CAPE COD
COMMISSION

Cape Cod
Unified Planning Work Program
Federal Fiscal Year 2021

Adopted May 19, 2020

Administrative Adjustment: September 17, 2020

DRAFT Amendment #1: For October 19, 2020 MPO Review

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

Schedule: Ongoing

Beneficiary Communities: All

Funding Source	Amount
FHWA/MassDOT	$31,250

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

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.

- Update and modernize transportation databases for compatibility with other in-house and state databases and tools. The Commission currently maintains its transportation-related data in a legacy database system that performs a number of functions including traffic count schedule management, data storage and analysis, and output of summary statistics. CCC staff, with the support of a consultant, will convert the database to a Microsoft SQL platform while maintaining and improving its functionality and increasing its efficiency and accessibility. The consultant support will account for $20,000 of the budget within this task. The database migration (and the consultant effort) will begin in September 2020 and be completed by October 2021.

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

Funding Source	Amount
FHWA/MassDOT	$31,250

TASK 2.4 – PAVEMENT MANAGEMENT