPENCER		1.94	2.05	INSTALL GUARDRAIL ALONG KY 1319 FROM MP 1.939 TO MP 2.050. (2018BOP)	05-932.00	\$47,500						\$47,500	
5	FRANKLIN	US 421	0.00	3.07	INSTALLATION OF STRIPING ON US 421 IN FRANKLIN COUNTY. (2018BOP)	05-936.00	\$176,000						\$176,000	
5	FRANKLIN	KY 676	0.00	5.29	INSTALLATION OF STRIPING ON KY 676 IN FRANKLIN COUNTY. (2018BOP)	05-937.00	\$293,000						\$293,000	
5	VARIOUS	VARIOUS			INSTALLATION OF PAVEMENT MARKERS ON VARIOUS ROUTES IN DISTRICT 5. (HSIP)(2018BOP)	05-962.00	\$1,071,587						\$1,071,587	
6	KENTON	KY 1829	1.20	2.25	CORRECT DROP OFFS, IMPROVE DITCHING, REMOVE TREES IN CLEAR ZONE AND INSTALL HFS FROM MP 1.7 TO MP 2.25 ON KY 1829 IN KENTON COUNTY.	06-9016.00	\$40,000				\$10,000	\$30,000		
6	CAMPBELL	KY 9	16.30	16.80	CONSTRUCT RIGHT TURN LANES ALONG KY 9, UPDATE THE SIGNING AND STRIPING, AND UPDATE THE TRAFFIC SIGNAL TO INCLUDE REFLECTIVE BACKPLATES, DOUBLE RED SIGNAL HEADS, AND SUPPLEMENTAL SIGNAL HEADS AT THE INTERSECTION OF KY 9 & GLORIA TERRELL RD	06-9017.10	\$114,095						\$114,095	
6	GRANT	KY 22	5.76	10.52	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 22 FROM MP 5.758 TO MP 10.522 IN GRANT COUNTY. (2018BOP)	06-9019.00	\$3,025,051						\$3,025,051	
6	CARROLL	I 71	52.30	53.43	CABLE MEDIAN BARRIER ON I-71 FROM MP 52.298 TO MP 56.500 IN CARROLL AND GALLATIN COUNTIES. (2018BOP)	06-9023.00	\$965,202			\$50,000			\$915,202	
6	CARROLL	KY 36	2.18	8.13	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 36 FROM MP 2.182 TO MP 8.132 IN CARROLL COUNTY. (2018BOP)	06-9024.00	\$350,000			\$350,000				
6	GRANT	KY 467	3.80	9.00	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 467 FROM MP 3.800 TO MP 9.000 IN GRANT COUNTY, KY. (2018BOP)	06-9025.00	\$300,000			\$300,000				

Dist	County	Roadway	BMP	EMP	Description	Item No.	Total Cost	Non-Hwy	Planning Cost	Design Cost	R/W Cost	Utility Cost	Const. Cost	Remarks
6	BRACKEN	KY 8	4.22	13.95	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 8 FROM MP 4.218 TO MP 13.950 IN BRACKEN COUNTY, KY. (2018BOP)	06-9026.00	\$375,000			\$375,000				
6	VARIOUS	VARIOUS			HORIZONTAL ALIGNMENT SIGNING ON VARIOUS ROUTES IN CAMPBELL, KENTON AND HARRISON COUNTIES.	06-936.00	\$1,000						\$1,000	THIS MOD ADDS \$1,000 FD52 (ZS30) FUNDS TO THE CONSTRUCTION PHASE OF THE PROJECT.
6	GALLATIN	I 71	63.50	63.70	HIGH FRICTION SURFACE TREATMENT ON I-71 BETWEEN MP 63.5 AND MP 63.7 IN GALLATIN COUNTY, KY. (2018BOP)	06-940.00	\$130,000						\$130,000	
6	KENTON	KY 536	8.00	8.30	INSTALLATION OF HIGH FRICTION SURFACE TREATMENT ON KY 536 FROM MP 8.000 TO MP 8.300 IN KENTON COUNTY, KY.	06-941.00	\$51,750						\$51,750	
6	VARIOUS	VARIOUS			INSTALLATION OF PAVEMENT MARKERS ON VARIOUS ROUTES IN DISTRICT 6. (HSIP)(2018BOP)	06-957.00	\$465,000						\$465,000	
7	JESSAMINE	US 68	0.00	4.81	PERFORM LOW COST SAFETY IMPROVEMENTS ON US 68 FROM MP 0.00 TO MP 4.807 IN JESSAMINE COUNTY. (2018BOP)	07-9009.00	\$175,000			\$175,000				THIS MODIFICATION PROVIDES ADDITIONAL \$175,000 FD52 HSIP FUNDS FOR DESIGN.
7	JESSAMINE	KY 169	12.36	16.56	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 169 FROM MP 12.363 TO MP 16.555 IN JESSAMINE COUNTY. (2018BOP)	07-9014.00	\$350,000			\$350,000				
7	FAYETTE	KY 353	1.37	10.15	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 353 FROM MP 1.372 TO MP 10.153 IN FAYETTE COUNTY. (2018BOP)	07-9015.00	\$350,000			\$350,000				
7	MONTGOMERY	KY 213	0.68	5.32	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 213 FROM MP 0.675 TO MP 5.322 IN MONTGOMERY COUNTY. (2018BOP)	07-9016.00	\$350,000			\$350,000				
7	FAYETTE	KY 57	1.29	7.80	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 57 FROM MP 1.292 TO MP 7.800 IN FAYETTE COUNTY. (2018BOP)	07-9017.00	\$200,000			\$200,000				
7	SCOTT	KY 227	0.00	5.87	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 227 FROM MP 0.000 TO MP 5.874 IN SCOTT COUNTY. (2018BOP)	07-9018.00	\$350,000			\$350,000				
7	SCOTT	US 62	5.94	7.69	INTERSECTION AND CORRIDOR IMPROVEMENTS TO REDUCE CONFLICT POINTS AND ENHANCE SAFETY & OPERATIONS ALONG THE GEORGETOWN BYPASS BETWEEN MP 5.943 TO 7.693	07-9019.00	\$1,216,000			\$100,000			\$1,116,000	
7	WOODFORD	KY 1966	0.00	0.69	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 1966 FROM MP 0.000 TO MP 0.694 IN WOODFORD COUNTY, AND MP 0.000 TO MP 3.865 IN FAYETTE COUNTY, KY. (2018BOP)	07-9020.00	\$275,000			\$275,000				
7	BOYLE	KY 52	0.00	5.11	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 52 FROM MP 0.000 TO MP 5.114 IN BOYLE COUNTY, AND MP 0.000 TO MP 4.231 IN GARRARD COUNTY, KY. (2018BOP)	07-9021.00	\$375,000			\$375,000				
7	FAYETTE	KY 1968	0.00	4.94	ROADSIDE IMPROVEMENTS ON KY 1968 IN FAYETTE COUNTY. (2016BOP)	07-944.00	\$40,500						\$40,500	THIS MOD PROVIDES ADDITIONAL FUNDS TO COVER CURRENT EXPENDITURES.
7	FAYETTE		0.00	8.17	INSTALLATION OF STRIPING ON US 421 IN FAYETTE COUNTY. (2018BOP)	07-951.00	\$429,000						\$429,000	
7	SCOTT	US 421	0.00	0.75	INSTALLATION OF STRIPING ON US 421 IN SCOTT COUNTY. (2018BOP)	07-952.00	\$50,000						\$50,000	
7	SCOTT		0.00	0.83	INSTALLATION OF STRIPING ON US 62 IN SCOTT COUNTY. (2018BOP)	07-953.00	\$55,000						\$55,000	
7	WOODFORD	US 62	14.40	16.46	INSTALLATION OF STRIPING ON US 62 IN WOODFORD COUNTY. (2018BOP)	07-954.00	\$102,000						\$102,000	
7	WOODFORD	US 421	0.00	4.93	INSTALLATION OF STRIPING AND CENTERLINE RUMBLE STRIPS ON US 421 IN WOODFORD COUNTY. (2018BOP)	07-955.00	\$265,000						\$265,000	
7	FAYETTE	I 75	0.55	0.82	INSTALLATION OF HIGH FRICTION SURFACE TREATMENT ON RAMP I-75 SB TO I-64 WB FROM MP .550 TO MP .820 IN FAYETTE COUNTY (2018BOP)	07-956.00	\$73,000						\$73,000	
7	MADISON	KY 52	3.97	4.48	INSTALLATION OF HIGH FRICTION SURFACE TREATMENT ON KY 52 FROM MP 3.970 TO MP 4.477 IN MADISON COUNTY, KY (2018BOP)	07-957.00	\$122,000						\$122,000	
7	VARIOUS	VARIOUS			INSTALLATION OF PAVEMENT MARKERS ON VARIOUS ROUTES IN DISTRICT 7. (HSIP)(2018BOP)	07-993.00	\$290,000						\$290,000	
8	PULASKI	KY 790	0.00	5.55	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)	08-9003.00	\$641,152						\$641,152	
8	PULASKI	VARIOUS			PRELIMINARY DESIGN AND STUDY TO DETERMINE LOW COST IMPROVEMENTS AT VARIOUS INTERSECTIONS WITHIN DISTRICT 8	08-9004.00	\$40,000			\$40,000				THIS MODIFICATION PROVIDES ADDITIONAL \$40,000 OF FD52 FUNDS FOR DESIGN.
8	PULASKI	US 27	10.33	10.43	CONSTRUCT A J-TURN AND UPDATE SIGNING AND STRIPING AT THE INTERSECTION OF US 27 AND LOST LODGE ROAD	08-9004.40	\$27,000						\$27,000	THIS MOD PROVIDES FD52 CONSTRUCTION FUNDS TO COVER CURRENT EXPENDITURES.
8	PULASKI	KY 1577	2.77	3.15	CONSTRUCT A LEFT AND RIGHT TURN LANE ALONG KY 1577, ADJUST APPROACH GRADE OF GRAND CENTRAL BLVD, REBUILD FLASHING BEACON, UPDATE SIGNING AND STRIPING, AND REMOVE TREES AT INTERSECTION OF KY 1577 AND GRAND CENTRAL BLVD	08-9004.50	\$54,000						\$54,000	THIS MOD PROVIDES FD52 CONSTRUCTION FUNDS TO COVER CURRENT EXPENDITURES.



Dist	County	Roadway	BMP	EMP	Description	Item No.	Total Cost	Non-Hwy	Planning Cost	Design Cost	R/W Cost	Utility Cost	Const. Cost	Remarks
8	PULASKI	KY 192	1.08	7.44	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)	08-9006.00	\$45,000						\$45,000	THIS MOD PROVIDES ADDITIONAL \$45,000 FD52 WITH \$5,000 STATE FUND MATCH TO COVER CHANGE ORDER #2.
8	LINCOLN	US 150	5.00	5.30	CONSTRUCT POSITIVE OFFSET LEFT TURN LANES AND UPDATE THE SIGNING AND STRIPING AT THE INTERSECTION OF US 150 & SPRING VALLEY DR. (2018BOP)	08-9008.10	\$331,000						\$331,000	
8	MCCREARY	US 27	8.97	9.22	CONSTRUCTION OF RIGHT TURN LANES ALONG NB US 27 AND BOTH KY 478 APPROACHES, TRAFFIC SIGNAL ENHANCEMENTS AND STRIPING IMPROVEMENTS AT THE INTERSECTION OF US 27 & KY 478. (2018BOP)	08-9008.30	\$110,000						\$110,000	
8	PULASKI	US 27	11.32	11.42	SIGNAL ENCHANCEMENTS AND INSTALL MEDIAN ACCESS CONTROL AT THE INTERSECTION OF US 27 & BOAT DOCK RD. (2018BOP)	08-9008.50	\$76,000						\$76,000	
8	MCCREARY	US 27	7.71	7.81	SIGNAL ENHANCEMENTS AT THE INTERSECTION OF US 27 & KY 92. (2018BOP)	08-9008.60	\$57,500						\$57,500	
8	PULASKI	KY 70	3.54	11.96	PERFORM LOW COST SAFETY IMPROVEMENTS ALONG KY 70 BETWEEN MP 3.535 AND MP 11.960 IN PULASKI COUNTY, KY. (2016BOP)	08-9009.00	\$35,000					\$35,000		
8	CASEY	KY 70	4.70	12.87	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 70 FROM MP 4.700 TO MP 12.868 IN CASEY COUNTY. (2018BOP)	08-9011.00	\$25,000			\$25,000				THIS MODIFICATION PROVIDES ADDITIONAL FD52 HSIP FUNDS FOR DESIGN.
8	RUSSELL	KY 80	3.70	3.80	IMPROVE ALIGNMENT AT THE INTERSECTION OF KY80, KY379, & KY 3017. (2018BOP)	08-9012.00	\$33,160					\$33,160		
8	LINCOLN	KY 78	2.91	12.17	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 78 FROM MP 2.909 TO MP 12.168 IN LINCOLN COUNTY. (2018BOP)	08-9014.00	\$350,000			\$350,000				
8	VARIOUS	VARIOUS			INSTALLATION OF PAVEMENT MARKERS ON VARIOUS ROUTES IN DISTRICT 8. (HSIP)(2018BOP)	08-987.00	\$120,000						\$120,000	
9	GREENUP	KY 2	13.20	17.19	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 2 BEGINNING AT MP 13.203 AND ENDING AT MP 17.190 IN GREENUP COUNTY. (2016BOP)	09-9004.00	\$200,000						\$200,000	THIS MODIFICATION PROVIDES ADDITIONAL HSIP FUNDS TO COVER CHANGE ORDER NUMBER ONE.
9	BOYD	US 60	11.20	11.30	INSTALL SUPPLEMENTAL SIGNALS AND UPDATE THE SIGNAL HEADS TO INCLUDE DOUBLE RED HEADS WITH RELECTIVE BACKPLATES AT THE INTERSECTION OF US 60 & RAMEY ST. (2018BOP)	09-9007.10	\$21,000						\$21,000	
9	LEWIS	US 60	7.90	8.20	CONSTRUCT A RIGHT TURN SLIP LANE AND RECONSTRUCT THE FLASHING BEACON AT THE INTERSECTION OF KY 9 & KY 10 EAST OF VANCEBURG. (2018BOP)	09-9007.20	\$430,000						\$430,000	
9	BOYD	US 23X	1.55	1.80	CONSTRUCT ON-STREET PARKING BAY ALONG NB WINCHESTER AVE BETWEEN 9TH & 10TH ST, MILL, RESURFACE & RESTRIPE WINCHESTER AVE TO INCLUDE A 2-WAY LEFT TURN LANE, UPDATE STRIPING ON 10TH ST, AND UPDATE SIGNAL TO INCLUDE FLASHING YELLOW ARROWS AT US23X & 10TH ST (2018BOP)	09-9007.50	\$1,835						\$1,835	
9	BOYD	CS-2350	0.83	0.95	RESTRIPE CENTRAL AVE TO ALIGN THE THROUGH MOVEMENT ACROSS THE INTERSECTION, INSTALL A SUPPLEMENTAL SIGNAL HEAD, AND UPDATE THE THROUGH SIGNAL HEADS TO INCLUDE DOUBLE RED HEADS AT THE INTERSECTION OF CENTRAL AVE & 13TH ST. (2018BOP)	09-9007.60	\$20,000						\$20,000	
9	BOYD	US 60	11.98	12.20	INSTALL OVERHEAD LANE ASSIGNMENT SIGNS ON THE SIGNAL SPAN WIRE & UPDATE THE STRIPING ALONG MARTIN LUTHER KING BLVD BETWEEN WINCHESTER AVE & CENTRAL AVE. (2018BOP)	09-9007.70	\$21,000						\$21,000	
9	BATH	US 60	17.40	20.11	PERFORM LOW COST SAFETY IMPROVEMENTS ON US 60 FROM MP 17.402 IN BATH COUNTY TO MP 2.806 IN ROWAN COUNTY. (2018BOP)	09-9009.00	\$75,000			\$75,000				THIS MODIFICATION PROVIDES ADDITIONAL FD52 HSIP FUNDS FOR DESIGN.
9	ROWAN	I 64	128.96	137.27	CABLE MEDIAN BARRIER ON I-64 FROM MP 128.955 TO MP 137.268 IN ROWAN COUNTY, KY. (2018BOP)	09-9011.00	\$1,694,640			\$50,000			\$1,644,640	
9	BOYD	I 64	181.34	191.51	CABLE MEDIAN BARRIER ON I-64 FROM MP 181.339 TO MP 191.507 IN BOYD COUNTY, KY. (2018BOP)	09-9012.00	\$1,784,248			\$50,000			\$1,734,248	
9	NICHOLAS	KY 36	4.50	12.81	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 36 FROM MP 4.5 TO MP 12.807 IN NICHOLAS COUNTY AND MP 0.000 TO MP 0.890 IN BATH COUNTY. (2018BOP)	09-9013.00	\$350,000			\$350,000				
9	ROWAN	KY 377	8.05	15.34	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 377 FROM MP 8.049 TO MP 15.339 IN ROWAN COUNTY, KY. (2018BOP)	09-9014.00	\$325,000			\$325,000				
9	BATH	KY 36	8.00	11.85	SHOULDERING AND DRAINAGE STRUCTURES ON KY 36 FROM MP 8.00 TO MP 11.847 IN BATH COUNTY.	09-941.00	\$330,000						\$330,000	THIS MOD PROVIDES ADDITIONAL FUNDS TO COVER UTILITY ADJUSTMENTS AND CHANGE ORDER #4.
9	VARIOUS				INSTALLATION OF STRIPING ON VARIOUS ROUTES IN DISTRICT 9.	09-948.00	\$1,243,671						\$1,243,671	

Dist	County	Roadway	BMP	EMP	Description	Item No.	Total Cost	Non-Hwy	Planning Cost	Design Cost	R/W Cost	Utility Cost	Const. Cost	Remarks
9	VARIOUS	VARIOUS			INSTALLATION OF PAVEMENT MARKERS ON VARIOUS ROUTES IN DISTRICT 9. (HSIP)(2018BOP)	09-995.00	\$110,000						\$110,000	
10	POWELL	KY 1057	0.82	4.98	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 1057 BEGINNING AT MP 0.824 AND ENDING AT MP 4.976 IN POWELL COUNTY.	10-9009.00	\$2,472,835					\$150,000	\$2,322,835	
10	MAGOFFIN	KY 7	18.90	19.28	MINOR WIDENING, SIGNING, STRIPING, AND SUPERELEVATION IMPROVEMENTS AT THE INTERSECTION OF KY 7 & KY 867. (2018BOP)	10-9011.10	\$70,000				\$20,000	\$50,000		
10	BREATHITT	KY 15	7.68	16.97	INSTALL GUARDRAIL ALONG KY 15 FROM THE TROUBLESOME CREEK BRIDGE (MP 7.682), EXTENDING NORTH TO KY 3232 (MP 16.969).	10-9013.00	\$50,500						\$50,500	THIS MODIFICATION PROVIDES ADDITIONAL FUNDS TO COVER CHANGE ORDER NO. 1.
10	ESTILL	KY 82	0.00	5.03	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 82 IN ESTILL COUNTY, KY. (2018BOP)	10-9014.00	\$25,000			\$25,000				THIS MODIFICATION PROVIDES ADDITIONAL FUNDS FOR DESIGN.
10	PERRY	KY 80	0.00	7.05	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 80 FROM MP 0.000 TO MP 7.054 IN PERRY COUNTY. (2018BOP)	10-9015.00	\$350,000			\$350,000				
10	MORGAN	US 460	6.26	10.26	PERFORM LOW COST SAFETY IMPROVEMENTS ON US 460 FROM MP 6.260 TO MP 10.260 IN MORGAN COUNTY, KY. (2018BOP)	10-9016.00	\$250,000			\$250,000				
10	VARIOUS	VARIOUS			INSTALLATION OF STRIPING ON VARIOUS ROUTES IN DISTRICT 10. (2018BOP)	10-939.00	\$1,092,500						\$1,092,500	
10	VARIOUS	VARIOUS			INSTALLATION OF PAVEMENT MARKERS ON VARIOUS ROUTES IN DISTRICT 10. (HSIP)(2018BOP)	10-990.00	\$130,000						\$130,000	
11	LAUREL	KY 192	17.55	17.85	WIDEN KY 192 AND EXTEND THE EXISTING 3-LANE SECTION FURTHER SOUTH, INSTALL MEDIAN ACCESS CONTROL, AND UPDATE THE STRIPING AND SIGNING AT THE INTERSECTION OF KY 192 & THOMPSON POYNTER RD.	11-9008.50	\$438,385						\$438,385	
11	LAUREL	KY 490	2.95	8.20	PERFORM LOW COST SAFETY IMPROVEMENTS ALONG KY 490 BETWEEN MP 2.950 AND MP 8.202 IN LAUREL COUNTY, KY.	11-9009.00	\$130,000				\$55,000	\$75,000		
11	JACKSON	US 421	22.13	29.57	PERFORM LOW COST SAFETY IMPROVEMENTS ON US 421 FROM MP 22.127 TO MP 29.574 IN JACKSON COUNTY. (2018BOP)	11-9017.00	\$350,000			\$350,000				
11	LAUREL	KY 363	0.00	2.21	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 363 FROM MP 0.000 TO MP 2.214 IN LAUREL COUNTY, KY. (2018BOP)	11-9018.00	\$200,000			\$200,000				
11	JACKSON	US 421	3.60	7.90	PERFORM LOW COST SAFETY IMPROVEMENTS ON US 421 FROM MP 3.600 TO MP 7.900 IN JACKSON COUNTY, KY. (2018BOP)	11-9019.00	\$275,000			\$275,000				
11	HARLAN	US 421	17.11	21.06	PERFORM LOW COST SAFETY IMPROVEMENTS ON US 421 FROM MP 17.107 TO MP 21.061 IN HARLAN COUNTY, KY. (2018BOP)	11-9020.00	\$250,000			\$250,000				
11	VARIOUS	VARIOUS			INSTALLATION OF PAVEMENT MARKERS ON VARIOUS ROUTES IN DISTRICT 11. (HSIP)(2018BOP)	11-976.00	\$90,000						\$90,000	
12	KNOTT	KY 160	0.00	8.16	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 160 FROM KY 15 TO KY 899. (2014BOP)	12-9000.00	\$150,000						\$150,000	THIS MOD PROVIDES FD52 CONSTRUCTION FUNDS TO COVER CURRENT EXPENDITURES.
12	LAWRENCE	US 23	3.87	5.95	INSTALLATION OF SIGNS & PAVEMENT MARKINGS ALONG US 23 AND KY 645 AND MODIFICATIONS TO THE FLASHING BEACON AT THE INTERSECTION OF US 23 & KY 645	12-9001.40	\$58,500						\$58,500	THIS MOD PROVIDES FD52 CONSTRUCTION FUNDS TO COVER CURRENT EXPENDITURES.
12	PIKE	KY 632	0.00	7.00	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 632 FROM KY 194 (MP 0.00) TO 0.037 MI EAST OF BLACKBERRY FRK (CR-1576) AT (MP 7.00) IN PIKE COUNTY. (2016BOP)	12-9002.00	\$1,882,106						\$1,882,106	
12	JOHNSON	KY 1107	2.05	2.34	INSTALL GUARDRAIL ALONG KY 1107 FROM 0.192 MILE WEST OF HOLBROOK HOLLOW ROAD (MP 2.050) TO 0.098 MILE EAST OF HOLBROOK HOLLOW ROAD (MP 2.340). (2016BOP)	12-9006.00	\$5,000						\$5,000	THIS MOD ADDS \$5,000 (ZS30) FUNDS TO THE CONSTRUCTION PHASE.
12	PIKE	KY 197	6.73	15.24	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 197 FROM MP 6.729 TO MP 15.237 IN PIKE COUNTY. (2018BOP)	12-9008.00	\$125,000			\$125,000				THIS MODIFICATION PROVIDES ADDITIONAL FD52 HSIP FUNDS FOR DESIGN.
12	FLOYD	KY 122	8.52	15.48	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 122 FROM MP 8.520 TO MP 15.479 IN FLOYD COUNTY. (2018BOP)	12-9013.00	\$350,000			\$350,000				
12	PIKE	KY 80	0.00	1.65	PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 80 FROM MP 0.000 TO MP 1.650 IN PIKE COUNTY, KY. (2018BOP)	12-9014.00	\$200,000			\$200,000				
12	PIKE	US 460	22.46	25.33	PERFORM LOW COST SAFETY IMPROVEMENTS ON US 460 FROM MP 22.461 TO MP 25.325 IN PIKE COUNTY, KY. (2018BOP)	12-9015.00	\$200,000			\$200,000				
12	LAWRENCE	KY 2565	3.20	3.35	REALIGNMENT OF KY 2565 BETWEEN MP 3.2 AND MP 3.35 (DEAD MAN CURVE) IN LAWRENCE COUNTY. (2016BOP)	12-957.00	\$1,142,877						\$1,142,877	
12	LETCHER	KY 931	0.68	5.51	INSTALL GUARDRAIL ALONG KY 931 FROM LARRY'S ROAD (MP 0.679) TO PACK DRIVE (MP 5.505). (2018BOP)	12-965.00	\$478,354						\$478,354	
12	VARIOUS	VARIOUS			INSTALLATION OF STRIPING ON VARIOUS ROUTES IN DISTRICT 12. (2018BOP)	12-968.00	\$1,380,350						\$1,380,350	

Dist	County	Roadway	BMP	EMP	Description	Item No.	Total Cost	Non-Hwy	Planning Cost	Design Cost	R/W Cost	Utility Cost	Const. Cost	Remarks
12	VARIOUS	VARIOUS			INSTALLATION OF PAVEMENT MARKERS ON VARIOUS ROUTES IN DISTRICT 12. (HSIP)(2018BOP)	12-969.00	\$205,000						\$205,000	
99	STATEWIDE	VARIOUS			PAVEMENT FRICTION STUDY AND DATA COLLECTION ON ALL INTERSTATES, PARKWAYS, STATE PRIMARY, AND STATE SECONDARY ROUTES.,	99-925.00	\$3,000,000	\$3,000,000						
99	STATEWIDE				COMMERCIAL MOTOR VEHICLE (CMV) CRASH INVESTIGATION IN KENTUCKY		\$163,350	\$163,350						
99	STATEWIDE	VARIOUS			EVALUATION OF DURABLE PAVEMENT STRIPING MATERIALS.		\$668,000	\$668,000						
99	STATEWIDE	VARIOUS			HIGHWAY SAFETY IMPROVEMENT PROGRAM – MOBILE LIDAR DATA COLLECTION AND HIGH FRICTION SURFACE EVALUATION		\$495,000	\$495,000						
99	STATEWIDE				SAFETY CIRCUIT RIDER PROGRAM ADMINISTERED BY THE UNIVERSITY OF KENTUCKY TO ASSESS SAFETY ISSUES AND RECOMMEND LOW COST IMPROVEMENTS WITH AN EMPHASIS ON TWO-LANE RURAL ROADS.		\$412,800	\$412,800						
99	STATEWIDE				IMPLEMENTATION OF THE FY2021 STATEWIDE PLANNING PROGRAM.		\$400,000		\$400,000					
							<b>\$53,639,564</b>	<b>\$4,739,150</b>	<b>\$400,000</b>	<b>\$13,803,000</b>	<b>\$146,000</b>	<b>\$838,160</b>	<b>\$33,713,254</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 are conducted on both roadway and structure plans.

The **Post-Construction Review (PCR)** program was established to identify issues that arise during the construction phase that could have been prevented or improved during the design phase. It also serves to educate constructors about the reasons behind design features and objectives. This program may also be used to evaluate the performance of design objectives after a project is built.

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

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

## CHAPTER 16

## Quality Assurance

### RESPONSIBLE UNIT

Division of Highway Design  
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### PROPOSED ACTIVITIES (Annually)

- Conduct **Constructability Reviews** to improve quality of designs and identify issues that may affect the constructability of a project. *There were 109 constructability reviews completed.*
- Conduct mandated **VE** studies to meet federal guidelines. *There were two value engineering studies completed: US641 Calloway County; KY461 Pulaski County*
- Conduct **PCRs** for each district. Enter PCR information into database. Issue Fact Sheets for each PCR. *Due to staff shortage, the PCR program has been suspended until which time qualified staff is hired.*
- Evaluate projects, as identified, for performance of design objectives after construction is complete. *Staff was newly hired to begin program in late FY20. Call for projects to evaluate was issued. Staff is in beginning stages of safety performance measurement evaluation on projects.*
- Identify and follow up on issues identified as **EI**. *Worked with standard drawings staff on new drawings for single slope barrier wall.*
- Continue to develop and update policy and procedures for all aspects of each program. *Value engineering database functionality was upgraded. Began updates to Constructability Review database. Participated in FHWA/KYTC VE Program Review. Began implementation of recommendations to improve process.*
- Publish the **Quality Matters newsletter**, containing content about findings from program reviews and design innovations. *None during this period.*
- Develop and publish **Tech Briefs**, each focused on a single, important topic identified through the reviews. *None during this period.*
- Upon special request, provide analysis of data collected through the QAB program areas. *None requested during this period*
- Train in-house and consultant personnel on betterment of designs and design processes, including new geometric design standards and Performance Based Flexible Solutions (PBFS). *Assisted in bringing in PBFS training course in August 2019*
- Ensure consistency and quality of design products delivered by KYTC. *This was done through the Constructability Review Program. Reviewed prequalification applications from consultant firms for the Advanced Traffic Engineering Design and Modeling category. Transferred responsibilities and trained staff to review prequalification applications for Roadway Design, Surveying, and Utility Design categories. Archived over 300 sets of highway plans from past projects.*
- Oversee outsourced activities. *None during this period.*

### PRODUCTS

- VE Studies *Two VE studies and reports completed in FY20*
- VE Punch Lists *Two punch lists issued. Followed up with project managers on all VE recommendations in which final decisions had not yet been reached or implemented. Documented all findings.*
- VE Project Database *Database updated with VE recommendations.*
- FHWA Annual VE Report *FY18 data submitted to FHWA*

**CHAPTER 16**

## Quality Assurance

**RESPONSIBLE UNIT**

Division of Highway Design  
Quality Assurance Branch

**PRODUCTS (continued)**

- Constructability Project Review Reports 109 reports including marked up plans issued to project managers statewide.
- Constructability Review Database Improvements to the database were started. Major changes are planned for FY21.
- Post-Construction Review Fact Sheets None. See explanation under Proposed Activities section.
- Post-Construction Review Database None during this period.
- Project Performance Measurement Reports
- Quality Matters Newsletters None during this period.
- Tech Brief Publications None during this period.
- PBFS Training Training course materials sponsored.
- Special Studies None during this period.

**DISTRIBUTION OF ESTIMATED COST FOR 2019-2020**

	2019-2020	Expended	Percent Expended
<b>PERSONNEL</b>	\$450,000	\$197,412	43%
<b>OUTSOURCED</b>		\$29,494	
<b>OTHER</b>	\$50,000	\$229	1%
<b>TOTAL</b>	\$500,000	\$227,135	45%

**ESTIMATED OUTSOURCING EXPENSES AND PURCHASES**

- \$50,000 to outsource but not limited to the following: Publishing newsletter and briefs, travel to conduct normal QAB program business, training and training materials, special studies, 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.