



CAPE COD
COMMISSION

2024 REGIONAL TRANSPORTATION PLAN

Technical Appendix M:
Transportation Project Analysis

**DRAFT
2023**



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Technical Appendix M: Transportation Project Analysis

UNIVERSE OF PROJECTS

The universe of projects identified for funding can be divided into one of four funding categories:

- Transportation Projects
- Transportation Programs
- Smart Solutions
- Transportation Studies

A **“transportation project”** is specific in the location and nature of construction or other activity that is anticipated. Examples of potential transportation projects include the Provincetown Shank Painter Road and Route 6 Improvement project and the construction of a new multi-use trail from the end of the existing Shining Sea Bikepath to the Cape Cod Canal Path. Any project over \$20 Million in total cost must be included in the RTP to receive federal funding. Projects under \$20 Million may be included in the RTP depending on the level to which the project has been developed.

Given that the RTP, covers a 20-25-year time-span it beyond our ability to define every specific transportation project that will implemented. Therefore, **“transportation programs”** identifying categories of specific transportation projects that are anticipated to be implemented and identifying funds to pay for these bundles of transportation projects. Examples of potential transportation programs include roadway resurfacing, intersections improvements, and transit operating assistance and capital needs.

“Smart solutions” are initiatives that do not require major investments in capital or operations. Examples of potential smart solutions include coordination of Cape Cod Regional Transit Authority and ferry schedules with each other and the development of a Cape-wide bicycle route system.

Finally, **“transportation studies,”** seek to solve problems through planning efforts that focus on analysis of alternatives and public participation. These transportation studies ultimately identify solutions to problems that may be in the form of future transportation projects, programs, and/or smart solutions.

Each of the transportation projects, transportation programs, smart solutions, transportation studies listed with the universe of projects includes the town, title, description, and category. A score is presented for projects that have been scored the Transportation Improvement Program

(TIP) Transportation Evaluation Criteria. Remaining project are considered to be a “stage zero” with insufficient information on the nature of the potential project to score the project. These criteria, as summarized in the table below, were approved by the Cape Cod MPO following the adoption of the 2020 RTP. These criteria may be updated following the adoption of the 2024 RTP to ensure consistency between on RTP and the TIP.

TABLE 1. Transportation Improvement Program (TIP) Transportation Evaluation Criteria

| CATEGORY | CRITERIA | POINTS (OUT OF 100) |
|---------------------------------------|--|------------------------|
| System Preservation and Modernization | ■ Primary asset condition / effect on condition | 35 |
| | ■ Sidewalks and other infrastructure enhancement | |
| | ■ Use of modern technology/ITS regional efforts | |
| Mobility | ■ Motorist congestion | 10 |
| | ■ Non-motorist congestion | |
| | ■ Effect on Connectivity / access | |
| Safety | ■ Motorist crash history and anticipated safety impact | 10 |
| | ■ Non-motorist crash history and anticipated safety impact | |
| Economic Impact | ■ Access to or within a regionally-designated economic development area | 10 |
| | ■ Access to or within a locally-designated business district | |
| | ■ Connections between housing, job, cultural centers, and essential services | |
| | ■ Ability of the region’s freight network to handle current and future freight needs | |
| Environmental and Health Effects | ■ Wetlands, wildlife, or other resource protection | 10 |
| | ■ Water quality through stormwater management and treatment | |
| | ■ Air quality / GHG emission | |
| | ■ Coastal Resiliency/Sea Level Rise Vulnerability | |
| | ■ Cultural resources or open space | |
| | ■ Healthy Transportation Options | |
| Cost Effectiveness | ■ Project cost per user | 15 |
| Policy Support | ■ Community support (demonstrated through highest elected officials) | 10 |
| | ■ Regional plans/policies | |
| | ■ Local plans/policies | |
| | ■ Supports Federal/State policies/goals | |

The Universe of Projects for the 2024 RTP are shown on the following pages.

| RTP# | Type | TOWN | Title | Description | Category |
|------|----------------|-------------------|---|--|--------------------|
| 4027 | Project | Barnstable | Rt 6A W. Barnstable Sidewalk | Construct sidewalk along Route 6A in W. Barnstable | Bicycle/Pedestrian |
| 4000 | Smart Solution | Barnstable | CCRTA Bike Rental | Provide bike rental service at Hyannis Transportation Center | Bicycle/Pedestrian |
| 3802 | Project | Barnstable | Hyannis Access Improvements | Improve access to downtown Hyannis per Hyannis Access Study. Construct 2 additional travel lanes w/landscaped median on Yarmouth Road to connect from existing 4-lanes in Yarmouth to Route 28 in Hyannis. Includes multi-use path and sidewalk. Implement rotary retrofit to Airport Rotary | Highway |
| 3340 | Project | Barnstable | Truck Staging at Route 6 Interchange | Construct truck transfer staging area near a Route 6 (e.g., Exit 6 or Exit 7) interchange for transfer of freight from large trucks to smaller trucks for destinations in the Hyannis Area. Consider rail freight transfer. | ITS/Management |
| 5013 | Study | Barnstable | Route 149 Improvements | Improve grading and alignment of Route 149; includes bicycle and pedestrian accommodations | Multi-Modal |
| 3804 | Study | Barnstable | Exit 6 Park-and-Ride Lot Expansion | Examine options at Exit 6 Park-and-Ride Lot such as parking structure or surface lot expansion to expand parking supply | Park & Ride |
| 3303 | Project | Barnstable | Route 132 Corridor Improvements | Construct median, signal improvements, and multi-modal improvements to improve safety from Airport Rotary to Bearses Way | Safety |
| 3308 | Project | Barnstable | Airport Rotary Traffic Improvements | Reconfigure Airport Rotary to improve traffic flow and safety. May include realignment of approaches and reduction of diameter to conform to modern roundabout design. Includes multi-modal improvements | Safety |
| 3318 | Project | Barnstable | Barnstable Roundabout | Improve traffic flow and safety of the Route 6A/Route 132 intersection through channelization of traffic movements (roundabout) | Safety |
| 5031 | Project | Barnstable | Route 28 at Santuit-Newtown Road Intersection Improvement | Route 28 at Santuit-Newtown Road intersection improvement to address this high crash location. | Safety |
| 5032 | Project | Barnstable | Route 28 at Pitchers Way Intersection Improvement | Route 28 at Pitchers Way intersection improvement to improve safety at this high crash location and incorporate multi-modal accommodations to connect to the Bearses Way improvements. | Safety |
| | Project | Barnstable | Bicycle Lockers | Install secure bicycle storage at Hyannis Transportation Center (i.e. bike lockers) | Bicycle/Pedestrian |
| | Program | Barnstable | CCRTA TOD | CCRTA Transit Oriented Development improvements in Hyannis | Transit |
| | Project | Barnstable | CCRTA Transit Station Improvements | Hyannis Transit Center Infrastructure and Building Improvements | Transit |
| 3367 | Project | Barnstable Boston | Barnstable-Boston Ferry Service | Ferry service: Barnstable to Boston | Ferry |
| 5011 | Smart Solution | Barnstable Boston | Passenger Rail - Hyannis | Expand passenger rail service to Hyannis | Rail |
| 4046 | Project | Barnstable Bourne | Upper/Mid Cape Real Time Traffic Information System | Real Time Traffic Information System -- Design Build of year-round 24/7 Web based traffic information system based on cameras, sensors, with 511 to reduce road rage, congestion, and improve mobility and incident management through improved information | ITS/Management |
| 4009 | Smart Solution | Boston | Logan Intercity Bus Information | Provide real-time bus location information, schedules, fares etc. for service from Logan to Cape Cod | ITS/Management |
| 3331 | Project | Bourne | Scenic Highway/Rte 25 Connector Ramp | Develop a direct connection from Scenic Highway to Rte. 25 to divert traffic from the Belmont Circle. | Highway |

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|-------------|-----------------------|---|---|---|---------------------|
| 3304 | Project | Bourne | Bourne Rotary Improvements | Reconfigure Bourne rotary to allow direct connection between Bourne Bridge to Route 28 (MacArthur Blvd). Interim improvements to improve flows and safety at rotary entrances and exits by widening and pavement markings/signage. | Highway |
| 3322 | Project | Bourne | Rte 28 MacArthur Boulevard Improvements | Bourne - Construction of 2 new northbound lanes on Rte 28, reverse existing northbound, existing southbound becomes frontage road | Highway |
| 5003 | Project | Bourne | Exit 1C Ramp Relocation | Relocated westbound Route 6 Exit 1C ramps away from Sagamore Bridge | Highway |
| 4087 | Project | Bourne | Reconfigure Route 6/28 Bypass (Buzzards Bay) | Reduce road width to 1 travel lane in each direction; provide local access to cross-streets; construct multi-use path from Memorial Circle to Belmont Circle. Per 2007 "Buzzards Bay Village Comprehensive Transportation Plan." | Highway |
| 4086 | Project | Bourne | Memorial Circle Reconfiguration (Routes 6/28, Main Street Buzzards Bay) | Convert Memorial Circle to 4-way Intersection; includes slip lane connection for eastbound Routes 6/28 to Main Street. Per 2007 "Buzzards Bay Village Comprehensive Transportation Plan." | Highway |
| 3306 | Project | Bourne | Infrastructure Improvements for Buzzards Bay Commuter Rail Service | Infrastructure Improvements (Platform, Parking, etc.) for Buzzards Bay Commuter Rail Service | Rail |
| 4010 | Study | Bourne | Rail Connection at "Y" | Examine construction of direct connection from Canal-side rail to Falmouth rail (eliminating need to lower Canal rail bridge) | Rail |
| 3300 | Project | Bourne | Scenic Highway Median Barrier | Complete construction of median barrier along Route 6 Scenic Highway from Nightingale Rd to Edgehill Rd in Bourne | Safety |
| 3805 | Study | Bourne | Sagamore Bridge Speed Management | Identify measures to encourage safe speeds on Route 3 and Route 6 approaches to the Sagamore Bridge | Safety |
| 5010 | Smart Solution | Bourne Boston | Passenger Rail - Buzzards Bay | Expand passenger rail service to Buzzards Bay | Rail |
| 4004 | Study | Bourne Falmouth | Falmouth-Wareham Bike Connection | Connect Falmouth bike paths to Bourne/Wareham town line at William Dalton Bridge including connection to Cod Canal bike paths | Bicycle/Pedestrian |
| 5015 | Project | Bourne Sandwich Barnstable Yarmouth Dennis Brewster Orleans | Route 6A Improvements | Provide bicycle & pedestrian accommodations along Route 6A | Bicycle/Pedestrian |
| 3301 | Project | Bourne Sandwich Barnstable Yarmouth Dennis Harwich Brewster Orleans | Interchange Improvements Rte 6 | Mid-Cape Hwy - Implement improvements to Route 6 Interchanges and on and off ramps | Highway |
| 4011 | Project | Bourne Sandwich Barnstable Yarmouth Dennis Harwich Brewster Orleans | Route 6 Hydroplaning | Route 6 stormwater improvements to remove runoff from traveled way, including construction of shoulders as needed | Safety |
| 3807 | Project | Bourne, Sandwich | Cape Cod Canal Bridge Program | Replace existing Cape Cod Canal bridges and improve Canal Area roadways and approaches. Includes expansion of multimodal accommodations | Highway |
| 3006 | Project | Bourne, Sandwich | Cape Cod Canal Park-and-Ride Lot(s) Improvements | Construct new and/or expand existing Park-and-Ride facilities on both sides of the Cape Cod Canal near highway bridges | Multi-Modal |
| | Project | Brewster | Linnell Road Bike Path Connection | Construct a connection from the CCRT to Linnell Landing and the future development at the former CCSC bay property | Bicycle/Pedestrian |
| 5000 | Project | Capewide | Bike Path Connectors to town centers | Bike Path Connectors to town centers per CCC studies | Bicycle/Pedestrian |
| 5001 | Project | Capewide | Bikeshare | Deploy bikeshare bicycles to village centers and strategic locations | Bicycle/Pedestrian |
| | Program | Capewide | E-Bikes | Deploy electric bike charging stations across the region | Bicycle/Pedestrian |
| | Smart Solution | Capewide | Car Share | Encourage a car share service to reduce burden of car ownership for those who might be underserved or regionally isolated. | Multi-Modal/Transit |
| | Program | Capewide | E-Bikes | Fund Cape Light Compact e-bike rebate program annually and partner with a bank to provide low interest financing for purchases | Bicycle/Pedestrian |
| 3022 | Program | Capewide | Bicycle/Pedestrian Projects | Bicycle and/or pedestrian facilities and programs. Includes development of a regional bike network, bike lane construction, bicycling accessibility improvements and amenities, pedestrian accessibility improvements and sidewalk network expansion. | Bicycle/Pedestrian |

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|-------------|-----------------------|----------|---|---|--------------------|
| 3005 | Program | Capewide | Safe Routes to Schools | Installation of sidewalks and provide other improvements and programs to promote safe routes to schools | Bicycle/Pedestrian |
| 3718 | Smart Solution | Capewide | Zoning/Planning Support for Sidewalks | Improve zoning regulations & planning efforts to invest in sidewalks and bicycle parking/amenities | Bicycle/Pedestrian |
| | Smart Solution | Capewide | Zoning/Parking Regulations | Eliminate the land use regulations that promote low-density development – such as mandated parking and exclusionary single-family zoning – and continue to dig us deeper into a hole of car dependency | Climate Change |
| 5016 | Project | Capewide | Shared Use Path Crossing Improvements | Install uniform safe road crossings for shared use paths | Bicycle/Pedestrian |
| 3020 | Program | Capewide | Bridge | Bridge Replacement/Reconstruction | Bridge |
| 5020 | Program | Capewide | Climate Change Adaptation & Mitigation | Implement adaptive measures at strategic locations to respond to the effects of climate change. Includes technological upgrades to support the electrification of the transportation system | Climate Change |
| 5002 | Study | Capewide | EV Charging Stations | Deploy electric vehicle charging stations at strategic locations throughout Cape Cod | Enhancements |
| 3391 | Study | Capewide | Renewable Fuels Pilot Stations | Develop pilot stations for renewable fuels such as biodiesel and ethanol. Proposal includes one station in the Mid-Cape area and one in the Outer Cape area | Enhancements |
| 3832 | Study | Capewide | Renewable Fuels Partnership Strategic Implementation Plan | Identify potential renewable fuel options, technologies, markets, and infrastructure needs to make use of biofuels both viable and sustainable | Enhancements |
| 5026 | Program | Capewide | Installation of DC Fast Charging Stations | Installation of DC Fast Charging Stations along Route 6 and other regionally strategic locations | Enhancements |
| 5028 | Program | Capewide | Electrification of CCRTA transit fleet | Implementation of CCRTA transit fleet electrification study according to CCRTA strategic plan | Enhancements |
| 2022 | Program | Capewide | Culvert & Bridge Abutment Improvements | Remove tidal restrictions and restore river and stream connectivity | Environmental |
| 5021 | Program | Capewide | Stormwater Treatment | Improve roadway stormwater volume and treatment including nutrient management in key watersheds | Environmental |
| 5027 | Program | Capewide | Priority Low Lying Roads segments | Implementation of resilience projects for priority Low Lying Roads segments | Environmental |
| 3025 | Program | Capewide | New Ferry Service | Passenger ferries/water taxis connecting Cape Cod harbors | Ferry |
| 3364 | Project | Capewide | HOV Lanes | Construct High-Occupancy Lanes at key segments of freeways such as Route 6, 3, 25, and 28. | Highway |
| 3000 | Program | Capewide | Roadway Rehabilitation & Reconstruction | Roadway resurfacing, rehabilitation, and reconstruction | Highway |
| 3001 | Program | Capewide | Intersection Improvements | Intersection Improvements, including roundabouts, to address safety and congestion relief. Includes left-turn lanes & phases at signalized intersections | Highway |
| 3319 | Project | Capewide | Transportation Management Center | Design & construct Operations Center to monitor traffic operations, issue real-time reports to traveling public, control variable message signs and coordinated traffic signals | ITS/Management |
| 3310 | Project | Capewide | Canal Area Intelligent Transportation System | Expand transportation monitoring system to improve congestion & safety while providing real-time information Capewide & beyond | ITS/Management |
| 3371 | Project | Capewide | Outer Cape ITS Operations Control Center | Design and build an initial control center to accommodate ITS deployment for the Outer Cape | ITS/Management |
| | Project | Capewide | Outer Cape Intermodal Center | Build an intermodal or dispatch center in the Outer Cape to provide microtransit | Transit |
| 3372 | Project | Capewide | Information Kiosks | Procure, install, and enable public transportation information kiosks | ITS/Management |
| 3379 | Project | Capewide | Upgrade Radio System for CCRTA Service | Improve communications systems and provide capacity to accommodate ITS components /Narrowband Radio. | ITS/Management |
| 3374 | Project | Capewide | Surveillance Cameras | Permit, and install surveillance cameras for the Outer Cape to observe traffic conditions and monitor Nat'l Seashore parking facilities. | ITS/Management |
| 3009 | Program | Capewide | Cape-wide Intelligent Transportation Systems (ITS) | Design and implement real-time transportation monitoring and notification technologies at facilities throughout Cape Cod. Includes highway and transit users traveling to and within Barnstable County. | ITS/Management |

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| 3002 | Program | Capewide | Land Conservation | Strategic purchase of land to reduce sprawl and inefficient allocation of transportation resources. Also used to acquire land for improvement of intersections and protection of operations at new interchanges | ITS/Management |
| 3011 | Program | Capewide | Access Management | Eligible for all state and local numbered routes. Curb cut consolidation, medians, other access improvements | ITS/Management |
| 3024 | Program | Capewide | Travel Demand Management/Transportation Systems Management (TDM/TSM) | Travel Demand Management/Transportation Systems Management projects (TDM/TSM). Includes support of Transportation Management Associations (TMAs). Provide assistance to employers and institutions for the development and coordination of alternative transportation options for employees and patrons. | ITS/Management |
| 3035 | Program | Capewide | Congestion Management | Consider peak period pricing at strategic locations to provide funding for transportation needs | ITS/Management |
| 3702 | Smart Solution | Capewide | Right-of-Way Preservation | Maintain rights-of-way for future transportation uses and to avoid future traffic generation | ITS/Management |
| 3703 | Smart Solution | Capewide | Vanpooling & Carpooling Incentives | Provide incentives to increase vanpooling and carpooling | ITS/Management |
| 3704 | Smart Solution | Capewide | Employer TDM Plans | Create incentives for employers to prepare and implement Travel Demand Management (TDM) plans (>25 Employees) | ITS/Management |
| 3705 | Smart Solution | Capewide | Redesignate 195 & 495 | Redesignate Route 25 Extension as Route 195 or Route 495 or Route 195/495 | ITS/Management |
| 3706 | Smart Solution | Capewide | Remote Continuous Traffic Counting | Encourage installation of equipment at signalized intersections and other locations to conduct traffic counts throughout Cape Cod throughout the year using remotely-accessible detection equipment | ITS/Management |
| 3707 | Smart Solution | Capewide | Carpooling "Stands/Stops" | Install signage and implement education & marketing program for the use of carpooling stands/stops" to promote higher occupancy vehicle use | ITS/Management |
| 3717 | Smart Solution | Capewide | Wi-Fi Hotspots | Install wireless internet services at strategic locations throughout Cape Cod | ITS/Management |
| 3809 | Study | Capewide | Sustainable Freight Options Study | Conduct a study of sustainable freight options to follow-up on the Freight Study completed February 2015 | ITS/Management |
| 3819 | Study | Capewide | Evaluation of Existing Transit Info Software/Procurement | Evaluate customer information software to be used for a web-based system to support CCRTA operations | ITS/Management |
| 3826 | Study | Capewide | ITS Evaluation and Phase II Recommendation study | Evaluate ITS deployment and make recommendations. | ITS/Management |
| 4076 | Program | Capewide | Mashpee Wampanoag Roadway & Transit Projects | Implement roadway & transit improvements to improve accessibility & mobility to and within tribal lands in Mashpee | Multi-Modal |
| 3028 | Program | Capewide | Park-and-Ride Lot Management | Monitor parking usage of parking facilities at Barnstable, Sagamore, Harwich; identify & acquire new facilities, expansions as necessary | Multi-Modal |
| 3716 | Smart Solution | Capewide | Vanpooling at Steamship Authority Lots | Permit use of Steamship Authority parking facilities for vanpooling | Multi-Modal |
| 4077 | Study | Capewide | Mashpee Wampanoag Roadway & Transit Study | Identify roadway& transit improvements to improve accessibility & mobility to and within tribal lands in Mashpee | Multi-Modal |
| 5025 | Project | Capewide | Bicycle Wayfinding | Install bicycle wayfinding signage for on-road bicycle facilities (i.e. State Bike Route 1) and wayfinding to rail trails and to connect to village centers. | Multi-Modal |
| 3381 | Project | Capewide | Parking Improvement Implementation - Phase 1 | Develop inland parking for the National Seashore | Park & Ride |
| 3018 | Program | Capewide | Railway Infrastructure | Maintain & provide rail infrastructure | Rail |
| 5005 | Study | Capewide | Freight Rail | Increase use of rail for movement of freight | Rail |
| 4008 | Program | Capewide | Adaptive Signalization | Install and maintain signal prioritization hardware (e.g., Opticom) at traffic signals to improve public safety vehicle access, and transit priority | Safety |
| 3036 | Program | Capewide | Street Lighting | Install street lighting in high crash and pedestrian and transit activity areas | Safety |

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|-------------|-----------------------|----------|--|--|-------------|
| 3034 | Program | Capewide | Underground Utilities/Pole Relocation | Remove above ground utilities adjacent to roadways and install them underground or away from roadsides to improve safety where appropriate | Safety |
| 3033 | Program | Capewide | Vegetation Management | Implement a comprehensive program to trim/remove vegetation from encroaching areas | Safety |
| 3019 | Program | Capewide | Red Light Running Cameras | Support legislation to allow installation of red-light running cameras at high-crash signalized intersections | Safety |
| 3007 | Program | Capewide | Traffic Calming | Promote the installation of traffic calming features at town accepted locations | Safety |
| 3700 | Smart Solution | Capewide | Speed Management | Implement education, signage and enforcement to lower traffic speeds on roadways with speed-related safety problems | Safety |
| 3708 | Smart Solution | Capewide | Bicycling & Motorist Traffic Law Enforcement | Enforce traffic laws on bicyclists and motorists | Safety |
| 3342 | Project | Capewide | Emergency Routes & Shelters Signage | Install signage indicating emergency routes and shelter locations | Security |
| 3811 | Study | Capewide | Disaster/Emergencies/Security Plan | Develop plans to address disasters, emergencies, and security issues | Security |
| 3813 | Study | Capewide | Railways for Transporting Emergency Supplies | Develop contingency plan to use railways for transporting supplies during emergencies | Security |
| 5019 | Project | Capewide | Transit Frequency Improvements | Increase frequency of transit service (including additional night & weekend service) | Transit |
| 4052 | Project | Capewide | Intercity Commuter Rail | Intercity Commuter Rail service from Buzzards Bay to Boston (year round) | Transit |
| 3385 | Project | Capewide | Beach Shuttle Expansion | Acquire additional buses to accommodate inland National Seashore parking needs - National Park Service. | Transit |
| 4017 | Project | Capewide | Expansion of Next-Gen Mobile Data Terminals to Paratransit | Install new and upgrade existing dynamic transit service signage displays, global positioning systems (GPS), automatic vehicle location (AVL) systems, in-vehicle navigation systems, digital driver manifests and mobile data collection. | Transit |
| 3021 | Program | Capewide | Transit Operating | Transit Operating Assistance | Transit |
| 3015 | Program | Capewide | Additional CCRTA Service | Public transit shuttles connecting villages along Route 6A from Sandwich to Orleans, Provincetown-Orleans Shuttle, etc. | Transit |
| 3320 | Program | Capewide | Local Transportation Centers | Construct intermodal transportation centers in Buzzards Bay, Orleans, Mashpee etc. | Transit |
| 3037 | Program | Capewide | Bus Service Amenities | Provide bus schedule signage & related amenities | Transit |
| 3004 | Program | Capewide | Transit Marketing, Promotion & Education | Implement education programs and marketing and promotion activities to support public transit | Transit |
| 4021 | Program | Capewide | Construction of Enhanced Bus Shelters | Build intelligent, accessible, and energy efficient Cape Cod style bus shelters that provide real-time customer information and amenities. | Transit |
| 4014 | Smart Solution | Capewide | CCRTA Coordination | Coordinate schedules and service between CCRTA and regional service providers | Transit |
| 3715 | Smart Solution | Capewide | Transit Education & Marketing on Local TV | Implement education programs and marketing activities on community-access television to support public transit | Transit |
| 3829 | Study | Capewide | Develop Origin/Destination Transit Mode Split Model | Create a transit model for Cape Cod | Transit |
| | Program | Capewide | Cape Cod TMA | Establish a Cape Cod Transportation Management Association to encourage carpooling and transportation demand measures to reduce greenhouse gas emissions | Multi-Modal |
| | Program | Capewide | CCRTA Zero Emissions Fleet | Implementation of Cape Cod Regional Transit Authority Zero Emissions Vehicle Fleet Charging Infrastructure | Transit |

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|-------------|----------------|-----------------|---|--|--------------------|
| | Program | Capewide | | Pr | |
| | Program | Capewide | Speed Reduction in Village Centers | Develop Safe Speed standards with MassDOT for village center areas along Route 28 and Route 6A | Safety |
| 4035 | Project | Chatham | Rt 28/Crowell Rd/Depot Rd/Queen Anne Rd Intersection Improvements | Intersection improvements at Rt 28/Crowell Rd/Depot Rd/Queen Anne Rd in Chatham | Highway |
| | Project | Dennis | Route 6A/Route 134 Intersection Improvements | Upgrade intersection to include pedestrian accommodations and signal upgrades | Bicycle/Pedestrian |
| | Project | Dennis | Route 28 Complete Street Upgrade | Upgrade Route 28 Corridor to include sidewalks and bicycle lanes from Old Main Street to Dennis Commons (Phase III) | Bicycle/Pedestrian |
| | Project | Dennis | Lower County Road Bridge over Swan River | Replace 1955 bridge | Bridge |
| | Project | Dennis | Highbank Road Bridge over Bass River | Replace 1953 bridge | Bridge |
| 4079 | Project | Dennis | Rt 6A (Dennis) Sidewalks | Route 6A sidewalks Yarmouth TL to Sesuit Neck Road | Bicycle/Pedestrian |
| 4080 | Project | Dennis | Rt 134 (Dennis) Bike/Ped Accommodation | Route 134 multi-modal and safety improvements from Bob Crowell Road to Theophilus Smith Rd | Bicycle/Pedestrian |
| 5023 | Project | Dennis | Rt 6 Bridge over Bass River | Bridge replacement/rehabilitation of Route 6 bridge over Bass River | Bridge |
| 4053 | Project | Dennis | Rt 134/Airline Rd Roundabout | Route 134 at Airline Road, Intersection Improvements (roundabout) | Highway |
| | Project | Dennis | CCRTA New Maintenance Facility | Cape Cod Regional Transit Authority New Maintenance Facility | Transit |
| 5029 | Project | Dennis/Yarmouth | Route 28 Bass River Bridge Replacement | Route 28 Bass River Bridge Replacement project to address this deficient structure and incorporate multi-modal accommodations. | Bridge |
| 4006 | Study | Eastham | Route 6 Complete Street | Route 6 in Eastham: add bike accommodation, improve sidewalks, bus turnouts & stops to create "Complete Street" | Multi-Modal |
| 3359 | Project | Eastham | Route 6/Gov. Prence Road Intersection Improvements | Install improvements at Route 6/Governor Prence Road intersection in Eastham | Safety |

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|-------------|-----------------------|---|--|--|--------------------|
| 4078 | Project | Eastham | Governor Prence Road reconstruction and improvements | Reconstruction to improve sub-surface, pavement, and multimodal accommodation | Safety |
| 4001 | Project | Eastham Orleans | Eastham Rotary Retrofit | Rotary retrofit safety improvements with signage and striping. Include bike/ped accommodation to connect Orleans to Rock Harbor Rd & Rt 6 in Eastham via periphery of rotary | Safety |
| 5014 | Project | Falmouth | Route 151 Improvements-Falmouth | Provide bicycle & pedestrian accommodations along Route 151 | Bicycle/Pedestrian |
| 3337 | Project | Falmouth | Cross-Falmouth Bikepath | Bike path connection from E. Falmouth to Gifford St. to Shining Sea Bike Path | Bicycle/Pedestrian |
| 4005 | Smart Solution | Falmouth | New Bedford-Martha's Vineyard Freight | To reduce traffic on Woods Hole Rd, operate barges between New Bedford and Martha's Vineyard to carry fuel trucks and garbage trucks. | Ferry |
| 5030 | Project | Falmouth | Route 28A at Route 151 Intersection Improvement | Route 28A at Route 151 Intersection Improvement Project to address this high crash locatoin and incorporate multi-modal accomodations | Safety |
| 5024 | Project | Falmouth | Route 151 Safety | Route 151 corridor improvement project to improve safety along this high speed corridor. Key intersection upgrades. | Safety |
| 3368 | Project | Falmouth and Hyannis to New Bedford | 2 New Ferry Services | Provide new ferry services: New Bedford-Woods hole, New Bedford-Hyannis | Ferry |
| 4088 | Project | Falmouth Bourne Sandwich Barnstable Yarmouth | Cape Cod Bike Path Extensions (Mid- and Upper-Cape) | Extend path (Cape Cod Rail Trail) from Yarmouth to Canal bikepath and from Canal through Bourne to Shining Sea Bikeway (Bourne Rail Trail) | Bicycle/Pedestrian |
| 3324 | Project | Falmouth, Mashpee, Barnstable, Yarmouth Dennis, Harwich, Chatham, Orleans | Rte 28 Multimodal Improvements | Multimodal improvements on Route 28 from Falmouth to Orleans including markings, signage, minor widening, multi modal and intersection improvements per the MassDOT Rte 28 Complete Streets Study. | Multi-Modal |
| 3803 | Project | Falmouth, Mashpee, Barnstable, Yarmouth, Dennis, Harwich, Chatham | Southside Bike Route | Define network (on- and off-road) for bike route from Woods Hole to Chatham | Bicycle/Pedestrian |
| 4082 | Project | Harwich | Bike Path Connector | Bike Path Connection from Old Colony Rail Trail to Rt 28 & Beaches (Harwich) | Bicycle/Pedestrian |
| 3014 | Program | Harwich to Truro | Flex Parking | Construct or designate parking areas for The Flex transit service | Multi-Modal |
| 5008 | Project | Mashpee | Route 151 Improvements Mashpee | Provide bicycle & pedestrian accommodations along Route 151 and safety upgrades along corridor. | Bicycle/Pedestrian |
| 5007 | Study | Mashpee | Mashpee Rotary Area Improvements | Modify Mashpee Rotary and approaches to improve traffic flow and safety. Includes accomodations for bicycle and pedestrian use. | Multi-Modal |
| 3361 | Project | Mashpee Barnstable | Route 28 Improvements-Mashpee/Barnstable | Improvements on Rte 28 from Santuit/Newtown Road to Orchard Road in Mashpee | Highway |
| 3701 | Smart Solution | New Bedford | Promote Ferry Service from New Bedford | Work with relevant agenices to promote the New Bedford ferry service to the Islands as an alternative mode to reduce traffic on congestion | Ferry |
| 4061 | Project | Orleans | Main Street (Orleans) Improvements | Main Street Sidewalk extension and reconstruction of Meeting House Road intersection | Bicycle/Pedestrian |
| 3332 | Project | Orleans, Eastham, Wellfleet, Truro, Provincetown | Route 6 Improvements Orleans to Provincetown | Implement safety improvements in the Route 6 corridor between Orleans and Provincetown | Highway |
| 4023 | Project | Provincetown | Shank Painter Rd Corridor Improvements | Corridor improvements including new sidewalks, curb cut consolidation, landscaping, bicycle lanes, etc. | Bicycle/Pedestrian |
| 3388 | Project | Provincetown | Provincetown Bicycle Path Ext - Phase I | Develop an extension from Race Point to McMillan Pier | Bicycle/Pedestrian |
| 3389 | Project | Provincetown | Provincetown Bicycle Path Ext | Develop ped/bicycle facility using a portion of the Rte. 6 ROW | Bicycle/Pedestrian |
| 3390 | Project | Provincetown | Provincetown Intermodal Gateway Project - Construction | Construct the Intermodel Center Gateway | Enhancements |
| 4062 | Project | Provincetown | Commercial St (Provincetown) Reconstruction | Commercial Street Reconstruction | Highway |

| | | | | | |
|-------------|----------------|---|--|---|--------------------|
| 5017 | Project | Provincetown | Circulator Bus | High frequency trolley bus circulating among parking areas to serve downtown | Transit |
| 5004 | Study | Provincetown Boston | Improved Ferry Service | Increase ferry frequency throughout the year | Ferry |
| | Project | Sandwich | Route 130 Shared Use Path | Install shared use path or sidewalk on Route 130 from Quaker Meetinghouse Road to Service Road | Bicycle/Pedestrian |
| | Project | Sandwich | Quaker Meetinghouse Road | Upgrade existing signalized intersections of Quaker Meetinghouse Road at Cotuit Road and Route 130 | Highway |
| | Project | Sandwich | Route 6A Intersection Improvements | Signalized intersection improvements along Route 6A to improve accessibility at Tupper Road, Jarves St and Quaker Meetinghouse Road | Highway |
| | Project | Sandwich | Cotuit Road corridor | Corridor improvement project to improve multi-modal accommodations and improve vehicular safety | Highway |
| 4083 | Project | Sandwich | Canal Connector Bike Path | Bike Path Connection from Cape Cod Canal to Service Road (Tunnel under Route 6 long term need) | Bicycle/Pedestrian |
| 4044 | Project | Sandwich | Rt 6A over Scorton River Bridge | Replace bridge: Rt 6A over Scorton River in Sandwich | Bridge |
| 4026 | Study | Sandwich Mashpee | Rt 130 Road Diet | Narrow travel lane width to reduce speeds and accommodate bicycles/ pedestrians | Safety |
| 3027 | Program | Sandwich, Barnstable, Yarmouth, Dennis, Brewster, Orleans | Route 6A/Scenic Byways | Corridor Management Plan update and implement recommended improvements. Includes connection of sidewalks (on both sides in villages), "Sharrows" pavement markings for bike accommodation. For report, see www.gocapecod.org/6Away | Highway |
| 3330 | Project | Sandwich, Bourne | Bus-Only Lanes for Rte 3 & Rte 6 | Provide bus-only lanes between for both Rte. 3 and Rte. 6. This is expected to be achieved by widening and strengthening the shoulder section | ITS/Management |
| 4069 | Project | Wellfleet | Chequessett Bridge | Chequessett Bridge Replacement | Bridge |
| 3302 | Project | Wellfleet, Truro, Provincetown | Cape Cod Bike Path Extensions (Outer Cape) | Extend Cape Cod Rail Trail from Wellfleet to Provincetown | Bicycle/Pedestrian |
| 4074 | Project | Yarmouth | South Shore Dr (Yarmouth) Sidewalks | Yarmouth, Sidewalk improvements: South Shore Drive sidewalk- from Sea View Ave. to South Middle Beach | Bicycle/Pedestrian |
| 4075 | Project | Yarmouth | Winslow Gray Rd (Yarmouth) Sidewalks | Yarmouth, Sidewalk improvements: Winslow Gray Rd. sidewalk 0.75 miles long from Buck Island Rd. to Long Pond Dr. | Bicycle/Pedestrian |
| 3358 | Project | Yarmouth | Route 6A/Union Street Intersection Improvements | Route 6A/Union Street intersection improvements in Yarmouth | Highway |
| 4045 | Project | Yarmouth | Old Townhouse Rd/Forest Rd Intersection Improvements | Intersection improvements at Old Townhouse Rd/Forest Rd in Yarmouth | Highway |
| 3363 | Project | Yarmouth | West Yarmouth Rt 28 Intersection Improvements | Construct intersection improvements at Route 28 & East Main Street in West Yarmouth | Safety |
| | | | | | |
| | | | | | |

PROJECT ANALYSIS

Of the funding represented in the plan, a portion is available for “regional target projects.” These are projects that the Cape Cod MPO has jurisdiction to select and prioritize. To ensure equity in the prioritization of these funds, Title VI and other equity considerations were incorporated in both the screening and analysis phases of the project selection process.

Screening of Highway Regional Target Projects

In order to determine the projects to be contained within the financial constraint of the document, analysis was conducted on the universe of projects (includes all potential projects identified during the development of the document). Analysis of projects was limited to projects \$20 million or greater as staff determined this is the scale of project appropriate for specific inclusion in this document. Some projects under \$20 million were included if it was determined that the potential benefits were commensurate with these larger scale projects. Analysis was conducted with a subcommittee of the Cape Cod Joint Transportation Committee where each project was considered for potential benefit, estimated cost, consistency with the goals of the RTP, impact on performance targets, project score (where available), equity as it relates to minority, low income, Limited English Proficiency (LEP) and other protected populations, and GHG reduction potential (presented in Appendix N). Considering these factors and the anticipated available funding, a financially-constrained program of projects was developed with the CCJTC subcommittee, reviewed by the CCJTC, and ultimately endorsed by the Cape Cod MPO. This evaluation including scoring based on level of support for the goals of the RTP. Scores up to five were given depending on the level of impact of the project and level of support of the RTP goal as follows:

- 5 - Strongly supports goal; highest level of positive impact
- 4 - Strongly supports goal; high level of positive impact
- 3 - Strongly supports goal; moderate positive impact
- 2 - Supports goal; moderate positive impact
- 1 - Supports goal; minor positive impact
- 0 - Not applicable
- Overall adverse impact (potential disqualification of project)

With these scores, a weighing was applied for each of the seven RTP goals with a total maximum score of 100 points.

- 20 points – Safety
- 15 points – Environmental and Sustainability
- 15 points – Livability and Economic Vitality
- 15 points – Multimodal Options/ Healthy Transportation
- 15 points – Congestion Reduction
- 10 points – System Preservation
- 10 points – Freight Mobility

TABLE 2. Highway Regional Target Projects – Scoring

| PROJECT | SAFETY | ENVIRONMENT AND SUSTAINABILITY | LIVABILITY AND ECONOMIC VITALITY | MULTIMODAL/HEALTHY TRANSPORTATION | CONGESTION REDUCTION | SYSTEM PRESERVATION | FREIGHT MOBILITY | TOTAL |
|---|--------|--------------------------------|----------------------------------|-----------------------------------|----------------------|---------------------|------------------|-------|
| Mashpee: Route 151 | 16 | 3 | 9 | 9 | 6 | 6 | 6 | 55 |
| Route 28 Multimodal Improvements: Various Locations | 20 | 6 | 15 | 15 | 6 | 8 | 8 | 78 |
| Provincetown, Shank Painter Road and Route 6 Improvements | 16 | 6 | 9 | 15 | 3 | 6 | 6 | 61 |
| Rail Trail Extensions (Mid- and Upper-Cape) | 12 | 6 | 6 | 15 | 6 | 6 | 6 | 51 |
| Route 6 Safety Improvements (Outer Cape) | 12 | 6 | 6 | 15 | 6 | 6 | 6 | 51 |
| Rail Trail Extensions (Upper and Outer Cape) | 12 | 6 | 6 | 15 | 6 | 6 | 6 | 51 |
| Hyannis Area Improvements | 16 | 6 | 12 | 12 | 9 | 8 | 8 | 71 |
| Route 6 Safety Improvements (Interchanges and Shoulders) | 20 | 0 | 3 | 0 | 3 | 8 | 4 | 38 |
| Bridge Replacement Route 28 over Bass River ¹ | | | | | | | | - |
| Cape Cod Canal Bridges Program ¹ | | | | | | | | - |
| Maximum Possible | 20 | 15 | 15 | 15 | 15 | 10 | 10 | 100 |

¹ Projects funded or intended to be funded through a combination of state and federal sources outside of the regional target.

Analysis of Highway Regional Target Projects

Following the screening process, a more detailed analysis of potential impacts (positive or negative) on low income, minority, and LEP populations was conducted as presented in the following.

Of the approximately \$387 million programmed for specific projects, approximately 75% was on projects within and proximate to minority populations, 92% was on projects within and proximate to low-income populations, and 80%, was on projects within and proximate to LEP populations. Given the regional nature of these projects, even projects that are not proximate to these identified population are likely to positively impact these identified populations as they travel through these locations to access regional services. This represents an investment in transportation infrastructure

serving these areas proportionally higher than other areas on Cape Cod. In summary, the areas with higher proportions of low income and minority populations see more transportation dollars spent than other areas on Cape Cod.

Of the approximately \$387 million in highway regional target funding, approximately \$339 million is programmed for specific regional target projects while the remainder will go to “Programs and Smart Solutions.” Analysis was limited to the specific projects, with existing TIP analysis procedures ensuring that the “Programs and Smart Solutions” will be programmed in an equitable way.

TABLE 3. Highway Regional Target Projects – Income, Minority, and LEP Population Impacts

| PROJECT | LOW INCOME [I], MINORITY [M], OR LIMITED ENGLISH PROFICIENCY [LEP] POPULATION AREA PROXIMATE | NATURE OF IMPACT ON LOW INCOME, MINORITY, OR LEP AREA |
|---|--|---|
| Mashpee: Route 151 | M | Improved bicycle/ pedestrian access, safety, traffic flow |
| Route 28 Multimodal Improvements: Various Locations | TBD | Improved bicycle/ pedestrian access, safety |
| Provincetown, Shank Painter Road and Route 6 Improvements | I | Improved bicycle/ pedestrian access, safety |
| Rail Trail Extensions (Mid- and Upper-Cape) | I, M, LEP | Improved bicycle/ pedestrian access, safety |
| Route 6 Safety Improvements (Outer Cape) | I | Improved bicycle/ pedestrian access, safety, traffic flow |
| Rail Trail Extensions (Upper and Outer Cape) | I | Improved bicycle/ pedestrian access, safety |
| Hyannis Area Improvements | I, M, LEP | Improved bicycle/ pedestrian access, safety, traffic flow |
| Route 6 Safety Improvements (Interchanges and Shoulders) | I, M, LEP | Improved safety, traffic flow |
| Bridge Replacement Route 28 over Bass River ¹ | I, M | Improved bicycle/ pedestrian access, safety |
| Cape Cod Canal Bridges Program ¹ | I, M | Improved bicycle/ pedestrian access, safety, traffic flow |

¹ Projects funded or intended to be funded through a combination of state and federal sources outside of the regional target.

For reference, demographics maps are included in Appendix L. GHG project analysis is presented in Appendix N.

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