



CAPE COD  
COMMISSION

# Cape Cod Unified Planning Work Program Federal Fiscal Year 2018

*Public Review Draft: April 24, 2017*



Prepared by Cape Cod Commission staff on behalf of the Cape Cod Metropolitan Planning Organization and the Cape Cod Joint Transportation Committee

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 (MPO) expressed herein do not necessarily state or reflect those of the USDOT.

#### Title VI Notice of Nondiscrimination

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If this information is needed in another language, please contact the MPO's Title VI Coordinator by phone at (508)362-3828.

Caso estas informações sejam necessárias em outro idioma, por favor, contate o Coordenador de Título VI da MPO pelo telefone 508-744-1299.

The public discussion of the Unified Planning Work Program (UPWP) at CCJTC, MPO, and transportation meetings satisfies the Program of Projects (POP) public hearing requirements of the Federal Transit Administration (FTA).

Cape Cod Unified Planning Work Program (UPWP) prepared by the

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## **Cape Cod Metropolitan Planning Organization (MPO)**

*CAPE COD METROPOLITAN PLANNING ORGANIZATION (MPO)*

*Unified Planning Work Program (UPWP)*

*October 1, 2017 through September 30, 2018*

The signatures to follow certify that the Cape Cod Metropolitan Planning Organization (MPO), at their meeting on May 22, 2017, 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, 2017 through September 30, 2018.

[Signature Page to be Inserted]



## Executive Summary

The Cape Cod Metropolitan Planning Organization's (MPO) staff work plan, the Unified Planning Work Program (UPWP), lists planning activities anticipated to be performed by MPO staff over the next year.

The MPO is made up of eleven voting members with representatives of state agencies, regional organizations, and Cape Cod towns. Discussions at MPO meetings help select planning studies to be included in the UPWP. Members of the public are welcome and encouraged to attend these meetings and voice opinions.

### Contents of the Plan

The UPWP discusses coordination with the federal Fixing America's Surface Transportation (FAST) Act of 2015 and is organized by a series of tasks and corresponding sub-tasks. Each sub-task includes a scope of work with the following components:

- Objectives
- Previous Work
- Procedures
- Products
- Beneficiary Communities
- Schedule
- Funding Breakdown

### FY 2018 Tasks

UPWP tasks and sub-tasks are listed below along with the associated funding level for each task.

- Task #1 – Management and Support of the Planning Process and Certification Activities (\$211,823)
  - Task 1.1 - Unified Planning Work Program (Certification Activity)
  - Task 1.2 - Transportation Improvement Program (Certification Activity)
  - Task 1.3 - CCJTC and MPO Activities
  - Task 1.4 – Environmental Justice/Title VI
  - Task 1.5 – Public Participation Plan
  - Task 1.6 – Regional Transportation Plan

- Task #2 – Data Collection and Analysis Activities (\$207,500)
  - Task 2.1 – Cape Cod Traffic Data Collection Program
  - Task 2.2 – Performance Standards
  - Task 2.3 – Transportation Database Management
  - Task 2.4 – Pavement Management
  - Task 2.5 – Healthy Transportation
  - Task 2.6 – Geographic Information System
- Task #3 – Short- And Long-Range Transportation Planning (\$209,500)
  - Task 3.1 – Route 6 Interchanges
  - Task 3.2 – Transportation Safety
  - Task 3.3 – Bike Planning
  - Task 3.4 – Planning Resilient Transportation Infrastructure
  - Task 3.5 – Follow-Up on Previous Transportation Planning Studies
- Task #4 – Other Technical Activities (\$111,809)
  - Task 4.1 – Transit Planning
  - Task 4.2 – Support for Passenger Rail Service
  - Task 4.3 – Sidewalk Accessibility to Transit Stops
  - Task 4.4 – Other Technical Assistance Requests

The UPWP also includes other transportation planning activities such as those directly funded by the Cape Cod Commission and the Cape Cod Canal Transportation Study currently underway by MassDOT. Finally, the UPWP includes a detailed breakdown of funding source and dollar amount for each sub-task.

### **How to get involved**

The Cape Cod MPO voted to release the draft UPWP for the public review/ comment period at their 1:00 PM meeting on April 24, 2017, officially beginning the 21-day public comment period. The MPO is expected to consider endorsement of the UPWP at their 1:00 PM meeting on May 22, 2017. All MPO meetings are held at the Cape Cod Commission Office at 3225 Main Street (Route 6A) Barnstable MA 02630. Transit service is available on the Cape Cod Regional Transit Authority's Barnstable Villager Route (the Barnstable Village-Courthouse stop).

Comments on this plan may be sent by May 15, 2017 via mail, hand delivered, by facsimile, or via e-mail, as follows:

Mailed or dropped off:

Cape Cod Commission Transportation Program



*Cape Cod Unified Planning Work Program for FFY 2018*

Glenn Cannon, Technical Services Director

3225 Main Street (Route 6A)

PO Box 226

Barnstable MA 02630-0226

Sent by facsimile to the attention of Glenn Cannon, Technical Services Director, CCC:

FAX: 508-362-3136

Electronic mail "email"—please put "UPWP" in the subject line and send to:

[gcannon@capecodcommission.org](mailto:gcannon@capecodcommission.org)



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## **Introduction**

The 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 the federal Fixing America's Surface Transportation (FAST) Act of 2015. The UPWP describes all significant transportation planning activities for Cape Cod over the twelve (12) month period of October 2016 to September 2017, 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 – 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.

Appendices – includes transportation planning efforts that are being performed outside of the MPO budget process (e.g., Cape Cod transportation planning studies being performed by the state). The Appendices also include funding information, summary of comments, and a checklist of UPWP elements.

Federal and state guidance recommend that at least 1/3 of PL funds are used on tasks that result in tangible products. Every task in the UPWP results in a report or includes documentation available to stakeholders including the public. The subtasks of the UPWP most directly leading to transportation improvement projects are those included in Task 3 (Short- and Long-Range Transportation Planning) and subtask 2.5 (Healthy Transportation). Together these efforts are funded to the level of \$247 thousand out of a total PL program of \$651,948, corresponding to a 38% level of effort.

### 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 ten federal transportation 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: “Maintain, protect, and enhance the natural environment while strengthening the economy.” 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: “Provide safe travel options for all users.” Safety is of such importance that it is recognized in its major appendix of the RTP.

3. Increase the security of the transportation system for motorized and nonmotorized users

Goals of the RTP related to security include: “Provide safe travel options for all users” and “Preserve, maintain, and modernize the existing transportation system.” Security is of such importance that it is recognized in a major appendix 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 goals: “Provides a variety of healthy transportation options to all users” and “Improve efficiency and reliability of freight movement.” The RTP includes an appendix addressing freight issues.

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 directly supports this planning factor through two goals: “Maintain, protect, and enhance the natural environment while strengthening the economy” and “Support livable communities and village centers that strengthen the long-term sustainability of the region.” 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 an 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 goals: "Provides a variety of healthy transportation options to all users" and "Improve efficiency and reliability of freight movement." 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. The RTP includes an appendix addressing freight issues.

#### 7. Promote efficient system management and operation

The RTP supports this planning factor through two goals: "Reduce congestion and improve travel time reliability" and "Preserve, maintain, and modernize the existing transportation system." Relevant objectives from these goals include:

- Reduce delay for all modes
- Improve connectivity and reliability for all modes of transportation
- Minimize the impacts of construction delays on all users, particularly impacts of Cape Cod Canal Bridge maintenance
- Improve the condition of all state and municipally owned bridges
- Improve the pavement condition on all federal-aid eligible roadways
- Maintain and improve on and off road bicycle and pedestrian facilities
- Use modern technology to improve the efficiency of the transportation system
- Improve coordination and cooperation between agencies throughout all phases of project development and implementation for all improvement and maintenance projects

The RTP includes specific performance targets for each of the above objectives.

#### 8. Emphasize the preservation of the existing transportation system



The RTP supports this planning factor through the goal: “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.

9. Improve the resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation.

The RTP includes a key effort to integrate resiliency into transportation planning. Goals within this effort include:

- Identify critical transportation infrastructure on Cape Cod
- Identify transportation infrastructure vulnerable to the impacts of sea level rise
- Improve vulnerability and risk assessment practices for planners and town officials
- Formulate effective adaptation strategies for Cape Cod
- Foster local support and input on climate change vulnerability assessments

Additionally, the RTP includes a section on stormwater management including a set of “best management practices” that have applicability to the Cape’s roadways.

10. Enhance travel and tourism

For many years, tourism has been a major component of the Cape’s economy. As such, an RTP section on scenario planning includes tourism as the Cape’s future transportation needs are being identified.

### Staff Development

Throughout the year staff will be provided with opportunities for professional development in support of the various UPWP tasks. For example, to attend a workshop that focuses on reducing crashes at hazardous intersections the workshop fee and staff time will be billed to the UPWP task related to safety.

**UPWP Amendment/Administrative Adjustment Procedures**

Below are general guidelines regarding the conditions that constitute an administrative adjustment or amendment to the Unified Planning Work Program (UPWP). All proposed administrative adjustments and amendments must be presented to the MPO for consultation prior to endorsement. Both adjustments and amendments must be voted on by the MPO members and amendments must be released for 30-Day public comment period prior to endorsement.

| <b>UPWP Administrative Adjustment</b>  | <b>UPWP Amendment</b>   |
|--|---|
| Reallocation of budget funds   | Addition or Removal of UPWP task(s)   |
| Change in start/completion dates within the originally intended federal fiscal year(s) | Change in start/completion dates, outside of originally intended federal fiscal year(s) |
| Adjustment to project scope  | Significant change in project scope, cost, and/or time allocation                       |

*Submission of Budget Reallocation Request:*

When submitting the standard Budget Reallocation Request form to MassDOT OTP, all fields must be filled out with clear indication that the MPO was consulted prior to submission. Back up documentation must be submitted, including the UPWP description of the task(s) affected, original budget, revised budget, and justification for request.

*Definition of Significant Change:*

A change to a project scope, budget, and/or project schedule is considered significant when it alters the original intent of the project or intended conclusions of the project.

## **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 federal transportation planning regulations, and to obtain MPO endorsement of the UPWP. To prepare progress reports, as needed.

Previous Work: Previous UPWPs (most recent MPO-endorsed FY 2017 UPWP; endorsement of FY 2018 UPWP expected May 2017)

Procedures: In conformance with applicable Federal and State guide-lines, 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, 2018 to September 30, 2019. 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 FFY 2019 UPWP anticipated submission to MPO and CCJTC, June 2018
- Final FFY 2019 UPWP anticipated submission to MPO, July 2018
- Monthly progress reports
- Annual Report

Beneficiary Communities: All

| <u>Funding Source</u> | <u>Amount</u> |
|-----------------------|---------------|
| FHWA/MassDOT          | \$31,359      |

## TASK 1.2 - TRANSPORTATION IMPROVEMENT PROGRAM (CERTIFICATION ACTIVITY)

Objectives: To prepare a program of transportation improvement projects that is consistent with the federal Fixing America's Surface Transportation (FAST) Act of 2015, 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 five-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 FFY 2017-2021 (endorsed June 2016)
- FFY 2018-2022 TIP (endorsement expected May 2017)

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 create a schedule of TIP development.

### **TIP Development Process:**

The Cape Cod Transportation Improvement Program (TIP) is a listing of federal aid eligible transportation projects for Cape Cod prepared under the direction of the Cape Cod Metropolitan Planning Organization (MPO). The plan is prepared by the Cape Cod Commission (CCC) transportation staff, the Cape Cod Regional Transit Authority (CCRTA) staff, Massachusetts Department of Transportation (MassDOT) staff, and the Cape Cod Joint Transportation Committee (CCJTC) with input from the public and in cooperation with multiple state and federal agencies.

The TIP is developed based on a vision defined in the Cape Cod Regional Transportation Plan (RTP) and includes the transportation projects proposed for implementation in the next five years. Each year of the TIP must be financially constrained; anticipated project costs cannot exceed available funding. The TIP must

conform to a host of federal and state requirements and polices including air quality and equity programs.

The inclusion of a project in the TIP is one step on the path towards construction. Inclusion on this list does not guarantee funding; the project proponent is responsible for completing the steps toward implementation within the program. For a highway project, the obligation of the federal and state funds occurs when the project is advertised for construction by MassDOT. For a transit project, the obligation of the funding is through an electronic approval system by FTA.

### Development Schedule

The Cape Cod MPO process follows an annual schedule for development of the Transportation Improvement Program (TIP) to be compatible with the development schedule of the State Transportation Improvement Program (STIP), as is required under 23 CFR 450.324. The STIP includes projects lists in the Cape Cod TIP, projects listed in the TIP from other planning regions, and projects that span multiple planning regions. The Cape Cod TIP is generally endorsed by the Cape Cod MPO each June or July with the STIP being submitted for federal approvals prior to the beginning of the Federal Fiscal Year on October 1.

### Adjustment and Amendment Procedures

The Cape Cod Joint Transportation Committee recommends inclusion in the statewide program of the projects as programmed in this TIP for Cape Cod, with regional consensus and endorsement by the Cape Cod MPO. Projects that are in the first years of the TIP, which have designs completed or well underway, have public support in addition to the regional support.

### Administrative Adjustment Process

In the event a project in the annual element, or current Federal Fiscal Year, is not proceeding in the programmed year, the substitution of another project from the outer years of the TIP for implementation in the current year is considered by the Cape Cod MPO to be an administrative adjustment provided that the following conditions are true:

- Financial constraint of the TIP is maintained.
- The project must be an exempt project, conformity determination not required.
- A letter requesting the administrative adjustment is forwarded to the Director of the MassDOT Office of Transportation Planning to reflect the adjustment in the STIP.
- Administrative Adjustments to the TIP shall be included within the next MPO agenda. Administrative Adjustments do not require public comment periods.

Other changes that are allowed as administrative modifications include project name, scope, and/or cost estimate changes, as long as those changes are considered to be minor in nature. For example, a project cost increase within 10% of the existing amount programmed already, may be considered an administrative adjustment.

### Amendment Process

In order for implementation of projects to proceed in the current year, a previously unlisted project may be amended into the TIP. An action to add a new project or remove an existing project is considered by the Cape Cod MPO to be an amendment if the following conditions are true:

- Consensus in the region for this project to be included and move forward.
- Financial constraint of the TIP is maintained.
- A Cape Cod MPO meeting to endorse the amendment(s).
- Conformity determination is required unless the amendment(s) consist(s) entirely of exempt projects.
- An outer year TIP project or a Non-Federal Aid project is not considered a new project and may be an Administrative Adjustment—see above Administrative Adjustment Process.

### Public Participation Process

Pursuant to Federal Highway Administration 23 CFR Part 450 and Federal Transit Administration 49 CFR, the Cape Cod Transportation Improvement Program (TIP) was developed locally, and is based on the latest Regional Transportation Plan (RTP).

The development of the TIP occurs in public meeting of the CCJTC and the Cape Cod MPO. Presentations on potential new projects typically occur in the fall. Discussions of the scoring of potential projects and development of a potential program of projects occurs in the winter and spring. In addition to discussion at CCJTC and Cape MPO public meetings, CCC staff makes efforts to reach out directly to members of the public interested in development of the TIP.

CCC staff maintains an electronic mailing list of persons interested in transportation issues in the region. Notice of the public meetings where discussion of draft TIP documents is to occur is emailed at least seven days in advance. Upon approval by the MPO, a public draft of the TIP is made available for public comment for a period of at least 30 days. Public comments may be made in person or via email, telephone, fax, or regular mail.

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

- Presentations of potential new projects to the CCJTC/CCMPO [*Fall 2016*]
- Scoring of potential projects; development of potential program of projects [*Winter/Spring 2017-2018*]
- Release of public comment draft TIP [*May 2018*]
- Final draft TIP [*June 2018*]
- Administrative Adjustments/Amendments [*as-needed*]

Beneficiary Communities: All

| <u>Funding source</u> | <u>Amount</u> |
|-----------------------|---------------|
| FHWA/MassDOT          | \$38,750      |

### TASK 1.3 - CCJTC AND MPO ACTIVITIES

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

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 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 outreach
- 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

Beneficiary Communities: All

| <u>Funding Source</u> | <u>Amount</u> |
|-----------------------|---------------|
| FHWA/MassDOT          | \$57,964      |



## TASK 1.4 – ENVIRONMENTAL JUSTICE/TITLE VI

Objectives: To integrate Title VI nondiscrimination program requirements and principles of Environmental Justice into the 3C Transportation Planning Process. To develop and maintain a Title VI Civil Rights program for the Cape Cod MPO. To incorporate Title VI nondiscrimination requirements and Environmental Justice principles within each task as appropriate.

### Previous Work:

- Attendance at preliminary meetings with MassDOT and FHWA to discuss Title VI program requirements and receive guidance on ensuring compliance.
- Preparation of updates to the Cape Cod Regional Transportation Plan including information and strategies to ensure compliance with Title VI requirements Environmental Justice principles.
- 2014 Title VI Report

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

### Products:

- Title VI Civil Rights program for the Cape Cod MPO
- Updated demographic maps showing traditionally underserves and “at risk” populations.
- Enhanced outreach procedures to engage Title VI communities and other underserved populations to identify (with input from MassDOT) future projects.

Post implementation analysis of improvement project that address Title VI and underserved populations on Cape Cod.

Schedule: Ongoing procedures

Beneficiary Communities: All

| <u>Funding Source</u> | <u>Amount</u> |
|-----------------------|---------------|
| FHWA/MassDOT          | \$40,000      |

## TASK 1.5 – PUBLIC PARTICIPATION PLAN

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 cooperate with stakeholders in the development of the Public Transit Human Services Transportation Plan. To engage the Mashpee Wampanoag Tribe in transportation planning.

### Previous Work:

- Preparation of updates to the Cape Cod Regional Transportation Plan including information and strategies to ensure a viable public outreach process.
- Public Participation Plan (2015)
- Previous updates of the Public Participation Plan (PPP) (June 2007, Addendum in 2009)

### Procedures:

- Coordination with the Cape Cod Regional Transit Authority and MassDOT, as required.
- Research/discover additional tools to enhance public outreach.
- If necessary, MPO staff will draft and present a revised PPP to the MPO for potential endorsement.

### Products/Activities:

- UPWP projects with a public outreach requirement comply with the PPP.
- TIP public meetings that comply with the outreach and accessibility requirements of the PPP.
- Evaluations of the effectiveness of the procedures outlined in the PPP
- Revisions to the PPP, as necessary.

Schedule: Ongoing procedures

Beneficiary Communities: All

| <u>Funding Source</u> | <u>Amount</u> |
|-----------------------|---------------|
| FHWA/MassDOT          | \$16,250      |

## TASK 1.6 – REGIONAL TRANSPORTATION PLAN

(Certification Activity)

Objectives: To maintain and update the Regional Transportation Plan for Cape Cod providing greater integration of land use, transportation, and climate change data, in conformance with the federal Fixing America's Surface Transportation (FAST) Act of 2015 and consistent with the goals and requirements of the Cape Cod Commission, towns, the MassDOT, FTA, and the FHWA. Consider all modes of transportation and both short- and long-range elements. Expand public accessibility to RTP effort in accordance with the Commission's Title VI program.

Previous Work:

- Regional Policy Plan for Cape Cod, 2009
- Interagency Scenario Planning Pilot Project, 2011
- Living Streets Design Manual for Cape Cod, 2013
- UPWP FFY14 Climate Change Risk and Vulnerability Assessment of Transportation Infrastructure, November 2013
- UPWP FFY15 Climate Change Mitigation & Adaptation Strategy for Critical Transportation Infrastructure, under development 2014
- INVEST sustainable highways self-evaluation tool, 2014
- 2014 Title VI Report and Public Participation Plan
- 2014 GIS-based Infrastructure Vulnerability Tool
- 2014 Freight Study
- 2014 "Section 208 Area-Wide Water Quality Management Plan for Cape Cod"
- Regional Transportation Plans, most recently approved by MPO, July 2015

Procedures:

- Updates to the Regional Transportation Plan (RTP). Potential amendment to RTP in FY 2017 to include recommendations from MassDOT Cape Cod Canal Area Transportation Studies. Includes RTP conformity analyses 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 closely with MassDOT's Environmental Services section to ensure that any proposed projects have support and approval of MPO. Continue to develop partnerships and conduct outreach with community groups and the Mashpee Wampanoag Tribe.
- Continue to work with communities to identify Growth Incentive Zones and areas for higher Development of Regional Impact (DRI) thresholds designated through Chapter H of the Commission's regulations to promote research and development/light manufacturing, and identify appropriate transportation infrastructure to support these areas.
- Strengthen procedures to incorporate stormwater and nutrient management from transportation rights-of-way.

Continue to integrate Performance Standards into the RTP.

Products:

- Updates and amendments as necessary (e.g., amendment to include Cape Cod Canal Area transportation recommendations)
- Presentation materials, maps, website downloads for meetings and workshops

Schedule: Ongoing

Beneficiary Communities: All

| <u>Funding Source</u> | <u>Amount</u> |
|-----------------------|---------------|
| FHWA/MassDOT          | \$ 27,500     |

## **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, 1984–2016. Traffic counting reports and appendices (2016 versions most recently):

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

#### Procedures:

For the summer of 2018, over 200 automated traffic recorder (ATR) 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 2017. Report will contain information on study design, count location, date/time of peak-hour 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

*Cape Cod Unified Planning Work Program for FFY 2018*

- 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/counts>

Schedule: Report on counts taken in 2017 submitted January 2018

Beneficiary Communities: All

| <u>Funding Source</u> | <u>Amount</u> |
|-----------------------|---------------|
| FHWA/MassDOT          | \$40,000      |

## TASK 2.2 – PERFORMANCE STANDARDS

A key feature of federal Fixing America's Surface Transportation (FAST) Act of 2015 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 are identified in the following list:

### 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, including mitigation strategies for stormwater management and nutrient loading.

**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 federal transportation goals at the state level. To integrate Performance Standards into the RTP, Regional Policy Plan (RPP) update and Cape Cod Commission's "OGSM" (Objectives, Goals, Strategies and Measures) initiative.



Previous Work:

- 2014 “Section 208 Area-Wide Water Quality Management Plan for Cape Cod”
- Development of transportation databases for travel times, vehicle counts, crash records
- Geo-located Cape Cod crash database for 2004–2012
- 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, including the Mid-Cape Highway (Route 6).
- 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 seconds 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. Resulting performance standards will be further integrated into the Regional Transportation Plan (see also Task 1.6), the Commission’s Regional Policy Plan, and Objectives, Strategies, Goals and Measures initiative.

Products: Summary report of Cape Cod transportation performance standards

Schedule: Ongoing

Beneficiary Communities: All

| <u>Funding Source</u> | <u>Amount</u> |
|-----------------------|---------------|
| FHWA/MassDOT          | \$21,250      |

## TASK 2.3 – TRANSPORTATION DATABASE MANAGEMENT/MODELING

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 perform highway capacity analyses as needed. To continue to develop and calibrate computerized travel demand forecasting databases and models for Cape Cod. 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 2004–2013
- 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 public transportation used. 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

Beneficiary Communities: All

| <u>Funding Source</u> | <u>Amount</u> |
|-----------------------|---------------|
| FHWA/MassDOT          | \$33,750      |

**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. To collect other roadway attribute data as part of the pavement management system.

Previous Work:

- Pavement Management Status Reports (2011 - 2016). 2018 data collection includes approximately 200 “point” assessments collected during installation of automatic traffic recorder installation – outputs include updated databases and mapping. Corridor-based pavement assessments for 33% of the municipally-owned federal-aid roadway network – outputs include updated databases and mapping.
- Reviews of town-based pavement management efforts.
- 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 roadway conditions will be identified through observations made from motor vehicles. 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 continued.
- During the collection of pavement condition, technicians will record important roadway characteristics such as the availability and serviceability of sidewalks for either side of the roadway.

Products: Assessment of pavement management needs and inventory of other roadway attributes such as sidewalk availability and serviceability.

Schedule:

January-March 2018 Evaluation of existing data, coordination with communities, review of methodologies.

March-April 2018 Schedule & coordination of data collection

May-August 2018 Data Collection

September 2018 Status Report

Beneficiary Communities: All

| <u>Funding Source</u> | <u>Amount</u> |
|-----------------------|---------------|
|-----------------------|---------------|

|              |           |
|--------------|-----------|
| FHWA/MassDOT | \$ 37,500 |
|--------------|-----------|

## TASK 2.5 – HEALTHY TRANSPORTATION

Background: How we travel has a significant impact on public health. A transportation system can be harmful to our health. Yet health is typically not considered in transportation policy and planning, even though transportation is one of the social factors that influences people's health and the health of a community.

Opportunities abound to increase alternative transportation options that support walking and cycling, and improve health. The Cape Cod Metropolitan Planning Organization supports improved public health by taking the transportation system's effects on air quality, levels of physical activity, and safety into account in decision-making.

MassDOT's Healthy Transportation Policy Directive and Healthy Transportation Engineering Directive build upon our commitment to multi-modal accommodation, and help to guide support for walking and bicycling in our planning and project design.

As the Cape Cod Metropolitan Planning Organization promotes walking and bicycling as healthy, active travel choices, it is essential that we ensure the safety of pedestrians and bicyclists, who are most vulnerable to injuries from collisions. In April 2014, the MassDOT's Bicycle and Pedestrian Safety Awareness Campaign was launched to reduce the number of crashes involving pedestrians and bicyclists. The Commonwealth's Safe Routes to School program promotes healthy and safe travel for children going to and from school.

**Objectives:** In collaboration with the Barnstable County Department of Public Health, and the Barnstable County Affordable Housing Specialist, Cape Cod Metropolitan Planning Organization staff will conduct a Health Impact Assessment to determine neighborhoods on Cape Cod most in need of sidewalks, bike lanes and/or Shared Use Paths.

**Procedures:**

- Date Collection and Mapping
  - Staff will develop a GIS map showing schools, existing bicycle and pedestrian accommodations, planned or programmed facilities, housing and transit stops.
- Analysis
  - Staff will research methodologies for conducting assessments of bicycle/pedestrian accommodation in existing neighborhood such as the Metropolitan Area Planning Council (MAPC) Local Access Score.
  - Staff will identify neighborhoods with the least bicycle/pedestrian infrastructure and identify opportunities for improving conditions for bicycling and walking in these locations.

**Previous Studies/Work:**

- Bicycle/Pedestrian LOS Study
- Town centers bicycle and pedestrian connections study
- Pedestrian and Bicycling sections of Regional Transportation Plan
- Bicycle route/transit route connectivity report
- Technical support for town-based bicycle routing
- Harwich Bike Planning 2010
- Cape Cod National Seashore Integrated Bicycle Plan, 2010
- Outer Cape Bicycle and Pedestrian Master Plan

**Products:** Draft and final report, including maps of recommended improvements.

**Schedule:** October 2017 to September 2018

**Beneficiary Communities:** All

| <u>Funding Source</u> | <u>Amount</u> |
|-----------------------|---------------|
| FHWA/MassDOT          | \$ 37,500     |

## TASK 2.6 – 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

Beneficiary Communities: All

| <u>Funding Source</u> | <u>Amount</u> |
|-----------------------|---------------|
| FHWA/MassDOT          | \$ 37,500     |

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

The Cape Cod MPO includes a close partnership between member agencies and the Cape Cod Regional Transit Authority. Many of the planning strategies resulting from Task 3 efforts will capitalize on the services that the Cape Cod RTA has to offer.

### **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 – Route 6 Interchange Study

### Background:

On Cape Cod, U.S. Route 6 has been constructed over several decades beginning in the 1950's. Varying design standards, increasing traffic volumes, changes in land use patterns and driver behavior (e.g., texting while driving) have resulted in traffic safety concerns. Below is a listing crash rates at each interchange:

|                                     | Exit 1A/1B | Exit 1C | Exit 2 | Exit 3 | Exit 4 | Exit 5 | Exit 6 | Exit 7 | Exit 8 | Exit 9 | Exit 10 | Exit 11 | Exit 12 | Total |
|-------------------------------------|------------|---------|--------|--------|--------|--------|--------|--------|--------|--------|---------|---------|---------|-------|
| Average Number of Crashes per Year* | 21         | 3       | 25     | 10     | 9      | 18     | 28     | 18     | 17     | 30     | 14      | 10      | 7       | 209   |

\*Based on Barnstable County High Crash Locations Report, June 2014 (2009-2011 data)

Despite there being significant concerns with this corridor there has been limited study to identify solutions. Any potential improvements along this corridor must be balanced with impacts on the environment and neighboring properties.

### Description of Services

The Cape Cod Commission, under the Unified Planning Work Program, will conduct a transportation planning study for the designated area with the following goal:

- Develop alternatives that will provide safe and convenient access within the study area interchanges and approaches.

### Project Limits

The study area includes Route 6 within the towns of Bourne, Sandwich, Barnstable, Yarmouth, Dennis, Harwich, Brewster and Orleans. Specifically, interchanges 1-12 are the focus of the study, including on- and off-ramps and approaches.



### **Route 6 Interchanges**

#### **Procedures:**

##### **Task A: Project Initiation**

Commission staff will gather past studies and develop a plan for analysis of the study area. This task will include meeting of Commission staff and a consultation meeting with study area towns and MassDOT District 5. Commission staff will also consult with Cape Cod Regional Transit Authority staff.

Product: Final Scope of Work and Public Participation Plan

##### **Task B: Data Collection, Mapping, and On-Site Reconnaissance**

Commission staff will gather data including crash locations, roadway geometry, traffic volumes. At a minimum traffic data will be collected at multiple locations along Route 6 and on selected ramps.

Commission staff will visit the study area to evaluate and photograph conditions. Town staff will be invited to attend the visit to the study area.

##### **Task C: Kickoff Meeting - Opportunities and Constraints**

Commission staff will prepare for and host a public kickoff meeting in or near the study area where opportunities and constraints at the interchanges will be identified. The meeting will include a brief presentation including information gathered as part of the first two tasks, but focus on input from the stakeholders in attendance at the meeting.

Product: Summary of Opportunities and Constraints

#### Task D: Concept Development

Information collected during Task C will be reviewed with study area towns and Cape Cod RTA staff and preliminary concepts will be developed. Conceptual design plans will illustrate options for interchange improvements

After review of the preliminary concepts by Commission, MassDOT District 5, towns' and CCRTA staffs, the preliminary concepts will be presented at a public meeting. Feedback on the preliminary concepts will be used to inform the concept refinements.

Product: Preliminary Concepts and Summary of Feedback

#### Task E: Concept Refinement

Concepts will be refined based on public comments and feedback from the towns, MassDOT District 5, CCRTA, and Commission staff.

Refined concepts will be prepared as part of a draft report. The draft report will also include an analysis of each alternatives impact on traffic flow and safety. General criteria that may be applied include:

- Safety impacts (e.g., change in number of conflicting traffic movements & expected traffic demand)
- 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, preferred alternatives will be identified.

Product: Draft Report

#### Task F: Final Report

The draft report, including the refined conceptual designs, will be presented in the study area towns and the document will be released for public comment.

All of the information and comments received will be compiled into a final report document and delivered to MassDOT, the study area towns, and the Cape Cod RTA.

Product: Final Report

## Products

- Maps and illustrations identifying opportunities and constraints
- Public outreach and facilitation to gather comment on priorities, alternatives
- Draft report incorporating data analysis suggestions for improving the roadway layout, including conceptual presentation of a preferred alternative
- Draft alternative concept plans
- Final report with recommendations

Public Participation Plan: a detailed public participation process will include the following elements:

- Public Participation Goals
- Kickoff Meeting
- Focused Listening Session
- Concept Development
- Technical Review
- Process Protocols
- Contacts
- Meeting Logistics & Noticing
- Project Email List
- Web Site
- Social Media
- Public Comment
- Presentation Materials
- Status Reporting

## Schedule

The schedule for this effort allows for a final completion by September 2018. 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 – Summer of 2017
- Review of methodology/project initiation: November 2017 – January 2018
- Kickoff Meeting with Stakeholders: March 2018
- Problem identification and development of alternatives: April – July 2018
- Analysis of Alternatives: May – August 2018
- Draft report/public meeting: July/August 2018

- Final report: September 2018

Beneficiary Communities: Bourne, Sandwich, Barnstable, Yarmouth, Dennis, Harwich, Brewster and Orleans

| <u>Funding Source</u> | <u>Amount</u> |
|-----------------------|---------------|
| FHWA/MassDOT          | \$70,000      |

### TASK 3.2 – TRANSPORTATION SAFETY

#### 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 2019 safety locations for further study. To evaluate safety problems and develop plans to improve safety at specific locations as appropriate. Assist towns with associated roadway safety improvements on an as-needed basis.

#### Previous Work:

##### Roadway Safety Audits

###### Barnstable Road Safety Audits

- Iyannough Road (Route 132) at Cape Cod Community College/Cape Cod Conservatory Intersection (2014)
- Route 28 at Osterville-West Barnstable Road (2012)
- Iyannough Road (Route 28) at Yarmouth Road (2012)
- Meetinghouse Way (Route 149)/Route 6 Ramps (2010)
- Route 28 (Falmouth Road)/Bearses Way (2009)
- Route 28 in Barnstable – Lane Departure Safety Audit (2007)

###### Bourne Roadway Safety Audits

- Route 28 between Bourne Rotary and Otis Rotary (2013)
- Sandwich Road at Cranberry Highway (2012)

#### Dennis Roadway Safety Audit

- Route 134 at the Route 6 Ramps (2009)

#### Eastham Roadway Safety Audit

- Route 6 and Governor Prence Road (2012)

#### Mashpee Roadway Safety Audits

- Nathan Ellis Highway (Route 151) at Old Barnstable Road Intersection (2014)
- Great Neck Road North/Old Barnstable Road (2009)
- Route 130 Lane Departure Road Safety Audit (2007)

#### Sandwich Road Safety Audits

- Cotuit Road/Harlow Road/South Sandwich Road (2009)
- Route 6: Major Highway Median Cross-Over Crashes (2009)

#### Yarmouth Road Safety Audits

- Route 6A – Willow Street to Union Street (2013)
- Old Townhouse Road/Forest Road (2010)

#### Location-Specific Safety Studies

##### Wellfleet: Route 6 Safety Study (2012)

##### Route 6 at Main Street

- Route 6 at LeCount Hollow Road
- Route 6 at Cove Road
- Route 6 Merge Area near Eastham Town Line

##### Analysis of High Crash Locations in Dennisport (2012)

- Upper County Road at Depot Street
- Main Street (Route 28) at Sea Street
- Main Street (Route 28) at Depot Street

##### Safety Study (2009)

- Route 6 at the Truro Central School
- Orleans/Eastham Rotary
- Route 6 at Shank Painter Road in Provincetown

#### Transportation Safety Report (2008)

- Eastham: Route 6 at Brackett Road
- Sandwich: Route 6 at Route 130 (Exit 2) (Westbound and Eastbound Ramps)

#### Transportation Safety Report (2006)

- Bourne: Route 28 at Otis Rotary
- Harwich: Route 137 at Route 39
- Orleans: Route 6A at Route 28

Route 28 Safety & Traffic Flow Study: Chatham, Harwich, Dennis, Yarmouth (2006)

Route 6 Safety & Traffic Flow Study: Eastham, Wellfleet, Truro, Provincetown (2004)

The 2014 Barnstable County Intersections of Critical Safety Concern (top fifty crash location report) provided analysis based on frequency, crash rate, Equivalent Property-Damage Only (EPDO), and EPDO rate using geo-located crash data to the extent available. Creation of the report also included 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](http://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

Beneficiary Communities: All communities

| <u>Funding source</u> | <u>Amount</u> |
|-----------------------|---------------|
| FHWA/MassDOT          | \$31,250      |

### TASK 3.3 – BICYCLE ACCOMMODATION PLANNING ON ROUTE 6 IN TRURO AND PROVINCETOWN

MassDOT developed plans in 2016 to install bike lane symbols, new striping, and associated bicycle signage on Route 6 from Lawrenceville Road in Wellfleet to South Highland Road in Truro, in response to requests from Outer Cape communities for provision of a bicycle lane along Route 6. The bike lane symbols will be located within the existing paved shoulders on both sides of the road. The northern extent of the proposed bike lane ends just south of where Route 6 changes from two-lanes to four-lanes. This project will examine options for extending bicycle accommodations along the four-lane section of Route 6 from Truro to Provincetown.

The four-lane section of Route 6 through Truro and Provincetown is particularly challenging for bicyclists due to lack of shoulders, high vehicle speeds, and (in summer) high traffic volumes. It is a popular route for bicycling, however, partly due to its directness and the lack of alternatives other than Shore Road, which has narrow pavement width and no bicycle accommodations. The recently completed Outer Cape



Bicycle and Pedestrian Master Plan proposes a separated multi-use path on Route 6 as a long term primary route through Truro and Provincetown. This study will help inform design of that facility.

**Objectives:**

To examine options for providing bicycle accommodations along the four-lane section of Route 6 from Truro to Provincetown and seek public input on potential alternatives.

**Procedures:**

- Data Collection
  - Review traffic counts, vehicle crash data
  - Identify geometric characteristics (lane width, shoulder width, curbing, roadside obstructions, available rights-of-way)
  - Identify natural resource and cultural resource constraints
- Alternatives development
  - Conceptual plans for three alternatives

**Public Outreach**

- Present alternatives at public workshop
- Stakeholder meetings as needed (e.g., Fire/Police departments, bike committees)

**Products:** Concept plans...

**Previous Work:**

- Bicycle Feasibility Study: Integrated Bicycle Plan for Cape Cod (National Park Service/Cape Cod National Seashore, in partnership with the Cape Cod Commission; August 2010).
- Outer Cape Bicycle and Pedestrian Master Plan 2016

**Schedule:** October 2017 to September 2018

**Beneficiary Communities:** Truro and Provincetown

| <u>Funding source</u> | <u>Amount</u> |
|-----------------------|---------------|
| FHWA/MassDOT          | \$43,750      |

### TASK 3.4 – PLANNING RESILIENT TRANSPORTATION INFRASTRUCTURE

Objectives: To facilitate discussion with Towns officials in Barnstable County on climate change resiliency projects for critical, vulnerable transportation infrastructure. To present transportation and climate change information to assist local decision-makers in adopting climate change resiliency strategies for critical transportation infrastructure.

#### Previous Work:

- Public Engagement tools developed in FFY15 for UPWP 3.4
- UPWP FFY14 Critical Transportation Assets and their Vulnerability to Sea Level Rise, March 2015
- GIS-Based Sea Level Rise Viewer, April 2014
- UPWP FFY13 Climate Change Risk and Vulnerability Assessment of Transportation Infrastructure, November 2013
- Interagency Scenario Planning Pilot Project, 2011
- Regional Multi-Hazard Mitigation Plan, 2010

#### Procedures:

CCC staff will facilitate a series of discussions with town officials to brainstorm climate change resiliency strategies for critical transportation assets in Barnstable County. Once the critical/vulnerable assets have been identified, resiliency strategies can be implemented. Mitigation actions that have been identified will guide town officials and CCC Staff to identify a subset of resiliency projects and draft a scope of work for each viable project. CCC staff will also provide links to public engagement tools on climate change resiliency on the Cape Cod Commission's website.

Products:

A list of potential climate change resiliency projects for critical transportation infrastructure in Barnstable County. A subset of projects will be summarized in a draft scope of work. Updated information and links to a public engagement tool on climate change resilience hosted on the Cape Cod Commission's website.

Schedule: October 2016 to September 2017

Beneficiary Communities: All

| <u>Funding Source</u> | <u>Amount</u> |
|-----------------------|---------------|
| FHWA/MassDOT          | \$31,250      |

### TASK 3.5 – FOLLOW-UP ON PREVIOUS TRANSPORTATION PLANNING STUDIES

During development of particular UPWP studies, unforeseen external factors may cause delay of completion within a particular fiscal year. The most common cause of delay is the need for additional public outreach or an expanded scope due to discovery of factors such as environmental constraints. In some cases, projects are delayed due to the need for additional review by outside agencies. Even upon study completion, additional staff time may be required as a project moves into the design and TIP funding phases.

Objectives:

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

Procedures:

*Cape Cod Unified Planning Work Program for FFY 2018*

- Incorporate additional public review into UPWP study, produce draft and final reports
- Participate in study implementation efforts in concert with state and local agencies

Products:

- Previous UPWP tasks as needed

Schedule: As needed.

Beneficiary Communities: Towns containing follow-up studies

| <u>Funding source</u> | <u>Amount</u> |
|-----------------------|---------------|
| FHWA/MassDOT          | \$ 27,000     |

## **Task #4 – Other Technical Activities**

### **TASK 4.1 – TRANSIT PLANNING**

Objective: To provide transit planning and technical assistance services in coordination with the Cape Cod Regional Transit Authority and Cape Cod towns receiving transit service from the CCRTA or other transit organizations. Objectives include identifying unmet needs of the transit community and keeping the Cape's transit system in compliance with federal, state and local policy and legislation.

Procedures:

Specific tasks identified by the Cape Cod Commission, CCRTA and Cape Cod Towns that may be included under this task are listed as follows:

- Evaluate and develop proposed transit services
- Integrate transit planning into corridor studies
- Evaluate existing routes for demographic coverage as presented in the Comprehensive Service Assessment
- Provide guidance on regulatory compliance with Title VI, Environmental Justice and other federal or local requirements
- Assist in making digital and paper maps or schedules
- Assist in coordinating marketing and outreach efforts
- Identify solutions to meet transit workforce gaps
- Identify funding for access to bus stops as identified in Eliminating Transit Barriers and Closing the Gaps Report
- Assist in Transit Oriented Development planning of the Hyannis Transportation Center
- Coordinate commuter rail feeder service from Bourne to existing MBTA commuter rail in Middleborough
- Identify regional impacts and demand of commuter and intercity bus travel
- Evaluate seasonal transit travel demand to and throughout cape cod
- Identify work trips that could be captured by transit
- Create GIS transit applications for use by planning staff and riders
- Analyze performance of transit operators
- Conduct surveys and outreach efforts
- Identify destination of passengers

- Support CCRTA travel training program
- Identify ways to optimize demand response services

#### Level of effort

Coordination will be facilitated by regular meetings with CCRTA staff to discuss ongoing transit studies and inclusion of transit in Cape Cod Commission corridor studies. Projects may be reviewed and assisted by consultants in coordination with CCRTA staff.

#### Proposed Products

A report, map or memo may be drafted and released as a public document. Public outreach will be performed under the guidance of the Cape Cod Commission Public Participation Plan and in coordination with CCRTA staff.

#### Previous Products

Previous transit planning has been performed under specific tasks included in corridor and other regional transportation studies. Project specific to transit performed by the Cape Cod Commission are listed but not limited to as follows;

- 2016 Eliminating Transit Barriers
- 2015 Comprehensive Service Assessment
- 2015 Buzzards Bay Commuter Rail Local Impacts Report
- 2014 Coordinated Public Transit – Human Service Transportation Plan
- 2013 Closing the Gaps

#### Beneficiary Communities: All

| <u>Funding Source</u> | <u>Amount</u> |
|-----------------------|---------------|
| FTA 5303              | \$ 40,000     |
| CCC                   | \$ 10,000     |

## TASK 4.2 – SUPPORT FOR PASSENGER RAIL SERVICE

Objective: To support planning and introduction of commuter rail feeder service to Bourne connecting to MBTA commuter rail in coordination with the MBTA, Town of Bourne and CCRTA. This task includes identifying the needs of the commuter community and feasibility of extending commuter rail from Middleborough, 18 miles along existing track. Previous studies summarized reports and analyzed impacts to local intersections considering the introduction of commuter rail to Buzzards Bay under assumptions provided in previous documents.

Products:

Products may include memorandums that update the public and planners on the progress of commuter rail including summarizing ongoing studies, design efforts or funding allocations.

Beneficiary Community: Bourne

| <u>Funding Source</u> | <u>Amount</u> |
|-----------------------|---------------|
| FTA 5303              | \$5,000       |
| CCC                   | \$ 1,250      |

## TASK 4.3 – SIDEWALK ACCESSIBILITY TO TRANSIT STOPS FOLLOW-UP

Objective:

A previous UPWP task, “Eliminating Transit Barriers” included an inventory of pedestrian access to transit services, bus stops and recommended infrastructure projects that could enhance the transit experience. Follow-up will consist of two tasks:

- Organizing the information collected into a user-friendly application for use by the Regional Transit Authority. The application would best include features that enable the RTA to perform annual updates independently.
- Identify funding and drafting documents for projects recommended in Eliminating Transit Barriers study.

Products:

GIS application that shows the ridership, stop amenities and other regional datasets as requested by the CCRTA. The product will be used to identify gaps in the pedestrian network and high ridership stops that do not contain amenities consistent with the transit stop buildout.

Beneficiary Communities: All

| <u>Funding Source</u> | <u>Amount</u> |
|-----------------------|---------------|
| FTA 5303              | \$25,947      |
| CCC                   | \$ 6,487      |

## TASK 4.4 – OTHER TECHNICAL ASSISTANCE REQUESTS

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

Previous Work:

- Hyannis Parking Study, 2013
- 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

Beneficiary Communities: All

| <u>Funding Source</u> | <u>Amount</u> |
|-----------------------|---------------|
| FHWA/MassDOT          | \$ 23,125     |

## **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 MassDOT/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

Beneficiary Communities: All

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

| <u>Funding Source</u> | <u>Amount</u> |
|-----------------------|---------------|
| CCC                   | \$ 32,450     |

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

Beneficiary Communities: All

| <u>Funding Source</u> | <u>Amount</u> |
|-----------------------|---------------|
| CCC                   | \$ 41,342     |

## TASK 5.3 – OTHER TRANSPORTATION ACTIVITIES

Objectives: To perform other transportation activities and transportation program management.

Previous Work: Past transportation program management

Procedures:

- Commission staff will assist towns in local transportation planning efforts including intersection safety analysis, trip generation calculations for small scale development, and TIP guidance.
- Commission staff will evaluate the impact of TIP project requirements relative to community character and environmental impacts
- Commission staff will also direct town in the appropriate MassDOT official/MassDOT department to address local concerns.

Products: Viable transportation planning program. Technical memoranda, email responses, telephone responses to member communities and stakeholders.

Schedule: Continuous throughout the year

Beneficiary Communities: All

| <u>Funding Source</u> | <u>Amount</u> |
|-----------------------|---------------|
| CCC                   | \$ 58,671     |

# Distribution of UPWP Efforts

The table below identifies the affected communities by UPWP efforts included in UPWPs for the past five years as well as this current UPWP. Individual UPWP subtasks may affect one or more towns or in some cases all fifteen communities of Barnstable County. The map on the following page shows the affected the locations of these studies within Barnstable County.

**Table 1 - Geographic Distribution of UPWP Efforts**

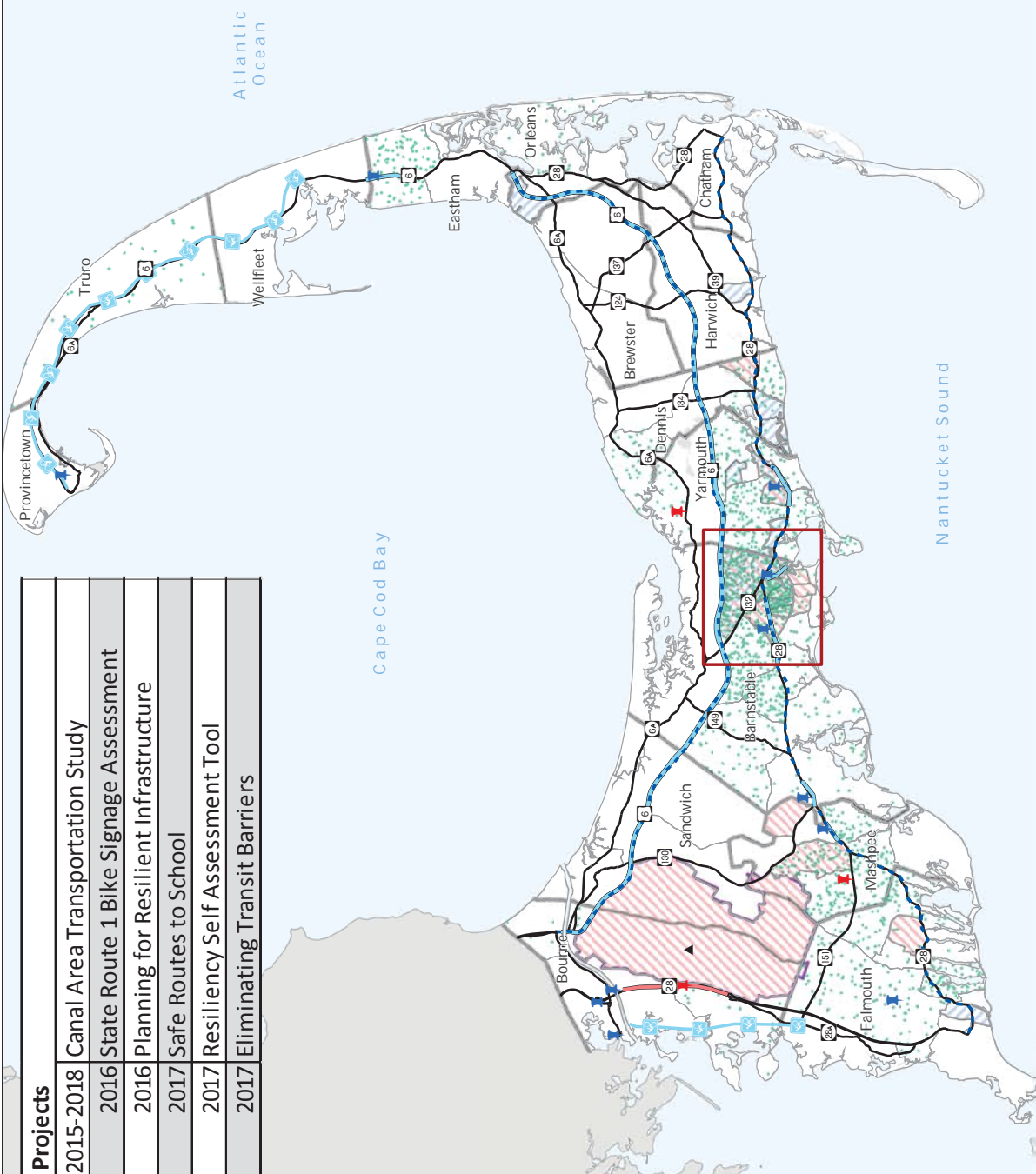
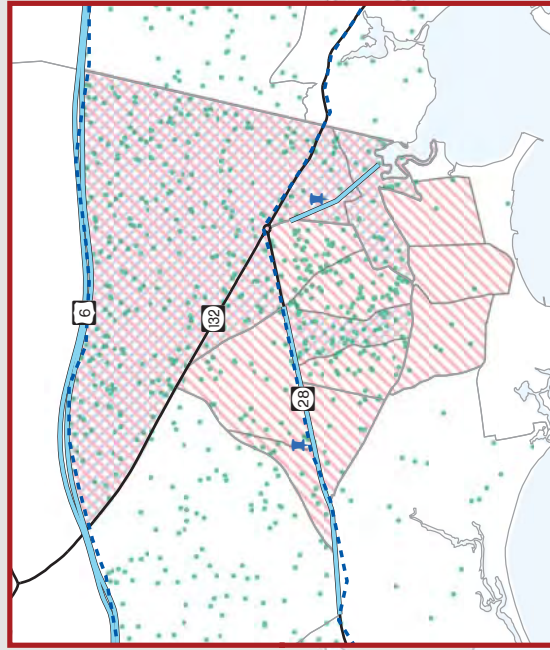
| Town             | FY 2013   | FY 2014   | FY 2015   | FY 2016   | FY 2017   | FY 2018   |
|------------------|-----------|-----------|-----------|-----------|-----------|-----------|
| Barnstable       | 1         | 1         | 1         | 3         | 3         | 2         |
| Bourne           | 4         | 0         | 2         | 3         | 2         | 2         |
| Brewster         | 1         | 0         | 0         | 1         | 1         | 1         |
| Chatham          | 0         | 0         | 0         | 0         | 1         | 0         |
| Dennis           | 1         | 0         | 0         | 1         | 2         | 1         |
| Eastham          | 0         | 0         | 1         | 0         | 1         | 0         |
| Falmouth         | 0         | 0         | 1         | 1         | 1         | 0         |
| Harwich          | 1         | 0         | 0         | 1         | 2         | 1         |
| Mashpee          | 0         | 0         | 0         | 0         | 1         | 0         |
| Orleans          | 1         | 0         | 0         | 1         | 1         | 1         |
| Provincetown     | 2         | 2         | 2         | 2         | 0         | 1         |
| Sandwich         | 1         | 0         | 0         | 1         | 1         | 2         |
| Truro            | 1         | 1         | 1         | 1         | 0         | 1         |
| Wellfleet        | 1         | 1         | 1         | 1         | 1         | 0         |
| Yarmouth         | 2         | 0         | 0         | 1         | 2         | 1         |
| <i>All Towns</i> | <i>19</i> | <i>18</i> | <i>18</i> | <i>21</i> | <i>23</i> | <i>18</i> |

The regional nature of many of the UPWP efforts encompass all fifteen communities at an average of over twenty studies per year. The table above cites regional (“All Towns”) and the smaller-scale efforts for the individual towns or groups of towns (e.g., an Outer Cape study may be counted in two or more Outer Cape towns).

These efforts are tailored to problem identification and are scaled accordingly. For example, a single effort in Barnstable (e.g., Hyannis Access Study Implementation) may lead to a \$50 million-dollar transportation improvement while three studies in a smaller community may reflect small-scale intersection improvements costing much less.

### Regional Projects

|      |  |           |                                       |
|------|--|-----------|---------------------------------------|
| 2013 | Connecting Town Centers to Bike Networks | 2015-2018 | Canal Area Transportation Study       |
| 2014 | Realign Claire Staltonstall Route        | 2016      | State Route 1 Bike Signage Assessment |
| 2015 | Bicycle Safety Plan                      | 2016      | Planning for Resilient Infrastructure |
| 2015 | CCRTA Comprehensive Service Assessment   | 2017      | Safe Routes to School                 |
| 2015 | CCRTA Human Service Transportation Plan  | 2017      | Resiliency Self Assessment Tool       |
| 2015 | Rotary Retrofit                          | 2017      | Eliminating Transit Barriers          |



**Five Years Review 2013-2017**  
**Unified Planning Works Program**  
**Minority, Low Income and Limited English Proficiency Populations**

Joint Base Cape Cod Boundary  
 Barnstable County Correctional Facility

Represents One (1) Postgraduate or Postgraduate with some work experience who speaks English less than very well (points have been randomly located within the Census tract represented)

**Limited English Proficiency**

**Transportation Projects**

- UPWP Road Segment Study
- UPWP Various Locations Study
- UPWP Bike Planning
- UPWP Specific Location Study
- RSA Specific Location
- RSA Segment Location

**Demographics**

- Minority
- Low Income
- Low Income & Minority

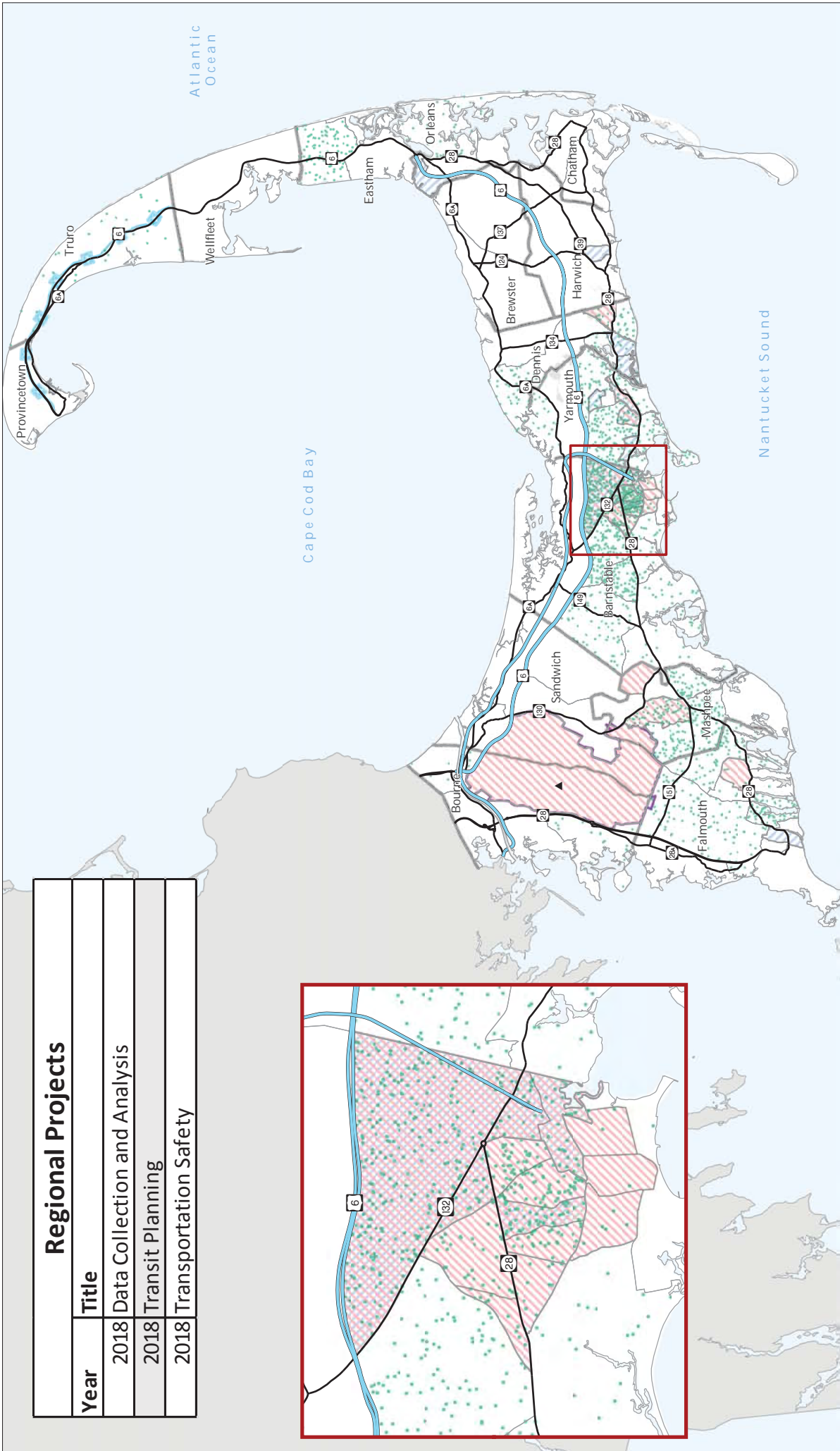
**Barnstable County Minority Population**  
 Total population: 19,436  
 Mean percent minority: 7.43%  
 Median percent minority: 6.39%  
 Population classified as minority represents residents who self identify as a race other than white

**Income**  
 Median household income of census tracts less than \$20,000 per year  
 County median household income: (\$59,900)  
 Minority: 15% or more of census block residents self identify as a race other than white

Scale: 0 1 2 4 6 Miles  
 Date: 4/16/2017  
 User: shaggy

# Regional Projects

| Year | Title                        |
|------|------------------------------|
| 2018 | Data Collection and Analysis |
| 2018 | Transit Planning             |
| 2018 | Transportation Safety        |



**2018 United Planning Works Program, Minority, Low Income and Limited English Proficiency Populations**

This information is published on this map for informational purposes only. It is not intended for legal or other purposes. It should not be used for or substituted for any other information. User: slappager

Date: 4/16/2017

**2018 United Planning Works Program, Minority, Low Income and Limited English Proficiency Populations**

This information is published on this map for informational purposes only. It is not intended for legal or other purposes. It should not be used for or substituted for any other information. User: slappager

Date: 4/16/2017

**Joint Base Cape Cod Boundary**

**Barnstable County Correctional Facility**

**Limited English Proficiency**

- Represents One (1) Portuguese or Portuguese American, who speaks English less than very well (points have been randomly located within the Census tract represented)

**Demographics**

- Minority
- Low Income
- Low Income & Minority

**Transportation Projects**

- UPWP Road Segment Study
- UPWP Various Locations Study
- UPWP Bike Planning

**Demographics**

- Minority
- Low Income
- Low Income & Minority

**Demographics**

- Income: Median household income of census block less than \$25,000
- County median household income: (\$59,900)
- Minority: 15% or more of census block residents self-identify as a race other than white

**Barnstable County Demographics**

- Population: 14,456
- Mean percent minority: 9.43%
- Median percent minority: 6.39%
- Population classified as minority represents residents who self identify as a race other than white

**Scale**

0 1 2 4 6 Miles

**North Arrow**



# Glossary

**Table 2. Definitions Used in Project Listings**

| LABEL        | DESCRIPTION   |
|--------------|---|
| DESCRIPTION  | This column is a brief description of the project. Complete descriptions can be obtained through the project proponent.   |
| MUNICIPALITY | This column lists the town(s) of project location, “Capewide” for a regional project. The project proponent may also be listed in this column, e.g. “CCRTA, Capewide.”                    |
| SID #        | (State identification number) This column contains the number of the project assigned by the state. When a MHD “PROJIS” number has been assigned to the project, this number is included. |
| FUND         | Proposed funding category for the project (described in A6. Transportation Funding Programs)  |
| FED FUNDS    | Estimated federal share cost of the project.  |
| STATE FUNDS  | Estimated state share cost of the project.  |
| TOTAL COST   | Estimated total project cost.   |
| STATEWIDE    | Anywhere in the Commonwealth of Massachusetts.  |
| CAPEWIDE     | Anywhere on Cape Cod (Barnstable County).   |

**Table 3. Acronyms**

| ACRONYM | MEANING  |
|---------|--|
| AADT    | Annual Average Daily Traffic                                       |
| AASHTO  | American Association of State Highway and Transportation Officials |
| ARC     | Available Reserve Capacity   |
| BTP&D   | (Massachusetts) Bureau of Transportation Planning and Development  |
| CAA     | Clean Air Act Amendments of 1990                                   |
| CEPO    | Capital Expenditure and Program Office                             |
| CCC     | Cape Cod Commission  |
| CCJTC   | Cape Cod Joint Transportation Committee                            |
| CCRTA   | Cape Cod Regional Transit Authority                                |
| CMAQ    | Congestion Mitigation and Air Quality Improvement Program          |
| CMR     | Code of Massachusetts Regulations                                  |
| CO      | Carbon Monoxide  |
| CTPS    | Central Transportation Planning Staff                              |
| CZM     | (Massachusetts) Coastal Zone Management                            |
| DCPO    | Division of Capital Planning and Operations                        |
| DEP     | Department of Environmental Protection                             |
| DOT     | United States Department of Transportation                         |
| DRI     | Development of Regional Impact                                     |
| EIR     | Environmental Impact Report  |
| EIS     | Environmental Impact Statement                                     |

|         |   |
|---------|---|
| EOEA    | (Massachusetts) Executive Office of Environmental Affairs                         |
| EOTPW   | (Massachusetts) Executive Office of Transportation and Public Works (2007)        |
| EPA     | Environmental Protection Agency   |
| ESC     | (Massachusetts) Enhancements Steering Committee                                   |
| FA      | Federal Aid   |
| FAST    | Fixing America's Surface Transportation   |
| FHWA    | Federal Highway Administration  |
| FTA     | Federal Transit Administration  |
| FY      | Fiscal Year or Federal Fiscal Year  |
| GPS     | Global Positioning System   |
| HPP     | High Priority Project   |
| ISTEA   | Intermodal Surface Transportation Efficiency Act of 1991                          |
| ITC     | Intermodal Transportation Center  |
| ITE     | Institute of Transportation Engineers   |
| ITS     | Intelligent Transportation System(s)  |
| LOS     | Level of Service  |
| L RTP   | Long Range Transportation Plan  |
| MAP     | Mobility Assistance Program   |
| MAP-21  | Moving Ahead for Progress in the 21st Century                                     |
| MassDOT | Massachusetts Department of Transportation  |
| MEPA    | Massachusetts Environmental Protection Act  |
| MHD     | Massachusetts Highway Department or MassHighway (now MassDOT/Highway Division)    |
| MPO     | Metropolitan Planning Organization or Cape Cod Metropolitan Planning Organization |
| NAAQS   | National Ambient Air Quality Standards  |
| NFA     | Non-Federal Aid   |
| NHPP    | National Highway Performance Program  |
| NHS     | National Highway System   |
| NHTSA   | National Highway Traffic Safety Administration                                    |
| NOx     | Nitrogen Oxides   |
| PPP     | Public Participation Process, or Public Participation Plan                        |
| PWED    | Public Works Economic Development Program   |
| RPA     | Regional Planning Agency  |
| RPP     | Regional Policy Plan  |
| RTA     | Regional Transit Authority  |
| RTP     | Regional Transportation Plan  |
| SIP     | State Implementation Plan   |
| SOV     | Single Occupancy Vehicle  |
| STEPA   | Surface Transportation Extension Act of 1997                                      |
| STIP    | Statewide Transportation Improvement Program                                      |
| STP     | Surface Transportation Program  |
| TAP     | Transportation Alternatives Program   |
| TAZ     | Traffic Analysis Zone   |

|        |  |
|--------|--|
| TEA-21 | Transportation Equity Act for the 21st Century |
| TDM    | Transportation Demand Management               |
| TIP    | Transportation Improvement Program             |
| TMA    | Transportation Management Area                 |
| TSM    | Transportation Systems Management              |
| USGS   | United States Geographical Survey              |
| v/c    | Volume to Capacity                             |
| VMT    | Vehicle Miles Traveled                         |
| VPD    | Vehicles Per Day                               |
| VPH    | Vehicles Per Hour                              |

## Appendices

### APPENDIX A: CAPE COD CANAL TRANSPORTATION STUDY

#### INTRODUCTION

The purpose of this study is to identify potential improvements to the transportation system surrounding the Cape Cod Canal in Bourne and Sandwich, Massachusetts, including the potential construction of new Cape Cod Canal crossings, and to initiate the environmental permitting of the identified improvements through the Massachusetts Environmental Protection Act (MEPA) with the filing of an Environmental Notification Form. Currently, the only connections between the mainland and the communities of Cape Cod are three crossings of the Cape Cod Canal: two functionally obsolete highway bridges (the Sagamore Bridge to the east and the Bourne Bridge to the west) and the moveable-span railroad bridge west of the Bourne Bridge. The bridges and the surrounding roadway network are subject to severe congestion during the summer months and other holiday weekends throughout the year. This congestion has significant impact on safety; emergency access (including evacuation routes off of Cape Cod); and overall economic activity of the Cape Cod communities.

The study will entail the development and analysis of a full range of transportation alternatives to address the identified transportation needs. The alternatives considered will include new Cape Cod Canal crossings, highway, interchange, and non-highway improvements, as well as options and design elements that improve access in all modes. The alternatives will be evaluated relative to criteria that relate to the study goals and objectives. The study will produce a final report that includes the study's analytical findings; a recommended plan of future scheduled transportation improvements (short-term, medium-term and long-term); preliminary cost estimates for these improvements; and a comprehensive implementation plan for the recommended improvements. Following completion of the final report, the selected consultant will be responsible for preparing an Environmental Notification Form of the recommended improvements in compliance with MEPA.

It is expected that this planning study will be conducted concurrently with the MassDOT projects and initiatives listed below:

- The development of traffic improvement plans for Belmont Circle (Buzzards Bay Bypass – Routes 6 & 28, Route 25 & Main Street) in the Town of Bourne that is currently being advanced separately by the MassDOT Highway Division District 5;
- The development of public-private partnership to construct an additional roadway crossing of the Cape Cod Canal that is currently being advanced separate by the MassDOT Special Public-Private Partnership Infrastructure Oversight Commission; and
- The replacement of the existing toll booths with All Electronic Tolling equipment along the Massachusetts Turnpike and the Tobin Bridge by the MassDOT Highway Division.

The selected consultant will be expected to support any and all coordination required between this planning study and the listed projects. This coordination will most likely involve sharing collected data and providing graphics and other study materials to the Highway Division's design consultants and/or construction firms for their use.

## DESCRIPTION OF PROCUREMENT

The following sections addressing the specific tasks of the Scope of Services to be undertaken by the consultant are intended to serve as a guide for Prospective Consultants in preparing their respective technical proposals.

### I. SCOPE OF SERVICES

The selected consultant team will be directed by MassDOT's Office of Transportation Planning, and the consultant's progress will be monitored by the Project Manager. The selected consultant will perform specific tasks as outlined below, with summary report, presentation materials (presumably in MS PowerPoint software), and other products as needed for each major task.

Each task will be accomplished in coordination with a public involvement plan. However, no items in this scope shall preclude the consultant from proposing modified or additional approaches or activities to accomplish the objectives of this effort. At the same time, the selected consultant must recognize that while this scope includes most major tasks expected to be required, the consultant will be responsible for other tasks

necessary to deliver the major study elements, even though not all may be explicitly called out in this scope.

#### Task CANAL-1 – Study Area, Goals and Objectives, Evaluation Criteria, and Public Participation

The purpose of this task is to develop the framework necessary to conduct the study. The consultant, in consultation with MassDOT and the study's Working Group, will finalize the study area and will develop goals and objectives, evaluation criteria, and a public involvement plan. Evaluation criteria will be determined based on the defined goals and objectives.

##### A. Study Area

The Primary Study Area is defined below, although the boundaries of the areas to be analyzed will differ by task and need. The Primary Study Area, and other relevant study areas (e.g. regional highway system connections, connectivity to destinations, etc.) will be finalized in the initial stages of the study with input from the study's Working Group. This does not preclude the consultant from proposing modified boundaries as part of their response to this procurement. The study areas should be defined to incorporate both local and regional impacts of any alternative.

The initial Primary Study Area boundary will be of sufficient size to examine the feasibility and direct impacts of any study alternatives, including a new Cape Cod Canal crossing, and will, at a minimum, include infrastructure, right-of-way, and adjacent land use within 1 mile of the Cape Cod Canal. The project will also include the evaluation of any potential impacts on other transportation facilities, including, but not limited to, connecting roadways, the Cape FLYER rail service, ferry service to Cape Cod and the islands of Martha's Vineyard and Nantucket, and the Cape Cod Canal bicycle path within the Primary Study Area.

For the evaluation and analysis of regional transportation impacts, a larger Regional Study Area will include the following routes listed below. Evaluation of the benefits and impacts of the alternatives with respect to economic development, and land use or zoning changes will extend to this area.

- State Route 3 from Exit 2 (Route 3A – Herring Pond Road) in the Town of Plymouth (to the north) to the Sagamore Bridge in the Town of Bourne (to the south),
- U.S. Route 6 from Memorial Circle (Cranberry Highway/Buzzards Bay Bypass & Lincoln Avenue/Main Street) in the Town of Bourne to the west to Exit 2 (Route 130 – Forestdale Road) in the Town of Sandwich to the east (via both Scenic Highway on the northern side of the Cape Cod Canal and Sandwich Road on the south side of the canal),
- State Route 28 within the Town of Bourne from Memorial Circle (Cranberry Highway/Buzzards Bay Bypass & Lincoln Avenue/Main Street) in the north to Clay Pond Road in the south,
- State Route 25 from Exit 2 (Maple Springs Road & Glen Charlie Road) in the Town of Wareham to the west to the Bourne Bridge in the Town of Bourne the south,
- Sandwich Road within the Town of Bourne from the Bourne Rotary in the west to the Cranberry Highway in the east,
- Connecting roadways,
- Major intersections along these routes, and

Other facilities as appropriate.

Product:

- Primary Study Area definition
- Definition of any supplemental study areas
- Mapping and other supporting documentation for study areas

## B. Goals and Objectives

Goals and objectives, which define the purpose of the study and its guiding principles, will be developed for this project in close coordination with the study Working Group and the public. The goals and objectives provide a “mission statement” for the study as a whole, as well as for addressing a particular issue or set of issues. The goals and objectives should shape the framework for the entire study. The Cape Cod Canal Transportation Study’s goals will serve as a base, but will not preclude modifications or additional goals and objectives from being developed. The goals and objectives should be developed so that they can also act as the project “needs and goals” as required for the future environmental permitting documents.

Product:

- Goals and Objectives

### C. Evaluation Criteria

The evaluation criteria are specific considerations, or measures of effectiveness, used to assess benefits and impacts of alternatives developed during the study. The evaluation criteria will be based on the defined objectives, and must support the ultimate goals of study. Such criteria commonly include, but are not limited to, those that fall in the following categories:

- Mobility and system reliability in all major transportation modes
- Accessibility
- Safety
- Environmental effects, including air quality and greenhouse gas impacts
- Health effects, including promotion of healthy transportation options as well as discussion of other public health factors, such as air quality and noise
- Land use and economic development
- Community effects / Title VI / Environmental Justice Analysis
- Cost, including both capital and operating cost

The evaluation criteria will be used for Task 4 (alternatives analysis) of the study. The criteria should be logically related to objectives, and wherever possible, be quantitatively measured and directly derived from either previously developed information or analysis techniques used in the study. All evaluation criteria – containing both quantifiable and more subjective, qualitative measures of effectiveness – should be used to determine the best solutions for the defined goals and objectives.

Product:

- Evaluation criteria and measurement methods

### D. Public Involvement Plan

The study's Public Involvement Plan will, at a minimum, the following components: 1) meetings with the study's Working Group and 2) general public informational meetings



at key project milestones. In addition to legislative, state (including the Massachusetts Department of Environmental Protection, the Massachusetts Office of Coastal Zone Management, the Massachusetts Historical Commission, the Massachusetts Division of Marine Fisheries, the National Heritage and Endangered Species Program, and the Massachusetts Division of Energy Resources), and federal (including the Army Corps of Engineers which owns the Sagamore Bridge and the Bourne Bridge, and the Federal Highway Administration) representation, the Working Group will also have representation from regional and local stakeholders that include, but are not limited to, the Cape Cod Commission (CCC), the Southeastern Regional Planning and Economic Development District (SRPEDD), the Old Colony Planning Council (OCPC), the Cape Cod Canal Area Traffic Task Force, and the municipalities of Bourne, Sandwich, Plymouth and Wareham.

Working Group meetings will be scheduled at key project milestones with input from the members, and will be conducted by MassDOT Planning and the consultant. Following consultant selection, the first Working Group meeting will be scheduled to discuss the study area limits; to discuss the goals, objectives, and evaluation criteria for the project; and to give the Working Group the opportunity to comment on these elements.

MassDOT and the consultant will conduct public informational meetings at major project milestones. Public meetings will be scheduled and publicized by MassDOT Planning and the consultant. At the discretion of MassDOT Planning, the consultant will be expected to provide support for all elements of the public meetings.

The consultant shall be principally responsible for the preparation of presentation and display materials for Working Group meetings and public informational meetings. These materials shall be prepared in advance to allow MassDOT adequate time for review and approval. At MassDOT Planning's discretion, the consultant may be required to present presentation materials in advance of the Working Group or public informational meeting.

Additionally, the consultant should be prepared to share any materials prepared as part of this study with the MassDOT Highway Division and their consultants to support the public involvement plan for the traffic improvement project for Belmont Circle (Buzzards Bay Bypass – Routes 6 & 28, Route 25 & Main Street). Members of the consultant team may be required to attend these meetings to provide their expertise; however, the consultant will not be responsible for providing any administrative duties in support of these meetings.

A project website will be created, maintained, and updated by MassDOT. The consultant will be responsible for providing content data for development of this website. The consultant will also be responsible for providing relevant historical documents, task deliverables, and both pre- and post-meeting materials to the MassDOT project manager for posting in a timely manner.

All elements of the Public Involvement Plan must include specific communication strategies to provide continuous and meaningful opportunities for involvement by the public throughout the study process. These strategies must provide the opportunity for the full and fair participation by all potentially affected communities, including minority and low-income populations, at this stage of the transportation decision-making process. Likewise, these strategies must include provisions to actively engage minorities and gather their responses, as well as mitigate against potential discrimination based on race, color, national origin, English proficiency, income, religious creed, ancestry, disability, age, gender, sexual orientation, military service, or gender identity or expression. The Public Involvement Plan, at a minimum, will require Spanish and Portuguese language elements and American Sign Language interpreters will be provided at all meetings. All public materials produced as part of this study, including those posted to the project website, must be in an accessible format consistent with MassDOT guidelines. Please refer to the following address for additional information on accessibility:

<http://www.adobe.com/accessibility/products/acrobat/pdf/A9-accessible-pdf-from-word.pdf>

Products:

- Public Involvement Plan

FINAL PRODUCTS FOR TASK CANAL-1:

1. Draft report chapter containing the following:
  - Study areas
  - Goals and objectives
  - Evaluation criteria and measurement methods

## 2. Public Involvement Plan

### Task CANAL-2 – Existing Conditions, Future No-Build Conditions, and Issues Evaluation

Existing transportation conditions will be inventoried and evaluated, as well as anticipated future-year conditions. Existing and future land use and environmental constraints will be examined and documented. Other issues raised by the Working Group may be evaluated if feasible.

#### A. Existing Conditions and Data Collection

Current year transportation conditions will be analyzed for the study area facilities.

Existing data from MassDOT, the Army Corps of Engineers, the Cape Cod Commission, the Southeastern Regional Planning and Economic Development District, the Old Colony Planning Council, and the towns of Bourne, Sandwich, Plymouth and Wareham, the Cape Cod Regional Transit Authority (PVRTA), Peter Pan Bus Lines, Plymouth & Brockton Street Railway, the Steamship Authority, other ferry operators, and other sources will be used to the degree feasible. This includes all available traffic volume, turning movement, and crash data; transit services, availability, and ridership; intercity passenger services, availability, and ridership; freight rail operations, customer destinations, and freight volumes; bicycle connections and volumes; pedestrian volumes; and any other data required for a complete understanding of the transportation conditions within the study area. The study area will be analyzed for traffic volumes and levels of service, safety, transit service level of service, bicycling and pedestrian demand and environment, freight movements, ferry ridership, and other conditions as necessary. Other transportation issues as suggested in the public involvement process may be evaluated as appropriate. The consultant will utilize microsimulation software such as SYNCHRO and VISSIM as required to perform the analysis of current year transportation conditions.

Recent traffic count and classification data (including the data collected in support of the Army Corps bridge repair projects) will be used to the greatest extent possible, although historical data will be used to demonstrate trends in traffic changes. Additional traffic counts (automatic traffic recorder, turning movements, pedestrian movements, and/or bicycle movements) will be required to properly assess the conditions on the roadways and other transportation facilities in the Study Area. These counts will be undertaken by MassDOT's Traffic Data Collection section under the Highway Division.

The selected consultant will initially use the data from the MassDOT Crash Records database (developed from the Registry of Motor Vehicle crash data) to provide a preliminary review. However, the actual crash reports from both State Police and local police will need to be obtained by the selected consultant, for the three most recent years available, to ensure a thorough understanding of the existing safety conditions and future impacts to safety.

Existing land use/economic development, environmental and public health data will also be reviewed and assembled for the defined study area, from existing sources to the degree feasible. This includes the Massachusetts Department of Public Health, GIS data layers that are available from municipal or regional GIS sources (such as CCC, SRPEDD, and OCPC), and MassGIS sources.

Land use/economic development data collected may include, but are not limited to:

- Local comprehensive planning documents
- Previous conceptual planning studies
- Land-use patterns
- Zoning regulations
- Right-of-way
- Property values
- Tax revenue data
- Car and truck access
- Transit access
- Bicycle facilities
- Pedestrian facilities
- Parking
- Regional employment
- Elevation and visibility information
- Power transmission facilities
- Emergency response
- Public facilities and utilities

Environmental data collected may include, but are not limited to:

- Wetlands and water resources
- Stormwater management
- Floodplain information

- Surface geology
- Protected and recreational open space
- Areas of Critical Environmental Concern (ACECs)
- Fisheries/endangered species/wildlife
- Hazardous materials sites
- Noise levels
- Air quality/greenhouse gases
- Cultural, historical, and archaeological resources
- Federal lands

Public health data collected may include, but are not limited to:

- Hospitalization (inpatient) data for asthma, myocardial infarction, congestive heart failure, stroke, and hypertension
- Levels of pediatric and adult obesity
- Levels of pediatric and adult depression
- Levels of pediatric and adult diabetes (including Type II),
- Levels of pediatric asthma
- Injuries and fatalities related to crashes

Recent and proposed commercial/industrial developments, major residential and mixed-use projects, and other proposed projects with significant trip generation in the study area will be identified and mapped.

Sufficient data must be collected as part of this task to identify existing social equity impacts. This includes geometric data (layout plans, lanes, curb cuts, sidewalks, crosswalks, pedestrian buttons, transit accommodations, etc.) to identify compliance with the Americans with Disabilities Act and any major breaks in accessible paths of travel, demographic and population to identify minority, low income, and limited-English proficiency populations within the study area, and data on commercial enterprises within the study area, including identification of minority-owned businesses.

MassDOT will provide available aerial photography files and any previously existing maps for the development or updating of base maps by the consultant as necessary. The general accuracy of these data will be confirmed through site visits. Final resolution/scales of photographs and base maps will be determined jointly by MassDOT and the consultant team, and will be based on available data files.

Using the above collected data, a base map will then be assembled in a GIS format for use in the future tasks. The consultant team will identify all potential land use and environmental constraints that could affect the feasibility of any alternatives developed during the study. The data will be used for other analytical purposes as well.

The consultant shall also be responsible for obtaining or collecting other data and information that are needed to execute the study scope.

Products:

- Existing traffic volumes, turning movements, levels of service, and crash data (with collision diagrams and crash rates)
- Existing transit services and ridership for study area
- Existing rail services and ridership for the study area
- Existing ferry ridership and services for the study area
- Existing freight movements and services within the study area
- Existing environmental and land-use/economic development data
- Other data and information as needed

### C. Future Year Conditions

Conditions in the study area will be forecasted for the horizon year of 2035. One of the primary tools to be used for estimating future conditions is a travel demand transportation model. The consultant will develop and calibrate a travel demand model for the regional study area using data from the MassDOT statewide travel demand model and the Cape Cod Commission travel demand model to the maximum extent possible. The travel demand model must be able to account for seasonal variation in travel patterns and potential shifts in travel between highway, passenger rail, and transit modes. Transportation conditions will be forecasted for a “no-build” condition, which assumes that no alternatives are implemented. MassDOT may also engage the Boston Metropolitan Planning Organization’s Central Transportation Planning Staff, through a separate contract, to provide information on demand for potential transit ridership in support of this project to ensure conformity with other planned projects. Throughout the region, only existing or planned projects that can reasonably be expected to be in place by 2035 will be included in the analysis. The consultant will work with MassDOT Planning and the Cape Cod Commission to identify appropriate assumptions for future year infrastructure and development.

Projections will be based on forecasts from the travel demand model that incorporates MPO regionally accepted growth trends and planned projects in the area. The travel demand model results will provide estimated regional and external traffic volumes,

passenger rail ridership, and projected transit usage for input into the consultant's microsimulation programs (including SYNCHRO and VISSIM) to assess the future no-build (do nothing) operational conditions within the Study Area.

The consultant will coordinate closely to utilize regional model results as inputs to traffic simulations and transit services depicting a future no-build condition. This future no-build condition should also include the most current socio-economic projections (population, households, and employment), and estimates of future land use.

Products:

- Forecasted traffic levels and conditions
- Forecasted transit ridership and services
- Forecasted passenger rail ridership and services
- Forecasted ferry ridership and services
- Forecasted freight movements and services
- Socio-economic projections
- Land use projections

#### D. Definition and Evaluation of Issues and Opportunities

Deficiencies and issues in the study area will be identified, quantified, and evaluated for use in subsequent tasks. Opportunities for new connections and improvements to infrastructure, access, mobility, and economic development will also be identified, quantified, and evaluated.

As part of defining transportation issues in the study area, the following elements should be considered: current and future traffic congestion, safety, environmental issues, evacuation routes, health determinants, community effects, economic development, land use, transit, bicycling, pedestrians, and other factors as appropriate. Additionally, the consultant will utilize the methods outlined in NCHRP Report 532 – “Effective Methods for Environmental Justice Assessment” to identify any existing transportation effects on minority or low-income populations which are disproportionate, high, and adverse. Wherever feasible, the defined issues and opportunities will be presented in graphical or map form suitable for presentation at a public informational meeting.

Product: Inventory and definition of issues and opportunities

## E. Constraints Identification

MassDOT and the consultant team will identify a set of project constraints related to environmental impacts, engineering/design feasibility, business and residential effects, cost, transit services, and other factors as appropriate. Constraints for engineering feasibility will be based on appropriate MassDOT Highway Division guidelines as applicable.

Product:

- Inventory of project constraints

## FINAL PRODUCT FOR TASK CANAL-2:

Completed draft report chapter containing the following:

- Existing traffic volumes, turning movements, levels of service, and crash data
- Existing transit services for the study area
- Existing passenger rail services for the study area
- Existing bicycling/pedestrian activity for the study area
- Existing ferry ridership and services for the study area
- Existing freight movements and services within the study area
- Existing environmental and land-use data
- Forecasted traffic levels and conditions
- Forecasted transit ridership and services
- Forecasted ferry ridership and services
- Forecasted freight movements and services
- Socio-economic projections
- Land use projections
- Inventory and definition of issues and opportunities
- Inventory of project constraints

## Task CANAL-3 – Alternatives Development

Based on work completed in prior tasks, short-, medium-, and long-range alternatives will be developed in this step. The alternatives development for this study will focus on a full range of transportation alternatives to address the identified transportation needs, including new Cape Cod Canal crossing options, as well as improvements for all users along connecting roadways, other transportation modes, and adjacent land uses and



attractions using a Complete Streets approach. As each Cape Cod Canal crossing alternative alignment is developed, the consultant must: provide a street network that supports all users, preserve the existing ramp connections to the local and regional roadway network, identify potential sources of revenue to support construction and operations (public-private partnership, tolling), preserve rail access through the corridor, and improve transit, bicycle and pedestrian connections.

Additional alternatives that promote efficient system management and operation within the study area should also be included. In consultation with the Working Group, MassDOT and the consultant team will develop alternatives and refine a selection of alternatives for detailed analysis in Task CANAL-4. Where applicable, the consultant is strongly encouraged to utilize visual imaging tools (ranging from maps and graphics to the use of three-dimensional display techniques) as part of this task.

#### FINAL PRODUCT FOR TASK CANAL-3:

Draft report chapter containing the following:

Descriptions of short and long-range alternatives

- Maps, graphics, and other visualizations showing alternatives

#### Task CANAL-4 – Alternatives Analysis

The alternatives will be analyzed based on the evaluation criteria from Task CANAL-1. Any necessary mitigation related to each alternative should also be considered in the analysis.

##### A. Mobility and Accessibility Analysis

The consultant will analyze the impacts of alternatives on mobility in the study area. Mobility as it relates to the highway, rail, transit, bicycle and pedestrian systems should be considered. The highway system to be analyzed includes both the controlled-access highways/interchanges and local roads/intersections (including bicycle and pedestrian accommodations) in the local and regional study areas. The consultant will utilize microsimulation software such as SYNCHRO and VISSIM as required to perform the analysis of the highway system mobility. Transit services to analyze include intercity

passenger rail (Cape FLYER service), commuter bus, local bus service, shuttle services, or any other type of existing or planned service as appropriate. The consultant will coordinate closely to utilize regional model results as part of the analysis methods for evaluating appropriate highway and transit alternatives.

Product:

- Alternatives analysis for roadway network, highway operations, traffic operations, transit ridership, ferry ridership, freight movements, bicycle and pedestrian conditions

## B. Safety Analysis

The consultant will analyze the traffic safety impacts in the study area for each alternative to the degree feasible, including examining the impacts on vehicular, rail, bicycle and pedestrian movements in the study area. Each of the alternative designs should refer to the crash expectations at the intersection treatments proposed according to nationally published factors.

Products:

- Alternatives analysis for traffic safety

## C. Environmental Effects Analysis

The consultant will analyze the environmental impacts for each alternative to the degree feasible, including examining: wetlands, floodplains, surface geology, protected and recreational open space, ACECs, hazardous materials sites, air quality, greenhouse gas impacts, noise, cultural, historical and archaeological resources, and other constraints as necessary to fully analyze each alternative.

Product:

- Alternatives analysis for environmental effects

## D. Land Use and Economic Development Analysis

The consultant will analyze land use, economic development and business impacts for each alternative to the degree feasible, including examining: right-of-way, property values, tax base, planned and potential zoning changes, planned developments

(including 40B and TODs), parking, car and truck access to existing or planned parcels, freight movements, visibility, labor force impacts, impacts to minority-owned businesses, regional and local employment, and other elements as necessary to fully analyze each alternative.

Product:

- Alternatives analysis for land use and economic/business impacts including impact on freight movements

#### E. Community Effects/Title VI/Environmental Justice Analysis

The consultant will analyze the community impacts for each alternative to the degree feasible, including examinations of: health determinants, right-of-way, noise levels, air quality, open space, land-use patterns, property values, vehicular access, transit access, solar access, emergency response, public facilities and utilities, cultural, historic, and archeological resources, elevation and visual impact, and other constraints as necessary to fully analyze each alternative. Where applicable, the consultant team will complete conceptual level right-of-way plans for each alternative in accordance with appropriate design criteria. Plans will not include detailed design of any structural elements, but may use visual imaging software (where applicable) to portray the visual characteristics of certain alternatives that may be proposed for analysis. The consultant will also utilize the methods outlined in NCHRP Report 532 – “Effective Methods for Environmental Justice Assessment” to analyze the possible social equity impacts of the developed alternatives and how they may impact or benefit the minority or low-income populations that have been identified. The consultant will determine if any of the alternatives and resulting mitigation is likely to result in effects that are disproportionate, high, and adverse to these populations. If so, the consultant will quantify the location, severity, and impacted population and identify potential mitigation.

Product:

- Alternatives analysis for community effects/environmental justice

#### F. Cost Analysis

Approximate construction, operations, right-of-way, and mitigation costs (including possible noise barriers) will be estimated for each alternative. The consultant will also

estimate the potential revenue generated through a public-private partnership to construct and operate the proposed alternatives. Other information (project implementation scenarios, construction schedules, etc.) will be estimated to the extent possible.

Products:

- Analysis of costs associated with each alternative

FINAL PRODUCT FOR TASK CANAL4:

Draft report chapter evaluating all alternatives based on Task CANAL-1 criteria, including:

- Mobility and system reliability in all major transportation modes
- Accessibility
- Safety
- Environmental effects, including air quality and greenhouse gas impacts
- Health effects, including promotion of healthy transportation options as well as discussion of other public health factors, such as air quality and noise
- Land use and economic development
- Community effects
- Cost, including capital and operating cost and potential revenue to support the project cost

Task CANAL-5 – Recommendations

Recommendations may include both short-range (within five years), medium-range (between five and ten years) and long-range recommendations as a result of the analysis completed in the previous tasks. The recommendations shall also be presented in the form of an implementation plan that identifies key stakeholders, issues, milestones, regulatory and procedural requirements, and other relevant issues. The recommendations must reflect a consensus of the public attained and documented through the public participation plan. The consultant will work with the identified stakeholders to outline the steps necessary to implement the recommended improvements.

#### FINAL PRODUCT FOR TASK CANAL-5:

Draft report chapter on recommendations containing:

- Tables of short and long-range recommendations
- Recommendation narrative and implementation plan
- Recommendation maps, graphics, and displays

#### Task 6 – Final Report

A Final Report will be prepared consisting of revised versions of the report chapters developed under Tasks 2 through 5, with an introductory chapter discussing the overall project and the goals-related material developed in Task CANAL-1. The report will also include an executive summary and appendices.

The consultant will prepare a draft of the final study report in an accessible format consistent with MassDOT guidelines for review and comment by MassDOT Planning. Once the comments have been addressed, the consultant shall produce a revised draft study report that shall be distributed to the SAG and released for a 30-day public comment period. The consultant shall also hold a public meeting to present the study results and recommendations and gather any final comments.

The consultant team will be expected to deliver twenty (20) paper copies of the report to MassDOT, as well as copies for each member of the Working Group. The final report should also be made available in accessible PDF format, with 100 compact disc copies provided to the Office of Transportation Planning. All electronic files (Word, PowerPoint, GIS Data layers, traffic analysis software, etc.) used to print the final report should also be provided to MassDOT on compact disc.

#### FINAL PRODUCTS FOR TASK CANAL-6:

- Draft final report
- PowerPoint document of recommendations
- Revised final report

#### TASK CANAL-7: Environmental Notification Form

The consultant will prepare and submit an Environmental Notification Form (ENF) for the improvements recommended in Task 5 along with a user-friendly report detailing

potential impacts to relevant resource areas and a technical appendix with appropriate background analysis in compliance with the Massachusetts Environmental Protection Act (MEPA). The report and technical appendix should consist primarily of revised versions of the final report and other materials prepared in Tasks CANAL-1 through CANAL-6. The ENF report will, at a minimum, include the following items:

1. Project Description – A detailed description of the elements of the project recommendations
2. Project Needs and Goals – A concise summary of why the project is being pursued and what its benefits would be. The description will identify how the current proposal is consistent or compatible with previous proposals, as well as how it may have been modified and improved to address future needs.
3. Alternatives – A discussion of the alternatives considered (including the No-Build scenario) and their expected impacts, measures to avoid and minimize impacts, and potential mitigation measures. The Preferred Alternative may be identified if that is the outcome of the recommendations in Task 5.
4. Public Outreach – A discussion of the public outreach efforts conducted to-date will be provided, along with a summary of support and concerns voiced at previous meetings. The continuing public participation plan will also be described.
5. Potential Impacts – A discussion of the potential impacts on, at a minimum, environmental justice populations, land use, hazardous materials release, electric and magnetic fields, alternative transportation modes, traffic, parking, noise, air quality/greenhouse gases, stormwater management, wetlands and water resources, fisheries/endangered species/wildlife, Chapter 91 compliance, federal lands, historical/archaeological resources, and open space/parkland/conservation land.
6. Mitigation – The report should highlight the mitigation strategies that encompass, to the maximum extent practicable, remedies for all the impacted areas noted above.
7. Funding – A discussion of the potential funding sources and potential construction timeframe.
8. Consistency with Local and Regional Plans – a review of the pertinent regional plans and documents (from CCC, SRPEDD, and OCPC), including its work on the upcoming Long Range Plan update, for applicability to the project. The report will also address how the project complies with state planning requirements and applicable MassDOT goals such as GreenDOT, Healthy Transportation Policy Directive, Mode Shift Goals, and the Global Warming Solutions Act.

Prior to initiation of Task CANAL-7, the consultant will consult with MassDOT staff and other regulatory stakeholders to determine if there is an opportunity to expedite the MEPA process for the recommended improvements by filing an Expanded Environmental Notification Form. Following this consultation and determination of action, the consultant will prepare a draft of the ENF form, report, and appendix in an accessible format consistent with MassDOT guidelines for review and comment by MassDOT Planning and the MassDOT Highway Division. Once the comments have been addressed, the consultant shall produce a final set of documents that shall be circulated in compliance with MEPA guidelines. The Consultant will also handle the logistics related to setting up a site visit in support of the ENF.

#### FINAL PRODUCTS FOR TASK CANAL-7:

- Completed ENF with all standard attachments and distribution list
- ENF report and technical appendix
- ENF site visit

## APPENDIX B: FEDERAL FISCAL YEAR 2018 PL FORMULA ALLOCATION

**massDOT** 2018 Unified Planning Work Program Funding  
Massachusetts Department of Transportation

|                                    | FFY 18               | FFY 17               | Δ            |
|------------------------------------|----------------------|----------------------|--------------|
| apportionment obligation authority | \$ 9,325,022         | \$ 9,074,202         |              |
| federal PL funds only              | 93.1%                | 93.1%                |              |
| matching funds added               | \$ 8,683,460         | \$ 8,449,897         |              |
|                                    | <b>\$ 10,854,326</b> | <b>\$ 10,562,371</b> | <b>2.69%</b> |

PL funds are provided to the MPOs from the previous year's federal-aid ("forward funded")

The recommended PL Allocation Formula was developed by the Massachusetts Association of Regional Planning Agencies and recommended by MassDOT to FHWA, is based upon the following three factors: 40% of available funds divided equally among the ten MPOs, 30% is allocated based on each MPO's relative share of Massachusetts population, and 30% is allocated based on each MPO's relative share of urbanized population. These factors result in the percentages shown.

| MPOs PL funded     | Contract status | 40% of total funds / ten MPOs |                  | 30% of funding for relative size of population |                     | 30% of funding for relative size of urbanized population |                | Total FFY16 funding by MPO |
|--------------------|-----------------|-------------------------------|------------------|--|---------------------|--|----------------|----------------------------|
|                    |                 | \$                            |                  | \$   |                     | \$   |                |                            |
|                    |                 | <b>\$ 4,341,730</b>           |                  | <b>\$3,256,298</b>                             |                     | <b>\$3,256,298</b>                                       |                | <b>\$ 10,854,326</b>       |
| Berkshire          | Yr 2            | \$ 434,173                    | 131,219          | 2.03%  | \$ 66,251           | 88,795   | 1.49%          | \$ 48,579                  |
| Boston             |                 | \$ 434,173                    | 3,161,712        | 48.56%   | \$ 1,581,198        | 3,098,347  | 51.57%         | \$ 1,679,135               |
| CTPS               | Yr 1            |                               |                  |  |                     |  |                | \$ 2,992,550               |
| MAPC               | Yr 1            |                               |                  |  |                     |  |                | \$ 701,956                 |
| Cape Cod           | Yr 2            | \$ 434,173                    | 215,888          | 3.35%  | \$ 108,999          | 198,826  | 3.34%          | \$ 108,776                 |
| Central Mass       | Yr 3            | \$ 434,173                    | 556,698          | 8.63%  | \$ 281,070          | 462,724  | 7.77%          | \$ 253,153                 |
| Merrimack Valley   | Yr 2            | \$ 434,173                    | 333,748          | 5.17%  | \$ 168,505          | 316,362  | 5.32%          | \$ 173,079                 |
| Montachusett       | Yr 3            | \$ 434,173                    | 236,475          | 3.67%  | \$ 119,393          | 171,236  | 2.88%          | \$ 93,682                  |
| Northern Middlesex | Yr 2            | \$ 434,173                    | 286,901          | 4.45%  | \$ 144,853          | 277,474  | 4.66%          | \$ 151,804                 |
| Old Colony         | Yr 3            | \$ 434,173                    | 348,527          | 4.94%  | \$ 160,856          | 328,231  | 5.02%          | \$ 163,627                 |
| Pioneer Valley     | Yr 2            | \$ 434,173                    | 621,570          | 9.64%  | \$ 313,823          | 537,074  | 9.02%          | \$ 293,829                 |
| Southeastern Mass  | Yr 3            | \$ 434,173                    | 616,670          | 9.56%  | \$ 311,349          | 531,236  | 8.93%          | \$ 290,635                 |
|                    |                 | <b>\$ 4,341,730</b>           | <b>6,449,550</b> | <b>100.00%</b>                                 | <b>\$ 3,256,298</b> | <b>5,952,013</b>   | <b>100.00%</b> | <b>\$ 3,256,298</b>        |

| RPA SPR funded    | Contract status | Δ     | SPR the year before (federal only) | FFY 16 total funding by RPA |
|-------------------|-----------------|-------|------------------------------------|-----------------------------|
| Franklin          | Yr 2            | 2.69% | \$ 406,796                         | \$ 522,172                  |
| Martha's Vineyard | Yr 2            | 2.69% | \$ 241,780                         | \$ 310,354                  |
| Nantucket         | Yr 1            | 2.69% | \$ 205,664                         | \$ 263,995                  |

The SPR funding provided to the RPAs not officially recognized as MPOs is adjusted year-to-year based on the change in funding experienced by the MPOs for their PL funds.



## APPENDIX C: COMMENTS ON PUBLIC DRAFT

This UPWP comment period officially began after the Cape Cod Metropolitan Planning Organization (MPO) voted to release the Draft UPWP for the public review/comment period. The MPO is expected to consider the UPWP FFY 2018 endorsement at their May 2017 meeting at the Cape Cod Commission Office at 3225 Main Street (Route 6A) in Barnstable, MA 02630. Comments on this UPWP may be sent by close of business on May 15, 2017 via mail, hand delivered, by facsimile, or via e-mail, as follows:

Mailed or dropped off:

Cape Cod Commission Transportation Program

Glenn Cannon, Technical Services Director

3225 Main Street (Route 6A)

PO Box 226

Barnstable MA 02630-0226

Sent by facsimile to the attention of Glenn Cannon, Technical Services Director, CCC:  
FAX: 508-362-3136

Electronic mail "email"—please put "UPWP" in the subject line and send to:  
[gcannon@capecodcommission.org](mailto:gcannon@capecodcommission.org)

### *Comments / Questions received on this UPWP:*

The attached Public Comment Summary Grid presents a summary of the comments received during the 30-day public comment period. The comments were presented in their entirety to the Cape Cod MPO during their May 2017 meeting where the body considered the comments. Consideration of the comments is detailed in the meeting minutes for that meeting. The response and any action taken by the MPO are summarized in this table. Discussion of UPWP activities is also included in the previous MPO and CCJTC meetings.

**APPENDIX D: UPWP CHECKLIST**

# 2018 Unified Planning Work Program Checklist



| Region:   |      |   |
|---|------|---|
| Review items:<br>UPWP Document  | Yes? | RPA Staff Comments  |
| Dates listed within the UPWP reflect FFY 2018?  | Yes  |   |
| UPWP links back to national planning factors (including the 2 new factors)?   | Yes  |   |
| 33% of PL funds result in tangible products?  | Yes  | Tasks 1, 2, and 3 are roughly proportional (Task 3 contains planning studies) |
| A geographic distribution table of UPWP funded studies by municipality, including name of beneficiary and number of tasks per year has been provided.   | Yes  | See Table 1 and Figure 1  |
| A narrative accompanying the geographic distribution table has been provided.   | Yes  |   |
| A section on Amendment/Adjustment Procedures for the UPWP has been provided and clearly outlined within the narrative (including, but not limited to: scope and/or budget changes, additions and deletions) | Yes  |   |
| Individual tasks have detailed scopes?  | Yes  |   |
| Individual tasks have budgets?  | Yes  |   |
| Individual tasks have schedules? (Begin/Completion Dates; Multi-Year Projects have schedules)   | Yes  |   |
| Individual tasks have outcomes?   | Yes  |   |
| Individual tasks have referenced a community beneficiary?   | Yes  |   |
| PPP and Title VI/EJ are separate tasks?   | Yes  |   |
| Is there a distinction between Title VI and EJ?   | Yes  |   |
| Corridor study scopes identify partnership with RTAs?   | Yes  | See task 3.1  |
| Tasks include any follow-up actions from Recertification findings?  | Yes  |   |
| UPWP narrative is updated to reflect regulatory changes from the FAST ACT?  | Yes  |   |
| Sufficient resources are provided to meet the requirements of performance based planning regulations?   | Yes  |   |

# 2018 Unified Planning Work Program Checklist



|   |     |                              |
|---|-----|------------------------------|
| Pedestrian planning includes sub-task to identify gaps in networks?                   | Yes | See task 4.3                 |
| Public health is identified in study scopes?  | Yes | See task 2.5                 |
| <b>UPWP Appendix</b>  |     |                              |
| UPWP Appendix includes other projects in the Region/Federal Grants?                   | Yes |                              |
| Relevant Glossary/Acronyms have been included   | Yes |                              |
| Public Comments as well as those from MassDOT and Federal Agencies have been included |     | to be included in final UPWP |

# Proposed FY2018 Funding Summary

|  | FHWA<br>PL funds                                 | MDOT<br>PL (match) | FTA<br>Sec 5303  | CCC              | Other            | Task Total       | Percent      |
|--|--|--------------------|------------------|------------------|------------------|------------------|--------------|
| <b>Task 1 Mgt &amp; Support of the Planning Process &amp; Certification Activities</b> |  |                    |                  |                  |                  |                  |              |
| 1.1  | Unified Planning Work Program                    | \$25,087           | \$6,272          |                  |                  | \$31,359         | 4.2%         |
| 1.2  | Transportation Improvement Program               | \$31,000           | \$7,750          |                  |                  | \$38,750         | 5.2%         |
| 1.3  | CCJTC and MPO Activities                         | \$46,371           | \$11,593         |                  |                  | \$57,964         | 7.8%         |
| 1.4  | Environmental Justice/Title 6                    | \$32,000           | \$8,000          |                  |                  | \$40,000         | 5.4%         |
| 1.5  | Public Participation Plan                        | \$13,000           | \$3,250          |                  |                  | \$16,250         | 2.2%         |
| 1.6  | Regional Transportation Plan                     | \$22,000           | \$5,500          |                  |                  | \$27,500         | 3.7%         |
| <b>Total for Task 1</b>  |  | <b>\$169,458</b>   | <b>\$42,365</b>  |                  |                  | <b>\$211,823</b> | <b>28.6%</b> |
| <b>Task 2 Data Collection &amp; analysis activities</b>                                |  |                    |                  |                  |                  |                  |              |
| 2.1  | Traffic Data Collection Program                  | \$32,000           | \$8,000          |                  |                  | \$40,000         | 5.4%         |
| 2.2  | Performance Standards                            | \$17,000           | \$4,250          |                  |                  | \$21,250         | 2.9%         |
| 2.3  | Transportation database management               | \$27,000           | \$6,750          |                  |                  | \$33,750         | 4.6%         |
| 2.4  | Pavement Management                              | \$30,000           | \$7,500          |                  |                  | \$37,500         | 5.1%         |
| 2.5  | Healthy Transportation                           | \$30,000           | \$7,500          |                  |                  | \$37,500         | 5.1%         |
| 2.6  | Geographic Information Systems                   | \$30,000           | \$7,500          |                  |                  | \$37,500         | 5.1%         |
| <b>Total for Task 2</b>  |  | <b>\$166,000</b>   | <b>\$41,500</b>  |                  |                  | <b>\$207,500</b> | <b>28.0%</b> |
| <b>Task 3 Short and long range planning</b>  |  |                    |                  |                  |                  |                  |              |
| 3.1  | Route 6 Interchanges                             | \$56,000           | \$14,000         |                  |                  | \$70,000         | 9.5%         |
| 3.2  | Transportation Safety                            | \$30,000           | \$7,500          |                  |                  | \$37,500         | 5.1%         |
| 3.3  | Bike Planning                                    | \$35,000           | \$8,750          |                  |                  | \$43,750         | 5.9%         |
| 3.4  | Planning Resilient Transportation Infrastructure | \$25,000           | \$6,250          |                  |                  | \$31,250         | 4.2%         |
| 3.5  | Follow up on Previous Studies                    | \$21,600           | \$5,400          |                  |                  | \$27,000         | 3.6%         |
| <b>Total for Task 3</b>  |  | <b>\$167,600</b>   | <b>\$41,900</b>  |                  |                  | <b>\$209,500</b> | <b>28.3%</b> |
| <b>Task 4 Other technical activities</b>   |  |                    |                  |                  |                  |                  |              |
| 4.1  | Transit Planning                                 |                    |                  | \$40,000         | \$10,000         | \$50,000         | 6.8%         |
| 4.2  | Support for Passenger Rail Service               |                    |                  | \$5,000          | \$1,250          | \$6,250          | 0.8%         |
| 4.3  | Sidewalk Accessibility to Transit Stops          |                    |                  | \$25,947         | \$6,487          | \$32,434         | 4.4%         |
| 4.4  | Other Technical Assistance Requests              | \$18,500           | \$4,625          |                  |                  | \$23,125         | 3.1%         |
| <b>Total for Task 4</b>  |  | <b>\$18,500</b>    | <b>\$4,625</b>   | <b>\$70,947</b>  | <b>\$17,737</b>  | <b>\$111,809</b> | <b>15.1%</b> |
| <b>Subtotal Task 4 FTA 5303 with CCC Match</b>   |  |                    |                  | <b>\$88,684</b>  |                  |                  |              |
| <b>Task 5 CCC Planning and regulatory activities</b>                                   |  |                    |                  |                  |                  |                  |              |
| 5.1  | Regulatory                                       |                    |                  | \$32,450         |                  |                  |              |
| 5.2  | Planning   |                    |                  | \$41,342         |                  |                  |              |
| 5.3  | Other transportation activities                  |                    |                  | \$58,671         |                  |                  |              |
| <b>Total for Task 5</b>  |  |                    |                  | <b>\$132,463</b> |                  |                  |              |
| <b>Totals</b>  |  | <b>\$521,558</b>   | <b>\$130,390</b> | <b>\$70,947</b>  | <b>\$150,200</b> | <b>\$740,632</b> | <b>100%</b>  |
| <b>Key:</b>  |  |                    |                  |                  |                  |                  |              |
| 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  |  |                    |                  |                  |                  |                  |              |

## CAPE COD COMMISSION

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