

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



**ANNUAL PERFORMANCE AND
EXPENDITURE REPORT
FOR
FISCAL YEAR 2022 ANNUAL WORK PROGRAM
PROJECT SP 0020 (030)
JUNE 16, 2021 THROUGH JUNE 15, 2022**

SEPTEMBER 2022

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, 2021, through June 15, 2022 (Fiscal Year 2022).

The Division of Planning achieved a great deal in FY 2022. Several 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 an update to the bike/ped travel policy (complete streets manual) and identifying hotspot areas to address from the previous ADA barrier data collection effort, completing the riverport study, as well as continuing to assist local communities with bike/ped planning. As a result of the Bipartisan Infrastructure Law (BIL) establishing a National Electric Vehicle Infrastructure (NEVI) Formula Program, we led the preparation of an Electric Vehicle (EV) Deployment Plan in coordination with the Energy and Environmental Cabinet (EEC) and the Public Service Commission (PSC). We worked closely with the Office of Local Programs on CMAQ, TE, and Safe Routes to School projects. The Division worked to continuously 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 Interstates and Parkways Plan, which strives to identify critical segments regarding mobility, accessibility, and safety, to feed into SHIFT was also spun off because of the prior success with the Statewide Corridor Plan (Linking Kentucky).

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 (STIP), and address other State and Federal requirements.

FY 22 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 2022
SPR CHAPTER FUNDING SUMMARY

<u>CHAPTER AND TITLE</u>		<u>BUDGETED</u>	<u>EXPENDED</u>
1	SPR Work Program	\$500,000	\$365,903
2	Personnel Training	\$50,000	\$38,191
3	Traffic and Equipment Management	\$1,600,000	\$1,937,210
4	Roadway Systems	\$550,000	\$669,779
5	Cartography	\$250,000	\$141,539
6	Highway Information System	\$1,400,000	\$1,182,965
7	Strategic Corridor Planning	\$3,500,000	\$3,121,685
8	Statewide Transportation Planning	\$2,200,000	\$2,942,455
9	Metropolitan Planning Organizations	\$625,000	\$636,627
10	Performance Measures and Congestion/Mobility Analysis	\$280,000	\$55,438
11	Air Quality	\$65,000	\$73,005
12	Multimodal Transportation	\$700,000	\$515,449
13	Traffic Data Forecasting	\$1,000,000	\$1,036,091
14	Bicycle and Pedestrian Program	<u>\$200,000</u>	<u>\$181,140</u>
	Planning Total	\$12,920,000	\$12,897,477
	Percent Expended		100%
15	Quality Assurance	<u>\$500,000</u>	<u>\$369,040</u>
	Other Items Total	\$500,000	\$369,040
	Percent Expended		74%
	TOTAL	\$13,420,000	\$13,266,517
	Percent Expended		99%

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 2021-2022

- Coordinate with all other branches in the Division of Planning in order to prepare the annual SPR Planning Work Program. **Customer Service Branch created over 500 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**
- Coordinate and prepare the annual SPR Planning Work Program and Accomplishments and Expenditures Report. **Ran final expenditure reports for FY 2022 and reported total expenditures as well as percentage of budgeted amounts. Prepared FY 2023 Work Program. 100% Complete**
- Kentucky Transportation Center studies, as needed. **Various research studies relating to the continuous improvement of SHIFT were kicked off and are ongoing. 100% Complete**

PRODUCTS

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

DISTRIBUTION OF ESTIMATED COST FOR 2021-2022

	2021-2022	Expended	Percent Expended
PERSONNEL	\$25,000	\$32,890	132%
OUTSOURCING	\$475,000	\$333,013	70%
TOTAL	\$500,000	\$365,903	73%

ESTIMATED OUTSOURCING EXPENSES AND PURCHASES

Outsourcing

- \$475,000 for various Kentucky Transportation Center studies. SHIFT related studies for :
 - Travel Time Reliability
 - Examining the Statewide Economic Development Metric
 - Benefit/Cost Continuation Formula
 - Incorporating Roadside Attributes into Roadway Characteristics
 - Continual improvement of Crash History Formula (odd years only)
 - Update of Congestion Performance Measures (odd years only)

All other 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 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 2021-2022

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 trainings. 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 6 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 2021-2022

	2021-2022	Expended	Percent Expended
PERSONNEL	\$35,000	\$37,779	108%
OTHER	\$15,000	\$412	3%
TOTAL	\$50,000	\$38,191	76%

Other

- Other Operational Cost \$15,000
For items such as travel, mileage, equipment, and other cost directly associated with the completion of this work chapter.

Chapter 2 Personnel Training

	SPR Work Program	Personnel Training	Traffic and Equipment Management	Roadway Systems	Cartography	Highway Information System	Strategic Corridor Planning	Statewide Transportation Planning	Metropolitan Planning Organizations	Performance Measures and Congestion/ Mobility Analysis	Air Quality	Multimodal Transportation	Traffic Data Forecasting	Bicycle and Pedestrian Program	Quality Assurance
Virtual Peer Exchange, MPO TPM Target Setting-System Performance										A					
The Eastern Transportation Coalition - Cross-Cutting Strategic Planning Session										A					
Equity and NEVI/EV Program											A				
Network Appalachia-Appalachian Regional Commission												A			

X = Planned to attend but did not attend

A = Planned to attend and did attend

A = Did not plan to attend but did attend

Chapter 2 Personnel Training	SPR Work Program	Personnel Training	Traffic and Equipment Management	Roadway Systems	Cartography	Highway Information System	Strategic Corridor Planning	Statewide Transportation Planning	Metropolitan Planning Organizations	Performance Measures and Congestion/ Mobility Analysis	Air Quality	Multimodal Transportation	Traffic Data Forecasting	Bicycle and Pedestrian Program	Quality Assurance
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Training Events			X												
High Desert			X												
Microstation							A	A	A						
Bentley InRoads							A	A	A						
Public Involvement							A	A	A						
NEPA							A	A	A						
Fundamentals of Title VI/EJ							A	A	A						
Highway Capacity Manual							A	A	A				X		
KYTC Traffic Engineering Design							A	A	A				X		
Road Safety Audit Training							A	A	A						
NEPA Highway Safety Manual							A	A	A				A	X	
Microsimulation							A	A	A				X		
Administration of FHWA Planning and Research Grants							A	A	A						
Planning for Operations							A	A	A						
Congestion Management and Reliability							A	A	A	A					
Transportation and Land Use							A	A	A						
Climate Change							A	A	A						
STAQS								A	A		X				
MOVES									A		A				
TransCAD/Modeling									A				A		
Census Training					X			A	A				X		
CHAF Training							A	A	A						
R Programming Course										A					
Various ACEC Planning/Design							A	A	A						
Air Quality Conformity									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	Quality Assurance
TREDIS							A	A	A	A					
Data Driven Safety Analysis							A	A	A						
Performance Based Planning									A						
TransCAD GISDK													X		
EDC-6 Virtual Public Involvement Sessions							A								
Operations Academy							A								
KYTC Project Managers's Boot Camp							A								
Transportation Safety Planning Workshop							A								
Applying the NIST Cybersecurity Framework to Transportation Systems							A		A						
Various ASHE Lunch Trainings							A								
KYTC Advanced Leadership Academy							A								
Advancing TPM & Decision-Making							A								
Complete Streets Workshop							A						A		
DOT Emerging Issues							A								
AASHTO Project Management Principles							A								
DOT Emerging Issues							A								
HSM/IHSDM							A								
NHI Safety Fundamentals							A								
Performance-Based Intersection Design							A								
Decision Lens Training										A					
Transportation Economic Growth Workshop										A					
FHWA Talking Traffic Webinars										A					
FHWA Advancing TPM in Kentucky Workshop										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	Quality Assurance
CMAQ Congestion Measures Workshop										A					
Kentucky TC and TETC Freight Introductions										A					
Intro to the [TET] Coalition's TSMO Program										A					
NPMRDS Webinars										A					
Planning Webinar Series, Part 4: Performance Management Data										A					
Introduction - TDM Marketplace and Conflation										A					
Virtual Truck Parking Workshop								A							
Kentucky's Regional Air Quality Webinar									A						
TN TDM Standardization Workshop													A		
Geotab ITS Altitude Platform													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 2021-2022

- 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. **100% Complete, completed 4,969.**
- 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. **Lower due to less requests ~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. **861 class counts collected. Lower than last year due to unexpected hardware issue currently being remedied.**
- 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 2021-2022 (continued)

- Update daily, monthly and axle 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 mile points 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, to assure quality data. **Not 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. **Completed but ongoing.**
- Certify, repair, and maintain approximately 800 traffic data recorders. **100% Complete**
- Inspect, repair, and maintain, where possible, approximately 585 vehicle sensor locations (~95 ATRs and ~490 semi-permanent) **100% Complete**
- Administer contracts and provide oversight of Contractor(s) for the repair and maintenance of ATR and semi-permanent vehicle sensor locations. **100% Complete**
- Track upcoming highway projects and produce plans, specifications, and construction cost estimates for new and replacement traffic sensor installations for submittal into construction and pavement rehabilitation contracts. **100% Complete**
- Provide construction oversight, when required, and perform final inspections of new and replacement traffic sensor installations. **100% Complete**
- Provide contract management and oversight of Consultant assisting with field data collection and other tasks. Process and provide quality assurance of the provided counts. **100% Complete**
- Provide traffic count technician training and support, as needed. **100% Complete**

PRODUCTS

- Volume and classification data from ATR stations. **100% Complete**
- Volume, classification, and weight data from WIM stations. **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 UNITDivision of Planning
Traffic and Equipment Management Branch**DISTRIBUTION OF ESTIMATED COST FOR 2021-2022**

	2021-2022	Expended	Percent Expended
PERSONNEL	\$1,150,000	\$1,728,988	150%
OUTSOURCING	\$250,000	\$97,611	39%
OTHER	\$200,000	\$110,611	55%
TOTAL	\$1,600,000	\$1,937,210	121%

ESTIMATED OUTSOURCING EXPENSES AND PURCHASES**Outsourcing**

- \$150,000 contract for outsourced traffic counts to be performed by consultant under Statewide Traffic Counting contract.
- \$100,000 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 Costs
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 2021-2022

- Track roadway construction or maintenance projects to identify changes in roadways and their effect on roadway system designations. Ongoing task, Systems post Project Authorizations by District on Planning Server as received, Data Management adds letting to Master Tracker for reviewing. 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. Received over 50 requests for Systems revisions, each request is evaluated, prioritized, and sent to three Area System Coordinators for analysis. 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. There were 30 Official Orders and eight Electronic Change Orders completed. 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 ensure publication on the website. 100% Complete
- Review revisions to the SPRS to discover any modifications made necessary to other systems such as functional classification, NHS, or NN classifications. Typically, new alignment reviews check to see if any surrounding roads needed classification changes due to the new alignment. Changes to NHS and NN require a separate official order. This is a part of the process of doing an Official Order. District 9 conducted a System Review, and several routes were reclassified as a result. 100% Complete

CHAPTER 4

Roadway Systems

RESPONSIBLE UNIT

Division of Planning
Transportation Systems Branch

PROPOSED ACTIVITIES FOR 2021-2022 (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. **Efforts are being made to add KY 2154 in Marion County to the Kentucky National Truck Network. 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. **Added US 127 in Clinton County to NN by Official Order 112735. 100% Complete**
- As necessary or appropriate, prepare and submit request for approval by AASHTO Standing Committee on Highways, U.S. Route Numbering Special Committee, for any significant change to routing of a U.S. numbered highway. **Requested frontage roads transfer approval for eight counties pending approval from FHWA. 75% 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 November 2021. 100% Complete**
- Publish Kentucky's Official Coal Haul Highway System Report as required by KRS 177.977 and KRS 42.455. **Reports are drawn in Exor forms from data entered for the previous calendar year. "Ton-Miles Table" to DLG will be published September-November 2022 for the Coal Haul Report Segment Report 2021. 90% 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. **The Extended Weight data was updated in HIS November 2021. Official Order updated with Secretary's signature on November 19, 2021 – Official Order No. 112704. 100% Complete**
- Review and coordinate right-of-way information between the HDO staff and Central Office Transportation Systems and Division of Right-of-Way and Utilities staff regarding request for official transfers. Compile data in Project Wise. **Completed 18 transfers from SPRS to Local Road Systems. 100% Complete**
- Compile and provide Governmental Accounting Standards Board (GASB) information on total mileage and estimate value of state roads removed from the SPRS each fiscal year to KYTC's Office of Budget and Fiscal Management. **Report(s) completed August 2022. There were 8,114 miles removed and 17,195 miles added to the State Systems for a total difference of 9,081 miles. 100% Complete**

CHAPTER 4

Roadway Systems

RESPONSIBLE UNIT

Division of Planning
Transportation Systems Branch

PRODUCTS

- Official Order Changes to the State Primary Road System. 30 Official Orders were completed, including transfers, plus eight Electronic Official Orders for a total of 38 order prepared.
- 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. Also created a new series of SPRS Maps.
- 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 District requests.
- 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 60 projects. Communicated with Data Management Branch on information obtained for input into HIS for HPMS reporting.
- 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.
- Request to FHWA for modification of National Truck Network (NN) or Official Order Change to State Designated National Truck Network Added US 127 in Clinton County, plus efforts are being made to add KY 2154 in Marion County to the Kentucky National Truck Network.
- Request to FHWA for modification of National Highway System Added US 127 in Clinton Co.
- Request to FHWA for permission to relinquish interstate frontage road to local government Completed eight frontage roads transfers.
- Request for approval by AASTHO Standing Committee on Highways, U.S. Routes Numbering Special Committee, for any significant change to routing of a U.S. numbered highway. Worked with Indiana DOT requesting Interstate Designation for KY SR 841 in Jefferson County from the I-71/I-265 interchange – I-265 approved by AASHTO in Spring 2019.

DISTRIBUTION OF ESTIMATED COST FOR 2021-2022

	2021-2022	Expended	Percent Expended
PERSONNEL	\$540,000	\$669,486	124%
OTHER	\$10,000	\$293	3%
TOTAL	\$550,000	\$669,779	122%

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 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 2021-2022

- Provide electronic mapping for all city, county, district, state, and special-purpose cartographic products. **Updated SPRS and Functional Classification maps and uploaded to the internet. Updated all maps showing the Louis B Nunn Expressway. 60% complete**
- Maintain and publish electronic formats of cartographic products for display on the Internet. **Upload maps to the internet after review. 15% 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. Updated Official Highway Map for 2022-23 with city inset maps size corrected to fix their scale. 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. **Created MPO-ADD-KYTC Boundaries map without contact information for LRSTP, KYTC Districts map specifically for FHWA wall map displays. 100% complete.**
- Provide mapping and graphic assistance to other Divisions and Departments as requested. **Created a map for the IJA Working Group to depict persistent poverty census districts in Kentucky for a presentation to the Transportation Secretary. 100% complete**
- Develop and provide to outside entities digital maps as requested. **Created wall maps for Kentucky National Guard emergency response unit. 100% complete**
- Develop and provide geographic information systems (GIS) files locating other modes of transportation. **Completed upon request. 100% complete**

PRODUCTS

- Official Highway Map **See comments above**
- State Primary Road System Maps **See comments above**
- Functional Classification Maps **See comments above**
- Other Highway Data Maps (i.e., traffic counts, NHS, NN, etc. maps) **See comments above**
- Cabinet and Planning Project Exhibit Maps/Displays **See comments above**
- GIS Analyses of various data for transportation decision-making **See comments above**
- General and special purpose maps as requested by other agencies **See comments above**
- Geographic information systems (GIS) electronic files **See comments above**

CHAPTER 5

Cartography

RESPONSIBLE UNIT

Division of Planning
Transportation Systems Branch

DISTRIBUTION OF ESTIMATED COST FOR 2021-2022

	2021-2022	Expended	Percent Expended
PERSONNEL	\$89,000	\$112,271	126%
OTHER	\$161,000	\$29,268	18%
TOTAL	\$250,000	\$141,539	57%

ESTIMATED OUTSOURCING EXPENSES AND PURCHASES

Other

- \$160,000 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 2021-2022

- 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 87 state road projects. Processed 3,800 local road centerline location and attribute changes in 99 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 49 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 87 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 2021-2022 (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. 75% 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. 60% 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 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 schedule on June 15th (2,249 sample sections). Due to issues with the Federal software, the data was finalized by August 15th. 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 2021-2022 (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 40 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 exchange data more efficiently between HIS and TED. Continued development of a link between HIS and the Division of Maintenance's OMS/PMS databases (Bentley Systems contract). 97% Complete**
- Review Functional Classification in cooperation with Highway Districts and MPO's. Review Functional Classification change requests from Highway Districts and other external entities. **Updated HIS data to reflect FS changes. 100% Complete**
- Coordinate changes to the NHS and Strategic Highway Network following proper procedures for approval from FHWA and the Department of Defense. **No requests or changes were made. 100% Complete**
- Process Superload route network changes to support the Department of Vehicle Regulation's overweight/overdimensional permitting procedures. **Superload implementation in production and have made route network changes when necessary. The related training for this task is completed. The production environment went live in FY20. 100% Complete**

PRODUCTS

- Interstate Data Submittal by April 15 **Submitted April 15th. 100% Complete**
- Certification of Public Road Mileage by June 1 **Submitted June 15th (79,902 centerline miles). 100% Complete**
- HPMS submittal by June 15 **Submitted June 15th (2,249 sample sections). Due Federal software issues, the HPMS data was finalized on schedule by August 15th. 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**

CHAPTER 6

Highway Information System

RESPONSIBLE UNIT

Division of Planning
Data Management Branch

PRODUCTS (continued)

- 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 internal and external Cabinet customers with timely updates. 100% Complete**
- Maps for resolving road ownership and highway data questions caused by road construction **40 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 FC changes. 100% Complete**
- Photo Van image locations **Updated timely due to on-the-ground changes. 100% Complete**

DISTRIBUTION OF ESTIMATED COST FOR 2021-2022

	2021-2022	Expended	Percent Expended
PERSONNEL	\$630,000	\$797,014	127%
OUTSOURCING	\$660,000	\$306,045	46%
OTHER	\$110,000	\$79,906	73%
TOTAL	\$1,400,000	\$1,182,965	84%

CHAPTER 6

Highway Information System

RESPONSIBLE UNITDivision of Planning
Data Management Branch**ESTIMATED OUTSOURCING EXPENSES AND PURCHASES****Outsourcing**

- \$230,000 for Local Road Centerline collection with all 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
 - \$60,000 for production of FHWA 536 Report (Odd Years Only)
- All studies will be submitted for eligibility review prior to funding.

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 SHIFT (Strategic Highway Investment Formula for Tomorrow). The Strategic Corridor Planning Team also conducts technical project studies. These consist of large statewide studies to Data Needs Analysis (DNA) Studies to perform the necessary levels of planning to develop a conceptual and draft purpose and need statement, identify major environmental issues including environmental justice, initiate consultation with local officials, initiate agency coordination, and conduct appropriate levels of public involvement. The Strategic Corridor Planning Team 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 steppingstone to a future Statewide Long Range Transportation Plan and Statewide Interstate/Parkway 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 2021-2022

- Continue to develop and update policy and procedures for evaluating corridor level needs. **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 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 2022 fourth quarter, KYTC had 16 active planning studies outsourced to a consultant. 100% Complete**
- Continue to refine evaluation measures as an element of SHIFT 2022 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 2022. 100% Complete**

CHAPTER 7

Strategic Corridor Planning

RESPONSIBLE UNIT

Division of Planning
Strategic Planning Branch
Strategic Corridor Planning Team

PRODUCTS

17 studies were completed during the period of July 1, 2021, to June 30, 2022, by consultants. The completed studies are as follows:

- Truck Network Procedures Study, Various Cos. – July 2021 (SPR)
- I-65 New Interchange Feasibility Study, Warren Co. – 3-402.00 – July 2021
- Northern Kentucky Outer Loop Study, Various Cos. – 6-458.00 – September 2021
- Kentucky Statewide Corridor Plan, Various Cos. – October 2021 (SPR)
- Owensboro Outer Loop Feasibility Study, Daviess Co. – 2-402.00 – December 2021
- I-65 Corridor Study – Jefferson Co. – 5-569.00 – December 2021
- KY 92 Programming Study – Whitley Co. – December 2021 (SPR)
- I-64 Corridor Study, Jefferson Co. – 5-553.00 – January 2022
- Downtown Crestwood RR Crossing Study, Oldham Co. – February 2022 (SPR)
- Cumberland Expressway Upgrade Study, Various Cos. – March 2022 (SPR)
- KY 52 Corridor Study, Boyle/Garrard Cos. – 7-104.00 – April 2022
- US 127 Russell Springs Improvement Study – Russell Co. – April 2022 (SPR)
- KY 151 Corridor Scoping Study, Anderson/Franklin Cos. – 5-806.00 – April 2022
- Western Kentucky Parkway Upgrade Study, Various Co. – June 2022 (SPR)
- Jessamine/Fayette Connectivity Study, Jessamine/Fayette Cos. – 7-445.00 – June 2022
- US 231/68/68X Intersection Improvement Study, Warren Co. – June 2022 (SPR)
- Downtown Frankfort Traffic Study, Franklin Co. – 5-570.00 – June 2022

Ongoing studies and their respective status at the end of FY 2022 are as follows:

<u>County(ies)</u>	<u>Route</u>	<u>Item No.</u>	<u>% Complete</u>
Boone, Kenton, Campbell	I-75/71/275/471	6-464.00	95%
Campbell	I-275, KY 9	6-448.00	95%
Rockcastle	US 25	N/A (SPR)	95%
Bath	KY 36	9-80101.00	85%
Marion	New Route	4-80153.00	70%
Rowan	KY 32	N/A (SPR)	60%
Floyd	KY 3	N/A (SPR)	60%
Menifee, Powell, Wolfe	KY 77/715	N/A (SPR)	50%
Bullitt	KY 44	N/A (SPR)	30%
Warren	KY 101	N/A (SPR)	30%
Hardin	KY 222	N/A (SPR)	10%
Boyle, Lincoln	US 150	N/A (SPR)	10%
Boone	KY 14	6-80.00/6-105.00	10%

CHAPTER 7

Strategic Corridor Planning

RESPONSIBLE UNIT

Division of Planning
Strategic Planning Branch
Strategic Corridor Planning Team

PRODUCTS (continued)

<u>County</u>	<u>Small Urban Area</u>	<u>Item No.</u>	<u>% Complete</u>
Calloway	Murray	N/A (SPR)	70%
<u>Special Study</u>		<u>Item No.</u>	<u>% Complete</u>
TSMO Program Plan		N/A (SPR)	85%
Interstate & Parkway Plan		N/A (SPR)	60%

Many of the current studies are large-scale efforts that have included or will include agency coordination and significant public involvement activities. All studies have required, or will require, coordination with 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 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 17 being completed and 16 in various stages of completion. 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. 17 DNA studies were completed by District and Central Office Planners in FY 2022. These studies include projects identified by Item No.'s 1-8952.00, 1-80103.00, 2-8803.00, 2-8951.00, 3-8854.00, 3-8902.00, 3-8954.00, 3-80050.00, 3-80106.00, 3-80203.00, 4-80154.00, 5-80101.00, 6-80000.00, 6-80102.00, 7-8853.00, 7-80102.00, and 11-80155.00.

- 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 used a data-driven process to score and prioritize projects for the recommended highway plan in response to this sustainable and fundable priority need. 100% Complete

CHAPTER 7

Strategic Corridor Planning

RESPONSIBLE UNIT

Division of Planning
Strategic Planning Branch
Strategic Corridor Planning Team

DISTRIBUTION OF ESTIMATED COST FOR 2021-2022

	2021-2022	Expended	Percent Expended
PERSONNEL	\$1,083,000	\$978,893	90%
OUTSOURCING	\$2,125,000	\$2,140,417	101%
OTHER	\$292,000	\$2,375	1%
TOTAL	\$3,500,000	\$3,121,685	89%

ESTIMATED OUTSOURCING EXPENSES AND PURCHASES

Outsourcing

- \$2,125,000 to outsource for Planning Studies

Other

- \$282,000 for Decision Lens, a project prioritization tool to assist with SHIFT.
- \$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 the Public Involvement Plan (PIP) and a Long-Range Statewide Transportation Plan (LRSTP) as needed and ensures that the PIP, 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 and Strategic Highway Investment Formula for Tomorrow (SHIFT).

PROPOSED ACTIVITIES FOR 2021-2022

KYTC Activities:

- Review and update the Transportation Cabinet Strategic Plan as needed. **Ongoing review. 100% Complete**
- Review and update the LRSTP as needed. **Ongoing review, final LRSTP expected in December 2022. 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. Update completed February 22, 2021. 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 assistance from ADDs, MPOs, and HDOs. Maintained the Division of Planning Website at <https://transportation.ky.gov/Planning/Pages/default.aspx>, with direct links to the LRSTP and PIP. 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 2021-2022 (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. 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**
- Compile and maintain Prioritization Plans that summarize the methodology and decision-making behind the prioritization process known as SHIFT. **SHIFT scoring and prioritization of projects. 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 guidance to ADDs 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**

ADDs Activities (assisting KYTC):

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

CHAPTER 8

Statewide Transportation Planning

RESPONSIBLE UNIT

Division of Planning
Strategic Planning Branch

PROPOSED ACTIVITIES FOR 2021-2022 (continued)

- Review RTC Bylaws and maintain Membership List. The RTC Bylaws and Membership List was reviewed and updated with the assistance of the ADD planners by January. 100% Complete
- Plan RTC activities. ADD completed the RTC activities. 100% Complete
- Attend KYTC Statewide Transportation Planning Meetings and other approved training. STP meetings were held and attended with ADD, MPO, and HDO planners in January, April, July, and October. 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 updated in February. 100% Complete
- Perform socioeconomic updates. The socioeconomic profiles were reviewed and updated in April. 100% Complete
- Maintain a Public Involvement Process. Public Involvement Plans were updated in June. 100% Complete
- Review and update project information in the CHAF database. (1) Provided CHAF Database user access for 39 KYTC, ADD, and MPO personnel; (2) Approved and created 18 new CHAF projects during this time period. 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. 100% Complete
- Assist KYTC as needed on special projects. ADDs attended meetings and assisted with planning studies in their respective areas. 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:
 - Long Range Statewide Transportation Plan (LRSTP) – Initial Public Outreach Survey. The LRSTP and survey were reviewed and are ready to be updated.

PRODUCTS

KYTC Products:

- LRSTP review and update with demographic component and report (as needed). Ongoing review. 100% Complete.
- LRSTP Initial Public Outreach Survey Report (as needed). 100% Complete
- LRSTP Draft Survey Report (as needed). Reviewed, no changes needed. 100% Complete

CHAPTER 8

Statewide Transportation Planning

RESPONSIBLE UNIT

Division of Planning
Strategic Planning Branch

PRODUCTS (continued)

- Transportation Cabinet Strategic Plan Update (as needed). **Reviewed, no changes needed. 100% Complete**
- Maintain CHAF database. **The Continuous Highway Analysis Framework (CHAF) database updated with help from planning partners' reviewing and updating their project information in the continuous development of the SHIFT prioritization process. 100% Complete**
- Annual Work Programs (AWP) and Contracts for 15 Area Development Districts. **Completed revisions for the ADD 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 quarterly STP meetings in January, April, July, and October. 100% Complete**
- Individual ADD Planner Assessments (15 ADDs). **The Division reviewed and assessed the ADDs during June. 100% Complete**
- Public Involvement Plan (PIP) Update (as needed). **Updated. 100% Complete**
- Prioritization Plans, Statewide & Regional SHIFT Projects and data that support the Recommended Highway Plan. **The final draft DTP documented the processes and products from SHIFT. 100% Complete**
- Rural Consultation Report (CFR 450.210b requires every 5 years; next submittal due by February 16, 2026). **The Rural Consultation Report was submitted in February 2021. 100% Complete**

ADDs Products (assisting KYTC):

- Regional Goals and Objectives Update. **100% Complete**
- AWP Timeline. **100% Complete**
- 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**
- Socioeconomic Studies (as needed). **100% Complete**
 - US 25 Corridor Study **100% Complete by CVADD**
 - KY 36 Corridor Study **100% Complete by GADD**
 - KY 90 Corridor Study **100% Complete by LCADD**
 - East Lebanon Connectivity Study **100% Complete by LTADD**
 - Red River Gorge Study **100% Complete by KRADD**
- List of Resources. **100% Complete**
- Materials for Special Studies (as needed). **100% Complete**
- List of Rail Freight Loading/Unloading Locations. **100% Complete**

CHAPTER 8

Statewide Transportation Planning

RESPONSIBLE UNIT

Division of Planning
Strategic Planning Branch

PRODUCTS (continued)

- Regional data collected and/or analyzed (as needed). **100% Complete**
- Provide the following major updates this fiscal year:
 - Direct Public Involvement on the LRSTP Initial Public Outreach Surveys to include distributing and collecting survey results. **100% Complete**

DISTRIBUTION OF ESTIMATED COST FOR 2021-2022

	2021-2022	Expended	Percent Expended
PERSONNEL	\$1,150,000	\$2,163,509	188%
OUTSOURCING	\$850,000	\$768,903	90%
OTHER	\$200,000	\$10,043	5%
TOTAL	\$2,200,000	\$2,942,455	134%

ESTIMATED OUTSOURCING EXPENSES AND PURCHASES**Outsourcing**

- \$850,000 to outsource for the Long-Range State Transportation Plan and other studies and assistance related to the Statewide Planning SPR Work Program
All studies will be submitted for eligibility review prior to funding.

Other

- \$40,000 for Economic Model License
- \$150,000 Public Outreach efforts
- \$10,000 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 2021-2022

- 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. Participated in OKI ozone redesignation process and Tennessee IAC calls. 100% Complete**
- Represent the Cabinet at technical, policy, and other committee meetings, and at certification reviews. **Attended multiple committee meetings and Louisville certification review. 100% Complete**
- Work with the MPOs, Highway District Offices (HDOs), other agencies, and representatives of various modes of transportation to collect data, and 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 Interstate and Parkway Plan and a Long-Range Statewide Transportation Plan. Refined methodologies for scoring projects for the Six-Year Highway Plan, including working with UK to investigate the use of iRAP to evaluate multimodal roadway safety. Attended Bluegrass Forever Green Conference. Worked with MPOs to provide guidance on the use of Carbon Reduction Program funds. 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; Southeast Lexington Connectivity Study; Lexington Congestion Management/Bottleneck Study; Boyd-Greenup Freight Plan; Lexington New Circle Road Corridor and Land Use Study. 100% Complete**
- Conduct regular Statewide Transportation Planning meetings, to include discussions on current metropolitan planning issues. **Conducted quarterly Statewide Transportation Planning meetings. 100% Complete**

CHAPTER 9

Metropolitan Planning Organizations (Areas over 50,000 Population)

RESPONSIBLE UNIT

Division of Planning
Strategic Planning Branch
MPO Team

- Collaborate with representatives of neighboring MPOs and transportation agencies to promote consistency in performance measures, performance targets, data collection and analyses, and transportation plans and programs within multi-state MPOs and between adjacent MPOs, as applicable. **Coordinated with MPOs on performance targets as needed. 100% Complete**
- Develop and update metropolitan planning agreements and performance-based planning procedures, as needed. **Monitored regulations for changes that might require new or updated agreements and procedures. 100% Complete**

PRODUCTS

- Contracts with nine MPOs and other LPAs to carry out planning activities in the metropolitan planning areas. **Contracts in place with all nine MPOs, TARC, and Louisville Metro.**
- Quarterly MPO meetings in association with Quarterly STP Meetings. **Held four STP meetings.**
- Special studies as needed. **No special studies undertaken.**

DISTRIBUTION OF ESTIMATED COST FOR 2021-2022

	2021-2022	Expended	Percent Expended
PERSONNEL	\$593,500	\$633,936	107%
OUTSOURCING	\$25,000	\$0	0%
OTHER	\$6,500	\$2,691	41%
TOTAL	\$625,000	\$636,627	102%

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. In addition, KYTC participates in the pooled fund study lead by the Rhode Island Department of Transportation (Study Number: TPF-5(326)).

PROPOSED ACTIVITIES FOR 2021-2022

Using the 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 (LOTR) 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. **Targets not needed for this fiscal year but will be for the next. 100% Complete**

Freight

- Measure Freight Reliability as a Truck Travel Time Reliability index (TTTRI) for five different travel time periods using truck travel times from NPMRDS on the Interstate system. Track progress and set targets. **Targets not needed for this fiscal year but will be for the next. 100% Complete**

Congestion Mitigation (CM)

- Assist MPO's with a population greater than 200,000 (effective January 1, 2022) to estimate Annual Hours of Peak Hour Excessive Delay for the hours of 4:00 PM to 8:00 PM using NPMRDS. **Targets not needed for this fiscal year but will be for the next. 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. **Targets not needed for this fiscal year but will be for the next. 100% Complete**

SHIFT Performance Data

KYTC partners with the Kentucky Transportation Center to develop new ways to utilize non-NPMRDS speed data for the next SHIFT cycle.

- Process, and maintain non-NPMRDS travel time and speed data purchased previously. **100% Complete**
- Work with the Kentucky Transportation Center to linearly reference non-NPMRDS data with Kentucky's HIS system. **Ongoing process will be complete in the next fiscal year. 70% Complete**
- Work with the Kentucky Transportation Center to refine and use the data to calibrate and update the HERS (Highway Economic Requirement System) model and calculate relevant portions of the SHIFT congestion measure. **Ongoing task. 30% Complete**

CHAPTER 10

Performance Measures and Congestion/Mobility Analysis

RESPONSIBLE UNIT

Division of Planning
Multimodal Programs Branch

PROPOSED ACTIVITIES FOR 2021-2022 (continued)

Maintenance and Distribution of Data

- Participate in Pooled Fund Study Number: TPF-5(326)), keep server current, and assist in implementing improved data locations. Check changes in network bi-annually. **KTC working on a set of locations for the TMC network that accompanies speed data provided for this study. 100% Complete**
- Maintain downloaded data on KYTC's Google Cloud account. **100% Complete**
- Participate in the Texas Transportation Institute's (TTI) pooled-funded Support for Urban Mobility Analyses (SUMA). Share synthesis paper of research affecting measuring mobility, working with travel time data, and compliance with FastAct Performance Measures. **Technical Memorandum (Tasks 1-3 of the work program) completed in August of 2022. 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. **Due in odd fiscal years.**
- Annual percent of the person-miles traveled on the non-Interstate NHS providing for Reliable Travel. **Due in odd fiscal years.**
- Annual Truck Travel-time Reliability factor for the Interstate System. **Due in odd fiscal years.**
- Annual percent of the Interstate System in urbanized areas with a population over 1 million, where person hours of excess delay occur. **Due in odd fiscal years.**
- Investigate what level the travel time data can be shared with KYTC staff, partners, and public. **100% Complete**
- Reports and targets as specified in the final PM3 rulemaking. **Due in odd fiscal years.**
- Submit PM3 results for inclusion with annual HPMS reports. **100% Complete, though significant delays experienced due to issues with software.**
- From KTC:
 - Complete Criticality Study of the statewide roadway to potential closures using non-NPMRDS Speed Data from 2018 to 2019. **Ongoing**
 - Linear Reference NPMRDS Speed Data locations and utilize in Kentucky's HIS Congestion Measure calculations for SHIFT. **Ongoing**
 - Linear Reference non-NPMRDS Speed Data locations and utilize in Kentucky's HIS Congestion Measure calculations for SHIFT. **Ongoing**

CHAPTER 10

Performance Measures and Congestion/Mobility Analysis

RESPONSIBLE UNITDivision of Planning
Multimodal Programs Branch**DISTRIBUTION OF ESTIMATED COST FOR 2021-2022**

	2021-2022	Expended	Percent Expended
PERSONNEL	\$75,000	\$55,438	74%
OUTSOURCING	\$150,000	\$0	0%
OTHER	\$55,000	\$0	0%
TOTAL	\$280,000	\$55,438	20%

ESTIMATED OUTSOURCING EXPENSES AND PURCHASES**Outsourcing**

- \$150,000 for the Kentucky Transportation Center study to develop Criticality measures with the non-NPMRDS speed data and enhance relevant portions of SHIFT and the HERS model.

Other

- \$6,000 Other Operational Costs
For items such as travel, mileage, equipment, and other cost directly associated to the completion of this work chapter.
- \$20,000 TTI Support for Urban Mobility Analyses (SUMA) (pooled-fund study)
- \$29,000 for participation in the Rhode Island 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 2021-2022

- Perform Regional Air Quality (AQ) Conformity Analysis for metropolitan and rural areas as needed. **100% Complete**
- Monitor AQ data submissions to other agencies – State, federal, local, and academic research. **Reviewed AQ conformity analysis reports from State, Federal, and Local agencies for the AQ affected area(s): Cincinnati, KYOVA, and Louisville MPO's. 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. **100% Complete**
- Review, comment, and participate during the preparation of mobile emission budgets for the development of SIPs, SIP amendments, maintenance demonstrations, and budget adjustments. **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. **Received 2017 VIN data for Webster and Henderson Counties from KYTC-OIT for submission to KYDAQ. 100% Complete**
- Maintain expertise in MOVES3 or current AQ model. Perform the emissions model analysis for ozone, Green House Gases (GHG), and PM_{2.5} regional conformity analyses as needed. **Attended MOVES3 webinar and MOVES3 Executive Presentation. 100% Complete**
- Prepare Cabinet responses to citizen/agency inquiries for signature by Governor, Secretary, or Director. **Prepared letters for Cabinet response to FHWA for requests for Transportation Conformity to the TTPs, MTPs, and AQ analyses for Louisville, KYOVA, and Cincinnati MPOs. 100% Complete**
- Attend necessary meetings and conferences to stay abreast of AQ issues. **Attended AQ related mtgs, webinar trainings including IAC mtgs, Kentucky Clean Fuels Coalition mtgs, Alternative Fuel Corridor webinar, MOVES3 Executive Training, and MOVES3 Training for Modelers. 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_{2.5} standards, air quality regulations, and implementation guidance. **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

CHAPTER 11

Air Quality

RESPONSIBLE UNIT

Division of Planning
Multimodal Programs Branch

PROPOSED ACTIVITIES FOR 2021-2022 (continued)

- regarding greenhouse gas/climate change requirements. Disseminate information about same. **100% Complete**
- Educate local governments regarding transportation impacts after adoption of new ozone standards. **100% Complete**
 - Maintain AQ Website and appropriate active web-links. **Updated Tracking Sheets, IAC list, Conformity Determination letters to FHWA, and MOVES3 documents. 100% Complete**
 - Develop and maintain a KYTC AQ email distribution list for dissemination of AQ information. **100% Complete**
 - Participate and/or facilitate monthly AQ conference calls and quarterly meetings. This includes participating in interagency consultation calls regarding transportation conformity for updates and amendments to MTP plans, SIPs, TIPs, and STIPs. **Participated in conference calls on conformity determination for various MPOs. Attended Air Quality webinars hosted by EPA and 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. **100% Complete**
 - Coordinate with team members (travel demand modelers) to ensure all AQ TDM model data is ready for MOVES use. **100% Complete**
 - Develop and maintain Park-n-Ride database for citizen/agency inquiries. **No citizen or agency inquiries. 100% Complete.**
 - Develop and submit annual Alternative Fuel Corridor application on behalf of KYTC for FHWA. **Developed and submitted AFC application to FHWA in May, and was approved in July. 100% Complete**
 - Develop and maintain working knowledge of the ever-changing performance measures required by the FAST Act and how they could impact AQ. **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. **No call for projects, so have not participated 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_{2.5} regional conformity analysis as required for projects in nonattainment and maintenance areas. **100% Complete**
- Conforming statewide and MPO planning documents. **100% Complete**

CHAPTER 11

Air Quality

RESPONSIBLE UNIT

Division of Planning

PRODUCTS FOR 2021-2022 (continued)

- Data to Division of Air Quality as requested. 2017 VIN data for Webster and Henderson Counties submitted to DAQ. 100% Complete
- Emission calculations for CMAQ applications, Green House Gases/Cross Cutting (GHG/CC) as requested. 100% Complete
- VIN/Fleet data for use with MOVES. 100% Complete
- KYTC AQ website updates. 100% Complete
- Performance measures pertaining to AQ. 100% Complete
- 2021-2022 Alternative Fuel Corridor application for FHWA as required. 100% Complete
- Park-n-Ride database. 100% Complete

DISTRIBUTION OF ESTIMATED COST FOR 2021-2022

	2021-2022	Expended	Percent Expended
PERSONNEL	\$60,000	\$72,905	122%
OTHER	\$5,000	\$100	2%
TOTAL	\$65,000	\$73,005	112%

Other

- \$5,000 Other Costs associated with meetings and workshops
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 river ports, 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 River port 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 2021-2022

Public River ports

- 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. 100% Complete**
- Review any KRI grant applications received, request completion documents as needed. **Received nine applications. Updated information on the KRI website. 100% Complete**
- Provide staff support for the Water Transportation Advisory Board. **Held one meeting in FY 22. 100% Complete**
- Interface with the public and private river ports in the state by responding to information requests and serving as a member of the Kentucky Association of River ports. **Participated in KAR meetings as requested and KBT Waterway Committee meetings. 100% Complete**
- Conduct annual on-site visits of active public river ports in the state, as travel restrictions allow. **Visited seven public Riverports and participated in KAR meetings as requested. 100% Complete**
- Actively participate on the AASHTO Council on Water Transportation. **Participated in virtual Fall Meeting in October and virtual Spring Meeting in May. 100% Complete**
- Maintain Kentucky's application for establishing a public river port authority. Review and respond to applications for establishing a public river port authority, as needed. **Application is revised and updated. No applications have been received to date. 100% Complete**
- Update and participate in the Kentucky River ports, Highway and Rail Freight Study. **FY 22 saw major progress towards completion. Electronic deliverables were finalized and accepted, and printed deliverables are in progress. 100% Complete.**
- Plan and host river port meetings, as needed. **Attended virtual KBT Waterway committee meetings, Kentucky Association of Riverport virtual meetings, and hosted virtual Water Transportation Advisory Board meeting. 100% Complete**
- Coordinate with United States Coast Guard, US Army Corps of Engineers, and MARAD on issues impacting river ports. **US Army Corps of Engineers and MARAD serving on steering committee for Waterways Transportation Plan. Communicate with MARAD frequently on other waterway issues. 100% Complete**
- Maintain KYTC's River ports website. **Updated the Riverport Homepage, Riverport Facilities page, KRI page, and the Riverport Highway, Rail, and Freight study page regularly. 100% Complete**

CHAPTER 12

Multimodal Freight Transportation

RESPONSIBLE UNIT

Division of Planning
Multimodal Programs Branch

PROPOSED ACTIVITIES FOR 2021-2022 (continued)

- Maintain and update River ports GIS datasets and maps. **Maintained and updated Public River Port datasets and maps. Created new and revised varieties of River Port maps and published on our website. 100% Complete**

Railroads

- Oversee KRCI program including maintaining program guidance, reviewing applications, and contract execution, as needed. **FY 21 & FY 22 Solicitation for projects issued concurrently. 45 total applications received. 24 crossings awarded. 5 contracts executed. 100% Complete**
- Coordinate with Division of Right of Way to administer KRCI projects as defined by the current budget bill. **22 FY 21 & FY 22 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 - updated active rail centerline, rail yard, and abandoned rail datasets. Created reports and provided data specifications upon request. Provided current datasets to OIT to include on the Cabinet's GIS server. 100% Complete**
- Manage update of the KYTC Statewide Rail Plan. **Began initial planning to update Rail Plan in FY 23. 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 Transportation, American Railway Engineering and Maintenance-of-Way Association (AREMA), American Short Line & Regional Railroad Association (ASLRRA), and Kentucky Operation Lifesaver. **Participated in virtual AASHTO Rail Committee meetings. 100% Complete**
- Monitor, track, and distribute information about railroad line abandonments in Kentucky. **None received in FY 22. 100% Complete**
- Track and share (with KY Tourism, KY Economic Development, et. al.) information regarding rail abandonments, as appropriate. **None received in FY 22. 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. **No separate meeting needed. Interfaced with railroad company representatives several times. 100% Complete**
- Maintain KYTC's Railroads website. **Completed regular updates to website content and uploaded current documents, forms, and maps. 100% Complete**

General Freight

- Provide technical assistance and disseminate information to MPOs, ADDs, HDOs, and project teams regarding freight movement, planning, and safety. **Interfaced with MPOs, ADDs, and HDOs on freight several times. Finalized freight study for KYOVA. Assisting with update of OKI**

CHAPTER 12

Multimodal Freight Transportation

RESPONSIBLE UNIT

Division of Planning
Multimodal Programs Branch

PROPOSED ACTIVITIES FOR 2021-2022 (continued)

- Freight Plan. Provided guidance to ADD Planners regarding freight deliverables for ADD Work Program submissions. 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
 - Participate in regional freight planning efforts. Served on several planning studies representing freight. Attended Appalachian Regional Commission meeting and presented on freight in Kentucky. 100% Complete
 - Continue involvement with Mid-America Freight Coalition (MAFC), Institute for Trade and Transportation Studies (ITTS), AASHTO Special Committee on Freight, AASHTO Committee on Planning Freight Planning Task Force, and National Cooperative Highway Research Program (NCHRP), as appropriate. Attended virtual MAFC Conference and participated in scheduled conference calls. Participated in monthly ITTS conference calls. Attended virtual ITTS Conference. Serving on ITTS Freight Bottlenecks study. Attended AASHTO Special Committee on Freight virtual Fall Meeting and virtual Spring Meeting. Attend monthly AASHTO Committee on Planning Freight Planning Task Force 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 travel restrictions allow. 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. Partnered with Economic Development on Waterways Study. Responded to transportation related inquiries from Economic Development staff. 100% Complete
 - Manage update of Kentucky Freight Plan to remain FAST Act compliant. Leading effort to update Freight Plan to be IIJA/BIL compliant. On track to be completed by December 2022 deadline. 100% Complete
 - Update the KY Freight Modes book, as needed. Created, edited, and updated GIS maps and datasets. Posted updated maps on website. 100% Complete
 - Review draft procedure and perform analysis for Freight Performance Measures. 100% Complete
 - Maintain KYTC's Freight website. Revamped existing webpages and created several new Freight webpages. Updated formats, layouts, and content on existing pages, and created new webpages for Truck Parking, Freight and Multimodal Facility maps, MPO Freight Plans, and Freight Planning events. Integrated Tableau Truck Parking Demand Dashboard into our new webpage. 100% Complete
 - Track and share information regarding automated and connected freight vehicles, as appropriate. 100% Complete

CHAPTER 12

Multimodal Freight Transportation

RESPONSIBLE UNIT

Division of Planning
Multimodal Programs Branch

PROPOSED ACTIVITIES FOR 2021-2022 (continued)

- Provide staff support for the KY Freight Advisory Committee for Transportation (KY FACT). Virtual interactions were utilized due to pandemic travel restrictions. Virtual meeting held on March 28 and in person meeting planned for August. 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. Provided updated CUFC and CRFC datasets to CPCS upon request. 100% Complete
- Maintain and update Critical Rural Freight Facilities, as needed. Worked with ADDs for CRFF updates to NHFN. 100% Complete
- Manage Kentucky Statewide Truck Parking Assessment and Action Plan project. Major Truck Parking Study began in March 2021. Major progress has been made. Supply and Demand analyzed. Potential expansion sites identified, and sketch designs developed. Created truck parking webpage to host deliverables from the study; will update with additional content once the study is complete. On track for November completion. 100% Complete
- Maintain and update Kentucky Highway Freight Network (KHFN), National Highway Freight Network (NHFN), and National Highway System (NHS) assets in Highway Information System database (HIS) as needed. Completed updates to KHFN, NHFN, and NHS (intermodal connectors) assets as needed. 100% Complete

Ferryboats

- Coordinate the Kentucky Ferryboat Program writing contracts, reviewing invoices, and compiling traffic counts. Executed all FY 23 contracts. Collected Ferry Annual reports. Compiled Annual Traffic Counts. 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, four more in progress. 100% Complete
- Plan and host ferryboat operators meeting, as needed. Met with ferryboat operators individually several times. Meeting not needed. 100% Complete
- Maintain and update Ferryboat (FB) asset in Highway Information System database (HIS) as needed. Maintained and updated Highway Information System database information as needed. 100% Complete
- Maintain and update Ferryboats GIS datasets and maps. Maintained and updated Ferryboat GIS datasets, created new maps, and posted new content and updates on website. 100% Complete
- Conduct annual on-site visits of Kentucky ferryboat operations, as travel restrictions allow. Visited six state funded ferry operations, one federally funded ferry, and two privately funded ferry 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
- Maintain KYTC's Ferryboat website. Regularly updated the ferryboat webpages with the most information. 100% Complete

CHAPTER 12

Multimodal Freight Transportation

RESPONSIBLE UNIT

Division of Planning
Multimodal Programs Branch

PRODUCTS

- Kentucky River port Improvement projects/contracts. **100% Complete**
- In-Progress Kentucky River ports, Highway and Rail Freight Study. **100% Complete**
- Updated railroad, river port, freight, and ferryboat GIS datasets 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. 100% Complete**
- Updated freight, railroad, river port, and ferryboat webpages. **Updates of rail GIS databases and maps was part of a larger effort that also updated riverport, freight, and ferryboat maps and posting them on appropriate websites. 100% Complete**
- Annual Rail Report. **100% Complete**
- Annual Ferryboat Report. **100% Complete**
- In-Progress Kentucky Statewide Truck Parking Assessment and Action Plan. **100% Complete**
- Ferryboat operation and FBP awards' contracts, site inspections, and invoice review/approval **100% Complete**
- Updated Intermodal Connectors documentation, as appropriate. **100% Complete**
- KFACT meetings as needed (one per year anticipated). **100% Complete**
- Contracts and guidance for KRCI. **100% Complete**
- Updated website, meeting minutes, agendas, logistics, and guidance for Water Transportation Advisory Board. **100% Complete**
- Begin updates to Kentucky Freight Plan and KYTC Statewide Rail Plan. **100% Complete**

DISTRIBUTION OF ESTIMATED COST FOR 2021-2022

	2021-2022	Expended	Percent Expended
PERSONNEL	\$173,000	\$186,056	108%
OUTSOURCING	\$430,000	\$328,482	76%
OTHER	\$97,000	\$911	1%
TOTAL	\$700,000	\$515,449	74%

CHAPTER 12

Multimodal Freight Transportation

RESPONSIBLE UNIT

Division of Planning
Multimodal Programs Branch

ESTIMATED OUTSOURCING EXPENSES AND PURCHASES

Outsourcing

- \$280,000 Kentucky Statewide Truck Parking Assessment and Action Plan **70% Complete. Balance will be completed in FY 2023.**
- \$150,000 Updated Kentucky Freight Plan and KYTC Statewide Rail Plan. **80% of Freight Plan update complete. Balance will be completed in FY 2023. Rail Plan update will begin in FY 2023.**

Other

- \$37,000 Mid America Freight Coalition, a MAASTO subcommittee paid as pooled fund study* Renewed in FY 2021 with an additional one-year commitment (FY 2022). **100% Complete**
- \$40,000 Institute for Trade and Transportation Studies, a SASHTO subcommittee paid as a pooled fund study*. Renewed in FY 2021 with one-year commitment (FY 2022). **100% Complete**
- \$5,000 Operation Lifesaver - Educational Material (for school children). **100% Complete**
- \$15,000 Other Operational Cost- For items such as travel, mileage, equipment, and other costs directly associated to the completion of this work chapter. **100% Complete**

Non Work-Program Expenses

- Kentucky River ports, Highway and Rail Freight Study funded through Statewide Planning & Research (FD52 Federal-Aid \$1,000,000). **100% Complete**
- 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. Cross training is performed to grow the team.

PROPOSED ACTIVITIES FOR 2021-2022

Traffic Forecasting- Reports, Studies, and Analyzes

- Prepare traffic estimates for planning studies, design projects, maintenance, environmental, and other purposes, as requested. **Received 24 traffic forecast requests with 15 completed. 100% Complete**
- Administer statewide traffic forecasting contracts. Provide quality review for traffic projections prepared by the MPOs and consultants. **Provided quality review for 15 forecasting projects prepared by consultants for the Cabinet. Administered seven forecasts under five statewide contracts during this year. 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**
- Update Forecast milestone dates on Branch Calendar, at least monthly. **100% Complete**
- Maintain the traffic forecasting web page as a tool for other users. Maintain and update internal traffic forecasting tools (e.g., pavement design spreadsheets, turning movement spreadsheets) and Traffic Forecasting report. **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 growth rates from TFF tool for various projects. **100% Complete**

Modeling- Reports, Studies, and Analysis

- Administer statewide modeling contracts. Provide quality review for models prepared by the MPOs and consultants. **Administered four statewide contracts during this year. 100% Complete**
- Maintain databases tracking traffic models, traffic modeling parameters, model use, and archive status. Make databases available to users. **Ten modeling projects initiated during the year. 100% Complete**
- Assist MPOs by offering specialized training and updating smaller MPO models and providing outputs from MPO models for MTP process. **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. **Received the new user guidance manual for the statewide model. 100% Complete**

CHAPTER 13

Traffic Data Forecasting Statewide Transportation Modeling

RESPONSIBLE UNIT

Division of Planning
Multimodal Programs Branch

PROPOSED ACTIVITIES FOR 2021-2022 (continued)

- Maintain the traffic modeling web page as a tool for users. **100% Complete**
- Obtain and use 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. Provide in-house training to new members of the Modal Branch Forecast & Model team. **No Model User group session held this year. 100% Complete**
- Update and modify multi-county and regional model scripts that run in TransCAD 5 or 6, and begin migration to TransCAD 7, or 8. **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 Travel Demand & TREDIS modeling for the 2022 SHIFT process. **100% Complete**
- Present first edition of Microsimulation Guidelines document to the modeling community for consistent application of microsimulation as a tool for cabinet projects. **100% Complete**

PRODUCTS

- Increase in-house expertise in Forecasting and Modeling. **100% Complete**
- Project, Corridor, Road User Cost, and basic TREDIS Economic Modeling analysis as requested. **100% Complete**
- Microsimulation Guidelines document and tool for cabinet projects. **Forecasting Guidance Manual draft for phase I submitted. 100% Complete**
- Provide VMT and VHT by road classification using KYSTM for MOVES2014b (or current version) as requested. **100% Complete**
- Model Sharing Status Report- (Upon Request). **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**
- Develop/review as requested, Transportation Demand Models such as:

CHAPTER 13

Traffic Data Forecasting
Statewide Transportation Modeling

RESPONSIBLE UNIT

Division of Planning
Multimodal Programs Branch

PRODUCTS (continued)

- ♦ County or highway district area macro models. Updated KYSTMv19 with new functionalities
- ♦ Corridor and small area micro-simulation models. Eight Micro-Simulation models
- ♦ Continued validation and calibration of new and existing models Microsimulation guidelines Phase 3 completed with tools published on webpage for cabinet wide usage.

DISTRIBUTION OF ESTIMATED COST FOR 2021-2022

	2021-2022	Expended	Percent Expended
PERSONNEL	\$540,000	\$459,061	85%
OUTSOURCING	\$450,000	\$577,030	128%
OTHER	\$10,000	\$0	0%
TOTAL	\$1,000,000	\$1,036,091	104%

ESTIMATED OUTSOURCING EXPENSES AND PURCHASES

Outsourcing

- \$300,000 for Forecasting & Model Manuals
- \$150,000 for Regional and micro simulation models as needed

Other

- \$10,000 Other Cost for training - For items such as travel, mileage, meeting registration, and workshop fees. Travel curtailed due to COVID

Non-Work Program Expenses

- \$5,000 VISSIM Maintenance for PTV Micro-Simulation Software.
- \$17,000 Caliper License fees for TransCAD (8) and TransModeler (5)

CHAPTER 14

Bicycle and Pedestrian Program

RESPONSIBLE UNIT

Division of Planning
Modal Programs Branch

PURPOSE AND SCOPE

The Bicycle and Pedestrian Team coordinates, assists, and manages the state's Bicycle and Pedestrian Program within the 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 rail and 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 2021-2022

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. 100% Complete**
- Participate in the KYTC Strategic Highway Safety Plan update and implementation. Pedestrian and Bicycle Safety are now stand-alone sections. **Participated in the National Highway Traffic Safety Administration (NHTSA) Pedestrian and Bicyclist Safety Program Assessment. Started a Vulnerable Road Users Task Force and held a kickoff meeting for the Task Force. 100% Complete**
- 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. Update USBR's in the Highway Information System database (HIS) and GIS shapefiles. **Completed the installation of signage along USBR 21. Maintained spatial and tabular data for all USBR's in KYTC's Highway Information system (HIS) database, as well as Modal's GIS datasets on network drives. Created customized maps of each**

RESPONSIBLE UNIT

Division of Planning
 Modal Programs Branch

PROPOSED ACTIVITIES FOR 2021-2022 (continued)

individual USBR; the USBR 21 map was featured at the press release for completion of wayfinding signage installation. Revised the Bicycle Comfort Index (BCI) dataset to replace Critical Rate Factor with Level of Service of Safety (LOSS) for a more accurate representation of the data. 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. Started the process to replace the KYTC Pedestrian and Bicycle Travel Policy with a Complete Streets Policy and Manual. Also began working on developing a Statewide Bicycle and Pedestrian Master Plan. 100% Complete
- Act as a Technical Liaison for municipalities to inform them 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. Provided guidance and assistance to local municipalities and ADD's regarding Americans with Disabilities Act (ADA) Transition Plans. 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 Office of Local Programs providing assistance and guidance toward awarding grants. 100% Complete

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. Provided technical guidance to multiple ADD's for updating the current inventory of the Bicycle and Pedestrian Facilities (BKPD) 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 FY22 bike/ped inventory updates to satisfy work program requirements. Completed updates and new additions to the BKPD asset inventory in HIS after receiving submissions from the ADD's and reviewing roadway project completion reports received from the Data Management Branch. 100% Complete
- Review and perform quality control measures of bicycle and pedestrian facility inventory updates received from the ADDs as part of their annual work program. Integrate and process updates to the BKPD assets in the HIS database. Act as a technical liaison and respond to technical inquiries about bike/ped facility types from ADD staff. Provided assistance to ADD's regarding technical questions of bike/ped facilities and data collection techniques. Completed processing and integrating the updates received from the ADD's as a component of the ADD Work Program into the HIS database. 100% Complete

CHAPTER 14

Bicycle and Pedestrian Program

RESPONSIBLE UNIT

Division of Planning
Modal Programs Branch

PROPOSED ACTIVITIES FOR 2021-2022 (continued)

- Review and comment on requests for signage or other options to recognize bike/ped facilities or on-road bicycle routes. **Provided documentation and guidance to communities throughout the state for requirements to add “Sharrows” and Share the Road signs. 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. 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. **Reviewed 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 to ensure that bike/facilities were properly considered and integrated. 100% Complete** Managed the ADA Implementation project. This project consisted of LiDAR collection for each of the ADA facilities on state-maintained intersections and roadways across the state. All deficiencies were noted as they relate to ADA compliance, whether curb ramps didn’t meet standards (cross slope, landings, etc.), narrow sidewalks, ped push buttons too high, other obstructions, etc. Construction plans and estimates were developed for D-5 and D-10. Project to be let in Fall 2022. **100% Complete**
- Provide bike/ped accommodation considerations within traffic forecasts, planning studies, and other Project Development reports. **Provided forecasting and bike ped accommodation considerations for 12 projects. 100% Complete**
- 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. **No requests for Share the Road signage were received. Continued to advise KBBC members on the importance of advocating for these signs in the area of the state they represent. 100% Complete.**
- Develop and maintain a GIS datasets and maps 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. **Statewide GIS datasets have been created and maintained regularly, including bike/ped facilities, AASHTO designated US Bicycle Routes, bike routes, shared-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, and shared-use facilities. These datasets were made viewable in an interactive online map on KYTC’s Bike/Ped website. Provided our multi-use path dataset to DGI upon request to share on their server. 100% Complete**

CHAPTER 14

Bicycle and Pedestrian Program

RESPONSIBLE UNIT

Division of Planning
Modal Programs Branch

PROPOSED ACTIVITIES FOR 2021-2022 (continued)

- Identify and help obtain federal, state, local, or private funds available for developing active (bike/ped) transportation facilities or treatments. Frequently collaborated with the Program Coordinators for the Transportation Alternatives Program (TAP), Congestion Mitigation and Air Quality (CMAQ), and Recreation Trails Program (RTP) to help secure funding for various bike and ped projects across the state. 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 is regularly updated from HIS (Highway Information System) database extracts. Users can view bike/ped networks across the state at a local level and can obtain attribute data of each feature within the network. Attribute data of each feature includes, but is not limited to; type of feature, begin and end mile point 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. 100% Complete
- Administer Kentucky's participation in the Montana State University case study of Communities with a Population of Less Than 10,000 People with Bicycle and Pedestrian Infrastructure. Collaborated with WTI/MSU during virtual meetings, as well as email and phone correspondence to ensure timely and accurate completion of the study. The Final Report was uploaded on the KYTC Bike Walk Home webpage for the public to view. 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. Provided technical guidance to District planners, ADD planners, KBBC commissioners, consultant staff, and other agency staff regarding bicycle and pedestrian facilities incorporation, design specifications, and ADA compliance specifications following PROWAG guidelines and technical requirements. 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
- 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. Did not attend KYTC for Lifesavers Conference. Coordinated with enforcement agencies as needed to help with promotion of safety and awareness. 100% Complete
- Respond to citizens' requests for information, maps, bike routes, walking trails, availability of funds for projects, and other related information as requested. Promptly responded to all emails, phone calls, and mail correspondence received from the public concerning bike/ped datasets,

RESPONSIBLE UNIT

Division of Planning
 Modal Programs Branch

PROPOSED ACTIVITIES FOR 2021-2022 (continued)

statistics, 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 and updated 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 layerfiles on KYTC's SDE GIS server (bike / ped facilities, multi-use paths, and US Bicycle Routes), and the downloadable shapefile on KYTC's website for public consumption. 100% Complete
- Regularly maintain and update all Bike Walk Kentucky webpages on KYTC's website. These webpages include: Bike Walk Home, Kentucky Bicycle and Bikeway Commission (KBBC), Laws and Policies, Bike Ped Plans and Clubs, Sidewalk and Bike Facilities Map, Bicycle and Pedestrian Travel Planning, Safety Information, Technical Information, Recreational Trail Information, and Road Cycling Events and Touring Routes. All bike/ped webpages were continually updated on a regular basis throughout the year to ensure that the most current data, information, statistics, project announcements, and resources are always readily available. 100% Complete

Kentucky Bicycle and Bikeways Commission (KBBC)

- Plan quarterly KBBC meetings. Prepare agenda before and minutes after each KBBC meeting. Successfully planned, coordinated, and conducted the quarterly KBBC meetings over the course of FY22. Three quarterly meetings were held virtually and held the fourth quarterly meeting in person. Created and provided meeting agenda documents for each meeting, as well as meeting minutes following each meeting's conclusion. Updated the KBBC webpage with announcements, updated information, and posted meeting schedules, agendas, 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 the KBBC conference. The 2-day annual meeting/conference was held at Boone Tavern in Berea. Over 100 participants attended this meeting. The first day was spent reviewing the Paula Nye Grant applications. The second day consisted of speakers, breakout sessions, presentations, and awards. All Nye Grant applications received were reviewed and funds were successfully dispersed to grant recipients except for one applicant because they failed to provide enough information on the project scope. All necessary accounting protocols were completed by KYTC. Prepared the agenda document for the annual meeting, took notes during the meeting, and prepared the minutes document after the meeting. Created the Memo for the Secretary with an expenditures table and overviews of amounts awards to each recipient. Posted agenda and minutes documents to the KYTC bike/ped and KBBC webpages. 100% Complete
- Assist KBBC on communication and technical matters via email and phone calls. Administered all communication with KBBC commissioners 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/tracked Nye

CHAPTER 14

Bicycle and Pedestrian Program

RESPONSIBLE UNIT Division of Planning
Modal Programs Branch

PROPOSED ACTIVITIES FOR 2021-2022 (continued)

Grant applications, reviewed all Nye Grant progress reports received, and kept in regularly communication with all KBBC members being sure to clearly relay every important announcement. Promptly relayed all correspondence received from Boards and Commissions to the commissioners. 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 13 grant applications. Answered emails and phone calls from grant applicants. Reviewed and tracked progress reports and summary reports received from grantees. Kept in close communication with KBBC commissioners and gave regular updates regarding all aspects of the grant program. Coordinated with the 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
- Post agenda and minutes to KYTC Bike/Walk website. The meeting schedule was regularly updated on the KBBC webpage. Draft agenda documents were prepared weeks in advance of each quarterly meeting and sent to all commissioners for their review and input. Final agenda documents were posted to the KBBC webpage in advance of each meeting. Minutes were composed following each quarterly meeting and promptly posted on the KBBC webpage. The minutes were always approved by the commissioners during the following meeting. 100% Complete
- Assist with maintaining current memberships of commissioners. Relay membership changes received from the Governor's Office to the commission. Administered all membership changes; one commissioner resigned, and a new commissioner was appointed. 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
- Documentation for projects that include bike/ped components. 100% Complete
- GIS datasets and maps. Assets in HIS. 100% Complete

CHAPTER 14

Bicycle and Pedestrian Program

RESPONSIBLE UNIT

Division of Planning
Modal Programs Branch

DISTRIBUTION OF ESTIMATED COST FOR 2021-2022

	2021-2022	Expended	Percent Expended
PERSONNEL	\$164,000	\$173,831	106%
OTHER	\$36,000	\$7,309	20%
TOTAL	\$200,000	\$181,140	91%

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

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 Review (PCR).

The KYTC 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 federal transportation law called MAP-21 specified 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 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 15

Quality Assurance

RESPONSIBLE UNIT

Division of Highway Design
Quality Assurance Branch

PROPOSED ACTIVITIES (Annually)

- Conduct Constructability Reviews to improve quality of designs and identify issues that may affect the constructability of a project. **There were 112 constructability reviews completed.**
- Conduct mandated VE studies to meet federal regulations. **There were five VE studies conducted: KY-15 (Perry Co.), I-71 (Oldham Co.), Lebanon Bypass, Mountain Parkway (Magoffin, Floyd), Hal Rogers Parkway (Laurel Co.)**
- Conduct PCRs for each requested project. Enter PCR information into database. Issue Fact Sheets for each PCR. Activity is contingent on being able to hire an engineer to administer. **No PCR requests were received during this period.**
- Develop methodologies for measuring safety and traffic performance of projects after construction is complete. **Worked with consultant to develop methodologies on safety analysis of projects.**
- Evaluate projects, as identified, for performance of design objectives after construction is complete. Document lessons learned. **Conducted safety analysis of one project to evaluate post-construction performance.**
- Assist project managers in safety and traffic analysis on highway design projects. **Conducted predictive safety benefit analysis on project alternatives for two projects. Results documented and presented.**
- Identify and follow up on issues identified as EI. **Not applicable during this period.**
- Continue to develop and update policy and procedures for all aspects of each program.
- Publish the Quality Matters newsletter, containing content about findings from program reviews and design innovations. **None during this period.**
- Develop and publish Tech Briefs, each focused on a single, important topic identified through the reviews. **None during this period.**
- Archive and map project plans and make available on archival website. **Every project let to construction during this period has been archived and mapped. Continued to archive and map older projects.**
- Upon special request, provide analysis of data collected through the QAB program areas. **None during this period.**
- Ensure consistency and quality of design products delivered by KYTC. **This was done through the Constructability Review Program and VE Program. Reviewed prequalification applications from consultant firms for the Advanced Traffic Engineering Design and Modeling category. Archived highway plans from past projects.**
- Oversee outsourced activities. **Oversaw consultant services for VE and safety analysis activities.**

PRODUCTS

- VE Studies **Five VE studies and reports completed in FY22.**
- VE Punch Lists **Five punch lists issued. Followed up with project managers in which final decisions had not yet been reached or implemented. Documented findings.**
- VE Project Database **Database updated with VE recommendations.**

CHAPTER 15

Quality Assurance

RESPONSIBLE UNIT

Division of Highway Design
Quality Assurance Branch

PRODUCTS (continued)

- VECP Database **No longer applicable.** VECP program administered by Division of Construction.
- FHWA Annual VE Report **FY21 data compiled and submitted to FHWA.**
- Constructability Project Review Reports **112 reports, including marked up plans issued to project managers.**
- Constructability Review Database **Tracking data and results added.**
- Post-Construction Review Fact Sheets **None during this period.**
- Post-Construction Review Database **None during this period.**
- Project Performance Measurement Reports **Three reports completed this period.**
- Quality Matters Newsletters **None during this period.**
- Tech Brief Publications **None during this period.**
- Special Studies **None during this period.**

DISTRIBUTION OF ESTIMATED COST FOR 2021-2022

	2021-2022	Expended	Percent Expended
PERSONNEL	\$450,000	\$359,423	80%
OUTSOURCING	\$50,000	\$9,617	19%
TOTAL	\$500,000	\$369,040	74%

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 for activities other than those listed above.