

PLANNING WORK PROGRAM

SP 0018 (001)
JUNE 16, 2017 – JUNE 15, 2018



IN COOPERATION WITH
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION



U.S. Department
of Transportation
**Federal Highway
Administration**

Kentucky Division

May 16, 2017

330 West Broadway
Frankfort, KY 40601
PH (502) 223-6720
FAX (502) 223 6735
<http://www.fhwa.dot.gov/kydiv>

In Reply Refer To:
HPD-KY

Mr. John Moore, PE
Director of Planning
Kentucky Transportation Cabinet
200 Mero Street, 5th Floor
Frankfort, Kentucky 40622

Dear Mr. Moore:

The Kentucky Division of the Federal Highway Administration, in consultation with Region 4 of the Federal Transit Administration, has reviewed the following document and found the proposed activities eligible for federal planning funds under 23 U.S.C. 134, 135, 505 or 49 U.S.C. 5303-5305, 5313(b) and the provisions of 2 CFR § 200, 23 CFR § 420 and 23 CFR§ 450.

**Planning Work Program
SP 0018 (001)
(2018 SPR Work Program - Subpart A)**

The work program should be administered in accordance with the provisions of 2 CFR § 200 and 23 CFR § 420. **The effective time period for funding is from June 16, 2017 – June 15, 2018.** Authorization of this work is subject to the availability of funds.

Prior approval is required for the following changes to the SPR Work Program:

- Budgetary changes,
- Increase in federal funds,
- Cumulative transfer among already approved work program line items of 10% of the total federal funds or \$100,000,
- Programmatic changes,
- Change in the scope or objectives of activities (e.g., adding or deleting items),
- Extending the period of performance past the approved work program period,
- Transferring substantive programmatic work to a third party (e.g., consultant work not identified in the original work program), and/or
- Capital expenditures including purchase of equipment.

There are two additional program monitoring and reporting requirements associated with the SPR Work Program, an

- independent audit and an
- annual performance and expenditure report.

The Single Audit Act of 1984, subsequent amendments, and corresponding regulations, required an annual audit require that an independent audit be completed of any non-federal entity expending \$500,000 or more in Federal funds from all sources in a fiscal year. (2 CFR § 200).

The annual performance and expenditure report is required to be submitted within 90 days after the end of the report period. The report may be more frequent if deemed necessary by FHWA. [23 CFR 420.117 (b) and (c)].

We appreciate the work that went into the development of this work program and thank you for working with our office to make improvements.

Sincerely yours,



Bernadette Dupont
Transportation Specialist

cc: Ron Rigney, KYTC – Program Management

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



**WORK PROGRAM AND COST ESTIMATE
FOR
PROJECT SP 0018 (001)
JUNE 16, 2017 THROUGH JUNE 15, 2018**

**PART I
DIVISION OF PLANNING**

**PREPARED IN COOPERATION
WITH
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION**

INTRODUCTION

The Planning and Research Program Annual Work Program is required under 23 CFR 420.111. Due to the organization of the Cabinet, the Planning and Research portions are submitted as separate documents. This document outlines the transportation planning activities as Planning (Part I) of the work program. A detailed organizational chart for the Division of Planning (see Exhibit 1) has been inserted into the work program to show which branches are responsible for which planning activities.

The Kentucky Transportation Cabinet has many partners in performing the planning activities. Each Highway District Office has a Planning function that performs planning activities for many of the chapters in the work program. We also have agreements with each of the 15 Area Development Districts (ADDs) in the Commonwealth. The ADDs in cooperation with the Highway District Offices Planning Branch perform for the Cabinet much of the Public Involvement in Statewide Transportation Planning (23 CFR 450.200), intermodal and freight activities, and data collection. The Metropolitan Planning Organizations receive money each year to meet the requirements of 23 CFR 450 Subpart C. The consulting industry and the Kentucky Transportation Center are also used at times when additional resources are needed.

This year's work program continues activities related to improving the quality of the Cabinet's Highway Information System (HIS) data. To align with the recent HIS upgrade, we also seek to improve the storage and reporting of the traffic count data by integrating that database with the HIS database. There is an additional emphasis added to this year's regular count program to continue the process to collect counts for local bridges as well as collect counts for ramps. There is a continued effort to maintain and improve the count program with new ATR's and additional traffic count loops at high volume locations. There is a continued effort to prepare and improve Kentucky's Traffic Models. Planning will also begin to work as a part of the Cabinets Performance Measures team to begin working toward setting Performance Measures. In general, the Division of Planning is undertaking efforts to insure quality data, to store the data more effectively, and to improve the efficiency and convenience of extracting and reporting the data. Division of Planning will continue to be the Cabinet's lead on implementing a data-driven prioritization process, or SHIFT (Strategic Highway Investment Formula for Tomorrow). This effort touches many parts of the Division, all of our planning partners, and other Central Office Divisions as well.

Because of continued staffing limitations within the Cabinet, efforts will be placed toward outsourcing services which may include traffic counts, traffic forecasts, data collection, map products, planning studies, and other needed activities. The Division of Planning is also evaluating our core functions in order to streamline and align our efforts so that required activities are completed. It may become necessary during this time to significantly downsize or eliminate programs that are not directly required by regulation or statute. We also anticipate working this upcoming year to coordinate as needed with our elected officials and AASHTO on various issues. The Division of Planning will continue to evaluate and assist with air quality conformity issues, and we will assist the Cabinet in identifying operational and performance improvements to maximize the efficiency of the existing transportation network.

Please refer to each chapter contained within this work program for more details.

FOREWORD

This Planning Program SP 0018 (001) for the period June 16, 2017 to June 15, 2018 is submitted in compliance with the provisions of 23 CFR 420 and describes programs and operations for planning activities in the Kentucky Transportation Cabinet (KYTC). These funds will be administered in accordance with the provisions of 49 CFR 18, 23 CFR 420, and 2 CFR 200. This program modifies and updates previous such programs and is specifically intended to reflect the needs of the Kentucky Transportation Cabinet. It is fully expected that products from this program will also have national applications. In general, these funds are used to assist the KYTC in meeting federal reporting and planning requirements.

The Division of Planning is charged with the responsibility for recommending, advising, and assisting the chief administrators of the KYTC in the development of the overall goals, policies, project priorities, and procedures relating to the total transportation program of the Cabinet. Proposed activities for Fiscal Year 2017 are reported in detail by Chapter in this Work Program.

We expect the majority of activities in this Work Program to be completed by June 15, 2018. However, occasionally there are programs, especially those that have to be contracted, that cannot be completed by June 15. Those items that are not complete by June 15 will be identified in the Annual Performance and Expenditure Report and will either be completed under a time extension or by carry over to the next year in following 49 CFR 18 and 23 CFR 420. For those items not complete by June 15, but will be completed in a relatively short time period, an extension of the work program will be requested from FHWA so that the remainder of the funding commitments can be expended.

The fiscal portions of the Work Program are based on funding availability provided by the Cabinet's Office of Budget and Fiscal Management.

DIVISION OF PLANNING

EXHIBIT 1

Current as of May 3, 2017

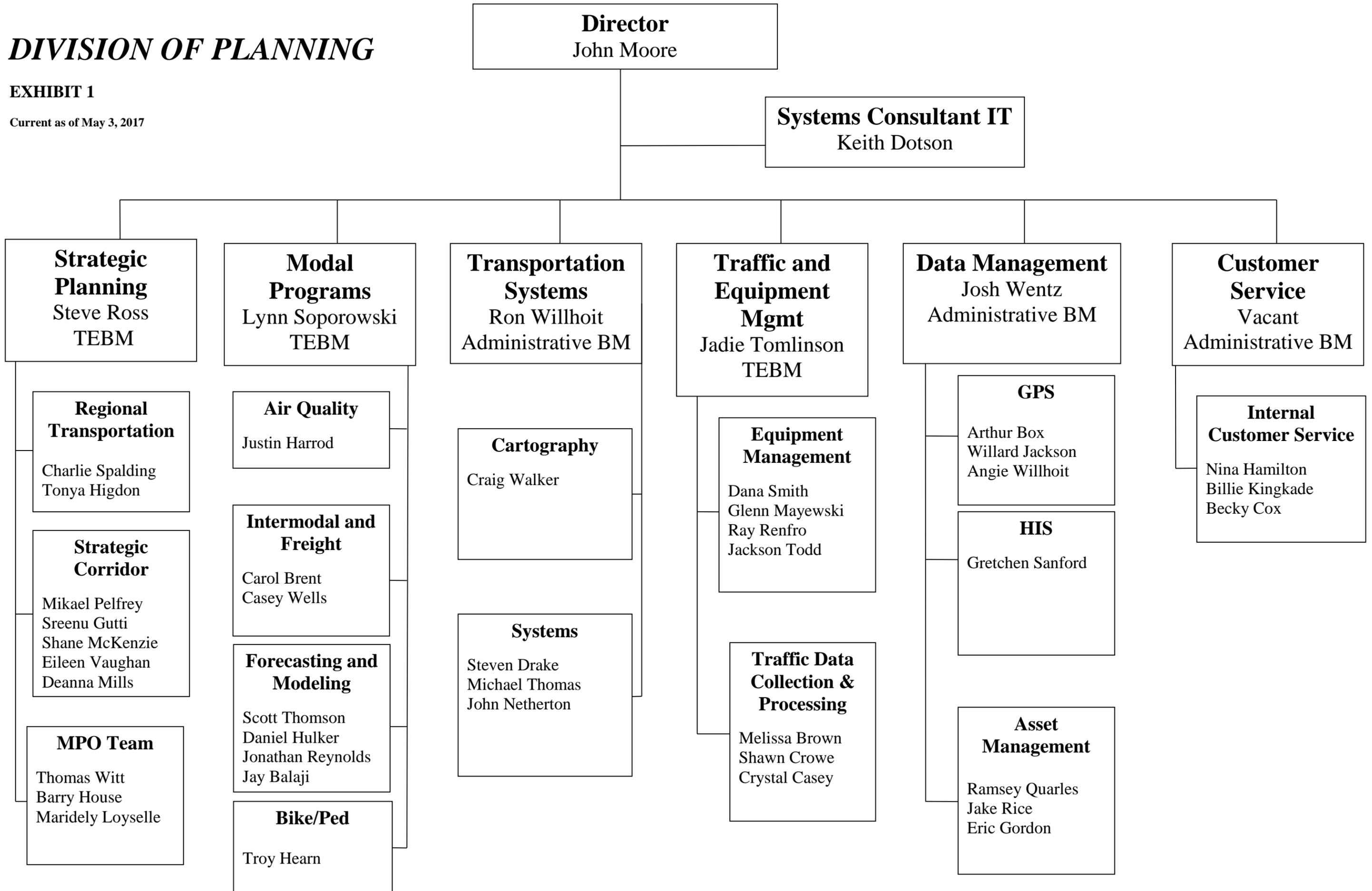


EXHIBIT 2

Planning Work Program FY2018

Program Identity

<u>Kentucky Transportation Cabinet</u>	<u>Federal</u>	<u>State Match*</u>	<u>Local Match</u>	<u>Other</u>	<u>Total</u>
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Planning

Personnel Costs	\$6,016,000	\$1,504,000			\$7,520,000
Outsourcing Costs	\$2,088,000	\$522,000			\$2,610,000
Other Costs	\$470,400	\$117,600			\$588,000
Total SPR Funds	\$8,574,400	\$2,143,600			\$10,718,000

Other Divisions

Traffic Operations (Ch 15)	\$400,000	\$100,000			\$500,000
Highway Design (Ch 16)	\$400,000	\$100,000			\$500,000
Total SPR Funds	\$800,000	\$200,000			\$1,000,000

Partner Agencies

PL Funded MPO Planning Budgets	\$2,629,600	\$164,350	\$493,050		\$3,287,000
PL Discretionary Fund	\$526,000		\$131,500		\$657,500
Total PL Funds	\$3,155,600	\$164,350	\$624,550		\$3,944,500

ADD Regional Transportation Program (State Funds)		\$813,598	\$129,265		\$942,863
ADD Regional Transportation Program (General Funds)		\$349,798			\$349,798
Total ADD funds		\$1,163,396	\$129,265		\$1,292,661

TOTALS

\$16,955,161

Notes:

- 1) Potential Outsourced Items are indicated in each chapter
- 2) Toll Credits may be used to provide the 20% match for the SPR funds.
- 3) **PERSONNEL COSTS** include staff charges and outsourced activities or contracts.
OTHER COSTS include equipment, supplies, software, travel, carpool rental, printing, and other charges not related to personnel costs and are identified in each chapter.

* Pending Legislative Approval

EXHIBIT 3

Base PL Formula Funding For FY 2018 UPWP

MPO Area	PL 80% Federal \$	KYTC 5% State \$	MPO 15% Local \$	Total 100% F+S+L \$	Federal + State 85% F+S \$
Bowling Green	\$114,400	\$7,150	\$21,450	\$143,000	\$121,550
Cincinnati - Northern KY	\$496,000	\$31,000	\$93,000	\$620,000	\$527,000
Clarksville	\$37,600	\$2,350	\$7,050	\$47,000	\$39,950
Elizabethtown	\$110,400	\$6,900	\$20,700	\$138,000	\$117,300
Evansville - Henderson	\$62,400	\$3,900	\$11,700	\$78,000	\$66,300
Huntington - Ashland	\$127,200	\$7,950	\$23,850	\$159,000	\$135,150
Lexington	\$392,000	\$24,500	\$73,500	\$490,000	\$416,500
Louisville	\$1,181,600	\$73,850	\$221,550	\$1,477,000	\$1,255,450
Owensboro	\$108,000	\$6,750	\$20,250	\$135,000	\$114,750
TOTAL	\$2,629,600	\$164,350	\$493,050	\$3,287,000	\$2,793,950

PL Discretionary Funding For FY 2018

MPO Area & Description	PL 80% Federal \$	MPO 20% Local \$	Total 100% F+L \$
Bowling Green: Fairview Ave. Safety and Capacity/LOS Study	\$80,000	\$20,000	\$100,000
Louisville: TARC Long Range Plan Update & Major Investments Plan	\$446,000	\$111,500	\$557,500
TOTAL	\$526,000	\$131,500	\$657,500

FY 2018

SPR CHAPTER FUNDING SUMMARY

<u>CHAPTER</u>	<u>TITLE</u>	<u>AMOUNT</u>
1	SPR Work Program	\$120,000
2	Personnel Training	\$120,000
3	Traffic and Engineering Management	\$2,200,000
4	Roadway Systems	\$603,000
5	Cartography	\$516,000
6	Highway Informaiton System	\$1,810,000
7	Strategic Corridor Planning	\$2,152,500
8	Statewide Transportation Planning	\$1,038,000
9	Metropolitan Planning Organizations	\$531,500
10	Performance Measures and Congestion/Mobility Analy	\$315,000
11	Air Quality	\$52,000
12	Multimodal Transportation	\$325,000
13	Traffic Data Forecasting	\$675,000
14	Bicycle and Pedestrian Program	\$260,000
	Planning Total	\$10,718,000
15	Highway Safety Improvement Program	\$500,000
16	Quality Assurance	\$500,000
	Other Items Total	\$1,000,000
	Work Program Total	\$11,718,000

CHAPTER 1

SPR Work Program

RESPONSIBLE UNIT

Division of Planning
Customer Service Branch

PURPOSE AND SCOPE

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

PROPOSED ACTIVITIES FOR 2017-2018

- Coordinate with all other branches in the Division of Planning in order to prepare the annual SPR Planning Work Program.
- Prepare monthly expenditure reports for each chapter of the SPR Planning Work Program.
- Update accomplishments of the SPR Planning Work Program quarterly.
- Coordinate and prepare the annual SPR Planning Work Program and Accomplishments and Expenditures Report.
- Kentucky Transportation Center studies, as needed.

PRODUCTS

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

DISTRIBUTION OF ESTIMATED COST FOR 2017-2018

PERSONNEL	\$20,000
OUTSOURCING	\$100,000
TOTAL	\$120,000

ESTIMATED OUTSOURCING EXPENSES AND PURCHASES

Outsourcing

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

CHAPTER 2

Personnel Training

RESPONSIBLE UNIT

Division of Planning

PURPOSE AND SCOPE

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

PROPOSED ACTIVITIES FOR 2017-2018

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

SEE THE FOLLOWING 3 PAGES FOR PROPOSED TRAINING AND CONFERENCES

PRODUCTS

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

DISTRIBUTION OF ESTIMATED COST FOR 2017-2018

PERSONNEL	\$100,000
OTHER	\$20,000
TOTAL	\$120,000

Other

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

Chapter 2 Personnel Training

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

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

Chapter 2 Personnel Training	SPR Work Program	Personnel Training	Traffic and Equipment Management	Roadway Systems	Cartography	Highway Information System	Strategic Corridor Planning	Statewide Transportation Planning	Metropolitan Planning Organizations	Performance Measures and Congestion/ Mobility Analysis	Air Quality	Multimodal Transportation	Traffic Data Forecasting	Bicycle and Pedestrian Program	Highway Safety Improvement Program	Quality Assurance
	Administration of FHWA Planning and Research Grants						X		X			X	X	X		
	Planning for Operations									X	X	X		X		
	Congestion Management and Reliability									X	X	X	X			
	Transportation and Land Use											X	X			
	Climate Change										X					
	STAQS										X					
	MOVES										X					
	TransCAD/Modeling												X			
	Census Training									X	X		X			
	Training ofr State Bike/Ped Coordinator													X		
	Air Quality Conformity										X					

CHAPTER 3

Traffic and Equipment Management

RESPONSIBLE UNIT

Division of Planning
Traffic and Equipment Management Branch

PURPOSE AND SCOPE

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

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

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

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

PROPOSED ACTIVITIES FOR 2017-2018

- Maintain, update, analyze, provide QA/QC, and make available data from approximately 17,300 traffic count stations including coverage, interstate, automatic traffic recorder (ATR), weigh in motion (WIM), and ramp stations.
- Maintain existing database (TRADAS) in parallel with new database (Jackalope) for quality control until new database is deemed fully functional and reliable.
- Download, process, and analyze data for every day of the year from approximately 95 permanent ATR stations.
- Submit monthly reports of hourly ATR records to FHWA.
- With KYTC District Offices, collect and process vehicle volume data from approximately 5,000 short-duration, portable-machine, coverage and ramp counts.
- 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.
- 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.

CHAPTER 3

Traffic and Equipment Management (continued)

RESPONSIBLE UNIT

Division of Planning
Traffic and Equipment Management Branch

PROPOSED ACTIVITIES FOR 2017-2018 (continued)

- Provide traffic data for annual FHWA-required Highway Performance Monitoring System (HPMS) report.
- Update axle and monthly factors used in adjusting short term counts from data collected at ATR and vehicle classification stations.
- Update in-house databases to include any new stations or roadway alignment changes. Correct beginning and ending milepoints to better represent traffic generators.
- Collect, process, and analyze continuously collected data. Submit a minimum of one-week, WIM data from permanent WIM stations to FHWA quarterly. Periodically calibrate WIM data collection equipment, as needed, in order to assure quality data.
- Review proper operation and coverage of ATR stations. Install additional ATR stations as necessary.
- Investigate and purchase new traffic data collection equipment to provide for safer, more efficient and more accurate methods of collection.
- Certify, repair, and maintain approximately 800 traffic data recorders.
- Inspect, repair, and maintain, where possible, approximately 585 vehicle sensor locations (~95 ATRs and ~490 semi-permanent)
- Administer contracts and provide oversight of Contractor(s) for the repair and maintenance of ATR and semi-permanent vehicle sensor locations.
- 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.
- Provide construction oversight, when required, and perform final inspections of new and replacement traffic sensor installations.
- Provide contract management and oversight of Consultant assisting with field data collection and other tasks. Process and provide quality assurance of the provided counts.
- Provide traffic count technician training and support, as needed.

PRODUCTS

- Volume and classification data from ATR stations
- Volume, classification, and weight data from WIM stations
- Volume and classification data from short-duration machine count stations
- Volume and classification data from special counts
- Axle and monthly factors
- Databases containing traffic count station and traffic count data information
- Accurate local DVMT data for FHWA reporting through HPMS

CHAPTER 3

Traffic and Equipment Management (continued)

RESPONSIBLE UNIT

Division of Planning
Traffic and Equipment Management Branch

DISTRIBUTION OF ESTIMATED COST FOR 2017-2018

PERSONNEL	\$1,750,000
OUTSOURCED PERSONNEL	\$250,000
OTHER	\$200,000
TOTAL	\$2,200,000

ESTIMATED OUTSOURCING EXPENSES AND PURCHASES

Outsourcing

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

Other

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

CHAPTER 4

Roadway Systems

RESPONSIBLE UNIT

Division of Planning
Transportation Systems Branch

PURPOSE AND SCOPE

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

PROPOSED ACTIVITIES FOR 2017-2018

- Track roadway construction or maintenance projects to identify changes in roadways and their effect on roadway system designations.
- 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.
- 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)
- Ensure the SPRS reflects roadways of significance, and correlates with the functional classification system and the electronic base map coverage.
- 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.
- Review revisions to the SPRS to discover any modifications made necessary to other systems such as functional classification, NHS, or NN classifications.
- 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.
- 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.
- 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
- Provide all system revision information to the Data Management branch and others as appropriate.

CHAPTER 4

Roadway Systems (continued)

RESPONSIBLE UNIT

Division of Planning
Transportation Systems Branch

PROPOSED ACTIVITIES FOR 2017-2018 (continued)

- 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.
- Publish Kentucky's Official Coal Haul Highway System Report as required by KRS 177.977 and KRS 42.455.
- 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.
- Review and coordinate right-of-way information between the HDO staffs and Central Office Transportation Systems and Division of Right-of-Way and Utilities staffs regarding request for official transfers. Compile data in Project Wise.
- Compile and provide Governmental Accounting Standards Board (GASB) information on total mileage and estimate value of state roads removed from the SPRS for the FY 2017 to KYTC's Office of Budget and Fiscal Management.

PRODUCTS

- Official Order Changes to the State Primary Road System
- State Primary Road System Official Order Listings
- Quarterly Reports on internet: State Primary Road System Mileage, Designated National Truck Network routes and mileage
- GIS map files incorporating project design files for decision-making and use by other Branches
- Coal Haul System Report with associated maps and separate datasets to Department of Local Government, KYTC Budgets and KYTC Bridge Maintenance
- Request to FHWA for modification of National Truck Network (NN) or Official Order Change to State Designated National Truck Network
- Request to FHWA for modification of National Highway System
- Request to FHWA for permission to relinquish interstate frontage road to local government

CHAPTER 4

Roadway Systems (continued)

RESPONSIBLE UNIT

Division of Planning
Transportation Systems Branch

DISTRIBUTION OF ESTIMATED COST FOR 2017-2018

PERSONNEL	\$600,000
OTHER	\$3,000
TOTAL	\$603,000

Other

- \$3,000 Other Operational Cost

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

CHAPTER 5

Cartography

RESPONSIBLE UNIT

Division of Planning
 Transportation Systems Branch

PURPOSE AND SCOPE

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

PROPOSED ACTIVITIES FOR 2017-2018

- Provide electronic mapping for all city, county, district, state, and special-purpose cartographic products.
- Maintain and publish electronic formats of cartographic products for display on the Internet.
- Update the Official State Highway Map electronic files and accomplish necessary publication. Monitor inventory at 17 locations and coordinate additional deliveries as needed.
- Create reports and exhibits for various Division projects and studies to assist transportation decision-makers in their roles.
- Provide mapping and graphic assistance to other Divisions and Departments as requested.
- Develop and provide to outside entities digital maps as requested.
- Develop and provide geographic information systems (GIS) files locating other modes of transportation.

PRODUCTS

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

DISTRIBUTION OF ESTIMATED COST FOR 2017-2018

PERSONNEL	\$375,000
OUTSOURCED PERSONNEL	\$140,000
OTHER	\$1,000
TOTAL	\$516,000

CHAPTER 5

Cartography (continued)

RESPONSIBLE UNIT

Division of Planning
Transportation Systems Branch

ESTIMATED OUTSOURCING EXPENSES AND PURCHASES

Outsourcing

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

Other

- \$140,000 for Official Highway Map Publication.
- \$1,000 Other Operational Cost
For items such as travel, mileage, equipment and other cost directly associated to the completion of this work chapter.

CHAPTER 6

Highway Information System

RESPONSIBLE UNIT

Division of Planning
Data Management Branch

PURPOSE AND SCOPE

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

PROPOSED ACTIVITIES FOR 2017-2018

- Maintain the Cabinet's GIS route network for Kentucky's public highways. Improve processes and procedures for reviewing, editing, and updating the network.
- Provide up-to-date route network locations, route lengths, and highway data for use by internal and external customers. Ensure accuracy of information provided.
- 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.
- 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.
- 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.
- Perform office reviews to verify HIS data meets the required standards established by this Division and FHWA.
- Assist the Division of Maintenance in the implementation of pavement performance measures reporting and analysis via HPMS.
- Assist in the implementation of national performance measures reporting and analysis in accordance with federal legislation, regulations, policies, and/or guidelines.
- 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.

CHAPTER 6

Highway Information System (continued)

RESPONSIBLE UNIT

Division of Planning
Data Management Branch

PROPOSED ACTIVITIES FOR 2017-2018 (continued)

- Develop appropriate Cabinet sources for providing data screening methods used in the assembly of the Cabinet's Highway Plan. Modify HIS data collection, storage, and analysis processes as needed in order to satisfy Highway Plan assembly requirements.
- Assist with analyses of highway system performance and the Unscheduled Projects List. Provide an up to date route network for locating Unscheduled Projects.
- Update Rating Indices, Capacities, and Volume/Service Flow ratios in the HIS database and distribute to customers.
- Improve production methods used to calculate Rating Indices, Capacities, and Volume/Service Flow ratios.
- Process and submit annual HPMS report.
- Improve HPMS submittal production methods. Investigate results of HPMS report and analyze potential process changes to improve submittal.
- Maintain currency of HPMS software and update procedures as required by federal legislation, regulations, policies, and/or guidelines.
- Coordinate with other Cabinet Divisions regarding their asset management needs. Assist with Cabinet-wide asset management data collection and data dissemination.
- 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.
- Work with OIT to improve HIS data exchange with TED and other Cabinet databases.
- Review Functional Classification in cooperation with Highway Districts and MPO's. Review Functional Classification change requests from Highway Districts and other external entities.
- Coordinate changes to the NHS and Strategic Highway Network following proper procedures for approval from FHWA and the Department Of Defense.
- Process Superload route network changes to support the Department of Vehicle Regulation's overweight/overdimensional permitting procedures.
- Accurately locate Photo Van images to the HIS route network. Provide an up-to-date route network for image location accuracy.

PRODUCTS

- Certification of Public Road Mileage by June 1
- HPMS submittal by June 15
- Weekly snapshots of HIS route network and highway data
- Up-to-date and accurate route network locations, route lengths, and highway data to support Cabinet Performance Measures and Asset Management activities
- Maps for resolving road ownership and highway data questions caused by road construction
- Official Cabinet Route Logs
- Unscheduled Project locations and Highway Plan data screening outputs
- Rating Indices, Capacities, and Volume/Service Flow ratios

CHAPTER 6

Highway Information System (continued)

RESPONSIBLE UNITDivision of Planning
Data Management Branch**PRODUCTS (continued)**

- Route network and highway data Change Reports reflecting HIS processing activities
- Queries and routines for quality control of HIS data
- Functional Classification change requests
- Photo Van image locations

DISTRIBUTION OF ESTIMATED COST FOR 2017-2018

PERSONNEL	\$1,100,000
OUTSOURCING	\$600,000
OTHER	\$110,000
TOTAL	\$1,810,000

ESTIMATED OUTSOURCING EXPENSES AND PURCHASES**Outsourcing**

- \$200,000 for Local Road Centerline collection with all of the 15 Area Development Districts, with contracts less than \$100,000 for each
- \$100,000 for data research and analysis projects
- \$100,000 for database development and enhancement projects
- \$150,000 for IT database support
- \$50,000 for special roadway data collection projects
- \$0 for production of FHWA 536 Report (Odd Years Only)

Other

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

CHAPTER 7

Strategic Corridor Planning

RESPONSIBLE UNIT

Division of Planning
Strategic Planning Branch
Strategic Corridor Planning Team

PURPOSE AND SCOPE

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

PROPOSED ACTIVITIES FOR 2017-2018

- Continue to develop and update policy and procedures for evaluating corridor level needs.
- Conduct corridor, system, small urban area studies, data needs analyses (DNA), and other studies.
- Respond to inquiries about corridor planning issues.
- Identify, evaluate and prioritize corridor, system, and small urban area needs through data analysis and public involvement.
- Oversee outsourced activities.
- Continue to develop evaluation measures as an element of the Strategic Highway Investment Formula for Tomorrow (SHIFT) to score and prioritize sponsored projects from HDOs, MPOs, and ADDs for programming in the Highway Plan.

PRODUCTS

Such Studies will include, but not be limited to the following:

- **Corridor Studies**

<u>County(ies)</u>	<u>Route</u>	<u>% Activity in FY 2018</u>	<u>Funding</u>
Christian	US 41, KY 115	To completion	SPR
Lincoln	US 27	To completion	8-167.00
Breckinridge, Hardin	KY 86	To completion	4-8901.00

CHAPTER 7

Strategic Corridor Planning (continued)

RESPONSIBLE UNIT

Division of Planning
Strategic Planning Branch
Strategic Corridor Planning Team

PRODUCTS (continued)

<u>County(ies)</u>	<u>Route</u>	<u>% Activity in FY 2018</u>	<u>Funding</u>
All D-10	Various	80%	SPR
All D-4	Various	80%	SPR

• **Small Urban Area Studies**

<u>County</u>	<u>SUA</u>	<u>% Activity in FY 2018</u>	<u>Funding</u>
Carter	Grayson	To completion	SPR
Mason	Maysville	To completion	SPR
Franklin	Frankfort	30%	SPR

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

A DNA study will be completed for all projects in the Highway Plan, that have not already been the subject of a planning study and that are intended to be advertised for Consultant services, prior to the Advertisement.

- Priorities for Highway Plan Programming that are sustainable and fundable.

DISTRIBUTION OF ESTIMATED COST FOR 2017-2018

PERSONNEL	\$950,000
OUTSOURCED PERSONNEL	\$1,200,000
OTHER	\$2,500
TOTAL	\$2,152,500

ESTIMATED OUTSOURCING EXPENSES AND PURCHASES

Outsourcing

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

Other

- \$2,500 Other Operational Cost
For items such as travel, mileage, equipment and other cost directly associated to the completion of this work chapter.

CHAPTER 8

Statewide Transportation Planning

RESPONSIBLE UNIT

Division of Planning
Strategic Planning Branch

PURPOSE AND SCOPE

The Statewide Planning Team conducts a comprehensive statewide transportation planning process with the Area Development Districts (ADDs), Metropolitan Planning Organizations (MPOs), and the Highway District Offices (HDOs). This process includes consideration of all modes and development of a policy driven and data-based approach to identification, analysis and prioritization of needs. The team also updates a Long-Range Statewide Transportation Plan (LRSTP) as needed and ensures that the LRSTP and LRSTP Program are FAST Act compliant. Through these processes and partnerships, this team provides meaningful input to the Highway Plan through the Unscheduled Needs List (UNL) and District/Regional Transportation Plan (DTP).

PROPOSED ACTIVITIES FOR 2017-2018

- Review and update the Public Participation Plan as needed.
- Review and update the Transportation Cabinet Strategic Plan as needed.
- Review and update the Long-Range Statewide Transportation Plan as needed.
- Develop and implement processes as needed to ensure FAST Act compliance.
- Coordinate with other transportation modes, land use, environmental, and other resource agencies.
- Enhance the statewide transportation planning process by including data collection and analysis, public involvement, and coordination.
- Identify, evaluate, and prioritize transportation projects through data analysis and public involvement.
- Recommend sustainable and fundable projects through performance based planning.
- Develop the draft recommended highway plan including update of project scoring, prioritization processes and other methods as needed.
- Maintain and oversee further development of the Project Identification Form/Unscheduled Needs List (an online database for use as a tool in project prioritization and analysis)
- Maintain and oversee the DTP that summarizes the Strategic Highway Investment Formula for Tomorrow (SHIFT) prioritization process, and may grow to include expanding accessibility/mobility studies. This SHIFT Kentucky Ahead effort is used in developing a list of projects identified through supporting arguments for prioritization by following Performance Based-Planning and Programming (PBPP) principles in compliance with FAST Act initiatives.
- Coordinate with other Divisions, Districts, and Agencies and incorporate applicable plans as necessary to ensure compliance with FAST Act.
- Coordinate and oversee the ADD Regional Transportation Program. Coordinate with and assist the HDOs as they develop their DTP.
- Provide guidance and review of Socio-economic reports for quality and consistency.

CHAPTER 8

Statewide Transportation Planning (continued)

RESPONSIBLE UNIT

Division of Planning
Strategic Planning Branch

PRODUCTS

- Long-Range Statewide Transportation Plan
- Transportation Cabinet Strategic Plan Update
- Unscheduled Needs List
- Annual Work Programs and Contracts for 15 Area Development Districts
- Statewide Transportation Planning Meetings
- Individual ADD Planner Assessments
- Public Participation Plan Update
- Draft Recommended Highway Plan
- District/Regional Transportation Plan containing the SHIFT Projects.

DISTRIBUTION OF ESTIMATED COST FOR 2017-2018

PERSONNEL	\$1,000,000
OUTSOURCED PERSONNEL	\$25,000
OTHER	\$13,000
TOTAL	\$1,038,000

ESTIMATED OUTSOURCING EXPENSES AND PURCHASES

Outsourcing

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

Other

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

CHAPTER 9

Metropolitan Planning Organizations
(Areas over 50,000 Population)

RESPONSIBLE UNIT

Division of Planning
Strategic Planning Branch
MPO Team

PURPOSE AND SCOPE

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

PROPOSED ACTIVITIES FOR 2017-2018

- Draft and administer contracts with MPOs and Local Public Agencies (LPAs), providing oversight for federal funds.
- Provide technical assistance, oversight and review of MPO activities, programs, documents, models, and tools.
- Represent the Cabinet at technical, policy, and other committee meetings, and at certification reviews.
- Promote planning processes in each MPO area that are consistent with current federal regulations.
- Work with MPOs, transit agencies, and other state transportation agencies to implement performance-based planning processes, including selection of appropriate performance targets and development and implementation of processes to achieve those targets.
- Work with the MPOs, Highway District Offices (HDOs), other agencies, and representatives of various modes of transportation to collect data, identify needs (including connectivity gaps in access to essential services such as housing, employment, health care, education, and recreation), identify funding sources, complete Project Identification Forms (PIFs) and evaluate and rank projects, encouraging consistency between local, regional and state plans and programs and across various modes of transportation.
- Participate in planning studies affecting the metropolitan planning areas, including planning studies for rural and small urban areas near metropolitan planning area boundaries.
- Conduct regular Statewide Transportation Planning meetings, to include discussions on current metropolitan planning issues.
- Coordinate with MPOs and other agencies on air quality issues.
- Collaborate with representatives of neighboring MPOs and transportation agencies to promote consistency in performance measures, performance targets, data collection and analysis, and transportation plans and programs within multi-state MPOs and between adjacent MPOs, as applicable.
- Develop and update metropolitan planning agreements, as needed.

CHAPTER 9

Metropolitan Planning Organizations (continued)
(Areas over 50,000 Population)

RESPONSIBLE UNIT

Division of Planning
Strategic Planning Branch
MPO Team

PRODUCTS

- Compliant and consistent Transportation Improvement Programs (TIPs), Metropolitan Transportation Plans (MTPs) and other documents.
- A Statewide Transportation Improvement Program (STIP) that is consistent with the MPOs' TIPs.
- Contracts with MPOs and LPAs to carry out planning activities in the urbanized areas.
- Statewide Transportation Planning meetings.
- Special studies as needed.

DISTRIBUTION OF ESTIMATED COST FOR 2016-2017

PERSONNEL	\$500,000
OUTSOURCED PERSONNEL	\$25,000
OTHER	\$6,500
TOTAL	\$531,500

ESTIMATED OUTSOURCING EXPENSES AND PURCHASES

Outsourcing

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

Other

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

CHAPTER 10

Performance Measures and Congestion/Mobility Analysis

RESPONSIBLE UNIT

Division of Planning
Multimodal Programs Branch

PURPOSE AND SCOPE

The FAST Act continues MAP-21's overall performance management approach, within which States invest resources in projects that collectively will make progress toward national goals. States are required to calculate performance measures/targets for the Interstate and non-Interstate National Highway System (NHS) for the purpose of carrying out the National Highway Performance Program (NHPP). The Multimodal Programs Team is responsible for NHPP areas related to system performance and traffic congestion, freight movement, on-road mobile source emissions, and consideration of a greenhouse gas (GHG) emission measures. The analysis includes reviewing, commenting, and complying with FHWA's Notice of Proposed Rule Making (NPRM) relating to these measures, as well as adapting performance measurements to comply with the final rule.

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

PROPOSED ACTIVITIES FOR 2017-2018

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

System Performance

- Measure the Travel Time Reliability as a percent of the person-miles traveled on the interstate system and on the non-interstate NHS system.
- Estimate percent change in tailpipe CO₂ referred to as Greenhouse Gas measures for Interstate and non-Interstate NHS.

Freight

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

Congestion Mitigation (CM)

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

Maintenance and Distribution of Data

- Download monthly data as supplied by FHWA to support the development of performance measures described in the final published NPRM, keep server current, and assist in implementing improved data locations. Check changes in network annually.
- In coordination with Data Management Branch, develop and maintain a GIS correlation between the data negotiated by FHWA and KYTC's Highway Performance Management System (HPMS)
- Assist in efforts to make travel time/speed data readily available to personnel of KYTC and partners, as appropriate.
- Participate in the Texas Transportation Institute's (TTI) pooled-funded Urban Mobility Study. Several elements of research affect measuring mobility, work with travel time data, and compliance with FastAct Performance Measures.
- Participate in Performance Measure educational opportunities including monthly webinars, as available.

CHAPTER 10

Performance Measures and Congestion/Mobility Analysis
(continued)

RESPONSIBLE UNIT

Division of Planning
Multimodal Programs Branch

PRODUCTS

- Percent of the person-miles traveled on the Interstate System providing for Reliable Travel.
- Percent of the person-miles traveled on the non-Interstate NHS providing for Reliable Travel.
- Percent of change in tailpipe CO2 emissions on the NHS compared to Calendar year 2017.
- Percent of the non-Interstate NHS in urbanized areas with a population over 1 million, where peak hour travel times meet expectations.
- Simplify, streamline, process, and legally share travel time data with KYTC staff, partners, and public.
- Require reporting from final PM3 requirements

DISTRIBUTION OF ESTIMATED COST FOR 2017-2018

PERSONNEL	\$250,000
OUTSOURCED PERSONNEL	\$50,000
OTHER	\$15,000
TOTAL	\$315,000

ESTIMATED OUTSOURCING EXPENSES AND PURCHASES

Outsourcing

- \$50,000 Develop Statewide historical Performance Measure values

Other

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

CHAPTER 11

Air Quality

RESPONSIBLE UNIT

Division of Planning
Multimodal Programs Branch
Air Quality Team

PURPOSE AND SCOPE

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

PROPOSED ACTIVITIES FOR 2017-2018

- Perform Regional Air Quality (AQ) Conformity Analysis for metropolitan and rural areas as needed.
- Monitor AQ data submissions to other agencies – State, federal, local, and academic research.
- Provide Kentucky transportation-related data to KY Energy and Environment Cabinet – Division of Air Quality (EEC-DAQ). Data is commonly used for the development of the State Implementation Plans (SIPs) for AQ nonattainment and maintenance areas. Review, comment, and participate during the preparation of mobile emission budgets for the development of SIPs, SIP amendments, maintenance demonstrations, and budget adjustments.
- 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.
- Maintain expertise in MOVES_2014a or current AQ model. Performing the emissions model analysis for ozone and PM_{2.5} regional conformity analyses as needed.
- Prepare Cabinet responses to citizen/agency inquiries for signature by Governor, Secretary, or Director.
- Attend necessary meetings and conferences to stay abreast of the AQ issues.
- 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.
- Inform KYTC staff, KYTC management, partner cabinets, MPOs, ADDs, public officials, and the general public about air quality, conformity analysis, federal guidelines, and new developments regarding greenhouse gas/climate change requirements. Disseminate information about same.
- When new ozone standards are adopted, educate local governments to understand transportation impacts.
- Maintain AQ Website- Maintain appropriate active web-links.
- Develop and maintain a KYTC AQ email distribution list for dissemination of AQ information.
- 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.
- Assist with new programs as required by FAST Act, Clean Air Act Amendment (CAAA), NAAQS, and others

CHAPTER 11

Air Quality Conformity Analysis (continued)

RESPONSIBLE UNIT

Division of Planning
Multimodal Programs Branch
Air Quality Team

PROPOSED ACTIVITIES FOR 2017-2018 (continued)

- Develop and maintain working knowledge of the ever changing performance measures required by the FAST Act and how they could impact AQ.
- Monitor the new ozone standard taking effect fall 2017 and plan accordingly for transportation impacts should any occur.
- Work with FHWA-KY to host biennial statewide air quality conference.
- Coordinate special AQ/MOVES training when needed.
- Provide support to the KYTC Office of Local Programs and local agencies for Congestion Management and Air Quality (CMAQ) related issues, as requested. Assist District, ADD, MPA, and local government offices with the preparation of CMAQ applications including emission calculations and documentation.
- Other duties and special projects as assigned.

PRODUCTS

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

DISTRIBUTION OF ESTIMATED COST FOR 2017-2018

PERSONNEL	\$50,000
OTHER	\$2,000
TOTAL	\$52,000

Other

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

CHAPTER 12

Multimodal Freight Transportation

RESPONSIBLE UNIT

Division of Planning
Multimodal Programs Branch

PURPOSE AND SCOPE

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

PROPOSED ACTIVITIES FOR 2017-2018

Public Riverports

- Maintain Kentucky's guidelines for KRI grant applications, as defined by current budget bill.
- Review any KRI grant applications received.
- Provide staff support for the Water Transportation Advisory Board.
- Interface with the public and private riverports in the state by responding to information requests and serving as a member of the Kentucky Association of Riverports. Conduct annual on-site visits of active public riverports in the state.
- Actively participate on the AASHTO Standing Committee on Water Transportation (SCOWT).
- Maintain Kentucky's application for establishing a public riverport authority. Review and respond to applications for establishing a public riverport authority, as needed.
- Request and compile annual operations reports from riverports.
- Update the KYTC Waterways Plan as needed.
- Plan and host riverport meetings as needed.
- Maintain KYTC's Riverports website.

Railroads

- Oversee KRCSI program including maintaining program guidance, reviewing applications, contract administration, and project inspection, as needed.
- Coordinate with Division of Right of Way to administer KRCSI projects as defined by the current budget bill.
- 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.
- Update the KYTC Rail Plan as needed.
- Participate in various rail studies and research with KYTC involvement.
- Collect railroad annual reports and rail accident/incident reports as directed in 603 KAR 7:090.
- Actively participate on the AASHTO Standing Committee on Rail Transportation (SCORT), American Railway Engineering and Maintenance-of-Way Association (AREMA), American Short Line & Regional Railroad Association (ASLRRRA), and Kentucky Operation Lifesaver. Monitor, track, and distribute information about railroad line abandonments in Kentucky

CHAPTER 12

Multimodal Freight Transportation (continued)

RESPONSIBLE UNIT

Division of Planning
Multimodal Programs Branch

PROPOSED ACTIVITIES FOR 2017-2018 (continued)

- Track and share (with KY Tourism, KY Economic Development, et. al.) information regarding rail abandonments, as appropriate.
- Respond to public inquiries on passenger and freight rail issues.
- Plan and host rail industry stakeholder meeting as needed.
- Maintain KYTC's Railroads website.

General

- Provide technical assistance and disseminate information to MPOs, ADDs, HDOs, and project teams regarding freight movement, planning, and safety.
- Evaluate, log, store, and update freight data from MPOs, ADDs, and HDOs as needed.
- Coordinate designations to the National Highway Freight Network and the National Multimodal Freight Network, as required by FAST Act.
- Participate in regional freight planning efforts.
- Continue involvement with Mid-America Freight Coalition (MAFC), Institute for Trade and Transportation Studies (ITTS), and National Cooperative Highway Research Program (NCHRP), as appropriate.
- Visit intermodal sites and communicate with rail, water, and road modes to identify freight-related needs and concerns involving highways.
- Continue relationships with Economic Development to identify and promote intermodal freight opportunities and locations.
- Update information for FHWA Intermodal Connectors as needed.
- Update the State Freight Plan to be FAST Act compliant.
- Update the KY Freight Modes book, as needed.
- Review draft procedure and perform analysis for Freight Performance Measures.
- Maintain KYTC's Freight website.
- Create and implement methodology for considering freight in PIFs, plans, and projects.
- Track and share information regarding automated and connected freight vehicles, as appropriate.
- Provide staff support for the KY Freight Advisory Committee for Transportation.
- Designate and maintain Critical Urban Freight Corridor and Critical Rural Freight Corridor networks, per FAST Act guidance.
- Designate and maintain Critical Rural Freight Facilities, per FAST Act guidance.

Ferryboats

- Coordinate the Kentucky Ferryboat Program.
- 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.
- Plan and host ferryboat operators meeting as needed.
- Conduct annual on-site visits of Kentucky ferryboat operations.
- Maintain KYTC's Ferryboat website.

CHAPTER 12

Multimodal Freight Transportation (continued)

RESPONSIBLE UNIT

Division of Planning
Multimodal Programs Branch

PRODUCTS

- Kentucky Riverport Improvement project/contract
- Updated Statewide Rail, Waterway, and Freight Plans as needed
- Updated railroad GIS database and maps for KYTC and public purposes
- Annual Rail Report
- Annual Riverport Report
- Annual Ferryboat Report
- Ferryboat operation and FBP awards’ contracts, site inspections, and invoice review/approval
- Updated Intermodal Connectors documentation as appropriate
- Rail industry stakeholders meeting as needed
- KFACT meetings as needed.
- Annual Waterways/Ferryboats meeting as needed
- Contracts and guidance for KRCSI
- Updated website, meeting minutes, agendas, logistics, and guidance for Water Transportation Advisory Board
- FAST Act Compliant Freight Plan

DISTRIBUTION OF ESTIMATED COST FOR 2017-2018

PERSONNEL	\$225,000
OTHER	\$100,000
TOTAL	\$325,000

ESTIMATED OUTSOURCING EXPENSES AND PURCHASES

Other

- \$40,000 Mid America Freight Coalition, a MAASHTO subcommittee paid as a pooled fund* study
- \$40,000 Institute for Trade and Transportation Studies, a SAASHTO subcommittee paid as a pooled fund* study. Renews in FY2018 with 3 year commitment (FY2018 – 2020)
- \$5,000 Operation Lifesaver - Educational Material (for school children)
- \$15,000 Other Operational Cost-
For items such as travel, mileage, equipment, and other costs directly associated to the completion of this work chapter

Non Work-Program Expenses

- Tennessee Tombigbee Waterway Dues* are paid through Regional Planning (EA51 General Fund \$50,000)

* Expenses paid via KYTC Research Arm/Innovation Engineer.

CHAPTER 13

Traffic Data Forecasting Statewide Traffic Model

RESPONSIBLE UNIT

Division of Planning
Multimodal Programs Branch
Forecasting and Modeling Team

PURPOSE AND SCOPE

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

PROPOSED ACTIVITIES FOR 2017-2018

Traffic Forecasting- Reports, Studies, and Analysis

- Prepare traffic estimates for planning studies, design projects, maintenance, and other purposes, as requested and/or needed.
- Administer statewide traffic forecasting contracts. Provide quality review for traffic projections prepared by the MPOs and consultants.
- Maintain databases tracking traffic forecasts and traffic forecast parameters. Make databases available to other users and offices as appropriate.
- Create, publish, and email monthly Traffic Forecast Status Report. Update Forecast milestone dates on Branch Calendar, at least monthly.
- Maintain the traffic forecasting web page as a tool for other users. Maintain and update internal traffic forecasting tools (e.g. ESAL spreadsheets, turning movement spreadsheets) and Traffic Forecasting report.
- Provide future year forecasting of K-factors/D-factors for the Highway Performance Monitoring System (HPMS) and compare result with TRADAS (or current software) outputs.
- 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.
- Provide support to Division of Highway Design in implementation of new Mechanical Pavement Design Guide (MEPDG).

Modeling- Reports, Studies, and Analysis

- Administer statewide modeling contracts. Provide quality review for models prepared by the MPOs and consultants.
- Maintain databases tracking traffic models, traffic modeling parameters, model use, and archive status. Make databases available to users.
- Create, publish, and email monthly Traffic Model Status Report. Update Model milestone dates in status report, at least monthly.
- Create, publish, and email monthly Traffic Data and Model Sharing Agreements Status Report. Update Sharing Status milestone dates in status report, at least monthly.
- 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.
- Maintain the traffic modeling web page as a tool for users.

CHAPTER 13

Traffic Data Forecasting (continued)
Statewide Traffic Models

RESPONSIBLE UNIT

Division of Planning
Multimodal Programs Branch
Forecasting and Modeling Team

PROPOSED ACTIVITIES FOR 2017-2018 (continued)

- Obtain and use vehicle registration, employment, traffic counts, and travel time data for use in Travel Demand Models. Research other available data sources. Evaluate benefit/cost of purchased data and TDM improvements.
- Participate in Traffic Model Users Group and TransCAD workshop for traffic forecasters and traffic modelers composed of members from government, academia, and the private sector.
- Participate in Caliper workshops and Model Users Groups held at adjacent states or local agencies and foster a peer exchange with such agencies regarding statewide model and regional models.
- Update and modify multi-county and regional models scripts as needed to run in TransCAD 6 or KYTC's current version.
- 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.
- Offer collaboration with Project Development, to identify and utilize modeling where appropriate or recommended.
- Further review and propose improved freight assignment in models.
- Explore options to improve zone-splitting in the Statewide Model.
- Evaluate ongoing research by KTC regarding speed data, travel time, and other big data sources for possible future application.
- Prepare inputs and perform TREDIS modeling as needed for economic impact analysis needed for the SHIFT process.

PRODUCTS

- Project, Corridor, Road User Cost, and Economic Modeling analysis as requested
- Monthly Traffic Forecast Status Report
- Monthly Traffic Model Status Report
- Monthly Traffic Data and Model Sharing Status Report
- Project Development coordination regarding models and forecasts
- Traffic forecast factors for HPMS
- Updated tools for consultants and District (e.g. ESAL Calculator, travel-time data, look-up tables)
- Develop, as needed, Travel Demand Models such as:
 - ◆ County or highway district area macro models
 - ◆ Corridor and small area micro-simulation models
 - ◆ Continued validation and calibration of new and existing models

CHAPTER 13

Traffic Data Forecasting (continued)
Statewide Traffic Models

RESPONSIBLE UNIT

Division of Planning
Multimodal Programs Branch
Forecasting and Modeling Team

DISTRIBUTION OF ESTIMATED COST FOR 2017-2018

PERSONNEL	\$450,000
OUTSOURCED PERSONNEL	\$220,000
OTHER	\$5,000
TOTAL	\$675,000

ESTIMATED OUTSOURCING EXPENSES AND PURCHASES

Outsourcing

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

Other

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

Non-Work Program Expenses

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

CHAPTER 14

Bicycle and Pedestrian Program

RESPONSIBLE UNIT

Division of Planning
Multimodal Programs Branch

PURPOSE AND SCOPE

The team will coordinate and manage the state's Bicycle and Pedestrian Program within Transportation Cabinet and coordinate associated efforts and work with other Cabinets. They will work to expand active transportation opportunities in Kentucky to maximize the use of roads, streets, parks, and other publicly and privately owned lands, abandoned road beds, and other resources in the development of bikeways and walkways. The team will provide assistance to state and local governments, and other groups as requested. This assistance will be in the form of technical advice, development of plans, and coordinating studies. The responsibility of the Kentucky Pedestrian and Bicycle Coordinator is to prepare, assist, and promote bike/ped programs throughout the state by working with project teams to recommend opportunities and options for bike/ped facilities for proposed and ongoing highway projects, local roadway projects, and other associated bicycle and pedestrian projects. The Bicycle and Pedestrian Coordinator will also act as secretariat for the Kentucky Bicycle and Bikeway Commission.

The Bicycle and Pedestrian team will coordinate with the Cabinet for Tourism, Arts and Heritage, the Kentucky Department for Local Government, and the Cabinet for Health and Family Services to promote bike/ped travel within the state. The KYTC Office of Local Programs and the Kentucky Department for Local Government coordinate programs that support and encourage active transportation. The team will coordinate with them, regarding Scenic Byways, Transportation Alternatives, Recreational Trail Programs, and CMAQ programs.

PROPOSED ACTIVITIES FOR 2017-2018

Planning

- Assist local governments in the development and/or improvement of local bike/ped network facilities, provide assistance to local planning efforts, and provide guidance from KYTC, FHWA, & AASHTO.
- Participate in the KYTC Strategic Highway Safety Plan update and implementation. Pedestrian and Bicycle Safety are now stand-alone sections.
- Participate in FHWA Pedestrian Fatality Focus Study for Louisville and Kentucky.
- Assist with revision and updating of the USBR bike tours system. Provide changes to the USBR system by submittal to AASHTO for approval.
- Review, revise, and update the Pedestrian and Bicycle Travel Policy, as needed.
- Create, update, and review procedures for tasks and work associated with developing or improving bikeways and walkways.
- Act as Technical Liaison to municipalities to develop required ADA Transition Plans.

Engineering and Projects

- Answer requests concerning planning and design guidelines regarding bike/ped facilities and provide review of bike/ped projects and facilities with KYTC's HDO and CO Divisions, ADDs, MPOs, and local governments.
- Review and comment on requests for signage or other options to recognize bike/ped facilities or on-road bicycle routes.

CHAPTER 14

Bicycle and Pedestrian Program (continued)

RESPONSIBLE UNIT

Division of Planning
Multimodal Programs Branch

PROPOSED ACTIVITIES FOR 2017-2018 (continued)

- Review the list of proposed resurfacing projects for opportunities as part of Maintenance activities to improve bike/ped facilities through restriping and other improvements. Review for compliance with local bike/ped plans where appropriate.
- Provide bike/ped accommodation considerations within traffic forecast, planning study, and other Project Development reports.
- Develop/update and standardized coordination protocols with HDO, Maintenance, Traffic Operations, Design, and Planning concerning the Share the Road (STR) sign placement procedures.
- GIS applications- Develop and maintain a GIS of bike/ped network facilities and plans statewide. Document linkage between the local and regional network facilities.
- Coordinate to identify and obtain federal, state, local, or private funds available to the Cabinet.

Education & Enforcement

- Provide technical training including bike/ped design for planners, designers, local governments, and other KYTC staff statewide.
- Facilitate education of the public regarding non-motorized modes of transportation, as opportunity arises. Provide educational brochures and other resources to county government offices, bike shops, health departments, and various related groups.
- Work with local law enforcement to promote education and enforcement of bike/ped safety laws. Provide information brochures and make a presentation at the annual Life Savers Conference.
- Respond to citizens' requests for information, maps, bike routes, walking trails, availability of funds for projects, and other related information as requested.
- Develop and maintain a clearinghouse of information concerning active transportation for CO Divisions, ADDs, MPOs, and the local government.
- Maintain www.bikewalk.ky.gov website.
- **Kentucky Bicycle and Bikeways Commission (KBBC)**
- Plan quarterly KBBC meetings.
- Plan annual KBBC Conference
- Prepare agenda before each KBBC meeting and minutes after each KBBC meeting.
- Assist KBBC on communications and technical matters.
- Assist in administering the Paula Nye Education Grant program.

CHAPTER 14

Bicycle and Pedestrian Program (continued)

RESPONSIBLE UNIT

Division of Planning
Multimodal Programs Branch

PRODUCTS

- Guidance for local and regional bike/ped master plans
- Clearing house/tool box of bike & ped resources and related items for the creation or improvement of bike/ped projects or local master plans
- Bike/ped brochures and promotional materials
- Bike/ped technical training courses
- Walkability/Bikeability Audits
- Quarterly and annual KBBC meetings
- Nye Grant status reports
- KYTC Bike/Walk web pages

DISTRIBUTION OF ESTIMATED COST FOR 2017-2018

PERSONNEL	\$150,000
OTHER	\$110,000
TOTAL	\$260,000

ESTIMATED OUTSOURCING EXPENSES AND PURCHASES

Other

- \$75,000 ADA Inventory
- \$10,000 bike/ped training course instruction with site field visits.
- \$10,000 for Kentucky Bicycle and Bikeway Commission meetings.
- \$5,000 for bike/ped Brochures
- \$5,000 for bike/ped educational and safety items for drivers, cyclists, and pedestrians.
- \$5,000 Other Operational Cost -For items such as travel, mileage, equipment and other cost directly associated to the completion of this work chapter.

CHAPTER 15

Highway Safety Improvement Program

RESPONSIBLE UNITDivision of Traffic Operations
Traffic Engineering Branch
Highway Safety Improvement Program Team**PURPOSE AND SCOPE**

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

PROPOSED ACTIVITIES FOR 2017-2018

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

PRODUCTS

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

CHAPTER 15

Highway Safety Improvement Program (continued)

RESPONSIBLE UNIT

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

DISTRIBUTION OF ESTIMATED COST FOR 2017-2018

PERSONNEL	\$500,000
OTHER	
TOTAL	\$500,000

ESTIMATED OUTSOURCING EXPENSES AND PURCHASES

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

CHAPTER 16

Quality Assurance

RESPONSIBLE UNIT

Division of Highway Design
Quality Assurance Branch

PURPOSE AND SCOPE

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

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

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

The **Constructability Review** program assists Project Managers by examining projects for errors, omissions, and issues related to the constructability of a project. Constructability reviews are conducted primarily for final joint inspection plans; however, preliminary line and grade plans and check prints may also be reviewed. Constructability reviews focus on maintenance of traffic and horizontal/vertical alignments between roadways and structures, but a reviewer's unique career experience aids them in finding a myriad of other constructability related issues.

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

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

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

CHAPTER 16

Quality Assurance (continued)

RESPONSIBLE UNIT

Division of Highway Design
Quality Assurance Branch

PROPOSED ACTIVITIES (Annually)

- Conduct **Constructability Reviews** to improve quality of designs and enhance efficiency of work flow during the construction phase.
- Conduct mandated **VE** studies to meet federal guidelines.
- Conduct **PCRs** for each district. Enter PCR information into database. Issue Fact Sheets for each PCR.
- Identify and follow up on issues identified as **EI**.
- Continue to develop and update policy and procedures for all aspects of each program.
- Educate KYTC staff and others by developing and publishing the **Quality Matters newsletter**, containing content about findings from the reviews or design innovations.
- Develop and publish **Tech Briefs**, each focused on a single, important topic identified through the reviews.
- Educate KYTC staff and others on topics identified through the various reviews and analysis of the Lessons Learned data. Provide technical assistance from the programs to identify, evaluate and prioritize needs for improvements and coordinate those recommendations within the Cabinet through the collection and analysis of data.
- Train in-house and consultant personnel on findings for the betterment of designs and design processes.
- Ensure consistency and quality of design products delivered by KYTC.
- Oversee outsourced activities.

PRODUCTS

- VE Studies
- VE Punch Lists
- VE Project Database
- VECP Database
- FHWA Annual VE Report
- Constructability Project Review Reports
- Constructability Review Database
- Post-Construction Review Fact Sheets
- Post-Construction Review Database
- Quality Matters Newsletter
- Tech Brief Publication: ADA
- Tech Brief Publication: Design Speed
- EI Research: Driveway Design Standards
- Special Studies

CHAPTER 16

Quality Assurance (continued)

RESPONSIBLE UNIT

Division of Highway Design
Quality Assurance Branch

DISTRIBUTION OF ESTIMATED COST FOR 2017-2018

PERSONNEL	\$450,000
OTHER	\$50,000
TOTAL	\$500,000

ESTIMATED OUTSOURCING EXPENSES AND PURCHASES

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

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