

# PLANNING WORK PROGRAM

SP 0016 (001)  
JUNE 16, 2015 – JUNE 15, 2016



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



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

**Kentucky Division**

June 3, 2015

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In Reply Refer To:  
HPD-KY

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

Dear Mr. Hancock:

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 49 CFR §18, 23 CFR § 420 and 23 CFR§ 450.

**Planning Work Program  
SP 0016 (001)  
(2016 SPR Work Program - Subpart A)**

The work program should be administered in accordance with the provisions of 49 CFR§ 18 and 23 CFR § 420. **The effective time period for funding is from June 16, 2015 – June 15, 2016.** 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, OMB Circular A-133 Part 4).

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 0016 (001)  
JUNE 16, 2015 THROUGH JUNE 15, 2016**

**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. In each of the work program chapters, there is a denotation of the Highway District Offices. Each Highway District Office has a Planning Branch 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 Cabinet's 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.

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 0016 (001) for the period June 16, 2015 to June 15, 2016 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 and 23 CFR 420. 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 2016 are reported in detail by Chapter in this Work Program.

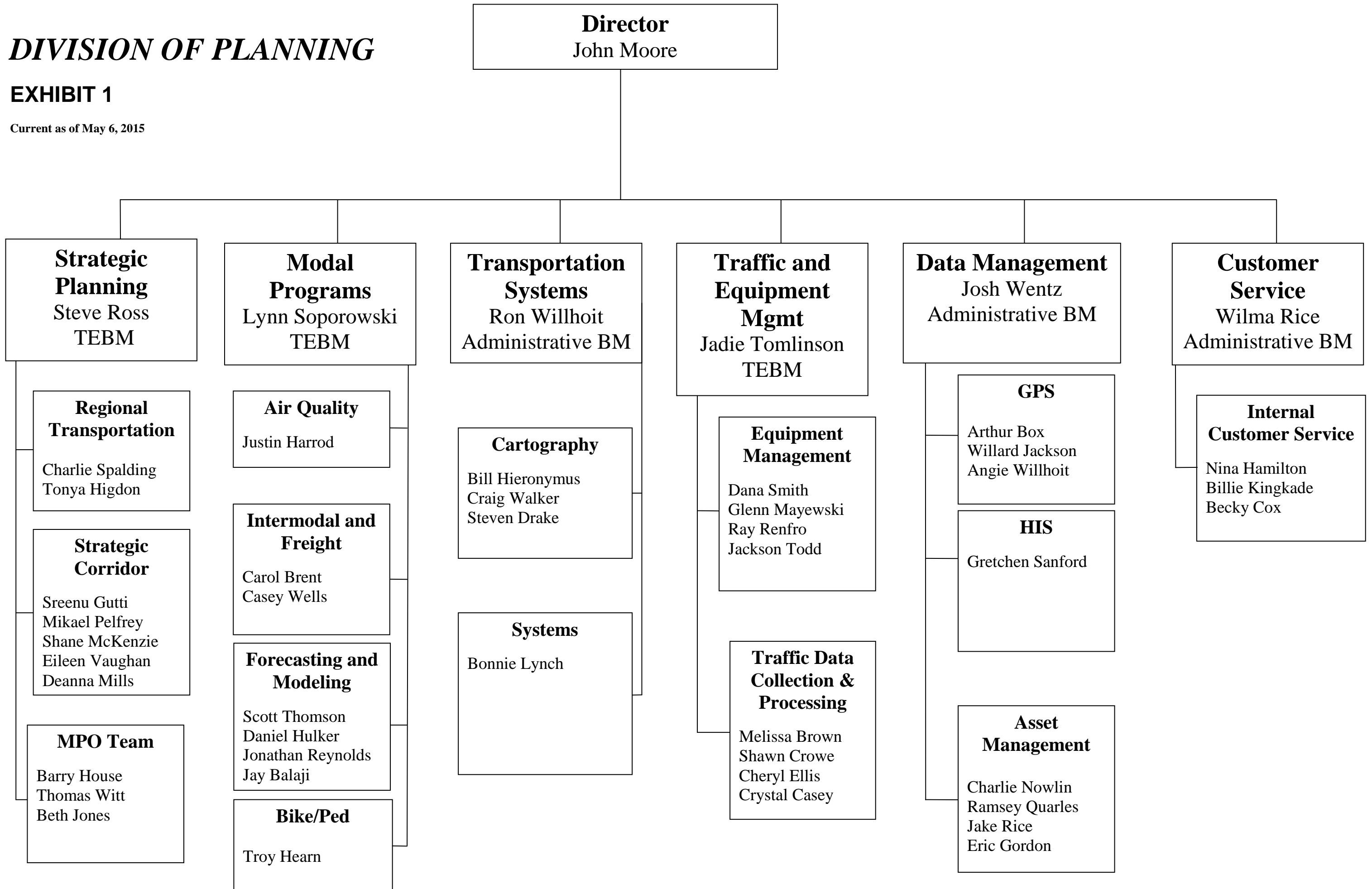
We expect the majority of activities in this Work Program to be completed by June 15, 2016. However, occasionally there are programs, especially those that have to be contracted, that cannot be completed June 15. Those items that are not complete by June 15 will be identified in the Annual Performance 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 6, 2015





## EXHIBIT 2

### Planning Work Program 2016

#### 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 Cost	\$8,100,320	\$2,025,080			\$10,233,900
Other Cost	\$903,600	\$225,900			\$975,000
<b>Total SPR Funds</b>	<b>\$9,003,920</b>	<b>\$2,250,980</b>			<b>\$11,254,900</b>

#### Other Divisions

Personnel Cost	\$800,000	\$200,000			\$1,000,000
Other Cost	\$0	\$0			\$0
<b>Total SPR Funds</b>	<b>\$800,000</b>	<b>\$200,000</b>			<b>\$1,000,000</b>

#### Partner Agencies

PL Funded MPO Planning Budgets	\$2,428,000	\$151,750	\$455,250		\$3,035,000
PL Discretionary Fund	\$0		\$0		\$0
<b>Total PL Funds</b>	<b>\$2,428,000</b>	<b>\$151,750</b>	<b>\$455,250</b>		<b>\$3,035,000</b>

ADD Regional Transportation Program (State Funds)		\$1,208,000	\$120,800		\$1,328,800
ADD Regional Transportation Program (General Funds)		\$349,800	\$34,980		\$384,780
<b>Total ADD funds</b>		<b>\$1,557,800</b>	<b>\$155,780</b>		<b>\$1,713,580</b>

**TOTALS**

<b>\$17,003,480</b>
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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 2016 UPWP**

<b>MPO Area</b>	<b>PL 80% Federal \$</b>	<b>KYTC 5% State \$</b>	<b>MPO 15% Local \$</b>	<b>Total 100% F+S+L \$</b>	<b>Federal + State 85% F+S \$</b>
Bowling Green	\$104,800	\$6,550	\$19,650	\$131,000	\$111,350
Cincinnati - Northern KY	\$458,400	\$28,650	\$85,950	\$573,000	\$487,050
Clarksville	\$36,800	\$2,300	\$6,900	\$46,000	\$39,100
Elizabethtown	\$100,800	\$6,300	\$18,900	\$126,000	\$107,100
Evansville - Henderson	\$57,600	\$3,600	\$10,800	\$72,000	\$61,200
Huntington - Ashland	\$116,800	\$7,300	\$21,900	\$146,000	\$124,100
Lexington	\$361,600	\$22,600	\$67,800	\$452,000	\$384,200
Louisville	\$1,092,800	\$68,300	\$204,900	\$1,366,000	\$1,161,100
Owensboro	\$98,400	\$6,150	\$18,450	\$123,000	\$104,550
<b>TOTAL</b>	<b>\$2,428,000</b>	<b>\$151,750</b>	<b>\$455,250</b>	<b>\$3,035,000</b>	<b>\$2,579,750</b>

#### **PL Discretionary Funding For FY 2015**

<b>MPO Area &amp; Description</b>	<b>PL 80% Federal \$</b>	<b>MPO 20% Local \$</b>	<b>Total 100% F+L \$</b>
<b>TOTAL</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>

**FY 2016**  
**SPR CHAPTER FUNDING SUMMARY**

<b><u>CHAPTER</u></b>	<b><u>TITLE</u></b>	<b><u>AMOUNT</u></b>
1	SPR Work Program	\$43,000
2	Personnel Training	\$121,100
3	Traffic and Equipment Management	\$2,508,800
4	Roadway Systems	\$629,300
5	Cartography	\$506,400
6	Highway Information System	\$1,835,800
7	Strategic Corridor Planning	\$2,208,200
8	Statewide Transportation Planning	\$1,351,600
9	Metropolitan Planning Organizations	\$581,800
10	Performance Measures and Congestion/Mobility Analysis	\$207,700
11	Air Quality	\$70,100
12	Multimodal Transportation	\$514,800
13	Traffic Data Forecasting	\$809,000
14	Bicycle and Pedestrian Program	\$120,300
15	Highway Safety Improvement Program	\$500,000
16	Value Engineering and Quality Assurance	\$500,000
	<b>WORK PROGRAM TOTAL</b>	<b>\$12,507,900</b>

**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 2015-2016**

- 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.

**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 2015-2016**

<b>PERSONNEL</b>	<b>\$43,000</b>
<b>OTHER</b>	
<b>TOTAL</b>	<b>\$43,000</b>

**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 2015-2016**

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 2015-2016**

<b>PERSONNEL</b>	<b>\$86,100</b>
<b>OTHER</b>	<b>\$35,000</b>
<b>TOTAL</b>	<b>\$121,100</b>

**Other**

- Other Operational Cost \$35,000  
For items such as travel, mileage, equipment and other cost directly associated with the completion of this work chapter.

## Chapter 2 Personnel Training

	SPR Work Program	Personnel Training	Traffic and Equipment Management	Roadway Systems	Cartography	Highway Information System	Strategic Corridor Planning	Statewide Transportation Planning	Metropolitan Planning Organizations	Performance Measures and Congestion/ Mobility Analysis	Air Quality	Multimodal Transportation	Traffic Data Forecasting	Bicycle and Pedestrian Program	Highway Safety Improvement Program
Conferences	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
GIS T						X				X					
GIS-KYTC				X	X	X	X			X		X	X	X	
KAMP Annual Meeting				X	X										
COGNA Annual Meeting					X										
HIS Conf						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	X	
TRB Annual Meeting							X	X	X	X	X	X	X	X	
TRB Tools of the Trade: Small and Medium Communities							X		X	X	X	X	X	X	
National Freight Conf							X					X			
Bicycle and Pedestrian Facilities Conf							X		X					X	
ITE Section Conference							X	X	X			X	X	X	
American Planners Association							X	X	X		X	X	X	X	
AMPO									X						
NADO								X							
North American Travel Monitoring Expo & Conf			X										X		
AASHTO Standing Committees			X	X	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	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
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
<b>Training Events</b>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
PEEK			X												
TMG			X										X		
TRADAS			X							X			X		
Adobe Illustrator					X								X		
Microstation				X	X	X	X								
HPMS						X							X		
Business Objects Training						X		X		X		X	X		
SQL Training						X				X			X		
Visual Basic (macros)						X				X			X		
Bentley InRoads							X								
Public Involvement in Transportation Decision Making Process							X	X	X				X	X	
Effective Communications in Public Involvement							X	X	X				X	X	
Fundamentals of Title VI/EJ							X	X	X						
Practical Conflict Management Skills for Env Issues							X	X							
Highway Capacity 2010							X			X		X	X		
KYTC Traffic Engineering Design							X	X	X				X	X	
Public Involvement							X	X	X			X	X	X	
Road Safety Audit Training							X		X			X		X	
Highway Safety Manual Training							X		X					X	
Purpose and Needs Statement Training							X								
NEPA							X	X	X						
GIS							X	X	X	X	X	X	X	X	
Microsimulation							X						X		

Chapter 2 Personnel Training	SPR Work Program	Personnel Training	Traffic and Equipment Management	Roadway Systems	Cartography	Highway Information System	Strategic Corridor Planning	Statewide Transportation Planning	Metropolitan Planning Organizations	Performance Measures and Congestion/ Mobility Analysis	Air Quality	Multimodal Transportation	Traffic Data Forecasting	Bicycle and Pedestrian Program	Highway Safety Improvement Program
	Administration of FHWA Planning and Research Grants									X			X	X	X
Planning for Operations									X	X	X	X		X	
Congestion Management and Reliability									X	X	X	X	X		
Transportation and Land Use									X			X	X		
Climate Change									X		X				
STAQS											X				
MOVES									X		X				
TransCAD/Modeling									X				X		
Census Training					X			X	X	X	X		X		
Training ofr State Bike/Ped Coordinator														X	
Air Quality Conformity									X		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 site 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 2015-2016**

- 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 sites.
- 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, collect and process vehicle volume data from approximately 500 short-duration, portable-machine, local-road, bridge 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 Major Collectors and above.

## **CHAPTER 3**

Traffic and Equipment Management (continued)

### **RESPONSIBLE UNIT**

Division of Planning  
Traffic and Equipment Management Branch

### **PROPOSED ACTIVITIES FOR 2015-2016 (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 sites. Install additional ATR sites 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 570 vehicle sensor locations (~100 ATRs and ~470 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 ATRs
- Volume, classification, and weight data from WIM sites
- Volume and classification data from short-duration machine counts
- 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 2015-2016**

<b>PERSONNEL</b>	<b>\$1,983,800</b>
<b>OUTSOURCED PERSONNEL</b>	<b>\$300,000</b>
<b>OTHER</b>	<b>\$225,000</b>
<b>TOTAL</b>	<b>\$2,508,800</b>

**ESTIMATED OUTSOURCING EXPENSES AND PURCHASES**

**Outsourcing**

- \$50,000 contract for outsourced traffic counts to be performed by consultant under Statewide Traffic Counting contract.
- \$250,000 for traffic data collection station installation and maintenance

**Other**

- \$150,000 for purchase of new traffic data collection equipment and supplies
- \$75,000 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 2015-2016**

- 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 2015-2016 (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 2014 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

**DISTRIBUTION OF ESTIMATED COST FOR 2015-2016**

<b>PERSONNEL</b>	<b>\$605,300</b>
<b>OTHER</b>	<b>\$25,000</b>
<b>TOTAL</b>	<b>\$629,300</b>

**Other**

- \$25,000 Other Operational Cost  
For items such as travel, mileage, equipment and other cost directly associated to the completion of this work chapter.

**CHAPTER 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 2015-2016**

- 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 2015-2016**

<b>PERSONNEL</b>	<b>\$351,400</b>
<b>OUTSOURCED PERSONNEL</b>	<b>\$10,000</b>
<b>OTHER</b>	<b>\$145,000</b>
<b>TOTAL</b>	<b>\$506,400</b>

**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.
- \$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 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 2015-2016**

- 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.
- 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.



## **CHAPTER 6**

Highway Information System (continued)

### **RESPONSIBLE UNIT**

Division of Planning  
Data Management Branch

### **PROPOSED ACTIVITIES FOR 2015-2016 (continued)**

- 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 the Office of Information Technology (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.
- Provide assistance to Cabinet areas updating maps and database systems with Functional Classification changes generated through statewide Adjusted Urban Area Boundary review.
- 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
- Rating Indices, Capacities, and Volume/Service Flow ratios
- 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

**CHAPTER 6**

Highway Information System (continued)

**RESPONSIBLE UNIT**Division of Planning  
Data Management Branch**DISTRIBUTION OF ESTIMATED COST FOR 2015-2016**

<b>PERSONNEL</b>	<b>\$860,800</b>
<b>OUTSOURCED PERSONNEL</b>	<b>\$625,000</b>
<b>OTHER</b>	<b>\$350,000</b>
<b>TOTAL</b>	<b>\$1,835,800</b>

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

- \$200,000 for database development and enhancement projects
- \$150,000 for data research and analysis projects
- \$200,000 for Local Road Centerline collection with all of the 15 Area Development Districts, with contracts less than \$100,000 for each
- \$75,000 for special road data collection projects
- \$0 for production of FHWA 536 Report (\$75,000 in odd year WPs)

**Other**

- \$50,000 for Asset Management Data Collection (Photo Van Operation)
- \$150,000 for IT database support
- \$100,000 for data expansion, improvement, and maintenance
- \$50,000 for Other Operational Costs (items such as travel, mileage, equipment and other costs directly associated to the completion of this work chapter)

## CHAPTER 7

## Strategic Corridor Planning

### RESPONSIBLE UNIT

Division of Planning  
Strategic Planning Branch  
Strategic Corridor Planning Team

### PURPOSE AND SCOPE

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

### PROPOSED ACTIVITIES FOR 2015-2016

- 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.
- Evaluate identified needs statewide to assist in prioritizing projects 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 2016</u>	<u>Funding</u>
Henderson	US 41	To completion	SHN
Nelson, Washington	US 150	To completion	4-396.00
Lewis, Rowan	KY 59, KY 344, KY 377	To completion	9-231.00
Warren	US 31W	To completion	SPR

**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 2016</u>	<u>Funding</u>
Hancock	KY 69	To completion	2-8708.00
Larue, Hardin	KY 84, KY 222	To completion	4-8505.00
Letcher	US 119	To completion	12-119.00
Jefferson	KY 1932	To completion	SLO
Kenton, Campbell	KY 8	75%	SPR
Green	KY 61, KY 88	80%	SPR
Christian	US 41, KY 115	75%	SPR

- **Small Urban Area Studies**

<u>County</u>	<u>SUA</u>	<u>% Activity in FY 2016</u>	<u>Funding</u>
Barren	Glasgow	To completion	SPR
Madison	Richmond - Berea	To completion	SPR
Carter	Grayson	To completion	SPR
Mason	Maysville	75%	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 2015-2016**

<b>PERSONNEL</b>	<b>\$983,200</b>
<b>OUTSOURCED PERSONNEL</b>	<b>\$1,200,000</b>
<b>OTHER</b>	<b>\$25,000</b>
<b>TOTAL</b>	<b>\$2,208,200</b>

**CHAPTER 7**

Strategic Corridor Planning (continued)

**RESPONSIBLE UNIT**

Division of Planning  
Strategic Planning Branch  
Strategic Corridor Planning Team

**ESTIMATED OUTSOURCING EXPENSES AND PURCHASES**

**Outsourcing**

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

**Other**

- \$25,000 Other Operational Cost  
For items such as travel, mileage, equipment and other cost directly associated to the completion of this work chapter.

## **CHAPTER 8**

## Statewide Transportation Planning

### **RESPONSIBLE UNIT**

Division of Planning  
Strategic Planning Branch

### **PURPOSE AND SCOPE**

The Statewide Planning Team conducts a comprehensive statewide transportation planning process with the Area Development Districts (ADDs), Metropolitan Planning Organizations (MPOs), and the Highway District Offices (HDOs). This process includes consideration of all modes and development of a policy driven and data-based approach to identification, analysis and prioritization of needs. The team also updates a Statewide Transportation Plan (STP) as needed and ensures that the STP and STP Program are MAP-21 compliant. Through these processes and partnerships, this team provides meaningful input to the Highway Plan through the Unscheduled Needs List (UNL) and District Transportation Plan (DTP).

### **PROPOSED ACTIVITIES FOR 2015-2016**

- Review and update the Public Participation Plan as needed.
- Review and update the Statewide Strategic Plan as needed.
- Develop and implement processes as needed to ensure MAP-21 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.
- 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 further development of the District Transportation Plan containing the Unscheduled Projects List (UPL) and supporting arguments for prioritization using Performance Based-Planning and Programming (PBPP) principles in compliance with MAP-21 initiatives.
- Coordinate with other Divisions, Districts, and Agencies and incorporate applicable plans as necessary to ensure compliance with new authorization or MAP-21 extension.
- Coordinate and oversee the ADD Regional Transportation Program. Coordinate and assist the Highway District Offices as they develop the District Transportation Plan.
- Provide guidance and review of Socio-economic reports for quality, consistency and completeness.

### **PRODUCTS**

- Long Range Statewide Transportation Plan
- Statewide 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
- District Transportation Plan containing the Unscheduled Projects List.

**CHAPTER 8**

Statewide Transportation Planning (continued)

**RESPONSIBLE UNIT**

Division of Planning  
Strategic Planning Branch

**DISTRIBUTION OF ESTIMATED COST FOR 2015-2016**

<b>PERSONNEL</b>	<b>\$1,251,600</b>
<b>OUTSOURCED PERSONNEL</b>	<b>\$75,000</b>
<b>OTHER</b>	<b>\$25,000</b>
<b>TOTAL</b>	<b>\$1,351,600</b>

**ESTIMATED OUTSOURCING EXPENSES AND PURCHASES**

**Outsourcing**

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

**Other**

- \$25,000 Other Operational Cost  
For items such as travel, mileage, equipment and other cost directly associated to the completion of this work chapter.

## **CHAPTER 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 2015-2016**

- 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.
- 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  
(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 2015-2016**

<b>PERSONNEL</b>	<b>\$531,800</b>
<b>OUTSOURCED PERSONNEL</b>	<b>\$25,000</b>
<b>OTHER</b>	<b>\$25,000</b>
<b>TOTAL</b>	<b>\$581,800</b>

**ESTIMATED OUTSOURCING EXPENSES AND PURCHASES**

**Outsourcing**

- \$25,000 Various studies, as needed.

**Other**

- \$25,000 Other Operational Cost  
For items such as travel, mileage, equipment and other cost directly associated to the completion of this work chapter.

## CHAPTER 10

## Performance Measures and Congestion/Mobility Analysis

### RESPONSIBLE UNIT

Division of Planning

### PURPOSE AND SCOPE

The federal transportation legislation Moving Ahead for Progress in the 21<sup>st</sup> Century (MAP-21) requires state identify state-level performance measures/targets for various performance management areas related to safety, pavements, bridges, freight, emissions, reliability, and congestion. The analysis required for performance and congestion is included in this chapter. The analysis includes reviewing FHWA's Proposed Rule relating to these measures, coordinating KYTC's comments, and adapting existing performance measurements to comply with the final rule. In the future, the state level performance measures may be considered in the national level standards by the United States Department of Transportation (U.S. DOT). The Planning Team will focus on emissions, freight/highway congestion and reliability performance measures.

Performance-based planning involves the use of data to direct project-selection decisions. Such measures can provide a more objective framework to evaluate KYTC's progress towards such performance standards.

### PROPOSED ACTIVITIES FOR 2015-2016

Using National Performance Management Research Data Set (NPMRDS) provided by FHWA, the Division of Planning is tasked with developing performance measures and establishing performance targets for the following categories.

#### Freight

- Annual Hours of Truck Delay (AHTD) - Travel time above a KYTC-defined, congestion threshold in units of vehicle-hours of delay for Trucks on the Interstate Highway System.
- Truck Reliability Index (RI<sub>80</sub>) - The ratio of the 80<sup>th</sup> percentile truck travel time to the KYTC-determined threshold travel time for trucks on the Interstate Highway System.

#### System Performance

- Annual Hours of Delay (AHD) - Travel time above a KYTC-defined, congestion threshold in units of vehicle -hours of delay on all Interstate Highways as well as National Highway System (NHS) corridors excluding Interstate Highways.
- Reliability Index (RI<sub>80</sub>) - The ratio of the 80<sup>th</sup> percentile travel time to the KYTC-determined threshold travel time for all vehicles on Interstate Highways as well as National Highway System (NHS) corridors excluding Interstate Highways.

#### Congestion Mitigation (CM)

- Annual Hours of Delay (AHD) - Travel time above a KYTC-defined, congestion threshold in units of vehicle-hours of delay will be estimated for evaluating CMAQ projects.

#### Process Analysis

##### Awareness:

- Participate in NPMRDS educational opportunities including monthly webinars, as available.
- Serve as primary point of contact for KYTC's response to upcoming FHWA Notice of Proposed Rule Making (NPRM) for both AASHTO and the Federal Register.
- Participate in the Texas Transportation Institute's (TTI) pooled-funded Urban Mobility Study. Several elements of research affect measuring mobility, working with travel time data, and MAP-21 Performance Measures.

**Performance Measurement Precursors**

- Establish KYTC definitions for reference speeds/travel times for uninterrupted and interrupted flow scenarios.
- Establish Daily, AM Peak, PM Peak, and Off-peak threshold speeds for each TMC
- Define, evaluate and refine, based on the observed data, representative periods to determine KYTC free-flow speeds Develop methodologies for calculating segment and statewide AHTD, Freight RI<sub>80</sub>, AHD, and System RI<sub>80</sub>
- Formalize and implement methodology to aggregate TMC data into corridor segments for all roads on the NHS
- Formalize approach and data sources to estimate vehicle hours traveled and vehicle miles traveled for NHS and all roads, where appropriate
- In coordination with Data Management Branch develop and maintain a correlation between the NPMRDS Traffic Message Channel (TMC) and KYTC's Linear Referencing System (LRS) at a sub-TMC, or Link, level for each unique TMC network

**Performance Measurement**

- Implement performance measures approach on federally required facilities.
- Review results to determine appropriateness of measurement methodology.
- If needed, modify methodology to reflect local sensitivities while retaining federally required methodology.

**Target Setting**

- Interrogate Performance Results for current performance trends.
- Participate in collaborative target setting opportunities with MPOs
- Propose Annual Performance Measure targets for AHTD, Freight RI<sub>80</sub>, AHD, and System RI<sub>80</sub>

**Housekeeping**

- Acquire monthly NPMRDS data, keep server up to date, and assist in implementing improved data location. Check changes in network quarterly.
- Assist in rolling reliability measures into readily accessible format. Assist planners and designers in using mobility measures in studies and projects.
- Assist in any efforts to make travel time/speed data readily available to other personnel of KYTC and partners, as appropriate. Evaluate, refine, and report a KYTC-defined congestion threshold
- Refine the mobility component of the Adequacy Rating System as necessary for new priority processes.
- Acquire, evaluate, and develop analysis tool of monthly NPMRDS non-factored travel time data for available NHS statewide

**PRODUCTS**

- AASHTO and Federal Register comments on upcoming Performance Measure NPRM.
- Geo-referenced performance measures (reliability and delay) for NHS and other routes.
- Draft KYTC operational performance targets (format unknown).
- Performance reporting in compliance with Final Rule (anticipated October 2015).
- Simplified, streamlined process or products to share travel time data with KYTC staff and public.

**DISTRIBUTION OF ESTIMATED COST FOR 2015-2016**

<b>PERSONNEL</b>	<b>\$92,700</b>
<b>OUTSOURCED PERSONNEL</b>	<b>\$100,000</b>
<b>OTHER</b>	<b>\$15,000</b>
<b>TOTAL</b>	<b>\$207,700</b>

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

- \$150,000 Purchase and Analysis of 2012 and 2013 link level data

**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. They will also assist in the development of regulations, guidance, and best practices in order to ensure compliance and deliver transportation projects within designated nonattainment and maintenance areas. The team will communicate and coordinate with KYTC Offices and Divisions as well as other Cabinets as needed.

### PROPOSED ACTIVITIES FOR 2015-2016

- 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 EEC-DAQ for their development of the State Implementation Plans (SIPs) for nonattainment and maintenance areas as well as for other projects. Review, comment, and participate during the preparation of mobile budgets for the development of SIPs, SIP amendments, maintenance demonstrations, and budget adjustments.
- Work with KYTC-IT to develop annual Kentucky VIN/Fleet registration age/type distribution data for use with MOVES. Explore incorporation of other useful datasets.
- Prepare Cabinet responses to citizen/agency inquires for the signature by Governor, Secretary, or Director.
- Attend necessary meetings and conferences to stay abreast of the AQ issues as needed.
- Monitor changes and maintain a clearinghouse of knowledge for the Division/Cabinet concerning AQ regulations. This includes maintaining a working knowledge of the NAAQS for the 8-hour ozone and PM<sub>2.5</sub> standards, EPA's current emissions model, 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.
- Depending on new ozone standards, travel statewide to help local governments understand transportation impacts.
- AQ Website development- Maintain appropriate active web-links.
- Develop and maintain a KYTC AQ email distribution list for 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 MAP-21, CAAA, NAAQS, and others.
- Maintain KY rideshare and park-n-ride database of locations.
- Work with FHWA-KY to host biennial statewide air quality conference.
- Maintain literacy in MOVES<sub>2014</sub> or current AQ model. This includes performing the emissions model run for ozone and PM<sub>2.5</sub> regional conformity analyses for areas designated as nonattainment, including Louisville, NKY, Ashland, and Christian County areas as well as other newly designated areas.

**CHAPTER 11**

Air Quality Conformity Analysis (continued)

**RESPONSIBLE UNIT**

Division of Planning  
Multimodal Programs Branch  
Air Quality Team

**PROPOSED ACTIVITIES FOR 2015-2016 (continued)**

- Coordinate special AQ/MOVES training when needed.
- Provide support to the Office of Local Government and local agencies for Congestion Management and Air Quality (CMAQ) related issues, as requested. Assist District Offices with the preparation of CMAQ applications including emission calculations and documentation.
- Maintain a working knowledge of emerging issues and best practices, such as emission reduction strategies.
- Implement congestion reduction performance measures as indicated in FHWA final rule.
- Other duties and special projects as assigned.

**PRODUCTS**

- Ozone and PM<sub>2.5</sub> 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, GHG/CC as requested.
- VIN/Fleet data for use with MOVES.
- FHWA-KYTC AQ Biennial AQ Conference.

**DISTRIBUTION OF ESTIMATED COST FOR 2014-2015**

<b>PERSONNEL</b>	<b>\$65,100</b>
<b>OTHER</b>	<b>\$5,000</b>
<b>TOTAL</b>	<b>\$70,100</b>

**Other**

- \$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 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, freight, and ferryboats. The team will administer and have oversight/support of ferry operations, Ferryboat Formula Funds (FBP), KSRA, KRI, and other federal or state multimodal contracts. The team serves as staff support for the Water Transportation Advisory Board.

### PROPOSED ACTIVITIES FOR 2015-2016

#### Public Riverports

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

#### Railroads

- Oversee Kentucky Shortline Railroad Assistance projects including contract administration, project tracking, and project inspection.
- Work with Division of Right of Way (or assigned Division) to administer KY Rail Crossing Improvement (KRCI) projects as defined by the current budget bill. Review any KRCI grant applications received.
- 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. Rail maps may be used by KYTC for roadway planning and project development.
- Update the current Kentucky Statewide 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 as a member on the AASHTO Standing Committee on Rail Transportation (SCORT), American Railway Engineering and Maintenance-of-Way Association (AREMA), American Short Line & Regional Railroad Association (ASLRRA), and Kentucky Operation Lifesaver.
- Plan and host rail industry stakeholder meeting as needed.
- Maintain KYTC's Railroads website.

## CHAPTER 12

## Multimodal Freight Transportation (continued)

### RESPONSIBLE UNIT

Division of Planning  
Multimodal Programs Branch

### PROPOSED ACTIVITIES FOR 2015-2016 (continued)

- Monitor, track, and distribute information about railroad line abandonments in Kentucky.
- Respond to public inquiries on passenger and freight rail issues.

#### Freight

- 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.
- 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 developing relationships with Economic Development to identify and promote intermodal freight needs.
- Update information for FHWA Intermodal Connector Assessment Tool (ICAT) as needed.
- Update the State Freight Plan.
- Review draft procedure and analysis for MAP-21 Freight Performance Measures.
- Maintain KYTC's Freight website.
- Create methodology for considering freight in PIFs, plans, and projects.

#### Ferryboats

- Coordinate the Kentucky Ferryboat Program.
- Share information concerning Federal Ferryboat Formula Fund (FBP) program and administer remaining FBD funds. Plan and host the ferryboat meeting as needed
- Conduct annual on-site visits of Kentucky ferryboat operations.
- Work with ferry authorities to develop fiscally constrained plans for FBP funds.
- In accordance with the current budget bill, assist with development of state ferryboat licensure requirements.
- Maintain KYTC's ferryboat website.

### PRODUCTS

- Kentucky Riverport Improvement project/contract administration.
- Updated Statewide Rail Plan
- Updated Statewide Freight Plan
- Statewide Waterways Plan – RFP for FY 2017
- Updated railroad GIS database and maps for KYTC and public purposes
- Annual Rail Report
- Ferryboat operation contracts, site inspections, and invoice review/approval
- ICAT documentation



**CHAPTER 12**

Multimodal Freight Transportation (continued)

**RESPONSIBLE UNIT**

Division of Planning  
Multimodal Programs Branch

**PRODUCTS (continued)**

- FBP awards administered.
- Annual Waterways meeting as needed
- Invoices for Kentucky Shortline Railroad Assistance Program and contract closeouts
- Contracts and guidance for Kentucky Rail Crossing Improvement Program
- Updated website, meeting minutes, agendas, logistics, and guidance for Water Transportation Advisory Board

**DISTRIBUTION OF ESTIMATED COST FOR 2015-2016**

<b>PERSONNEL</b>	<b>\$334,800</b>
<b>OUTSOURCED PERSONNEL</b>	<b>\$150,000</b>
<b>OTHER</b>	<b>\$45,000</b>
<b>TOTAL</b>	<b>\$514,800</b>

**ESTIMATED OUTSOURCING EXPENSES AND PURCHASES**

**Outsourcing**

- \$75,000 Freight Plan completion
- \$75,000 Waterways Plan initiation.

**Other**

- \$25,000 Mid America Freight Coalition, a MAASHTO subcommittee paid as a pooled fund\* study
- \$0 Institute for Trade and Transportation Studies, a SAASHTO subcommittee paid as a pooled fund\* study. KYTC has pre-paid July 2012-June 2017.
- \$5,000 Operation Lifesaver - Educational Material (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
- Tennessee Tombigbee Waterway Dues are paid through Regional Planning (EA51 General Fund \$50,000)

\* Pooled Fund projects 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 maintains traffic trends, provide current and projected traffic volume estimates for planning, project development, environmental analysis, operations, and other purposes. They update and maintain local, regional, and statewide traffic models (KySTM). They collect, process, and assemble data for determining route location or relocation, selecting among alternate routes, or as input into KySTM.

#### PROPOSED ACTIVITIES FOR 2015-2016

##### **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 Project Development consultants.
- Maintain databases that track traffic forecasts and traffic forecast parameters. Make databases available to other users and offices as appropriate.
- Maintain the traffic forecasting web page as a tool for other users. Develops database to track model development and archive status.
- 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 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).
- Create, publish, and email monthly Traffic Forecast Status Report. Update Forecast due dates on Branch Calendar, at least monthly.

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

- Administer statewide modeling contracts. Provide quality review for models prepared by the MPOs and Project Development consultants.
- Maintain databases that track traffic models, traffic modeling parameters, model use, and archive status. Make databases available to users.
- Maintain the traffic modeling web page as a tool for users.
- Obtain vehicle registration, employment, and travel time data for use in Travel Demand Models. Research other data sources available.
- Host/Facilitate the Traffic Model Users Group and TransCAD workshop for traffic forecasters and traffic modelers composed of members from government, academia, and the private sector.

**CHAPTER 13**

Traffic Data Forecasting  
Statewide Traffic Models(continued)

**RESPONSIBLE UNIT**

Division of Planning  
Multimodal Programs Branch  
Forecasting and Modeling Team

**PROPOSED ACTIVITIES FOR 2015-2016 (continued)**

- Participate in Caliper workshops held at adjacent states, foster a peer exchange with such agencies regarding statewide model and regional models.
- Create city, county, multi-county, regional models as needed for Project Development
- Conduct studies to better calibrate and validate models. Attend peer reviews of large MPO models and coordinate model updates as needed for small MPO models.
- Identify areas needing an area-wide model. Further standardize the interface and formats used in macro level models.

**PRODUCTS**

- Project, Corridor, Road User Cost Reports or other traffic forecasts
- Monthly Traffic Forecast Status Report
- Bi-Monthly Traffic Model Status Report
- Monthly review/update of Branch calendar.
- District Office coordination regarding models and forecasts
- Travel Time Analysis for models
- Traffic forecast factors for HPMS
- Updated tools for consultants and District (e.g. ESAL Calculator; look-up tables)
- Various sized Travel Demand Models such as, but not be limited to the following:
  - County or highway district area macro models
  - Corridor and small area micro-simulation models
  - Continued validation and calibration of new and existing models

**DISTRIBUTION OF ESTIMATED COST FOR 2014-2015**

<b>PERSONNEL</b>	<b>\$474,000</b>
<b>OUTSOURCED PERSONNEL</b>	<b>\$300,000</b>
<b>OTHER</b>	<b>\$35,000</b>
<b>TOTAL</b>	<b>\$809,000</b>

**CHAPTER 13**

Traffic Data Forecasting  
Statewide Traffic Models(continued)

**RESPONSIBLE UNIT**

Division of Planning  
Multimodal Programs Branch  
Forecasting and Modeling Team

**ESTIMATED OUTSOURCING EXPENSES AND PURCHASES**

**Outsourcing**

- \$300,000 for County-Wide Traffic models (outsource)

**Other**

- \$25,000 Other Operational Cost - For items such as travel, mileage, meeting registration, and membership fees.
- \$10,000 VISSIM License for PTV Micro-Simulation Software.

## **CHAPTER 14**

## **Bicycle and Pedestrian Program**

### **RESPONSIBLE UNIT**

Division of Planning  
Modal 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 by providing 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 bicycle and pedestrian programs throughout the state by working with project teams to recommend opportunities for bicycle and pedestrian facilities for proposed and ongoing highway 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 Governor's Office of Local Development, as well as the Cabinet for Health and Family Services to promote pedestrian and bicycle travel within the state.

The KYTC Office of Local Programs and the Department for Local Government both 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 2015-2016**

#### **Planning**

- Assist local governments in the development and/or improvement of local bicycle and pedestrian network facilities, provide assistance of local planning efforts, and provide guidance from the 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.
- Revise and update 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.

#### **Engineering and Projects**

- Answer requests concerning planning and design guidelines regarding pedestrian and bicycle facilities and provide review of bicycle and pedestrian projects and facilities with KYTC's HDO and CO Divisions, ADDs, MPOs, and local government.
- Review the list of proposed resurfacing projects for opportunities to improve biking and walking facilities through restriping and other improvements as part of Maintenance activities. Review for compliance with local bike/ped plans where appropriate.
- Provide bicycle and pedestrian considerations within forecast summaries.

## CHAPTER 14

## Bicycle and Pedestrian Program (continued)

### RESPONSIBLE UNIT

Division of Planning  
Modal Programs Branch

### PROPOSED ACTIVITIES FOR 2015-2016

- Review Share the Road sign requests for applicability and proper system placement.
- Develop/update standardized coordination protocols with HDO, Maintenance, Traffic Operations, Design, and Planning the Share the Road (STR) sign procedures.
- GIS applications- Develop and maintaining a GIS of bicycle and pedestrian network facilities and plans statewide. Document linkage between the local and regional network facilities.
- Coordinate to obtain federal, state, local, or private funds available to the cabinet.

#### **Education & Enforcement**

- Provide technical training that includes pedestrian and bicycle design to planners, designers, local governments, and other KYTC staff statewide.
- Provide training to HDO, ADD, MPO, and local staffs on how to conduct a walkability and bikeability audits as requested.
- Facilitate public education of non-motorized modes of transportation, as opportunity arises. Provided educational brochures to DMV offices, bike shops, multi-sport retail locations, health departments, and various related groups.
- Work with local law enforcement to promote education and enforcement of pedestrian and bicycle safety laws. Provide information brochures and prepare a presentation at the annual Life Savers Conference.
- Respond to citizens' need for information, maps, bike routes, walking trails, availability of funds for projects as requested.
- Develop and maintain a clearinghouse of information concerning active transportation - research, methods, the criteria to CO Divisions, ADDs, MPOs, and the local government.
- Maintain [www.bikewalk.ky.gov](http://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 facilitating the Paula Nye Education Grant program.

**CHAPTER 14**

Bicycle and Pedestrian Program (continued)

**RESPONSIBLE UNIT**

Division of Planning  
Modal Programs Branch

**PRODUCTS**

- Local pedestrian and bicycle master plans, as needed.
- Provide a clearing house/tool box of bike/ped resources and related items for the creation or improvement of local master plans.
- Updated bicycle and pedestrian brochures and promotional materials.
- Provide pedestrian and bicycle technical training courses as appropriate.
- Walkability/Bikeability Audits.
- Quarterly and annual KBBC meetings.
- NYE Grant status reports.
- KYTC Bike/Walk web pages

**DISTRIBUTION OF ESTIMATED COST FOR 2015-2016**

<b>PERSONNEL</b>	<b>\$85,300</b>
<b>OTHER</b>	<b>\$35,000</b>
<b>TOTAL</b>	<b>\$120,300</b>

**ESTIMATED OUTSOURCING EXPENSES AND PURCHASES**

**Other**

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

**CHAPTER 15**

Highway Safety Improvement Program

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

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

**PROPOSED ACTIVITIES FOR 2015-2016**

- 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 2014-2015**

<b>PERSONNEL</b>	<b>\$500,000</b>
<b>OTHER</b>	
<b>TOTAL</b>	<b>\$500,000</b>

**ESTIMATED OUTSOURCING EXPENSES AND PURCHASES**

Provide \$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 ensure that federal guidelines are met and to improve Kentucky Transportation Cabinet's (KYTC) design deliverables and its 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 design or reduce its cost. The current federal transportation law, titled Moving Ahead for Progress in the 21<sup>st</sup> Century (MAP-21), now 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, utility relocation, and construction. Recommendations developed in a VE study are shared with the project development team to consider for implementation. In addition, the VE program may be used to address other projects that may be used 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. Currently much of a project review focuses on two "red-flags" – Maintenance of Traffic (MOTs) and horizontal/vertical alignments for roadways and structures. Along with these two topics, QAB is currently compiling an annual check list comprised of other "red-flag" issues that frequently reoccur during the plan review process. The follow-up action is to present these findings at various conferences and meetings. These presentations facilitate discussions on items that need to be addressed.

The **Post-Construction Review (PCR)** program was established to identify issues that arise in the construction phase that could have been avoided or improved during the design phase. Typically, projects that exceed \$1 million dollars (state and federally funded) in construction cost and have been open to the public for approximately one year are reviewed.

Each year, QAB staff identifies potential projects for the PCR program, with assistance from the District Project Development staff in July and August. PCR meetings are then held between the months of August and April. Consultants, Contractors, Federal Highway Administration (FHWA) and KYTC Personnel are invited to participate. Prior to the meeting, invitees are provided information such as documented change orders to review. During these meetings, it is discussed how each project progressed and what the major issues were. The attendees participate as a team to identify collective solutions for the relevant issues. After the meeting, a draft Fact Sheet for each project is created and sent back to the participants for review. Once finalized, the Fact Sheet is distributed among KYTC staff, FHWA and the American Council for Engineering Companies of KY (ACEC-KY).

## CHAPTER 16

## Quality Assurance

### RESPONSIBLE UNIT

Division of Highway Design  
Quality Assurance Branch

Data collected from each of the three programs are entered into the **Lessons Learned** database. The collection of data may also substantiate follow-up meetings or contacting those KYTC staff who can make decisions to improve, change, or revise the design process to improve overall quality and cost savings of future projects.

### PROPOSED ACTIVITIES (Annually)

- Conduct Constructability Reviews to improve quality of designs and enhance efficiency of work flow during the construction phase.
- Continue to develop and update policy and procedures for all aspects of each program.
- Conduct mandated Value Engineering studies to meet federal guidelines.
- Conduct VE Mod 1 and overview training for KYTC staff and design consultants, as needed.
- Conduct Post-Construction Reviews in their prescribed cycle.
- Collect data for the 3 program datasets to include in the Lessons Learned GIS geodatabase.
- 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.
- Educate KYTC staff and others on topics identified through the various reviews and analysis of the Lessons Learned data.
- Educate KYTC staff and others by developing and publishing the Quality Matters newsletter, containing content about findings from the reviews or design innovations.
- Educate KYTC staff and others by developing and publishing Tech Briefs, each focused on a single, important topic identified through the reviews.
- 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 Check Lists
- VE Punch Lists
- VE Project Database
- VECP Database
- Post-Construction Review Fact Sheets
- Post-Construction Review Database
- Constructability Review Database
- Quality Matters Newsletter
- Tech Brief Publication
- Lessons Learned Geodatabase
- Lessons Learned Mapping
- Annual Reports from all Programs
- Special Studies

**CHAPTER 16**

Quality Assurance

**RESPONSIBLE UNIT**

Division of Highway Design  
Quality Assurance Branch

**DISTRIBUTION OF ESTIMATED COST FOR 2014-2015**

<b>PERSONNEL</b>	<b>\$325,000</b>
<b>OTHER</b>	<b>\$175,000</b>
<b>TOTAL</b>	<b>\$500,000</b>

**ESTIMATED OUTSOURCING EXPENSES AND PURCHASES**

- \$175,000 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.