

OLD COLONY METROPOLITAN PLANNING ORGANIZATION (MPO)

DRAFT

FFY 2022-2026 OLD COLONY

TRANSPORTATION

IMPROVEMENT PROGRAM

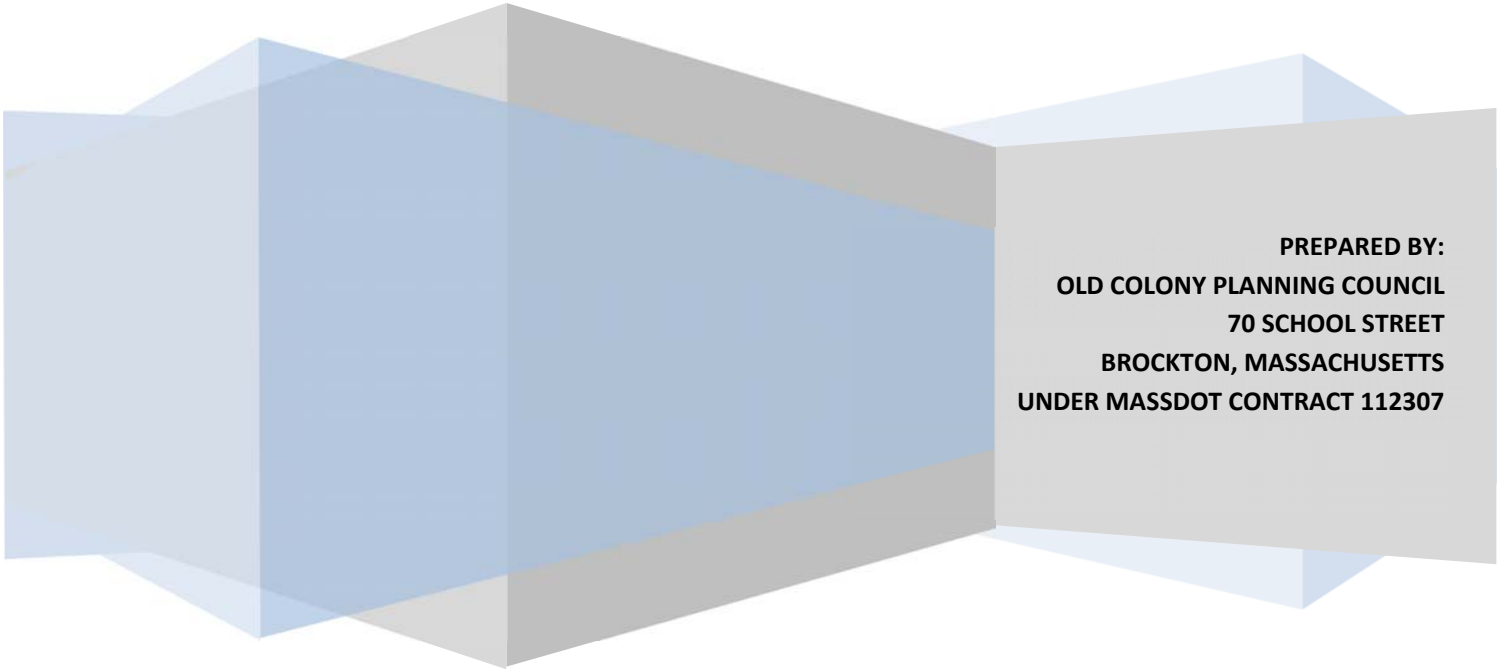
(TIP)

RELEASED BY THE OLD COLONY MPO ON APRIL 20, 2021

TO A 21-DAY PUBLIC REVIEW AND COMMENT PERIOD

PREPARED IN COOPERATION WITH:

- BROCKTON AREA TRANSIT AUTHORITY (BAT)
- FEDERAL HIGHWAY ADMINISTRATION (FHWA)
- FEDERAL TRANSIT ADMINISTRATION (FTA)
- MASSACHUSETTS DEPARTMENT OF TRANSPORTATION (MASSDOT)
- OLD COLONY PLANNING COUNCIL (OCPC)



PREPARED BY:
OLD COLONY PLANNING COUNCIL
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UNDER MASSDOT CONTRACT 112307

TABLE OF CONTENTS

1. INTRODUCTION	1
1.1 DEVELOPMENT OF THE TRANSPORTATION IMPROVEMENT PROGRAM (TIP)	1
1.2 FAST ACT, NATIONAL PLANNING FACTORS, AND PERFORMANCE BASED PLANNING	2
1.3 TRANSPORTATION FUNDING PROGRAMS	18
1.4 PUBLIC PARTICIPATION, COORDINATION, AND COORDINATION	19
2. HIGHWAY AND BRIDGE PROJECT LISTING BY COMMUNITY	25
2.1 PRIORITIZATION AND TRANSPORTATION EVALUATION CRITERIA (TEC)	25
2.2 UNIVERSE OF PROJECTS, AND GEOGRAPHIC DISTRIBUTION OF PROJECTS	27
3. TIP FEDERAL REQUIREMENTS AND PROJECT LISTS	30
3.1 ENDORSEMENT OF THE FEDERAL TIP AND AIR QUALITY AND SELF CERTIFICATION COMPLIANCE STATEMENTS ON 3C PROCESS AND GLOBAL WARMING SOLUTIONS ACT	30
3.2 PROCEDURES FOR AMENDMENTS AND ADMINISTRATIVE MODIFICATIONS	30
3.3 FINANCIAL SUMMARY, TARGETS, AND FISCAL CONSTRAINT ANALYSIS	31
3.4 SUMMARY OF REGIONAL FUNDING CATEGORIES	32
3.5 TIP PROJECT LISTS BY YEAR	
FFY 2022 HIGHWAY AND BRIDGE ELEMENT	33
FFY 2023 HIGHWAY AND BRIDGE ELEMENT	34
FFY 2024 HIGHWAY AND BRIDGE ELEMENT	35
FFY 2025 HIGHWAY AND BRIDGE ELEMENT	36
FFY 2026 HIGHWAY AND BRIDGE ELEMENT	38
FFY 2022 TRANSIT ELEMENT	39
FFY 2023 TRANSIT ELEMENT	40
FFY 2024 TRANSIT ELEMENT	41
FFY 2025 TRANSIT ELEMENT	42
FFY 2026 TRANSIT ELEMENT	43
3.6 AIR QUALITY CONFORMITY DETERMINATION	44
APPENDICES	
A. FFY 2022-2026 OLD COLONY TIP ENDORSEMENT	
B. §450.336 - SELF CERTIFICATION COMPLIANCE STATEMENT - 3C PROCESS	
C. SELF-CERTIFICATION COMPLIANCE STATEMENT - 310 CMR 60.05: GLOBAL WARMING SOLUTIONS ACT REQUIREMENTS FOR THE TRANSPORTATION SECTOR AND MASSDOT	
D. GLOSSARY OF TERMS AND ACRONYMS	
E. SYSTEM LEVEL ESTIMATE OF NEEDS AND COST FOR MAINTAINING AND OPERATING THE HIGHWAY SYSTEM	
F. OPERATIONS AND MAINTENANCE EXPENDITURES	
G. FEDERAL REGIONAL FUNDING TARGETS AND STATEWIDE SUMMARIES	
H. TRANSPORTATION EVALUATION CRITERIA (TEC) FORMS	
I. ANNUAL LISTING OF OBLIGATED (ADVERTISED) PROJECTS	
J. COMPLETED HIGHWAY AND TRANSIT PROJECTS (2015 TO PRESENT; GREENHOUSE GAS (GHG) EMISSIONS ANALYSIS)	
K. FFY 2022-2026 GREENHOUSE GAS (GHG) EMISSIONS ANALYSIS	
L. FFY 2022-2026 GATRA TRANSIT ELEMENT	
M. TWENTY-ONE (21) DAY PUBLIC REVIEW - NOTICE OF AVAILABILITY AND PUBLIC COMMENTS	
N. TIP PROJECT REVISION AND DEFINITION PROCEDURES, AND APPROVED ADJUSTMENTS, ADMINISTRATIVE MODIFICATIONS, AND AMENDMENTS	

DISCLAIMER

The preparation of this report has been financed in part through grant[s] from the Federal Highway Administration and Federal Transit Administration, U.S. Department of Transportation, under the State Planning and Research Program, Section 505 [or Metropolitan Planning Program, Section 104(f)] of Title 23, U.S. Code.

The views and opinions of the Old Colony Planning Council expressed herein do not necessarily state or reflect those of the U. S. Department of Transportation.

701 CMR 7.00 USE OF ROAD FLAGGERS AND POLICE DETAILS ON PUBLIC WORKS PROJECTS/ 701 CMR

7.00 (the Regulation) was promulgated and became law on October 3, 2008. Under this Regulation, the CMR is applicable to any Public works Project that is performed within the limits of, or that impact traffic on, any Public Road. The Municipal Limitation referenced in this Regulation is applicable only to projects where the Municipality is the Awarding Authority. For all projects contained in the TIP, the Commonwealth is the Awarding Authority. Therefore, all projects must be considered and implemented in accordance with 701 CMR 7.00, and the Road Flagger and Police Detail Guidelines. By placing a project on the TIP, the Municipality acknowledges that 701 CMR 7.00 is applicable to its project and design and construction will be fully compliant with this Regulation. This information and additional information relative to guidance and implementation of the Regulation can be found at the following link on the MassDOT Highway Division website: <https://www.mass.gov/road-flaggers-and-police-detail>

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Old Colony Planning Council
Title VI/ Nondiscrimination Coordinator
Mary Waldron
70 School Street
Brockton, MA 02301
508-583-1833 Extension 202
mwaldron@ocpcrpa.org

Title VI Specialist
MassDOT, Office of Diversity and Civil Rights
10 Park Plaza
Boston, MA 02116
857-368-8580
TTY: 857-368-0603
MASSDOT.CivilRights@state.ma.us

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Massachusetts Commission Against Discrimination (MCAD)
One Ashburton Place, 6th Floor
Boston, MA 02109
617-994-6000
TTY: 617-994-6196

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Si necesita esta información en otro idioma, por favor contacte al coordinador de MPO del Título VI al 508-583-1833 ext. 202.

Portuguese

Caso estas informações sejam necessárias em outro idioma, por favor, contate o Coordenador de Título VI da MPO pelo telefone 508-583-1833, Ramal 202

Chinese Simple

如果需要使用其它□ □ □ □ □ □ , □ □ □ Old Colony大都会□ □ □ □ (MPO)《民□ □ □ 》
□ □ □ □ □ □ , □ □ 508- 583-1833, □ 202。

Chinese Traditional

如果需要使用其他語言瞭解資訊, 請聯繫Old Colony大都會規劃組織 (MPO)《民權法案》
第六章協調員, 電話508- 583-1833, 轉202。

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Nếu quý vị cần thông tin này bằng tiếng khác, vui lòng liên hệ Điều phối viên Luật VI của MPO theo số điện thoại 508- 583-1833, số máy nhánh 202.

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Si yon moun bezwen enfòmasyon sa a nan yon lòt lang, tanpri kontakte Koòdonatè a Title VI MPO nan 508-583-1833 ext. 202.

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Если Вам необходима данная информация на любом другом языке, пожалуйста, свяжитесь с Координатором Титула VI в МПО по тел: 508-583-1833, добавочный 202.

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Mon-Khmer, Cambodian

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Arabic

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Updated December 2019
Old Colony Planning Council

1. INTRODUCTION

The Old Colony Metropolitan Planning Organization (Old Colony MPO) is the regional governing body established by federal law to oversee regional transportation planning and recommend the distribution of transportation funds locally. This includes the responsibilities for conducting an inclusionary “3C” planning process (continuous, cooperative, and comprehensive) for transportation planning in the 17 communities of the region for all modes of travel, including roadways and highways, public transportation, bicycles, pedestrians, connections to air, ferry, and railroads. The Old Colony MPO is responsible for endorsing a number of Federal certification documents that include the Long Range Transportation Plan (LRTP), the Transportation Improvement Program (TIP), and the Unified Planning Work Program (UPWP).

The transportation planning area covered by the MPO includes the 17 communities of the Old Colony Region: Abington, Avon, Bridgewater, Brockton, Duxbury, East Bridgewater, Easton, Halifax, Hanover, Hanson, Kingston, Pembroke, Plymouth, Plympton, Stoughton, West Bridgewater, and Whitman, and the Brockton Area Transit Authority (BAT).

The Old Colony MPO consists of eleven (11) members. The following eight (8) members are voting members: MassDOT; MassDOT Highway Division; Brockton Area Transit Authority (BAT); Old Colony Planning Council (OCPC); City of Brockton; Town of Plymouth; A Community with a population greater than 14,000; and, a Community with a population less than 14,000. The following three (3) members: Old Colony Joint Transportation Committee (JTC) Chairperson, Federal Highway Administration (FHWA), and Federal Transit Administration (FTA) are ex-officio, non-voting members of the Old Colony MPO.

The Old Colony MPO has established a committee of technical professionals known as the Old Colony Joint Transportation Advisory Committee (JTC) to serve as the transportation advisory group to the MPO. The JTC Members consist of representatives of the seventeen communities of the Old Colony Region: Abington, Avon, Bridgewater, Brockton, Duxbury, East Bridgewater, Easton, Halifax, Hanover, Hanson, Kingston, Pembroke, Plymouth, Plympton, Stoughton, West Bridgewater, and, Whitman, and the Brockton Area Transit Authority. These representatives are appointed by the chief elected officials of each community in the region.

1.1 Development of the Transportation Improvement Program

The Old Colony MPO prepares the Transportation Improvement Program (TIP), which a staging of transportation projects proposed for implementation during federal fiscal years 2022, 2023, 2024, 2025 and 2026. Projects listed in the TIP include those in the Long Range Element and Short Range Element of the Old Colony Long Range Transportation Plan (LRTP). The TIP describes the project, provides its projected costs and associated funding sources.

The Old Colony MPO works cooperatively with the communities of the Old Colony Region, Brockton Area Transit (BAT), Massachusetts Department of Transportation (MassDOT) Office of Transportation Planning, Massachusetts Department of Transportation Rail & Transit Division, and Massachusetts Department of Transportation District 5. Projects are selected from the previous TIP, from proposals made by local officials, by members of the Old Colony Joint Transportation Committee (JTC), the Massachusetts Department of Transportation, Brockton Area Transit Authority, and/or the MPO staff itself based on the Long Range Transportation Plan. Information and data concerning current projects are obtained from MassDOT, Brockton Area Transit Authority, and/or the community responsible for the design of the project. An annual solicitation for projects commences typically in January.

During TIP development, current and proposed projects are evaluated using Transportation Evaluation Criteria (TEC), and recommended to the Old Colony MPO for consideration and determination of a Preferred Set of Projects. Projects are evaluated using the Transportation Evaluation Criteria of Condition, Mobility, Safety and Security, Community Effects and Support, Land Use and Economic Development, and Environmental Effects. The MPO staff uses the transportation evaluation criteria results, as well as readiness information, available funding, and other pertinent information to develop a Draft TIP. As part of the development process, the Draft TIP is reviewed by the JTC, the OCPC, and the MPO. The Old Colony MPO releases the Draft TIP for a 21-Day Public Review and Comment Period. Following the 21-Day Public Review and Comment Period, the Old Colony MPO considers the comments received, and then endorses the TIP if there are no significant changes.

1.2 FAST Act, National Planning Factors, and Performance Based Planning

The Fixing America's Surface Transportation (FAST) Act legislation requires MPOs to implement a continuing, cooperative, and comprehensive performance-based multimodal transportation planning process. To meet this requirement, the Old Colony MPO develops the Long Range Transportation Plan and Transportation Improvement Program that facilitate the safe and efficient movement of safe and efficient management, operation, and development of surface transportation systems that will serve the mobility needs of people and freight (including accessible pedestrian walkways, bicycle transportation facilities, and intermodal facilities that support intercity transportation, including intercity bus facilities and commuter van pool providers) and that fosters economic growth and development within and between States and urbanized areas, and take into consideration resiliency needs while minimizing transportation-related fuel consumption and air pollution in all areas of the region.

The FAST Act continues to emphasize performance-based planning as an integral part of the metropolitan planning process: states are to develop performance goals, guided by the national goals, and then MPOs will work with state departments of transportation to develop MPO performance measures and targets, or adopt the statewide performance measures and targets. The TIP integrates MassDOT's and the MPO's performance measures and link transportation-investment decisions to progress toward achieving performance targets. The MPOs, MassDOT, and providers of public transportation jointly agree and have developed specific written provisions for cooperatively developing and sharing information related to transportation performance data, the selection of performance targets, the reporting of performance targets, the reporting of performance to be used in tracking progress towards attainment of critical outcomes for the MPO regions and the collection of data for the MassDOT Asset Management Plan.

The Old Colony MPO develops the TIP with due consideration of additional planning activities within the metropolitan area, and utilizes a process that provides for the design and delivery of transportation services within the metropolitan planning area. During the development of the LRTP, region specific targets were developed through meetings of a sub-committee and then presented and reviewed by the Old Colony JTC and Old Colony MPO. The following is an overview of how the Long Range Transportation Plan and the Transportation Improvement Program reflect the national planning factors and performance-based planning:

- **Safety Goals:** Achieve a significant reduction in traffic fatalities and serious injuries on all public roads; increase the safety of the transportation system for motorized and non-motorized users; ensure that the transportation system and its users are safe and secure; and review safety data, goals, objectives, and strategies to promote safety.

The Strategic Highway Safety Plan is incorporated into the Long Range Transportation Plan. The Old Colony MPO applies specific criteria in the review of transportation strategies. These criteria are applied to estimated changes in safety. The primary goal of the LRTP is focused on safety and security: "Enhance Safety and Security." Safety is of such importance that it is recognized in its own chapter of the LRTP. Also included in the LRTP are the following goals: Increase the security of the transportation system for motorized and non-motorized users; examine both transit and highways networks and develop appropriate goals and strategies; review current plans for emergency planning and security elements; identify critical facilities and transportation systems; and define the roles of the various players in promoting security. One area of additional security planning that applies is that of traffic impacts due to extreme weather events such as impending hurricanes, and climate changes.

Objectives:

- Reduce the number and rates of fatalities and serious injuries.
 -  **Target and Performance Measure:** Conduct Road Safety Audits for a minimum of 3 high crash locations (MassDOT Top 5% Crash Clusters) per year, including minimum of 1 pedestrian/ walkability audit and one bicycle audit per year. In 2020, 4 locations were analyzed through Road Safety Audits.
 -  **Target and Performance Measure:** Utilize HSIP fund for applicable projects each year and seek to program Statewide HSIP funds when available/ feasible for priority safety related projects.
- Provide and maintain safe fixed route service (e.g. Preventable Accidents per 100K miles).
 -  **Target and Performance Measure:** Maintain fixed route service preventable accidents/ 100k miles below 2.00 (FY 2020 is 2.17 (from BAT Performance Dashboard)).
- Provide and maintain safe demand response service (Preventable accidents/ 100k miles).
 -  **Target and Performance Measure:** Maintain demand response service preventable accidents/ 100k miles below 2.00 (FY 2020 is 1.05) (from BAT Performance Dashboard).
- Protect the viability of transportation infrastructure to accommodate emergency response and evacuations.
- Protect transportation system users from safety and security threats.
- Increase number of Safe Routes to School Partner Schools.
 -  **Target and Performance Measure:** Increase percentage of SRTS Partner Schools to 85% in 10 years. Currently, 71% of eligible partner schools are partner schools.
- **Infrastructure Condition (Pavement, Bridge, and Transit) Goals:** Maintain a highway and transit infrastructure asset systems in a state of good repair; and emphasize the preservation of the existing transportation system. As part of the LRTP development, the MPO utilizes a pavement management system to develop costs and recommended repair for operation, preservation, and maintenance of the federal aid network.

MassDOT develops the Transportation Asset Management Plan (TAMP) to address pavement and bridge conditions on the National Highway System (NHS). The TAMP includes information on the NHS Inventory and Performance, Life Cycle Planning and Investment Strategy, Risk Management, and a Financial Plan.

Recipients of public transit funds, which can include states, local authorities, and public transportation operators, are required to establish performance targets for safety and state of good

repair, develop transit asset management and transit safety plans, and to report on their progress toward achieving targets. Public transportation operators are directed to share information with MPOs and states so that all plans and performance reports are coordinated. The identified state of good repair performance measures for transit asset management regarding BAT include the following areas: equipment (Percentage of vehicles that have met or exceeded their Useful Life Benchmark (ULB)); rolling stock (Percentage of revenue vehicles within a particular asset class that have met or exceeded their ULB); and facilities (Percentage of facilities within an asset class rated below 3.0 on the FTA Transit Economic Requirements Model scale).

Objectives:

- Provide and maintain fixed route and demand response state of good repair.
 -  **Target and Performance Measure:** Increase miles between breakdowns with passenger interruption on fixed route to 25,000 (goal) within 10 years (FY 2020 is 59,074) (from BAT Performance Dashboard).
 -  **Target and Performance Measure:** Increase miles between breakdowns with passenger interruption on demand response to 30,000 (goal) within 10 years (FY 2020 is 26,987) (from BAT Performance Dashboard).
- Improve bridge conditions.
 -  **Target and Performance Measure:** Maintain percentage of bridges categorized structurally deficient below 5% and increase overall average AASHTO rating (current 79) by 10 percent by 2040. Currently, eight percent of the bridges are categorized as structurally deficient.
- Improve pavement conditions and state of good repair.
 -  **Target and Performance Measure:** Achieve 50% of federal-aid eligible roadways in the region with a PCI-based pavement ranking of Good or Excellent within 10 years. In 2016, the pavement management system determined that 36% of the federal-aid eligible roadways were categorized as either Good or Excellent.
- **Congestion Reduction Goals:** Achieve a significant reduction in congestion on the NHS; and enhance the integration and mobility of the transportation system, across and between modes, for people and freight. The MPO applies specific criteria in the review of transportation strategies. These criteria are applied to improvements in multimodal accessibility. The LRTP supports these efforts through its goal: “Enhance and Protect Regional Mobility, and Foster Sustainable, Healthy, and Livable Communities.”

Objectives

- Promote Mode Shift by increasing use of transit, carpool/ vanpool, and non-motorized transportation modes such as bicycling and walking.
 -  **Target and Performance Measure:** Achieve 15% of commuters in the Old Colony region using healthy transportation modes (transit, walking, bicycling, etc.) within 10 years (10.5% of surveyed commuters in Old Colony Region were using transit, walking, or bicycling in the 2011 Massachusetts Travel Survey).
- Reduce traffic congestion, and improve level of service and access management.
 -  **Target and Performance Measure:** Monitor congestion levels on federal-aid eligible highway network annually, and highlight corridors with volume to capacity (v/c) ratios of 0.8 or greater for targeted study and/or improvements.
- Maintain and improve transit system efficiency and capacity.

 **Target and Performance Measure:** Achieve average on-time ranking on fixed-route system of 98% by 2040 (from BAT Performance Dashboard). FY 2020 actual on-time performance is 98.06%.

- Increase automobile and bicycle parking capacity and usage at transit stations and commuter lots.
- Eliminate bottlenecks on limited access highways and on the freight network.
- Improve and expand human service coordination, mobility, and accessibility for all modes.
- Reduce number and size of gaps in the ADA accessible sidewalk network.
- Increase use of traffic signal priority (hold current green light) for transit vehicles and traffic signal pre-emption for emergency vehicles (override programmed phasing to provide approaching emergency vehicles a green light).
- Monitor utilization and congestion levels at commuter rail and park & ride parking facilities.

 **Target and Performance Measure:** Record utilization data twice annually and report data to MassDOT. In FFY 2020, utilization was recorded once and reported to MassDOT. The spring interval was not collected due to the COVID-19 Pandemic.

- Improve accessibility for all modes to all users.

 **Target and Performance Measure:** 50% of communities with Complete Streets policies within 10 years. Currently, 59% of communities have an approved Complete Street Policy.

 **Target and Performance Measure:** 50% of available Transportation Improvement Program funding allocated to projects that significantly improve bicycle and pedestrian mobility.

System Reliability Goals: Improve the efficiency of the surface transportation system; and promote efficient system operation and management. The Old Colony MPO supports Operation and Management Strategies (O and M) for both the transit and highway networks. The LRTP supports this planning factor through this performance measure: “Maintaining and preserving transit, highway, and bridge infrastructure.” As part of the LRTP development, the MPO utilizes a pavement management system to develop costs and recommended repair for operation, preservation, and maintenance of the federal aid network. The Old Colony MPO and BAT are coordinating to implement a performance based planning process. The MPO integrates BAT’s Transit Asset Management (TAM) Plan into its planning process that prioritizes investments that meet regional performance targets for State of Good Repair. The identified state of good repair performance measures for transit asset management regarding BAT include the following areas: equipment (Percentage of vehicles that have met or exceeded their Useful Life Benchmark (ULB)); rolling stock (Percentage of revenue vehicles within a particular asset class that have met or exceeded their ULB); and facilities (Percentage of facilities within an asset class rated below 3.0 on the FTA Transit Economic Requirements Model scale). Additionally, the Old Colony TIP contains operation and maintenance costs for the federal aid network and BAT.

Objectives

- Provide and maintain fixed route reliability: Miles between breakdowns w/ passenger interruption.

 **Target and Performance Measure:** Achieve average of 25,000 miles between breakdowns with passenger interruptions by 2040 (from BAT Performance

Dashboard). FY 2020 actual is 59,074 miles between breakdowns with passenger interruptions.

- Provide and maintain demand response reliability: Miles between breakdowns w/ passenger interruption.



Target and Performance Measure: Achieve average of 30,000 miles between breakdowns with passenger interruptions by 2040 (from BAT Performance Dashboard). FY 2020 actual is 26,987 miles between breakdowns with passenger interruptions.

- Provide and maintain highway network travel time reliability.
 - Protect and strengthen transportation systems vulnerable to climate change through identification of at-risk transportation assets and development of protection measures for each category of asset.
- **Freight Movement and Economic Vitality Goals:** Improve the nation's freight network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development; and support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency. The MPO applies 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 LRTP directly supports these efforts through the goal: "Promote Policies that Ensure Economic Vitality and Sustainability." The MPO directly supports regional productivity through its economic development mission manifested in the Regional Policy Plan, including support of the federally approved Old Colony Comprehensive Economic Development Strategy priority projects.

Objectives

- Reduce delay along identified freight routes.
 - Improve safety along freight routes.
 - Mitigate and improve key arterials (such as Route 106) and limited access highways (Routes 3 and 24) bottlenecks that inhibit efficient freight movement by truck.
 - Identify opportunities for promoting intermodal freight movement and uses for the Brockton CSX site.
 - Increase access to major employment centers.
 - Increase viaduct clearance to improve freight movement, emergency response, and reduce delay.
 - Plan and prioritize transportation investments that serve targeted development areas.
- **Environmental Sustainability Goals:** Enhance the performance of the transportation system while protecting and enhancing the natural environment; 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 LRTP and therefore the TIP includes a focus on addressing Climate Change. Where appropriate, TIP projects will include assessments of vulnerabilities and negative risks that climate change effects or extreme weather events pose, to the region's transportation infrastructure. These vulnerabilities and risks will be seriously considered when planning future improvements. Where appropriate, TIP projects include adaptation strategies that will enable the region to implement improvements appropriately. The reduction of greenhouse gas emissions (GHG) remains an important goal in addressing climate change.

Objectives

- Minimize negative environmental impacts of the transportation system.
 -  **Target and Performance Measure:** Utilize Congestion Mitigation and Air Quality (CMAQ) Program funding for applicable projects.
 - Reduce greenhouse gas emissions and ground level ozone (NOx and VOCs) by all transportation modes.
 -  **Target and Performance Measure:** 50% of TIP projects reduce GHGs while also reducing negative impacts on the natural environment (such as improved storm water management or the addition of green space). In the FFY 2022-2026 TIP, 83.33% of the road projects, and 100% of the bus replacement projects had measureable reductions in GHGs.
 - Increase the usage of clean alternative fuels and recyclable material for new transportation infrastructure.
 - Increase coordination of transportation and housing programs to promote affordable housing near transit.
 - Develop and support transportation policies that support healthy lifestyles.
 - Support investments that clean up brownfields and avoid investments that increase pressure to develop greenfields.
 - Support livable communities and smart growth development patterns through the creation of a balanced multi-modal transportation system.
-
- **Reduced Project Delivery Delay Goal:** 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 agency work practices.

Objectives

- Continue to utilize transportation evaluation criteria in screening potential TIP projects.
 -  **Target and Performance Measure:** 100% of all potential projects undergo initial evaluation to determine if project is realistic, viable, and implementable.
- Enhance screening and evaluation of projects to determine Year 1 readiness for TIP.
 -  **Target and Performance Measure:** 100% of potential Year 1 TIP projects are screened for implementation readiness. In the FFY 2022-2026 TIP, 100% of Year 1 projects were screened for readiness.
 -  **Target and Performance Measure:** At least 80% of Year 1 TIP Projects are advertised. In the FFY 2021-2025 TIP, 100% of Year 1 projects are on schedule to be advertised.
- Continue to maintain annual participation at TIP Day with MassDOT.
 -  **Target and Performance Measure:** 100% attendance and participation at TIP Day. One hundred percent attendance and participation at TIP Day has occurred since its inception.
 -  **Target and Performance Measure:** At 25% design stage, work with stakeholders on 100% of potential projects to determine Right-of-Way (ROW), environmental permitting, and other potential challenges to project development and implementation.
- Reduce time of transit contracting.

- **Resiliency and Reliability of the Transportation System Goals:** Improve the resiliency and reliability of the transportation system; reduce or mitigate stormwater impacts of surface transportation; and promote efficient system operation and management.

Objectives

- Provide and maintain fixed route reliability: Miles between breakdowns w/ passenger interruption.
 **Target and Performance Measure:** Achieve average of 25,000 miles between breakdowns with passenger interruptions by 2040 (from BAT Performance Dashboard). FY 2020 actual is 59,074 miles between breakdowns with passenger interruptions.
- Provide and maintain demand response reliability: Miles between breakdowns w/ passenger interruption.
 **Target and Performance Measure:** Achieve average of 30,000 miles between breakdowns with passenger interruptions by 2040 (from BAT Performance Dashboard). FY 2020 actual is 26,987 miles between breakdowns with passenger interruptions.
- Provide and maintain highway network travel time reliability.
- Protect and strengthen transportation systems vulnerable to climate change through identification of at-risk transportation assets and development of protection measures for each category of asset.

The Old Colony MPO supports Operation and Management Strategies (O and M) for both the transit and highway networks. The LRTP supports this planning factor through this performance measure: “Maintaining and preserving transit, highway, and bridge infrastructure.” As part of the LRTP development, the MPO utilizes a pavement management system to develop costs and recommended repair for operation, preservation, and maintenance of the federal aid network. Additionally, the Old Colony TIP contains operation and maintenance costs for the federal aid network and BAT.

- **Travel and Tourism - Enhance Travel and Tourism Goals:** The Old Colony MPO is working on efforts to enhance travel and tourism through the LRTP and TIP. Opportunities to monitor, analyze, and develop recommendations will be undertaken.

One desired outcome of performance-based planning is constant quality improvement in project selection and delivery with respect to meeting national goals. If a particular project did not help the plan meet its stated goals, or was more effective than originally thought, that information can inform future decision-making. Done properly, performance-based planning not only improves project selection and prioritization, it also can make a compelling case for the Old Colony MPO’s LRTP and why the community is invested in its outcome.

The TIP is designed such that once implemented, it makes progress toward achieving the performance targets. Performance-based planning attempts to make the transportation investment decision-making process both informed and accountable. Projects and services implemented through the TIP will help to achieve the performance targets for Safety (PM1), Bridge and Pavement Condition (PM2), System Performance Measures (PM3), and Transit Asset Management (TAM) State of Good Repair (SGR).

Safety (PM1)

The Old Colony MPO has chosen to adopt the statewide safety performance measure targets set by MassDOT for Calendar Year (CY) 2021. In setting these targets, MassDOT has followed FHWA guidelines by using statewide crash data and Highway Performance Monitoring System (HPMS) data for vehicle miles traveled (VMT) in order to calculate 5 year, rolling average trend lines for all FHWA-defined safety measures. For CY 2020 targets, four of the five safety measures - total number of fatalities, rate of fatalities per 100 million vehicle miles traveled, total number of incapacitating injuries, and rate of incapacitating injuries per 100 million VMT - were established by extending their trend lines into the 2016-2020 period. All four of these measures reflect a modest decrease in statewide trends. The fifth safety measure, the total number of combined incapacitating injuries and fatalities for non-motorized modes, is the only safety measure for which the statewide trend line depicts an increase. MassDOT's effort to increase non-motorized mode share throughout the Commonwealth has posed a challenge to simultaneously reducing non-motorized injuries and fatalities. Rather than adopt a target that depicts an increase in the trend line, MassDOT has elected to establish a target of non-motorized fatalities and injuries and for CY 2021 that remains constant from the rolling average for 2012–2016. In recent years, MassDOT and the Old Colony MPO have invested in “complete streets,” bicycle and pedestrian infrastructure, intersection, and safety improvements in both the Capital Investment Plan (CIP) and Statewide Transportation Improvement Program (STIP) to address increasing mode share and to incorporate safety mitigation elements into projects. Moving forward, the Old Colony MPO, alongside MassDOT, is actively seeking to improve data collection and methodology for bicycle and pedestrian VMT counts and to continue analyzing crash clusters and crash counts that include both motorized and non-motorized modes to address safety issues at these locations.

In all safety categories, MassDOT has established a long-term target of “Toward Zero Deaths” through MassDOT's Performance Measures Tracker¹ and will be establishing safety targets for the MPO to consider for adoption each calendar year. While the MPO is not required by FHWA to report on annual safety performance targets, FHWA guidelines require MPOs to adopt MassDOT's annual targets or to establish their own each year.

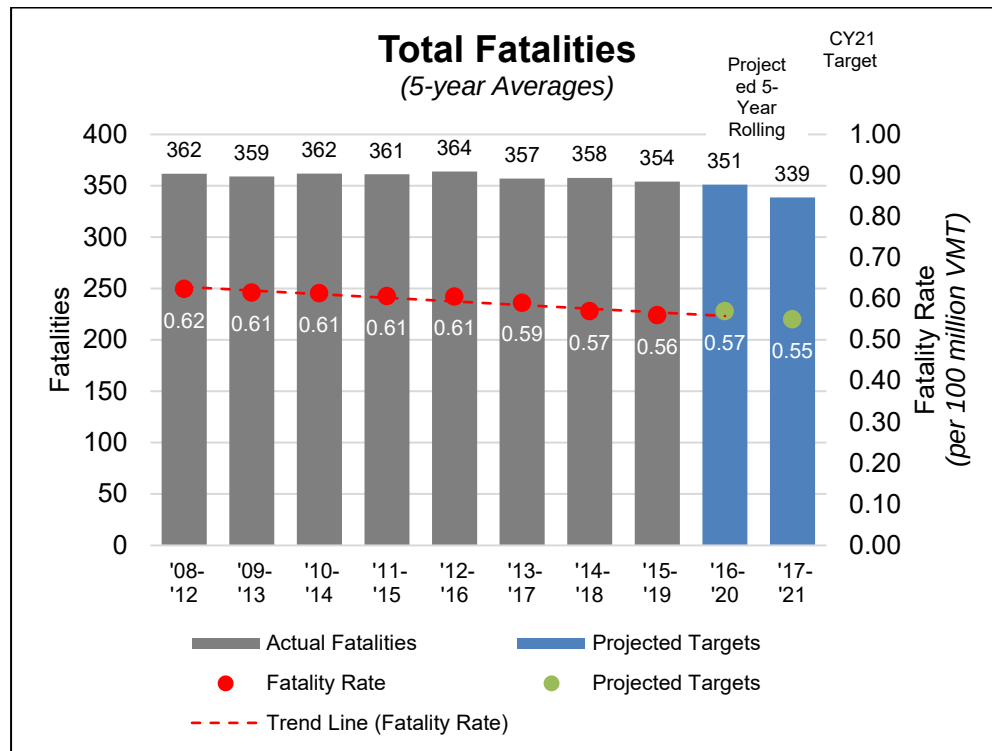
The safety measures MassDOT has established for CY 2021, and that the Old Colony MPO has adopted, are as follows:

Total Fatalities: Per guidance from the Federal Highway Administration (FHWA), MassDOT's 2021 safety target setting process began with a trend line projection based on the most recent available data (up to 2018). The calendar year (CY) 2021 target of 339 was set to reflect an anticipated decrease in fatalities due to joint initiatives across MassDOT related to sustainable transportation; commitment to several FHWA Every Day Counts (EDC) initiatives (e.g., reducing rural roadway departures); and strategies and legislative proposals that were part of the 2018 Strategic Highway Safety Plan (SHSP), such as the primary seat belt and hands-free driving laws. The region number of fatalities continued its downward trend and decreased to 26 in 2019.

Fatality Rate: The CY 2021 target of 0.55 fatalities per 100 million vehicle miles traveled (VMT) reflects an overall reduction from previous years. It should be noted that MassDOT's long-term goal is to move towards zero deaths.

¹ <https://www.mass.gov/lists/tracker-annual-performance-management-reports>

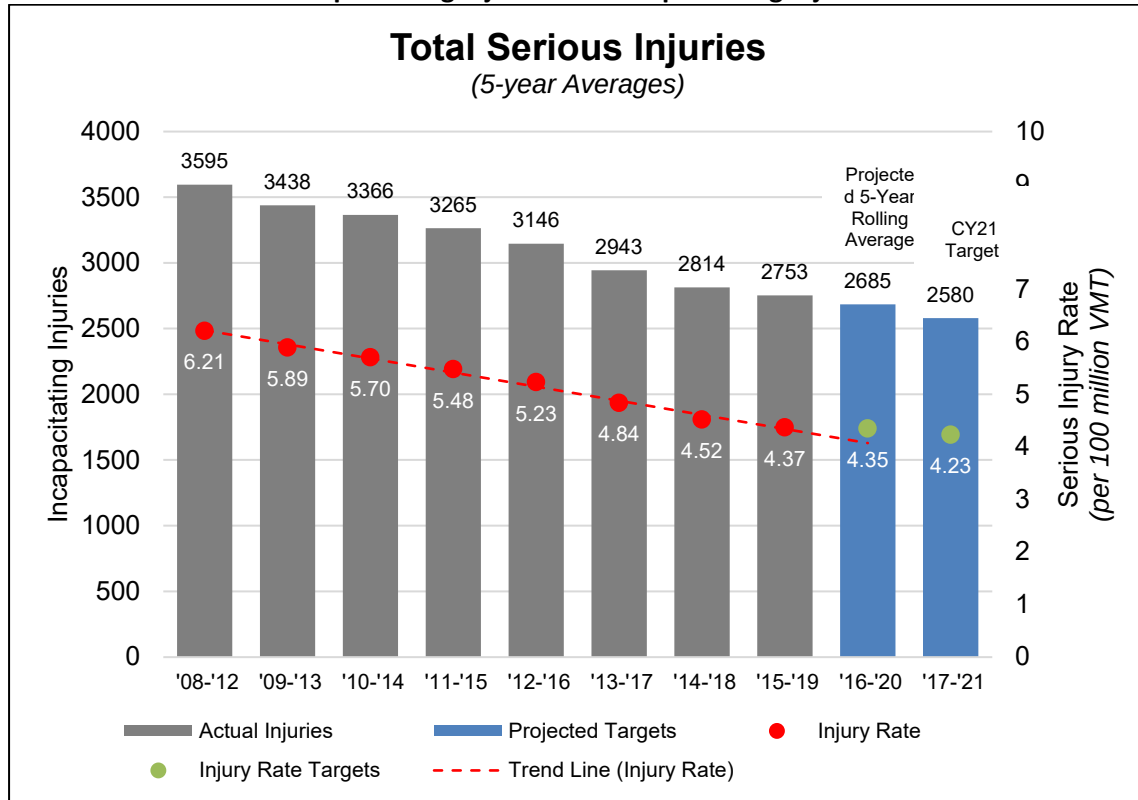
Figure 1
Total Fatalities and Fatality Rate



Total Serious Injuries: It is anticipated that there will be an overall decrease in the number of serious injuries due to a continual downward trend line as well as the implementation of countermeasures that are being developed as part of the 2018 Strategic Highway Safety Plan (SHSP). The CY 2021 target of 2,580 was set to reflect this trend. The trend for the region is decreasing as well at 232 serious injuries in 2019. For this performance measure, it is important to note that on January 1st, 2019, Massachusetts moved from the term “incapacitating injuries” to “serious injuries,” per federal requirements.

Serious Injuries Rate: Similar to the fatality rate, it is anticipated that the downward trend line will result in a drop in the rate of serious injuries from 4.35 per 100 million VMT between 2016-2020 to 4.23 between 2017-2021.

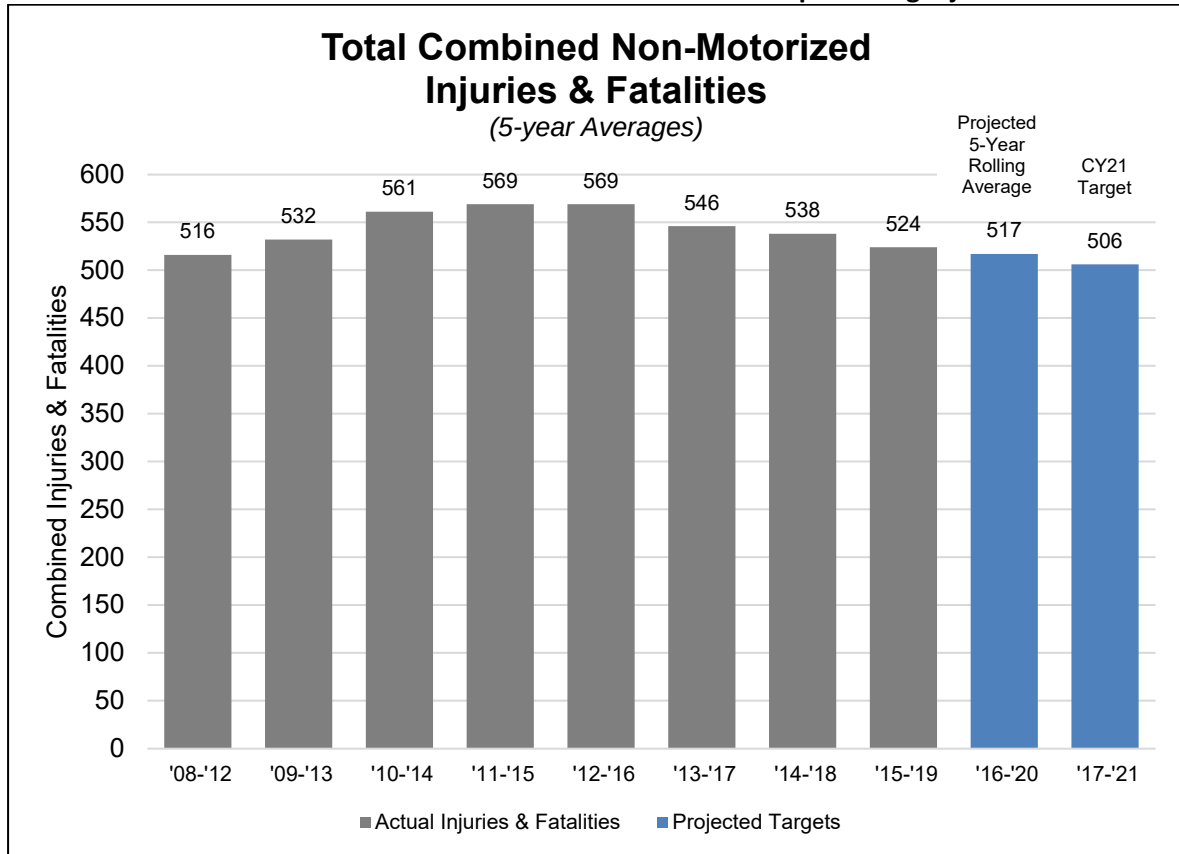
Figure 2
Total Incapacitating Injuries and Incapacitating Injuries Rate



Total Number of Non-Motorized Fatalities and Serious Injuries: The most recent data for non-motorized fatalities and serious injuries indicates that the previously increasing trend decreased in 2017 and has continued to decrease since then. The region has decreased as well at 28 in 2019. The CY 2021 target has been set to reflect continued projected reductions in non-motorized fatalities and injuries due to several multi-disciplinary and multi-agency implementation strategies contained within the Statewide Bike Plan, Statewide Pedestrian Plan, and Strategic Highway Safety Plan.

It is important to note that in prior years, only bicyclist and pedestrian data were used to calculate this target. More recently, it was determined that this category would include other non-motorists. In addition to bicyclists and pedestrians, this category includes skaters and users of wheelchairs and other mobility devices. The historical data within the graph below includes these additional users.

Figure 3
Total Number of Non-Motorized Fatalities and Incapacitating Injuries



The Old Colony MPO will continue to assist MassDOT in striving towards these targets through our project prioritization process and with our evaluation criteria. This criterion, that awards a higher score for safety improvements projects, will result in a measurable reduction in injuries and fatalities.

System Preservation Performance (PM2)

System preservation continues to be a priority for the Old Colony Region MPO because the region's transportation infrastructure is aging. It is also important to improve the resiliency of the region's transportation system to prepare for existing or future extreme conditions, such as sea level rise and flooding.

The Old Colony MPO has chosen to adopt the 2-year (2020) and 4-year (2022) statewide bridge and pavement performance measure targets set by MassDOT. MassDOT was required to adopt a statewide target by May 20, 2018, with MPOs either adopting the statewide target or establishing their own by November 2018. In setting these targets, MassDOT has followed FHWA guidelines by measuring bridges and pavement condition using the 9-point National Bridge Inventory Standards (NBIS); the International Roughness Index (IRI); the presence of pavement rutting; and the presence of pavement cracking. 2-year and 4-year targets were set for six individual performance measures: percent of bridges in good condition; percent of bridges in poor condition; percent of Interstate pavement in good condition; percent of Interstate pavement in poor condition; percent of non-Interstate pavement in good condition; and

DRAFT FFY 2022-2026 OLD COLONY TRANSPORTATION IMPROVEMENT PROGRAM (TIP)

percent of non-Interstate pavement in poor condition. All of the above performance measures are tracked in greater detail in MassDOT's Transportation Asset Management Plan (TAMP).

Targets for bridge-related performance measures were determined by identifying which bridge projects are programmed and projecting at what rate bridge conditions deteriorate. The bridge-related performance measures measure the percentage of deck area, rather than the total number of bridges.

Performance targets for pavement-related performance measures were based on a single year of data collection, and thus were set to remain steady under the guidance of FHWA. These measures are to be revisited at the 2-year mark (2020), once three years of data are available, for more informed target setting.

MassDOT continues to measure pavement quality and to set statewide short-term and long-term targets in the MassDOT Performance Management Tracker using the Pavement Serviceability Index (PSI), which differs from IRI. These measures and targets are used in conjunction with federal measures to inform program sizing and project selection. Table 1 provides the MassDOT Performance Measures and Targets for NHS Pavements, while Table 2 provides the MassDOT Performance Measures and Targets for NHS Bridges.

The Old Colony MPO will continue to assist MassDOT in striving towards these targets through our project prioritization process and with our evaluation criteria, which considers maintenance and infrastructure an important factor in the selection process.

Table 1
MassDOT Performance Measures and Targets for NHS Pavements

Interstate Pavement (FHWA Full Distress)			
Performance Measure	Current Condition (2017)	2-Year Target (2020)	4-Year Target (2022)
% Interstate Pavement in Good Condition	74.2%	70%	70%
% Interstate Pavement in Poor Condition	0.1%	4%	4%
Non-Interstate Pavement (FHWA IRI only)			
Performance Measure	Current Condition (2017)	2-Year Target (2020)	4-Year Target (2022)
% Non-Interstate Pavement in Good Condition	32.9%	30%	30%
% Non-Interstate Pavement in Poor Condition	31.4%	30%	30%

Table 2
MassDOT Performance Measures and Targets for NHS Bridges

Performance Measure	Current Condition (2017)	2-Year Target (2020)	4-Year Target (2022)
% Bridges in Good Condition	15.22%	15%	16%
% Bridges in Poor Condition	12.37%	13%	12%

System Performance Measures (Congestion, Reliability, and Emissions) (PM3)

Through its goal and objectives for capacity management and mobility, the MPO seeks to maximize the region's existing transportation system so that both people and goods can move reliably and connect to key destinations. Portions of the Old Colony Region are densely developed, which creates challenges to making major changes to its transportation infrastructure to address access, reliability, and congestion mitigation needs. In order to determine how well the region's roadways are performing with respect to mobility, the MPO applies performance measures that gauge the duration, extent, intensity, and reliability (or regularity) of the occurrence of congestion.

Table 3
MassDOT System Performance Measures and Targets
Congestion, Reliability, and Emissions

Performance Measure	Current (2017)	2-Year Target (2020)	4-Year Target (2022)
Level of Travel Time Reliability (LOTTR)	68% Interstate	68% Interstate	68% Interstate
	80% Non-Interstate	80% Non-Interstate	80% Non-Interstate
Truck Travel Time Reliability (TTTR)	1.85	1.85	1.85
Peak Hour Excessive Delay (PHED) (Boston UZA) (Annual hours per capita)	18.31	18.31	18.31
Non-SOV Travel	33.60% (2016)	34.82%	35.46%
Emissions Reductions	Baseline (FFY 2014-2017)	1,622 CO	TBD CO - Springfield
		497.9 Ozone	1.1 Ozone

Old Colony MPO staff analyzes congestion in the region using the Congestion Management Process (CMP). The CMP is, "a systematic process for managing congestion that provides information on transportation system performance and on alternative strategies for alleviating congestion and enhancing the mobility of persons and goods to levels that meet state and local needs." The CMP includes consideration of the implementation of strategies that provide the most efficient and effective use of existing and future transportation facilities. This process allows for monitoring transportation systems for congestion, reviewing and endorsing plans by local communities that make up the region, and revising monitoring of strategies and overall plans to account for a dynamic management system. In both metropolitan and non-

metropolitan areas, consideration needs to be given to strategies that reduce single occupancy vehicle (SOV) travel and improve existing transportation system efficiency. Documentation of the operational Congestion Management Process occurs during the Transportation Management Area (TMA) Certification Review conducted every four (4) years.

In general, the root causes of congestion may be summarized into two main categories:

- Traffic volume on a facility exceeds the available physical capacity of the facility - There is a limited amount of traffic that can be moved on a roadway for a given time, or only so many transit customers that can be accommodated by a given number of buses or trains. This is considered the physical capacity of the system. Bottlenecks occur at locations where the physical capacity is restricted, with flows from upstream sections (with higher capacities) being funneled into smaller downstream segments. When traffic flow breaks down to stop-and-go conditions, capacity is actually reduced. Bottlenecks can be very specific chokepoints in the system, such as a poorly functioning freeway-to-freeway interchange, or an entire highway corridor where a “system” of bottlenecks exists, such as a closely spaced series of interchanges with local streets.
- Traffic Incidents - In addition to the physical capacity, external events can have a major effect on traffic flow. These include traffic incidents such as crashes and vehicle breakdowns; work zones; inclement weather; special events; and poorly timed traffic signals. When these events occur, their main impact is to subtract physical capacity from the roadway. Events also may cause changes in traffic demand by causing travelers to rethink their trips.

The cost of congestion can be measured in dollars as well as time. There is a direct link between transportation investment, travel conditions (congestion and reliability), and economic productivity. Two key trends have a substantial impact on the total cost of moving freight:

- As congestion extends into the midday, which is typically the peak travel period for trucks, costs that are more direct will be incurred.
- Reliability - For trucks, the ability to secure delivery windows predictably will decrease and will add even more costs as firms struggle to optimize delivery schedules. This is especially a problem for truckers who must meet “just-in-time” delivery schedules set by shippers, manufacturers, and retailers.

The CMP is also designed to identify intersections and road segments that demonstrate congestion, excessive delays, and circulation problems. The CMP identifies these congested facilities through studies completed by OCPC and other agencies and organizations, and through the ongoing monitoring of facilities. Standard operating procedures have been adopted for data collection that allows the monitoring of intersections within the region specifically targeted due to congestion. The CMP identifies numerous congested intersections, based on a threshold of LOS “D” or less, within the Old Colony region.

In addition to the intersection locations, there are several community centers in the region including, Bridgewater Center (Central Square), Downtown Brockton, East Bridgewater Center, Stoughton Center, and West Bridgewater Center, that experience chronic congestion and circulation problems requiring ongoing efforts to improve traffic flow and access, and reduce delays.

When making investments in the region’s transportation system, the Old Colony Region MPO seeks to invest in projects and programs that reduce greenhouse gases (GHGs) and other transportation related pollutants, and otherwise minimize negative environmental impacts. If climate change trends continue as projected, the conditions in the Old Colony Region will include a rise in sea level coupled with storm-

induced flooding, and warmer temperatures that would affect the region's infrastructure, economy, human health, and natural resources. Massachusetts is responding to this challenge by taking action to reduce the GHGs produced in the state, including those generated by the transportation sector. To that end, Massachusetts passed its Global Warming Solutions Act (GWSA), which requires reductions of GHGs by 2020, and further reductions by 2050, relative to 1990 baseline conditions. To meet GWSA requirements, the MPO works with MassDOT and other stakeholders to anticipate the GHG impacts of projects included in the TIP.

Transit System Asset Condition Performance Measures and Targets

Table 4 lists a set of federally required infrastructure condition performance measures for transit systems along with BAT's Performance Targets. These transit asset management (TAM) measures, which focus on a specific subset of all transit assets, were established in the FTA's TAM Rule. Brockton Area Transit presented this information along with supporting documentation to the Old Colony MPO in September 2020. The Old Colony MPO has adopted BAT's FY 2021 Brockton Area Transit Authority Transit Asset Management (TAM) State of Good Repair Targets in their entirety and as their own and for the Old Colony Region, in accordance with the certified 3C Transportation Planning Process.

Table 4
Brockton Area Transit Authority Performance Measures and Targets

Performance Targets by Asset Category						
Category	Class	Metric	Performance Target for FY 2021	Total Number of Vehicles	# of Vehicles that exceed ULB - FY 2020	% of Fleet that exceeds ULB - FY 2020
Rolling Stock	Buses	X% of fleet that exceeds default ULB of 14	16.00%	46	1	2.17%
	Cutaway Buses	X% of fleet that exceeds default ULB of 10	30.00%	4	4	100.00%
	Vans	X% of fleet that exceeds default ULB of 8	20.00%	58	10	17.24%
Equipment	Non-Revenue Service Vehicle	X% of non-revenue service vehicles that exceeds default ULB of 8	35.00%	3	1	33.33%
	Non-Revenue Service Truck	X% of non-revenue service vehicles that exceeds default ULB of 8	40.00%	8	3	37.50%
Facilities	Admin/Maintenance Facility	X% of facilities rated under 3.0 on Term scale	0.00%	3	0	0.00%

FTA defines ULB as “the expected lifecycle of a capital asset for a particular transit provider’s operating environment, or the acceptable period of use in service for a particular transit provider’s operating environment.” For example, FTA’s default ULB value for a bus is 14 years. FTA’s Transit Economic Requirements Model (TERM) scale, which pertains to the facilities measure, is a rating system that describes asset condition. The scale values are 1 (poor), 2 (marginal), 3 (adequate), 4 (good), and 5 (excellent). Because each measure is intended to represent the share of transit assets that are not in a state of good repair, the goal is to minimize the value for all four measures. FTA grantees, including transit agencies and agency sponsors, such as MassDOT, are required to develop targets for these TAM measures each fiscal year. MPOs, in turn, are required to set targets for their regions. BAT submitted agency-level targets for state fiscal year (SFY) 2021 (July 2020 through June 2021) to the Old Colony MPO. Their targets

reflect the most recent data available on the number, age, and condition of their assets, and their expectations and capital investment plans for improving these assets during SFY 2021.

1.3 Transportation Funding Programs

The major sources of TIP funding are the Federal Highway Administration (FHWA), Federal Transit Administration (FTA), and MassDOT. The United States Congress authorizes federal funding for these transportation projects through federal legislation. For highways and mass transportation, the most recent authorization was the FAST Act (2015). Federal funding received from FAST Act is allocated to different funding programs. State funds are also a key component for transportation purposes.

Highway Funding Programs

- **National Highway Performance Program (NHPP)** provides support for the condition and performance of the National Highway System (NHS), for the construction of new facilities on the NHS, and to ensure that investments of Federal-aid funds in highway construction are directed to support progress toward the achievement of performance targets established in a State's asset management plan for the NHS.
- **National Freight Program (NFP) Program** provides funds for projects that improve efficient movement of freight on the National Highway Freight Network (NHFN).
- **Surface Transportation Block Grant Program (STBG)** provides flexible funding that may be used by States and localities for projects to preserve and improve the conditions and performance on any Federal-aid highway, bridge and tunnel projects on any public road, pedestrian and bicycle infrastructure, and transit capital projects, including intercity bus terminals.
- **Congestion Mitigation and Air Quality Improvement Program (CMAQ)** provides flexible funding for transportation projects and programs to help meet the requirements of the Clean Air Act.
- **Highway Safety Improvement Program (HSIP)** is a core Federal-aid program with the purpose to achieve a significant reduction in traffic fatalities and serious injuries on all public roads, including non-State-owned roads and roads on tribal land.
- **Transportation Alternatives Program (TAP)** provides funds for a variety of activities related to improving transportation assets, including on- and off-road pedestrian and bicycle facilities, environmental mitigation, and creating or improving recreational trails projects.
- **Bridge Replacement and Rehabilitation Program** provides funds for rehabilitation and replacement of any bridge on a public road. Bridges on the federal-aid system or off the federal-aid system are eligible for these funds.
- **Non-Federal Aid (NFA)** contains all projects not receiving federal funds. Various categories of state funding are included in this group such as bikeways, State Aid (Chapter 90), MassWorks, highway construction, and maintenance.

Transit Funding Programs

- **Section 5307** provides funds to urbanized areas and to governors for transit capital and operating assistance in urbanized areas and for transportation-related planning. An urbanized area is an

incorporated area with a population of 50,000 or more that is designated as such by the U.S. Department of Commerce, Bureau of the Census.

- **Section 5310** provides funds to enhance the mobility for seniors and persons with disabilities by providing funds for programs to serve the special needs of transit-dependent populations beyond traditional public transportation services and Americans with Disabilities Act (ADA) complementary paratransit services.
- **Section 5311** provides capital, planning, and operating assistance to states to support public transportation in rural areas with populations of less than 50,000, where many residents often rely on public transit to reach their destinations.
- **Section 5339** provides funding to replace, rehabilitate and purchase buses and related equipment and to construct bus-related facilities including technological changes or innovations to modify low or no emission vehicles or facilities.
- **Community Transit Grant Program (CTGP)** awards funds to help meet the transportation and mobility needs of seniors and people with disabilities. The annual competitive program distributes Federal Transit Administration Section 5310: Enhanced Mobility of Seniors & Individuals with Disabilities funds and State Mobility Assistance Program (MAP) funds.

1.4 Public Participation, Coordination, and Consultation

Transportation planning is one component of the Continuing, Cooperative, and Comprehensive performance-based multimodal transportation planning process that includes land use/ growth management, housing, open space and recreation, economic development, historic preservation, and water quality. It is important that these potentially conflicting elements be consistent with one another in order to facilitate the efficient movement of people and goods in the region. The first step in obtaining consistency is the coordination and consultation with appropriate agencies and groups on existing projects. Each of the functional planning areas uses common land use, population and employment statistics, and forecasts.

An underlying principle of the metropolitan planning process is public participation, coordination, and consultation with agencies and groups. The FFY 2022-2026 Transportation Improvement Program was developed in accordance with the Public Participation Plan (PPP) for the Old Colony Region. The PPP defines a process for providing individuals, affected public agencies, representatives of public transportation employees, public ports, freight shippers, providers of freight transportation services, private providers of transportation (including intercity bus operators, employer-based commuting programs, such as carpool program, vanpool program, transit benefit program, parking cash-out program, shuttle program, or telework program), representatives of users of public transportation, representatives of users of pedestrian walkways and bicycle transportation facilities, representatives of the disabled, and other interested parties with reasonable opportunities to be involved in the metropolitan transportation planning process. With the continued State of Emergency and capacity limits on businesses and organizations occurring the development of the TIP, the public participation process continued and utilized a virtual and digital mode. Meetings of the Joint Transportation Committee and the Metropolitan Planning Organization have continued via virtual meetings, dissemination of information via email, website, and newsletters has continued, and staff has remained reachable for questions and comments

via telephone and email. Legal advertisements notifying the public of the availability of the Draft TIP and the ability to comment have continued.

Brockton Area Transit Authority, the FTA Section 5307(c) applicant, has consulted with the Old Colony Metropolitan Planning Organization and concurs that the public involvement process adopted by the MPO for development of the TIP satisfies the public hearing requirements that pertain to the development of the Program of Projects (POP) for the regular Section 5307, Urbanized Area Formula Program, grant applications including the provisions for public notice and the time established for public review and comment. The public discussion of the Transportation Improvement Program at Old Colony JTC, Old Colony MPO, and transportation meetings satisfies the Program of Projects (POP) public hearing requirements of the Federal Transit Administration.

As such, Brockton Area Transit utilizes the Old Colony MPO's public participation process as its public participation process. The public discussion of the Transportation Improvement Program at Old Colony JTC, Old Colony MPO, and transportation meetings satisfies the Program of Projects (POP) public hearing requirements of the Federal Transit Administration.

Public participation in the TIP development process is welcomed and encouraged. The public is able to participate in the development of the TIP by attending meetings and reviews designated for the TIP, or by contacting the OCPC offices. To ensure that there is equity in the distribution of transportation resources and that there is reasonable access to the planning process, the Old Colony MPO continually conducts Title VI and Environmental Justice planning for the Old Colony Region.

The Old Colony MPO consults with agencies and officials responsible for other planning activities within the metropolitan planning area that are affected by transportation (including State and local planned growth, economic development, tourism, natural disaster risk reduction, environmental protection, airport operations, or freight movements) or coordinate its planning process (to the maximum extent practicable) with such planning activities.

Staff utilized a diverse methodology for coordination, consultation, and engaging the public to the maximum extent possible in the development of the TIP. The methodology is as follows:

- Old Colony Metropolitan Planning Organization - The MPO provided oversight of the TIP development and project programming, and has the responsibility of ultimately endorsing the TIP. Meetings typically take place on the third Tuesday of the month.
- Old Colony Joint Transportation Committee - Functioning as the advisory committee to the Old Colony MPO and Old Colony Planning Council, this committee assists with the identification of transportation deficiencies and provides regular input and review of TIP products. The Committee consists of superintendents and or directors of highway department of public works, town planners, engineers, etc.
- Old Colony Planning Council (OCPC) - The Old Colony Planning Council discusses the TIP development and provides both planning and policy guidance at regularly scheduled OCPC Board of Directors meetings.

- Transit Providers - MPO staff seeks input regarding transit needs and projects from the Brockton Area Transit Regional Transit Authority, Greater Attleboro-Taunton Regional Transit Authority (GATRA), MBTA, and, the South Shore Community Action Council (SSCAC).
- Coordination and consultation activities - Coordination and consultation, and/or information dissemination activities take place with multiple agencies and groups. As such, these coordination and consultation activities may take place with: Brockton Area Transit, Cape Verdean Association of Brockton, Chief Elected Officials, Departments of Public Works and Highway Departments, Massachusetts Department of Transportation, Greater Attleboro Taunton Transit Authority, Massachusetts Department of Transportation District 5, MBTA, Metro South Chamber of Commerce, NAACP, Plymouth and Brockton (P&B), Plymouth Area Chamber of Commerce, Plymouth County Development Council, South Shore Chamber of Commerce, and South Shore Community Action Council.
- Transportation Advisory Network (TAN) - The TAN Outreach Contact List consists of over 200 members. Members include chief elected officials, legislators, planning boards, Massachusetts Department of Transportation, Federal Highway Administration, Federal Transit Administration, transit providers, minority groups, city and town clerks, media outlets, and transportation officials. The objective is to provide continuing outreach to a wide network. Council staff provides announcements of product availability, upcoming events, and meetings associated with the TIP to the TAN. The TAN Outreach Contact List is shared with MassDOT-Office of Transportation Planning, and MassDOT-Office of Diversity and Civil Rights.
- Media Outlets - Staff utilizes media outlets to solicit public comment, advertise meetings, and advertise TIP availability. The media outlets are 95.9 WTD, the Brockton Enterprise, the Ojurnal, and the Patriot Ledger.
- Copies of the Draft TIP are posted on the OCPC website, and are provided upon request via email and direct mail. As such, reasonable access and opportunities to review the Draft TIP are provided.
- 21-Day Public Review Period - During the public review period for the Draft TIP, copies are available, and their availability are advertised using multiple media outlets and the TAN. During the period, public meetings were held and the staff was available to discuss the Draft TIP with the public upon request.

Environmental Justice and Social Equity

Environmental Justice (EJ) is an important part of the planning process and is considered in all phases of planning. A truly integrated and effective planning process actively considers and promotes environmental justice within projects and groups of projects, across the total plan, and in policy decisions. All reasonably foreseeable adverse social, economic, and environmental effects on minority populations and low-income populations must be identified and addressed. There are three fundamental Environmental Justice principles:

- To avoid, minimize, or mitigate disproportionately high and adverse human health or environmental effects, including social and economic effects, on minority populations and low-income populations.
- To ensure the full and fair participation by all potentially affected communities in the transportation decision-making process.

- To prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority populations and low-income populations.

Public involvement is an integral part of transportation planning and project development decision-making. The U.S. DOT Order (5610.2) on Environmental Justice directs the provision for minority populations and low-income populations greater access to information on and opportunities for public participation in matters that may affect human health and the environment.

Effective public involvement in the planning process and the project-development process can alert State and local agencies about environmental justice concerns so that they do not result in surprises during the project-development stage. Continuous interaction between community members and transportation professionals is critical to successfully identify and resolve potential Environmental Justice concerns.

The Old Colony MPO has public-involvement procedures established that provide for consideration of Environmental Justice. These procedures provide an inclusive, representative, and equal opportunity for two-way communication resulting in appropriate action that reflects this public involvement. Environmental Justice is considered in all aspects of planning and project decision-making, including the design of both the public-involvement plan and the proposed facility.

Environmental Justice Analysis asks whether a proposed action or plan causes disproportionately high and adverse effects on minority populations and low-income populations, and whether these populations are denied benefits. A framework of analysis that can determine how a proposed action or plan could differentially affect different populations is important. As such, an analysis of benefits and burdens is utilized. In addition, computer mapping of Environmental Justice Areas along with past, present, and future projects funded through the Transportation Improvement Program, available transit services and their associated walking times, commuter parking facilities, pavement conditions, high crash locations, areas of congestion is utilized to measure the distribution of funding (to ensure geographic equity), to determine priorities areas of need/ and or concern.

Examinations of potential benefits and burdens because of the implementation of the TIP were conducted. Examples of benefits considered were mobility, accessibility, infrastructure condition, environment, reliability, safety, security, load factors, efficiency, and consultation with riders in improving bus services to the transit-dependent. While examples of burdens considered were: air, noise, and water pollution and soil contamination, destruction or disruption of community cohesion or a community's economic vitality, destruction or disruption of the availability of public and private facilities and services, adverse employment effects, displacement of persons, businesses, farms, or nonprofit organizations, increased traffic congestion, isolation, exclusion, or separation of minority or low-income individuals within a given community or from the broader community, and the denial of, reduction in, or significant delay in the receipt of, benefits of programs, policies, or activities.

An assessment of the benefits and burdens of the Transportation Improvement Program was completed to identify all regionally significant projects constructed and/or programmed in the Old Colony Transportation Improvement Program during the period of 2003 - 2025. Constructed projects funded through the TIP were included to provide a benchmark of investments. The constructed projects were compiled and then the staff analyzed the location of these improvements relative to Environmental Justice Communities. Environmental Justice Communities in the Old Colony MPO Region are Brockton, Easton, Plymouth, Stoughton, and Whitman.

DRAFT FFY 2022-2026 OLD COLONY TRANSPORTATION IMPROVEMENT PROGRAM (TIP)

For the purposes of identifying these communities, the staff utilized the MassGIS Environmental Justice GIS Shape file. Polygons in the Environmental Justice Populations layer represent neighborhoods across the state with high minority, non-English speaking, low-income, and foreign-born populations. Specifically, a community is identified as an Environmental Justice Community if any the following are true within that community:

- Contains a Block group whose annual median household income is equal to or less than 65 percent of the statewide median (\$62,072 in 2010); or
- 25% or more of the residents identify as a race other than white; or
- 25% or more of households have no one over the age of 14 who speaks English only or very well - English Isolation

Regionally, it was determined that 58.3 percent of the identified improvement projects, representing approximately 56.3 percent of the identified investment dollars on the FFY 2022-2026 TIP are in EJ communities. These percentages approximate the 59.3 percent of the region's population identified as living in EJ communities. Non-mappable projects, such as transit vehicle replacements or rehabilitations, bridge and roadway repair line items for future projects to be defined, and other non-location-specific projects are not included in this analysis. Moreover, many of the projects that are not located directly within an EJ community are projects of key regional significance, such as interstate highway improvements. These improvements benefit the region as a whole, and provide access to many key employment centers, including downtown Brockton and regional commercial and employment destinations.

Table 5
Investment Value of TIP Projects 2022-2026 (Projects Planned)

Type	Population Represented in EJ Communities (2010)	Percent Population Represented	TIP Project Investment	Percentage of Projects in EJ/ Non EJ Communities by Total Investment (\$)
Within EJ Communities	214,841	59.3%	\$38,538,533	58.3%
Outside EJ Communities	147,565	40.7%	\$29,947,676	41.7%
Totals	362,406	100.0%	\$68,486,209	100%

The Old Colony MPO undertook further analysis to determine the level of investments during the period of 2003-2021 through previous Transportation Improvement Programs. From that analysis, it was concluded that 59.2 percent of the identified improvement projects, representing approximately 63.5 percent of the identified investment dollars allocated during the TIP years of 2003-2021 are in EJ communities. These percentages approximate the 59.3 percent of the region's population identified as living in EJ communities.

Table 6**Investment Value of TIP Projects 2003 - 2021 (Projects Implemented)**

Type	Population Represented in EJ Communities (2010)	Percent Population Represented	TIP Project Investment	Percentage of Projects in EJ/ Non EJ Communities by Total Investment (\$)
Within EJ Communities	214,841	59.3%	\$156,213,901	63.5%
Outside EJ Communities	147,565	40.7%	\$89,826,236	36.5%
Totals	362,406	100.0%	\$246,040,137	100%

The first step towards understanding the profile of individuals that could participate in the transportation planning process and reside in community that is a recipient of TIP project funding is a review of U.S Census data. Tables 7 display the number of individuals who are Limited English Proficient (LEP). For our planning purposes, we are considering people that speak English “not well” or “not at all”.

Table 7, derived from the 2018 US Census American Community Survey, shows the number and percent of persons who are five (5) and older, regarding their English language skills, for the communities within the MPO area and several adjacent municipalities. It should be noted that the U.S. Census has changed how it collects data on the number of LEP individuals in a given area. In years past, the U.S. Census collected LEP data down to the census block level, but due to privacy concerns, the U.S. Census no longer gets as granular in its LEP data collection efforts. In the case of the Old Colony Region, LEP data is collected on the community level, and with some communities, LEP information is provided only on a multi-community level.

As seen in the table below, approximately 9% of the MPO area population is not proficient in English. The combined communities of Avon, Brockton, and Stoughton have the greatest concentration of LEP persons at 17% and receive 43% of the projects in FFY 2022-2026 TIP. The second-highest concentration of LEP individuals is in the community grouping of Duxbury, Kingston, Marshfield, Plymouth, and Situate at 18%.

**Table 7
Investment Value of TIP Projects and Limited English Proficient (LEP) 2022-2026 (Projects Planned)**

Community Grouping	2018 Population of 5 Years or Older	Number of LEP Persons	Percentage of LEP Persons	Number of TIP Projects, 2012 through 2025	Percentage of Total Projects	TIP Project Expenditures, 2012 through 2025 (\$)
Avon, Brockton, and Stoughton	120,300	20,882	17%	17	43%	\$65,260,522
Abington, Bridgewater, East Bridgewater, Easton, Rockland, Whitman, and West Bridgewater	115,811	2,869	2%	12	30%	\$48,164,390
Halifax, Hanover, Hanson, Pembroke, and Plympton	106,948	1,121	1%	7	18%	\$38,716,126
Duxbury, Kingston, Marshfield, Plymouth, and Scituate	87,514	15,781	18%	4	10%	\$23,172,279
Totals	430,573	40,653	9%	40	100%	\$175,313,317

From the examination of benefits and burdens, it is the determination that no projects implemented because of the TIP will result in adverse impacts to the Environmental Justice Areas in the Old Colony region.

As such, from the review, it may be concluded from the public investment and involvement in the regional transportation planning process and the resultant FFY 2021-2026 Transportation Improvement Program and previous TIPs (dating back to 2003) demonstrate that the benefits of the regional transportation planning process are afforded equitably to both EJ and Non-EJ communities. Given this equitable distribution and investment, it is finding of the Old Colony MPO that the Low-income and minority populations are not disproportionately impacted and are beneficiaries of the transportation planning process and project implementation in the Old Colony Region.

As such, the Old Colony MPO continues to work with our regional partners in the advancement of environmental justice principles throughout the regional planning process. Such analyses will be conducted annually and included in the endorsed TIP.

2. HIGHWAY AND BRIDGE PROJECT LISTING BY COMMUNITY

2.1 Prioritization and Transportation Evaluation Criteria

Several factors are considered when developing the prioritization and programming of TIP projects. They include:

- Financial feasibility of project
- Local and regional support for the project
- Need for project to be implemented (safety, congestion, etc.)
- Project has been derived from the Management Systems (Congestion, Safety, and Pavement)
- Project has Project Review Committee (PRC) approval and/or a MassDOT ID

- Project must have reasonable progress in design, permitting, and right-of-way, etc., to ensure that the project can be implemented in the active year
- Project implementation will assist with making progress towards achievement of adopted performance measures and targets
- Results of Annual TIP Readiness Day
- Results of Transportation Evaluation Criteria

Transportation Evaluation Criteria (TEC)

With transparency and reasonableness in mind, in 2004, the Old Colony MPO began utilizing TIP project transportation evaluation criteria to inform the process of evaluating and selecting projects for programming in the TIP. The transportation evaluation criteria are a means of assisting decision makers in the programming projects that will help the region attain the visions established by the Old Colony MPO, which includes, to maintain a state of good repair, focus investments on existing activity centers, improve mobility for people and freight, reduce the level of greenhouse gas emissions, minimize environmental burdens from transportation facilities on low-income and minority populations, and provide safe transportation for all modes. Projects with components and outcomes that help attain the goals of the Old Colony MPO receive higher scores.

Evaluation of Projects

The Transportation Evaluation Criteria utilized for the FFY 2022-2026 Transportation Improvement Program are included in Appendix H. The scoring results of the Transportation Evaluation Criteria are included with the applicable projects listed in the Universe of Projects beginning on Page 27. System reliability projects such as preservation projects on limited access highways or transit state of good repair projects are not evaluated, as they are required projects identified through asset management systems.

The TIP projects are evaluated and are scored in six of the seven criteria categories: (Condition, Mobility, Safety, Community Effects and support, Land Use and Economic Development, and Environmental Effects) on a scale of +3 to -3.

In general, this step scores the impact the evaluated project will have on each of the six criteria. The proposed rating scale is as follows:

- A score of +3 is highly beneficial,
- A score of zero is neutral or not applicable,
- A score of -3 is highly detrimental.

The cost effectiveness category is not scored in order to mitigate concerns regarding equity among urban, suburban, and rural projects, but that the cost effectiveness ratios be calculated and shown for information purposes.

If there is no impact or the impact is mitigated so that there is no effect, the score is zero or not applicable. The score for each category should be the average of all of the individual criteria in each category.

The category scores for a project are then combined into an overall score of between +18 and -18, and the scores are then converted to a 100-point scale.

DRAFT FFY 2022-2026 OLD COLONY TRANSPORTATION IMPROVEMENT PROGRAM (TIP)

The Old Colony MPO considers whether a project's implementation will assist in making progress towards achievement of adopted performance measures and targets and utilizes evaluation criteria ratings and project readiness information to prepare a First-Tier List of Projects. This is a list of the projects with the highest ratings that could be made ready for advertising within the TIP's time horizon (next four federal fiscal years). The staff relies on the MassDOT Highway Division to provide information about what year a project would be ready for advertising. In developing the recommendation for the draft TIP, the staff strongly considers the First-Tier List of Projects. The Old Colony MPO staff also factors in projects that are listed in the Long Range Transportation Plan in order to implement the LRTP, considers geographic and social equity to help ensure that the list of projects addresses needs throughout the region, and accounts for cost to comply with fiscal constraint.

2.2 Universe of Projects and Geographic Distribution of Projects

The following is a listing of projects ranked, from high to low, by Transportation Evaluation Criteria Score. The Program Year refers to which year the project is programmed or if it is not programmed.

Table 8
Universe of Projects

PROJECT LOCATION AND DESCRIPTION	PROJECT ID#	PROGRAM YEAR	TEC SCORE
STOUGHTON - CORRIDOR IMPROVEMENTS ON ROUTE 138	607403	2023 - ADVANCE CONSTRUCTION PHASE 1 OF 2	51.78
STOUGHTON - CORRIDOR IMPROVEMENTS ON ROUTE 138	607403	2024 - ADVANCE CONSTRUCTION PHASE 2 OF 2	51.78
BROCKTON - INTERSECTION IMPROVEMENTS AT LYMAN STREET/GROVE STREET/SUMMER STREET & REPLACEMENT OF GROVE STREET BRIDGE, B-25-005, OVER SALISBURY PLAIN RIVER	607818	2025	50.39
BROCKTON- INTERSECTION IMPROVEMENTS AND RELATED WORK AT CENTRE STREET (ROUTE 123), CARY STREET AND LYMAN STREET	609410	2023	48.89
PLYMOUTH - ROUTE 3/ ROUTE 3A EXIT 2 STATE ROAD AND HERRING POND ROAD AND HEDGES POND ROAD CAPACITY ENHANCEMENT, SIGNALIZATION, AND GEOMETRIC IMPROVEMENTS		NOT PROGRAMMED	46.56
BROCKTON - INTERSECTION IMPROVEMENTS @ CRESCENT STREET (ROUTE 27)/ QUINCY STREET/ MASSASOIT BOULEVARD	606143	NOT PROGRAMMED	45.83
BROCKTON - ABINGTON - PEDESTRIAN AND BICYCLE IMPROVEMENTS ON ROUTE 123	609520	NOT PROGRAMMED	44.72
BROCKTON - ROUTE 123 (CENTRE STREET) AT PLYMOUTH STREET SIGNALIZATION AND GEOMETRIC IMPROVEMENTS	609052	2024	44.06
STOUGHTON - INTERSECTION IMPROVEMENTS AND RELATED WORK AT CENTRAL STREET, CANTON STREET AND TOSCA DRIVE	608279	2023	43.22
EASTON - CORRIDOR IMPROVEMENTS ON ROUTE 138 INCLUDING INTERSECTION IMPROVEMENTS AT ROUTE 138 (WASHINGTON STREET) AND ELM STREET	608195	NOT PROGRAMMED	42.89
ABINGTON - INTERSECTION IMPROVEMENTS AT HANCOCK STREET AND CHESTNUT STREET	609440	2026	41.06
STOUGHTON - RECONSTRUCTION OF TURNPIKE STREET	607214	NOT PROGRAMMED	38.89
EASTON - RESURFACING AND RELATED WORK ON ROUTE 138 (ROOSEVELT CIRCLE TO STOUGHTON TOWN LINE (EXCLUDING THE SECTION FROM ELM STREET TO UNION STREET))	608585	2025	38.72

DRAFT FFY 2022-2026 OLD COLONY TRANSPORTATION IMPROVEMENT PROGRAM (TIP)

DUXBURY - SIGNAL INSTALLATION @ ROUTE 3 (NB & SB) RAMPS & ROUTE 3A (TREMONT STREET)	606002	2026	38.22
HANSON - CORRIDOR IMPROVEMENTS ON ROUTE 14 (MAQUAN STREET), FROM THE PEMBROKE T.L. TO INDIAN HEAD STREET AND RELATED WORK	608506	2026 - ADVANCE CONSTRUCTION PHASE 1 OF 2	38.22
HANSON - CORRIDOR IMPROVEMENTS ON ROUTE 14 (MAQUAN STREET), FROM THE PEMBROKE T.L. TO INDIAN HEAD STREET AND RELATED WORK	608506	2027 - ADVANCE CONSTRUCTION PHASE 2 OF 2	38.22
PEMBROKE - REHABILITATION OF ROUTE 36 (CENTER STREET) FROM ROUTE 27 TO ROUTE 14	600380	2022	34.11
AVON- STOUGHTON- PAVEMENT PRESERVATION AND RELATED WORK ON ROUTE 24	608496	2022	NOT APPLICABLE
PLYMPTON-BRIDGE REPLACEMENT, WINNETUXET ROAD OVER WINNETUXET RIVER	609435	2024	NOT APPLICABLE
AVON - CORRIDOR IMPROVEMENTS ON ROUTE 28	610804	NOT PROGRAMMED	TO BE DETERMINED
AVON - INTERSECTION IMPROVEMENTS AT ROUTE 28, SPRING STREET AND HARRISON BOULEVARD	611979	NOT PROGRAMMED	TO BE DETERMINED
EAST BRIDGEWATER - INTERSECTION IMPROVEMENTS AT BEDFORD STREET (ROUTE 18), WEST STREET (ROUTE 106) AND EAST STREET	611968	NOT PROGRAMMED	TO BE DETERMINED
EAST BRIDGEWATER - INTERSECTION IMPROVEMENTS AT HIGHLAND STREET AND NORTH BEDFORD STREET (ROUTE 18)	611976	NOT PROGRAMMED	TO BE DETERMINED
PEMBROKE - INTERSECTION IMPROVEMENTS AT WASHINGTON STREET AND SCHOOSSETT STREET	611978	NOT PROGRAMMED	TO BE DETERMINED
STOUGHTON - INTERSECTION IMPROVEMENTS AT CANTON STREET (ROUTE 27), SCHOOL STREET AND SUMMER STREET	611981	NOT PROGRAMMED	TO BE DETERMINED
BROCKTON AREA TRANSIT AUTHORITY (BAT) - ACQUIRE REPLACEMENT <30 FT BUS DIAL-A-BAT (7)		PROJECT NEED FOR EACH YEAR 2022-2026	NOT APPLICABLE
BROCKTON AREA TRANSIT AUTHORITY (BAT) - ACQUIRE REPLACEMENT VAN COUNCILS ON AGING (3)		PROJECT NEED FOR EACH YEAR 2022-2026	NOT APPLICABLE
OCPC AREA AGENCY ON AGING (AAA) - VOLUNTEER TRANSPORTATION PROGRAM (VTP)		PROJECT NEED FOR EACH YEAR 2022-2026	NOT APPLICABLE
SOUTH SHORE COMMUNITY ACTION COUNCIL (SSCAC) - ACQUIRE REPLACEMENT <30 FT VEHICLES (7)		PROJECT NEED FOR EACH YEAR 2022-2026	NOT APPLICABLE

DRAFT FFY 2022-2026 OLD COLONY TRANSPORTATION IMPROVEMENT PROGRAM (TIP)

Geographic Distribution and Equity Analysis of Projects

The Old Colony MPO monitors the geographic distribution of TIP projects over time. Table 8 provides the distribution of TIP projects from 2012 through 2026. To assist with providing context to the distribution, included in the table is 2010 Population and 2010-2014 Median Household Income.

From an examination of the distribution of TIP projects from 2012 through 2026, the following observations may be made:

- There are higher concentrations of projects within the more populated urban areas (i.e., Brockton at 30.0 percent of all projects). Such concentrations tend to follow areas with elevated levels of congestion, bicycle and pedestrian activity, and crash clusters.
- The towns of Easton (12.5%), Pembroke (12.5%), Plymouth (7.5%), and Stoughton (7.5%) also had higher concentration of projects. A potential explanation for such a trend is that these populous communities feature proximity to limited access highways, commuter rail, and academic institutions of higher learning. Such features, while beneficial in many respects, also lead to higher pedestrian, bicyclist and vehicle trips, and the need for additional multimodal and infrastructure.

Table 9
Geographic Distribution and Equity Analysis of Projects

Community	2010 Population	All Minority (Including White Hispanic) Population	Percent Title VI Minority	Median Household Income, 2010-2014	Number of TIP Projects, 2012 through 2026	Percentage of Total Projects	TIP Project Expenditures, 2012 through 2026 (\$)	Per Capita Expenditure (\$)
Abington	15,985	1,368	9%	\$81,500	2	5.0%	\$4,119,138	\$257.69
Avon	4,356	741	17%	\$78,750	2	5.0%	\$6,055,120	\$1,390.06
Bridgewater	26,563	2,941	11%	\$88,481	1	2.5%	\$1,486,453	\$55.96
Brockton	93,810	53,542	57%	\$48,569	12	30.0%	\$38,762,896	\$413.21
Duxbury	15,059	560	4%	\$120,253	1	2.5%	\$2,784,000	\$184.87
East Bridgewater	13,794	790	6%	\$88,534	1	2.5%	\$7,763,091	\$562.79
Easton	23,112	2,327	10%	\$95,372	5	12.5%	\$21,189,613	\$916.82
Halifax	7,518	282	4%	\$69,917	0	0.0%	\$0	\$0.00
Hanover	13,879	579	4%	\$98,750	0	0.0%	\$0	\$0.00
Hanson	10,209	424	4%	\$93,771	1	2.5%	\$11,960,783	\$1,171.59
Kingston	12,629	598	5%	\$86,339	0	0.0%	\$0	\$0.00
Pembroke	17,837	699	4%	\$89,954	5	12.5%	\$24,613,677	\$1,379.92
Plymouth	56,468	4,230	7%	\$76,925	3	7.5%	\$20,388,279	\$361.06
Plympton	2,820	112	4%	\$94,505	1	2.5%	\$2,141,666	\$759.46
Stoughton	26,962	5,822	22%	\$74,688	3	7.5%	\$20,442,506	\$758.20
West Bridgewater	6,916	440	6%	\$81,573	2	5.0%	\$7,615,278	\$1,101.11
Whitman	14,489	886	6%	\$76,494	1	2.5%	\$5,990,816	\$413.47
Totals	362,406	76,341	21%		40	100.0%	\$175,313,317	\$484

The following project spanning multiple communities

Abington and Brockton - North Quincy Street at Chestnut Street and Boundary Avenue Roundabout

Analysis does not include Limited Access Highway Projects

3. TIP - FEDERAL REQUIREMENTS AND PROJECT LISTS

3.1 Endorsements of the FFY 2022-2026 Old Colony TIP, Self-Compliance Statements of the Comprehensive, Continuing, Cooperative Transportation Planning Process, and Self Compliance Statements of the 310 CMR 60.05: Global Warming Solutions Act Requirements for the Transportation Sector and the Massachusetts Department of Transportation

The Unified Planning Work Program, Long Range Transportation Plan, and Transportation Improvement Program, together with any amendments, were developed in accordance with FHWA and FTA regulations governing the implementation of the Fixing America's Surface Transportation Act (FAST Act), EPA regulations governing the implementation of the Clean Air Act Amendments of 1990, and fully incorporates the applicable requirements of the 1964 Civil Rights Act and the Americans with Disabilities Act of 1990. From certification reviews conducted in 2006, 2011, 2016, and 2019 the FHWA and FTA have determined that the transportation planning process of the MPO substantially meets the requirements of the Metropolitan Planning Rule 23 CFR Part 450 Subpart C and 49 CFR Part 613. In addition, FHWA and FTA have jointly certified the transportation planning process.

Endorsement of FFY 2022-2026 Old Colony TIP is in Appendix A.

Self-Compliance Statements of the Metropolitan Transportation Planning Process is located in Appendix B.

Self-Compliance Statements of the 310 CMR 60.05: Global Warming Solutions Act Requirements for the Transportation Sector and the Massachusetts Department of Transportation is located in Appendix C.

3.2 Procedures for Amendments and Administrative Modifications

The TIP is a "living" document and is likely to be modified during the course of the year. The definitions and procedures outlined in this section are followed when project-based revisions to the TIP are necessary (Detailed TIP Project Revision and Definition Procedures are included in Appendix N).

TIP Amendment

A revision to the Transportation Improvement Program that requires public review and demonstration of financial constraint. The public process for a TIP amendment requires a publicly advertised 21-day public comment period and for the MPO to address any public commentary prior to endorsement. The Old Colony MPO, at their discretion, may vote to abbreviate the public comment period under what they consider extraordinary circumstances beyond the MPO's control. TIP Amendments are prompted by the major change(s) in a project.

TIP Adjustment

A revision to the STIP that is does not require a public process, but that is required to be included in a TIP action with a demonstration of financial constraint for FHWA/FTA approval.

TIP Administrative Modification

A revision to the TIP that is minor enough in nature to require neither a public process nor FHWA/FTA approval, but that does involve a notification to federal partners.

3.3 Financial Summary, Targets, and Fiscal Constraint Analysis

The Massachusetts Department of Transportation Office of Transportation Planning, in consultation with the Regional Planning Agencies and utilizing the Massachusetts Association of Regional Planning Agencies (MARPA) Formula, provides each region with yearly-targeted federal funding levels with state match for highway and bridge projects, and separate yearly targets for projects that qualify for Congestion Mitigation Air Quality funds, Highway Safety Improvement Program (HSIP) funds, and Transportation Alternative Program funds. These Funding Targets are located in Appendix G. The anticipated funds, programmed funds, unprogrammed funds and fiscal constraint analysis is summarized below in Table 9. The Summary of Regional Funding Categories in Table 11 provides specifics on fund amount by funding category.

Table 10
Funding Totals of Programmed Highway and Bridge Projects, and Fiscal Constraint Analysis

Fiscal Year	Total of Anticipated Funds (Bridge Funds, Regional Targets, and Statewide Funds)	Total of Programmed Funds	Total of Unprogrammed Funds (Fiscal Constraint Analysis)
2022	\$ 18,660,250.00	\$17,500,588	\$1,159,662
2023	\$ 13,702,981.00	\$13,702,981	\$0
2024	\$ 13,861,193.00	\$9,179,157	\$4,682,036
2025	\$ 11,445,933.00	\$10,458,468	\$987,465
2026	\$ 11,148,703.00	\$11,148,703	\$0
Totals	\$68,819,060	\$61,989,897	\$6,829,163

Programmed amount includes projects funded with regional target funds (CMAQ, HSIP, TAP, STBG) and statewide funds (FFYs 2022, 2023, and 2024)

Table 11
Funding Totals of Programmed Transit Projects, and Fiscal Constraint Analysis

Fiscal Year	Total of Anticipated Funds (Federal, State, and Local Funds)	Total of Programmed Funds	Total of Unprogrammed Funds (Fiscal Constraint Analysis)
2022	\$7,955,000	\$7,955,000	\$0
2023	\$9,785,000	\$9,785,000	\$0
2024	\$10,745,000	\$10,745,000	\$0
2025	\$8,235,000	\$8,235,000	\$0
2026	\$8,540,000	\$8,540,000	\$0
Totals	\$45,260,000	\$45,260,000	\$0

Programmed amount include state funds

DRAFT FFY 2022-2026 OLD COLONY TRANSPORTATION IMPROVEMENT PROGRAM (TIP)

The Transportation Improvement Program is financially constrained according to the definition in the 23 CFR Part 450.324. Project costs programmed in the TIP are expressed in Year of Expenditure (YOE) dollars. The cost inflation factor utilized is increased 4% annually (e.g., 2023 at 4%; 2024 at 8%; 2025 at 12%, and 2026 at 16%). The projects programmed do not exceed the funding estimates of federal and state funds available in each of these fiscal years. Additionally, the transit projects programmed in the TIP are financially constrained to available resources and they have been reviewed and approved for programming by MassDOT Rail & Transit, and the MassDOT Office of Transportation Planning.

The financial plans in Tables 9 and 10 demonstrate fiscal constraint, and reflect the emphasis on the maintenance and operation, and state of good repair for the highway, bridge, and transit system. In addition, a fiscal constraint analysis is included on each of the highway program programming tables beginning on page 33.

Only highway, bridge, and transit projects for which funds can be reasonably expected have been included in the financially constrained TIP.

3.4 Summary of Regional Funding Categories (FFY 2022-2026)

Table 12
Summary of Regional Funding Categories (FFY 2022-2026)

Funding Category	2022	2023	2024	2025	2026	Total
NHPP	\$7,339,593					\$7,339,593
SRTS						\$0
STATEWIDE CMAQ						\$0
STATEWIDE HSIP		\$2,135,071				\$2,135,071
STBG-BR-Off			\$2,141,666			\$2,141,666
STBG	\$8,676,301	\$10,428,024	\$7,037,491	\$8,973,774	\$11,148,703	\$46,264,293
CMAQ	\$1,139,886	\$1,139,886		\$1,139,886		\$3,419,658
HSIP						\$0
TAP	\$344,808			\$344,808		\$689,616
Subtotal FHWA/ State	\$17,500,588	\$13,702,981	\$9,179,157	\$10,458,468	\$11,148,703	\$61,989,897
5307 - Operating/ PM/ ADA	\$2,600,000	\$2,700,000	\$2,800,000	\$2,900,000	\$1,975,000	\$12,975,000
5307 - Capital	\$1,071,000	\$2,272,000	\$2,511,000	\$1,123,000	\$2,615,000	\$9,592,000
Carryover	\$405,000	\$1,236,000	\$550,000	\$480,000		\$2,671,000
5310						\$0
5339						\$0
State	\$3,879,000	\$3,577,000	\$4,884,000	\$3,732,000	\$3,950,000	\$20,022,000
Local						\$0
TDC						\$0
Subtotal FTA/ State/ Local	\$7,955,000	\$9,785,000	\$10,745,000	\$8,235,000	\$8,540,000	\$45,260,000
Grand Total	\$25,455,588	\$23,487,981	\$19,924,157	\$18,693,468	\$19,688,703	\$107,249,897

Statewide CMAQ amounts represent the specific projects.

Bridge amounts represent specific projects.



2022 Old Colony Region Program

STIP: 2022 - 2026 (D)									
Program	MassDOT Project ID	MPO	Municipality	MassDOT Project Description	District	Funding Source	Total Programmed Funds	Federal Funds	Non-Federal Funds
Federal Fiscal Year 2022									
Section 1A / Regionally Prioritized Projects							\$10,160,995	\$8,128,796	\$2,032,199
Roadway Reconstruction	600380	Old Colony	Pembroke	PEMBROKE- REHABILITATION OF ROUTE 36 (CENTER STREET) FROM ROUTE 27 TO ROUTE 14	5	CMAQ	\$1,139,886	\$911,909	\$227,977
Roadway Reconstruction	600380	Old Colony	Pembroke	PEMBROKE- REHABILITATION OF ROUTE 36 (CENTER STREET) FROM ROUTE 27 TO ROUTE 14	5	STBG	\$8,676,301	\$6,941,041	\$1,735,260
Roadway Reconstruction	600380	Old Colony	Pembroke	PEMBROKE- REHABILITATION OF ROUTE 36 (CENTER STREET) FROM ROUTE 27 TO ROUTE 14	5	TAP	\$344,808	\$275,846	\$68,962
CMAQ Programmed							\$1,139,886	\$911,909	\$227,977
STBG Programmed							\$8,676,301	\$6,941,041	\$1,735,260
TAP Programmed							\$344,808	\$275,846	\$68,962
Total Programmed for Old Colony Region Projects*							\$10,160,995	\$8,128,796	\$2,032,199
Program Target for Old Colony Region Projects							\$11,320,658	\$9,056,526	\$2,264,132
Target Funds Available for Old Colony Region Projects							\$1,159,663	\$927,730	\$231,933
Section 2A / State Prioritized Reliability Projects							\$7,339,593	\$5,871,674	\$1,467,919
Non-Interstate Pavement	608496	Old Colony	Multiple	AVON- STOUGHTON- RESURFACING AND RELATED WORK ON ROUTE 24	5	NHPP	\$7,339,593	\$5,871,674	\$1,467,919
Old Colony Region Total Program Summary							\$17,500,588	\$14,000,470	\$3,500,118

*Only includes funds counting against obligation authority



2023 Old Colony Region Program

STIP: 2022 - 2026 (D)									
Program	MassDOT Project ID	MPO	Municipality	MassDOT Project Description	District	Funding Source	Total Programmed Funds	Federal Funds	Non-Federal Funds
Federal Fiscal Year 2023									
Section 1A / Regionally Prioritized Projects							\$11,567,910	\$9,254,328	\$2,313,582
Roadway Reconstruction	607403	Old Colony	Stoughton	STOUGHTON- CORRIDOR IMPROVEMENTS ON ROUTE 138	5	STBG	\$6,971,447	\$5,577,158	\$1,394,289
Intersection Improvements	608279	Old Colony	Stoughton	STOUGHTON- INTERSECTION IMPROVEMENTS AND RELATED WORK AT CENTRAL STREET, CANTON STREET AND TOSCA DRIVE	5	CMAQ	\$1,139,886	\$911,909	\$227,977
Intersection Improvements	608279	Old Colony	Stoughton	STOUGHTON- INTERSECTION IMPROVEMENTS AND RELATED WORK AT CENTRAL STREET, CANTON STREET AND TOSCA DRIVE	5	STBG	\$3,456,577	\$2,765,262	\$691,315
				CMAQ Programmed			\$1,139,886	\$911,909	\$227,977
				STBG Programmed			\$10,428,024	\$8,342,419	\$2,085,605
				Total Programmed for Old Colony Region Projects*			\$11,567,910	\$9,254,328	\$2,313,582
				Program Target for Old Colony Region Projects			\$11,567,910	\$9,254,328	\$2,313,582
				Target Funds Available for Old Colony Region Projects			\$0	\$0	\$0
Section 2B / State Prioritized Modernization Projects							\$2,135,071	\$1,921,564	\$213,507
Intersection Improvements	609410	Old Colony	Brockton	BROCKTON- INTERSECTION IMPROVEMENTS AND RELATED WORK AT CENTRE STREET (ROUTE 123), CARY STREET AND LYMAN STREET	5	HSIP	\$2,135,071	\$1,921,564	\$213,507
Old Colony Region Total Program Summary							\$13,702,981	\$11,175,892	\$2,527,089



2024 Old Colony Region Program

STIP: 2022 - 2026 (D)									
Program	MassDOT Project ID	MPO	Municipality	MassDOT Project Description	District	Funding Source	Total Programmed Funds	Federal Funds	Non-Federal Funds
Federal Fiscal Year 2024									
Section 1A / Regionally Prioritized Projects							\$7,037,491	\$5,629,993	\$1,407,498
Roadway Reconstruction	607403	Old Colony	Stoughton	STOUGHTON- CORRIDOR IMPROVEMENTS ON ROUTE 138	5	STBG	\$4,514,071	\$3,611,257	\$902,814
Roadway Reconstruction	609052	Old Colony	Brockton	BROCKTON- INTERSECTION IMPROVEMENTS AT CENTRE STREET (ROUTE 123) AND PLYMOUTH STREET	5	STBG	\$2,523,420	\$2,018,736	\$504,684
STBG Programmed							\$7,037,491	\$5,629,993	\$1,407,498
Total Programmed for Old Colony Region Projects*							\$7,037,491	\$5,629,993	\$1,407,498
Program Target for Old Colony Region Projects							\$11,719,528	\$9,375,622	\$2,343,906
Target Funds Available for Old Colony Region Projects							\$4,682,037	\$3,745,629	\$936,408
Section 2A / State Prioritized Reliability Projects							\$2,141,666	\$1,713,333	\$428,333
Bridge Off-system	609435	Old Colony	Plympton	PLYMPTON- BRIDGE REPLACEMENT, P-14-001 (445), WINNETUXET ROAD OVER WINNETUXET RIVER	5	STBG-BR-Off	\$2,141,666	\$1,713,333	\$428,333
Old Colony Region Total Program Summary							\$9,179,157	\$7,343,326	\$1,835,831

*Only includes funds counting against obligation authority



2025 Old Colony Region Program

STIP: 2022 - 2026 (D)

Program	MassDOT Project ID	MPO	Municipality	MassDOT Project Description	District	Funding Source	Total Programmed Funds	Federal Funds	Non-Federal Funds
Federal Fiscal Year 2025									
Section 1A / Regionally Prioritized Projects							\$10,458,468	\$8,366,774	\$2,091,694
Intersection Improvements	607818	Old Colony	Brockton	BROCKTON- INTERSECTION IMPROVEMENTS AT LYMAN STREET/GROVE STREET/SUMMER STREET & REPLACEMENT OF GROVE STREET BRIDGE, B-25-005, OVER SALISBURY PLAIN RIVER	5	CMAQ	\$1,139,886	\$911,909	\$227,977
Intersection Improvements	607818	Old Colony	Brockton	BROCKTON- INTERSECTION IMPROVEMENTS AT LYMAN STREET/GROVE STREET/SUMMER STREET & REPLACEMENT OF GROVE STREET BRIDGE, B-25-005, OVER SALISBURY PLAIN RIVER	5	STBG	\$3,219,306	\$2,575,445	\$643,861
Intersection Improvements	607818	Old Colony	Brockton	BROCKTON- INTERSECTION IMPROVEMENTS AT LYMAN STREET/GROVE STREET/SUMMER STREET & REPLACEMENT OF GROVE STREET BRIDGE, B-25-005, OVER SALISBURY PLAIN RIVER	5	TAP	\$344,808	\$275,846	\$68,962
Intersection Improvements	608195	Old Colony	Easton	EASTON- CORRIDOR IMPROVEMENTS ON ROUTE 138 INCLUDING INTERSECTION IMPROVEMENTS AT ROUTE 138 (WASHINGTON STREET) AND ELM STREET	5	STBG	\$5,754,468	\$4,603,574	\$1,150,894
CMAQ Programmed							\$1,139,886	\$911,909	\$227,977
STBG Programmed							\$8,973,774	\$7,179,019	\$1,794,755
TAP Programmed							\$344,808	\$275,846	\$68,962
Total Programmed for Old Colony Region Projects*							\$10,458,468	\$8,366,774	\$2,091,694
Program Target for Old Colony Region Projects							\$11,445,933	\$9,156,746	\$2,289,187



2025 Old Colony Region Program

STIP: 2022 - 2026 (D)									
Program	MassDOT Project ID	MPO	Municipality	MassDOT Project Description	District	Funding Source	Total Programmed Funds	Federal Funds	Non-Federal Funds
				Target Funds Available for Old Colony Region Projects			\$987,465	\$789,972	\$197,493
Old Colony Region Total Program Summary							\$10,458,468	\$8,366,774	\$2,091,694

*Only includes funds counting against obligation authority



2026 Old Colony Region Program

STIP: 2022 - 2026 (D)

Program	MassDOT Project ID	MPO	Municipality	MassDOT Project Description	District	Funding Source	Total Programmed Funds	Federal Funds	Non-Federal Funds
Federal Fiscal Year 2026									
Section 1A / Regionally Prioritized Projects							\$11,148,703	\$8,918,962	\$2,229,741
Intersection Improvements	606002	Old Colony	Duxbury	DUXBURY- SIGNAL INSTALLATION @ ROUTE 3 (NB & SB) RAMPS & ROUTE 3A (TREMONT STREET)	5	STBG	\$2,784,000	\$2,227,200	\$556,800
Roadway Reconstruction	608506	Old Colony	Hanson	HANSON- CORRIDOR IMPROVEMENTS ON ROUTE 14 (MAQUAN STREET), FROM THE PEMBROKE T.L. TO INDIAN HEAD STREET AND RELATED WORK	5	STBG	\$5,464,471	\$4,371,577	\$1,092,894
Intersection Improvements	609440	Old Colony	Abington	ABINGTON- INTERSECTION IMPROVEMENTS AT HANCOCK STREET AND CHESTNUT STREET	5	STBG	\$2,900,232	\$2,320,186	\$580,046
STBG Programmed							\$11,148,703	\$8,918,962	\$2,229,741
Total Programmed for Old Colony Region Projects*							\$11,148,703	\$8,918,962	\$2,229,741
Program Target for Old Colony Region Projects							\$11,148,704	\$8,918,963	\$2,229,741
Target Funds Available for Old Colony Region Projects							\$1	\$1	\$0
Old Colony Region Total Program Summary							\$11,148,703	\$8,918,962	\$2,229,741

Transportation Improvement Program (TIP)
Project List (FY2022)

FTA Program	Project Number	Transit Agency	FTA Activity Line Item	Project Description	Carryover (unobligated)	Federal Funds	State Funds	TDC	Local Funds	Total Cost
5307										
5307	RTD0009901	Brockton Area Transit Authority	113403	Brockton Area Transit Authority / TERMINAL, INTERMODAL CENTRE - Pavement Management		\$200,000	\$50,000	\$0	\$0	\$250,000
5307	RTD0009907	Brockton Area Transit Authority	111240	Brockton Area Transit Authority / BUY ASSOC CAP MAINT ITEMS		\$80,000	\$20,000	\$0	\$0	\$100,000
5307	RTD0009899	Brockton Area Transit Authority	300901	Brockton Area Transit Authority / OPERATING ASSISTANCE		\$2,600,000	\$2,600,000	\$0	\$0	\$5,200,000
5307	RTD0009896	Brockton Area Transit Authority	114220	Brockton Area Transit Authority / ACQUIRE - MISC SUPPORT EQUIPMENT		\$80,000	\$20,000	\$0	\$0	\$100,000
5307	RTD0009900	Brockton Area Transit Authority	111201	Brockton Area Transit Authority / BUY REPLACEMENT 40-FT BUS (3)		\$355,000	\$300,000	\$0	\$0	\$1,500,000
5307	RTD0009897	Brockton Area Transit Authority	114211	Brockton Area Transit Authority / ACQUIRE - REPLACEMENT SUPPORT VEHICLE (1)		\$36,000	\$9,000	\$0	\$0	\$45,000
5307	RTD0010173	Brockton Area Transit Authority	114206	Brockton Area Transit Authority / ACQUIRE - SHOP EQUIPMENT Lifts and Equipment		\$320,000	\$80,000	\$0	\$0	\$400,000
Subtotal						\$3,671,000	\$3,079,000	\$0	\$0	\$7,595,000
5309										
Subtotal						\$0	\$0	\$0	\$0	\$0
5310										
Subtotal						\$0	\$0	\$0	\$0	\$0
5311										
Subtotal						\$0	\$0	\$0	\$0	\$0
5337										
Subtotal						\$0	\$0	\$0	\$0	\$0
5339										
Subtotal						\$0	\$0	\$0	\$0	\$0
5320										
Subtotal						\$0	\$0	\$0	\$0	\$0
Other Federal										
Subtotal						\$0	\$0	\$0	\$0	\$0
Other Non-Federal										
Other Non-Federal	RTD0009918	Brockton Area Transit Authority	113206	Brockton Area Transit Authority / ACQUIRE - STATIONARY BUS FARE COLL EQUIP - Fixed Route		\$0	\$400,000	\$0	\$0	\$400,000
Subtotal						\$0	\$400,000	\$0	\$0	\$400,000
Total						\$3,671,000	\$3,479,000	\$0	\$0	\$7,995,000

Funds listed under the Carry Over column are included in the Federal Amount

Transportation Improvement Program (TIP)
Project List (FY2023)

	FTA Program	Project Number	Transit Agency	FTA Activity Line Item	Project Description	Carryover (unobligated)	Federal Funds	State Funds	TDC	Local Funds	Total Cost
5307											
	5307	RTD0009902	Brockton Area Transit Authority	114220	Brockton Area Transit Authority / ACQUIRE - MISC SUPPORT EQUIPMENT	2021 - \$80,000	\$80,000	\$20,000	\$0	\$0	\$100,000
	5307	RTD0009903	Brockton Area Transit Authority	114211	Brockton Area Transit Authority / ACQUIRE - (1) SUPPORT VEHICLES	2021 - \$48,000	\$48,000	\$12,000	\$0	\$0	\$60,000
	5307	RTD0009904	Brockton Area Transit Authority	111202	Brockton Area Transit Authority / BUY REPLACEMENT 35-FT BUS (6)	2021 - \$687,191; 2022 - \$1,125,309	\$1,812,500	\$725,000	\$0	\$0	\$3,625,000
	5307	RTD0009905	Brockton Area Transit Authority	300900	Brockton Area Transit Authority / OPERATING ASSISTANCE	2022 - \$1,742,093	\$2,700,000	\$2,700,000	\$0	\$0	\$5,400,000
	5307	RTD0009906	Brockton Area Transit Authority	111340	Brockton Area Transit Authority / BUY ASSOC CAP MAINT ITEMS	2021 - \$80,000	\$80,000	\$20,000	\$0	\$0	\$100,000
	5307	RTD0009919	Brockton Area Transit Authority	114402	Brockton Area Transit Authority / REHAB/RENOVATE - MAINTENANCE FACILITY	2022 - \$120,000	\$120,000	\$30,000	\$0	\$0	\$150,000
	5307	RTD0009920	Brockton Area Transit Authority	113403	Brockton Area Transit Authority / TERMINAL, INTERMODAL CENTRE (TRANSIT)	2022 - \$40,000	\$40,000	\$10,000	\$0	\$0	\$50,000
	5307	RTD0009908	Brockton Area Transit Authority	119202	Brockton Area Transit Authority / PURCHASE BUS SHELTERS	2022 - \$240,000	\$240,000	\$60,000	\$0	\$0	\$300,000
						Subtotal	\$5,120,500	\$3,577,000	\$0	\$0	\$9,785,000
5309						Subtotal	\$0	\$0	\$0	\$0	\$0
5310						Subtotal	\$0	\$0	\$0	\$0	\$0
5311						Subtotal	\$0	\$0	\$0	\$0	\$0
5337						Subtotal	\$0	\$0	\$0	\$0	\$0
5339						Subtotal	\$0	\$0	\$0	\$0	\$0
5320						Subtotal	\$0	\$0	\$0	\$0	\$0
Other Federal						Subtotal	\$0	\$0	\$0	\$0	\$0
Other Non-Federal						Subtotal	\$0	\$0	\$0	\$0	\$0
						Total	\$5,120,500	\$3,577,000	\$0	\$0	\$9,785,000

Funds listed under the Carry Over column are included in the Federal Amount

Transportation Improvement Program (TIP)
Project List (FY2024)

FTA Program	Project Number	Transit Agency	FTA Activity Line Item	Project Description	Carryover (unobligated)	Federal Funds	State Funds	TDC	Local Funds	Total Cost
5307										
5307	RTD0009909	Brockton Area Transit Authority	111201	Brockton Area Transit Authority / BUY REPLACEMENT 40-FT BUS (4)	2023 - \$1,075,000	\$1,075,000	\$1,075,000	\$0	\$0	\$2,150,000
5307	RTD0009911	Brockton Area Transit Authority	111240	Brockton Area Transit Authority / BUY ASSOC CAP MAINT ITEMS	2023 - \$80,000	\$80,000	\$20,000	\$0	\$0	\$100,000
5307	RTD0009912	Brockton Area Transit Authority	114206	Brockton Area Transit Authority / ACQUIRE - SHOP EQUIPMENT Sand Sweeper, Bus Washer	2023 - \$400,000	\$400,000	\$100,000	\$0	\$0	\$500,000
5307	RTD0009913	Brockton Area Transit Authority	116202	Brockton Area Transit Authority / PURCHASE COMMUNICATIONS SYSTEM	2023 - \$60,000	\$60,000	\$15,000	\$0	\$0	\$75,000
5307	RTD0009914	Brockton Area Transit Authority	113404	Brockton Area Transit Authority / REHAB/RENOVATE - BUS PARK & RIDE LOT	2023 - \$60,000	\$60,000	\$15,000	\$0	\$0	\$75,000
5307	RTD0009915	Brockton Area Transit Authority	114220	Brockton Area Transit Authority / ACQUIRE - MISC SUPPORT EQUIPMENT	2023 - \$80,000	\$80,000	\$20,000	\$0	\$0	\$100,000
5307	RTD0009916	Brockton Area Transit Authority	114211	Brockton Area Transit Authority / ACQUIRE - SUPPORT VEHICLES (1)	2023 - \$36,000	\$36,000	\$9,000	\$0	\$0	\$45,000
5307	RTD0009917	Brockton Area Transit Authority	300900	Brockton Area Transit Authority / OPERATING ASSISTANCE		\$2,800,000	\$2,800,000	\$0	\$0	\$5,600,000
5307	RTD0009921	Brockton Area Transit Authority	111700	Brockton Area Transit Authority / VEH OVERHAUL (UP TO 20% VEH MAINT) (4)	2023 - \$33,843	\$500,000	\$500,000	\$0	\$0	\$1,000,000
Subtotal						\$5,091,000	\$4,554,000	\$0	\$0	\$9,645,000
5309										
Subtotal						\$0	\$0	\$0	\$0	\$0
5310										
Subtotal						\$0	\$0	\$0	\$0	\$0
5311										
Subtotal						\$0	\$0	\$0	\$0	\$0
5337										
Subtotal						\$0	\$0	\$0	\$0	\$0
5339										
Subtotal						\$0	\$0	\$0	\$0	\$0
5320										
Subtotal						\$0	\$0	\$0	\$0	\$0
Other Federal										
Other Federal	RTD0009910	Brockton Area Transit Authority	111202	Brockton Area Transit Authority / BUY REPLACEMENT 35-FT BUS (2)	2023 - \$550,000	\$220,000	\$330,000	\$0	\$0	\$1,100,000
Subtotal						\$220,000	\$330,000	\$0	\$0	\$1,100,000
Other Non-Federal										
Subtotal						\$0	\$0	\$0	\$0	\$0
Total						\$5,311,000	\$4,884,000	\$0	\$0	\$10,745,000

Funds listed under the Carry Over column are included in the Federal Amount

Transportation Improvement Program (TIP)
Project List (FY2025)

FTA Program	Project Number	Transit Agency	FTA Activity Line Item	Project Description	Carryover (unobligated)	Federal Funds	State Funds	TDC	Local Funds	Total Cost
5307										
5307	RTD0009922	Brockton Area Transit Authority	111240	Brockton Area Transit Authority / BUY ASSOC CAP MAINT ITEMS	2024 - \$80,000	\$80,000	\$20,000	\$0	\$0	\$100,000
5307	RTD0009923	Brockton Area Transit Authority	111700	Brockton Area Transit Authority / VEH OVERHAUL (UP TO 20% VEH MAINT) (4)		\$575,000	\$575,000	\$0	\$0	\$1,150,000
5307	RTD0009924	Brockton Area Transit Authority	113404	Brockton Area Transit Authority / REHAB/RENOVATE - BUS PARK & RIDE LOT		\$40,000	\$10,000	\$0	\$0	\$50,000
5307	RTD0009926	Brockton Area Transit Authority	114211	Brockton Area Transit Authority / ACQUIRE - SUPPORT VEHICLES (1)		\$48,000	\$12,000	\$0	\$0	\$60,000
5307	RTD0009927	Brockton Area Transit Authority	113403	Brockton Area Transit Authority / TERMINAL, INTERMODAL (TRANSIT) - Bathrooms, OSS secure area		\$220,000	\$55,000	\$0	\$0	\$275,000
5307	RTD0009928	Brockton Area Transit Authority	114220	Brockton Area Transit Authority / ACQUIRE - MISC SUPPORT EQUIPMENT & Parking System	2024 - \$53,247	\$160,000	\$40,000	\$0	\$0	\$200,000
5307	RTD0009929	Brockton Area Transit Authority	300900	Brockton Area Transit Authority / OPERATING ASSISTANCE		\$2,900,000	\$2,900,000	\$0	\$0	\$5,800,000
					Subtotal	\$4,023,000	\$3,612,000	\$0	\$0	\$7,635,000
5309										
					Subtotal	\$0	\$0	\$0	\$0	\$0
5310										
					Subtotal	\$0	\$0	\$0	\$0	\$0
5311										
					Subtotal	\$0	\$0	\$0	\$0	\$0
5337										
					Subtotal	\$0	\$0	\$0	\$0	\$0
5339										
5339	RTD0009930	Brockton Area Transit Authority	115220	Brockton Area Transit Authority / PURCHASE MISC ELEC/POWER EQUIP	2024 - \$480,000	\$480,000	\$120,000	\$0	\$0	\$600,000
					Subtotal	\$480,000	\$120,000	\$0	\$0	\$600,000
5320										
					Subtotal	\$0	\$0	\$0	\$0	\$0
Other Federal										
					Subtotal	\$0	\$0	\$0	\$0	\$0
Other Non-Federal										
					Subtotal	\$0	\$0	\$0	\$0	\$0
					Total	\$4,503,000	\$3,732,000	\$0	\$0	\$8,235,000

Funds listed under the Carry Over column are included in the Federal Amount

Transportation Improvement Program (TIP)
Project List (FY2026)

FTA Program	Project Number	Transit Agency	FTA Activity Line Item	Project Description	Carryover (unobligated)	Federal Funds	State Funds	TDC	Local Funds	Total Cost
5307										
5307	RTD0006991	Brockton Area Transit Authority	114405	REHAB/RENOVATE - YARDS AND SHOPS Fuel Tank Replacement		\$400,000	\$100,000	\$0	\$0	\$500,000
5307	RTD0010220	Brockton Area Transit Authority	111202	Brockton Area Transit Authority / BUY REPLACEMENT (5) 35-FT BUS Hybrid		\$1,975,000	\$790,000	\$0	\$0	\$3,950,000
5307	RTD0010221	Brockton Area Transit Authority	114220	Brockton Area Transit Authority / ACQUIRE - MISC SUPPORT EQUIPMENT		\$80,000	\$20,000	\$0	\$0	\$100,000
5307	RTD0010222	Brockton Area Transit Authority	111240	Brockton Area Transit Authority / BUY ASSOC CAP MAINT ITEMS		\$80,000	\$20,000	\$0	\$0	\$100,000
5307	RTD0010223	Brockton Area Transit Authority	114402	Brockton Area Transit Authority / REHAB/RENOVATE - MAINTENANCE FACILITY		\$40,000	\$10,000	\$0	\$0	\$50,000
5307	RTD0010224	Brockton Area Transit Authority	113403	Brockton Area Transit Authority / TERMINAL, INTERMODAL (TRANSIT)		\$40,000	\$10,000	\$0	\$0	\$50,000
5307	RTD0010225	Brockton Area Transit Authority	300900	Brockton Area Transit Authority / OPERATING ASSISTANCE		\$3,000,000	\$3,000,000	\$0	\$0	\$6,000,000
Subtotal						\$5,615,000	\$3,950,000	\$0	\$0	\$10,750,000
5309										
Subtotal						\$0	\$0	\$0	\$0	\$0
5310										
Subtotal						\$0	\$0	\$0	\$0	\$0
5311										
Subtotal						\$0	\$0	\$0	\$0	\$0
5337										
Subtotal						\$0	\$0	\$0	\$0	\$0
5339										
Subtotal						\$0	\$0	\$0	\$0	\$0
5320										
Subtotal						\$0	\$0	\$0	\$0	\$0
Other Federal										
Subtotal						\$0	\$0	\$0	\$0	\$0
Other Non-Federal										
Subtotal						\$0	\$0	\$0	\$0	\$0
Total						\$5,615,000	\$3,950,000	\$0	\$0	\$10,750,000

Funds listed under the Carry Over column are included in the Federal Amount

3.6 Air Quality Conformity Documentation

This section documents the latest air quality conformity determination for the 1997 ozone National Ambient Air Quality Standards (NAAQS) in the Old Colony Region. It covers the applicable conformity requirements according to the latest regulations, regional designation status, legal considerations, and federal guidance. Further details and background information are provided below:

Introduction

The 1990 Clean Air Act Amendments (CAAA) require metropolitan planning organizations within nonattainment and maintenance areas to perform air quality conformity determinations prior to the approval of Long Range Transportation Plans (LRTPs) and Transportation Improvement Programs (TIPs), and at such other times as required by regulation. Clean Air Act (CAA) section 176(c) (42 U.S.C. 7506(c)) requires that federally funded or approved highway and transit activities are consistent with (“conform to”) the purpose of the State Implementation Plan (SIP). Conformity to the purpose of the SIP means that means Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) funding and approvals are given to highway and transit activities that will not cause or contribute to new air quality violations, worsen existing violations, or delay timely attainment of the relevant NAAQS or any interim milestones (42 U.S.C. 7506(c)(1)). EPA’s transportation conformity rules establish the criteria and procedures for determining whether metropolitan transportation plans, transportation improvement programs (TIPs), and federally supported highway and transit projects conform to the SIP (40 CFR Parts 51.390 and 93).

A nonattainment area is one that the U.S. Environmental Protection Agency (EPA) has designated as not meeting certain air quality standards. A maintenance area is a nonattainment area that now meets the standards and has been re-designated as maintaining the standard. A conformity determination is a demonstration that plans, programs, and projects are consistent with the State Implementation Plan (SIP) for attaining the air quality standards. The CAAA requirement to perform a conformity determination ensures that federal approval and funding go to transportation activities that are consistent with air quality goals.

Legislative and Regulatory Background

The entire Commonwealth of Massachusetts was previously classified as nonattainment for ozone and was divided into two nonattainment areas. The Eastern Massachusetts ozone nonattainment area included Barnstable, Bristol, Dukes, Essex, Middlesex, Nantucket, Norfolk, Plymouth, Suffolk, and Worcester counties. Berkshire, Franklin, Hampden, and Hampshire counties comprised the Western Massachusetts ozone nonattainment area. With these classifications, the 1990 Clean Air Act Amendments (CAAA) required the Commonwealth to reduce its emissions of volatile organic compounds (VOCs) and nitrogen oxides (NOx), the two major precursors to ozone formation to achieve attainment of the ozone standard.

The 1970 Clean Air Act defined a one-hour national ambient air quality standard (NAAQS) for ground-level ozone. The 1990 CAAA further classified degrees of nonattainment of the one-hour standard based on the severity of the monitored levels of the pollutant. The entire commonwealth of Massachusetts was classified as being in serious nonattainment for the one-hour ozone standard, with a required attainment date of 1999. The attainment date was later extended, first to 2003 and a second time to 2007.

In 1997, the EPA proposed a new, eight-hour ozone standard that replaced the one-hour standard, effective June 15, 2005. Scientific information had shown that ozone could affect human health at lower levels, and over longer exposure times than one hour. The new standard was challenged in court, and after a lengthy legal battle, the courts upheld it. It was finalized in June 2004. The eight-hour standard is 0.08 parts per million, averaged over eight hours and not to be exceeded more than once per year. Nonattainment areas were again further classified based on the severity of the eight-hour values. Massachusetts as a whole was classified as being in moderate nonattainment for the eight-hour standard and was separated into two nonattainment areas—Eastern Massachusetts and Western Massachusetts.

In March 2008, EPA published revisions to the eight-hour ozone NAAQS establishing a level of 0.075 ppm, (March 27, 2008; 73 FR 16483). In 2009, EPA announced it would reconsider this standard because it fell outside of the range recommended by the Clean Air Scientific Advisory Committee. However, EPA did not take final action on the reconsideration so the standard would remain at 0.075 ppm.

After reviewing data from Massachusetts monitoring stations, EPA sent a letter on December 16, 2011 proposing that only Dukes County would be designated as nonattainment for the new proposed 0.075 ozone standard. Massachusetts concurred with these findings.

On May 21, 2012, (77 FR 30088), the final rule was published in the Federal Register, defining the 2008 NAAQS at 0.075 ppm, the standard that was promulgated in March 2008. A second rule published on May 21, 2012 (77 FR 30160), revoked the 1997 ozone NAAQS to occur one year after the July 20, 2012 effective date of the 2008 NAAQS.

Also on May 21, 2012, the air quality designations areas for the 2008 NAAQS were published in the Federal Register. In this Federal Register, the only area in Massachusetts that was designated as nonattainment is Dukes County. All other Massachusetts counties were designated as attainment/unclassified for the 2008 standard. On March 6, 2015, (80 FR 12264, effective April 6, 2015) EPA published the Final Rulemaking, “Implementation of the 2008 National Ambient Air Quality Standards (NAAQS) for Ozone: State Implementation Plan Requirements; Final Rule.” This rulemaking confirmed the removal of transportation conformity to the 1997 Ozone NAAQS and the replacement with the 2008 Ozone NAAQS, which (with actually a stricter level of allowable ozone concentration than the 1997 standards) classified Massachusetts as “Attainment/unclassifiable” (except for Dukes County).

However, on February 16, 2018, the United States Court of Appeals for the District of Columbia Circuit in *South Coast Air Quality Mgmt. District v. EPA* (“*South Coast II*,” 882 F.3d 1138) held that transportation conformity determinations must be made in areas that were either nonattainment or maintenance for the 1997 ozone NAAQS and attainment for the 2008 ozone NAAQS when the 1997 ozone NAAQS was revoked. These conformity determinations are required in these areas after February 16, 2019. On November 29, 2018, EPA issued *Transportation Conformity Guidance for the South Coast II Court Decision* (EPA-420-B-18-050, November 2018) that addresses how transportation conformity determinations can be made in areas. According to the guidance, both Eastern and Western Massachusetts, along with several other areas across the country, are now defined as “orphan nonattainment areas” - areas that were designated as nonattainment for the 1997 ozone NAAQS at the time of its revocation (80 FR 12264, March 6, 2015) and were designated attainment for the 2008 ozone NAAQS in EPA’s original designations rule for this NAAQS (77 FR 30160, May 21, 2012).

Current Conformity Determination

After 2/16/19, as a result of the court ruling and the subsequent federal guidance, transportation conformity for the 1997 NAAQS - intended as an “anti-backsliding” measure - now applies to both of Massachusetts’ orphan areas. Therefore, a conformity determination was made for the 1997 ozone NAAQS on the 2020-2040 Long Range Transportation Plans. This conformity determination was finalized in July 2019 following each MPO’s previous endorsement of their regional transportation plan and approved by the Massachusetts Divisions of FHWA and FTA on October 15, 2019. This conformity determination continues to be valid for the Old Colony FFY 2022-2026 Transportation Improvement Program, and Massachusetts’ FFY 2022-2026 STIP, as each is developed from the conforming 2020-2040 Regional Transportation Plans.

The transportation conformity regulation at 40 CFR 93.109 sets forth the criteria and procedures for determining conformity. The conformity criteria for TIPs and LRTPs include: latest planning assumptions (93.110), latest emissions model (93.111), consultation (93.112), transportation control measures (93.113(b) and (c), and emissions budget and/or interim emissions (93.118 and/or 93.119).

For the 1997 ozone NAAQS areas, transportation conformity for TIPs and LRTPs for the 1997 ozone NAAQS can be demonstrated without a regional emissions analysis, per 40 CFR 93.109(c). This provision states that the regional emissions analysis requirement applies one year after the effective date of EPA’s nonattainment designation for a NAAQS and until the effective date of revocation of such NAAQS for an area. The 1997 ozone NAAQS revocation was effective on April 6, 2015, and the *South Coast II* court upheld the revocation. As no regional emission analysis is required for this conformity determination, there is no requirement to use the latest emissions model, or budget or interim emissions tests.

Therefore, transportation conformity for the 1997 ozone NAAQS for the Old Colony FFY 2022-2026 Transportation Improvement Program and 2020-2040 Regional Transportation Plans can be demonstrated by showing that remaining requirements in Table 1 in 40 CFR 93.109 have been met. These requirements, which are laid out in Section 2.4 of EPA’s guidance and addressed below, include:

- Latest planning assumptions (93.110)
- Consultation (93.112)
- Transportation Control Measures (93.113)
- Fiscal Constraint (93.108)

Latest Planning Assumptions:

The use of latest planning assumptions in 40 CFR 93.110 of the conformity rule generally apply to regional emissions analysis. In the 1997 ozone NAAQS areas, the use of latest planning assumptions requirement applies to assumptions about transportation control measures (TCMs) in an approved SIP (See following section on Timely Implementation of TCMs).

Consultation:

The consultation requirements in 40 CFR 93.112 were addressed both for interagency consultation and public consultation. Interagency consultation was conducted with FHWA, FTA, US EPA Region 1, MassDEP, and the Massachusetts MPOs on March 6, 2019 to discuss the latest conformity-related court rulings and

DRAFT FFY 2022-2026 OLD COLONY TRANSPORTATION IMPROVEMENT PROGRAM (TIP)

resulting federal guidance. Regular and recurring interagency consultations have been held since on an (at least) annual schedule, with the most recent conformity consultation held on January 21, 2021. This ongoing consultation is conducted in accordance with the following:

- Massachusetts' Air Pollution Control Regulations 310 CMR 60.03 "Conformity to the State Implementation Plan of Transportation Plans, Programs, and Projects Developed, Funded or Approved Under Title 23 USC or the Federal Transit Act"
- The Commonwealth of Massachusetts Memorandum of Understanding among the Massachusetts Department of Transportation, Massachusetts Department of Environmental Protection, Massachusetts Metropolitan Planning Organizations, and Regional Transit Authorities, titled The Conduct of Air Quality Planning and Coordination for Transportation Conformity (dated September 16, 2019)

Public consultation was conducted consistent with planning rule requirements in 23 CFR 450. Title 23 CFR Section 450.324 and 310 CMR 60.03(6)(h) requires that the development of the TIP, LRTP, and related certification documents provide an adequate opportunity for public review and comment. Section 450.316(b) also establishes the outline for MPO public participation programs. The Old Colony MPO's Public Participation Plan was formally adopted in 2017. The Public Participation Plan ensures that the public will have access to the TIP/LRTP and all supporting documentation, provides for public notification of the availability of the TIP/LRTP and the public's right to review the document and comment thereon, and provides a 21-day public review and comment period prior to the adoption of the TIP/LRTP and related certification documents. The Public Participation Plan is available at: http://www.ocpcrpa.org/docs/mpo/FFY_2017_Public_Participation_Plan.pdf

The public comment period for this conformity determination commenced on April 20, 2021. During the 21-day public comment period, any comments received were incorporated into this Plan. This allowed ample opportunity for public comment and MPO review of the draft document. The public comment period will close on May 14, 2021 and subsequently, the Old Colony MPO is expected to endorse this air quality conformity determination on May 18, 2021. These procedures comply with the associated federal requirements.

Timely Implementation of Transportation Control Measures:

Transportation Control Measures (TCMs) have been required in the SIP in revisions submitted to EPA in 1979 and 1982. All SIP TCMs have been accomplished through construction or through implementation of ongoing programs. All of the projects have been included in the Region's Transportation Plan (present or past) as recommended projects or projects requiring further study.

Fiscal Constraint:

Transportation conformity requirements in 40 CFR 93.108 state that TIPs and transportation plans and must be fiscally constrained consistent with DOT's metropolitan planning regulations at 23 CFR part 450. The Old Colony 2022-2026 Transportation Improvement Program and 2020-2040 Long Range Transportation Plan are fiscally constrained, as demonstrated in this document.

In summary and based upon the entire process described above, the Old Colony MPO has prepared this conformity determination for the 1997 Ozone NAAQS in accordance with EPA's and Massachusetts' latest conformity regulations and guidance. This conformity determination process demonstrates that the FFY 2022-2026 Transportation Improvement Program and the 2020-2040 Regional Transportation Plan meet the Clean Air Act and Transportation Conformity Rule requirements for the 1997 Ozone NAAQS and have been prepared following all the guidelines and requirements of these rules during this time period.

Therefore, the implementation of the Old Colony MPO's FFY 2022-2026 Transportation Improvement Program and the 2020-2040 Regional Transportation Plan are consistent with the air quality goals of, and in conformity with, the Massachusetts State Implementation Plan.

APPENDICES

- A. FFY 2022-2026 OLD COLONY TIP ENDORSEMENT
- B. §450.336 - SELF CERTIFICATION COMPLIANCE STATEMENT - 3C PROCESS
- C. SELF-CERTIFICATION COMPLIANCE STATEMENT - 310 CMR 60.05: GLOBAL WARMING SOLUTIONS ACT REQUIREMENTS FOR THE TRANSPORTATION SECTOR AND MASSDOT
- D. GLOSSARY OF TERMS AND ACRONYMS
- E. SYSTEM LEVEL ESTIMATE OF NEEDS AND COST FOR MAINTAINING AND OPERATING THE HIGHWAY SYSTEM
- F. OPERATIONS AND MAINTENANCE EXPENDITURES (STATEWIDE AND REGIONAL)
- G. FEDERAL REGIONAL FUNDING TARGETS AND STATEWIDE SUMMARIES
- H. TRANSPORTATION EVALUATION CRITERIA FORMS
- I. ANNUAL LISTING OF OBLIGATED (ADVERTISED) PROJECTS
- J. COMPLETED HIGHWAY AND TRANSIT PROJECTS (2015 TO PRESENT); GREENHOUSE GAS (GHG) EMISSIONS ANALYSIS
- K. FFY 2022-2026 GREENHOUSE GAS (GHG) EMISSIONS ANALYSIS
- L. FFY 2022-2026 GATRA TRANSIT ELEMENT
- M. TWENTY-ONE (21) DAY PUBLIC REVIEW - NOTICE OF AVAILABILITY AND PUBLIC COMMENTS
- N. TIP PROJECT REVISION AND DEFINITION PROCEDURES, AND APPROVED ADJUSTMENTS, ADMINISTRATIVE MODIFICATIONS, AND AMENDMENTS

APPENDIX A - FFY 2022-2026 OLD COLONY TIP ENDORSEMENT

OLD COLONY METROPOLITAN PLANNING ORGANIZATION (MPO)
FFY 2022-2026 OLD COLONY TRANSPORTATION IMPROVEMENT PROGRAM (TIP)
ENDORSEMENT OF
FFY 2022-2026 OLD COLONY TRANSPORTATION IMPROVEMENT PROGRAM (TIP)

This is to certify that the Signatories of the Old Colony Metropolitan Planning Organization, at their Old Colony MPO meeting on May 18, 2021 hereby approve and endorse the FFY 2022-2026 Old Colony Transportation Improvement Program (TIP) in its entirety for the Old Colony Region, in accordance with the certified 3C Transportation Planning Process.

Jamey Tesler, Acting Secretary and CEO
Massachusetts Department of Transportation (MassDOT);
Chair, Old Colony Metropolitan Planning Organization (OCMPO)

Date

**APPENDIX B - §450.336 - SELF CERTIFICATION COMPLIANCE
STATEMENT - 3C PROCESS**

23 CFR § 450.220 and 23 CFR § 450.336 - Old Colony MPO Self Certification Compliance Statement

The Old Colony Metropolitan Planning Organization certifies that its conduct of the metropolitan transportation planning process complies with all applicable requirements, which are listed below, and that this process includes activities to support the development and implementation of the Regional Long-Range Transportation Plan and Air Quality Conformity Determination, the Transportation Improvement Program and Air Quality Conformity Determination, and the Unified Planning Work Program.

1. 23 U.S.C. 134, 49 U.S.C. 5303, and this subpart;
2. In nonattainment and maintenance areas, sections 174 and 176(c) and (d) of the Clean Air Act, as amended (42 U.S.C. 7504, 7506(c) and (d)) and 40 CFR part 93;
3. Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d-1) and 49 CFR part 21;
4. 49 U.S.C. 5332, prohibiting discrimination on the basis of race, color, creed, national origin, sex, or age in employment or business opportunity;
5. Section 1101(b) of the FAST Act (Pub. L. 114-357) and 49 CFR part 26 regarding the involvement of disadvantaged business enterprises in DOT funded projects;
6. 23 CFR part 230, regarding the implementation of an equal employment opportunity program on Federal and Federal-aid highway construction contracts;
7. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 *et seq.*) and 49 CFR parts 27, 37, and 38;
8. The Older Americans Act, as amended (42 U.S.C. 6101), prohibiting discrimination on the basis of age in programs or activities receiving Federal financial assistance;
9. Section 324 of title 23 U.S.C. regarding the prohibition of discrimination based on gender; and
10. Section 504 of the Rehabilitation Act of 1973 (29 U.S.C. 794) and 49 CFR part 27 regarding discrimination against individuals with disabilities.
11. Anti-lobbying restrictions found in 49 USC Part 20. No appropriated funds may be expended by a recipient to influence or attempt to influence an officer or employee of any agency, or a member of Congress, in connection with the awarding of any federal contract.

Jamey Tesler, Acting Secretary and CEO
Massachusetts Department of Transportation (MassDOT)
Chair, Old Colony Metropolitan Planning Organization (OCMPO)

Date

**APPENDIX C - SELF-CERTIFICATION COMPLIANCE STATEMENT - 310
CMR 60.05: GLOBAL WARMING SOLUTIONS ACT REQUIREMENTS FOR
THE TRANSPORTATION SECTOR AND MASSDOT**

Certification of the Old Colony MPO Transportation Planning Process

310 CMR 60.05: Global Warming Solutions Act Requirements for the Transportation Sector and the Massachusetts Department of Transportation

This will certify that the Transportation Improvement Program and Air Quality Conformity Determination for the Old Colony Long Range Transportation Plan is in compliance with all applicable requirements in the State Regulation 310 CMR 60.05: Global Warming Solutions Act Requirements for the Transportation Sector and the Massachusetts Department of Transportation. The regulation requires the MPO to:

1. 310 CMR 60.05, 5(a)(1): Evaluate and report the aggregate transportation GHG emissions and impacts of RTPs and TIPs;
2. 310 CMR 60.05, 5(a)(2): In consultation with MassDOT, develop and utilize procedures to prioritize and select projects in RTPs and TIPs based on factors that include aggregate transportation GHG emissions impacts;
3. 310 CMR 60.05, 5(a)(3): Quantify net transportation GHG emissions impacts resulting from the projects in RTPs and TIPs and certify in a statement included with RTPs and TIPs pursuant to 23 CFR Part 450 that the MPO has made efforts to minimize aggregate transportation GHG emissions impacts;
4. 310 CMR 60.05, 5(a)(4): Determine in consultation with the RPA that the appropriate planning assumptions used for transportation GHG emissions modeling are consistent with local land use policies, or that local authorities have made documented and credible commitments to establishing such consistency;
5. 310 CMR 60.05, 8(a)(2)(a): Develop RTPs and TIPs;
6. 310 CMR 60.05, 8(a)(2)(b): Ensure that RPAs are using appropriate planning assumptions;
7. 310 CMR 60.05, 8(a)(2)(c): Perform regional aggregate transportation GHG emissions analysis of RTPs and TIPs;
8. 310 CMR 60.05, 8(a)(2)(d): Calculate aggregate transportation GHG emissions for RTPs and TIPs;
9. 310 CMR 60.05, 8(a)(2)(e): Develop public consultation procedures for aggregate transportation GHG reporting and related GWSA requirements consistent with current and approved regional public participation plans;
10. 310 CMR 60.05, 8(c): Prior to making final endorsements on the RTPs, TIPs, STIPs, and projects included in these plans, MassDOT and the MPOs shall include the aggregate transportation GHG emission impact assessment in RTPs, TIPs, and STIPs and provide an opportunity for public review and comment on the RTPs, TIPs, and STIPs.
11. 310 CMR 60.05, 8(a)(1)(c): After a final GHG assessment has been made by MassDOT and the MPOs, MassDOT and the MPOs shall submit MPO-endorsed RTPs, TIPs or projects within 30 days of endorsement to the Department for review of the GHG assessment.

Jamey Tesler, Acting Secretary and CEO
Massachusetts Department of Transportation (MassDOT);
Chair, Old Colony Metropolitan Planning Organization (OCMPO)

Date

APPENDIX D - GLOSSARY OF TERMS AND ACRONYMS

GLOSSARY OF TERMS AND ACRONYMS

List of Acronyms

3C:	Comprehensive, Cooperative, and Continuing Planning Process
ADA:	Americans with Disabilities Act
BAT:	Brockton Area Transit Authority
CAAA:	Clean Air Act Amendments of 1990
CIP:	Capital Investment Plan
CMAQ:	Congestion Mitigation and Air Quality Improvement Program
CMP:	Congestion Management Process
CTGP:	Community Transit Grant Program
DEP:	Department of Environmental Protection
EIR:	Environmental Impact Report
EJ:	Environmental Justice
ENF:	Environmental Notification Form
EPA:	Environmental Protection Agency
FAST ACT:	Fixing America's Surface Transportation Act
FHWA:	Federal Highway Administration
FTA:	Federal Transit Administration
GATRA:	Greater Attleboro-Taunton Regional Transit Authority
GHG:	Greenhouse Gases
GWSA:	Global Warming Solutions Act
HPMS:	Highway Performance Monitoring System
HSIP:	Highway Safety Improvement Program
IRI:	International Roughness Index
JTC:	Joint Transportation Committee
LAP:	Language Access Plan
LEP:	Limited English Proficient
LOS:	Level of Service
LRTP:	Long Range Transportation Plan
MCAD:	Massachusetts Commission Against Discrimination
MAP:	Mobility Assistance Program
MARPA:	Massachusetts Association of Regional Planning Agencies
MassDOT:	Massachusetts Department of Transportation
MBTA:	Massachusetts Bay Transportation Authority
MOU:	Memorandum of Understanding
MPO:	Metropolitan Planning Organization
NAAQS:	National Ambient Air Quality Standards
NBIS:	National Bridge Inventory Standards
NFA:	Non-Federal Aid
NFP:	National Freight Program
NHPP:	National Highway Performance Program

NHS:	National Highway System
NOx:	Nitrogen Oxides
O&M:	Operations and Maintenance
P&B:	Plymouth and Brockton Street Railway Company
PM1:	Safety Performance Measures
PM2:	System Preservation Performance Measures
PM3:	System Performance Measures (Congestion, Reliability, and Emissions)
PMS:	Pavement Management System
POP:	Programming of Projects
PPP:	Public Participation Plan
PRC:	Project Review Committee
PSI:	Pavement Serviceability Index
SGR:	State of Good Repair
SIP:	State Implementation Plan
SMS:	Safety Management System
SOV:	Single Occupant Vehicle
SSCAC:	South Shore Community Action Council
STBG:	Surface Transportation Block Grant Program
TAM	Transit Asset Management
TAMP	Transportation Asset Management Plan
TAN:	Transportation Advisory Network
TAP:	Transportation Alternatives Program
TCM:	Transportation Control Measure
TEC:	Transportation Evaluation Criteria
TERM:	Transit Economic Requirements Model
TIP:	Transportation Improvement Program
TITLE VI:	Title VI of the Civil Rights Act of 1964, 42 U.S.C. 2000d
TMA:	Transportation Management Area
ULB:	Useful Life Benchmark
VMT:	Vehicle Miles Traveled
VOCs:	Volatile Organic Compounds

APPENDIX E - SYSTEM LEVEL ESTIMATE OF NEEDS AND COST FOR MAINTAINING AND OPERATING THE HIGHWAY SYSTEM

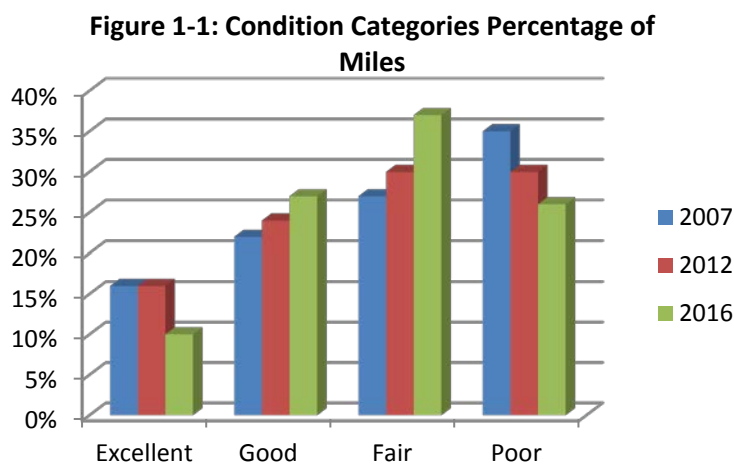
System Level Estimate of Needs and Cost for Maintaining and Operating the Highway System

Given the limited funding, competing priorities, and the comprehensive list of transportation needs, it is crucial to maintain and operate the current system at optimal efficiency, in a safe manner, and in a state of good repair. Also, various management and operation methodologies such as ITS, Transportation Demand Management strategies, Park and Ride Lots, Transit Signal Priority, and Corridor Management strategies such as traffic signal coordination will help the region obtain its goals of improving mobility, improving safety, reducing greenhouse gases, improving sustainability, and promoting economic development.

As such in order to develop a system level estimate of needs and cost for maintaining and operating the highway system, the Old Colony MPO has refined and updated its pavement management system (PMS) in keeping with the principles of objectives-driven, performance-based planning, and in fulfilling its goal of keeping the highway system in a state of good repair. A well-maintained system in good repair reduces delays (due to long reconstruction periods), enhances freight movement, improves economic vitality, and provides opportunities to implement Complete Streets strategies (improving the sidewalk and bicycle facilities network). The PMS calculates the rate of deterioration of pavement and the implications for the cost of repairs. It calculates a Pavement Condition Index (PCI) score between 0 and 100 for the surveyed road segments and recommends a repair and cost based on the PCI score. Each road or road segment is placed in a condition category based on the PCI, which includes “Poor” (PCI = 0 to 64), “Fair” (PCI = 65 to 84), “Good” (PCI = 85 to 94), and “Excellent” (PCI = 95 to 100).

The Old Colony MPO updates field inspections of the pavement surface every four years and supplements the data on an ongoing basis, as pavement reconstruction and resurfacing projects are completed on federal aid roads through the Old Colony Transportation Improvement Program (TIP). The repairs recommended by the PMS, based on the road condition, include five general default repair strategies.

The total federal-aid road mileage in the region included in Old Colony’s PMS has increased to a total of 642 miles with the recent addition of Duxbury as an Old Colony member community. Figure 5-4 summarizes the percentage of the federal aid mileage in each of the condition categories for the 2016 Old Colony RTP and for previous RTPs in 2012 and 2007. Figure 1-1 shows that in the previous 2012 RTP, 16 percent of the federal aid roads were in the “Excellent” category, 24 percent in the “Good” category, 30 percent were in



the “Fair” category, and 30 percent were in the “Poor” category. In the 2007 RTP, 16 percent of the federal aid roads were in the “Excellent” category, 22 percent were in the “Good” category, 27 percent were in the “Fair” category, 35 percent were in the “Poor” category. The condition survey results from the 2014 pavement data survey show that although there are less roads in the “Poor” category, more of the federal aid roads have slipped into the “Good” and “Fair” categories (27 percent and 37 percent compared to the previous 24 percent and 30 percent). Old Colony has set a goal to achieve 50% of federal-aid eligible roadways with PCI-based pavement ranking of "Excellent" or "Good" within 10 years. The total cost in improving all federal aid roads to a state of good repair is estimated by the PMS at \$213,891,765. The overall average PCI for all federal-aid roads is 77.

APPENDIX F - OPERATIONS AND MAINTENANCE EXPENDITURES

Brockton Area Transit Authority

Draft Operations and Maintenance Summary Table

The numbers below represent actual numbers for the previous year, the current year budget/forecast approved by the RTA Advisory Board, and Projections for the out-years as used in the Program Preview meetings with the State. The figures provided in the below table are estimates and a forecast of projected funds necessary to meet the operating needs of the regional transit authority.

Operating Revenue	Previous	Year One	Year Two	Year Three	Year Four	Year Five
	2021	2022	2023	2024	2025	2026
Farebox	\$ 3,084,750	\$ 3,115,103	\$ 3,192,981	\$ 3,272,805	\$ 3,354,625	\$ 3,438,491
Federal Grants	\$ 3,340,422	\$ 2,173,224	\$ 2,227,555	\$ 2,283,244	\$ 2,340,325	\$ 2,398,833
Service Contracts *	\$ 885,000	\$ 1,150,050	\$ 1,178,801	\$ 1,208,271	\$ 1,238,478	\$ 1,269,440
MassDOT Discretionary Grant	\$ 200,000	\$ -	\$ -	\$ -	\$ -	\$ -
Auxiliary Revenue	\$ 136,600	\$ 231,138	\$ 236,916	\$ 242,839	\$ 248,910	\$ 255,133
Interest Income	\$ 65,000	\$ 47,278	\$ 48,460	\$ 49,672	\$ 50,913	\$ 52,186
State Contract Assistance **	\$ 7,706,966	\$ 7,556,620	\$ 7,745,536	\$ 7,939,174	\$ 8,137,654	\$ 8,341,095
Local Assessment	\$ 3,263,662	\$ 3,281,704	\$ 3,363,746	\$ 3,447,840	\$ 3,534,036	\$ 3,622,387
TOTAL	\$ 18,682,400	\$ 17,555,117	\$ 17,993,995	\$ 18,443,845	\$ 18,904,941	\$ 19,377,565
Operating Expenses ***	Previous	Draft	Year Two	Year Three	Year Four	Year Five
	2021	2022	2023	2024	2025	2026
TOTAL (See Description Below)	\$ 18,682,400	\$ 17,555,117	\$ 17,993,995	\$ 18,443,845	\$ 18,904,941	\$ 19,377,565

Footnotes:

* Service Contracts refers to contract work such as Human Service Agencies and BSU

** Operating assistance provided by the State

*** Description of Operating Expenses: Salaries and Wages; Fringe Benefits; Legal, Accounting and Professional Services; Promotion/Marketing; Insurance; Equipment Leases and Rentals; Real Property Leases and Rentals; Non-capitalized Maintenance/Repair; Fuel costs; Tire costs; Office Supplies and Equipment; Interest Expense; Utilities; Management Fees; Travel and Training; and Other miscellaneous expense items.

APPENDIX G - FEDERAL REGIONAL FUNDING TARGETS AND STATEWIDE SUMMARIES

**FFY 2022–2026 STIP
2022–2026 Regional Target Budgets (DRAFT)**

	2021 Current Obligation authority (federal aid only)	2021 Proposed Obligation authority (87.7%)	2022 Current Obligation authority (federal aid only)	2022 Proposed Obligation authority (91%)*	2023 Current Obligation authority (federal aid only)	2023 Proposed Obligation authority (91%)*	2024 Current Obligation authority (federal aid only)	2024 Proposed Obligation authority (91%)*	2025 Current Obligation authority (federal aid only)	2025 Proposed Obligation authority (91%)*
Apportionment	\$ 683,012,998.64	\$ 664,877,512.00	\$ 697,256,952.71	\$ 678,743,257.99	\$ 711,797,958.57	\$ 692,898,168.39	\$ 726,642,211.10	\$ 707,348,273.60	\$ 741,796,034.39	\$ 722,099,729.79
Base obligation authority	\$ 621,541,829.00	\$ 583,320,922.00	\$ 634,503,827.00	\$ 617,656,364.77	\$ 647,736,142.00	\$ 630,537,333.00	\$ 661,244,412.00	\$ 643,686,928.98	\$ 675,034,391.00	\$ 657,110,754.11
Planned redistribution request	\$ 50,000,000.00	\$ 50,000,000.00	\$ 50,000,000.00	\$ 50,000,000.00	\$ 50,000,000.00	\$ 50,000,000.00	\$ 50,000,000.00	\$ 50,000,000.00	\$ 50,000,000.00	\$ 50,000,000.00
Total estimated funding available	\$ 671,541,829.00	\$ 633,320,922.00	\$ 684,503,827.00	\$ 667,656,364.77	\$ 697,736,142.00	\$ 680,537,333.00	\$ 711,244,412.00	\$ 693,686,928.98	\$ 725,034,391.00	\$ 707,110,754.11
ABP GANS Repayment	\$ (82,375,000.00)	\$ (82,375,000.00)	\$ (86,470,000.00)	\$ (86,470,000.00)	\$ (89,510,000.00)	\$ (89,510,000.00)	\$ (93,985,000.00)	\$ (93,985,000.00)	\$ (122,185,000.00)	\$ (122,185,000.00)
Total non-earmarked funding available	\$ 589,166,829.00	\$ 550,945,922.00	\$ 598,033,827.00	\$ 581,186,364.77	\$ 608,226,142.00	\$ 591,027,333.00	\$ 617,259,412.00	\$ 599,701,928.98	\$ 602,849,391.00	\$ 584,925,754.11
Funding for Regional Priorities**	\$ 194,665,923.26	\$ 194,665,923.26	\$ 198,629,796.33	\$ 198,629,796.33	\$ 202,968,036.19	\$ 202,968,036.19	\$ 205,628,283.96	\$ 205,628,283.96	\$ 200,827,858.00	\$ 200,827,858.00
Highway Division Programs***	\$ 394,500,905.74	\$ 356,279,998.74	\$ 399,404,030.67	\$ 382,556,568.45	\$ 405,258,105.81	\$ 388,059,296.81	\$ 411,631,128.04	\$ 394,073,645.01	\$ 402,021,533.00	\$ 384,097,896.11
			Delta (FA)	\$ (16,847,462.23)		\$ (17,198,809.00)		\$ (17,557,483.02)		\$ (17,923,636.89)
			Delta (TFPC)	\$ (21,059,327.78)		\$ (21,498,511.25)		\$ (21,946,853.78)		\$ (22,404,546.11)
			2026 Proposed Obligation authority (91%)*							
			Base obligation authority	\$ 670,814,528						
			Planned redistribution request	\$ 50,000,000						
			Total estimated funding available	\$ 720,814,528						
			ABP GANS Repayment	\$ (133,620,000)						
Total non-earmarked funding available regional share %	MPO	\$ 587,194,527.57	Total funding							
3.5596%	Berkshire	\$ 6,963,031	\$ 8,703,789							
42.9671%	Boston	\$ 84,049,120	\$ 105,061,400							
4.5851%	Cape Cod	\$ 8,969,040	\$ 11,211,300							
8.6901%	Central Mass	\$ 16,998,942	\$ 21,248,678							
2.5397%	Franklin	\$ 4,967,977	\$ 6,209,971							
0.3100%	Martha's Vineyard	\$ 606,399	\$ 757,999							
4.4296%	Merrimack Valley	\$ 8,664,862	\$ 10,831,077							
4.4596%	Montachusett	\$ 8,723,546	\$ 10,904,432							
0.2200%	Nantucket	\$ 430,348	\$ 537,935							
3.9096%	Northern Middlesex	\$ 7,647,676	\$ 9,559,594							
4.5595%	Old Colony	\$ 8,918,963	\$ 11,148,703							
10.8099%	Pioneer Valley	\$ 21,145,541	\$ 26,431,927							
8.9601%	Southeastern Mass	\$ 17,527,097	\$ 21,908,871							
Funding for Regional Priorities	\$ 195,612,737.16	\$ 244,515,676.93								
Highway Division Programs	\$ 391,581,790.41	\$ 489,477,482.53								

*Base Obligation Authority based on 2.1% growth rate from actual FFY 2021 apportionment and average of Fast Act Obligation Authority (91%) through FFY 2020

**MPO TIP targets will be held harmless from the change in proposed Obligation Authority

***MassDOT Highway Division programs are being revised based on new ABP GANS schedule and proposed Obligation Authority

APPENDIX H - TRANSPORTATION EVALUATION CRITERIA (TEC) FORMS

STATE PROJECT EVALUATION CRITERIA

Highway-funded Preservation Projects

PROJECT TYPE				OTHER IMPACT CRITERIA		
	Condition	Usage	Cost Effectiveness	Community Effects and Support	Land Use and Economic Development	Environmental and Air Quality/ Climate Effects
Roadway Maintenance	Extent of light and moderate cracking (Main)	Annual Average Daily Traffic (AADT)	Cost per Unit Change in Condition	Residential effects: right-of-way, noise, aesthetics, other	Business effects: right-of-way, access, noise, traffic, parking, freight access other	Air Quality/Climate effects
Roadway Resurfacing	☐	☐		☐	☐	☐
Roadway Reconstruction	Measure of skid resistance (Main/Resurf)	Percentage of Trucks	Cost per Linear Mile	Public, local government, legislative, and regional support	Sustainable development effects	Water quality/supply effects; wetlands effects
	☐	☐		☐	☐	
	Measure of rideability (Resurf/Recon)	NHS Status		Effect on service to minority or low income neighborhoods		Historic and cultural resource effects
	☐	☐		☐		
	Measure of surface condition (Resurf/Recon)		Cost per AADT	Other Impact/benefit to minority or low income neighborhoods	Consistent with regional land-use and economic development plans	☐
	☐			☐	☐	
	Pavement structural adequacy (Recon)			Effect on development and redevelopment of housing stock	Effect on job creation.	
	☐			☐	☐	
Avg. Score (-3 to +3)		Avg. Score (-3 to +3)		Avg. Score (-3 to +3)	Avg. Score (-3 to +3)	Avg. Score (-3 to +3)
☐		☐		☐	☐	☐
						Total Score (-18 to +18)
						☐

STATE PROJECT EVALUATION CRITERIA

Highway-funded Improvement/Expansion Projects

PROJECT TYPE	THRESHOLD TRANSPORTATION CRITERIA				OTHER IMPACT CRITERIA		
	Condition and Service Quality	Mobility	Safety and Security	Cost Effectiveness	Community Effects and Support	Land Use and Economic Development	Environmental and Air Quality/ Climate Effects
Arterials/Intersection	Magnitude of pavement condition improvement ☐	Effect on magnitude and duration of congestion ☐	Effect on crash rate compared to state average ☐	Cost per Unit Change in Condition	Residential effects: right-of-way, noise, aesthetics, other ☐	Business effects: right-of-way, access, noise, traffic, parking, freight access other ☐	Air Quality/Climate effects ☐
Major Highways	Magnitude of improvement of other infrastructure elements ☐	Effect on travel time and connectivity/access ☐	Effect on bicycle and pedestrian safety ☐	Cost per Linear Mile	Public, local government, legislative, and regional support ☐	Sustainable development effects ☐	Water quality/supply effects; wetlands effects ☐
			NHS Status ☐		Effect on service to minority or low income neighborhoods ☐		
		Effect on other modes using facility ☐		Cost per AADT	Other Impact/benefit to minority or low income neighborhoods ☐	Consistent with regional land-use and economic development plans ☐	Historic and cultural resource effects ☐
		Effect on regional and local traffic ☐			Effect on development and redevelopment of housing stock ☐	Effect on job creation. ☐	
Avg. Score (-3 to +3) ☐		Avg. Score (-3 to +3) ☐	Avg. Score (-3 to +3) ☐		Avg. Score (-3 to +3) ☐	Avg. Score (-3 to +3) ☐	Avg. Score (-3 to +3) ☐
							Total Score (-18 to +18) ☐

STATE PROJECT EVALUATION CRITERIA

Highway-funded Other Enhancements (non-bike/ped) Projects

PROJECT TYPE	THRESHOLD TRANSPORTATION CRITERIA				OTHER IMPACT CRITERIA			
	Condition and Service Quality	Mobility	Safety and Security	Cost Effectiveness	Community Effects and Support	Land Use and Economic Development	Environmental and Air Quality/ Climate Effects	
Other Enhancements (non-bike/ped)	The extent to which the project improves the transportation system ☐	Number of users ☐	Effect on user safety/ security ☐	Cost per user ☐	Residential effects: right-of-way, noise, aesthetics, other ☐	Business effects: right-of-way, access, noise, traffic, parking, freight access other ☐	Air Quality/Climate effects ☐	
		The extent to which the project is coordinated with other projects ☐			Public, local government, legislative, and regional support ☐	Sustainable development effects ☐	Water quality/supply effects; wetlands effects ☐	
		The extent to which the project provides other benefits ☐			Effect on service to minority or low income neighborhoods ☐			
					Other Impact/benefit to minority or low income neighborhoods ☐	Consistent with regional land-use and economic development plans ☐	Historic and cultural resource effects ☐	
					Effect on development and redevelopment of housing stock ☐	Effect on job creation. ☐		
					Avg. Score (-3 to +3) ☐	Avg. Score (-3 to +3) ☐	Avg. Score (-3 to +3) ☐	
					Total Score (-18 to +18) ☐			

STATE PROJECT EVALUATION CRITERIA

Highway-funded Bicycle Pedestrian Enhancement Projects

PROJECT TYPE	THRESHOLD TRANSPORTATION CRITERIA				OTHER IMPACT CRITERIA		
	Condition and Service Quality	Mobility	Safety and Security	Cost Effectiveness	Community Effects and Support	Land Use and Economic Development	Environmental and Air Quality/ Climate Effects
Bicycle/ Pedestrian Facilities Enhancements	Magnitude of surface condition improvement ☐	Number of users ☐	Effect of Bicycle Comfort Index ☐	Cost per user ☐	Residential effects: right-of-way, noise, aesthetics, other ☐	Business effects: right-of-way, access, noise, traffic, parking, freight access other ☐	Air Quality/Climate effects ☐
	Magnitude of improvement of other infrastructure elements ☐	Effect on travel time/ access/ connectivity for existing users ☐	Effect on pedestrian safety ☐	Cost per linear mile ☐	Public, local government, legislative, and regional support ☐	Sustainable development effects ☐	Water quality/supply effects; wetlands effects ☐
		Consistent with State Bicycle and/ or Pedestrian Plans ☐			Effect on service to minority or low income neighborhoods ☐		
					Other Impact/benefit to minority or low income neighborhoods ☐	Consistent with regional land-use and economic development plans ☐	Historic and cultural resource effects ☐
					Effect on development and redevelopment of housing stock ☐	Effect on job creation. ☐	
	Avg. Score (-3 to +3) ☐	Avg. Score (-3 to +3) ☐	Avg. Score (-3 to +3) ☐		Avg. Score (-3 to +3) ☐	Avg. Score (-3 to +3) ☐	Avg. Score (-3 to +3) ☐
							Total Score (-18 to +18) ☐

APPENDIX I - ANNUAL LISTING OF OBLIGATED (ADVERTISED) PROJECTS

Annual List of Obligated Projects - Advertised Projects (FFY 2021)

COMMUNITY	ID	ADVERTISED	DESCRIPTION	TOTAL COST	FEDERAL	STATE
AVON	608086	1/30/2021	AVON - INTERSECTION IMPROVEMENTS AT HARRISON BOULEVARD AND POND STREET	\$ 4,969,007	\$ 3,975,206	\$ 993,801
EASTON	607217	11/7/2020	EASTON - ROUTE 123 (DEPOT STREET) RECONSTRUCTION FROM NEWELL CIRCLE TO ROUTE 138	\$ 10,502,923	\$ 8,402,338	\$ 2,100,585
STOUGHTIN	608829	*	STOUGHTON - IMPROVEMENTS AT RICHARD WILKINS ELEMENTARY SCHOOL (SRTS)	\$ 3,171,443	\$ 2,537,154	\$ 634,289
			Total Cost of Projects:	\$ 18,643,373	\$ 14,914,698	\$ 3,728,675

* Project anticipated to be advertised by October 1, 2021

APPENDIX J - COMPLETED HIGHWAY AND TRANSIT PROJECTS (2015 TO PRESENT; GREENHOUSE GAS (GHG) EMISSIONS ANALYSIS)

Old Colony Region Transportation Improvement Program

MassDOT Project ID ▼	MassDOT Project Description ▼	Total Programmed Funds ▼	GHG Analysis Type ▼	GHG CO ₂ Impact (kg/yr) ▼	GHG Impact Description ▼	Additional Description ▼	Fiscal Year of Contract Award (2015 and forward) ▼
603660	BRIDGEWATER- SIGNAL & INTERSECTION IMPROVEMENTS AT STATE ROUTE 18 & HIGH STREET	\$ 1,259,683	Quantified	94,020.393	Quantified Decrease in Emissions from Traffic Operational Improvement		2015
601644	BROCKTON- RESURFACING & RELATED WORK ON WEST ELM STREET, FROM WARREN AVENUE TO WEST STREET (6,800 FT.)	\$ 5,022,800	Quantified	358,738.067	Quantified Decrease in Emissions from Traffic Operational Improvement		2015
606071	EASTON- SIGNAL & INTERSECTION IMPROVEMENTS @ ROUTE 138 (TURNPIKE STREET) AND ROUTE 106 (FOUNDRY STREET)	\$ 1,377,744	Quantified	59,301.843	Quantified Decrease in Emissions from Traffic Operational Improvement		2015
604957	PEMBROKE- RECONSTRUCTION ON ROUTE 14, FROM THE HANSON T.L. TO WASHINGTON STREET (ROUTE 53) AC PHASE 1 OF 2	\$ 9,188,746	Quantified	729.893	Quantified Decrease in Emissions from Traffic Operational Improvement		2016
608085	AVON - INSTALLATION OF A MEDIAN BARRIER ON HARRISON BOULEVARD	\$ 2,305,120	Quantified	989,860.450	Quantified Decrease in Emissions from Traffic Operational Improvement		2016
606036	BROCKTON - SIGNAL & INTERSECTION IMPROVEMENTS @ ROUTE 123 (BELMONT STREET)/LINWOOD STREET/ LORRAINE AVENUE	\$ 4,646,985	Quantified	73,162.015	Quantified Decrease in Emissions from Other Improvements		2016
607175	PLYMOUTH - RESURFACING & RELATED WORK ON ROUTE 3	\$ 15,745,980	Qualitative		Qualitative Decrease in Emissions		2016
605038	PLYMOUTH- RECONSTRUCTION OF TAYLOR AVENUE, FROM WHITE HORSE ROAD TO MANOMET POINT ROAD, INCLUDES BRIDGE REPLACEMENT OF P-13-010	\$ 8,726,144	Quantified	2,011.100	Quantified Decrease in Emissions from Other Improvements		2017
607438	EASTON- INTERSECTION IMPROVEMENTS AT WASHINGTON STREET (ROUTE 138) AND UNION STREET	\$ 2,659,239	Quantified	326,293.197	Quantified Decrease in Emissions from Traffic Operational Improvement		2018
607337	PEMBROKE- INTERSECTION IMPROVEMENTS AND RELATED WORK AT WASHINGTON STREET (ROUTE 53) AND PLEASANT STREET	\$ 2,264,709	Quantified	170,714.225	Quantified Decrease in Emissions from Traffic Operational Improvement		2018
606264	PLYMOUTH- IMPROVEMENTS ON OBERY STREET, FROM SOUTH STREET TO A.A. CARANCI WAY/PLYMOUTH NORTH H.S. DRIVE INTERSECTION	\$ 6,657,553	Quantified	583,159.967	Quantified Decrease in Emissions from Traffic Operational Improvement		2018
607860	WHITMAN- TRAFFIC SIGNAL IMPROVEMENTS & RELATED WORK ON BEDFORD STREET (ROUTE 18) AT 2 LOCATIONS: AUBURN STREET (ROUTE 14) & TEMPLE STREET (ROUTE 27)	\$ 5,990,816	Quantified	133,711.328	Quantified Decrease in Emissions from Traffic Operational Improvement		2018
608143	ABINGTON/ BROCKTON - NORTH QUINCY STREET, CHESTNUT STREET, AND BOUNDARY AVENUE ROUNDABOUT AND GEOMETRIC IMPROVEMENTS	\$ 1,218,906	Quantified	505,089.454	Quantified Decrease in Emissions from Traffic Operational Improvement		2019
607941	EAST BRIDGEWATER - RESURFACING AND SIDEWALK CONSTRUCTION ON BEDFORD STREET (ROUTE 18), FROM WHITMAN STREET (ROUTE 106) TO CENTRAL STREET	\$ 7,763,091	Quantified	1,525.300	Quantified Decrease in Emissions from Bicycle and Pedestrian Infrastructure		2019
608088	BROCKTON - CORRIDOR IMPROVEMENTS ON ROUTE 123 (BELMONT STREET), FROM ANGUS BEATON DRIVE TO WEST STREET	\$ 7,350,265	Quantified	205,184.676	Quantified Decrease in Emissions from Traffic Operational Improvement		2020
608266	PEMBROKE - RESURFACING AND RELATED WORK ON ROUTE 53	\$ 2,725,075	Qualitative		Qualitative Decrease in Emissions		2020
607217	EASTON - ROUTE 123 (DEPOT STREET) RECONSTRUCTION FROM NEWELL CIRCLE TO ROUTE 138	\$ 9,018,229	Quantified	132,862.633	Quantified Decrease in Emissions from Bicycle and Pedestrian Infrastructure		2021
608086	AVON - INTERSECTION IMPROVEMENTS AT HARRISON BOULEVARD AND POND STREET	\$ 4,969,007	Quantified	989,860.450	Quantified Decrease in Emissions from Traffic Operational Improvement		2021
608829	STOUGHTON- IMPROVEMENTS AT WEST ELEMENTARY SCHOOL (SRTS)	\$ 3,171,443	Qualitative		Qualitative Decrease in Emissions		2021

Old Colony Region Transportation Improvement Program

FTA Activity Line Item ▼	Transit Agency ▼	Project Description ▼	Total Cost ▼	GHG Analysis Type ▼	GHG CO ₂ Impact (kg/yr) ▼	GHG Impact Description ▼	Additional Description ▼	Fiscal Year Programmed (2015 and forward) ▼
111201	BAT	BUY REPLACEMENT 40-FT BUS (4)	\$ 1,960,000	Quantified	9,383.318	Quantified Decrease in Emissions from Bus Replacement		2016
111202	BAT	BUY REPLACEMENT 35-FT BUS (4)	\$ 2,000,000	Quantified	9,899.523	Quantified Decrease in Emissions from Bus Replacement		2016
111201	BAT	BAT ACQUIRE REPLACEMENT 40-FT BUS (4)	\$ 2,050,000	Quantified	20,577.935	Quantified Decrease in Emissions from Bus Replacement		2018
111302	BAT	BAT - ACQUIRE 35-FT BUS FOR EXPANSION (2) HYBRID	\$ 1,400,000	Quantified	23,611.723	Quantified Decrease in Emissions from New/Additional Transit Service		2018
111202	BAT	BAT ACQUIRE REPLACEMENT 35-FT BUS (6)	\$ 3,000,000	Quantified	30,866.902	Quantified Decrease in Emissions from Bus Replacement		2018
111203	BAT	BUY REPLACEMENT 30-FT BUS (2) BSU	\$ 500,000	Quantified	188,480.027	Quantified Decrease in Emissions from Bus Replacement		2019
111203	BAT	BUY REPLACEMENT 30-FT BUS (3) BSU	\$ 450,000	Quantified	280,178.756	Quantified Decrease in Emissions from Bus Replacement		2020
111201	BAT	BUY REPLACEMENT 40-FT BUS (4)	\$ 2,250,000	Quantified	246,174.712	Quantified Decrease in Emissions from Bus Replacement		2021

APPENDIX K - FFY 2022-2026 GREENHOUSE GAS (GHG) EMISSIONS ANALYSIS

2022-2026

Transportation Improvement Program

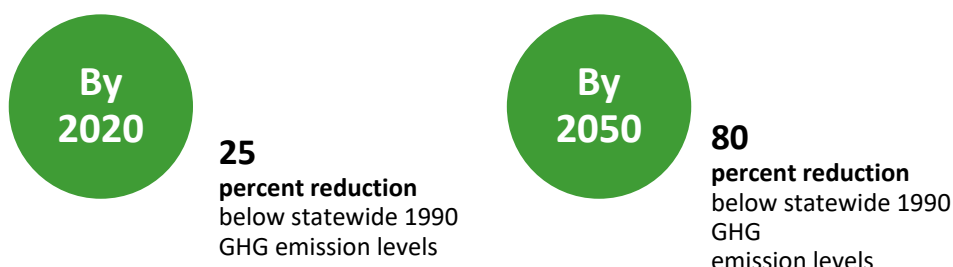
Greenhouse Gas Monitoring and Evaluation

Introduction

This section summarizes the greenhouse gas (GHG) impacts that are anticipated to result from the projects that are included in this FFY 2021-2025 Transportation Improvement Program (TIP). It includes a summary of the state laws and policies that call for reducing greenhouse gas in order to mitigate global climate change, actions that are being to respond to these state laws and policies, the role of regional planning and TIP development in reducing GHG emission and tracking these reductions, and the projected GHG emission impacts from the projects programmed in the TIP.

State Policy Context

The Global Warming Solutions Act (GWSA), which was signed into law in August 2008, makes Massachusetts a leader in setting aggressive and enforceable GHG reduction targets, and implementing policies and initiatives to achieve these targets. In keeping with the law, on December 29, 2010 the Massachusetts Executive Office of Energy and Environmental Affairs (EOEEA), in consultation with other state agencies and the public, released the Massachusetts Clean Energy and Climate Plan for 2020. In December 2014, DEP issued new regulations that require MPOs to quantify impacts from project investments, track progress towards reductions, and consider impacts in the prioritization of project investments. The targets for overall statewide GHG emissions are:



The role of MPOs

The Commonwealth's MPOs are integrally involved in supporting the GHG reductions mandated under the GWSA. The MPOs are most directly involved in helping to achieve the GHG emissions reductions through the promotion of healthy transportation modes through prioritizing and programming an appropriate balance of roadway, transit, bicycle and pedestrian investments – and assisting smart growth development patterns through the creation of a balanced multi-modal transportation system. This is realized through the transportation goals and policies espoused in the 2016 Long Range Transportation Plans (LRTPs); the major projects planned in those LRTPs; and the mix of new transportation projects that are programmed and implemented through the TIPs. GHG tracking and evaluation

processes enable the MPOs to identify anticipated GHG impacts of planned and programmed projects, and also to use GHG impacts as a criterion in prioritizing transportation projects.

Project-level GHG tracking and evaluation in TIPs

It is also important to monitor and evaluate the GHG impacts of the transportation projects that are programmed in the MPOs' TIPs. The TIPs include both the larger, regionally-significant projects from the LRTPs, which are reported in the Statewide GHG report, as well as smaller projects that are not included in the LRTP but that may nevertheless have impacts on GHG emissions. The primary objective of this tracking is to enable the MPOs to evaluate expected GHG impacts of different projects and to use this information as a criterion for prioritizing and programming projects.

Calculation of GHG Impacts for TIP Projects

MassDOT has adopted spreadsheets used by MPOs to determine CMAQ eligibility and that also include CO₂ impacts. The data and analysis required for these calculations is available from functional design reports that are submitted for projects that would produce a measurable GHG impact.

Projects with quantified impacts

LRTP Projects

Major capacity expansion projects are expected to have a significant impact on GHG emissions. These projects are included in each MPO's LRTPs and analyzed using either the statewide model or the Boston MPO's regional model, which reflect GHG impacts. As a result, no independent TIP calculations are required.

Quantified Decrease in Emissions

For those projects that are expected to produce a measurable decrease in emissions, the approach for calculating these impacts is described below. These projects are categorized in the following manner:

- **Quantified Decrease in Emissions from Traffic Operational Improvement** - An intersection reconstruction or signalization project that is projected to reduce delay and congestion.
- **Quantified Decrease in Emissions from Pedestrian and Bicycle Infrastructure** - A shared-use path that enables increased walking and biking and decreases vehicle-miles traveled (VMT).
- **Quantified Decrease in Emissions from New/Additional Transit Service** - A bus or shuttle service that enables increased transit ridership and decreased VMT
- **Quantified Decrease in Emissions from a Park and Ride Lot** - A park and ride lot that enables increased transit ridership/ increased ridesharing and decreased VMT
- **Quantified Decrease in Emissions from Bus Replacement** - a bus replacement that directly reduces GHG emissions generated by service.

- **Quantified Decrease in Emissions from Complete Streets Improvements** - Improvements to roadway networks that include the addition of bicycle and pedestrian accommodations where none were present before.
- **Quantified Decrease in Emissions from Alternative Fuel Vehicle Procurements** – A vehicle procurement where alternative fuel/advanced technology vehicles replace traditional gas or diesel vehicles.
- **Quantified Decrease in Emissions from Anti-idling Strategies** – Implementation of policies such as limiting idling allowed, incorporating anti-idling technology into fleets and using LED lights on trucks for the purpose of illuminating worksites.
- **Quantified Decrease in Emissions from Bike Share Projects** – A new bike share project or capacity added to an existing project.
- **Quantified Decrease in Emissions from Induced Travel Projects** – A project that changes roadway capacity
- **Quantified Decrease in Emissions from Speed Reduction Programs** – Programs that reduce speed to no less than 55 miles per hour.
- **Quantified Decrease in Emissions from Transit Signal Priority Projects** – A project that applies this technology to a signal intersection or along a corridor that impacts bus service.
- **Quantified Decrease in Emissions from Truck Stop Electrification Projects** – A new truck stop electrification project or capacity added to an existing project.
- **Quantified Decrease in Emissions from Other Improvement**

Quantified Increase in Emissions

- Projects expected to produce a measurable increase in emissions.

Projects with no assumed impacts

No Assumed Impact/Negligible Impact on Emissions

Projects that do not change the capacity or use of a facility (e.g. roadway median barrier or retaining wall replacement, or a bridge rehabilitation/replacement that restores the bridge to its previous condition) are assumed to have no/negligible GHG impact.

Qualitative Decrease in Emissions

Projects expected to produce a minor decrease in emissions that cannot be calculated with any precision. Examples of such projects include roadway repaving, signage improvement, ITS improvement, or transit marketing/customer experience improvement.

Qualitative Increase in Emissions

Projects expected to produce a minor increase in emissions that cannot be calculated with any precision.

Greenhouse gas impact tables for FFY 2022 - 2026 TIP

The tables summarizing the calculated quantitative and assumed qualitative impacts of the projects included in each regional FFY 2022–2026 TIP are found beginning on the next page.

Greenhouse Gas (GHG) Analysis Report

STIP: 2022 - 2026 (D)

MassDot Project ID	MassDOT Project Description	GHG Analysis Type	GHG Impact Description	GHG CO2 Impact (kg/yr)	Additional Information
Federal Fiscal Year 2022					
Old Colony					
600380	PEMBROKE- REHABILITATION OF ROUTE 36 (CENTER STREET) FROM ROUTE 27 TO ROUTE 14	Quantified	Quantified Decrease in Emissions from Bicycle and Pedestrian Infrastructure	155,420	
608496	AVON- STOUGHTON- RESURFACING AND RELATED WORK ON ROUTE 24	Qualitative	No assumed impact/negligible impact on emissions	0	
Old Colony			Total GHG Increase (kg/year)	155,420	
			Total GHG Reduction (kg/year)	0	
			Total GHG Difference (kg/year)	155,420	
2022			Total GHG Increase (kg/year)	155,420	
			Total GHG Reduction (kg/year)	0	
			Total GHG Difference (kg/year)	155,420	
2022			Total GHG Increase (kg/year)	155,420	
			Total GHG Reduction (kg/year)	0	
			Total GHG Difference (kg/year)	155,420	

Greenhouse Gas (GHG) Analysis Report

STIP: 2022 - 2026 (D)

MassDot Project ID	MassDOT Project Description	GHG Analysis Type	GHG Impact Description	GHG CO2 Impact (kg/yr)	Additional Information
Federal Fiscal Year 2023					
Old Colony					
607403	STOUGHTON- CORRIDOR IMPROVEMENTS ON ROUTE 138	Quantified	Quantified Decrease in Emissions from Traffic Operational Improvement	11,779	
608279	STOUGHTON- INTERSECTION IMPROVEMENTS AND RELATED WORK AT CENTRAL STREET, CANTON STREET AND TOSCA DRIVE	Quantified	Quantified Decrease in Emissions from Traffic Operational Improvement	83,068	
609410	BROCKTON- INTERSECTION IMPROVEMENTS AND RELATED WORK AT CENTRE STREET (ROUTE 123), CARY STREET AND LYMAN STREET	Quantified	Quantified Decrease in Emissions from Traffic Operational Improvement	220,765	
Old Colony			Total GHG Increase (kg/year)	315,612	
			Total GHG Reduction (kg/year)	0	
			Total GHG Difference (kg/year)	315,612	
2023			Total GHG Increase (kg/year)	315,612	
			Total GHG Reduction (kg/year)	0	
			Total GHG Difference (kg/year)	315,612	
2023			Total GHG Increase (kg/year)	315,612	
			Total GHG Reduction (kg/year)	0	
			Total GHG Difference (kg/year)	315,612	



Greenhouse Gas (GHG) Analysis Report

STIP: 2022 - 2026 (D)

MassDot Project ID	MassDOT Project Description	GHG Analysis Type	GHG Impact Description	GHG CO2 Impact (kg/yr)	Additional Information
Federal Fiscal Year 2024					
Old Colony					
607403	STOUGHTON- CORRIDOR IMPROVEMENTS ON ROUTE 138	Quantified	Quantified Decrease in Emissions from Traffic Operational Improvement	11,779	
609052	BROCKTON- INTERSECTION IMPROVEMENTS AT CENTRE STREET (ROUTE 123) AND PLYMOUTH STREET	Quantified	Quantified Decrease in Emissions from Traffic Operational Improvement	79,683	
609435	PLYMPTON- BRIDGE REPLACEMENT, P-14-001 (445), WINNETUXET ROAD OVER WINNETUXET RIVER	Qualitative	No assumed impact/negligible impact on emissions	0	
Old Colony			Total GHG Increase (kg/year)	91,462	
			Total GHG Reduction (kg/year)	0	
			Total GHG Difference (kg/year)	91,462	
2024			Total GHG Increase (kg/year)	91,462	
			Total GHG Reduction (kg/year)	0	
			Total GHG Difference (kg/year)	91,462	
2024			Total GHG Increase (kg/year)	91,462	
			Total GHG Reduction (kg/year)	0	
			Total GHG Difference (kg/year)	91,462	



Greenhouse Gas (GHG) Analysis Report

STIP: 2022 - 2026 (D)

MassDot Project ID	MassDOT Project Description	GHG Analysis Type	GHG Impact Description	GHG CO2 Impact (kg/yr)	Additional Information
Federal Fiscal Year 2025					
Old Colony					
607818	BROCKTON- INTERSECTION IMPROVEMENTS AT LYMAN STREET/GROVE STREET/SUMMER STREET & REPLACEMENT OF GROVE STREET BRIDGE, B-25-005, OVER SALISBURY PLAIN RIVER	Quantified	Quantified Decrease in Emissions from Traffic Operational Improvement	1,269,815	
608195	EASTON- CORRIDOR IMPROVEMENTS ON ROUTE 138 INCLUDING INTERSECTION IMPROVEMENTS AT ROUTE 138 (WASHINGTON STREET) AND ELM STREET	Quantified	Quantified Decrease in Emissions from Traffic Operational Improvement	283,504	
Old Colony			Total GHG Increase (kg/year)	1,553,319	
			Total GHG Reduction (kg/year)	0	
			Total GHG Difference (kg/year)	1,553,319	
2025			Total GHG Increase (kg/year)	1,553,319	
			Total GHG Reduction (kg/year)	0	
			Total GHG Difference (kg/year)	1,553,319	
2025			Total GHG Increase (kg/year)	1,553,319	
			Total GHG Reduction (kg/year)	0	
			Total GHG Difference (kg/year)	1,553,319	

Greenhouse Gas (GHG) Analysis Report

STIP: 2022 - 2026 (D)

MassDot Project ID	MassDOT Project Description	GHG Analysis Type	GHG Impact Description	GHG CO2 Impact (kg/yr)	Additional Information
Federal Fiscal Year 2026					
Old Colony					
606002	DUXBURY- SIGNAL INSTALLATION @ ROUTE 3 (NB & SB) RAMPS & ROUTE 3A (TREMONT STREET)	Quantified	Quantified Decrease in Emissions from Traffic Operational Improvement	52,659	
608506	HANSON- CORRIDOR IMPROVEMENTS ON ROUTE 14 (MAQUAN STREET), FROM THE PEMBROKE T.L. TO INDIAN HEAD STREET AND RELATED WORK	Quantified	Quantified Decrease in Emissions from Complete Streets Project	12,259	
609440	ABINGTON- INTERSECTION IMPROVEMENTS AT HANCOCK STREET AND CHESTNUT STREET	Quantified	Quantified Decrease in Emissions from Traffic Operational Improvement	692,501	
Old Colony			Total GHG Increase (kg/year)	757,418	
			Total GHG Reduction (kg/year)	0	
			Total GHG Difference (kg/year)	757,418	
2026			Total GHG Increase (kg/year)	757,418	
			Total GHG Reduction (kg/year)	0	
			Total GHG Difference (kg/year)	757,418	
2026			Total GHG Increase (kg/year)	757,418	
			Total GHG Reduction (kg/year)	0	
			Total GHG Difference (kg/year)	757,418	

2022 Old Colony Region Transportation Improvement Program

MassDOT/FTA Project ID ▼	MassDOT/FTA Project Description ▼	Total Programmed Funds ▼	GHG Analysis Type ▼	GHG CO ₂ Impact (kg/yr) ▼	GHG Impact Description ▼	Total Cost ▼	Additional Information ▼	Fiscal Year of Contract Award (2015 and forward) ▼
RTD0009900	Brockton Area Transit Authority / BUY REPLACEMENT 40-FT BUS (3)	\$ 1,500,000	Quantified	To Be Determined	Quantified Decrease in Emissions from Bus Replacement	\$ 1,500,000		2022

2023 Old Colony Region Transportation Improvement Program

MassDOT/FTA Project ID ▼	MassDOT/FTA Project Description ▼	Total Programmed Funds ▼	GHG Analysis Type ▼	GHG CO ₂ Impact (kg/yr) ▼	GHG Impact Description ▼	Total Cost ▼	Additional Information ▼	Fiscal Year of Contract Award (2015 and forward) ▼
RTD0009904	Brockton Area Transit Authority / BUY REPLACEMENT 35-FT BUS (6)	\$ 3,625,000	Quantified	To Be Determined	Quantified Decrease in Emissions from Bus Replacement	\$ 3,625,000		2023

2024 Old Colony Region Transportation Improvement Program

MassDOT/FTA Project ID ▼	MassDOT/FTA Project Description ▼	Total Programmed Funds ▼	GHG Analysis Type ▼	GHG CO ₂ Impact (kg/yr) ▼	GHG Impact Description ▼	Total Cost ▼	Additional Information ▼	Fiscal Year of Contract Award (2015 and forward) ▼
RTD0009909	Brockton Area Transit Authority / BUY REPLACEMENT 40-FT BUS (4)	\$ 2,150,000	Quantified	To Be Determined	Quantified Decrease in Emissions from Bus Replacement	\$ 2,150,000		2024
RTD0009910	Brockton Area Transit Authority / BUY REPLACEMENT 35-FT BUS (2)	\$ 1,100,000	Quantified	To Be Determined	Quantified Decrease in Emissions from Bus Replacement	\$ 1,100,000		2024

2026 Old Colony Region Transportation Improvement

MassDOT/FTA Project ID ▼	MassDOT/FTA Project Description ▼	Total Programmed Funds ▼	GHG Analysis Type ▼	GHG CO ₂ Impact (kg/yr) ▼	GHG Impact Description ▼	Total Cost ▼	Additional Information ▼	Fiscal Year of Contract Award (2015 and forward) ▼
RTD0010220	Brockton Area Transit Authority / BUY REPLACEMENT (5) 35-FT BUS Hybrid	\$ 3,950,000	Quantified	To Be Determined	Quantified Decrease in Emissions from Bus Replacement	\$ 3,950,000		

APPENDIX L - FFY 2022-2026 GATRA TRANSIT ELEMENT

Transportation Improvement Program (TIP)
Project List (FY2022)

FTA Program	Project Number	Transit Agency	FTA Activity Line Item	Project Description	Carryover (unobligated)	Federal Funds	State Funds	TDC	Local Funds	Total Cost
5307										
5307	RTD0009572	Greater Attleboro-Taunton Regional Transit Authority	117C00	Greater Attleboro Taunton Regional Transit Authority/Non Fixed Route ADA Paratransit Operating		\$1,200,000	\$300,000	\$0	\$0	\$1,500,000
5307	RTD0009569	Greater Attleboro-Taunton Regional Transit Authority	117A00	Greater Attleboro Taunton Regional Transit Authority/Preventative Maintenance		\$3,920,000	\$980,000	\$0	\$0	\$4,900,000
5307	RTD0009592	Greater Attleboro-Taunton Regional Transit Authority	117L00	Greater Attleboro Taunton Regional Transit Authority/Mobility Management		\$140,000	\$35,000	\$0	\$0	\$175,000
5307	RTD0010205	Greater Attleboro-Taunton Regional Transit Authority	115204	Greater Attleboro Taunton Regional Transit Authority/Purchase AVL System		\$400,000	\$100,000	\$0	\$0	\$500,000
5307	RTD0009570	Greater Attleboro-Taunton Regional Transit Authority	300901	Greater Attleboro Taunton Regional Transit Authority/Fixed Route Operating Assistance		\$600,000	\$600,000	\$0	\$0	\$1,200,000
5307	RTD0009568	Greater Attleboro-Taunton Regional Transit Authority	442400	Greater Attleboro Taunton Regional Transit Authority/Short Range Transit Planning		\$80,000	\$20,000	\$0	\$0	\$100,000
5307	RTD0009571	Greater Attleboro-Taunton Regional Transit Authority	114220	Greater Attleboro Taunton Regional Transit Authority/Miscellaneous Support Equipment		\$80,000	\$20,000	\$0	\$0	\$100,000
Subtotal						\$6,420,000	\$2,055,000	\$0	\$0	\$8,475,000
5309										
Subtotal						\$0	\$0	\$0	\$0	\$0
5310										
Subtotal						\$0	\$0	\$0	\$0	\$0
5311										
Subtotal						\$0	\$0	\$0	\$0	\$0
5337										
Subtotal						\$0	\$0	\$0	\$0	\$0
5339										
Subtotal						\$0	\$0	\$0	\$0	\$0
5320										
Subtotal						\$0	\$0	\$0	\$0	\$0
Other Federal										
Subtotal						\$0	\$0	\$0	\$0	\$0
Other Non-Federal										
Other Non-Federal	RTD0009574	Greater Attleboro-Taunton Regional Transit Authority	111215	Greater Attleboro Taunton Regional Transit Authority/Buy Replacement Vans - 8		\$0	\$0	\$0	\$528,000	\$528,000
Subtotal						\$0	\$0	\$0	\$528,000	\$528,000
Total						\$6,420,000	\$2,055,000	\$0	\$528,000	\$9,003,000

Funds listed under the Carry Over column are included in the Federal Amount

Transportation Improvement Program (TIP)
Project List (FY2023)

FTA Program	Project Number	Transit Agency	FTA Activity Line Item	Project Description	Carryover (unobligated)	Federal Funds	State Funds	TDC	Local Funds	Total Cost
5307										
5307	RTD0009575	Greater Attleboro-Taunton Regional Transit Authority	442400	Greater Attleboro Taunton Regional Transit Authority/Short Range Transit Planning		\$80,000	\$20,000	\$0	\$0	\$100,000
5307	RTD0009576	Greater Attleboro-Taunton Regional Transit Authority	117A00	Greater Attleboro Taunton Regional Transit Authority/Preventative Maintenance	2022 - \$1,280,000	\$4,080,000	\$1,020,000	\$0	\$0	\$5,100,000
5307	RTD0009577	Greater Attleboro-Taunton Regional Transit Authority	300901	Greater Attleboro Taunton Regional Transit Authority/Fixed Route Operating Assistance		\$600,000	\$600,000	\$0	\$0	\$1,200,000
5307	RTD0009578	Greater Attleboro-Taunton Regional Transit Authority	117C00	Greater Attleboro Taunton Regional Transit Authority/Non Fixed Route ADA Paratransit Operating		\$1,200,000	\$300,000	\$0	\$0	\$1,500,000
5307	RTD0009593	Greater Attleboro-Taunton Regional Transit Authority	117L00	Greater Attleboro Taunton Regional Transit Authority/Mobility Management	2022 - \$140,000	\$140,000	\$35,000	\$0	\$0	\$175,000
5307	RTD0009604	Greater Attleboro-Taunton Regional Transit Authority	114220	Greater Attleboro Taunton Regional Transit Authority/Miscellaneous Support Equipment	2022 - \$80,000	\$80,000	\$20,000	\$0	\$0	\$100,000
					Subtotal	\$6,180,000	\$1,995,000	\$0	\$0	\$8,175,000
5309										
					Subtotal	\$0	\$0	\$0	\$0	\$0
5310										
					Subtotal	\$0	\$0	\$0	\$0	\$0
5311										
					Subtotal	\$0	\$0	\$0	\$0	\$0
5337										
5337	RTD0009581	Greater Attleboro-Taunton Regional Transit Authority	123402	Greater Attleboro Taunton Regional Transit Authority/Rehab-Renovation Attleboro Area Commuter Rail Stations	2020 - \$1,013,370	\$1,013,370	\$0	\$0	\$253,343	\$1,266,713
					Subtotal	\$1,013,370	\$0	\$0	\$253,343	\$1,266,713
5339										
					Subtotal	\$0	\$0	\$0	\$0	\$0
5320										
					Subtotal	\$0	\$0	\$0	\$0	\$0
Other Federal										
					Subtotal	\$0	\$0	\$0	\$0	\$0
Other Non-Federal										
Other Non-Federal	RTD0009580	Greater Attleboro-Taunton Regional Transit Authority	111215	Greater Attleboro Taunton Regional Transit Authority/Buy Replacement Vans - 8		\$0	\$0	\$0	\$530,000	\$530,000
					Subtotal	\$0	\$0	\$0	\$530,000	\$530,000
					Total	\$7,193,370	\$1,995,000	\$0	\$783,343	\$9,971,713

Funds listed under the Carry Over column are included in the Federal Amount

Transportation Improvement Program (TIP)
Project List (FY2024)

FTA Program	Project Number	Transit Agency	FTA Activity Line Item	Project Description	Carryover (unobligated)	Federal Funds	State Funds	TDC	Local Funds	Total Cost
5307										
5307	RTD0009583	Greater Attleboro-Taunton Regional Transit Authority	114220	Greater Attleboro Taunton Regional Transit Authority/Miscellaneous Support Equipment	2023 - \$80,000	\$80,000	\$20,000	\$0	\$0	\$100,000
5307	RTD0009584	Greater Attleboro-Taunton Regional Transit Authority	442400	Greater Attleboro Taunton Regional Transit Authority/Short Range Transit Planning		\$80,000	\$20,000	\$0	\$0	\$100,000
5307	RTD0009585	Greater Attleboro-Taunton Regional Transit Authority	111202	Greater Attleboro Taunton Regional Transit Authority/Buy Replacement 35-FT Buses (2)	2023 - \$240,000	\$1,040,000	\$260,000	\$0	\$0	\$1,300,000
5307	RTD0009588	Greater Attleboro-Taunton Regional Transit Authority	117C00	Greater Attleboro Taunton Regional Transit Authority/Non Fixed Route ADA Paratransit Operating		\$1,280,000	\$320,000	\$0	\$0	\$1,600,000
5307	RTD0009589	Greater Attleboro-Taunton Regional Transit Authority	300901	Greater Attleboro Taunton Regional Transit Authority/Fixed Route Operating Assistance		\$650,000	\$650,000	\$0	\$0	\$1,300,000
5307	RTD0009590	Greater Attleboro-Taunton Regional Transit Authority	117A00	Greater Attleboro Taunton Regional Transit Authority/Preventative Maintenance		\$2,800,000	\$700,000	\$0	\$0	\$3,500,000
5307	RTD0009594	Greater Attleboro-Taunton Regional Transit Authority	117L00	Greater Attleboro Taunton Regional Transit Authority/Mobility Management	2022 - \$140,000	\$140,000	\$35,000	\$0	\$0	\$175,000
					Subtotal	\$6,070,000	\$2,005,000	\$0	\$0	\$8,075,000
5309										
					Subtotal	\$0	\$0	\$0	\$0	\$0
5310										
					Subtotal	\$0	\$0	\$0	\$0	\$0
5311										
					Subtotal	\$0	\$0	\$0	\$0	\$0
5337										
5337	RTD0009582	Greater Attleboro-Taunton Regional Transit Authority	123402	Greater Attleboro Taunton Regional Transit Authority/Rehab-Renovation Attleboro Area Commuter Rail Stations	2021 - \$1,030,800	\$1,030,800	\$0	\$0	\$257,700	\$1,288,500
					Subtotal	\$1,030,800	\$0	\$0	\$257,700	\$1,288,500
5339										
					Subtotal	\$0	\$0	\$0	\$0	\$0
5320										
					Subtotal	\$0	\$0	\$0	\$0	\$0
Other Federal										
					Subtotal	\$0	\$0	\$0	\$0	\$0

Transportation Improvement Program (TIP)
 Project List (FY2024)

FTA Program	Project Number	Transit Agency	FTA Activity Line Item	Project Description	Carryover (unobligated)	Federal Funds	State Funds	TDC	Local Funds	Total Cost
Other Non-Federal										
Other Non-Federal	RTD0009586	Greater Attleboro-Taunton Regional Transit Authority	111215	Greater Attleboro Taunton Regional Transit Authority/Buy Replacement Vans - 8		\$0	\$0	\$0	\$530,000	\$530,000
					Subtotal	\$0	\$0	\$0	\$530,000	\$530,000
					Total	\$7,100,800	\$2,005,000	\$0	\$787,700	\$9,893,500

Funds listed under the Carry Over column are included in the Federal Amount

Transportation Improvement Program (TIP)
Project List (FY2025)

FTA Program	Project Number	Transit Agency	FTA Activity Line Item	Project Description	Carryover (unobligated)	Federal Funds	State Funds	TDC	Local Funds	Total Cost
5307										
5307	RTD0009595	Greater Attleboro-Taunton Regional Transit Authority	117L00	Greater Attleboro Taunton Regional Transit Authority/Mobility Management	2023 - \$140,000	\$140,000	\$35,000	\$0	\$0	\$175,000
5307	RTD0009596	Greater Attleboro-Taunton Regional Transit Authority	117C00	Greater Attleboro Taunton Regional Transit Authority/Non Fixed Route ADA Paratransit Operating		\$1,320,000	\$330,000	\$0	\$0	\$1,650,000
5307	RTD0009597	Greater Attleboro-Taunton Regional Transit Authority	300901	Greater Attleboro Taunton Regional Transit Authority/Fixed Route Operating Assistance		\$650,000	\$650,000	\$0	\$0	\$1,300,000
5307	RTD0009599	Greater Attleboro-Taunton Regional Transit Authority	117A00	Greater Attleboro Taunton Regional Transit Authority/Preventative Maintenance	2020 - \$157,757; 2021 - \$16,571; 2022 - \$771,732; 2023 - \$389,288; 2024 - \$99,288	\$4,480,000	\$1,120,000	\$0	\$0	\$5,600,000
5307	RTD0009601	Greater Attleboro-Taunton Regional Transit Authority	442400	Greater Attleboro Taunton Regional Transit Authority/Short Range Transit Planning		\$80,000	\$20,000	\$0	\$0	\$100,000
					Subtotal	\$6,670,000	\$2,155,000	\$0	\$0	\$8,825,000
5309										
					Subtotal	\$0	\$0	\$0	\$0	\$0
5310										
					Subtotal	\$0	\$0	\$0	\$0	\$0
5311										
					Subtotal	\$0	\$0	\$0	\$0	\$0
5337										
5337	RTD0009602	Greater Attleboro-Taunton Regional Transit Authority	123402	Greater Attleboro Taunton Regional Transit Authority/Rehab-Renovation Attleboro Area Commuter Rail Stations	2022 - \$1,048,530	\$1,048,530	\$0	\$0	\$262,133	\$1,310,663
					Subtotal	\$1,048,530	\$0	\$0	\$262,133	\$1,310,663
5339										
5339	RTD0009603	Greater Attleboro-Taunton Regional Transit Authority	111202	Greater Attleboro Taunton Regional Transit Authority/Buy Replacement 35-FT Buses (2)	2021 - \$284,224; 2022 - \$300,647; 2023 - \$312,162; 2024 - \$142,967	\$1,040,000	\$260,000	\$0	\$0	\$1,300,000
					Subtotal	\$1,040,000	\$260,000	\$0	\$0	\$1,300,000
5320										
					Subtotal	\$0	\$0	\$0	\$0	\$0
Other Federal										
					Subtotal	\$0	\$0	\$0	\$0	\$0

Transportation Improvement Program (TIP)
 Project List (FY2025)

FTA Program	Project Number	Transit Agency	FTA Activity Line Item	Project Description	Carryover (unobligated)	Federal Funds	State Funds	TDC	Local Funds	Total Cost
Other Non-Federal										
Other Non-Federal	RTD0009598	Greater Attleboro-Taunton Regional Transit Authority	111215	Greater Attleboro Taunton Regional Transit Authority/Buy Replacement Vans - 8		\$0	\$0	\$0	\$532,000	\$532,000
					Subtotal	\$0	\$0	\$0	\$532,000	\$532,000
					Total	\$8,758,530	\$2,415,000	\$0	\$794,133	\$11,967,663

Funds listed under the Carry Over column are included in the Federal Amount

Transportation Improvement Program (TIP)
Project List (FY2026)

FTA Program	Project Number	Transit Agency	FTA Activity Line Item	Project Description	Carryover (unobligated)	Federal Funds	State Funds	TDC	Local Funds	Total Cost
5307										
5307	RTD0010062	Greater Attleboro-Taunton Regional Transit Authority	117L00	Greater Attleboro Taunton Regional Transit Authority/Mobility Management		\$140,000	\$35,000	\$0	\$0	\$175,000
5307	RTD0010063	Greater Attleboro-Taunton Regional Transit Authority	442400	Greater Attleboro Taunton Regional Transit Authority/Short Range Transit Planning		\$80,000	\$20,000	\$0	\$0	\$100,000
5307	RTD0010064	Greater Attleboro-Taunton Regional Transit Authority	117A00	Greater Attleboro Taunton Regional Transit Authority/Preventative Maintenance		\$4,480,000	\$1,120,000	\$0	\$0	\$5,600,000
5307	RTD0010065	Greater Attleboro-Taunton Regional Transit Authority	117C00	Greater Attleboro Taunton Regional Transit Authority/Non Fixed Route ADA Paratransit Operating		\$1,320,000	\$330,000	\$0	\$0	\$1,650,000
5307	RTD0010066	Greater Attleboro-Taunton Regional Transit Authority	300901	Greater Attleboro Taunton Regional Transit Authority/Fixed Route Operating Assistance		\$750,000	\$750,000	\$0	\$0	\$1,500,000
5307	RTD0010069	Greater Attleboro-Taunton Regional Transit Authority	114220	Greater Attleboro Taunton Regional Transit Authority/Miscellaneous Support Equipment		\$80,000	\$20,000	\$0	\$0	\$100,000
					Subtotal	\$6,850,000	\$2,275,000	\$0	\$0	\$9,125,000
5309										
					Subtotal	\$0	\$0	\$0	\$0	\$0
5310										
					Subtotal	\$0	\$0	\$0	\$0	\$0
5311										
					Subtotal	\$0	\$0	\$0	\$0	\$0
5337										
					Subtotal	\$0	\$0	\$0	\$0	\$0
5339										
					Subtotal	\$0	\$0	\$0	\$0	\$0
5320										
					Subtotal	\$0	\$0	\$0	\$0	\$0
Other Federal										
					Subtotal	\$0	\$0	\$0	\$0	\$0
Other Non-Federal										
Other Non-Federal	RTD0010068	Greater Attleboro-Taunton Regional Transit Authority	111215	Greater Attleboro Taunton Regional Transit Authority/Buy Replacement Vans - 8		\$0	\$0	\$0	\$532,000	\$532,000
					Subtotal	\$0	\$0	\$0	\$532,000	\$532,000
					Total	\$6,850,000	\$2,275,000	\$0	\$532,000	\$9,657,000

Funds listed under the Carry Over column are included in the Federal Amount

APPENDIX M - TWENTY-ONE (21) DAY PUBLIC REVIEW - NOTICE OF AVAILABILITY AND PUBLIC COMMENTS

OLD COLONY PLANNING COUNCIL

Christine M. Joy
President
70 School Street
Brockton, MA 02301-4097

Mary V. Waldron
Executive Director
Telephone: (508) 583-1833
Fax: (508) 559-8768
Website: www.ocpcrpa.org

April 20, 2021

NOTICE OF PUBLIC REVIEW AND COMMENT PERIOD

▪ FFY 2022-2026 TRANSPORTATION IMPROVEMENT PROGRAM (TIP)

In accordance with the Public Participation Process developed by the Old Colony Metropolitan Planning Organization (MPO), Old Colony Planning Council (OCPC) is making the FFY 2022-2026 TIP available for public review and comment. Copies of are available for review at <http://www.ocpcrpa.org/>, and/or upon request. This notice will initiate a 21-Day Public Review and Comment Period. This process will also be used as Brockton Area Transit Authority's (BAT) public participation process. BAT, the Federal Transit Administration (FTA) Section 5307(c) applicant, has consulted with the Old Colony MPO and concurs that the public involvement process adopted by the Old Colony MPO for development of the TIP satisfies the public hearing requirements that pertain to the development of the Program of Projects for the regular Section 5307, Urbanized Area Formula Program, grant applications including the provisions for public notice and the time established for public review and comment. Public notice of public involvement activities and time established for public review and comments on the TIP will satisfy the program of projects (POP) requirements. The public discussion of the TIP at Old Colony JTC, Old Colony MPO, and transportation meetings satisfies the Program of Projects (POP) public hearing requirements of the FTA. A public meeting of the OCPC and Old Colony MPO advisory committee, the Old Colony Joint Transportation Committee (JTC), is scheduled for May 6, 2021 at 12 PM. Furthermore, a public meeting of the Old Colony MPO is scheduled for May 18, 2021 at 10 AM to hear additional public comments and consider endorsement. Please contact Charles Kilmer at 508-583-1833 Extension 206 or for further information.

Please send written comments to:

Charles Kilmer
Old Colony Planning Council (OCPC)
70 School Street
Brockton, MA 02301

**APPENDIX N - TIP PROJECT REVISION AND DEFINITION PROCEDURES,
AND APPROVED ADJUSTMENTS, ADMINISTRATIVE MODIFICATIONS,
AND AMENDMENTS**

MassDOT State Transportation Improvement Program (STIP) Project Revision Definitions and Procedures

The STIP is a “living” document and is likely to be modified during the course of the year. The definitions and procedures outlined in this section are followed when project based revisions to the STIP are necessary.

Definitions of STIP Revision Procedures

Amendment: A revision to the State Transportation Improvement Program (STIP) that requires public review and demonstration of financial constraint. The public process for a STIP amendment requires a publicly advertised 21-day public comment period and for MassDOT to address any public commentary prior to sending to the Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) for review and approval.

Adjustment: A revision to the STIP that does not require a public process, but that is required to be included in a MassDOT STIP action with a demonstration of financial constraint for FHWA/FTA approval.

Administrative Modification: A revision to the STIP that is minor enough in nature to require neither a public process nor FHWA/FTA approval, but that does involve a notification to federal partners.

Highway Project STIP Revision Definitions and Procedures

Type of Revision	Definition	Procedure	Notes
Major Project Cost Change	Increase or decrease of \$500,000 or greater for projects programmed under \$5,000,000 and greater than 10% of the total cost for projects programmed over \$5,000,000.	Amendment	The “increase” or “decrease” in cost is relative to the Total Federal Participating Cost (TFPC) of a project.
Minor Project Cost Change	Increase or decrease of \$499,999 or less for projects programmed under \$5,000,000 and less than 10% of the total cost for projects programmed over \$5,000,000.	Adjustment	See above.
Project Description Change	Change in the description of the project as it is listed in the STIP.	Adjustment or Administrative Modification	Project description changes are treated as administrative modifications for minor changes (e.g. spelling errors, more detailed descriptions, adding mile-markers, etc.).
Major Project Scope Change	A revision to the project scope large enough to necessitate an additional review by MassDOT's Project Review Committee (PRC) – typically accompanied by major project cost change.	Amendment	In some cases, a major scope change will require the initiation of a new project through MassDOT's Project Initiation Form (PIF), and review/approval by PRC. This would require deactivation and removal of the currently programmed project.
Minor Project Scope Change	A minor revision to the project scope that does not significantly alter the original PRC-approved scope of work.	Adjustment	In many cases, changes in this category will also include a minor cost change.
Project Addition	The programming of a new project in any federal fiscal year of the active TIP.	Amendment or Adjustment	Project additions are treated as amendments if the project was not part of any previously approved STIP that has been vetted through the public process.
Project Removal	The removal of a project in any federal fiscal year of the active TIP.	Amendment	Exception: if a project is removed from an active TIP or the STIP due to it being previously advanced/advertised, or is moved to the statewide list from a regional TIP, the action would be considered an adjustment.
Change in Funding Source	A change in the project's funding source, including federal and non-federal sources which fall within the project cost change revisions listed above.	Adjustment	Changes in funding sources for projects are permissible for advertisement purposes if the FHWA Division Office has been consulted.
Change in Additional Information	A change in any item listed in the “Additional Information” column of the STIP not covered in any other item listed here (e.g. earmark details, project proponent, etc.)	Administrative Modification	N/A
Change in Year of Programming	Moving a currently programmed project earlier or later than an originally programmed year.	Amendment	Changes to a project delivery schedule (advancement or delay) requires an amendment for the change in programmed FFY.

Transit Project STIP Revision Definitions and Procedures

Type of Revision	Definition	Procedure	Notes
Major Project Cost Change	Increase or decrease of \$500,000 or greater for projects under \$5,000,000 and greater than 10% of the total cost for projects exceeding \$5,000,000.	Amendment	The “increase” or “decrease” in cost is relative to the combined federal and non-federal aid participating cost of the project.
Minor Project Cost Change	Increase or decrease of \$499,999 or less for projects under \$5,000,000 and less than 10% of the total cost for projects exceeding \$5,000,000.	Adjustment	See above.
Project Description Change	Change in the description of the project as it is listed in the STIP.	Adjustment or Administrative Modification	Project description changes are treated as administrative modifications for minor changes (e.g. spelling errors, more detailed descriptions, etc.).
Major Project Scope Change	A revision to the project scope deemed large enough to require public review and comment (e.g. changing the number of stations)	Amendment	In many cases, changes in this category will also include a major cost change.
Minor Project Scope Change	A minor revision to the project scope that does not significantly alter the original scope of work (e.g. changes to the bus model for vehicle replacement projects).	Adjustment	In many cases, changes in this category will also include a minor cost change.
Project Addition	The programming of a new project in any federal fiscal year of the current TIP.	Amendment or Adjustment	Project additions are treated as amendments if the project was not part of any previously approved STIP that has been vetted through the public process.
Project Removal	The removal of a project in any federal fiscal year of the current TIP.	Amendment	Exception: if a project is removed from a TIP or the STIP due to it being previously advanced/advertised, or is moved to the statewide list from a regional TIP, the action would be considered an adjustment.
Change in Funding Source	Change in the funding source, including federal and non-federal sources that fall within project cost change revisions listed in the first two rows.	Adjustment	Changes in funding sources for projects are permissible for obligation purposes with written notice from the FTA region office.
Change in Year of Programming	Moving a currently programmed project earlier or later than the originally programmed year.	Amendment or Adjustment	Note: Federal funds shall be programmed in the federal fiscal year in which the award will occur. Changes in year of programming are only treated as adjustments if they involve advancing federal funds to align with the year of the grant award.

Exceptions

Although MassDOT typically holds a 21-day public comment period for amendments, in the event of extenuating circumstances beyond the agency's control, the comment period may be shortened or waived in consultation with FHWA Division Office and/or the FTA Regional Office. Additionally, MassDOT may make exceptions to the procedures outlined above and treat amendments as adjustments and/or adjustments as administrative modifications, but these exceptions will also require coordination with and concurrence by MassDOT's federal partners and the affected MPO.