

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



**WORK PROGRAM AND COST ESTIMATE
FOR
PROJECT SP 0012 (001)
JUNE 16, 2011 THROUGH JUNE 15, 2012**

**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. To illustrate the Division of Planning, a detailed organization chart (See Exhibit 1) has been inserted in the work program addressing the various functional areas of the Division responsible for 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 ATDR's and additional traffic count loops at high volume locations. There is a continued effort to prepare and improve Kentucky's Traffic Models. 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 downsizing efforts and staff retirements 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 the upcoming reauthorization bill. 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 0011 (001) for the period June 16, 2011 to June 15, 2012 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 2012 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, 2012. 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. If the commitment is expected to be long term, then a request to carry the program and funds into the next years work program will be requested.

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

FY 2012
SPR CHAPTER FUNDING SUMMARY

| <u>CHAPTER</u> | <u>TITLE</u> | <u>AMOUNT</u> |
|-----------------------|---|----------------------|
| 1 | SPR Work Program | \$65,000 |
| 2 | Personnel Training | \$352,200 |
| 3 | Traffic and Equipment Management | \$2,964,800 |
| 4 | Roadway Systems | \$701,400 |
| 5 | Cartography | \$520,500 |
| 6 | Highway Information System | \$1,666,906 |
| 7 | Strategic Corridor Planning | \$1,074,000 |
| 8 | Statewide Transportation Planning | \$857,600 |
| 9 | Metropolitan Planning Organizations | \$534,200 |
| 10 | Air Quality | \$164,100 |
| 11 | Multimodal Transportation | \$266,600 |
| 12 | Congestion, Mobility, and Access Management | \$150,400 |
| 13 | Traffic Data Forecasting | \$472,600 |
| 14 | Bicycle and Pedestrian Program | <u>\$102,500</u> |
| | Planning Total | \$9,892,806 |
| 15 | Highway Safety Improvement Program | \$300,000 |
| 16 | Value Engineering and Quality Assurance | <u>\$500,000</u> |
| | Other Items Total | \$800,000 |
| | WORK PROGRAM TOTAL | \$10,692,806 |

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 2011-2012

- 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 2011-2012

| | |
|------------------|-----------------|
| PERSONNEL | \$65,000 |
| OTHER | |
| TOTAL | \$65,000 |

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 2011-2012

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.

PEEK Training (Chapter 3 – Traffic and Equipment Management)

NATMEC Training (Chapter 3 – Traffic and Equipment Management)

TMG Training (Chapter 3 – Traffic and Equipment Management)

TRADAS (Chapter 3–Traffic and Equipment Management and Chapter 13–Traffic Data Forecasting)

GIS Conference (Chapter 4 – Roadway Systems, Chapter 5 – Cartography, Chapter 6 – Highway Information System and Chapter 12 – Congestion, Mobility and Access Management)

Adobe Illustrator (Chapter 5 – Cartography)

KAMP (Ky Assoc of Mapping Professionals) Annual Meeting (Chapter 4 – Roadway Systems, Chapter 5 – Cartography)

GIS-T (GIS for Transportation) Annual Meeting (Chapter 4 – Roadway Systems, Chapter 5 – Cartography)

COGNA Annual Meeting (Chapter 5 – Cartography)

Microstation (Chapter 4 – Roadway Systems, Chapter 5 – Cartography, Chapter 6 – Highway Information System)

Highway Performance Monitoring System (HPMS) (Chapter 6 – Highway Information System)

Highway Information System Conference (HIS) (Chapter 6 – Highway Information System)

Asset Management Conference (Chapter 6 – Highway Information System)

Bentley Training conference (Upgrade of HIS) (Chapter 6 – Highway Information System)

HIDAC Training (Chapter 6 – Highway Information System)

Business Objects Training (Chapter 6 – Highway Information System)

Standard Query Language (SQL) (Chapter 6 – Highway Information System)

Visual Basic (Chapter 6 – Highway Information System)

CHAPTER 2

Personnel Training (continued)

RESPONSIBLE UNIT

Division of Planning

PROPOSED ACTIVITIES FOR 2011-2012 (continued)

Public Involvement (Chapter 7 –Strategic Corridor Planning, Chapter 8–Statewide Transportation Planning, and Chapter 9 – Metropolitan Planning Organization)

Road Safety Audit Training (Chapter 7 –Strategic Corridor Planning)

Highway Safety Manual Training (Chapter 7 –Strategic Corridor Planning)

2012 Partnering Conference (Chapter 7 –Strategic Corridor Planning)

Purpose and Needs Statements Training (Chapter 7 –Strategic Corridor Planning, Chapter 8–Statewide Transportation Planning Chapter 9 – Metropolitan Planning Organization)

NEPA(Chapter 7 –Strategic Corridor Planning, Chapter 8–Statewide Transportation Planning, and Chapter 9 – Metropolitan Planning Organization)

GIS (Chapter 7 –Strategic Corridor Planning, Chapter 8–Statewide Transportation Planning Microsimulation (Chapter 7 –Strategic Corridor Planning

Administration of FHWA Planning and Research Grants Chapter 9 – Metropolitan Planning Organization)

TRB Small and Medium Communities Conference (Chapter 9 – Metropolitan Planning Organization)

Transportation and Land Use (Chapter 9 – Metropolitan Planning Organization)

Climate Change (Chapter 9 – Metropolitan Planning Organization, Chapter 10 – Air Quality Conformity Analysis)

STAQS (Chapter 10 – Air Quality Conformity Analysis)

MOVES (Chapter 10 – Air Quality Conformity Analysis)

National Freight Conference (Chapter 11 – Multimodal Transportation)

Modeling Conferences and Training (Chapter 9 – Metropolitan Planning Organization, Chapter 13 – Traffic Data Forecasting)

TransCAD Training (Chapter 13 – Traffic Data Forecasting)

Census Training (Chapter 5 – Cartography, Chapter 9 – Metropolitan Planning Organization, Chapter 10 – Air Quality Conformity Analysis, Chapter 13 – Traffic Data Forecasting)

Bike/Ped Conferences (Chapter 9 – Metropolitan Planning Organization, Chapter 14 – Bicycle and Pedestrian Program)

Bicycle and Pedestrian Facilities Conference (Chapter 9 – Metropolitan Planning Organization, Chapter 14 – Bicycle and Pedestrian Program)

Training for State Bicycle and Pedestrian Coordinator (Chapter 14 – Bicycle and Pedestrian Program)

Partnering Conference (Chapter 3 – Traffic and Equipment Management, Chapter 4 – Roadway Systems, Chapter 6 – Highway Information System, Chapter 7 – Strategic Corridor Planning, Chapter 8 – Statewide Transportation Planning, Chapter 9 – Metropolitan Planning Organization, Chapter 13 – Traffic Data Forecasting, and Chapter 14 – Bicycle and Pedestrian Program)

CHAPTER 2

Personnel Training (continued)

RESPONSIBLE UNIT

Division of Planning

PRODUCTS

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

DISTRIBUTION OF ESTIMATED COST FOR 2011-2012

| | |
|------------------|------------------|
| PERSONNEL | \$317,200 |
| OTHER | \$35,000 |
| TOTAL | \$352,200 |

Other

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

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 acquisition, distribution, operation, maintenance, and repair of all equipment used at traffic data acquisition stations. The Equipment Section performs site design, 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 performs quality control for, and processes and maintains data collected from data acquisition stations located statewide. The Data Section generates several different reports from said data throughout the year. These reports are prepared for the Federal Highway Administration (FHWA), Kentucky Transportation Center (KYTC), various planning agencies, and other governmental agencies. Data is also made available for public consumption.

PROPOSED ACTIVITIES FOR 2011-2012

- Maintain, update, analyze, provide assurance of data, and make available data from approximately 15,000 traffic count stations including coverage, interstate, automatic traffic recorder (ATR), weigh in motion (WIM), and ramp counts.
- Download, process, and analyze data from approximately 80 permanent ATR stations.
- With the KYTC District Offices, collect and process vehicle volume data from approximately 4,900 short-duration, portable-machine, coverage and ramp counts.
- With KYTC District Offices, collect and process vehicle volume data from approximately 1,400 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 can vary significantly from year to year with the average being approximately 400 counts.
- Concurrent with coverage, interstate, ATR, WIM, and ramp counts, collect and process vehicle classification data from approximately 1,400 stations, which is 28% of all traffic count stations statewide to comply with the FHWA, *Traffic Monitoring Guide* recommendation of 25%-30%.
- 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.

CHAPTER 3

Traffic and Equipment Management (continued)

RESPONSIBLE UNIT

Division of Planning
Traffic and Equipment Management Branch

PROPOSED ACTIVITIES FOR 2011-2012 (continued)

- Review and analyze functionally classified local road data to validate formula used to calculate local road Daily Vehicle-Miles of Travel (DVMT).
- Update in-house databases to include any new stations or roadway alignment changes. Correct beginning and ending mile points to better represent traffic generators.
- Review, analyze, and update data summaries for vehicle weights and calculating Equivalent Single Axle Loads (ESALs).
- Complete testing and initiate final implementation of new traffic data system (TRADAS) software.
- Maintain parallel data on mainframe until full implementation of TRADAS.
- Continue to grow and maintain the WIM data program to collect, process, analyze, and submit monthly, one-week, WIM data at permanent WIM stations. Periodically calibrate WIM data collection equipment in order to assure quality data.
- Review proper operation and coverage of ATR sites. Install additional 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 700 traffic data recorders.
- Inspect, repair, and maintain approximately 600 ATR and semi-permanent vehicle sensor locations.
- Track upcoming highway projects and produce plans and specifications for new and replacement traffic sensor installations for submittal into construction and pavement rehabilitation contracts.
- Update the traffic management system (TMS) as needed.
- Provide contract management and oversight of consultants assisting with field data collection and other tasks. Process and provide quality assurance of the provided counts.
- Provide traffic count technician training.

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 count station and count data information
- Accurate local DVMT data for FHWA reporting through HPMS

CHAPTER 3**Traffic and Equipment Management****RESPONSIBLE UNIT**

Division of Planning
Traffic and Equipment Management Branch

DISTRIBUTION OF ESTIMATED COST FOR 2011-2012

| | |
|------------------|--------------------|
| PERSONNEL | \$2,509,800 |
| OTHER | \$455,000 |
| TOTAL | \$2,964,800 |

ESTIMATED OUTSOURCING EXPENSES AND PURCHASES**Outsourcing**

- \$700,000 contract for outsourced traffic counts and sensor installations to be performed by consultant under Statewide Traffic Counting contract.
- \$100,000 for WIM data compilation to be performed by UK
- \$575,000 for Interstate and Arterial contract for Loop and Piezo installation and maintenance

Other

- \$250, 000 for purchase of new Traffic Data Collection Equipment
- \$100,000 for Piezos, Road Tube, and counting supplies
- \$105,000 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); National Highway System (NHS); Functional Classification; Designated National Truck Network (NN); Coal Haul Highway System; and Forest Highway System. The team works with Highway District Office Planning Section 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 2011-2012

- Track roadway construction or maintenance projects to identify changes in roadways and their effect on roadway system designations.
- Adapt project design plans and use GIS software to generate maps for resolving issues of roadway system and ownership designations and for use by other branches.
- 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.
- Review the Functional Classification of roadways and consult with Data Management branch and others as appropriate to ensure the system reflects roadways of significance and correlates with the SPRS 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, review requests for revisions of functional classification, NHS and NN. As appropriate, prepare request from Cabinet to FHWA for system revision.
- As necessary or appropriate, review interstate frontage roads. Coordinate documentation by Highway District offices 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 2011-2012 (continued)

- Compile data to provide ton-mile statistics to the Governor's Office for Local Development 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.

PRODUCTS

- Official Order Changes to the State Primary Road System
- State Primary Road System Official Order Listings and Functional Classification Reports
- Quarterly Reports on internet: State Primary Road System Mileage, National Highway System routes and 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 Governments, KYTC Budgets and KYTC Bridge Maintenance
- Inform FHWA of modification of functional classification
- 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 2011-2012

| | |
|------------------|------------------|
| PERSONNEL | \$676,400 |
| OTHER | \$25,000 |
| TOTAL | \$701,400 |

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 2011-2012

- 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 non-roadway 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

CHAPTER 5

Cartography (continued)

RESPONSIBLE UNIT

Division of Planning
Transportation Systems Branch

DISTRIBUTION OF ESTIMATED COST FOR 2011-2012

| | |
|------------------|------------------|
| PERSONNEL | \$415,500 |
| OTHER | \$105,000 |
| TOTAL | \$520,500 |

ESTIMATED OUTSOURCING EXPENSES AND PURCHASES**Outsourcing**

- \$150,000 for Technical Assistance program with UK to provide Interns to help with various SPR program items.
- \$50,000 for highway map outsourced production assistance.

Other

- \$100,000 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 Data Management Branch responsibilities include assistance and support for maintenance of the Transportation Cabinet's Highway Information System (HIS) which includes storage of all roadway characteristic information, transportation systems information, and the Cabinet's roadway centerline Geographic Information System (GIS). The branch contributes to the KYTC Asset Management program, providing an up-to-date route network of asset location for other divisions and provides asset extraction for updates to the network. They perform data collection activities for the statewide Geographic Information System (GIS) transportation layer, HPMS data, operational performance data, and roadway characteristics using data collected from Division of Maintenance Photo Van. From this information the Branch uses the Highway Performance Monitoring System (HPMS) to establish a baseline and assist with analysis for measuring highway system performance and produce the highway data submittal required annually by the Federal Highway Administration (FHWA). They provide information to the Transportation Cabinet, other governmental agencies, consultants, and private organizations via requests or by posting data to the Division's web site.

PROPOSED ACTIVITIES FOR 2011-2012

- Work with the Office of Information Technology (OIT) to upgrade the HIS database to the next release of "Highways by EXOR" and deploy to other data owners within the cabinet.
- Work with OIT to assist with database upgrades that include links, functionality, and data exchange with other division databases.
- Assist with implementation of new Traffic System database including links, functionality, and data exchange between HIS and the new database.
- Assist with implementation of the photo van imaging system for data collection purposes. This will include providing up to date route network for photo location accuracy and data extraction oversight.
- Assist with cabinet wide asset management data collection and data dissemination
- Continue to develop processes and procedures to review, edit, and update Cabinet's base map and HIS database.
- Assist with testing, training, report migration, and enhancements with the HIS.
- Assist in the development and maintenance of a Cabinet GIS and maintain database network for Kentucky's public highway system.
- Update newly acquired road centerline data collected from Division of Maintenance Photo Van or central office staff using GPS collection methods or CAD design file extraction to the existing highway network. Update and verify roadway mileage, highway systems data, for use in maintaining and generating data driven maps.
- Improve and update roadway characteristic, HPMS, Performance Measure, and analysis data through Division of Maintenance Photo Van data collection project.

CHAPTER 6

Highway Information System (continued)

RESPONSIBLE UNIT

Division of Planning
Data Management Branch

PROPOSED ACTIVITIES FOR 2011-2012 (continued)

- Perform office reviews to verify data meets the required standards and confidence levels established by this Division and FHWA.
- Provide up-to-date route network, DMI, roadway characteristics and system information through various programs.
- Process and submit annual HPMS submittal.
- Utilize HPMS to update Rating Indices, Capacity, and Volume/Service Flow ratio in the HIS database.
- Use HIS to measure highway system performance and assist with analyses of the Unscheduled Projects List.
- Maintain currency of HPMS software and perform changes required by federal legislation, regulations, policies, and/or guidelines, as needed to the HPMS.
- Investigate results of HPMS each year and analyze changes in processes to improve output of report.
- Assist in processing and reporting of the FHWA 534 and 536 reports.

PRODUCTS

- Routines to extract better road information from the GPS files (i.e. vertical grade, horizontal curve)
- Queries and routines for quality control of the database concerning asset items and road information
- Database and GIS application troubleshooting when errors take place
- Database and GIS upgrades
- Other agency information loaded or linked to HIS database
- New roadway centerlines obtained through GPS technology and CAD design files and updates to both the GIS layers and HIS database
- New roadway inventory either through field collection or extracted from CAD design files to update the GIS layers and HIS database
- New roadway inventory extracted through photo van software
- Existing roadway characteristic inventory QC checks from photo van pictures
- Transportation Enterprise database updates for cabinet wide consumption of data
- Cabinet wide Asset Management updates and route locations to update other divisions
- HPMS 534 and 536 Reports
- HPMS submittal due June 15, 2011
- Reports created concerning information about transportation network stored in HIS database
- Provide Certification of Public Road Mileage by June 1

CHAPTER 6

Highway Information System (continued)

RESPONSIBLE UNITDivision of Planning
Data Management Branch**DISTRIBUTION OF ESTIMATED COST FOR 2011-2012**

| | |
|------------------|--------------------|
| PERSONNEL | \$1,416,906 |
| OTHER | \$250,000 |
| TOTAL | \$1,666,906 |

ESTIMATED OUTSOURCING EXPENSES AND PURCHASES**Outsourcing**

- \$50,000 to outsource to 15 ADDs to collect one-way/two-way operation on local road centerline
- \$75,000 Special GPS Maintenance
- \$200,000 Asset Management & Support through IT
- \$135,000 to outsource for Local Road Attribute Data Collection to all of the 15 ADD's, with contracts less than \$100,000 for each
- \$98,306 Roadway Attribute Data Collection
- \$100,000 to outsource for Asset Management Data extraction from photo van images

Other

- \$100,000 for EXOR ecredits
- \$75,000 Other Operational Cost For items such as travel, mileage, equipment and other cost directly associated to the completion of this work chapter.
- \$75,000 computer software maintenance for upgrading HPMS.

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 and the Unscheduled Projects List. It also conducts technical project studies performing 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 2010-2011

- Continue to develop and update policy and procedures for evaluating corridor level needs.
- Conduct corridor, system, small urban area studies, data needs analyses, 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:

- Programming Studies

| | | | |
|----------|-----------------|------------------------------|---------------------------|
| Franklin | US 421 Franklin | Programming Study 05-8109.00 | <u>% Activity in 2012</u> |
| Bell | KY 441 | Programming Study 11-110.00 | To completion |
- Alternatives Studies

| | | | |
|------------------|-------|-----------------------------|---------------------------|
| Bullitt, Spencer | KY 44 | Alternative Study 05-396.00 | <u>% Activity in 2012</u> |
| | | | To completions |

CHAPTER 7

Strategic Corridor Planning (continued)

RESPONSIBLE UNIT

Division of Planning
Strategic Planning Branch
Strategic Corridor Planning Team

PRODUCTS (continued)

- Scoping Studies % Activity in 2012

| | | | | |
|--|-------------------------------------|---------------|------------|---------------|
| Hardin | KY 251 | Scoping Study | 04-153.00 | To completion |
| McCracken | US 60 | Scoping Study | 01-125.00 | To completion |
| Montgomery | Mt. Sterling | Scoping Study | N/A | To completion |
| Todd | KY 41 | Scoping Study | 03-8630.00 | To completion |
| Webster, Hopkins, Henderson, Daviess, Ohio, Butler, Warren | KY 41A I-66, I-66/ I-65 Spurs | Scoping Study | 02-8303.00 | To completion |
| Perry | KY 80 | Scoping Study | 2-85.00 | 75% |
| Johnson | KY 321 | Scoping Study | N/A | To completion |
- Small Urban Area Studies % Activity in 2012

| | | | |
|---------------|-------------|------------------------|---------------|
| Knox, Whitley | Corbin | Small Urban Area Study | To completion |
| Shelby | Shelbyville | Small Urban Area Study | 50% |
| Marion | Lebanon | Small Urban Area Study | 50% |
- Data Needs Analysis (DNA) PreDesign Scoping Studies
A DNA for Six-Year Plan and Unscheduled Projects.
- Priorities for Highway Plan Programming that are sustainable and fundable.

DISTRIBUTION OF ESTIMATED COST FOR 2011-2012

| | |
|-----------|-------------|
| PERSONNEL | \$1,054,000 |
| OTHER | \$20,000 |
| TOTAL | \$1,074,000 |

ESTIMATED OUTSOURCING EXPENSES AND PURCHASES

Outsourcing

- \$700,000 to outsource for Planning Studies. FHWA will be notified when planning studies utilizing SPR funds are initiated.

Other

- \$20,000 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 SAFETEA-LU compliant. Through these processes and partnerships, this team provides meaningful input to the Highway Plan.

PROPOSED ACTIVITIES FOR 2011-2012

- Review and update the STP document as needed.
- Develop and implement processes as needed to ensure SAFETEA-LU 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.
- Maintain and oversee further development of the Project Identification Form/Unscheduled Projects List online database for use as a tool in project prioritization and analysis.
- Coordinate with other Divisions, Districts, and Agencies and incorporate applicable plans as necessary to ensure compliance with new authorization or SAFETEA-LU extension compliance.
- Coordinate and oversee the ADD Regional Transportation Program. Coordinate and assist the Highway District Offices as they develop the District Regional Transportation Plan.

PRODUCTS

- Statewide Transportation Plan updates as needed
- Unscheduled Projects List database
- Annual Work Programs and Contracts for 15 Area Development Districts
- Statewide Transportation Planning Meetings
- Individual ADD Planner Assessments
- District Regional Transportation Plan that is sustainable and fundable.

CHAPTER 8

Statewide Transportation Planning (continued)

RESPONSIBLE UNITDivision of Planning
Strategic Planning Branch**DISTRIBUTION OF ESTIMATED COST FOR 2011-2012**

| | |
|------------------|------------------|
| PERSONNEL | \$822,600 |
| OTHER | \$35,000 |
| TOTAL | \$857,600 |

ESTIMATED OUTSOURCING EXPENSES AND PURCHASES**Outsourcing**

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

Other

- \$35,000 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. This process ensures that KYTC and local transportation projects remain eligible to receive federal funding. The scope of work is in accordance with the Unified Planning Work Program (UPWP), which describes all anticipated urban transportation and transportation-related planning activities to be performed.

PROPOSED ACTIVITIES FOR 2011-2012

- Review and implement any changes to the MPO planning process as a result of an expected new federal transportation bill.
- Incorporate statewide changes and provide data, analysis, and support in implementation of new Census 2010 data within the planning process including activities such as updating the PL distribution formula for state FY 2013, coordinating the review of MPO urban boundaries, responding if new MPOs are identified, etc.
- Provide technical assistance and oversight review of MPO activities, programs, documents, models and/or tools.
- Attend technical, policy, and other committee meetings to represent the Cabinet.
- Conduct contract management and oversight for federal funds.
- Ensure consistency between local and state plans and programs.
- Coordinate with other transportation modes to obtain input on multimodal issues for the Metropolitan Transportation Plans (MTPs).
- Work with the MPOs and Highway District Offices (HDOs) on Project Identification Forms (PIFs), data collection, project evaluation and ranking, and training.
- Conduct regular statewide meetings.
- Coordinate with the Transportation Management Areas (TMAs) on the programming and tracking of dedicated Federal Statewide Transportation Program (STP) funded projects and the development of compliant Congestion Management Processes (CMPs).
- Coordinate with MPOs on air quality issues, analysis, and conformity.

PRODUCTS

- Assistance to MPOs in preparing compliant Transportation Improvement Programs (TIPs), MTPs, Participation Plans (PPs), CMP's and UPWP's
- MPO Self Certifications (participant)
- Establish new MPOs as identified by Census 2010
- Assistance to MPOs in updating their urban boundaries
- Updated MPO PL distribution formula
- MPO UPWP Contracts and administration

CHAPTER 9

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

RESPONSIBLE UNIT

Division of Planning
Strategic Planning Branch
MPO Team

PRODUCTS (continued)

- MPO dedicated STP fund contracts and administration
- Statewide Transportation Planning Meetings
- Special Studies

DISTRIBUTION OF ESTIMATED COST FOR 2011-2012

| | |
|------------------|------------------|
| PERSONNEL | \$509,200 |
| OTHER | \$25,000 |
| TOTAL | \$534,200 |

ESTIMATED OUTSOURCING EXPENSES AND PURCHASES

Outsourcing

- \$50,000 Various studies (CTPP participation, etc.), 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

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 non-attainment and maintenance areas.

PROPOSED ACTIVITIES FOR 2011-2012

- Host and/or participate in interagency consultation calls regarding transportation conformity for updates and amendments to MTP plans, TIPs, and STIP.
- Run the current emissions model for ozone and PM_{2.5} regional air quality conformity analyses for Ashland and Christian County areas as well as other newly designated areas.
- Maintain a working knowledge of the guidelines for the 8-hour ozone and PM_{2.5} standards, EPA's current emissions model, air quality regulations, and implementation guidance. Attend necessary meetings and conferences to stay abreast of air quality issues.
- Facilitate monthly conference calls with federal, state, and local partners to discuss timely air quality regulations and conformity issues.
- Educate KYTC staff, KYTC management, public officials, and the general public about air quality, conformity analysis, and federal guidelines and on new developments with greenhouse gas/climate change requirements. Disseminate information about the PM_{2.5} and 8-hour ozone standards and designation process and on new developments with greenhouse gas requirements.
- Provide VMT, speeds, and vehicle registration age/type distribution to DAQ for their development of the State Implementation Plans (SIPs) for non-attainment and maintenance areas as well as for other projects such as emissions analyses for Southeastern Modeling, Analysis, and Planning Project (SEMAP) to evaluate visibility in the Southeast
- Work with KYTC IT to develop Kentucky vehicle registration age/type distribution for use with MOVES. Review, comment, and participate during the preparation of mobile budgets for the development of the attainment demonstration and maintenance SIPs for the 8-hour ozone and PM_{2.5} standards designations, SIP amendments, and budget adjustments.
- Provide support to the Office of Local Government for CMAQ related issues, as needed.
- 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 diesel emissions reduction strategies and greenhouse gases.
- Work with the freight team to address pertinent air quality issues including diesel retrofits on locomotives and emission reduction best practices at rail yards and ports.
- Implement Central Kentucky Vanpool CMAQ project if approved.
- Develop working knowledge of MOVES, EPA's current mobile emissions model.
- Manage 2011 Air Quality Media Campaign
- Work with FHWA-KY to host a biennial statewide air quality conference

CHAPTER 10

Air Quality Conformity Analysis (continued)

RESPONSIBLE UNIT

Division of Planning
Multimodal Programs Branch
Air Quality Team

PROPOSED ACTIVITIES FOR 2011-2012 (continued)

- Promote more liveable communities by reducing emissions.

PRODUCTS

- Ozone and PM 2.5 Regional Conformity Analysis for required all non-attainment and maintenance areas
- Conforming statewide and MPO planning documents
- Data to Division of Air Quality as requested.
- Emission calculations for CMAQ, GHG/CC as needed.

DISTRIBUTION OF ESTIMATED COST FOR 2011-2012

| | |
|------------------|------------------|
| PERSONNEL | \$159,100 |
| OTHER | \$5,000 |
| TOTAL | \$164,100 |

ESTIMATED OUTSOURCING EXPENSES AND PURCHASES

Outsourcing

- \$20,000 Greenhouse Gas/Climate Change and Land Use training
- \$30,000 Travel Time Reliability and Incidents research

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 11

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 of TIGER Grant, KSRA, and other federal or state contracts as well as serve as staff support for the Water Transportation Advisory Board.

PROPOSED ACTIVITIES FOR 2011-2012

Public Riverports

- Develop Kentucky's guidelines for public riverport applications to submit to the Secretary's Office for approval. Review and approve any public riverport applications received for grants.
- Provide staff support for the Water Transportation Advisory Board.
- Plan and host Riverport Meeting 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.

Railroads

- Administer KYTC's TIGER Grant Project with RJ Corman Railroad.
- Administer Kentucky Shortline Railroad Assistance program including advertising fund availability, receiving and disseminating applications, contact administration and project inspection.
- Assist with development and maintaining the statewide railroad GIS mapping and data set using aerial photographs to be used by KYTC for roadway planning and project development.
- Update the 2002 Kentucky Statewide Rail Plan to meet current requirements (From the Passenger Rail Investment and Improvement Act (PRIIA) of 2008).
- 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.
- Monitor, track, and distribute information about railroad line abandonments in Kentucky.
- Review need to update the 1999 passenger rail feasibility study.
- Respond to public inquiries on passenger and freight rail issues.

CHAPTER 11

Multimodal Freight Transportation (continued)

RESPONSIBLE UNIT

Division of Planning
Multimodal Programs Branch

PROPOSED ACTIVITIES FOR 2011-2012 (continued)

Freight

- Provide technical assistance and disseminate information to MPOs, ADDs, and project teams regarding freight movement, planning, and safety.
- Evaluate, receive and update Freight data from MPOs, ADDs, and HDOs as needed.
- Participate in regional freight planning efforts.
- Continue involvement with Delta Regional Authority (DRA), Mid-America Freight Coalition (MAFC), Institute for Trade and Transportation Studies (ITTS), and National Cooperative Freight Research Program (NCFRP).
- 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.
- Research, prepare, and populate information for FHWA Intermodal Connector Assessment Tool (ICAT).

Ferryboats

- Coordinate the Kentucky Ferryboat program.
- Share information concerning Ferryboat Discretionary Fund (FBD) Grant program. Review and prioritize applications received for submitting to the State Highway Engineer's Office and the Secretary's Office for approval. Administer FBD funds. FHWA will be provided all applications for review and approval.
- Plan and host the Ferryboat Meeting as needed
- Conduct annual on-site visits of Kentucky Ferryboat Operations.

PRODUCTS

- Revised riverport application guidelines.
- Updated Statewide Rail Plan
- Updating railroad GIS database and maps for KYTC purposes
- Working ferryboat operations
- ICAT documentation
- FBD awards administered.
- Annual Waterways meeting as needed
- RJ Corman TIGER Grant administration
- Kentucky Shortline Railroad Assistance administration.
- Water Transportation Advisory Board staff support.

CHAPTER 11

Multimodal Freight Transportation (continued)

RESPONSIBLE UNIT

Division of Planning
Multimodal Programs Branch

DISTRIBUTION OF ESTIMATED COST FOR 2011-2012

| | |
|------------------|------------------|
| PERSONNEL | \$196,100 |
| OTHER | \$70,000 |
| TOTAL | \$266,600 |

ESTIMATED OUTSOURCING EXPENSES AND PURCHASES**Outsourcing**

- \$100,000 Rail Plan

Other

- \$5,000 Operation Lifesaver
- \$5,000 Kentucky Association of Riverports Dues
- \$10,000 Other Operational Cost
For items such as travel, mileage, equipment, and other costs directly associated to the completion of this work chapter

Items paid from other funding sources

- Tombigbee Waterway Dues are paid through Regional Planning (EA51 General Fund).
- \$25,000 Mid-America Freight Coalition, an AASHTO subcommittee paid as a pooled fund study transfer of L550 funds
- \$25,000 Institute for Trade and Transportation Studies, a SAASHTO subcommittee paid as a pooled fund study transfer of L550 funds

CHAPTER 12

Congestion and Mobility Analysis

RESPONSIBLE UNIT

Division of Planning
Multimodal Programs Branch

PURPOSE AND SCOPE

Congestion mitigation and smooth traffic flow is important for continuing safe, efficient operation of Kentucky's roadways. During the normal transportation planning processes, traffic congestion is routinely considered when selecting and prioritizing long range planning projects. Therefore, the Congestion and Mobility Management Team will work to improve the planning methods, strategies, and policies used by KYTC and local planning organizations that lead to a more efficiently planned multimodal transportation system for Kentucky.

PROPOSED ACTIVITIES FOR 2011-2012

Measure Mobility & Identify Congestion

- Continue efforts to acquire 2010 speed data for freeways and arterials statewide.
- Analyze the 2010 speed data and develop travel time index for all segments.
- Investigate using the 2010 speed data file to develop reliability for all segments.
- Using the 2010 speed data, continue research efforts to develop mobility performance measures compatible with the speed data and HPMS traffic volumes.
- Using 2010 speed data, develop GIS-based maps to aid in the identification of mobility and congestion related issues.
- Using the 2010 speed data and the "Kentucky Regional Significant Network", create the first Annual Congestion Report for calendar year 2010 showing current conditions and trends (changes) over time.
- Assist TMAs to develop and implement performance measures into their congestion management process.
- Fund participation in the Texas Transportation Institute's (TTI) pooled-funded Urban Mobility Study. There are several elements of research that affects measuring mobility.
- Purchase and analyze 2011 speed data if warranted.
- Refine the mobility component of the Adequacy Rating System using new performance measures. Assist planners and designers in using mobility measures in studies and projects.

Provide Information and Educate about Congestion Management Measures

- Update and maintain the web-based Kentucky Congestion Mitigation Toolbox.
- Continue the update of the Planning Units (planning & zoning) GIS database.
- Maintain a park and ride GIS database of existing assets.

CHAPTER 12

Congestion, Mobility, and Access Management (continued)

RESPONSIBLE UNIT

Division of Planning
Multimodal Programs Branch

PROPOSED ACTIVITIES FOR 2011-2012 (continued)

Congestion Initiatives

- Follow up on Ramp Metering as a planning tool for congestion reduction
- Implement a Statewide Vanpool Program with assistance as directed by KYTC management and Finance Cabinet.
- Ensure the rollout of the Road Diet Guidelines being developed by KTC

PRODUCTS

- Maps and database of mobility measures on freeways and arterials
- Updated Congestion Toolbox website
- Updated Park and Ride GIS Database
- Updated Planning Unit Database
- Creation of a new Statewide Vanpool Program, if approved by the Secretary
- Research findings on impacts of connectivity and ramp metering

DISTRIBUTION OF ESTIMATED COST FOR 2011-2012

| | |
|------------------|------------------|
| PERSONNEL | \$135,000 |
| OTHER | \$15,000 |
| TOTAL | \$150,400 |

ESTIMATED OUTSOURCING EXPENSES AND PURCHASES

Outsourcing

- \$75,000 for analysis of speed (mobility) data for calendar year 2010
- \$100,000 for purchase of speed (mobility) data for calendar year 2011

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.

Items paid from other funding sources

- \$10,000 for 2011 for TTI Urban Mobility Study (pooled-fund study)

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

PROPOSED ACTIVITIES FOR 2011-2012

- Prepare traffic estimates for planning studies, design projects, road user costs, maintenance, and other purposes, as needed.
- Administer statewide traffic forecasting contracts and provide quality review for traffic projections made by the MPOs and planning consultants.
- Maintain databases that track traffic forecasts and traffic forecast parameters. Make databases available to other users and offices. 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).
- Provide future year forecasting of K-factors/D-factors for the Highway Performance Monitoring System (HPMS) and compare result with TRADAS outputs.
- Update ESAL tables utilizing available 2009 and 2010 vehicle classification data
- Update ESAL Forecasting for Superpave computer program
- Update the annual Traffic Forecast Report (TFR) utilizing KTC.
- 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.
- Host/Facilitate the Traffic Model Users Group, which is a peer group for traffic forecasters and traffic modelers composed of members from government, academia, and the private sector.
- Participate in Caliper workshops held at adjacent States, foster a peer exchange with such agencies regarding statewide model and regional models.
- Update the KySTM model to 2010 conditions including the incorporation of socio-economic data from existing county-wide models. Forecast future KySTM to 2040. Document the process.
- Conduct studies to better calibrate and validate models. Extend peer review of large MPO models and coordinate model updates as needed for small MPO models.
- Identify areas needing an area-wide model. Develop small area and county-wide models using a standardized interface.

CHAPTER 13

Traffic Data Forecasting (continued) Statewide Traffic Model

RESPONSIBLE UNIT

Division of Planning
Multimodal Programs Branch
Forecasting and Modeling Team

PRODUCTS

- Corridor or other traffic forecasts
- District Office coordination regarding models and forecasts
- Travel Time and Road User Cost Studies
- Traffic forecast factors for HPMS
- Updated tools for consultants and District (e.g. ESAL Calculator; look-up tables)
- City/County/MPO & Statewide Traffic Models such as, but not be limited to the following:
 - Shelby County
 - Rowan County
 - Lebanon/Marion County -SPAC suggestion
 - Middlesboro/ Bell County - SPAC suggestion
- Completion of Pulaski/Laurel County and Paducah/McCracken County models

DISTRIBUTION OF ESTIMATED COST FOR 2011-2012

| | |
|------------------|------------------|
| PERSONNEL | \$455,700 |
| OTHER | \$10,000 |
| TOTAL | \$472,600 |

ESTIMATED OUTSOURCING EXPENSES AND PURCHASES

Outsourcing

- \$50,000 for annual ESAL table and program updates by KTC using WIM
- \$25,000 for annual Traffic Forecasting Report updates by KTC
- \$200,000 for County-Wide Traffic models (outsource)

Other

- \$5,000 Other Operational Cost
 - For items such as equipment and software directly associated to the completion of this work chapter.
- \$5,000 TransCAD & TransModeler Workshops
 - For items such as travel, mileage, registration, and other costs directly associated with attending Caliper training sponsored by adjacent State Transportation Agencies

CHAPTER 14

Pedestrian and Bicycle Program

RESPONSIBLE UNIT

Division of Planning
Modal Programs Branch

PURPOSE AND SCOPE

The team will coordinate the state's Bicycle and Pedestrian Program, continue development of a statewide bikeway system, and work within Transportation and with other Cabinets. They will work to expand non-motorized 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 safety programs throughout the state and to recommend opportunities for bicycle-pedestrian facilities for proposed highway improvements. The Bicycle and Pedestrian Coordinator will also act as secretariat for the Kentucky Bicycle and Bikeway Commission to provide assistance to the general public, municipal governments, and other state agencies in the planning and development of bicycle and pedestrian facilities and programs.

The Bicycle and Pedestrian team will coordinate with the Cabinet for Tourism, Arts and Heritage, the Government of Local Development as well as the Cabinet for Health and Family Services to promote pedestrian and bicycle travel as well as recreational trail and Adventure Kentucky programs. Promote livability through biking and walking.

The Office of Local Programs coordinates several programs that support and encourage bicycling and walking as viable forms of transportation. The team will coordinate with them, especially in regards to Safe Routes to School, Scenic Byways, Transportation Enhancements, Recreational Trails, and CMAQ programs.

PROPOSED ACTIVITIES FOR 2011-2012

Planning

- Assist local governments in the development of local bicycle and pedestrian network facilities and plan using bikeability and walkability audits.
- Participate in the KYTC Strategic Safety Plan implementation.
- Revise and update the statewide bike tour system and associated maps.
- Review and update the Kentucky Bicycle and Pedestrian Plan. Review and revise the Kentucky 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.

CHAPTER 14

Pedestrian and Bicycle Program (continued)

RESPONSIBLE UNIT

Division of Planning
Modal Programs Branch

PROPOSED ACTIVITIES FOR 2011-2012 (continued)

Engineering and Projects (continued)

- 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 Share the Road sign requests for applicability and proper system placement.
- Develop in coordination with HDO, Maintenance, Traffic Operations, Design, and Planning Share the Road sign procedures for review, placement, and maintenance.
- Provide and assist with implementation of the Lane Reconfiguration Guide to KYTC district Maintenance and Traffic staff. Update as needed with their input.
- GIS applications- Develop and maintaining a GIS of bicycle and pedestrian network facilities and plans statewide
- Obtain any 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.
- Facilitate public education of non-motorized modes of transportation, as opportunity arises.
- Work with local law enforcement to promote education and enforcement of pedestrian and bicycle safety laws.
- Coordinate with the Office of Local Government.
- Citizen responses-Respond to citizens' need for information, maps, bike routes, walking trails, availability of funds for projects.
- Information Clearinghouse-Provide latest research, methods, criteria to CO Divisions, ADDs, MPOs, and local government.
- Website-Maintain www.bikewalk.ky.gov website

Kentucky Bicycle and Bikeways Commission (KBBC)

- Plan quarterly KBBC meetings
- 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

Pedestrian and Bicycle Program (continued)

RESPONSIBLE UNIT

Division of Planning
Modal Programs Branch

PRODUCTS

- Local pedestrian and bicycle master plans, as needed
- Updated bicycle and pedestrian brochures and promotional materials
- Updated statewide bicycle tour maps
- Pedestrian and Bicycle technical training course
- Walkability/Bikeability Audit training course
- Quarterly KBBC meetings

DISTRIBUTION OF ESTIMATED COST FOR 2011-2012

| | |
|------------------|------------------|
| PERSONNEL | \$52,500 |
| OTHER | \$50,000 |
| TOTAL | \$102,500 |

ESTIMATED OUTSOURCING EXPENSES AND PURCHASES

Other

- \$10,000 Walkability/Bikeability training course instructor
- \$10,000 Pedestrian and bicycle training course instructor
- \$2,500 for attendance of national conference
- \$10,000 for Kentucky Bicycle and Bikeway Commission meetings.
- \$7,500 for Bicycle and Pedestrian Brochures and Bicycle Route Tour Guides
- \$5,000 for Bicycle and Pedestrian Promotional Items (bike lights, reflectors, pedometers)
- \$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 2011-2012

- 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 2011-2012

| | |
|------------------|------------------|
| PERSONNEL | \$300,000 |
| OTHER | |
| TOTAL | \$300,000 |

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

Value Engineering and Quality Assurance

RESPONSIBLE UNIT

Division of Highway Design
Quality Assurance Branch

PURPOSE AND SCOPE

The Quality Assurance Branch (QAB) includes three programs: Value Engineering (VE), Constructability Review and Post-Construction (PC) Review. The purpose for this 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 through early intervention in preparation and planning. Below is a brief scope of each program:

The 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. A VE study may be done for any project, but federal regulations require that a VE study be conducted on highway projects over \$25 million and bridge projects over \$20 million on the National Highway System (NHS). These cost thresholds include the summation of all project development costs: design, environmental, right-of-way, utility relocation, and construction. Recommendations developed in a VE study are shared with the project development team to consider for implementation.

Constructability Review program is a work in progress. It has traditionally consisted of formal meetings prescribed by the Project Manager during the design phase as spelled out in the KYTC's Design Manual. However, due to declining levels of personnel, in the last several years constructability reviews have only been completed on a selected number of projects. Therefore, in order to address potential constructability issues on a broader range of projects, the Constructability Review Program is undergoing a revamping process. Currently it has been tasked to review all projects throughout the state while in "Design" phase for 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 items at our Annual ACEC/FHWA/KYTC Partnering Conference. The attendees are usually roadway and structure designers in the state of Kentucky gathering to share an all-encompassing transportation experience. Furthermore, this venue will facilitate discussions on items that need to be addressed. Another follow-up action will be to meet with Cabinet Officials to propose recommendations and changes to our internal processes for the betterment of the Cabinet.

Post-Construction (PC) Review program is a cyclic process. Projects that meet the criteria of over \$1 million dollars (state and federally funded) and have been open to the public for approximately one year are solicited from the District's Transportation Engineer Branch Managers (TEBM) in July and August. The target is 4 projects per district per fiscal year. There is a possibility to review more and smaller projects in the future. Meetings are scheduled from August to April.

CHAPTER 16

Value Engineering and Quality Assurance (continued)

RESPONSIBLE UNIT

Division of Highway Design
Quality Assurance Branch

PURPOSE AND SCOPE (continued)

Consultants, Contractors, Federal Highway Administration (FHWA) and KYTC Personnel are invited and provided prior information such as documented change orders. During these meetings, it is discussed how the project(s) progressed and what were the major issues that arose. 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 Cabinet Personnel, FHWA Personnel and an American Council for Engineering Companies of KY (ACEC-KY) Organizer. Following the completion of the team meeting and data collection phases, data entry of the issues/solutions are inputted to the Lessons Learned GIS geodatabase. (The other programs are compiled into this database at different intervals throughout the year). The collection of data may also substantiate follow up meetings or contacting those who can make decisions to improve/change/revise the design process to improve overall quality and cost saving in future projects.

PROPOSED ACTIVITIES FOR 2011-2012

- Continue to develop and update policy and procedures for all aspects of each program.
- Conduct mandated Value Engineering studies to meet federal guidelines.
- Conduct Post-Construction Reviews in their prescribed cycle.
- Conduct Constructability Reviews to improve quality of designs and enhance efficiency of work flow during the construction phase.
- 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.
- Ensure consistency and quality of design products delivered by the Cabinet.
- Train in-house and consultant personnel on findings for the betterment of designs and design processes.
- Oversee outsourced activities.

PRODUCTS

- VE Studies
- VE Check Lists
- VE Punch Lists
- VE Project Database
- VECF Database
- Post-Construction Review Fact Sheets
- Post-Construction Review Database

CHAPTER 16

Value Engineering and Quality Assurance (continued)

RESPONSIBLE UNITDivision of Highway Design
Quality Assurance Branch**PRODUCTS (continued)**

- Constructability Review Database
- *Quality Matters* Newsletter
- Lessons Learned Geodatabase
- Lessons Learned Mapping
- Annual Reports from all Programs
- Special Studies

DISTRIBUTION OF ESTIMATED COST FOR 2011-2012

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

ESTIMATED OUTSOURCING EXPENSES AND PURCHASES

\$175,000 to outsource but not limited to the following: Other VE studies that are state funded, Value Engineering Training, SAVE International Membership fees, research or assistance related to Quality Assurance and Quality