

Cape Cod Metropolitan Planning Organization (MPO)

Unified Planning Work Program for Transportation Planning Activities

(October 1, 2013 – September 30, 2014)

Endorsed: June 24, 2013





CAPE COD METROPOLITAN PLANNING ORGANIZATION Unified Planning Work Program for Transportation Planning Activities

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Cape Cod Metropolitan Planning Organization Members

Richard Davey, Secretary and Chief Executive Officer, Massachusetts Department of Transportation (MassDOT)

Francis A. DePaola, Administrator, MassDOT Highway Division Ronald Bergstrom, Chair, Cape Cod Regional Transit Authority

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Cape Cod Metropolitan Planning Organization Endorsement DATE: June 24, 2013

The UPWP development process is being used to satisfy the public hearing requirements of the FTA's Section 5307 program and this public notice of public involvement activities and time established for public review and comments on the UPWP will satisfy the FTA Program of Projects requirements.

This report was funded in part through grants from the Federal Highway Administration (FHWA) and Federal Transit Administration (FTA), United States Department of Transportation (USDOT). The views and opinions of the Cape Cod Metropolitan Planning Organization expressed herein do not necessarily state or reflect those of the United States Department of Transportation.



CAPE COD METROPOLITAN PLANNING ORGANIZATION (MPO) Unified Planning Work Program (UPWP) October 1, 2013 through September 30, 2014

The signatures to follow certify that the Cape Cod Metropolitan Planning Organization (MPO), at their meeting on June 24, 2013, hereby approves the following action in accordance with the Comprehensive, Cooperative and Continuing transportation planning process. In accordance with the requirements of 23 CFR Part 450 Section 308(c) of Federal Regulations, the MPO for Cape Cod has completed its review and hereby endorses the Cape Cod Unified Planning Work Program for Transportation Planning Activities for October 1, 2013 through September 30, 2014.

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Introduction

This Unified Planning Work Program (UPWP) is developed annually by the Cape Cod Commission transportation staff on behalf of the Cape Cod Metropolitan Planning Organization, in accordance with the requirements in SAFETEA-LU and federal planning regulations including the newest federal transportation legislation "Moving Ahead for Progress in the 21st Century" (MAP-21). MAP-21 makes several changes such as the elimination of discretional programs, emphasis on performance measures, and Performance Management in general. Another new feature is the introduction of the "Transportation Alternatives Program" (TAP) that encourages enhancements such as multi-use paths and safe routes to schools.

The UPWP describes all significant transportation planning activities planned on Cape Cod over the twelve (12) month period, regardless of lead organization and funding source. The following are the major transportation planning areas:

- 1. Management and Support of the Planning Process and Certification Activities the efforts required for coordinating transportation planning activities between CCC and Metropolitan Planning Organization (MPO) member communities, local, regional, state and federal agencies; efforts required to maintain the public participation process; Environmental Justice strategies; efforts required for the administration of the CCC contract with the Massachusetts Department of Transportation (MassDOT); development and approval of the UPWP and the Transportation Improvement Program (TIP); and enhancement of the technical capacity of the planning process.
- 2. Data Collection and Analysis Activities to continually gather and update traffic, crash, and road data necessary for transportation planning and analysis; to maintain databases; to develop and update Cape Cod's travel demand forecasting model; to review safety data, goals, objectives, and strategies to promote safety.
- 3. Short- and Long-Range Transportation Planning efforts to update and maintain the Regional Transportation Plan for Cape



Cod, a certification activity that requires a new plan every four years and development of the Congestion Management Program for the region. Also includes efforts to perform special planning studies of corridor safety/traffic flow and transit and integration of special studies into the regional transportation plan. Emphasis areas include identification of strategies to support the economic vitality of the metropolitan area, transportation security, emergency planning, strategies to promote smart growth and economic development patterns, environmental protection and energy conservation and preservation of the existing transportation system.

- 4. Other Technical Activities to provide other technical assistance to the region, including assistance in the design and implementation of projects, participating in special studies, coordination with transit agencies and assistance in the planning, design, and development of the Intelligent Transportation System for Cape Cod. Special emphasis areas include enhancing the integration and connectivity of the transportation system, across and between modes, for people and freight and promotion of Operation and Management Strategies.
- 5. Regulatory Review and Planning Assistance to the Towns review of Developments of Regional Impact and assistance in the development and implementation of Local Comprehensive Plans and Districts of Critical Planning Concern.

Appendix — efforts that are awaiting grant funding that may be initiated during the UPWP period, including several efforts proposed by the National Park Service.

COORDINATION WITH FEDERAL TRANSPORTATION PLANNING FACTORS

All tasks of the UPWP will be implemented with consideration of federal transportation planning factors. This discussion relates to the general topic of Cape Cod MPO transportation planning and is intended to provide an overview to the public. Each planning factor may apply to a varying degree to each specific UPWP task. Cape Cod MPO transportation



planning goals are manifested in the Cape Cod Regional Transportation Plan (RTP) referenced in the discussion below. The UPWP is developed in coordination with the eight MAP-21 planning factors as follows:

1. SUPPORT THE ECONOMIC VITALITY OF THE METROPOLITAN AREA, ESPECIALLY BY ENABLING GLOBAL COMPETITIVENESS, PRODUCTIVITY, AND EFFICIENCY

The Cape Cod MPO staff shall apply specific criteria in the review of transportation strategies. These criteria are applied to changes of delay and emissions. Reduction in traffic delay has a direct consequence on economic vitality both through the timely arrival of commuters and goods and reduction in fuel expenses and losses due to air pollution. The RTP directly supports these efforts through the goal: "Create a transportation system that reinforces local development, land use, economic, cultural, and historic preservation goals." The CCC directly supports regional productivity through its economic development mission (including full-time staff) manifested in the Regional Policy Plan and support of the Cape Cod Economic Development Council's initiatives, including support of the federally approved Cape Cod Comprehensive Economic Development Strategy priority projects.

2. INCREASE THE SAFETY OF THE TRANSPORTATION SYSTEM FOR MOTORIZED AND NONMOTORIZED USERS

The Cape Cod MPO staff shall apply specific criteria in the review of transportation strategies. These criteria are applied to estimated changes in safety. The primary goal of the RTP is focused on safety and security: "Create a transportation system that provides safe travel options for people and freight, and protects users from natural and external threats." Safety is of such importance that it is recognized in its own chapter of the RTP.

3. INCREASE THE SECURITY OF THE TRANSPORTATION SYSTEM FOR MOTORIZED AND NONMOTORIZED USERS

The primary goal of the RTP is focused on safety and security: "Create a transportation system that provides safe travel options for people and freight, and protects users from natural and external threats." Security is



of such importance that it is recognized in its own chapter of the RTP. One area of additional security planning that applies to Cape Cod is that of traffic impacts due to weather events such as impending hurricanes. CCC staff is continuing to participate in the Massachusetts Emergency Management Agency (MEMA) Massachusetts State Police efforts regarding the "Cape Cod Emergency Traffic Plan."

4. INCREASE THE ACCESSIBILITY AND MOBILITY OF PEOPLE AND FOR FREIGHT

The Cape Cod MPO staff shall apply specific criteria in the review of transportation strategies. These criteria are applied to improvements in multimodal accessibility. The RTP supports these efforts through its goal: "Connect village centers, economic and employment centers, and points of interest using multiple coordinated modes of transportation in a direct and efficient manner so that people and goods can get from where they are to where they are meant to go."

5. PROTECT AND ENHANCE THE ENVIRONMENT, PROMOTE ENERGY CONSERVATION, IMPROVE THE QUALITY OF LIFE, AND PROMOTE CONSISTENCY BETWEEN TRANSPORTATION IMPROVEMENTS AND STATE AND LOCAL PLANNED GROWTH AND ECONOMIC DEVELOPMENT PATTERNS

The RTP supports this planning factor through three goals: "Create a transportation system that maintains, protects, and enhances the natural environment of Cape Cod"; "Create a transportation system that reinforces local development, land use, economic, cultural, and historic preservation goals"; and "Base projects and programs on an objective, transparent and inclusive decision-making process in cooperation with federal, state, regional, and local transportation agencies, government officials, businesses and citizens." The RTP and therefore the UPWP includes a focus on addressing Climate Change. Where appropriate, UPWP tasks will include assessments of vulnerabilities and negative risks that climate change effects or extreme weather events pose, to the Cape's transportation infrastructure. These vulnerabilities and risks will be seriously considered when planning future improvements. Where appropriate, UPWP tasks will develop adaptation strategies that will enable the Cape Cod region to implement improvements appropriately. The reduction of greenhouse gas emissions (GHG) remains and important



goal in addressing climate change. UPWP tasks are encouraged that reduce VMT and congestion.

6. ENHANCE THE INTEGRATION AND CONNECTIVITY OF THE TRANSPORTATION SYSTEM, ACROSS AND BETWEEN MODES, FOR PEOPLE AND FREIGHT

The Cape Cod MPO staff shall apply specific criteria in the review of transportation strategies. These criteria are applied to improvements in multimodal accessibility. The RTP supports these efforts through its goal: "Connect village centers, economic and employment centers, and points of interest using multiple coordinated modes of transportation in a direct and efficient manner so that people and goods can get from where they are to where they are meant to go." Where appropriate, UPWP tasks will support the enhancement of the movement of goods throughout the Cape Cod region. To further this goal, Cape Cod MPO staff will continue to develop knowledge and skills regarding the integration of goods movement and seek to meet with stakeholders representing the freight shipping community.

7. PROMOTE EFFICIENT SYSTEM MANAGEMENT AND OPERATION

The RTP supports this planning factor through three goals: "Optimize travel time throughout the transportation system for people and freight by pursuing strategies to reduce congestion in areas where it exists and taking proactive measures to prevent congestion in currently free flowing areas"; "Preserve, maintain, and modernize the existing transportation system"; and "Base projects and programs on an objective, transparent and inclusive decision-making process in cooperation with federal, state, regional, and local transportation agencies, government officials, businesses and citizens."



8. EMPHASIZE THE PRESERVATION OF THE EXISTING TRANSPORTATION SYSTEM

The RTP supports this planning factor through two goals: "Optimize travel time throughout the transportation system for people and freight by pursuing strategies to reduce congestion in areas where it exists and taking proactive measures to prevent congestion in currently free flowing areas" and "Preserve, maintain, and modernize the existing transportation system." Through the CCC regulatory process, development projects are required to provide traffic mitigation. Additionally, a significant number of acres of developable land have been conserved through the CCC regulatory process — thereby reducing future transportation impacts.



Task #1 – Management and Support of the Planning Process and Certification Activities

TASK 1.1 - UNIFIED PLANNING WORK PROGRAM (CERTIFICATION ACTIVITY)

Objectives: To develop a Unified Planning Work Program (UPWP), in accordance with the requirements in MAP-21 and federal planning regulations, and to obtain MPO endorsement of the UPWP. To prepare progress reports, as needed.

Previous Work: Previous UPWPs (most recent MPO endorsed UPWP: June 2012)

Procedures: In conformance with applicable Federal and State guidelines, prepare a UPWP which describes all significant transportation and transportation-related planning activities anticipated to be carried out in the region during the period, regardless of funding sources or lead organization. Maintain the UPWP and make amendments as necessary.

Products: Unified Planning Work Program for Transportation Planning Activities for the period October 1, 2013 to September 30, 2014. Amendments to the current UPWP will be submitted as necessary. Monthly progress reports on PL activities performed under the UPWP and an annual report of transportation planning activities.

Schedule:

- Draft UPWP anticipated submission to MPO and CCJTC, May 2014
- Final UPWP anticipated submission to MPO, June 2014
- Monthly progress reports
- Annual Report



Funding/Staffing breakdown:

Funding Source	Amount	CCC Staffing
FHWA/MassDOT	\$15,000	5 person-weeks
FTA (5303)	\$1,951	0.7 person-weeks
CCC	\$488	0.2 person-weeks

TASK 1.2 - TRANSPORTATION IMPROVEMENT PROGRAM (CERTIFICATION ACTIVITY)

Objectives: To prepare a program of transportation improvement projects that is consistent with MAP-21, the region's transportation plan, the State Implementation Plan, EPA's Air Quality Conformity Regulations, and FHWA/FTA's Planning Regulations. The Transportation Improvement Program (TIP) will include a four-year program of projects. The TIP will be presented for endorsement by the Metropolitan Planning Organization (MPO) in accordance with federal regulations and the region's Public Participation Plan.

Previous Work: "Cape Cod Transportation Improvement Programs (TIPs)," and amendments as needed, 1988 to present; latest endorsed (TIP Amendment, February 2012) document covers the period of federal fiscal years 2013–2016.

Procedures: To continue to participate in a committee of Regional Planning Agency (RPA) Directors, Federal and State officials to cooperatively develop financial estimates, evaluate projects, and schedule of TIP development.

I - PREPARATION OF THE DRAFT TIP

A) General

1. The TIP is a staged, multi-year, intermodal program of transportation projects which are consistent with the Regional Transportation Plan (RTP). It is the programming document to implement FHWA and Federal Transit Administration (FTA) Regional Transportation Plan projects.



- 2. Insure involvement of local officials and citizens through the Cape Cod Joint Transportation Committee and the Public Participation Plan
- 3. Provide assistance to municipalities in advancing TIP projects
- 4. Coordinate with MassDOT District 5, and the MassDOT Boston Office of Transportation Planning in developing project advancement
- 5. Include project within financial estimates (and other items)
- B) Development of the four-year program of projects according to a uniform statewide format.
- 1. Update the list of transit and highway projects that are expected to require federal transportation funds during the active fiscal years of the TIP.
- 2. The list of projects may include information such as the following:
 - a. The official MassDOT identifying project title
 - b. Project description
 - c. Estimated total cost
 - d. Proposed sources of federal and non-federal funds.
- 3. The total costs of projects seeking federal funds in each program year shall be in line with anticipated federal and state funds.
- C) Public Participation
- Per the MPO approved Public Participation Plan.



II - TIP APPROVAL

The TIP documents will be reviewed and endorsed by the MPO. The endorsed products will serve as a portion of the required air quality consistency documentation necessary for USDOT (FHWA/FTA) and EPA conformity determinations.

III - MODIFICATION/AMENDMENT

- A) Amendments to the TIP require MPO approval.
- B) Administrative adjustments to the TIP may be approved by the CCC Executive Director, with appropriate notification to the MPO.

IV - PUBLICATION OF OBLIGATED PROJECTS

- A) Description and costs of obligated TIP projects by program year
- B) Listing published within TIP, includes projects obligated within the period up to 90 days following the closing of the fiscal year in which the projects were obligated.

Products:

- TIP consistent with the State Implementation Plan and the Regional Transportation Plan
- Modifications/amendments to the TIP as required

Schedule: As determined by the MPO, FHWA, FTA, and MassDOT.

Funding/Staffing breakdown:

Funding source	Amount	CCC Staffing
FHWA/MassDOT	\$37,625	12.5 person-weeks
FTA (5303)	\$4,958	1.7 person-week
CCC	\$1,239	0.4 person-weeks



TASK 1.3 - CCJTC AND MPO ACTIVITIES/PUBLIC PARTICIPATION PROGRAM

Objectives: To maintain an open comprehensive, cooperative and continuing (3C) transportation planning and programming process involving the local, regional, state, and federal levels of government in conformance with applicable federal and state requirements and guidelines.

Previous Work:

- Past maintenance of 3C process, including support to the CCJTC, the MPO, and member agencies
- Update of the Public Participation Plan (June 2007)

Procedures:

- 1. Provide administrative and technical support to the 3C regional planning process, such as:
 - a. Community liaison and assistance on transportation planning matters
 - b. Review of federal and state transportation programs and related documents as required
- 2. Provide for and support the public participation process (PPP) in transportation planning for Cape Cod
 - a. Support Cape Cod Joint Transportation Committee (CCJTC)
 - b. Develop, support and participate in local parking, traffic, bikeway, and environmental committee meetings
 - c. Preliminary and follow-up work for meetings as required
- 3. Present transportation plans and programs (e.g., UPWP, Regional Transportation Plan, and TIP) developed through the public participation process to the Cape Cod Joint Transportation Committee and the Metropolitan Planning Organization (MPO) for appropriate action



4. Conduct efforts in conformance with federal, state and local requirements

Products:

- Viable 3C process, including CCJTC and public participation program
- Revision of PPP, as necessary
- Website updates, notices to news media, meeting notices
- Transportation program annual report
- Minutes and reports on CCJTC meetings
- Letters, memoranda, and notes as required
- Other products as required

Schedule: Meetings typically held monthly

Funding/Staffing breakdown:

Funding Source	Amount	CCC Staffing
FHWA/MassDOT	\$50,000	16.5 person-weeks
FTA (5303)	\$6,502	2 person-weeks
CCC	\$1,626	0.5 person-weeks



TASK 1.4 – ENVIRONMENTAL JUSTICE/TITLE VI

Objectives: To ensure that all segments of the population are able to fully participate in transportation planning processes and has access to transportation facilities. To integrate the basic principles of Environmental Justice into the 3C Transportation Planning Process, including Limited English Proficiency, as necessary. To develop and maintain a Title VI Civil Rights program for the Cape Cod MPO. To cooperate with stakeholders in the development of the Public Transit Human Services Transportation Plan. To engage the Mashpee Wampanoag Tribe in transportation planning. To account for Environmental Justice efforts within each task as appropriate.

Previous Work: Attendance at preliminary meetings with MassDOT and FHWA to discuss environmental justice requirements and receive guidance on ensuring compliance. Preparation of updates to the Cape Cod Regional Transportation Plan including information and strategies to ensure Environmental Justice.

Procedures: Coordination with the Cape Cod Regional Transit Authority and MassDOT, as required.

Products:

- Viable Title VI Civil Rights program for the Cape Cod MPO
- Incorporation of environmental justice principles into MPO activities

Schedule: Ongoing procedures

Funding/Staffing breakdown:

Funding Source	Amount	CCC Staffing
FHWA/MassDOT	\$35,000	11.5 person-weeks
FTA (5303)	\$4,552	1.5 person-weeks
CCC	\$1,138	0.4 person-weeks



TASK 1.5 – REGIONAL TRANSPORTATION PLAN

(Certification Activity)

Objectives: To maintain and update the Regional Transportation Plan for Cape Cod, in conformance with the federal transportation legislation: Moving Ahead for Progress in the 21st Century (MAP-21), consistent with the goals and requirements of the Cape Cod Commission, towns, the MassDOT, FTA, and the FHWA, considering all modes of transportation and both short- and long-range elements.

Previous Work:

- Ten (10) year needs assessment prepared in October 1989
- Regional Policy Plan for Cape Cod, August 1991
- Long Range Transportation Plan, September 1993
- Long Range Transportation Plan Amendments, September 1994
- Regional Policy Plan for Cape Cod, November 1996
- Regional Transportation Plan, approved by MPO, March 1997
- Regional Transportation Plan, approved by MPO, January 2001
- Regional Policy Plan for Cape Cod, April 2002
- Regional Transportation Plan, approved by MPO, August 2003
- Regional Transportation Plan, approved by MPO, March 2007
- Regional Policy Plan for Cape Cod, 2009
- Regional Transportation Plan, approved by MPO, August 2011

Procedures: Updates to Regional Transportation Plan (RTP). Potential amendment to RTP in 2013-2014 to include recommendations from Hyannis Access Study and the Willow Street/Yarmouth Road Corridor Study and Cape Cod Canal area efforts. Includes RTP conformity analysis and reassessment of fiscal constraint. Ongoing public outreach will include workshops and participation at meetings of local officials and issue-oriented groups focused on the environment and accessibility. These efforts will further involve Cape Cod environmental organizations and strengthen the link between transportation impacts and environmental analysis. Work with communities to identify Growth Incentive Zones and Economic Centers, promote mixed-use development, transit-oriented development, and identify appropriate transportation infrastructure to support these areas.

Products:



- Updates and amendments as necessary (e.g., amendment to include Hyannis Access Study recommendations)
- Presentation materials, maps, website downloads for meetings and workshops

Schedule: To be determined

Funding/Staffing Breakdown:

Funding Source	Amount	CCC Staffing
FHWA/MassDOT	\$ 40,000	13.5 person-weeks
FTA (5303)	\$ 5,202	1.5 person-weeks
CCC	\$ 1,300	0.4 person-weeks



Task #2 – Data Collection and Analysis Activities

TASK 2.1 – CAPE COD TRAFFIC DATA COLLECTION PROGRAM

Objectives: To create and maintain databases of traffic counting data for Cape Cod to be used for transportation planning. To monitor growth in traffic volumes and to determine existing traffic volumes on Cape Cod roads. To perform the coverage counts for MassDOT. To perform bicycle and pedestrian activity counts in selected locations. To obtain data on road geometry, when necessary, as part of the traffic counting efforts.

Note: It is a goal of the region to install permanent traffic counters to provide continuous reliable data on traffic volumes, vehicle types, and speed on all major roads. Permanent stations with remote access capabilities are the appropriate safe and cost-effective manner to collect data.

Previous Work: Annual traffic counting programs, 1984–2012. Traffic counting reports and appendices (2010 versions most recently):

- Cape Cod Traffic Counting Report
- Intersection Turning Movement Counts
- Bicycle Pedestrian Counts
- Park and Ride Lot Counts
- Travel Times

Procedures: For the summer of 2013, over 250 counts will be scheduled across Cape Cod's 15 towns. Additional counts, in coordination with or at the request of the towns and MassDOT, will be taken as schedule and weather permits. Where possible, FHWA traffic monitoring guide procedures will be followed. Police details, if required for the additional count locations, shall be the responsibility of the towns for local roads and MassDOT for state roads and locations requested by MassDOT. Turning movement counts will also be taken at selected intersections. Bicycle and



pedestrian counts will also be performed on selected paths throughout Cape Cod.

Where possible, FHWA traffic monitoring guide procedures will be followed. Work activities under this task include:

- Placement of counters
- Retrieval of counters
- Routine checks of counters
- Equipment inventory and maintenance
- Data tabulation
- Data factoring
- Data analysis/recording
- Coordination of counters
- Coordination of safety measures with towns
- Coordination of external program counts
- Periodic calibration/verification of equipment per MassDOT guidelines
- Obtain necessary permits from towns and MassDOT
- Development of traffic count file and data base
- Data mapping
- Program evaluation
- Computer data entry and maintenance
- Updated geometric information, as needed. Gather information to include sidewalks, shoulders and bicycle lanes.

Products:

- Cape Cod Traffic Counting Report for 2013. Report will contain information on study design, count location, date/time of peakhour volume, average daily traffic, and factored average daily traffic. The most recent 10 years of counts conducted by CCC will be included in this report.
- Online database that includes date of counts, general weather and traffic conditions average daily traffic, factored average daily traffic, peak hour traffic volume. Breakdown of traffic by hour over period studied kept on file. Information provided via a map-based search tool for ease of use by the public and other stakeholders.
- Factored counts for MassDOT
- Expanded seasonal traffic counting data



- Turning movement counts at intersections, including bicycle and pedestrian counts
- An analysis of traffic growth trends over the past 10-year period for Cape Cod, subregions and major routes
- Counts accessible at website (http://www.capecodcommission.org/departments/technicalservices/transportation/counts)

Schedule: Report on counts taken in 2011 submitted January 2012

Funding/Staffing breakdown:

Funding Source	Amount	CCC Staffing
FHWA/MassDOT	\$62,500	21 person-weeks

TASK 2.2 – PERFORMANCE STANDARDS

A key feature of MAP-21 is the establishment of a performance- and outcome-based program with the objective to invest resources in projects that collectively will make progress toward the achievement of the national goals. These national performance goals from MAP-21 are identified in the following table:

Goal area	National goal
Safety	To achieve a significant reduction in traffic fatalities and serious injuries on all public roads
Infrastructure condition	To maintain the highway infrastructure asset system in a state of good repair
Congestion reduction	To achieve a significant reduction in congestion on the National Highway System



System reliability	To improve the efficiency of the surface transportation system
Freight movement and economic vitality	To improve the national freight network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development
Environmental sustainability	To enhance the performance of the transportation system while protecting and enhancing the natural environment
Reduced project delivery delays	To reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion through eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies' work practices

Objectives: To develop standards to be used in assessing the performance of important elements of the Cape's transportation system. To work with MassDOT to support the above MAP-21 goals at the state level.

Previous Work:

- Development of transportation databases for travel times, vehicle counts, crash records
- Geo-located Cape Cod crash database for 2004–2009
- Online mapping of traffic counting data
- Transportation model, developed in 1999/2000 for base year of 1997
- Transportation model, updated in 2010

Procedures:



Identify major elements of the Cape's transportation system. Examples include:

- Major roadway segments based on roadway functional class
- Intersections of major roads/signalized intersections
- MassDOT Park and Ride Lots
- Intermodal connector facilities

For each element identify potential performance standard. For example, for signalized intersections the performance standard may correspond to a certain level of service or operational parameter such as the average number of s3econds of delay per vehicle.

Potential performance standards will be presented to the Cape Cod Joint Transportation Committee for consultation and consensus in anticipation of making recommendations to the Cape Cod Metropolitan Planning Organization.

Products:

 Summary report of Cape Cod transportation performance standards

Schedule: Ongoing

Funding/Staffing breakdown:

Funding Source	Amount	CCC staffing
FHWA/MassDOT	\$11,250	4 person-weeks



TASK 2.3 – TRANSPORTATION DATABASE MANAGE-MENT/MODELING/TRAVEL DEMAND FORECASTING

Objectives: To maintain and improve databases of Cape Cod transportation information including roadway geometry, traffic volumes (motor vehicles, bicycles, pedestrian), and other. To provide transportation information for Cape Cod to local and state officials, transportation professionals, and the public. To continue to develop and calibrate computerized travel demand forecasting databases and models for Cape Cod, including year 2035 forecasts. To continue integration with Geographic Information System (GIS) data to provide a platform for GIS-based traffic counts, congested link summaries, and accident summaries.

Previous Work:

- Draft VISSIM models for Harwich Center and Yarmouth Road/Willow Street (Barnstable)
- Geo-located Cape Cod crash database for 2004–2008
- Online mapping of traffic counting data
- Transportation model, developed in 1999/2000 for base year of 1997
- Transportation model, updated in 2010

Procedures: Integrate new records when available; maintain database, develop subroutines for analysis. When details are needed for specific locations, town crash records may be obtained and reviewed. CCC staff will contact MassDOT to request latest crash records. Conduct public outreach to member communities. Respond to data and information requests from the public, transportation professionals, and local, regional, and state officials. Participate in analyses of and obtain latest Pictometry data and software.

Review and utilize available socio-economic, employment, population, and housing data for base year and forecast year data. Utilize existing traffic volume and transit data to determine existing travel demands. Utilize existing transportation models for sub-regions of Cape Cod. Improve transfer methods of data between CCC Geographic Information System (GIS) services and transportation modeling effort. Expand transportation demand model to include Saturday morning element and to explicitly include alternate modes. Additional modeling efforts include



the use of Synchro/Sim-Traffic software. Construction of Synchro models includes development of a computerized roadway/intersection network. Inputs include turning movements and roadway link traffic volumes, roadway and intersection geometry, and signal timing and phasing.

Products:

- Crash, roadway geometry, roadway traffic volumes, intersection turning movements data, and Pictometry information database
- Reports, letters, and memoranda as required
- Updated regional transportation model based on latest available demographic information, reports of results, and summaries
- Models will be used to support Task 3 and other regional planning and TIP activities

Schedule: Ongoing

Funding/Staffing breakdown:

Funding Source	Amount	CCC staffing
_		
FHWA/MassDOT	\$45,000	15 person-weeks

TASK 2.4 – PAVEMENT MANAGEMENT

Objectives: To collect data and implement a regional pavement management system for Cape Cod to provide an objective rating of pavement conditions and needs.

Previous Work:

- FY 2013 data collection (pending) include approximately 200
 "point" assessments collected during installation of automatic
 traffic recorder installation outputs include updated databases
 and mapping.
- FY 2013 data collection (pending) includes corridor-based pavement assessments (windshield surveys) for 33% of the municipally-owned federal-aid roadway network outputs include updated databases and mapping.



- FY 2013 review of town-based pavement management efforts.
- Pavement Management: 2011 Status Report, 2012 Status Report (2013 report pending)
- Eastham, Pilot Pavement Management Study, December 1990
- Bourne, Preliminary Pavement Management Report, April 1992
- Participation on technical coordination committees for Pavement Management
- Special Statewide pavement management systems effort, 1994

Procedures: Existing conditions determination will be conducted through "windshield" surveys of roadways. Approximately 33% of the municipally-owned federal-aid eligible roadways will be surveyed and results will be used to update databases and produce pavement condition maps and reports. Approximately 200 point assessments of pavement condition will be made as part of the installation of automatic traffic recorders – results inputted into a database and used to generate maps and reports. Additional information may be provided by individual towns; some towns maintain pavement management databases. Existing data will be requested from individual towns. The proposed pavement rating system will be determined in coordination with the towns. The rating system will be consistent with MassDOT standards and standards that other Massachusetts' RPAs are using.

In addition, a focus on tribal roads under the jurisdiction of the Mashpee Wampanoag tribe will be included.

Products: Assessment of pavement management needs

Schedule:

January-March 2014 Evaluation of existing data, coordination with communities, review of methodologies.

March-April 2014 Schedule & coordination of data collection

May-August 2014 Data Collection

September 2014 Status Report

Funding/Staffing breakdown:

Funding Source	Amount	CCC Staffing
-		
FHWA/MassDOT	\$ 47,500	16 person-weeks



TASK 2.5 - GEOGRAPHIC INFORMATION SYSTEM

Objectives: To maintain and improve the Geographic Information System for Cape Cod to provide an analysis tool for transportation decision-making.

Ongoing Work:

- Integration of Massachusetts DOT Roadway Inventory Files
- Development of geographic land use information for transportation planning

Procedures: Importing of transportation-related geographic information from state, federal, local and other sources into Cape Cod's Geographic Information System; editing as needed; provide database, digital, and graphic outputs of geographic information as required.

Products: digital files for input into specialized transportation analyses; graphic output of maps (paper, .jpg, .pdf as required).

Schedule: Ongoing

Funding/Staffing breakdown:

Funding Source	Amount	CCC Staffing
FHWA/MassDOT	\$ 27,850	9.5 person-weeks

TASK 2.6 – FREIGHT USAGE & ANALYSES

Objective: Provide an overview of the current freight transportation systems on Cape Cod, as well as a forecast for long-range possible future scenarios. The study will describe the current freight system on Cape Cod including an inventory of infrastructure, volume and types of freight. It will also define the economic impact of the regional freight on Cape Cod including freight-dependent and supporting industries and their associated work force. Growth possibilities will be examined, both potential freight generators and projected industry growth in the region.



Needs and projects to accommodate current and expected freight needs will be developed by this study. Truck routes, rail facilities, air cargo options and marine accommodations will be proposed and infrastructure needs along these routes will be identified for potential prioritization in the Regional Transportation Plan.

Previous Work:

- Massachusetts State Freight Plan
- Cape Cod 2012 Regional Transportation Plan

Procedures: The following tasks will be performed in the development of this study:

- Summarize Economic Profile
 - o Major economic activities, resources and assets.
 - o Selected social/economic data.
 - o Growth Incentive Zones
- Assess Current Freight Activity
 - Conduct freight survey to determine local freight shipping patterns and freight facilities and service needs including for the Islands.
 - Evaluate freight movements.
 - Annual tonnage
 - Commodities types shipped
 - Freight mode used for shipment
 - Origin and destination of commodities
- Develop Economic Projections
 - Evaluate build out scenarios for commercial and industrial development
- Prepare Freight Development Strategies
 - o Identify truck routes, rail facilities, air cargo options and marine accommodations.
 - o Identify candidate commodities for intermodal rail/truck transportation.
 - Develop options for freight modes, freight consolidation, and distribution.
 - o Prepare, as needed, site improvement plans and cost estimates



Products: The study will develop short and long term recommendations for freight facilities and accommodations. These recommendations will be consistent with the Regional Policy Plan economic development policies and growth incentive zones.

Funding/Staffing breakdown:

Funding Source	Amount	CCC Staffing
FHWA/MassDOT	\$ 25,000	8.5 person-weeks



Task #3 – Short- and Long-range Transportation Planning

Livability Statement

Livability refers to the social and environmental quality of an area as perceived by residents, workers, and visitors. The U.S. Department of Transportation considers the principle of Livability to be essential to the success of regional transportation planning. Livability directly benefits people who live in, work in or visit Cape Cod, increases property values and business activity, and it can improve public health and safety. Livability is largely affected by conditions in our public spaces, places where people naturally interact with each other and their community, including roads, conservation lands, transportation hubs and other public facilities, and so is affected by public policy and planning decisions.

Transportation decisions can have a major impact on Livability. Streetscapes that are attractive, safe and suitable for a variety of transportation modes (particularly walking) are a key factor in Livability. Traffic safety, traffic noise and local air pollution, affordability, impervious surface coverage (i.e., the portion of land devoted to roads and parking), preservation of environmental and cultural structures, and opportunities for recreation are all Livability factors often affected by transportation policies and practices. Transportation decisions can also affect social interactions and community cohesion. Pedestrian-friendly streets create opportunities for people to meet and interact, helping to create community networks. The MPO continues to support Livability through the following planning tasks in this UPWP.



TASK 3.1 – CONGESTION (ROUTE 28 HYANNIS-CENTERVILLE)

Objective: To conduct a transportation planning study for the study area shown in the following figure with the following study goal:

Develop alternatives that will provide safe and convenient access within the study area for all users of the roadway system including pedestrians, bicyclists, and motorists.

Additional locations will be included as appropriate. These may include locations being considered for Congestion Mitigation Air Quality funding or have been identified through the Cape Cod Commission's public participation process.



FIGURE 1 - ROUTE 28 HYANNIS-CENTERVILLE STUDY AREA

Data Collection – Traffic Forecasting: A key task of this study will be the collection of needed data. Data collection will include adjustment of existing traffic counting data if available or new traffic counts collected at the following locations:

Automatic Traffic Recorder (ATR) counts:

- Route 28:
 - o East and west of Old Stage Road
 - o East and west of Phinneys Lane



- o East and west of Strawberry Hill Road
- o East and west of Pitchers Way
- o East and west of Bearses Way

Turning Movement Counts (TMCs):

- Route 28 at:
 - o Old Stage Road
 - o Phinneys Lane
 - o Strawberry Hill Road
 - o Pitchers Way
 - o Bearses Way
 - o Senior Center/Middle School/High School Access Drive

Data collection at other congested locations as appropriate

Public Participation: The Cape Cod Commission will facilitate a kick-off meeting with stakeholders and interested public. A Task Force will be created to facilitate project direction, development of alternatives and the preferred alternative to improve this section of Route 28 in Barnstable. The meetings will be held in the town of Barnstable. In addition, the following methods may be used to communicate study progress and receive public input:

- Questionnaires/online surveys
- Informational handouts/flyers
- Online postings at:

www.capecodcommission.org/departments/technicalservices/transportation

- Progress updates at monthly meetings of the Cape Cod Joint Transportation Committee and scheduled meetings of the Cape Cod Metropolitan Planning Organization.
- Presentations at local boards (e.g., Town Council, Planning, Chamber of Commerce, etc.)
- Promotion of contact information and reception of public input via telephone, fax, email, or regular mail



Meetings with local officials and other interested parties to discuss other congested locations, as appropriate

Development of alternatives: Based on estimated traffic operations identified for the future forecast year and input received from the public participation process, the Cape Cod Commission will develop and analyze a minimum of 3 alternatives. One of these alternatives will be the "nobuild" scenario and will form the basis of comparison for any of the "build" alternatives.

Preparation of analyses of other congested locations as appropriate

Evaluation, criteria, and recommendations: Each alternative will be evaluated for its impact on traffic flow and safety. General criteria that may be applied include:

- Change in through-trip travel times & distances
- Queuing
- Safety impacts (e.g., change in number of conflicting traffic movements & expected traffic demand at each)
- Environmental impacts (air quality, intrusion near wetlands, etc.)
- Right-of-Way impacts (need to acquire property for construction of alternative)
- Expected cost to construct

By reviewing each alternative's potential benefits in concert with its costs and other detriments, a preferred alternative will be identified.

Products: Results will be published in a written report to be made available online at www.capecodcommission.org in addition to printed copies for interested parties. Other study materials will be produced and made available via internet, mailings, public meetings etc. including maps and charts, handouts and flyers.



Reports and memoranda published to include analyses and recommendations for improvements at other congested locations as appropriate.

Schedule & Level of Effort: The schedule for this effort allows for a final completion by September 2014. Milestones include coordination meetings with the Cape Cod Joint Transportation Committee (or designated subcommittee thereof) and updates to the Cape Cod Metropolitan Planning Organization.

- Needed data collection (FY 2013) Summer of 2013
- Review of methodology/project initiation: November 2013
- Public meeting with Stakeholders: January 2014
- Problem identification and development of alternatives review with CCJTC: March 2014
- Analysis of Alternatives review with CCJTC: May 2014
- Draft report/public meeting: July 2014
- Final report: September 2014

Funding/Staffing breakdown:

Funding Source	Amount	CCC Staffing	
FHWA/MassDOT	\$72,500	24 person-weeks	
FTA (5303)	\$9,421	3 person-weeks	
CCC	\$2,355	0.8 person-weeks	

TASK 3.2 – TRANSPORTATION SAFETY (TOP 50 LOCATIONS)

Objectives: To compile a list of the top fifty (50) crash locations on Cape Cod. This list will assist in evaluating safety improvements in the upcoming Cape Cod Regional Transportation Plan and providing guidance in selecting the UPWP FFY 2015 safety locations for further study. To evaluate safety problems and develop plans to improve safety at specific locations as appropriate.



Previous Work:

- Barnstable County High Crash Locations (2012 update of 2010 report)
- Wellfleet Route 6 Safety Study (2012)
- Traffic Calming Techniques (2011)
- 2011 Transportation Safety Reports/Road Safety Audits:
 - o Brewster Route 124 and Tubman Road intersection
 - Falmouth Sandwich Road: Carriage Shop Road to Hatchville Road
 - Yarmouth Union Street/Station Avenue at Route 6 Ramps
- 2009 Transportation Safety Report:
 - o Eastham Rotary
 - o Truro Central School Zone
 - Provincetown Route 6/Shank Painter Road
- 2008 safety evaluation studies at Route 6/Brackett Road in Eastham and the two intersections on Route 130 in Sandwich formed by the Route 6 ramps at interchange
- 2006 safety evaluation studies at the Otis Rotary in Bourne, Route 137/39 intersection in Harwich and Route 6A/28 in Orleans, three high crash locations identified in 2003 Cape Cod Regional Transportation Plan.
- Geo-located available crash data to the extent feasible. Conducted outreach to local and state police to improve crash data reporting

Procedures:

Using that latest available three years of crash data from the Massachusetts Registry of Motor Vehicles, develop a top fifty ranking of crashes for Barnstable County. Rankings will be based on frequency, severity (Equivalent Property Damage Only – EPDO), and rates (per million entering vehicles).

Analyses of specific locations will also be included as appropriate. These may include locations being considered for Highway Safety Improvement Program funding, Roadway Safety Audits, or have been identified through the Cape Cod Commission's public participation process.

- Review of causal factors of crashes at each location.
- Review of roadway/intersection geometry.
- Identification of deficiencies and alternatives to improve safety.



- Review of local and state police reporting practices.
- Identification of ways to improve accuracy, consistency and timeliness of information
- Assistance in the implementation of improved practices.
- Consultation & coordination with appropriate agencies regarding environmental mitigation.
- Use of visualization techniques including GIS data layers showing land use and sensitive environmental areas.

Products: Results will be published in a written report to be made available online at www.capecodcommission.org in addition to printed copies for interested parties. Other study materials will be produced and made available via internet, mailings, public meetings etc. including maps and charts, handouts and flyers.

Reports and memoranda published to include analyses and recommendations for improvements at other safety problem locations as appropriate.

Schedule: Ongoing throughout the year

Funding/Staffing breakdown:

Funding source	Amount	CCC staffing	
FHWA/MassDOT FTA (5303)	\$37,500 \$4,873	12.5 person-weeks 1.6 person-week	
CCC	\$1,218	0.4 person-weeks	

TASK 3.3 – REALIGNMENT OF THE CLAIRE SALTONSTALL MEMORIAL BIKEWAY

Objective: To designate a safe and convenient route for the Cape Cod portion of the Claire Saltonstall Memorial Bikeway (also known as "State Bicycle Route 1," or "Boston to Cape Cod Bikeway") by revising and



improving the existing route where needed. This project would contribute to and support MassDOT's goals under the Green DOT initiative to review and revise the route.

Background: The Massachusetts General Court established the Claire Saltonstall Memorial Bikeway in 1978 (as a memorial to Claire Saltonstall, daughter of Senator William Saltonstall, who died in a bicycle accident in 1974). The route consists of a series of interconnected on-road segments and multi-use paths beginning in Boston and ending in Provincetown or Woods Hole. The Cape Cod section travels from the Plymouth County line to the Sagamore Bridge and divides into two spurs: (1) Sagamore Bridge to Woods Hole, and (2) Sagamore Bridge to Provincetown. In the 35 years since the bikeway's designation, the Cape's roads, development patterns, and bicycle accommodations have changed, but the originally designated route for the bikeway has not. Portions of the route travel along once rural roads that now carry considerably more traffic volumes. The Cape Cod Rail Trail provides a preferable option to shared roads for many cyclists, but the mapped Saltonstall route in some towns still travels along busy roads.

Bicycling from Boston to Cape Cod is popular activity that draws tourists and local residents onto the bikeway as they explore the region on bicycle. It is important for their safety that the signed and designated route be updated to travel along the safest roads and bicycle paths.

Previous Work:

- Bicycle/Pedestrian LOS Study
- Route 6A Corridor Management Plan
- Pedestrian and Bicycling sections of Regional Transportation
- Transit bicycle facilities map and signage project
- Bicycle route/transit route connectivity project (in progress)
- Technical support for town-based bicycle routing
- MassGIS state-wide bicycle maps for the Cape Cod region
- The Harwich Bike Planning 2010
- The Cape Cod National Seashore Integrated Bicycle Plan, 2010

Procedures:

- Review previous studies/reports and maps
- Review traffic counts and assess route conditions
- Coordinate with local planning officials to identify bicycling connections and integration of local bicycle/pedestrian networks



Coordinate with MassDOT on its statewide bicycle planning program

Products:

- Mapping of proposed changes to Claire Saltonstall Bikeway:
 - o From Plymouth County line to Sagamore Bridge
 - From Sagamore Bridge to Woods Hole
 - o From Sagamore Bridge to Provincetown
- Draft & Final reports

Schedule: October 2013 to September 2014

Funding/Staffing breakdown:

FHWA/MassDOT \$25,000 8.5 person-wee	Funding source	Amount	CCC staffing	
FTA (5303) \$3,429 1 person-week		. ,	8.5 person-weeks 1 person-week 0.3 person-week	

TASK 3.4 – CLIMATE CHANGE MITIGATION & ADAPTATION STRATEGY FOR CRITICAL TRANSPORTATION INFRASTRUCTURE

Objective: To develop mitigation and adaptation strategies for vulnerable transportation infrastructure assets identified as part of UPWP FFY13 Task 2.5 – Climate Change Risk and Vulnerability Assessment of Transportation Infrastructure. Assets identified as most critical will be prioritized for risk reduction strategies that occur in two timeframes; opportunistic and proactive.

Opportunistic adaptation strategies will include measures that enhance resiliency and reduce risk to the asset from future climate stressors. These measures can be implemented through scheduled or necessary planning, maintenance or repair of the asset. Proactive adaptation measures will be implemented before scheduled planning, maintenance and repair in order to prevent impacts from climate stressors from occurring. Opportunistic measures may include enhancing maintenance operations, or retrofitting roads with pervious asphalt during scheduled



maintenance periods. Proactive measures could include overlaying existing roads with more durable materials, and/or abandoning roads before the end of their expected life. Both opportunistic and proactive measures will include consideration of "green" infrastructure improvement opportunities that build upon previous UPWP Tasks (UPWP FFY13, Task 3.5) and on-going regional green infrastructure planning efforts.

Previous Work: This Scope of Work is proposed as an extension of UPWP FFY13, *Task 2.5 – Climate Change Risk and Vulnerability Assessment of Transportation Infrastructure.* This project utilized FHWA's conceptual risk model to produce a baseline risk and vulnerability assessment of critical transportation infrastructure in the region.

Procedures: CCC staff will develop a priority ranking scheme for critical assets identified as vulnerable during UPWP FFY12, *Task 2.5 – Climate Change Risk and Vulnerability Assessment of Transportation Infrastructure.* Appropriate mitigation and/or adaptation strategies to reduce risk to the asset will be vetted with regional experts. CCC Staff will then facilitate a series of public workshops to prioritize recommendations for implementing the elements of the mitigation/adaptation strategy.

Products: The deliverable for this effort will include a climate change mitigation and adaptation strategy that may be incorporated into regional transportation planning and implementation efforts, such as the Regional Transportation Plan (RTP), and the Transportation Improvement Program (TIP).

Schedule: Continuous throughout the year

Funding/Staffing breakdown:

Funding Source	Amount	CCC Staffing	
S		· ·	
FHWA/MassDOT	\$43,750	14.5 person-weeks	
FTA (5303)	\$5,685	2 person-weeks	
CCC	\$1,421	0.5 person-week	



TASK 3.5 – FOLLOW-UP ON PREVIOUS TRANSPORTATION PLANNING STUDIES

Objectives: To allow for completion of and/or follow-up work on special transportation studies of prior UPWPs

Previous Work:

- Hyannis Access Study Implementation.
- Canal Area Data Collection and Analysis

Products:

- Hyannis Access Study Implementation Final Report
- 2012 Regional Transportation Plan outreach documents (summaries, mapping of projects)

Schedule: As needed

Funding/Staffing breakdown:

Funding source	Amount	CCC staffing	
FHWA/MassDOT	\$ 18,750	6.5 person-weeks	
FTA (5303) CCC	\$2,436 \$609	0.8 person-weeks 0.2 person-weeks	



Task #4 - Other Technical Activities

ITEM CODE 41.17.00

TASK 4.1 – INTERMODAL COORDINATION, INTELLIGENT TRANSPORTATION SYSTEMS (ITS), AND TRAVEL SMART INITIATIVES

Objectives: To promote the most efficient, cost-effective and environmentally sound use of our transportation system, covering all modes of transportation. To advance the development of Transportation Management Center on Cape Cod. To work with state agencies in the advancement of Intelligent Transportation System initiatives for Cape Cod, including further development of ITS for the region. To assist in the advancement of improved rail, bus, and water transportation, including passengers and freight to/from and within the Cape Cod region. To enhance the integration and connectivity of the transportation system, across and between modes, for people and freight. To promote efficient system operation and management.

Previous Work:

- Assistance to the Cape Cod Transit Task Force and the Cape Cod Regional Transit Authority
- Development and continued participation in the promotion of the Flex Route bus service for the Outer Cape
- Marine Transportation Feasibility Study, 1998
- Intermodal and congestion management systems efforts
- Assistance in ITS efforts on Cape Cod. Participation in Farradyne Systems study, 1995
- Transportation website: www.gocapecod.org
- Assistance to the Cape Cod Chamber of Commerce with the development of the "Smart Guide"
- Development of the Five-year and Long-range Public Transportation Plans for Cape Cod



- Development of the Public/Private Partners Program
- ITS Existing Conditions Report, 2010

Procedures:

- Assistance to the Cape Cod Transit Task Force and the Cape Cod Regional Transit Authority
- Assistance to the Massachusetts Department of Transportation with the development of ITS for Cape Cod – efforts to include outreach to stakeholders, attendance at meetings, review of documents and other assistance
- Development of specific ITS criteria, goals and priorities consistent with the Cape Cod Regional Transportation Plan
- Evaluation and integration of under-utilized sources of transportation information, including the Cape Cod Regional Transit Authority automated vehicle locator and the Route 132 closed loop signal system
- Advancement of 511 Traveler Information System and other realtime transportation information systems
- Support for MassRides' initiatives

Products: Evaluation of CCRTA transit routes; letters and memoranda as required; continued identification and development of congestion and intermodal management strategies; updated and expanded website of transportation information, reports and memoranda as required. Several possible products include:

- Traveler information via Internet
- Promotion of transportation alternatives
- ITS plans for Cape Cod Canal Area, including real-time traveler information
- ITS plans for Hyannis area
- Summary reports of updates to CMS database
- Technical memoranda reporting analyses of travel patterns and traffic condition prediction methodology
- ITS coordination with other regions

Schedule: Continuous throughout the year



Funding/Staffing breakdown:

Funding source	Amount	CCC staffing	
ELIMA /MasaDOT	6 19 500	4	
FHWA/MassDOT FTA (5303)	\$ 12,500 \$ 34,218	4 person-weeks 11.5 person-weeks	
CCC	\$ 8,555	3 person-weeks	

TASK 4.2 - OTHER TECHNICAL ASSISTANCE REQUESTS

Objectives: To provide the state, the towns, and the region with technical transportation assistance, as needed

Previous Work:

- Preparation of signal warrant analyses, review of local transportation improvement alternatives, preparation of local safety studies
- Wellfleet Fire Station access/egress recommendations, 2007
- West Chatham Route 28 Improvements, 2008
- Traffic Calming Techniques identified for local roads in Truro (2011)

Procedures: Assist towns with infrastructure improvements including pedestrian, bicycle, transit rider shelter locations, roadway reconfigurations, corridor studies, etc. Potential locations include Route 28/Bearses Way in Barnstable (capacity and safety improvements), Shank Painter Road in Provincetown (corridor improvements), and Route 28 in Harwich (pedestrian, bicycle and transit improvements).

Products: Letters, reports, memoranda, and analyses

Schedule: Continuous throughout the year

Funding/Staffing breakdown:

Funding Source	Amount	CCC staffing	
FHWA/MassDOT	\$ 23,125	8 person-weeks	



Task #5 – Cape Cod Commission Transportation Planning and Regulatory Activities

TASK 5.1 – REVIEW AND COMMENT ON ENVIRONMENTAL NOTIFICATION FORMS, ENVIRONMENTAL IMPACT REPORTS, AND DEVELOPMENTS OF REGIONAL IMPACT

Objectives: The primary purpose of the CCC regulatory program is mitigation of transportation impacts in a manner that is consistent with Barnstable County's Regional Policy Plan. To ensure proper review and analysis of traffic impacts of major residential and commercial developments throughout the region. To provide such information to the CCC, MassDOT, EOEA-MEPA Unit, town officials, and other interested parties, as required. To recommend mitigation measures and work with interested parties in applying conditions to projects. To assist the Cape Cod Commission regulatory staff in the review of developments of regional impact. To assist the Massachusetts Highway Department/Public Private Development Unit (MassDOT - PPDU) in the implementation of mitigation strategies.

Previous Work: Previous work includes analysis, review, and comment on Environmental Notification Forms (ENFs), Environmental Impact Reports (EIRs), and Cape Cod Commission regulatory review.

Procedures:

- Review ENF, EIR, EIS, MIS and/or traffic analyses
- Compute trip generation estimates
- Review traffic counts on adjacent street network; conduct special traffic counts
- Perform preliminary site visit
- Compute LOS at site drive and area intersections, as necessary
- Attend MEPA site visit, if applicable
- Discuss project with interested parties
- Identification of appropriate mitigation measures



- Review mitigation measures for compliance and consistency with the Regional Policy Plan
- Written and oral comments and testimony to the Cape Cod Commission, MassDOT District 5, MEPA, the towns, and other interested organizations as required
- Coordinate mitigation with MassDOT-PPDU

Products:

- Discussions with MEPA, MassDOT, project proponents, and town officials – provide written comments
- Testimony at DRI and other meetings as required
- Advancement of measures to mitigate traffic impacts
- Analysis and recommendation on transportation improvements necessary to mitigate impacts

Schedule: As required to meet CCC, MEPA, MassDOT, and local deadlines

Funding/Staffing breakdown: Support of this effort will be provided by the CCC. Below is the funding/staffing breakdown:

Funding Source	Amount	CCC Staffing	
CCC	\$ 69,703	23 person-weeks	

TASK 5.2 – ASSIST COMMUNITIES AND THE REGION IN THE DEVELOPMENT AND IMPLEMENTATION OF LOCAL COMPREHENSIVE PLANS (LCPS), DISTRICTS OF CRITICAL PLANNING CONCERN (DCPCS), AND ECONOMIC DEVELOPMENT IN DESIGNATED GROWTH CENTERS

Objectives: To provide technical assistance in the development and implementation of LCPs and DCPCs, Growth Incentive Zones, Economic Centers, village center planning, and other CCC funded transportation efforts



Previous work:

- Regional Policy Plan updates
- Past assistance in the development of LCPs in various Cape Cod towns

Procedures: Advisory and analytical assistance

Products: Testimony, letters, LCPs, DCPCs, and Technical Memoranda as required

Schedule: As established by the Cape Cod Commission and the Towns and legislated requirements

Funding/staffing breakdown:

Funding Source	Amount	CCC Staffing	
		_	
CCC	\$ 25,685	8.5 person-weeks	

TASK 5.3 – OTHER TRANSPORTATION ACTIVITIES

Objectives: To perform other transportation activities and transportation program management

Previous Work: Past transportation program management

Procedures: Flexible

Products: Viable transportation planning program

Schedule: Continuous throughout the year

Funding/Staffing breakdown:

Funding Source	Amount	CCC staffing	
	A 40 704	40	
CCC	\$ 48,701	16 person-weeks	



Appendix A – Additional Planning Efforts

The following projects are funded from outside sources (primarily from grants) and are shown for informational purposes.

APPENDIX A.1 – PROVINCETOWN/TRURO/WELLFLEET BICYCLE MASTER PLAN

Objective: Develop a master plan for a network of bicycle routes in Provincetown, Truro and Wellfleet and an extension of the Cape Cod Rail Trail (CCRT) from South Wellfleet. The three towns are ideally situated for constructing this network because they are adjacent to existing trails in the National Seashore and the CCRT.

Previous Work:

- Integrated Bicycle Plan for Cape Cod, 2010
- Adoption of project scope by the Towns of Provincetown and Truro
- Rail Trail Extension Study, 1988

Procedures: Per CCNS Grant Application

Budget: \$381,680

Schedule: Work would be completed by October 31, 2014. (50% in FFY

2014)



APPENDIX A.2 - CAPE COD TRANSPORTATION SUSTAINABILITY ASSESSMENT – FHWA INVEST IMPLEMENTATION PROJECT

BACKGROUND

Transportation projects and programs serve many different, and sometimes competing, objectives. "Sustainability" is a concept that enables decision-makers to make balanced choices around these objectives. The three principles of the "triple bottom line" upon which sustainability is based—social, economic, and environmental—capture the broad range of transportation goals and objectives. In times of diminishing economic and natural resources, using sustainable approaches in transportation infrastructure will help us to continue to enhance quality of life and serve the transportation needs of the present without compromising the ability of future generations to meet their needs.

INVEST (Infrastructure Voluntary Evaluation Sustainability Tool) was developed by FHWA (Federal Highway Administration) as a practical, web-based, collection of voluntary best practices, called criteria, designed to help transportation agencies integrate sustainability into their programs (policies, processes, procedures and practices) and projects. While the use of INVEST is voluntary, it can be used by transportation agencies, such as DOTs, MPOs, Council of Governments, public works departments, and their consultants and partners, to evaluate and aid the integration of sustainability into their programs and projects. (www.sustainablehighways.org)

As part of the development of INVEST, FHWA sought to partner with transportation agencies across the country to utilize INVEST 1.0 as part of their efforts to improve the sustainability of their programs and projects. The Cape Cod Commission responded to this request and was selected by FHWA to conduct an INVEST implementation project.

As part of the implementation project, the Commission will utilize INVEST to both inform the Metropolitan Planning Organization's (MPO) long range transportation plan (System Planning module) and to assess and improve the sustainability of specific transportation projects under



development (Project Development module). The System Planning module will be used to evaluate the sustainability aspects of the Regional Transportation Plan (RTP) and to identify the strengths and weaknesses of the document in advance of the next planned update. The Project Development module will be used to evaluate and guide the decision-making process as the large-scale transportation improvements (\$50+ million) considered from the Hyannis Access Study Implementation are further developed and designed.

Lessons learned through this implementation project will be summarized in a final report that will aide FHWA in refining INVEST.

TASK 1 – SYSTEM PLANNING MODULE (RTP REVIEW)

A multi-disciplinary team of Commission staff will be identified to work on the implementation of system planning module of INVEST to ensure that diverse viewpoints are represented.

To begin Task 1, all members of the team will be asked to review the RTP and individually identify the greatest strengths and weakness of the RTP in terms of sustainability.

The team will then come together and utilize INVEST to systematically analyze the RTP. INVEST will allow for a more in-depth consideration of how well all aspects of sustainability are incorporated into the document and result in an improved understanding the strengths and weakness of the document. A set of recommendation for improvements to the RTP will be drafted as a result of the analysis exercise.

All members of the team will once again be asked to identify the greatest strengths and weakness of the RTP at the conclusion of Task 1 to assess the impact of the use of INVEST on their perception of the planning document.

DELIVERABLES

The Final Report will document the following elements of Task 1:



Summary of strength and weakness of the RTP in terms of sustainability; and

Recommended sustainability improvements to the RTP.

TASK 2 – PROJECT DEVELOPMENT MODULE (HYANNIS ACCESS STUDY PROJECT)

Commission staff members with a variety of backgrounds worked on the Hyannis Access Study and will be brought into the INVEST project development analysis process.

To begin Task 2, all members of the team will be asked to review the preferred alternative of the Hyannis Access Study and individually identify the greatest strengths and weakness of the alternative in terms of sustainability.

The team will then come together and utilize INVEST to systematically analyze the recommended alternative of the Hyannis Access Study. The result of the initiative will be an improved design element to be incorporated into the project that will result in improved social, economic, and environmental outcomes of the for the Hyannis area and beyond. A set of recommendation for improvements to the preferred alternative will be drafted as a result of the analysis exercise.

All members of the team will once again be asked to identify the greatest strengths and weakness of the preferred alternative at the conclusion of Task 2 to assess the impact of the use of INVEST on their perception of the preferred alternative.



DELIVERABLES

The Final Report will document the following elements of Task 1:

Summary of strength and weakness of the Hyannis Access Study recommended alternative in terms of sustainability; and Recommended sustainability improvements to the Hyannis Access Study recommended alternative.

TASK 3 – SUMMARY OF LESSONS LEARNED

In order to assist FHWA in refining INVEST, Commission staff will document lessons learned during implementation of the system planning and project development modules of INVEST. The lessons learned will also provide guidance to other organizations to allow them to effectively utilize INVEST to improve the sustainability elements of transportation plans and improvement projects.

DELIVERABLES

The Final Report will document lessons learned from implementation of the system planning and project development modules of INVEST.

PRODUCTS

Results will be published in a written report to be made available online at www.capecodcommission.org in addition to printed copies for interested parties. FHWA will receive copies of the written report as required by the solicitation.



SCHEDULE & LEVEL OF EFFORT

The schedule for this effort allows for a final completion by Summer 2014. Milestones include coordination meetings with the Cape Cod Joint Transportation Committee (or designated subcommittee thereof).

- Complete INVEST Assessment: Fall 2013
- Complete Improvement Identification: Winter 2013-2014
- INVEST Implementation Lessons Learned Documentation: Spring 2014
- Final Written Report and Presentations: Summer 2014

FUNDING/STAFFING BREAKDOWN:

Funding source	Amount	CCC staffing	
FHWA Grant	\$ 15,000	4.9 person-weeks	
CCC	\$ 15,000	4.9 person-weeks	

NOTE:

It is expected that work on this project will span FFY 2013-FFY 2014.



FEDERAL FISCAL 2014 SPR AND PL FORMULA ALLOCATION

Federal Fiscal 2014 SPR and PL Formula Allocation

based on revised MARPA formula as of 3/18/2013

http://www.fhwa.dot.gov/legsregs/directives/

FFY13 apportionment - as derived from the FHWA web site above \$8,704,810 of 4/24/13

MPO (PL-Funded)		<u>%</u>	FFY13 apportionment 95.9% OA	FHWA Funds	NFA Funds	TOTAL FFY2014
Berkshire	YR 2	0.04610364	\$384,869	\$384,869	\$96,217	\$481,086
Boston (CTPS) (MAPC)	YR 2 YR 2	0.34173965	\$2,310,778 \$542,034	\$2,310,778 \$542,034	\$577,695 \$135,509	\$2,888,473 \$677,543
Cape Cod	YR 2	0.06040797	\$504,280	\$504,280	\$126,070	\$630,351
Central Mass.	YR3	0.09532586	\$795,772	\$795,772	\$198,943	\$994,715
Merrimack Valley	YR 2	0.07186451	\$599,919	\$599,919	\$149,980	\$749,898
Montachusett	YR3	0.05463381	\$456,078	\$456,078	\$114,020	\$570,098
Northern Middlesex	YR 2	0.06704058	\$559,649	\$559,649	\$139,912	\$699,561
Old Colony	YR3	0.07036820	\$587,428	\$587,428	\$146,857	\$734,285
Pioneer Valley	YR 2	0.09817868	\$819,587	\$819,587	\$204,897	\$1,024,484
Southeastern Mass.	YR3	0.09433711	\$787,518	\$787,518	\$196,879	\$984,397
TOTAL		1.00000000	\$8,347,913 \$8,347,913	\$8,347,913	\$2,086,978	\$10,434,891
RPAs (SPR-Funded	1)_	9.66% increase from FFY2013	SPR FFY2014 Funds			
Franklin	YR 2	\$36,852	\$418,508	\$418,508	\$104,627	\$523,135
Martha's Vineyard	YR 2	\$21,131	\$239,976	\$239,976	\$59,994	\$299,970
Nantucket	YR 1	\$17,975	\$204,130	\$204,130	\$51,032	\$255,162
TOTAL			\$862,614	\$862,614	\$215,654	\$1,078,268
	TOTAL (P	L and SPR funded)	\$9,210,527	\$9,210,527	\$2,302,632	\$11,513,159

The recommended PL Allocation Formula as developed by the Massachusetts Association of Regional Planning Agencies and recommended by MassDOT is based upon the following three factors. These factors result in the percentages shown.

- 40% of available funds are equally divided among the 10 MPOs.
- \bullet 30% is allocated based upon each MPO's relative share of Urbanized Population.
- 30% is allocated based upon each MPO's relative share of Total Population.



LIST OF STAFF AND ESTIMATED PERCENTAGE OF TIME ALLOCATED TO MASSDOT FUNDED (PL) TASKS IN THE 2013–2014 UPWP

Staff Name and Position	Percentage of Time			
Patty Daley, Deputy Director	5%			
Glenn Cannon, PE, Technical Services Director	85%			
Lev A. Malakhoff, Senior Transportation Engineer	85%			
Steven Tupper, Technical Services Analyst	50%			
Sharon Rooney, Chief Planner	5%			
Phil Dascombe, Senior Community Design Planner	5%			
Sarah Korjeff, Planner II (Historic Preservation Specialist)	5%			
Tabitha Harkin, Community Design Planner (Landscape Design Specialist)	30%			
Martha Hevenor, Planner II	30%			
Ryan Bennett, Planner II (Energy Specialist)	30%			
Cape Cod Commission – other Planning Staff	5%			
Cape Cod Commission GIS Staff	5%			
Seasonal Traffic Technicians	100%			

Seasonal Traffic Counting Technician(s) – approximately 10 person-weeks (100%)

FY2014 Funding Summary

		FHWA	MDOT	FTA	ccc	Other	Task Total
		PL funds	PL (match)	Sec 5303			
Task 1	Mgt & Support of the Planning Process						
	& Certification Activities						
	Unified Planning Work Program	\$12,000	\$3,000	\$1,951	\$488		\$17,438
	Transportation Improvement Program	\$30,500	\$7,625	\$4,958	\$1,239		\$44,322
	CCJTC and MPO activities/Public Participation Program	\$40,000	\$10,000	\$6,502	\$1,626		\$58,128
	Environmental Justice/Title 6	\$28,000	\$7,000	\$4,552	\$1,138		\$40,689
1.6	Regional Transportation Plan	\$32,000	\$8,000	\$5,202	\$1,300		\$46,502
	Total for Task 1	\$142,500	\$35,625	\$25,664	\$5,791		\$207,080
Task 2	Data Collection & analysis activities						
	Traffic Counting Program	\$50,000	\$12,500				\$62,500
	Performance Standards	\$9,000	\$2,250				\$11,250
2.3	Transportation database management	\$36,000	\$9,000				\$45,000
	Pavement Management (Tribal Lands)	\$38,000	\$9,500				\$47,500
	Geographic Information Systems	\$22,280	\$5,570				\$27,850
	Freight Usage & Analsyes	\$20,000	\$5,000				\$25,000
	Total for Task 2	\$175,280	\$43,820				\$219,100
	Short and long range planning	4					4
	Congestion Management (Rt 28 Hyannis-Centerville)	\$58,000	\$14,500	\$9,421	\$2,355		\$84,276
	Transportation Safety	\$30,000	\$7,500	\$4,873	\$1,218		\$43,591
	Realignment of Claire Saltonstall Bikeway	\$20,000	\$5,000	\$3,249	\$812		\$29,061
	Climate Change Planning	\$35,000	\$8,750	\$5,685	\$1,421		\$50,856
3.5	Follow up on Previous Studies	\$15,000	\$3,750	\$2,436	\$609		\$21,796
	Total for Task 3	\$158,000	\$39,500	\$25,664	\$6,416		\$229,580
T l . 4	Office And of the Lord Man						
1	Other technical activities	£40,000	\$0.500	#04.040	CO EEE	<u> </u>	ΦEE 070
	Intermodal Coordination & ITS Other Technical Assistance Requests	\$10,000	\$2,500	\$34,218	\$8,555	+	\$55,273
4.2	Other Technical Assistance Requests	\$18,500	\$4,625	#04.040	CO 555		\$23,125
	Total for Task 4	\$28,500	\$7,125	\$34,218	\$8,555		\$78,398
Task 5	CCC Planning and regulatory activities						
	Regulatory				\$69,703		
	Planning				\$25,685		
5.3	Other transportation activities				\$48,701		
	Total for Task 5				\$144,089		
A	Additional Discusion Effects						
	Additional Planning Efforts* Provincetown/Truro/Wellfleet Bicycle Master Plan			1		\$190,840	
	Cape Cod Transportation Sustainability Assessment -						
Δ ')	FHWA INVEST Implementation Project				\$15,000	\$15,000	
	Total for Additional Tasks				\$15,000	\$205,840	
	= 1	A =2.4.000	4400.000	405 540	A. = 0 = 1	4005.010	A=0.1.1=0
	Totals Key:	\$504,280	\$126,070	\$85,546	\$179,851	\$205,840	\$734,158
	nal Planning Efforts may span FFY 2013-FFY 2014 (total ef	fort is shown in	both UPWP F	Y2013 and UI	PWP FY2014 for	Informational Pu	urposes)
	MDOT = Massachusetts Department of Transportation						. ,
	FHWA = Federal Highway Administration						
	FTA = Federal Transit Administration						
	CCC= Cape Cod Commission						
	CCRTA = Cape Cod Regional Transit Authority						
	PL = Planning funds						
	Sec 5303 = Federal Transit Planning Funds						
	TRIP - Paul S. Sarbanes Transit in Parks Program						

FY2014 Funding Summary

		FHWA	MDOT	FTA	CCC	Other	Percent
Task 1	Mgt & Support of the Planning Process	PL funds	PL (match)	Sec 5303			
	& Certification Activities						
1.1	Unified Planning Work Program	\$12,000	\$3,000	\$1,951	\$488		2.4%
1.2	Transportation Improvement Program	\$30,500	\$7,625	\$4,958	\$1,239		6.0%
1.3	CCJTC and MPO activities/Public Participation Program	\$40,000	\$10,000	\$6,502	\$1,626		7.9%
1.4	Environmental Justice/Title 6	\$28,000	\$7,000	\$4,552	\$1,138		5.5%
1.5	Regional Transportation Plan	\$32,000	\$8,000	\$5,202	\$1,300		6.3%
	Total for Task 1	\$142,500	\$35,625	\$25,664	\$5,791		
Task 2	Data Collection & analysis activities						
2.1	Traffic Counting Program	\$50,000	\$12,500				8.5%
2.2	Performance Standards	\$9,000	\$2,250				1.5%
2.3	Transportation database management	\$36,000	\$9,000				6.1%
2.4	Pavement Management (Tribal Lands)	\$38,000	\$9,500				6.5%
2.5	Geographic Information Systems	\$22,280	\$5,570				3.8%
2.6	Freight Usage & Analsyes	\$20,000	\$5,000				3.4%
	Total for Task 2	\$175,280	\$43,820				
		* · · · · · · · · · · · · · · · · · · ·	¥ 10,0=0				
Task 3	Short and long range planning						
3.1	Congestion Management (Rt 28 Hyannis-Centerville)	\$58,000	\$14,500	\$9,421	\$2,355		11.5%
3.2	Transportation Safety	\$30,000	\$7,500	\$4,873	\$1,218		5.9%
3.3	Realignment of Claire Saltonstall Bikeway	\$20,000	\$5,000	\$3,249	\$812		4.0%
3.4	Climate Change Planning	\$35,000	\$8,750	\$5,685	\$1,421		6.9%
3.5	Follow up on Previous Studies	\$15,000	\$3,750	\$2,436	\$609		3.0%
	Total for Task 3	\$158,000	\$39,500	\$25,664	\$6,416		
Task 4	Other technical activities						
4.1	Intermodal Coordination & ITS	\$10,000	\$2,500	\$34,218	\$8,555		7.5%
4.2	Other Technical Assistance Requests	\$18,500	\$4,625				3.1%
	Total for Task 4	\$28,500	\$7,125	\$34,218	\$8,555		
Took 5	CCC Planning and regulatory activities						
5.1	Regulatory				\$69,703		
5.2	Planning				\$25,685		
5.3	Other transportation activities				\$48,701		
	Total for Task 5				\$144,089		
					•		
Аррх.	Additional Planning Efforts*						
	Provincetown/Truro/Wellfleet Bicycle Master Plan					\$190,840	
A.2	Cape Cod Transportation Sustainability Assessment - FHWA INVEST Implementation Project				\$15,000	\$15,000	
	Total for Additional Tasks				\$15,000	\$205,840	
	Percent Total				\$13,000	\$203,840	
	Totals	\$504,280	\$126,070	\$85,546	\$179,851	\$205,840	100%
	Key:	, ,	,,	,,	, -,	,,	
*Additic	onal Planning Efforts may span FFY 2013-FFY 2014						
	MDOT = Massachusetts Department of Transportation						
	FHWA = Federal Highway Administration						
	FTA = Federal Transit Administration						
	CCC= Cape Cod Commission						
	CCRTA = Cape Cod Regional Transit Authority						
	PL = Planning funds						
	Sec 5303 = Federal Transit Planning Funds						
	TRIP - Paul S. Sarbanes Transit in Parks Program						

