



Transportation Improvement Program

Pioneer Valley Metropolitan Planning Organization

DRAFT

TIP

FY 2021-2025 METROPOLITAN PLANNING ORGANIZATION
PIONEER VALLEY REGION, MASSACHUSETTS

April 28, 2020

This document was prepared under contract with the Massachusetts Department of Transportation. This report was funded in part through grant(s) from the Federal Highway Administration (and Federal Transit Administration), U.S. Department of Transportation. The views and opinions of the authors (or agency) expressed herein do not necessarily state or reflect those of the U.S. Department of Transportation.

TRANSPORTATION IMPROVEMENT PROGRAM (TIP)

2021 - 2025

FOR THE
METROPOLITAN PLANNING ORGANIZATION
PIONEER VALLEY REGION,
MASSACHUSETTS

Endorsed:



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Notice of Nondiscrimination Rights and Protections to Beneficiaries

Federal Title VI/Nondiscrimination Protections

The Metropolitan Planning Organization (MPO) operates its programs, services, and activities in compliance with federal nondiscrimination laws including Title VI of the Civil Rights Act of 1964 (Title VI), the Civil Rights Restoration Act of 1987, and related statutes and regulations. Title VI prohibits discrimination in federally assisted programs and requires that no person in the United States of America shall, on the grounds of race, color, or national origin (including limited English proficiency), be excluded from participation in, denied the benefits of, or be otherwise subjected to discrimination under any program or activity that receives federal assistance. Related federal nondiscrimination laws administered by the Federal Highway Administration (FHWA), Federal Transit Administration (FTA), or both, prohibit discrimination on the basis of age, sex, and disability. The Pioneer Valley Region MPO considers these protected populations in its Title VI Programs, consistent with federal interpretation and administration. In addition, the Pioneer Valley Region MPO provides meaningful access to its programs, services, and activities to individuals with limited English proficiency, in compliance with U.S. Department of Transportation policy and guidance on federal Executive Order 13166.

State Nondiscrimination Protections

The Pioneer Valley Region MPO also complies with the Massachusetts Public Accommodation Law, M.G.L. c 272 §§ 92a, 98, 98a, which prohibits making any distinction, discrimination, or restriction in admission to, or treatment in a place of public accommodation based on race, color, religious creed, national origin, sex, sexual orientation, disability, or ancestry. Likewise, the Pioneer Valley Region MPO complies with the Governor's Executive Order 526, section 4, which requires that all programs, activities, and services provided, performed, licensed, chartered, funded, regulated, or contracted for by the state shall be conducted without unlawful discrimination based on race, color, age, gender, ethnicity, sexual orientation, gender identity or expression, religion, creed, ancestry, national origin, disability, veteran's status (including Vietnam-era veterans), or background.

If you need this information in another language, please contact the Pioneer Valley Region MPO's VI Specialist at 413 781-6045.

Programs to Support Civil Rights

The MPO administers several programs to ensure that protected populations have equal access to the benefits of, and participation in, the MPO's transportation-planning process, free from discrimination.

MPO Title VI Program: Develops strategies, actions, and analyses needed to comply with FTA Title VI and FHWA Title VI/nondiscrimination requirements. The MPO reports its actions to comply with FTA requirements every three years; while FHWA requires compliance updates annually. The most recent triennial report can be found [here](#).

Transportation Equity Program: Identifies the transportation needs of protected populations through outreach and data collection, ensures that these needs are considered in the MPO's activities, and evaluates the extent to which the MPO meets the needs of these protected populations.

Public Participation Program: Provides avenues through which all residents, including protected populations, can participate in the MPO's transportation-planning and decision-making process.

Complaint Filing

Complaints filed under a federal law or policy (based on race, color, national origin [including limited English proficiency] sex, age, or disability) must be filed no later than 180 calendar days after the date the person believes the discrimination occurred. Complaints filed under a Massachusetts Public Accommodation Law (based on race, color, religious creed, national origin, sex, sexual orientation, disability, or ancestry) or Governor's Executive Order 526, section 4 (based on race, color, age, gender, ethnicity, sexual orientation, gender identity or expression, religion, creed, ancestry, national origin, disability, veteran's status [including Vietnam-era veterans], or background) must be filed no later than 300 calendar days after the date the person believes the discrimination occurred. The full complaint procedures are described in the document below:

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PREFACE

The Pioneer Valley Region

The Pioneer Valley Region is comprised of 43 cities and towns covering approximately 1,180 square miles. Home to over 626,000 residents, the Pioneer Valley is the fourth largest metropolitan area in New England. The map on the following page references the Pioneer Valley Region.

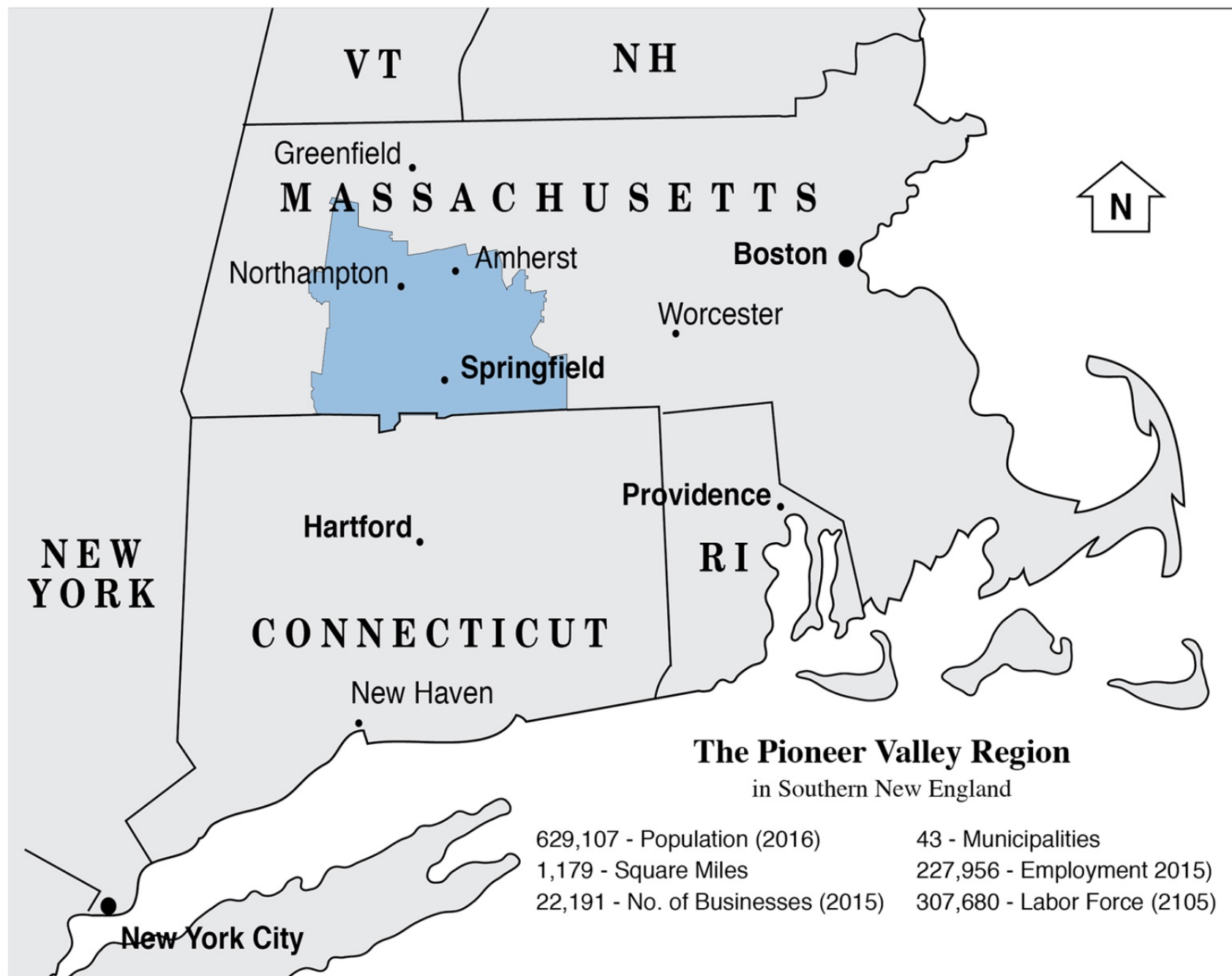
TIP Format and MPO Endorsement

The FFY 2021 - 2025 TIP has been prepared with completely separate components of the document that are subject to federal review and approval and components that are not. This distinction of a “federal component” was the firm position of the Massachusetts Department of Transportation (MassDOT) as a means to avoid potential problems with adequately satisfying federal financial constraint requirements with the non-federal aid component of the TIP. Although a non-federal component of the TIP is represented, it is understood that this component is not subject to Metropolitan Planning Final Rule 23 CMR 450 section 324, therefore federal review and approval is not required.

The non-federal component is provided for the benefit of the MPO and the constituent communities as a representation of an agreed upon listing of improvement projects to be undertaken entirely with state provided resources. All projects included in the Non Federal Aid (NFA) section of the TIP must be eligible to receive federal funds and be located on a functionally classified road. The separation of federal aid projects from non-federal aid projects by no means represents a lack of commitment by the state to fund all projects specifically programmed in the document. Assuming that adequate funds are available from federal and/or state sources, it can be fully expected that the following project listings can and will be implemented over the FFY 2021 - 2025 time frame. Pending federal guidance approving the inclusion of non-federal aid projects without secured bonded resources in each year, the TIP will be amended to reinstate all non-federal aid projects into the document endorsed for federal review and approval.

MassDOT Commitment to Funding all Designed and Permitted Projects

The MassDOT has committed to funding all transportation improvement projects that will be ready for advertisement in FFY 2021 and beyond. In response to this commitment, Pioneer Valley local officials in cooperation with regional and state officials from MassDOT have made a concerted effort to develop a TIP project listing that is truly representative of the projects that will realistically be ready for advertisement in FFY 2021. Funding targets for the Pioneer Valley Region have been issued by MassDOT identifying potential resources for each year of the TIP.



I.GENERAL SUPPORT INFORMATION

INTRODUCTION

The Transportation Improvement Program (TIP) is a requirement of the Metropolitan Transportation Planning Process as described in the Metropolitan Planning Final Rule 23 CFR 450 section 324. This regulation developed by the Federal Department of Transportation defines the Transportation Improvement Program as:

“A staged, multiyear, intermodal program of transportation projects which is consistent with the metropolitan transportation plan.”

The Pioneer Valley TIP is a Five-year schedule of priority highway, bridge, transit, and multimodal projects identified by year and location complete with funding source and cost. The TIP is developed annually and is available for amendment and adjustment at any time. Each program year of the TIP coincides with the Federal Fiscal Year calendar, October 1 through September 30. All TIPs and amendments are consistent with the goals and objectives of the Regional Transportation Plan for the Pioneer Valley region. This TIP is financially constrained.

FEDERAL AUTHORIZATION

FAST Act, Fixing America's Surface Transportation (Pub. L. No. 114-94), was signed into law on December 4, 2015. Funding surface transportation programs at over \$305 billion for fiscal years (FY) 2016 through 2020, FAST act replaced MAP-21 which was enacted in 2012. Under the FAST Act all Metropolitan Planning Organizations are required to incorporate ten planning factors. The ten planning factors are as follows:

1. Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency.
2. Increase the safety of the transportation system for motorized and non-motorized users.
3. Increase the security of the transportation system for motorized and non-motorized users.
4. Increase the accessibility and mobility of people and for freight.
5. Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns.
6. Enhance the integration and connectivity of the transportation system, across and between modes, people and freight.
7. Promote efficient system management and operation.
8. Emphasize the preservation of the existing transportation system.
9. Improve the resiliency and reliability of the transportation system and reduce or mitigate storm water impacts of surface transportation.
10. Enhancing travel and tourism

The Moving Ahead for Progress in the 21st Century Act (MAP-21), enacted in 2012, included provisions to make the Federal surface transportation more streamlined, performance-based, and multimodal, and to address challenges facing the U.S. transportation system, including improving safety, maintaining infrastructure condition, reducing traffic congestion, improving efficiency of the

system and freight movement, protecting the environment, and reducing delays in project delivery. The FAST Act builds on the changes made by MAP-21.¹

The FAST Act specifically addresses all modes of transportation and enhances many of the existing provisions and programs defined in past transportation legislation.

National goal areas continue to be a priority under the FAST Act and address the following areas:

Safety—To achieve a significant reduction in traffic fatalities and serious injuries on all public roads.

Infrastructure condition—To maintain the highway infrastructure asset system in a state of good repair.

Congestion reduction—To achieve a significant reduction in congestion on the NHS.

System reliability—To improve the efficiency of the surface transportation system.

Freight movement and economic vitality—To improve the national freight network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development.

Environmental sustainability—To enhance the performance of the transportation system while protecting and enhancing the natural environment.

Reduced project delivery delays—To reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion through eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies' work practices

Performance Measures

The FAST Act requires MPOs, in collaboration with the state DOT and transit agencies, to formally establish targets for performance measures aligned with the national goals. Performance Based Planning and Programming (PBPP) refers to the application of performance management within the parameters of the FAST Act to achieve desired outcomes for the multimodal transportation system. It is intended to advance transportation investments based on their ability to meet established goals. This includes setting targets for the performance measures identified in the FAST Act.

Performance measures are intended to monitor and track performance over time and assess the effectiveness of projects and strategies in meeting the national goal areas. In the Pioneer Valley region, performance based planning methods have been used in the development of the Transportation Evaluation Criteria to program projects as part of the Regional Transportation Improvement Program for many years.

USDOT implemented the federal PBPP requirements through a series of phased rulemakings. At the conclusion of this rulemaking process, the Commonwealth of Massachusetts has twelve months to establish statewide performance targets for each required federal performance measure. The Pioneer Valley MPO has 180 days from the date of Commonwealth's adoption of the statewide performance targets to either adopt the statewide targets or establish their own regional performance targets.

The Federal Transit Administration has finalized a rule to define requirements for transit asset management. This rule requires public transportation providers to develop and implement transit asset management (TAM) plans. TAM plans must include an asset inventory, condition assessments of inventoried assets, and a prioritized list of investments to improve the state of good repair of capital

¹<https://www.fhwa.dot.gov/fastact/summary.cfm>

assets. This rule also establishes state of good repair standards and four state of good repair performance measures.

Regional Performance Target Status

Final Rule	Effective Date	Status	Updated
Safety Performance Measures (PM1)	April 14, 2016	MPO adopted state targets on January 28, 2020	Annually
Pavement/Bridge Performance Measures (PM2)	May 20, 2017	MPO adopted state targets on October 23, 2018	Every Two Years
System Performance Measures (PM3)	May 20, 2017	MPO adopted state targets on September 25, 2018	Every Two Years
Transit Asset Management Plan (TAM)	July 26, 2016	MPO adopted PVTA TAM Plan Targets on March 26, 2019	Every Four Years
Public Transportation Agency Safety Plan (PTASP)	PVTA anticipates adopting PTASP Targets in April, 2020	MPO anticipates adopting PVTA PTASP Targets on May 25, 2020	Annually

As can be seen from the above table, the Pioneer Valley MPO has elected to adopt the State performance targets for PM1, PM2 and PM3. The MPO will continue to work in close collaboration with the PVTA to incorporate their TAM and PTASP performance targets in to the regional transportation planning process. The UPWP includes specific tasks to support the performance based planning and programming for the Pioneer Valley MPO. The latest performance targets for each adopted performance measure are presented in the following table.

Performance Targets for the Pioneer Valley MPO

Rule	Performance Measure	Target
PM1	Total Number of Fatalities	Reduce Total Number of Fatalities to 347 or less statewide
PM1	Rate of Fatalities per 100 Million Vehicle Miles Traveled (VMT)	Reduce the Rate of Fatalities to 0.56/100 million VMT or less statewide
PM1	Total Number of Incapacitating Injuries	Reduce Total Number of Incapacitating Injuries to 2689 or less statewide
PM1	Rate of Serious Incapacitating per 100 Million VMT	Reduce the Rate of Incapacitating Injuries to 4.30/100 million VMT or less statewide
PM1	Total Number of Combined Incapacitating Injuries and Fatalities for Non-motorized Modes	Do Not Exceed the Current Average of 505 for Combined Incapacitating Injuries and Fatalities for Non-motorized Modes
PM2	Percentage of pavement of the Interstate System in Good condition	Maintain a condition of 70% or better for 2020 and 2022
PM2	Percentage of pavement of the Interstate System in Poor condition	Maintain a condition of 4% or better for 2020 and 2022
PM2	Percentage of pavement of the non-Interstate NHS in Good condition	Maintain a condition of 30% or better for 2020 and 2022
PM2	Percentage of pavement of the non-Interstate NHS in Poor condition	Maintain a condition of 30% or better for 2020 and 2022
PM2	Percentage of NHS bridges classified in Good condition	Maintain a condition of 15% or better for 2020 and 16% or better for 2022

PM2	Percentage of NHS bridges classifies in Poor condition	Maintain a condition of 13% or better for 2020 and 12% or better for 2022
PM3	Level of Travel Time Reliability (LOTTR) on the Interstate System	Maintain a LOTTR at or above 68% statewide for the Interstate System
PM3	Level of Travel Time Reliability (LOTTR) on non-Interstate NHS	Maintain a LOTTR at or above 80% statewide for the non-Interstate NHS
PM3	Level of Truck Travel Time Reliability (TTTR)	Maintain a TTTR of 1.85 or better statewide for the Interstate System.
PM3	Total reduction of on-road mobile source emissions from projects funded under the Congestion Mitigation and Air Quality Program (CMAQ) for the Springfield Maintenance Area	1622 Kg/day CO 1.4 Kg/day Ozone

Table 1 Performance Measure Linked Investments 2016-2020

TIP Year	SID	Municipality	Project Description	Total Programmed	PM Rule
2020	608236	Northampton	NORTHAMPTON- RECONSTRUCTION OF DAMON ROAD, FROM ROUTE 9 TO ROUTE 5, INCLUDES DRAINAGE SYSTEM REPAIRS & SLOPE STABILIZATION AT THE NORWOTTUCK	\$ 11,274,259	PM1
2017	608023	Multiple	AMHERST- HADLEY- SIDEWALK & WHEELCHAIR RAMP CONSTRUCTION ON ROUTE 9	\$ 1,204,050	PM1
2016	605385	Springfield	SPRINGFIELD- SIGNAL & INTERSECTION IMPROVEMENTS @ ROOSEVELT AVENUE & ISLAND POND ROAD, ROOSEVELT AVENUE & ALDEN STREET	\$ 2,297,372	PM1
2016	608022	Brimfield / Sturbridge	BRIMFIELD- STURBRIDGE- RESURFACING & RELATED WORK ON ROUTE 20, BEGINNING EAST OF NEW HOLLAND ROAD (MM 87.8), ENDING WEST OF GALILEO DRIVE (MM 91.9)	\$ 3,500,000	PM1
PM 1 Total (4 Projects)				\$ 18,275,681.00	28%
2020	604434	Chicopee	CHICOPEE- RECONSTRUCTION & RELATED WORK ON FULLER ROAD, FROM MEMORIAL DR (RTE 33) TO SHAWINIGAN DR (2.0 MILES)	\$ 9,735,424	PM2
2019	600513	Agawam	AGAWAM- RECONSTRUCTION OF ROUTE 187 FROM 425 FT. SOUTH OF S. WESTFIELD STREET TO ROUTE 57 (0.3 MILES - PHASE I)	\$ 2,622,622.00	PM2
2016	606445	Longmeadow	LONGMEADOW- RESURFACING & RELATED WORK ON CONVERSE STREET, FROM LAUREL STREET TO DWIGHT STREET (2.04 MILES)	\$ 2,742,048	PM2
2016	604446	Westfield	WESTFIELD- RECONSTRUCTION OF ROUTE 187 (LITTLE RIVER ROAD) AND SHAKER ROAD	\$ 5,258,683	PM2
2016	607869	Wilbraham	WILBRAHAM- RECONSTRUCTION OF BOSTON ROAD (ROUTE 20) FROM DUDLEY STREET TO 400FT. EAST OF DUMAINE STREET (0.28MILES)	\$ 1,292,428	PM2
PM 2 Total (5 Projects)				\$ 21,651,205.00	33%

Table 2 Performance Measure Linked Investments 2016-2020 (Continued)

TIP Year	SID	Municipality	Project Description	Total Programmed	PM Rule
2020	607502	Northampton	NORTHAMPTON- INTERSECTION IMPROVEMENTS AT KING STREET, NORTH STREET & SUMMER STREET AND AT KING STREET & FINN STREET	\$ 4,171,096	PM3
2020	608718	Springfield	SPRINGFIELD- INTERSECTION IMPROVEMENTS AT BERKSHIRE AVENUE, COTTAGE AND HARVEY STREETS	\$ 3,086,454	PM3
2020	PV0001	Multiple	NORTHAMPTON, AMHERST, CHICOPPE, EASTHAMPTON, HADLEY, HOLYOKE, SOUTH HADLEY, SPRINGFIELD, and WEST SPRINGFIELD: ValleyBike share (phase II)	\$ 1,200,000	PM3
2020	PV0002	Multiple	P 21 Express Year 3	\$ 500,000	PM3
2019	PV0001	multiple	P21 Express - Year 2 Operating	\$ 500,000.00	PM3
2018	PV0005	Multiple	PVTA P21 Express Service Between Union Station in Springfield and the Holyoke Transportation Center	\$ 500,000.00	PM3
2018	608786	Multiple	AMHERST- HADLEY- NORTHAMPTON- TRANSIT SIGNAL PRIORITY UPGRADES AT VARIOUS LOCATIONS	\$ 1,200,000.00	PM3
2019	607987	Ware	WARE- INTERSECTION IMPROVEMENTS @ MAIN STREET, WEST STREET, NORTH STREET, SOUTH STREET & CHURCH STREET	\$ 2,475,087.00	PM3
2018	604203	Agawam	AGAWAM- INTERSECTION IMPROVEMENTS AT ROUTE 187 & ROUTE 57	\$ 3,288,000.00	PM3
2018	604597	Northampton	NORTHAMPTON- IMPROVEMENTS ON I-91 INTERCHANGE 19 AT ROUTE 9 AND DAMON ROAD	\$ 7,438,490.00	PM3
2016	604968	Westfield	WESTFIELD- COLUMBIA GREENWAY RAIL TRAIL CONSTRUCTION, NORTH SECTION - FROM COWLES COURT ACCESS RAMPS TO THE WESTFIELD RIVER BRIDGE INCLUDES REHAB OF W-25-036 (WESTFIELD RIVER	\$ 300,000	PM3
2016		Springfield	SPRINGFIELD - UNION STATION REDEVELOPMENT	\$ 750,873	PM3
PM 3 Total (12 Projects)				\$ 25,410,000.00	39%
Total (21 Projects)				\$ 65,336,886.00	100%

As can be seen in table 2 PVMPO has invested \$65 million on projects which will help meet the Performance Measure rules. Of these investments 28% will help achieve PM1, 33% will help achieve PM2, and 39% will help achieve PM3. As more data became available it is anticipated that corresponding PM trends should be seen showing that our region is meeting or exceeding our PM Rules.

Transit Asset Management Plan (TAM)

The Federal Transit Administration (FTA) defines transit asset management as a strategic and systematic process through which an organization procures, operates, maintains, rehabilitates, and replaces transit assets to manage their performance, risks, and costs over their lifecycle to provide cost-effective, reliable, and safe service to current and future customers.

As part of the Moving Ahead for Progress in the 21st Century (MAP-21) Act and the subsequent Fixing America's Surface Transportation (FAST) ACT, the FTA enacted regulations for transit asset management that require transit service providers to establish asset management performance measures and targets and to develop a TAM Plan. The final TAM rule was published on July 26, 2016 and went into effect on October 1, 2016.

The Pioneer Valley Transit Authority (PVTA) manages a range of assets that include a fleet of heavy duty transit buses, paratransit vehicles, support vehicles, and nine facilities, plus other capital assets required to support operations across a service territory encompassing 24 communities. PVTA recognizes that an effective approach to asset management incorporates the people, processes, technology, data and information and continual improvement needed to support better management of assets over their entire lifecycle. PVTA has developed the following TAM Plan as a roadmap to systematically identify and address assets and asset management practices in need of improvement; establish a benchmark for where their inventory and policies stand; identify gaps in their practice; establish new, measurable key performance indicators and use a data-driven approach to achieve its goals.

PVTA has developed this TAM plan, not as an end, but instead as the beginning of an on-going effort to develop and integrate asset management practices throughout the entire organization. Over the coming years PVTA plans to continue to build upon this foundation and will work to implement successful and effective policies, practices and processes that reinforce and complement the goals and objectives outlined in the TAM plan. PVTA therefore expects that this TAM plan will be a living document that is updated annually.

Rule	Performance Measure	State Target
TAM	Percent of revenue vehicles by asset class that have met or exceeded their Useful Life Benchmark (ULB)	Articulated Bus = 0%, Bus = 20%, Minibus = 100%, Cutaway Bus = 25%, Minivan = 30%, Trolleybus = 100%
TAM	Percent of vehicles that have met or exceeded their Useful Life Benchmark (ULB)	Automobiles = 25% Trucks and other Rubber Tire Vehicles = 25%
TAM	Percent of facilities with a condition rating below 3.0 on the FTA Transit Economic Requirements Model (TERM) Scale	Administrative and Maintenance = 25% Passenger and Parking = 0%
PTASP	Fatalities	Same as MPO targets for PM1
PTASP	Incapacitating Injuries	Same as MPO targets for PM1
PTASP	Safety Events	5-year (CY2015-2019) Average of 600,131 Miles per Safety Event
PTASP	System Reliability	20,759 miles between breakdowns

Table 3 TAM Investments 2016-2020

TIP Year	RTA	Capital Project	Total Programmed	PM Rule
2020	PVTA	Buy Replacement 40' Diesel Bus (16)	\$ 5,684,136	TAM
2020	PVTA	Buy Replacement 35" Bus (17)	\$ 4,074,004	TAM
2020	PVTA	Preventative Maintenance	\$ 8,250,000	TAM
2019	PVTA	Buy Replacement 40' Diesel Bus (4)	\$ 2,226,480	TAM
2019	PVTA	Buy Replacement 35" Bus (4)	\$ 2,203,970	TAM
2019	PVTA	Purchase Replacement Vans (27)	\$ 1,836,620	TAM
2018	PVTA	Replacement Vans (4)	\$ 283,795	TAM
2018	PVTA	Replace Mini Buses for Shuttles (3)	\$ 270,000	TAM
2018	PVTA	Replacement 40' Buses (4)	\$ 2,161,631	TAM
2017	PVTA	Purchase - Replacement: Vans (12)	\$ 781,298	TAM
2017	PVTA	BUY REPLACEMENT VAN (7)	\$ 436,948	TAM
2016	PVTA	BUY 40-FT BUS FOR EXPANSION (4) - Match for FY 15	\$ 395,640	TAM
2016	PVTA	BUY REPLACEMENT 40-FT BUS (6) Match for FY 15	\$ 593,460	TAM
2016	PVTA	BUY REPLACEMENT 35-FT BUS (5) - Match for FY15	\$ 489,549	TAM
2016	PVTA	BUY 40-FT BUS FOR EXPANSION (2) (Match for FY15)	\$ 203,195	TAM
2016	PVTA	BUY 40-FT BUS FOR EXPANSION (2) (Match for FY15)	\$ 196,805	TAM
Total (15 Projects)			\$ 30,087,531.00	

Table 3 shows PVTA capital investment in which will help our region meet the TAM rule. Over the past 5 years PVTA has \$30 million on buses, vans, and mini buses. PVTA spends roughly 30% of their yearly capital budget on fleet replace in order to meet the TAM rule.

CONFORMITY WITH THE REGIONAL TRANSPORTATION PLAN

All projects in the TIP come from the 2016 Regional Transportation Plan (RTP). All regionally significant projects included in the TIP were previously included in the air quality analysis completed for the conforming RTP. Because projects in the TIP come from the conforming RTP and all regionally significant RTP projects for 2021 through 2025 (both Federal and Non-Federal Aid) are programmed in the TIP, the same air quality analysis utilized for the RTP can be used for the TIP. Since most all of Massachusetts (with limited exceptions) was designated on 5/21/12 by the United States Environmental Protection Agency as "unclassifiable/attainment" for the latest ozone standard, a conformity determination for the Pioneer Valley 2021 - 2025 TIP is only required for Carbon monoxide. Further details and background information are provided in Chapter 16.

METROPOLITAN PLANNING ORGANIZATION

The Pioneer Valley Metropolitan Planning Organization (MPO) is responsible for developing the TIP. The MPO is comprised of ten members including four independently operating agencies and six locally elected officials:

Name	Title
Stephanie Pollack	Secretary and CEO of the Massachusetts Department of Transportation
Jonathan L. Gulliver	Administrator of the Massachusetts Department of Transportation Highway Division
Walter Gunn	Chairman of the Pioneer Valley Executive Committee
Mayor David Narkewicz	Chairman of the Pioneer Valley Transit Authority Advisory Board
Mayor John Vieaus	City of Chicopee
Mayor Alexander Morse	City of Holyoke

Mayor William C. Reichelt	City of West Springfield
Mayor Nicole LaChapelle	Mayor of Easthampton
Carmina Fernandes	Ludlow Board of Selectmen
Roger Fuller	Chesterfield Board of Selectmen
Rick Sullivan	Economic Development Council of Western Massachusetts
Alternates	
Mayor Domenic Sarno	Mayor of Springfield
John Martin	Southampton Board of Selectmen
Ex-Officio (Non-Voting)	
Jeff McEwen	Federal Highway Administration
Peter Butler	Federal Transit Administration
Sandra Sheehan	Pioneer Valley Transit Authority Administrator
James Czach	Chairman – Pioneer Valley Joint Transportation Committee

DEVELOPMENT OF THE TIP

As the lead planning agency for the MPO, the PVPC accepts the responsibility for developing the TIP in a cooperative process with members of the MPO and the general public. The final TIP is voted on for endorsement at a formal meeting of the MPO. The endorsed TIP project listing is included in the State Transportation Improvement Program (STIP) verbatim and requires endorsement by the Governor.

The MPO relies on a transportation advisory committee, the Joint Transportation Committee (JTC) to carry out the cooperative process during TIP development. The JTC is a group of community appointed officials, MPO member representatives, public and private transportation providers, citizens, and special interest groups and agencies. The JTC establishes and recommends to the MPO procedures for submitting, prioritizing and selecting projects for the TIP. PVPC staff provides the technical support to conduct the TIP development activities for the JTC.

Below is a general outline of steps taken during the TIP development process.

- Project proponents (communities, MPO members, agencies) submit projects through the process outlined in Chapter 2 of the Massachusetts Project Development & Design Guidebook (2006)
- Projects are prioritized based on evaluation criteria by MPO staff, JTC representatives, and MassDOT Highway Division staff, and MassDOT staff at a posted meeting open to all.
- The State (thru MassDOT) provides funding targets for all 13 Regional Planning Agencies in Massachusetts.
- JTC reviews and recommends projects by Transportation Evaluation Score (TEC) and readiness to the MPO.
- Draft TIP project listings are prepared by the MPO staff and distributed for review and comment to MPO members.
- MPO meets to make final decisions on the composition of the TIP and to recommend the Draft TIP for general public release as required by the MPO Public Participation Plan for the Pioneer Valley Region.
- Final Draft TIP is distributed for review, consultation and comment in accordance with the adopted MPO Public Participation Plan.

- Public meetings and news releases are conducted to promote public involvement and consultation.
- Comments are compiled and addressed where appropriate.
- Final TIP developed for the JTC's consideration and their recommendation to MPO.
- MPO meets to vote on final adjustments and endorsement of the TIP.
- Endorsed Regional TIPs are compiled by MassDOT to create the STIP.
- Secretary and CEO of MassDOT endorses the STIP (on behalf of the Governor) and submits the STIP to federal agencies for review and approval.
- Federally approved STIP is ready for state implementation (project advertisement).

Amendments and adjustments to the TIP are made on an as needed basis with the additional public review and input for formal amendments only.

CONGESTION MANAGEMENT PROCESS (CMP)

Congestion Management Process means a systematic approach required in transportation management areas (TMAs) that provides for effective management and operation, based on a cooperatively developed and implemented metropolitan-wide strategy, of new and existing transportation facilities eligible for funding under title 23 U.S.C., and title 49 U.S.C., through the use of travel demand reduction and operational management strategies.

In the Pioneer Valley Region, the CMP is a vital used in identifying project needs as well as the merits of projects in the development process. The CMP is also used at to identify the effectiveness of project implementation as well as a tool to monitor our performance measures.

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:

<http://www.MassDOT.state.ma.us/Highway/flaggers/main.aspx>

23 CFR 450.314(h) COOPERATIVELY SHARE PERFORMANCE DATA

The MPO(s), State(s), and the providers of public transportation shall jointly agree upon and develop 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 toward attainment of critical outcomes for the region of the MPO (see § 450.306(d)), and the collection of data for the State asset management plan for the NHS for each of the following circumstances:

- (i) When one MPO serves an urbanized area,
- (ii) When more than one MPO serves an urbanized area, and
- (iii) When an urbanized area that has been designated as a TMA overlaps into an adjacent MPA serving an urbanized area that is not a TMA.

(2) These provisions shall be documented either:

- (i) As part of the metropolitan planning agreements required under (a), (e), and (g) of this section, or
- (ii) Documented in some other means outside of the metropolitan planning agreements as determined cooperatively by the MPO(s), State(s), and providers of public transportation.

PROJECT PRIORITY CRITERIA AND SELECTION

In 2014 PVPC with the assistance of the JTC completed and comprehensive update to the TEC for the PVMPO. The purpose of the update was to bring the TEC up to the current standards set forth by MAP -21. In 2018 PVPC staff with the assistance of the JTC reviewed the effectiveness of the TEC to ensure the criteria was working as anticipated and met the requirements of the FAST act. All projects included in the TIP have been evaluated and assigned a priority value or rating. This process is used as a management tool to identify projects of regional priority and program them accordingly in the TIP.

TEC SCORING SUMMARY

System Preservation, Modernization and Efficiency	Livability	Mobility	Smart Growth and Economic Development	Safety and Security	Environment and Climate Change	Quality of Life	Environmental Justice and Title VI
Improves Substandard Pavement	Design is consistent with Complete Streets policies	Improves efficiency, reliability and attractiveness of public transit	Encourages development around existing infrastructure	Reduces number and severity of collisions	Preserves floodplains and wetlands	Enhances or preserves greenways and blueways	Reduces and limits disproportionate impacts on an EJ community
8	3	4	2	7	1	1	0.5
Improves Intersection Operations	Provides multi-modal access to a downtown, village center, or employment center	Improves existing peak hour LOS	Prioritizes transportation investments that support land use and economic development goals	Promotes safe and accessible pedestrian and bike environment	Promotes green infrastructure and low impact development to reduce stormwater impacts	Improves access to parks, open lands and open space	Reduces and limits disproportionate impacts on Title VI community
6	2	6	1	5	2	1	0.5
In a Congestion Management Process Area	Reduces auto-dependency	Reduces traffic congestion	Provides services to a TOD, TND or cluster development district	Improves emergency response	Reduced impervious surfaces	Improves access to jobs	Improves transit for EJ populations
5	2	7	0.5	4	0.5	2	1
	Project serves a targeted development site		Supports mixed-use downtowns and village centers		Protects or enhances environmental assets	Preserves historical and cultural resources	Improves transit for Title VI populations
	2		0.5		0.5	0.5	1
	Completes off-road bike and ped network		Improves Intermodal Connections		Supports Brownfield redevelopment	Preserves prime agricultural land	Creates an EJ Burden
	3		4		0.5	0.5	-5
			Reduces congestion on freight routes		Improves air quality	Provides safe and reliable access to education	Creates an Title VI Burden
			2		1	0.5	-5
					Reduces CO2 emissions	Supports designated scenic byways	
					1	0.5	
					Promotes mode shift	Implements ITS Strategies	
					1	2	
					Improves fish and wildlife passage	Improves Network Wayfinding	
					1	1	
					Supports Green Communities	Health Impact Assessment	
					0.5	1	
					Improves storm resilience	Length of Time Project has been in queue for TIP funding	
					3	1	
Maximum Score							
19	12	17	10	16	12	11	3

PROJECT INITIATION

In the fall of 2017 MassDOT rolled out their new project intake tool MaPIT, this tool has integrated the entire project initiation process into an online portal which both streamlines and modernizes the project development process. The steps listed below are the same for the project development process; however these steps are now completed online instead of on paper.

The Project Needs Form (PNF) is the first document completed at the start of the project development process. The PNF provides sufficient material to understand the transportation need(s), and results in one of the following three outcomes:

- Verification of the problem, need, or opportunity to enable it to move forward into design;
- Determination of the level of further project planning warranted; or,
- Dismissal of a project from further consideration.

The next step in the project development process involves summarizing the findings and direction defined in a Project Initiation Form (PIF) used by the Project Review Committee (PRC) and the MPO for project review and evaluation. The PIF will include the following information to be documented by the proponent:

- Project Type and Description, including locus map
- Summary of Project Planning Process
- Preliminary identification of the Project Category for review and programming purposes
- Definition of the proposed project management responsibility
- Definition of an interagency (including local boards) coordination plan
- Definition of a public outreach plan for the design process
- Project Need Form or Project Planning Report as an attachment
- Transportation Evaluation Criteria as an attachment

The project intake tool (MaPIT) can be found at <http://massdot.maps.arcgis.com/home/index.html>

PROJECT SELECTION AND PROGRAMMING

The project priority ratings were applied in conjunction with a project's anticipated advertisement schedule. The funding targets provided by the MassDOT to develop the five-year program of the TIP were applied for each year in order to develop this fiscally constrained document. A project was not considered for scheduling in a year earlier than its anticipated schedule regardless of the priority rating. For projects that are expected to be ready to go in the first year of the TIP the top priority projects for that year were funded under the federal aid categories, since these funds are most secure. Once the federal aid funds were completely programmed, non-federal aid funds were programmed to priority projects. This initial assignment procedure was applied to each year of the TIP and is subject to change as the TIP is developed and refined by members of the MPO and the JTC.

AMENDMENT/ADJUSTMENT OF THE TIP

Amendment means a revision to a long-range statewide or metropolitan transportation plan, TIP, or STIP that involves a major change to a project included in a metropolitan transportation plan,

TIP, or STIP, including the addition or deletion of a project or a major change in project cost (\$500,000 for projects under \$5,000,000 and 10% for projects exceeding \$5,000,000), project/project phase initiation dates, or a major change in design concept or design scope (e.g., changing project termini or the number of through traffic lanes or changing the number of stations in the case of fixed guideway transit projects). Changes to projects that are included only for illustrative purposes do not require an amendment. An amendment is a revision that requires public review and comment and a re-demonstration of fiscal constraint. If an amendment involves “non-exempt” projects in nonattainment and maintenance areas, a conformity determination is required.

Amendments require formal MPO action, and must follow the requirements outlined in the Pioneer Valley Public Participation Plan (PPP). Additional information regarding the PPP can be found at <http://www.pvpc.org/content/pioneer-valley-public-participation-plan>

Program adjustments can be conducted without formal MPO action in order to minimize constraints on programming projects. Minor adjustments could include such actions as moving projects between Year 1 and Year 2, and minor fluctuations in project description, costs and funding source. This action can be accomplished through an agreed upon administrative action.

DESCRIPTION OF FUNDING SOURCES

Interstate Maintenance (IM) - Resurfacing, restoration and rehabilitation are eligible activities for maintaining Interstate facilities. Reconstruction is also eligible if it does not add capacity. However, high-occupancy-vehicle (HOV) and auxiliary lanes can be added. Funding: federal - 90 %, state - 10 %.

Surface Transportation Block Grant Program (STBGP) - This program formerly the Surface Transportation Program (STP) is a flexible funding program that can be used for projects that 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. Funding: federal - 80%, state - 20%.

Transportation Alternatives Program (TAP) - The TAP provides funding for programs and projects defined as transportation alternatives, including on- and off-road pedestrian and bicycle facilities, infrastructure projects for improving non-driver access to public transportation and enhanced mobility, community improvement activities, and environmental mitigation; recreational trail program projects; safe routes to school projects; and projects for planning, designing, or constructing boulevards and other roadways largely in the right-of-way of former Interstate System routes or other divided highways. Funding: federal - 80%, state - 20%

Congestion Mitigation and Air Quality Improvement Program (CMAQ) - These funds are directed towards transportation projects and programs which reduce transportation-related emissions. These funds are to assist areas designated as nonattainment and maintenance under the Clean Air Act Amendments of 1990. These projects will contribute to meeting the attainment of National Ambient Air Quality Standards (NAAQS). Funding: federal - 80%, state - 20%.

Highway Safety Improvement Program (HSIP)—The HSIP requires a data-driven, strategic approach to improving highway safety on all public roads that focuses on performance. The goal of HSIP is to achieve a significant reduction in traffic fatalities and serious injuries on all public roads, including non-State-owned public roads and roads on tribal lands. Funding: federal - 80%, state - 20%. HSIP can be funded 90/10 and even 100% federal in certain circumstances.

Bridges(BR) - Funds the replacement or repair of structurally deficient or unsafe bridges in urban and rural areas. All bridges, both on and off the federal aid roadway system are eligible for funding. Funding: federal - 80%, state - 20%.

National Highway Performance Program (NHPP) - The 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. NHPP projects must be on an eligible facility and support progress toward achievement of national performance goals for improving infrastructure condition, safety, mobility, or freight movement on the NHS, and be consistent with Metropolitan and Statewide planning requirements. Funding: federal - 80%, state - 20%.

National Highway Freight Program (NHFP) - The purpose, among other goals, of the National Highway Freight Program (NHFP) is to improve efficient movement of freight on the National Highway Freight Network (NHFN). Funding: federal - 80%, state - 20%.

High Priority Projects (HPP) High Priority Projects are congressionally earmarked projects that have been deemed as a high priority for the state where the project is located. Funding: federal - 80%, state - 20%

Section 115 Funds Included in the Transportation bill as congressional earmarks, each year the earmarks are given a designated funding category. In FFY2005 the funding designation for these projects was Section 115 Funds. Funding: federal - 100%, state - 0%

Section 117 Funds Included in the Transportation bill as congressional earmarks, each year the earmarks are given a designated funding category. In FFY2006 the funding designation for these projects was Section 117 Funds. Funding: federal - 100%, state - 0%

Section 129 Funds Congressional Earmarks for FFY 2008. Funding: federal - 100%, state - 0%

Section 125 Funds Congressional Earmarks for FFY 2009. Funding: federal - 100%, state - 0%

In compliance with FHWA guidelines projects with federal earmarks are only programmed in the FY 2014 to FY 2017 TIP if the total funding is adequate for project implementation. The remaining earmarked projects will be included in appendix Z for informational and tracking purposes.

Non-Federal Aid (NFA) - This funding category contains all those projects not receiving federal funds. Various categories of state funding are included in this group including bikeways, State Aid (Chapter 90), and highway construction and maintenance (Chapter 497). This category is included in the TIP for informational purposes only. Funding: federal - 0 %, state - 100 %.

Section 5339 Bus and Bus Facilities - (5309 SAFETEA-LU) Program provides capital funding to replace, rehabilitate, and purchase buses and related equipment and to construct bus related facilities. Funding: Federal - 80%, State - 20%

Section 5307 Capital - This program provides grants to Urbanized Areas¹ (UZA) for public transportation capital, planning, job access and reverse commute projects, as well as operating expenses in certain circumstances. These funds constitute a core investment in the enhancement and revitalization of public transportation systems in the nation's urbanized areas, which depend on public transportation to improve mobility and reduce congestion. Federal Share is 80% for Capital Assistance, 50% for Operating Assistance, and 80% for Americans with Disabilities Act (ADA) no-fixed-route paratransit service, using up to 10% of a recipient's apportionment.

Section 5310 - Section 10 pertains to transportation facilities meeting special needs of the elderly and disabled. Funds allocated under Section 16(b) (2) provide private non-profit corporations and associations with grants and loans to improve the mobility of the elderly and disabled. In Massachusetts, 16(b) (2) funds are administered at the state level by the MASSDOT. These funds typically are used for the purchase of capital items, including lift-equipped vans. Mobility Assistance Program (MAP) funds are intended for use by public agencies, such as municipal councils on aging and the Pioneer Valley Transit Authority (PVTA) to provide van service to elderly and/or disabled persons.

Section 5311 - These funds are made available exclusively for public transportation projects outside the urbanized areas. Both capital and operating expenses are eligible.

TRANSPORTATION SYSTEM OPERATING AND MAINTENANCE COSTS

The FFY 2021- 2025 TIP is consistent with the Regional Transportation Plan (RTP) for the Pioneer Valley Region. Tables 2 and 3 presents the estimates outlined in the RTP of annual expenditures associated with operating and maintaining the transportation system. These estimates represent past expenditures and do not reflect costs associated with maintaining a constant level of system performance.

Table 4 Transportation Operating and Maintenance Expenditures

Year	Target	Other Statewide	Non Interstate	NFA Bridge and Pavement Preservation	Interstate	Total All Funding
	10.8099%	10.8099%	13.0542%	10.8099%	8.4544%	
2020 - 2024	\$134,136,806	\$121,332,223	\$47,144,718	\$54,049,500	\$13,381,407	\$370,044,654
2025-2029	\$153,789,263	\$136,359,264	\$56,120,172	\$55,238,590	\$16,897,096	\$418,404,385
2030-2034	\$188,833,297	\$167,431,514	\$68,908,303	\$56,453,840	\$20,747,444	\$502,374,398
2035-2039	\$209,293,530	\$185,572,848	\$6,374,571	\$57,695,820	\$22,995,446	\$551,932,215
2040	\$44,516,326	\$39,470,984	\$16,244,722	\$11,793,026	\$4,891,087	\$116,916,145
Totals	\$730,569,222	\$650,166,833	\$264,792,486	\$235,230,776	\$78,912,480	\$1,959,671,797

Source: Regional Transportation Plan, updated 2020

Table 5 Transit Operating Expenditures

Year	5307	5310	5339	RTACAP	Total
2020-2024	\$68,180,385	\$2,933,482	\$7,224,890	\$36,688,650	\$115,027,407
2025-2029	\$75,572,320	\$3,253,115	\$8,718,575	\$40,357,515	\$127,901,525
2030-2034	\$83,765,669	\$3,607,577	\$10,521,068	\$44,393,267	\$142,287,581
2035-2039	\$92,847,318	\$4,000,659	\$12,696,208	\$48,832,593	\$158,376,778
2040	\$19,744,098	\$850,992	\$2,838,307	\$10,743,170	\$34,176,567
Total	\$340,109,790	\$14,645,825	\$41,999,048	\$181,015,195	\$577,769,858

Table 6 Transit Maintenance Expenditures

	2020-2024	2025-2029	2030-2034	2035-2039	2040	Grand Total
Local Assessments	\$49,372,389	\$55,860,326	\$63,200,831	\$71,505,940	\$15,445,284	\$255,384,770
5307 Federal Urbanized Formula	\$58,635,131	\$64,992,195	\$72,038,475	\$79,848,693	\$16,979,925	\$292,494,419
5339 Federal	\$7,224,890	\$8,718,575	\$10,521,068	\$12,696,208	\$2,838,307	\$41,999,048
5310 Federal Elderly and Disabled	\$2,933,482	\$3,253,115	\$3,607,577	\$4,000,659	\$850,992	\$14,645,825
Fare box	\$45,399,763	\$50,125,006	\$55,342,057	\$61,102,103	\$13,198,054	\$225,166,983
Advertising, other revenue	\$3,255,020	\$3,593,805	\$3,967,851	\$4,380,829	\$946,259	\$16,143,764
Available Operating Funds for Programming in the RTP	\$166,820,675	\$186,543,022	\$208,677,859	\$233,534,432	\$50,258,821	\$845,834,809

Source: Regional Transportation Plan, updated 2020

II. PUBLIC PARTICIPATION SUMMARY AND CHANGES

In accordance with 23 CFR 450.316(a) The MPO shall develop and use a documented participation plan that 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.

And 23 CFR 450.316(b) In developing metropolitan transportation plans and TIPs, the MPO should consult with agencies and officials responsible for other planning activities within the MPA 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. In addition, the MPO shall develop the metropolitan transportation plans and TIPs with due consideration of other related planning activities within the metropolitan area, and the process shall provide for the design and delivery of transportation services within the area that are provided by:

The DRAFT FFY 2021 - 2025 TIP underwent a public review and comment period consistent with the Pioneer Valley Metropolitan Planning Organizations Public Participation Process. This began April 29, 2020 and continued until May 19, 2020. During this time, comments were received from (insert list of comments). A public hearing was held on May 13, 2020 as part of the JTC meeting. Below is a summary of the comments received during the public review and comment period.

Table 7 CommentsReceived During Public Review

In addition to the above changes, the Pioneer Valley Transit Authority requested that the following be included: The Pioneer Valley Transit Authority, the FTA Section 5307(c) applicant, has consulted with the Pioneer Valley Planning Commission and concurs that the TIP satisfies the public hearing requirements that pertain to the development of the Program of Projects for regular Section 5307, Urbanized Area Formula Program, grant application including the provision for public notice and the time established for public review and comment.

For FTA projects that are not routine; i.e. Section 5307 applications that required environmental assessment or an environmental impact statement, the public involvement provided herein for TIP review is not sufficient. Additional public involvement will be required by FTA prior to grant approval, as presented in the joint FHWA/FTR environmental regulations, 23 CFR-Part 771.

The Federal Aid (FA) and Non-Federal Aid (NFA) elements were separated into two components. The FA component of the TIP was endorsed by the MPO and the NFA component is included in the main body of the TIP, however, is not subject to federal planning rules.

COMMENTS TO BE INSERTED AT THE END OF THE COMMENT PERIOD

DRAFT

III. FEDERAL COMPONENT

DRAFT

PIONEER VALLEY MPOENDORSEMENT

DRAFT

TO BE INSERTED ONCE ENDORSED

DRAFT

CERTIFICATION OF THE 3-C PLANNING PROCESS

In accordance with the Metropolitan Planning Final Rule, the Pioneer Valley MPO has completed its review and hereby certifies that the conduct of the 3-C Transportation Planning Process complies with the requirements of CFR 450.334 and includes activities to support the development and implementation of this TIP, the Regional Transportation Plan, and subsequent project development activities, as necessary and to the degree appropriate.

To reinforce this self-certification, the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) conducted a certification review of the Pioneer Valley MPO planning process in 2015. The two day on-site review was preceded by a desk audit of the major planning documents completed as part of the planning process. Based on the certification review, the transportation planning process for the Pioneer Valley region was found to substantially meet the requirements of 23 CFR 450 Subpart C and 49 CFR 613.

DRAFT

PIONEER VALLEY MPO ENDORSEMENT SHEET

The signatures below signify that all members of the Pioneer Valley Region's Metropolitan Planning Organization, or their designees, have met on May 23, 2017 and discussed the following item for endorsement:

CERTIFICATION OF THE 3C PLANNING PROCESS

Concurrent with the submittal of the proposed TIP to the FHWA and the FTA, the MPO shall certify that the metropolitan transportation planning process is being carried out in accordance with all applicable requirements including:

1. 23 U.S.C. 134, 49 U.S.C. 5303, and this subpart;
2. In non-attainment 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 SAFETEA-LU (Pub. L. 109-59) and 49 CFR part 26 regarding the involvement of disadvantaged business enterprises in USDOT 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 US DOT and 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, a Member of Congress, in connection with the awarding of any Federal contract.

TO BE INSERTED ONCE ENDORSED

DRAFT

DRAFT

310 CMR 60.05: GLOBAL WARMING SOLUTIONS ACT REQUIREMENTS - ENDORSEMENT

The signatures below signify that all members of the Pioneer Valley Region's Metropolitan Planning Organization, or their designees, have met on May 23, 2017 and discussed the following item for endorsement:

This will certify that the 2018 – 2022 TIP for The Pioneer Valley Region's MPO 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 Metropolitan Planning Organizations (MPOs) to:

1. 310 CMR 60.05, 3(b)(1)(a): Evaluate and track the GHG emissions and impacts of RTPs and TIPs;
2. 310 CMR 60.05, 3(b)(1)(b): In consultation with MassDOT, develop and utilize procedures to prioritize and select projects in RTPs, TIPs, and STIPs based on factors that include GHG emissions and impacts;
3. 310 CMR 60.05, 3(b)(1)(c): Quantify net GHG emissions and impacts resulting from the projects in RTPs and TIPs and have made efforts to minimize GHG emissions and impacts;
4. 310 CMR 60.05, 3(b)(1)(d): Determine in consultation with the RPA that the appropriate planning assumptions used for 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, 4(a)(2)(a): Develop RTPs and TIPs;
6. 310 CMR 60.05, 4(a)(2)(b): Ensure that RPAs are using appropriate planning assumptions;
7. 310 CMR 60.05, 4(a)(2)(c): Perform regional GHG emissions analysis of RTPs and TIPs;
8. 310 CMR 60.05, 4(a)(2)(d): Calculate GHG emissions for RTPs and TIPs;
9. 310 CMR 60.05, 4(a)(2)(e): Develop public consultation procedures for GHG reporting and related GWSA requirements consistent with current and approved regional public participation plans;
10. 310 CMR 60.05, 4(c): Prior to making final endorsements on the RTPs, TIPs, STIPs, and projects included in these plans, MassDOT and the MPOs shall include the GHG Assessment and information on related GWSA activities 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, 6(a): 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.

TO BE INSERTED ONCE ENDORSED

DRAFT

FUNDING INFORMATION

FEDERAL AID TARGETS

The MassDOT provided the revised PVPC federal aid highway funding targets for the region in January 27, 2019. The targets are provided for FFYs 2021 through 2025 and represent both the federal aid portion and respective state match. (See Appendix A for additional information).

During the development of the TIP PVPC staff worked with MassDOT, PVTA, Municipalities with active projects, and project designers to develop current year project cost estimates and design status. Once the draft TIP was programmed, Highway projects funded with regional target funds are inflated four percent per year starting in FFY2022 in order to reflect year of expenditure (YOE).

Federal financial resources for transit are projected using appropriated amounts provided by the FTA for the funding categories of Sections 5307 and 5311. Section 5309 funds are based on estimates of what will be reasonably available. Due to the discretionary nature of these categories, project line items are maintained in the fourth year of the TIP until an actual grant award is tendered. Section 5310 is programmed through the state and is awarded on a discretionary basis. Projections are based on past experience and the funding level provided by the State.

FEDERAL AID FINANCIAL CONSTRAINT

The federal aid element of the TIP is financially constrained according to the definition in Federal Register 23 CFR Part 450.324. The federal aid projects programmed for this region reasonably meet the federal aid funding targets provided for the region. Only projects for which funds can reasonably be expected have been included. Table 5 (highway) and Table 6 (transit) shows both these target amounts and the amounts programmed for highway projects during fiscal years 2020 - 2025. Projects that are not charged against the funding targets are not presented in the table. These projects include: Statewide items; and special funding projects. Table 6 shows the projected transit funds for FFY 2021– 2025.

Table 8 Federal Highway Financial Plan

	2021	2022	2023	2024	2025	GRAND TOTAL
Total Target Funds	\$26,304,233	\$26,839,851	\$27,426,056	\$27,785,523	\$27,785,523	\$136,141,186
Total of Programmed	\$26,304,233	\$26,839,851	\$27,426,056	\$25,802,487	\$27,538,199	\$133,910,826
Programmed STBG	\$21,164,898	\$26,839,851	\$22,725,818	\$25,802,487	\$27,538,199	\$124,071,253
Programmed HSIP	\$1,115,769	\$0	\$1,000,000	\$0	\$0	\$2,115,769
Programmed CMAQ	\$2,858,325	\$0	\$3,200,000	\$0	\$0	\$6,058,325
Programmed TAP	\$1,165,241	\$0	\$500,238	\$0	\$0	\$1,665,479
Difference	\$0	\$0	\$0	\$1,983,036	\$247,324	\$2,230,360

The funding targets were programmed to projects according to project priority rating. Projects were programmed slightly beyond the program target with the understanding that the targets are not earmarks and program levels are expected to fluctuate.

The TIP reflects an emphasis on the maintenance and operation of the current transportation system with the ability to provide capital improvements. The federal aid program for each year consists of almost entirely of maintenance projects for the present transportation system.

The transit program outlined in Table 8 represents both apportioned items as well as discretionary items. The total programmed amount represents both the federal, state and local contributions.

Table 9 Federal Transit Financial Plan

	2021	2022	2023	2024	2025	GRAND TOTAL
Available Funds	\$30,741,347	\$29,469,032	\$25,324,248	\$21,701,514	\$26,157,062	\$133,393,203
Transit Capital Investment	\$30,741,347	\$29,469,032	\$25,324,248	\$21,701,514	\$26,157,062	\$133,393,203
5307	\$16,891,962	\$13,120,445	\$14,698,598	\$15,693,980	\$20,023,581	\$80,428,566
5309						\$0
5310						\$0
5311						\$0
5337						\$0
5339	\$2,028,204	\$885,729	\$888,729	\$327,392	\$902,060	\$5,032,114
5320						\$0
Other Federal		\$0	\$0	\$0	\$0	\$0
Other Non Federal	\$5,700,000	\$7,788,057	\$5,745,919	\$0	\$0	\$19,233,976
State Bond Cap	\$4,648,808	\$6,055,958	\$2,372,159	\$3,968,215	\$1,857,567	\$18,902,707
SCA	\$1,472,373	\$1,618,843	\$1,618,843	\$1,711,927	\$3,373,854	\$9,795,840
Difference	\$0	\$0	\$0	\$0	\$0	\$0

The transit projects programmed focus on maintaining and operating the present system.

THE GEOGRAPHIC DISTRIBUTION OF FEDERAL TARGET FUNDS IN THE PIONEER VALLEY METROPOLITAN PLANNING REGION – 2021 TO 2025

PVPC staff reviewed project programming for the TIP in order to show the geographic distribution of Federal Target funds in the Pioneer Valley Metropolitan Planning Organization (MPO) region. PVPC staff reviewed year 1 section 1A (Federal Aid Target Projects) for the next 5 years (2021 through 2025) TIP. Table 9 provides the results of this analysis broken out by MPO sub-region while Table 10 provides the results broken out by municipality. Please see page 3 for MPO region map and additional information regarding the composition of the MPO.

As can be seen in Tables 9 and 10 the PVMPO has successfully programmed 15 projects in 14 communities over the next 5 years. The total funding commitment for these projects is \$127.6 million. The average cost per project is \$8.5 million (increase from \$6.8 million in FFY 2020 and \$2.6 million in FFY 2019) or 3.6 projects per year on average (Down from 3.8 in FFY 2020 and 6.8 projects in FFY 2019).

Table 10 Projects Proposed to be Completed in the 2021-2025 TIP by Sub-Region

	2021	2022	2023	2024	2025	Total	Total Funds	% Funds	% Population	Average Median Income	Average Median Below Poverty	Population
Sub Region 1	1	1	0	1	0	3	\$ 26,422,925	21%	40%	\$39,186	24.37%	248,238
Sub Region 2	1	1	1	1	0	4	\$ 33,531,191	26%	17%	\$64,795	8.53%	107,425
Sub Region 3	2	2	0	0	0	4	\$ 41,005,643	32%	17%	\$61,037	14.68%	105,185
Sub Region 4	0	0	2	0	1	3	\$ 14,680,256	11%	21%	\$73,499	6.84%	132,675
Sub Region 5	0	0	0	1	0	1	\$ 12,040,836	9%	4%	\$68,342	6.52%	28,047
	4	4	3	3	1	15	\$ 127,680,851					

Source: PVPC TIP

As can be seen in Table 9, sub-region 1 will see (21%) projects, but only about 20% of the available funding over the next 5 years. Sub-region 3 is anticipated to receive 15% more funding than population over the next 5 years. This is due in large to the MPO's commitment to fund a \$24 million projects in Hadley in 2021 and 2022. The PVMPO is committed to funding transportation improvement projects across the entire region. The community data provided in Table 10 shows the extent to which this has been proposed over the next 5 years. With the implementation of the new Transportation Evaluation Criteria (TEC) as well as other regional and state initiatives, the PVMPO is positioned to be able to continue to make decisions that will be equitable for the entire region.

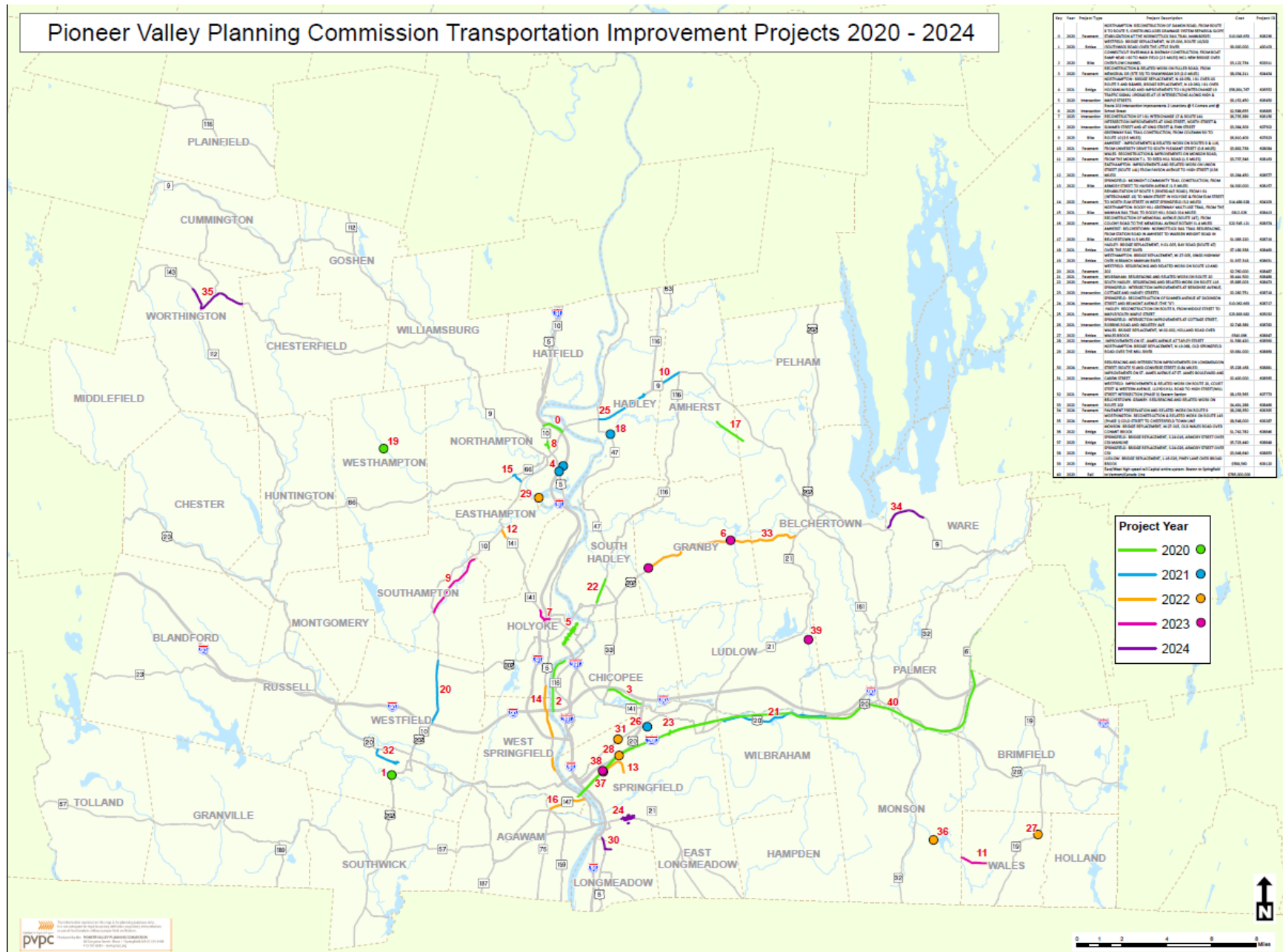
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Table 11 Projects Proposed to be Completed in the 2021-2025 TIP by Municipality

	2021	2022	2023	2024	2025	Total	Total Funds	% Funds	% Population	Median Household Income	Below Poverty Level	Population
Agawam						0		0.00%	4.58%	\$63,561	9.30%	28705
Amherst	1.0					1	\$ 5,769,804	4.52%	6.21%	\$52,537	33.80%	38919
Belchertown						0		0.00%	2.35%	\$74,221	7.80%	14735
Blandford						0		0.00%	0.20%	\$72,361	5.60%	1246
Brimfield						0		0.00%	0.59%	\$82,365	3.00%	3708
Chester						0		0.00%	0.22%	\$65,648	9.20%	1360
Chesterfield						0		0.00%	0.20%	\$63,594	7.30%	1239
Chicopee						0		0.00%	8.89%	\$47,276	12.90%	55717
Cummington						0		0.00%	0.14%	\$50,521	6.40%	867
East Longmeadow						0		0.00%	2.56%	\$84,173	5.10%	16022
Easthampton		1				1	\$ 3,380,112	2.65%	2.55%	\$56,927	8.30%	15971
Goshen						0		0.00%	0.17%	\$69,219	2.80%	1058
Granby			1			1	\$ 3,512,775	2.75%	1.00%	\$78,261	5.80%	6290
Granville						0		0.00%	0.26%	\$75,208	7.10%	1612
Hadley	1.0	1				2	\$ 25,553,642	20.01%	0.84%	\$74,737	7.50%	5271
Hampden						0		0.00%	0.83%	\$78,722	4.20%	5179
Hatfield						0		0.00%	0.52%	\$60,033	11.10%	3282
Holland						0		0.00%	0.40%	\$64,868	9.40%	2495
Holyoke		1				1	\$ 10,868,875	8.51%	6.42%	\$35,550	30.10%	40249
Huntington						0		0.00%	0.35%	\$52,275	9.80%	2168
Longmeadow					1	1	\$ 6,754,438	5.29%	2.53%	\$108,835	5.30%	15882
Ludlow						0		0.00%	3.42%	\$61,410	5.90%	21451
Middlefield						0		0.00%	0.08%	\$78,214	5.30%	528
Monson						0		0.00%	1.39%	\$66,389	8.20%	8722
Montgomery						0		0.00%	0.14%	\$78,333	2.00%	862
Northampton						0		0.00%	4.55%	\$58,179	14.60%	28495
Palmer						0		0.00%	1.94%	\$51,846	10.30%	12157
Pelham						0		0.00%	0.21%	\$88,462	5.70%	1319
Plainfield						0		0.00%	0.10%	\$57,188	9.30%	650
Russell						0		0.00%	0.29%	\$68,750	2.10%	1789
South Hadley						0	\$ 6,302,085	4.94%	2.83%	\$62,803	9.20%	17740
Southampton						0		0.00%	0.95%	\$68,693	4.90%	5984
Southwick						0		0.00%	1.54%	\$81,967	2.90%	9634
Springfield	1.0			1		2	\$ 15,554,050	12.18%	24.52%	\$34,731	30.10%	153703
Tolland						0		0.00%	0.08%	\$85,750	7.90%	483
Wales			1			1	\$ 4,413,043	3.46%	0.30%	\$52,500	5.30%	1875
Ware						0		0.00%	1.57%	\$49,630	14.90%	9844
West Springfield		1	1	1		3	\$ 24,924,840	19.52%	4.58%	\$52,806	11.00%	28684
Westfield	1.0					1	\$ 8,606,351	6.74%	6.59%	\$60,845	10.90%	41301
Westhampton						0		0.00%	0.26%	\$79,583	5.20%	1603
Wilbraham						0		0.00%	2.31%	\$87,303	4.80%	14477
Williamsburg						0		0.00%	0.39%	\$65,147	10.20%	2466
Worthington				1		1	\$ 12,040,836	9.43%	0.19%	\$71,300	4.60%	1167
Hampden County	2.0	2.0	2.0	2.0	2.0	10.0	71,121,597	55.70%	74.54%	\$50,036	17.70%	467,313
Hampshire County	2.0	2.0	1.0	0.0	0.0	5.0	46,877,057	36.71%	25.46%	\$61,460	13.90%	159596
Pioneer Valley Region	4	4	3	3	1	15	127,680,851			\$ 52,108	16.60%	626909

Source: PVPC TIP

Figure 1 - Projects Programmed in the TIP



A higher resolution version of this figure can be found here: [HERE](#)

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IV. FEDERAL AID REGIONAL PROJECT LISTINGS

The following is a complete listing of the Pioneer Valley Federally Funded Transportation Improvement Projects for Fiscal Years 2021 - 2025.

ORGANIZATION OF PROJECT LISTINGS

Each project in the TIP contains the following information:

MassDOT Project ID - Project identification numbers given by the Massachusetts Highway Department.

MassDOT Project Description – Includes Town or city in which a project is located, and a description of work to be funded under the project.

MassDOT District – The MassDOT sub-Region where the project is located, for PVMPO projects will be in either District 1 or District 2.

Funding Source - The funding category from which funding is expected.

Total Programmed Funds - The total funding for the project under the specified funding source.

Federal Funds - The amount of federal dollars allocated for project construction.

Non-Federal Funds - The amount of non-federal dollars allocated to the project.

Additional Information – Provides additional project information including design status, Transportation Evaluation Criteria (TEC) Score, and YOE Cost.

Regional Target - The total combined Federal and State dollar amount provided for project funding.

TEC Score – This score is based on criteria developed rank the regional significant of each eligible TIP project

Table 12 Summary of Programmed Projects Section 1 A Federal Aid Target Projects

TIP Year	Project ID	Municipality	Project	Funding	Total Funds			Additional Information	
2021	607773	Westfield	WESTFIELD- IMPROVEMENTS & RELATED WORK ON ROUTE 20, COURT STEET & WESTERN AVENUE, LLOYDS HILL ROAD TO HIGH STREET/MILL STREET INTERSECTION (PHASE II)	STBG / CMAQ / HSIP / TAP	\$ 8,606,351	\$ 6,885,081	\$ 1,721,270	Construction / (YOE \$8,606,351) / 52.5 TEC / 75% STBG,CMAQ,HSIP,TAP	
2021	608782	Springfield	SPRINGFIELD- INTERSECTION IMPROVEMENTS AT COTTAGE STREET, INDUSTRY AVENUE AND ROBBINS ROAD	CMAQ	\$ 3,135,052	\$ 2,508,042	\$ 627,010	Construction / (YOE \$3,135,052) / 46.5 TEC Score 75% CMAQ	
2021	608084	Amherst	AMHERST- IMPROVEMENTS & RELATED WORK ON ROUTES 9 & 116, FROM UNIVERSITY DRIVE TO SOUTH PLEASANT STREET (0.8 MILES)	STBG / TAP	\$ 5,769,804	\$ 4,615,843	\$ 1,153,961	Construction / (YOE \$5,769,804) / 53.5 TEC / 75% STBG, TAP	
2021	605032	Hadley	HADLEY- RECONSTRUCTION ON ROUTE 9, FROM MIDDLE STREET TO MAPLE/SOUTH MAPLE STREET	STBG	\$ 8,793,026	\$ 7,034,421	\$ 1,758,605	Construction / (YOE \$25,553,642) 2 years of A/C funding Year FFY 2021 \$8,766,026 FFY 2022 \$16,7787,616 /61 TEC / 75% / STBG	
Target				\$26,304,233	2021 Total	\$ 26,304,233	\$ 21,043,386	\$ 5,260,847	\$0
TIP Year	Project ID	Municipality	Project	Funding	Total Funds			Additional Information	
2022	608374	West Springfield	WEST SPRINGFIELD- RECONSTRUCTION OF MEMORIAL AVENUE (ROUTE 147), FROM COLONY ROAD TO THE MEMORIAL AVENUE ROTARY (1.4 MILES)	STBG	\$ 1,751,036	\$ 1,400,829	\$ 350,207	Construction / (YOE \$24,924,840) 3 years of AC funding, FFY 2022 \$1,751,036 FFY2023 \$19,500,238 FFY2024 \$3,673,566 / 70 TEC / 25% / STBG 75% due May 2020	
2022	608577	Easthampton	EASTHAMPTON- IMPROVEMENTS AND RELATED WORK ON UNION STREET (ROUTE 141) FROM PAYSON AVENUE TO HIGH STREET (0.36 MILES)	STBG	\$ 3,380,112	\$ 2,704,090	\$ 676,022	Construction / (YOE \$3,380,111) / 60 TEC / 25% STBG	
2022	605032	Hadley	HADLEY- RECONSTRUCTION ON ROUTE 9, FROM MIDDLE STREET TO MAPLE/SOUTH MAPLE STREET	STBG	\$ 16,760,616	\$ 13,408,493	\$ 3,352,123	Construction / (YOE \$25,553,642) 2 years of A/C funding Year FFY 2021 \$8,766,026 FFY 2022 \$16,7787,616 /61 TEC / 75% / STBG	
2022	606450	Holyoke	HOLYOKE-TRAFFIC SIGNAL UPGRADES AT 15 INTERSECTIONS ALONG HIGH & MAPLE STREETS	STBG	\$ 4,948,087	\$ 3,958,470	\$ 989,617	Construction / (YOE \$9,974,982 (\$5,425,894 in statewide funding) = \$4,948,087) / 63 TEC / 25 / STBG	
Target				\$26,839,851	2022 Total	\$ 26,839,851	\$ 21,471,881	\$ 5,367,970	\$0

TIP Year	Project ID	Municipality	Project	Funding	Total Funds			Additional Information
2023	608374	West Springfield	WEST SPRINGFIELD- RECONSTRUCTION OF MEMORIAL AVENUE (ROUTE 147), FROM COLONY ROAD TO THE MEMORIAL AVENUE ROTARY (1.4 MILES)	STBG / CMAQ / TAP / HSIP	\$ 19,500,238	\$ 15,600,190	\$ 3,900,048	Construction / (YOE \$24,924,840) 3 years of AC funding, FFY 2022 \$1,751,036 FFY2023 \$19,500,238 FFY2024 \$3,673,566 / 70 TEC / 25% / STBG 75% due May 2020
2023	606895	Granby	GRANBY- IMPROVEMENTS @ 2 LOCATIONS ON ROUTE 202: SCHOOL STREET & FIVE CORNERS	STBG/HSIP	\$ 3,512,775	\$ 2,810,220	\$ 702,555	Construction / (YOE \$3,512,775) / 42 TEC / 55% STBG, HSIP
2023	608163	Wales	WALES- RECONSTRUCTION & IMPROVEMENTS ON MONSON ROAD, FROM THE MONSON T.L. TO REED HILL ROAD (1.5 MILES)	STBG	\$ 4,413,043	\$ 3,530,434	\$ 882,609	Construction / YOE \$4,413,043 / 39.5 TEC / 25% STBG
		Target	\$27,426,056	2023 Total	\$ 27,426,056	\$ 18,410,410	\$ 4,602,603	\$0
TIP Year	Project ID	Municipality	Project	Funding	Total Funds			Additional Information
2024	608717	Springfield	SPRINGFIELD- RECONSTRUCTION OF SUMNER AVENUE AT DICKINSON STREET AND BELMONT AVENUE (THE "X")	STBG / HSIP / TAP / CMAQ	\$ 12,238,998	\$ 9,791,199	\$ 2,447,800	Construction / YOE \$12,238,998) 70.5 TEC / 25% STBG, CMAQ, HSIP, TAP
New A/C Year 3 2024	608374	West Springfield	WEST SPRINGFIELD- RECONSTRUCTION OF MEMORIAL AVENUE (ROUTE 147), FROM COLONY ROAD TO THE MEMORIAL AVENUE ROTARY (1.4 MILES)	STBG / CMAQ / TAP / HSIP	\$ 3,673,566	\$ 2,938,853	\$ 734,713	Construction / (YOE \$24,924,840) 3 years of AC funding, FFY 2022 \$1,751,036 FFY2023 \$19,500,238 FFY2024 \$3,673,566 / 70 TEC / 25% / STBG 75% due May 2020
2024	609287	Worthington	WORTHINGTON- RECONSTRUCTION & RELATED WORK ON ROUTE 143 (PHASE II) FROM PERU T.L. TO COLD STREET	STBG	\$ 11,625,635	\$ 9,300,508	\$ 2,325,127	Construction / (YOE \$11,625,635) / 41 TEC / 75% Project Phase I funded in FFY 2019 Total project cost was \$16,300,000 / STBG
		Target	\$27,785,523	2024 Total	\$ 27,538,199	\$ 22,030,559	\$ 5,507,640	\$247,324

TIP Year	Project ID	Municipality	Project	Funding	Total Funds			Additional Information
New 2025	609286	Northampton	NORTHAMPTON- DOWNTOWN COMPLETE STREETS CORRIDOR AND INTERSECTION IMPROVEMENTS ON MAIN STREET (ROUTE 9)		\$16,633,075	\$ 13,306,460	\$ 3,326,615	Construction (YOE \$16,450,862) 80 TEC / Pre 25%
Move from 2024 to 2025	608881	Longmeadow	LONGMEADOW- SPRINGFIELD- RESURFACING AND INTERSECTION IMPROVEMENTS ON LONGMEADOW STREET (ROUTE 5) AND CONVERSE STREET (0.84 MILES)		\$ 6,995,668	\$ 5,596,534	\$ 1,399,134	Construction (YOE \$6,995,668 / 57.5 TEC / 25% / STBG
		Target 2025	\$27,136,864		\$ 23,628,743	\$ 13,306,460	\$ 3,326,615	\$3,508,121

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Table 13 Federally Funded Projects Year 2021

Program	MassDOT Project ID	MPO	Municipality	MassDOT Project Description	District	Funding Source	Total Programmed Funds	Federal Funds	Non-Federal Funds
Federal Fiscal Year 2021									
Section 1A / Regionally Prioritized Projects							\$26,304,233	\$21,154,963	\$5,149,270
Capacity	605032	Pioneer Valley	Hadley	HADLEY- RECONSTRUCTION ON ROUTE 9, FROM MIDDLE STREET TO MAPLE/SOUTH MAPLE STREET	2	STBG	\$8,793,026	\$7,034,421	\$1,758,605
Roadway Reconstruction	607773	Pioneer Valley	Westfield	WESTFIELD- IMPROVEMENTS & RELATED WORK ON ROUTE 20, COURT STEET & WESTERN AVENUE, LLOYDS HILL ROAD TO HIGH STREET/MILL STREET INTERSECTION (PHASE II)	2	HSIP	\$1,115,769	\$1,004,192	\$111,577
Roadway Reconstruction	607773	Pioneer Valley	Westfield	WESTFIELD- IMPROVEMENTS & RELATED WORK ON ROUTE 20, COURT STEET & WESTERN AVENUE, LLOYDS HILL ROAD TO HIGH STREET/MILL STREET INTERSECTION (PHASE II)	2	STBG	\$6,884,231	\$5,507,385	\$1,376,846
Roadway Reconstruction	607773	Pioneer Valley	Westfield	WESTFIELD- IMPROVEMENTS & RELATED WORK ON ROUTE 20, COURT STEET & WESTERN AVENUE, LLOYDS HILL ROAD TO HIGH STREET/MILL STREET INTERSECTION (PHASE II)	2	TAP	\$606,351	\$485,081	\$121,270
Roadway Reconstruction	608084	Pioneer Valley	Amherst	AMHERST- IMPROVEMENTS & RELATED WORK ON ROUTES 9 & 116, FROM UNIVERSITY DRIVE TO SOUTH PLEASANT STREET (0.8 MILES)	2	STBG	\$5,210,914	\$4,168,731	\$1,042,183
Roadway Reconstruction	608084	Pioneer Valley	Amherst	AMHERST- IMPROVEMENTS & RELATED WORK ON ROUTES 9 & 116, FROM UNIVERSITY DRIVE TO SOUTH PLEASANT STREET (0.8 MILES)	2	TAP	\$558,890	\$447,112	\$111,778

Table 11: Federally Funded Projects Year 2021 (Continued)

Program	MassDOT Project ID	MPO	Municipality	MassDOT Project Description	District	Funding Source	Total Programmed Funds	Federal Funds	Non-Federal Funds
Intersection Improvements	608782	Pioneer Valley	Springfield	SPRINGFIELD- INTERSECTION IMPROVEMENTS AT COTTAGE STREET, INDUSTRY AVENUE AND ROBBINS ROAD	2	CMAQ	\$2,858,325	\$2,286,660	\$571,665
Intersection Improvements	608782	Pioneer Valley	Springfield	SPRINGFIELD- INTERSECTION IMPROVEMENTS AT COTTAGE STREET, INDUSTRY AVENUE AND ROBBINS ROAD	2	STBG	\$276,727	\$221,382	\$55,345
				CMAQ Programmed			\$2,858,325	\$2,286,660	\$571,665
				HSIP Programmed			\$1,115,769	\$1,004,192	\$111,577
				STBG Programmed			\$21,164,898	\$16,931,918	\$4,232,980
				TAP Programmed			\$1,165,241	\$932,193	\$233,048
				Total Programmed for Pioneer Valley Region Projects*			\$26,304,233	\$21,154,963	\$5,149,270
				Program Target for Pioneer Valley Region Projects			\$26,304,233	\$21,043,386	\$5,260,847
				Target Funds Available for Pioneer Valley Region Projects			\$0	-\$111,577	\$111,577
Section 2A / State Prioritized Reliability Projects							\$21,605,777	\$17,284,622	\$4,321,155
Bridge On-system NHS	606552	Pioneer Valley	Northampton	NORTHAMPTON– BRIDGE REPLACEMENT, N-19-059, I-91 OVER US ROUTE 5 AND B&MRR, BRIDGE REPLACEMENT, N-19-060, I-91 OVER HOCKANUM ROAD AND IMPROVEMENTS TO I-91/INTERCHANGE 18	2	NHPP	\$21,605,777	\$17,284,622	\$4,321,155
Pioneer Valley Region Total Program Summary							\$47,910,010	\$38,439,585	\$9,470,425

Table 11: Federally Funded Projects Year 2022 (Continued)

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							\$26,839,851	\$21,471,881	\$5,367,970
Capacity	605032	Pioneer Valley	Hadley	HADLEY- RECONSTRUCTION ON ROUTE 9, FROM MIDDLE STREET TO MAPLE/SOUTH MAPLE STREET	2	STBG	\$16,760,616	\$13,408,493	\$3,352,123
Intersection Improvements	606450	Pioneer Valley	Holyoke	HOLYOKE- TRAFFIC SIGNAL UPGRADES AT 15 INTERSECTIONS ALONG HIGH & MAPLE STREETS	2	STBG	\$4,948,087	\$3,958,470	\$989,617
Roadway Reconstruction	608374	Pioneer Valley	West Springfield	WEST SPRINGFIELD- RECONSTRUCTION OF MEMORIAL AVENUE (ROUTE 147), FROM COLONY ROAD TO THE MEMORIAL AVENUE ROTARY (1.4 MILES)	2	STBG	\$1,751,036	\$1,400,829	\$350,207
Roadway Reconstruction	608577	Pioneer Valley	Easthampton	EASTHAMPTON- IMPROVEMENTS AND RELATED WORK ON UNION STREET (ROUTE 141) FROM PAYSON AVENUE TO HIGH STREET (0.36 MILES)	2	STBG	\$3,380,112	\$2,704,090	\$676,022
STBG Programmed							\$26,839,851	\$21,471,881	\$5,367,970
Total Programmed for Pioneer Valley Region Projects*							\$26,839,851	\$21,471,881	\$5,367,970
Program Target for Pioneer Valley Region Projects							\$26,839,851	\$21,471,881	\$5,367,970
Target Funds Available for Pioneer Valley Region Projects							\$0	\$0	\$0
Section 2A / State Prioritized Reliability Projects							\$29,498,964	\$23,599,171	\$5,899,793
Non-Interstate Pavement	608466	Pioneer Valley	Multiple	GRANBY- RESURFACING AND RELATED WORK ON ROUTE 202 FROM KENDALL STREET TO SCHOOL STREET	2	NHPP	\$4,434,310	\$3,547,448	\$886,862
Non-Interstate Pavement	608487	Pioneer Valley	Westfield	WESTFIELD- RESURFACING AND RELATED WORK ON ROUTE 10 AND 202	2	NHPP	\$2,745,600	\$2,196,480	\$549,120
Bridge On-system NHS	606552	Pioneer Valley	Northampton	NORTHAMPTON- BRIDGE REPLACEMENT, N-19-059, I-91 OVER US ROUTE 5 AND B&MRR, BRIDGE REPLACEMENT, N-19-060, I-91 OVER HOCKANUM ROAD AND IMPROVEMENTS TO I-91/INTERCHANGE 18	2	NHPP	\$16,278,155	\$13,022,524	\$3,255,631
Non-Interstate Pavement	608473	Pioneer Valley	South Hadley	SOUTH HADLEY- RESURFACING AND RELATED WORK ON ROUTE 116	2	NHPP	\$6,040,899	\$4,832,719	\$1,208,180
Section 2B / State Prioritized Modernization Projects							\$7,581,663	\$6,607,920	\$973,743

Table 11: Federally Funded Projects Year 2022 (Continued)

Program	MassDOT Project ID	MPO	Municipality	MassDOT Project Description	District	Funding Source	Total Programmed Funds	Federal Funds	Non-Federal Funds
Section 2B / State Prioritized Modernization Projects							\$7,581,663	\$6,607,920	\$973,743
Roadway Reconstruction	609515	Pioneer Valley	Northampton	NORTHAMPTON- BRIDGE STREET ELEMENTARY SCHOOL IMPROVEMENTS (SRTS)	2	TAP	\$920,913	\$736,730	\$184,183
Roadway Reconstruction	610652	Pioneer Valley	Agawam	AGAWAM- ROBINSON PARK ELEMENTARY SCHOOL IMPROVEMENTS (SRTS)	2	TAP	\$1,234,856	\$987,885	\$246,971
Intersection Improvements	606450	Pioneer Valley	Holyoke	HOLYOKE- TRAFFIC SIGNAL UPGRADES AT 15 INTERSECTIONS ALONG HIGH & MAPLE STREETS	2	HSIP	\$5,425,894	\$4,883,305	\$542,589
Section 2C / State Prioritized Expansion Projects							\$5,117,787	\$4,094,230	\$1,023,557
Bicycle and Pedestrian	608157	Pioneer Valley	Springfield	SPRINGFIELD- MCKNIGHT COMMUNITY TRAIL CONSTRUCTION, FROM ARMORY STREET TO HAYDEN AVENUE (1.5 MILES)	2	CMAQ	\$3,557,786	\$2,846,229	\$711,557
Bicycle and Pedestrian	608719	Pioneer Valley	Multiple	AMHERST- BELCHERTOWN- NORWOTTUCK RAIL TRAIL RESURFACING, FROM STATION ROAD IN AMHERST TO WARREN WRIGHT ROAD IN BELCHERTOWN (1.5 MILES)	2	CMAQ	\$1,560,001	\$1,248,001	\$312,000
Pioneer Valley Region Total Program Summary							\$69,038,265	\$55,773,201	\$13,265,064

Table 14: Federally Funded Projects 2023

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							\$27,426,056	\$22,040,845	\$5,385,211
Intersection Improvements	606895	Pioneer Valley	Granby	GRANBY- IMPROVEMENTS @ 2 LOCATIONS ON ROUTE 202: SCHOOL STREET & FIVE CORNERS	2	HSIP	\$1,000,000	\$900,000	\$100,000
Intersection Improvements	606895	Pioneer Valley	Granby	GRANBY- IMPROVEMENTS @ 2 LOCATIONS ON ROUTE 202: SCHOOL STREET & FIVE CORNERS	2	STBG	\$2,512,775	\$2,010,220	\$502,555
Roadway Reconstruction	608163	Pioneer Valley	Wales	WALES- RECONSTRUCTION & IMPROVEMENTS ON MONSON ROAD, FROM THE MONSON T.L. TO REED HILL ROAD (1.5 MILES)	2	STBG	\$4,413,043	\$3,530,434	\$882,609
Roadway Reconstruction	608374	Pioneer Valley	West Springfield	WEST SPRINGFIELD- RECONSTRUCTION OF MEMORIAL AVENUE (ROUTE 147), FROM COLONY ROAD TO THE MEMORIAL AVENUE ROTARY (1.4 MILES)	2	CMAQ	\$3,200,000	\$2,560,000	\$640,000
Roadway Reconstruction	608374	Pioneer Valley	West Springfield	WEST SPRINGFIELD- RECONSTRUCTION OF MEMORIAL AVENUE (ROUTE 147), FROM COLONY ROAD TO THE MEMORIAL AVENUE ROTARY (1.4 MILES)	2	STBG	\$15,800,000	\$12,640,000	\$3,160,000
Roadway Reconstruction	608374	Pioneer Valley	West Springfield	WEST SPRINGFIELD- RECONSTRUCTION OF MEMORIAL AVENUE (ROUTE 147), FROM COLONY ROAD TO THE MEMORIAL AVENUE ROTARY (1.4 MILES)	2	TAP	\$500,238	\$400,190	\$100,048
CMAQ Programmed							\$3,200,000	\$2,560,000	\$640,000
HSIP Programmed							\$1,000,000	\$900,000	\$100,000
STBG Programmed							\$22,725,818	\$18,180,654	\$4,545,164
TAP Programmed							\$500,238	\$400,190	\$100,048
Total Programmed for Pioneer Valley Region Projects*							\$27,426,056	\$22,040,845	\$5,385,211
Program Target for Pioneer Valley Region Projects							\$27,426,056	\$21,940,845	\$5,485,211
Target Funds Available for Pioneer Valley Region Projects							\$0	-\$100,000	\$100,000

Table 12: Federally Funded Projects Year 2023 (Continued)

Program	MassDOT Project ID	MPO	Municipality	MassDOT Project Description	District	Funding Source	Total Programmed Funds	Federal Funds	Non-Federal Funds
Section 2A / State Prioritized Reliability Projects							\$50,800,225	\$41,227,635	\$9,572,590
Safety Improvements	608565	Pioneer Valley	Springfield	SPRINGFIELD- IMPROVEMENTS ON ST. JAMES AVENUE AT ST. JAMES BOULEVARD AND CAREW STREET	2	HSIP	\$5,874,552	\$5,287,097	\$587,455
Non-Interstate Pavement	608489	Pioneer Valley	Wilbraham	WILBRAHAM- RESURFACING AND RELATED WORK ON ROUTE 20	2	NHPP	\$8,569,800	\$6,855,840	\$1,713,960
Non-Interstate Pavement	604209	Pioneer Valley	Multiple	HOLYOKE- WEST SPRINGFIELD- REHABILITATION OF ROUTE 5 (RIVERDALE ROAD), FROM I-91 (INTERCHANGE 13) TO MAIN STREET IN HOLYOKE & FROM ELM STREET TO NORTH ELM STREET IN WEST SPRINGFIELD (3.2 MILES)	2	NHPP	\$15,122,574	\$12,098,059	\$3,024,515
Bridge On-system NHS	606552	Pioneer Valley	Northampton	NORTHAMPTON- BRIDGE REPLACEMENT, N-19-059, I-91 OVER US ROUTE 5 AND B&MRR, BRIDGE REPLACEMENT, N-19-060, I-91 OVER HOCKANUM ROAD AND IMPROVEMENTS TO I-91/INTERCHANGE 18	2	NHPP	\$9,861,497	\$7,889,198	\$1,972,299
Bridge Off-system	608847	Pioneer Valley	Wales	WALES- BRIDGE REPLACEMENT, W-02-002, HOLLAND ROAD OVER WALES BROOK	2	STBG-BR-Off	\$1,123,304	\$898,643	\$224,661
Bridge Off-system	609120	Pioneer Valley	Ludlow	LUDLOW- BRIDGE REPLACEMENT, L-16-026, PINEY LANE OVER BROAD BROOK	2	STBG-BR-Off	\$577,584	\$462,067	\$115,517
Bridge On-system NHS	609409	Pioneer Valley	Springfield	SPRINGFIELD- BRIDGE REPLACEMENT, S-24-016, ARMORY STREET OVER CSX MAINLINE & S-24-026, ARMORY STREET OVER ABANDONED CSX	2	NHPP	\$9,670,914	\$7,736,731	\$1,934,183

Table 12: Federally Funded Projects Year 2023 (Continued)

Program	MassDOT Project ID	MPO	Municipality	MassDOT Project Description	District	Funding Source	Total Programmed Funds	Federal Funds	Non-Federal Funds
Section 2B / State Prioritized Modernization Projects							\$2,437,466	\$2,155,905	\$281,561
Roadway Reconstruction	609517	Pioneer Valley	Longmeadow	LONGMEADOW- BLUEBERRY HILL ELEMENTARY SCHOOL IMPROVEMENTS (SRTS)	2	TAP	\$378,145	\$302,516	\$75,629
Intersection Improvements	608560	Pioneer Valley	Springfield	SPRINGFIELD- IMPROVEMENTS ON ST. JAMES AVENUE AT TAPLEY STREET	2	HSIP	\$2,059,321	\$1,853,389	\$205,932
Pioneer Valley Region Total Program Summary							\$80,663,747	\$65,424,385	\$15,239,362

Table 15: Federally Funded Projects 2024

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							\$27,538,199	\$22,030,559	\$5,507,640
Roadway Reconstruction	608374	Pioneer Valley	West Springfield	WEST SPRINGFIELD- RECONSTRUCTION OF MEMORIAL AVENUE (ROUTE 147), FROM COLONY ROAD TO THE MEMORIAL AVENUE ROTARY (1.4 MILES)	2	STBG	\$3,673,566	\$2,938,853	\$734,713
Roadway Reconstruction	608717	Pioneer Valley	Springfield	SPRINGFIELD- RECONSTRUCTION OF SUMNER AVENUE AT DICKINSON STREET AND BELMONT AVENUE (THE "X")	2	STBG	\$12,238,998	\$9,791,198	\$2,447,800
Roadway Reconstruction	609287	Pioneer Valley	Worthington	WORTHINGTON- RECONSTRUCTION & RELATED WORK ON ROUTE 143 (PHASE II), FROM PERU T.L. TO COLD STREET	1	STBG	\$11,625,635	\$9,300,508	\$2,325,127
STBG Programmed							\$27,538,199	\$22,030,559	\$5,507,640
Total Programmed for Pioneer Valley Region Projects'							\$27,538,199	\$22,030,559	\$5,507,640
Program Target for Pioneer Valley Region Projects							\$27,785,523	\$22,228,418	\$5,557,105
Target Funds Available for Pioneer Valley Region Projects							\$247,324	\$197,859	\$49,465
Section 2A / State Prioritized Reliability Projects							\$13,863,031	\$11,090,425	\$2,772,606
Bridge On-system NHS	608460	Pioneer Valley	Hadley	HADLEY- BRIDGE REPLACEMENT, H-01-005, BAY ROAD (ROUTE 47) OVER THE FORT RIVER	2	NHPP	\$6,623,549	\$5,298,839	\$1,324,710
Bridge Off-system	S10757	Pioneer Valley	Hampden	HAMPDEN- ROCKADUNDEE BRIDGE (H-04-004) OVER SCANTIC RIVER		STBG-BR-Off	\$556,080	\$444,864	\$111,216
Bridge On-system NHS	606552	Pioneer Valley	Northampton	NORTHAMPTON- BRIDGE REPLACEMENT, N-19-059, I-91 OVER US ROUTE 5 AND B&MRR, BRIDGE REPLACEMENT, N-19-060, I-91 OVER HOCKANUM ROAD AND IMPROVEMENTS TO I-91/INTERCHANGE 18	2	NHPP	\$4,474,545	\$3,579,636	\$894,909

Table 13: Federally Funded Projects Year 2024 (Continued)

Program	MassDOT Project ID	MPO	Municipality	MassDOT Project Description	District	Funding Source	Total Programmed Funds	Federal Funds	Non-Federal Funds
Bridge Off-system	608846	Pioneer Valley	Monson	MONSON- BRIDGE REPLACEMENT, M-27-015, OLD WALES ROAD OVER CONANT BROOK	2	STBG-BR-Off	\$2,208,857	\$1,767,086	\$441,771
Section 2C / State Prioritized Expansion Projects							\$1,314,746	\$1,051,797	\$262,949
Bicycle and Pedestrian	608413	Pioneer Valley	Northampton	NORTHAMPTON- ROCKY HILL GREENWAY MULTI-USE TRAIL, FROM THE MANHAN RAIL TRAIL TO ROCKY HILL ROAD (0.4 MILES)	2	CMAQ	\$1,314,746	\$1,051,797	\$262,949
Pioneer Valley Region Total Program Summary							\$42,715,976	\$34,172,781	\$8,543,195

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Table 16: Federally Funded Projects Year 2025

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							\$23,628,743	\$18,902,994	\$4,725,749
Roadway Reconstruction	608881	Pioneer Valley	Longmeadow	LONGMEADOW- SPRINGFIELD- RESURFACING AND INTERSECTION IMPROVEMENTS ON LONGMEADOW STREET (ROUTE 5) AND CONVERSE STREET (0.84 MILES)	2	STBG	\$6,995,668	\$5,596,534	\$1,399,134
Roadway Reconstruction	609286	Pioneer Valley	Northampton	NORTHAMPTON- DOWNTOWN COMPLETE STREETS CORRIDOR AND INTERSECTION IMPROVEMENTS ON MAIN STREET (ROUTE 9)	2	STBG	\$16,633,075	\$13,306,460	\$3,326,615
STBG Programmed							\$23,628,743	\$18,902,994	\$4,725,749
Total Programmed for Pioneer Valley Region Projects'							\$23,628,743	\$18,902,994	\$4,725,749
Program Target for Pioneer Valley Region Projects							\$27,136,864	\$21,709,491	\$5,427,373
Target Funds Available for Pioneer Valley Region Projects							\$3,508,121	\$2,806,497	\$701,624
Section 2A / State Prioritized Reliability Projects							\$16,463,358	\$13,170,686	\$3,292,672
Bridge Off-system	S10760	Pioneer Valley	Westhampton	WESTHAMPTON- PERRY HILL ROAD (W-27-028) OVER NORTH BROOK OF MANHAN RIVER		STBG-BR-Off	\$2,006,220	\$1,604,976	\$401,244
Bridge Off-system	608869	Pioneer Valley	Northampton	NORTHAMPTON- BRIDGE REPLACEMENT, N-19-068, OLD SPRINGFIELD ROAD OVER THE MILL RIVER	2	STBG-BR-Off	\$3,962,792	\$3,170,234	\$792,558
Bridge On-system Non-NHS	604136	Pioneer Valley	Multiple	MONSON- PALMER- BRIDGE REPLACEMENT, M-27-007=P-01-007, STATE AVENUE OVER THE QUABOAG RIVER	2	NHPP	\$10,494,346	\$8,395,477	\$2,098,869
Section 2C / State Prioritized Expansion Projects							\$3,165,141	\$2,532,113	\$633,028

Table 14: Federally Funded Projects Year 2025 (Continued)

Program	MassDOT Project ID	MPO	Municipality	MassDOT Project Description	District	Funding Source	Total Programmed Funds	Federal Funds	Non-Federal Funds
Bicycle and Pedestrian	610657	Pioneer Valley	Multiple	EASTHAMPTON- NORTHAMPTON- INSTALLATION OF A SHARED-USE PATH ALONG MOUNT TOM ROAD FROM THE MANHAN TRAIL TO ATWOOD DRIVE	2	CMAQ	\$3,165,141	\$2,532,113	\$633,028
Pioneer Valley Region Total Program Summary							\$43,257,242	\$34,605,794	\$8,651,448

Table 17: Universe of Projects and TEC Scores

MPO Project List	2020 TIP	Municipality	SID	Project Name and Description	Design	TEC Score	TEC Rank	Project Info Cost Estimate
		Agawam	607316	RECONSTRUCTION OF ROUTE 187, FROM SOUTHWICK/SPRINGFIELD STREET TO ALLISON LANE (1.29 MILES - PHASE II)	0	33.8	26	\$5,562,610
		Agawam	607317	AGAWAM- RECONSTRUCTION OF ROUTE 187, FROM ALLISON LANE TO THE WESTFIELD CITY LINE (1.69 MILES - PHASE III)	0	33.8	26	\$7,589,668
2021	2021	Amherst	608084	AMHERST- IMPROVEMENTS & RELATED WORK ON ROUTES 9 & 116, FROM UNIVERSITY DRIVE TO SOUTH PLEASANT STREET (0.8 MILES)	75	55.5	10	\$6,352,055
2021 SW	2021 SW	Amherst / Belchertown	608719	AMHERST- BELCHERTOWN- NORWOTTUCK RAIL TRAIL RESURFACING, FROM STATION ROAD IN AMHERST TO WARREN WRIGHT ROAD IN BELCHERTOWN (1.5 MILES)	0	13	41	\$1,500,001
		Amherst / Pelham	609051	RESURFACING AND RELATED WORK ON BELCHERTOWN ROAD (ROUTE 9) FROM SOUTH EAST STREET TO THE BELCHERTOWN T.L. (2.1 MILES)	0	30.5	28	\$7,055,628
2022 SW	2022 SW	Belchertown / Granby	608466	BELCHERTOWN- GRANBY- RESURFACING AND RELATED WORK ON ROUTE 202	0	18	38	\$4,263,760
2024 SW	2024 SW	Belchertown / Ware		BELCHERTOWN- WARE- PAVEMENT PRESERVATION AND RELATED WORK ON ROUTE 9	0	NA	NA	\$6,907,069
		Chesterfield	608886	RECONSTRUCTION OF NORTH ROAD AND DAMON POND ROAD	0	10	42	\$4,441,000
		Chicopee	609061	CHICOPEE - INTERSECTION RECONSTRUCTION, MONTGOMERY ROAD AT GRANBY ROAD AND MCKINSTRY AVENUE, AND MONTGOMERY ROAD AT TURNPIKE ACCESS ROAD	0	56.0	9	\$5,077,158
	Removed from SW CMAQ	Chicopee	602912	CHICOPEE- CHICOPEE RIVER RIVERWALK MULTI-USE PATH CONSTRUCTION, FROM GRAPE STREET TO FRONT STREET (NEAR ELLERTON STREET) (1 MILE)	25	35.5	23	\$ 2,030,278.00
		Cummington	606797	ROUTE 9 RETAINING WALL	0	9.0	43	\$1,660,000
2022	2022	Easthampton	608577	EASTHAMPTON- IMPROVEMENTS AND RELATED WORK ON UNION STREET (ROUTE 141) FROM PAYSON AVENUE TO HIGH STREET (0.36 MILES)	25	62.5	5	\$3,170,108
		Easthampton	608423	IMPROVEMENTS AND RELATED WORK ON ROUTE 10 IN EASTHAMPTON	0	28.5	31	\$5,758,750
2025 SW	NEW	Easthampton / Northampton	610657	EASTHAMPTON- NORTHAMPTON- INSTALLATION OF A SHARED-USE PATH ALONG MOUNT TOM ROAD FROM THE MANHAN TRAIL TO ATWOOD DRIVE	0	44.0	16	\$2,728,570
		Goshen	602888	ROUTE 9 RECONSTRUCTION	0	25.0	35	\$7,003,500
2023	2023	Granby	606895	ROUTE 202 INTERSECTION IMPROVEMENTS 2 LOCATIONS @ 5 CORNERS AND @ SCHOOL STREET	75	42.5	17	\$2,973,345
		Granville	608736	GRANVILLE- RECONSTRUCTION OF ROUTE 57	25	34.0	25	\$9,938,415
2021/2022	2021/2022	Hadley	605032	HADLEY- RECONSTRUCTION ON ROUTE 9, FROM MIDDLE STREET TO MAPLE/SOUTH MAPLE STREET	75	60.0	6	\$25,553,642
		Hadley	606547	PEDESTRIAN SIGNAL INSTALLATION AT 2 LOCATIONS ALONG ROUTE 9 NEAR WEST ST	0	14.5	40	\$119,000
		Holland	608727	HOLLAND- RESURFACING & RELATED WORK ON BRIMFIELD ROAD, FROM WALES ROAD TO STURBRIDGE STREET (0.9 MILES - PHASE II)	0	27.5	32	\$1,051,476
2022 STP / SW CMAQ	2022 STP / SW CMAQ	Holyoke	606450	TRAFFIC SIGNAL UPGRADES AT 15 INTERSECTIONS ALONG HIGH & MAPLE STREETS (\$5,425,894 in statewide funding) Total \$9,974,982	25	66.0	4	\$4,548,998
2025		Holyoke	609065	HOLYOKE- RESURFACING AND RELATED WORK ON CABOT STREET AND RACE STREET (CENTER CITY CONNECTOR)	25	56.5	8	\$5,127,070
2023 SW	2023 SW	Holyoke	606156	RECONSTRUCTION OF I-91 INTERCHANGE 17 & ROUTE 141	0	53.0	11	\$6,011,760
2022 SW	2022 SW	Holyoke / West Springfield	604209	REHABILITATION OF ROUTE 5 (RIVERDALE ROAD), FROM I-91 (INTERCHANGE 13) TO MAIN STREET IN HOLYOKE & FROM ELM STREET TO NORTH ELM STREET IN WEST SPRINGFIELD (3.2 MILES)	25	49	13	\$22,627,383
		Longmeadow	607430	RESURFACING & RELATED WORK ON LONGMEADOW STREET (ROUTE 5), FROM THE CT S.L. TO CONVERSE STREET (2.88 MILES)	0	47.0	15	\$2,394,860
2024	2024	Longmeadow / Springfield	608881	RESURFACING AND INTERSECTION IMPROVEMENTS ON LONGMEADOW STREET (ROUTE 5) AND CONVERSE STREET (0.84 MILES)	25	57.5	7	\$6,030,749

Table 15: Universe of Projects and TEC Scores

		Northampton	609286	NORTHAMPTON- DOWNTOWN COMPLETE STREETS CORRIDOR AND INTERSECTION IMPROVEMENTS ON MAIN STREET (ROUTE 9)	0	80	1	\$7,654,605
2024 SW	2021 SW	Northampton	608413	NORTHAMPTON- ROCKY HILL GREENWAY MULTI-USE TRAIL, FROM THE MANHAN RAIL TRAIL TO ROCKY HILL ROAD (0.4 MILES)	25	36.0	22	\$ 1,173,888.00
		Palmer	601504	RECONSTRUCTION OF ROUTE 32, FROM 765 FT. SOUTH OF STIMSON STREET TO 1/2 MILES SOUTH OF RIVER STREET (PHASE I) (1.63 MILES)	0	23.0	36	\$6,134,080
		PVTA	PV001	P20 Express - Holyoke Mall to Downtown Springfield	NA	NA	NA	\$ 500,000.00
2025		South Hadley	608785	MAIN STREET ROAD IMPROVEMENT PROJECT	25	38.5	21	\$5,432,832
2025		Southampton	604653	REHABILITATION OF EAST STREET - FROM COLLEGE HIGHWAY EASTERLY TO COUNTY ROAD (2.6 MILES)	25	31.5	27	\$4,956,200
	2022 SW	Southampton	607823	SOUTHAMPTON- GREENWAY RAIL TRAIL CONSTRUCTION, FROM COLEMAN ROAD TO ROUTE 10 (3.5 MILES)	0	19.5	37	\$ 6,080,722.00
		Southwick	604155	RESURFACING & RELATED WORK ON ROUTE 10/202, COLLEGE HIGHWAY (NORTHERLY SECTION) FROM THE WESTFIELD/SOUTHWICK T.L. TO TANNERY ROAD (1.4 MILES)	0	19.5	37	\$3,600,000
2021	2021	Springfield	608782	SPRINGFIELD- INTERSECTION IMPROVEMENTS AT COTTAGE STREET, ROBBINS ROAD AND INDUSTRY AVE	75	48.0	14	\$3,105,052
2024	2024	Springfield	608717	SPRINGFIELD- RECONSTRUCTION OF SUMNER AVENUE AT DICKINSON STREET AND BELMONT AVENUE (THE "X")	25	71.0	2	\$10,062,663
2022 SW	2022 SW	Springfield	608560	IMPROVEMENTS ON ST. JAMES AVENUE AT TAPLEY STREET	25	NA	NA	\$1,906,779
New	New	Springfield	610664	SPRINGFIELD- RECONSTRUCTION OF BIRNIE AVENUE AT GERENA SCHOOL PEDESTRIAN TUNNEL (Total Project Cost \$2+ million, City to cover remaining balance)	0	25.5	34	\$1,206,348
2022 SW	2022 SW	Springfield	608565	IMPROVEMENTS ON ST. JAMES AVENUE AT ST. JAMES BOULEVARD AND CAREW STREET	0	NA	NA	\$5,535,000
2022 SW	2022 SW	Springfield	608157	SPRINGFIELD- MCKNIGHT COMMUNITY TRAIL CONSTRUCTION, FROM ARMORY STREET TO HAYDEN AVENUE (1.5 MILES)	0	42.5	18	\$ 3,420,948.00
2023	2023	Wales	608163	WALES- RECONSTRUCTION & IMPROVEMENTS ON MONSON ROAD, FROM THE MONSON T.L. TO REED HILL ROAD (1.5 MILES)	25	39.5	20	\$4,466,481
		Wales	605669	PEDESTRIAN ACCESS IMPROVEMENTS & RELATED WORK ON ROUTE 19	0	9.0	44	\$312,500
2022/2023/2024	2022/2023	West Springfield	608374	RECONSTRUCTION OF MEMORIAL AVENUE (ROUTE 147), FROM COLONY ROAD TO THE MEMORIAL AVENUE ROTARY (1.4 MILES)	25	70.0	3	\$22,545,121
2021	2021	Westfield	607773	WESTFIELD- IMPROVEMENTS & RELATED WORK ON ROUTE 20, COURT STREET & WESTERN AVENUE, LLOYDS HILL ROAD TO HIGH STREET/MILL STREET INTERSECTION (PHASE II) EASTERN SECTION	75	52.5	12	\$8,606,351
2021 SW	2021 SW	Westfield	608487	WESTFIELD- RESURFACING AND RELATED WORK ON ROUTE 10 AND 202	0	29	29	\$2,640,000
		Westfield	608073	WESTFIELD- WESTFIELD RIVER LEVEE MULTI-USE PATH CONSTRUCTION, FROM CONGRESS STREET TO WILLIAMS RIDING WAY (NEAR MEADOW STREET) (2 MILES)	0	36	24	\$ 5,314,431.00
	New	Westfield	610536	WESTFIELD- PEDESTRIAN AND BICYCLE IMPROVEMENTS ON MAIN STREET (ROUTE 20)	0	44.0	16	\$2,541,400
2021 SW	2021 SW	Wilbraham	608489	WILBRAHAM- RESURFACING AND RELATED WORK ON ROUTE 20	25	42.5	18	\$7,935,000
		Williamsburg	607231	RECONSTRUCTION OF MOUNTAIN STREET	25	18.0	38	\$5,898,700
		Williamsburg	608787	WILLIAMSBURG- CONSTRUCTION OF THE "MILL RIVER GREENWAY" SHARED USE PATH	0	29.0	30	\$ 12,400,000.00
2025	2024	Worthington	609287	ROUTE 143 RECONSTRUCTION (PHASE II) PERU TOWN LINE TO COLD STREET	75	40.0	19	\$10,380,031
Total (51 Projects)								\$ 301,285,985

Projects listed in the Universe of Projects are shown for informational purposes and are not programmed in the TIP. If additional funds become available projects from this list could be added if the selected project would be ready for advertisement in that program year

V. Transit Project Listing for FFY 2021 - 2025

The following is a complete listing of programmed transit projects for FFY 2021 - 2025

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Table 18 FFY 2021 Transit Project Information

Project Title	Fiscal Year	Total	Bond Cap State 100% State	Federal FTA Section 5307	Section 5339 Non- Competitive	State Contract Assistance	VW Mitigation Funds
Replace Northampton Maintenance Facility Bus Wash System, Year 2	2021	\$110,000	\$22,000	\$88,000	\$0	\$0	
Environmental Compliance	2021	\$50,000	\$10,000	\$40,000	\$0	\$0	
Purchase/Replace Shop Equipment	2021	\$150,000	\$30,000	\$120,000	\$0	\$0	
Bus Shelters, Benches, Trash Receptacles	2021	\$98,230	\$19,646	\$78,584	\$0	\$0	
Bus Stop Signage and Lighting	2021	\$20,000	\$4,000	\$16,000	\$0	\$0	
Bicycle access equipment for buses and shelters	2021	\$7,000	\$1,400	\$5,600	\$0	\$0	
Information Technology Systems	2021	\$2,376,374	\$1,188,187	\$1,188,187	\$0	\$0	
Buy Replacement 35-FT Buses (3)	2021	\$1,800,000	\$360,000	\$1,440,000	\$0	\$0	
Buy Replacement 40-FT Buses (12)	2021	\$6,092,877	\$1,218,575	\$2,846,098	\$2,028,204	\$0	
Administration Building - Slate Roof Restoration	2021	\$50,000	\$10,000	\$40,000	\$0	\$0	
Robbins Road Intersection Design - Yr 3	2021	\$220,000	\$44,000	\$176,000	\$0	\$0	
Rehab of UMTS Maintenance Facility, Year 2 - Drainage and Electrical	2021	\$1,780,000	\$356,000	\$1,424,000	\$0	\$0	
BUY REPLACEMENT 40-FT BUS - Electric (3) (RTACAP should be VW Mitigation)	2021	\$3,000,000	\$0	\$0	\$0	\$0	\$3,000,000
BUY REPLACEMENT 35-FT BUS - Electric (3) (RTACAP should be VW mitigation)	2021	\$2,700,000	\$0	\$0	\$0	\$0	\$2,700,000
REHAB/REBUILD 40-FT BUS (9)	2021	\$2,925,000	\$585,000	\$2,340,000	\$0	\$0	
REHAB/REBUILD 35-FT BUS (6)	2021	\$1,500,000	\$300,000	\$1,200,000	\$0	\$0	
REHAB/RENOVATE - MAINTENANCE FACILITY - Northampton Bus Facility electric upgrades for electric buses	2021	\$500,000	\$500,000	\$0	\$0	\$0	
PLANNING	2021	\$240,000	\$0	\$192,000	\$0	\$48,000	
ADA OPERATING ASSISTANCE	2021	\$1,609,745	\$0	\$1,287,796	\$0	\$321,949	
PREVENTIVE MAINTENANCE	2021	\$5,512,121	\$0	\$4,409,697	\$0	\$1,102,424	
		\$30,741,347	\$4,648,808	\$16,891,962	\$2,028,204	\$1,472,373	\$5,700,000

Table 19 FFY 2022 Transit Project Information

Project Title	Fiscal Year	Total	Bond Cap State 100% State	Federal FTA Section 5307	Section 5339 Non-Competitive	State Contract Assistance	VW Mitigation Funds
Replace Bus Wash System at UMTS	2022	\$1,100,000	\$220,000	\$880,000	\$0	\$0	
Purchase shop equipment	2022	\$150,000	\$30,000	\$120,000	\$0	\$0	
Purchase 40' Replacement Buses (7)	2022	\$3,600,317	\$2,439,091	\$275,497	\$885,729	\$0	
Replace 35' Buses (1)	2022	\$502,777	\$100,555	\$402,222	\$0	\$0	
Purchase replacement support vehicles (1)	2022	\$60,000	\$12,000	\$48,000	\$0	\$0	
Replace Supervisory Vehicles (1)	2022	\$27,500	\$5,500	\$22,000	\$0	\$0	
Environmental Compliance	2022	\$25,000	\$5,000	\$20,000	\$0	\$0	
Purchase Shelters and shelter accessories	2022	\$100,835	\$20,167	\$80,668	\$0	\$0	
Signage & Lighting	2022	\$20,000	\$4,000	\$16,000	\$0	\$0	
Information Technology Systems	2022	\$2,425,374	\$1,212,687	\$1,212,687	\$0	\$0	
Purchase Replacement Vans (15)	2022	\$1,114,958	\$1,114,958	\$0	\$0	\$0	
Northampton - Replace Bus Wash System - Yr 2	2022	\$1,100,000	\$220,000	\$880,000	\$0	\$0	
Main Street Paratransit O&M Facility - Yr 4 - Replace Generator w/ electrical upgrades	2022	\$280,000	\$56,000	\$224,000	\$0	\$0	
ENGINEERING & DESIGN Cottage St at Robbins Road	2022	\$30,000	\$6,000	\$24,000	\$0	\$0	
BUY REPLACEMENT 40-FT BUS - Electric (6) (RTACAP should be VW Mitigation)	2022	\$3,412,905	\$0	\$0	\$0	\$0	\$ 3,412,905
BUY REPLACEMENT 35-FT BUS - Electric (8) (RTACAP should be VW mitigation)	2022	\$4,375,152	\$0	\$0	\$0	\$0	\$ 4,375,152
REHAB/REBUILD 40-FT BUS (6)	2022	\$1,950,000	\$390,000	\$1,560,000	\$0	\$0	
REHAB/REBUILD 35-FT BUS (4)	2022	\$1,100,000	\$220,000	\$880,000	\$0	\$0	
Preventive Maintenance	2022	\$6,215,323	\$0	\$4,972,258	\$0	\$1,243,065	
NON FIXED ROUTE ADA PARA SERV	2022	\$1,633,891	\$0	\$1,307,113	\$0	\$326,778	
LONGTERM TRANS PLAN - SYSTEM LEVEL	2022	\$245,000	\$0	\$196,000	\$0	\$49,000	
		\$29,469,032	\$6,055,958	\$13,120,445	\$885,729	\$1,618,843	\$7,788,057

Table 20 FFY 2023 Transit Project Information

Project Title	Fiscal Year	Total	Bond Cap State 100% State	Federal FTA Section 5307	Section 5339 Non- Competitive	Section 5339 Statewide	State Contract Assistance	VW Mitigation Funds
Replacement 40' Bus (3)	2023	\$1,364,135	\$518,371	\$682,067	\$163,696	\$0	\$0	
Purchase 40' Replacement Buses (6)	2023	\$3,178,566	\$655,049	\$1,634,788	\$0	\$888,729	\$0	
Purchase 35' Replacement Buses (3)	2023	\$1,553,581	\$310,716	\$1,242,865	\$0	\$0	\$0	
REHAB/RENOVATE - Environmental Compliance	2023	\$5,000	\$1,000	\$4,000	\$0	\$0	\$0	
Purchase Bus Shelters, benches, trash receptacles,etc.	2023	\$103,494	\$20,699	\$82,795	\$0	\$0	\$0	
Purchase and replace bicycle equipment for shelters and buses	2023	\$7,000	\$1,400	\$5,600	\$0	\$0	\$0	
Purchase & Replace signage and lighting	2023	\$20,000	\$4,000	\$16,000	\$0	\$0	\$0	
Information Technology Systems	2023	\$2,636,474	\$527,295	\$2,109,179	\$0	\$0	\$0	
NTF rehabs: bathrooms, bays, ceilings, MEP upgrades, IT Room, etc.	2023	\$980,000	\$196,000	\$784,000	\$0	\$0	\$0	
Purchase Replacement Vans (20)	2023	\$1,531,209	\$0	\$0	\$0	\$0	\$0	
BUY REPLACEMENT 40-FT BUS - Electric (5) (RTACAP should be VW Mitigation)	2023	\$2,929,415	\$0	\$0	\$0	\$0	\$0	\$2,929,415
BUY REPLACEMENT 35-FT BUS - Electric (5) (RTACAP should be VW Mitigation)	2023	\$2,816,504	\$0	\$0	\$0	\$0	\$0	\$2,816,504
REHAB/RENOVATE - SHOP EQUIPMENT	2023	\$150,000	\$30,000	\$120,000	\$0	\$0	\$0	
Transporation planning	2023	\$245,000	\$0	\$196,000	\$0	\$0	\$49,000	
ADA service subsidy	2023	\$1,633,891	\$0	\$1,307,113	\$0	\$0	\$326,778	
Preventive Maintenance	2023	\$6,215,323	\$0	\$4,972,258	\$0	\$0	\$1,243,065	
REHAB/RENOVATE BUS SUPPORT FACIL/EQUIP - Holyoke ITC	2023	\$2,850,000	\$626,000	\$2,224,000	\$0	\$0	\$0	
		\$26,688,383	\$2,890,530	\$15,380,665	\$163,696	\$888,729	\$1,618,843	\$5,745,919

Table 21 FFY 2024 Transit Project Information

Project Title	Fiscal Year	Total	Bond Cap	Federal FTA	State Contract Assistance
			State 100% State	Section 5307	
Replacement Vans (24)	2024	\$1,892,574	\$0	\$0	\$0
PURCHASE BUS SHELTERS	2024	\$133,208	\$26,641	\$106,567	\$0
Signage and Lighting	2024	\$20,000	\$4,000	\$16,000	\$0
Bike access Equipment	2024	\$7,000	\$1,400	\$5,600	\$0
Information Technology Systems	2024	\$2,388,738	\$1,194,369	\$1,194,369	\$0
Rehab Northampton Maint Facility, Year 4	2024	\$1,300,000	\$260,000	\$1,040,000	\$0
UMTS - Upgrade office restrooms	2024	\$100,000	\$20,000	\$80,000	\$0
HITC-Bus Bay Canopy/Pavement Upgrades	2024	\$600,000	\$120,000	\$480,000	\$0
Purchase Shop Equipment - All Garages	2024	\$150,000	\$30,000	\$120,000	\$0
Enviromental Compliance	2024	\$5,000	\$1,000	\$4,000	\$0
BUY REPLACEMENT 40-FT BUS - Electric (6)	2024	\$2,675,755	\$535,151	\$2,140,604	\$0
REHAB/REBUILD 40-FT BUS (4)	2023	\$1,500,000	\$600,000	\$900,000	
REHAB/REBUILD 40-FT BUS (3)	2024	\$1,125,000	\$450,000	\$675,000	\$0
REHAB/RENOVATE - MAINTENANCE FACILITY - Paratransit steel painting	2024	\$450,000	\$90,000	\$360,000	\$0
REHAB/RENOVATE - ADMINISTRATIVE FACILITY - Replace rooftop HVAC	2024	\$450,000	\$90,000	\$360,000	\$0
PLANNING	2024	\$250,000	\$0	\$200,000	\$50,000
ADA Operating Assistance	2024	\$1,658,400	\$0	\$1,326,720	\$331,680
PREVENTIVE MAINTENANCE	2024	\$6,651,233	\$0	\$5,320,986	\$1,330,247
		\$19,464,334	\$3,422,561	\$14,329,846	\$1,711,927

Table 22 FFY 2025 Transit Project Information

Project Title	Fiscal Year	Total	Bond Cap State 100% State	Federal FTA Section 5307	Section 5339 Non- Competitive	State Contract Assistance
Replacement 40' Bus (3)	2025	\$1,364,135	\$518,371	\$682,067	\$163,696	\$0
REHAB/REBUILD 40-FT BUS (7)	2025	\$2,500,882	\$500,176	\$1,548,265	\$452,441	\$0
REHAB/REBUILD 35-FT BUS (5)	2025	\$1,425,000	\$285,000	\$690,381	\$449,619	\$0
REHAB/RENOVATE - SHOP EQUIPMENT	2025	\$150,000	\$30,000	\$120,000	\$0	\$0
REHAB/RENOVATE - MAINTENANCE FACILITY - Environmental Compliance	2025	\$5,000	\$1,000	\$4,000	\$0	\$0
BUS SHELTERS	2025	\$133,208	\$26,642	\$106,566	\$0	\$0
REHAB/RENOV SIGNAGE	2025	\$20,000	\$4,000	\$16,000	\$0	\$0
REHAB/RENOV BICYCLE ACCESS, FACIL & EQUIP ON BUSES	2025	\$7,000	\$1,400	\$5,600	\$0	\$0
REHAB/RENOVATE - MAINTENANCE FACILITY - Corewall building	2025	\$100,000	\$20,000	\$80,000	\$0	\$0
REHAB/RENOVATE - MAINTENANCE FACILITY - UMass AC Install	2025	\$250,000	\$50,000	\$200,000	\$0	\$0
REHAB/RENOVATE - MAINTENANCE FACILITY HITC Lower Level renovation	2025	\$1,750,000	\$350,000	\$1,400,000	\$0	\$0
CONSTRUCTION OF BUS SUPPORT EQUIP/FACIL - New Northampton ITC	2025	\$500,000	\$100,000	\$400,000	\$0	\$0
PURCHASE COMMUNICATIONS SYSTEM - ITS	2025	\$2,446,746	\$489,349	\$1,957,397	\$0	\$0
PLANNING	2025	\$250,000	\$0	\$200,000	\$0	\$50,000
ADA OPERATING ASSISTANCE	2025	\$1,658,380	\$0	\$1,326,700	\$0	\$331,680
PREVENTIVE MAINTENANCE	2025	\$6,651,233	\$0	\$5,320,986	\$0	\$1,330,247
		\$19,211,584	\$2,375,938	\$14,057,962	\$1,065,756	\$1,711,927

VII. PROJECT IMPLEMENTATION

The TIP is also used as a management tool for monitoring the progress and implementation of the RTP and previous TIP's. The award status of FFY 2019-2020TIP projects are identified in Table 23.

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Table 23 Project Implementation

Year	SID	Highway Project Description	Status	Programmed	Status
	SID	Project	Funding	Total	
2019	608790	HOLYOKE- IMPROVEMENTS AT KELLY COMMUNITY SCHOOL (SRTS)	TAP	\$ 1,264,935	Construction
2019	606555	NORTHAMPTON- ROUNDABOUT CONSTRUCTION AT INTERSECTION ROUTES 5/10 (NORTH KING STREET) & HATFIELD STREET	CMAQ	\$ 4,109,480	Construction
2019	600513	AGAWAM- RECONSTRUCTION OF ROUTE 187 FROM 425 FT. SOUTH OF S. WESTFIELD STREET TO ROUTE 57 (0.3 MILES - PHASE I)	STP	\$ 2,622,622	Construction
2019	608412	BELCHERTOWN- IMPROVEMENTS & RELATED WORK ON ROUTES 202 & 21, FROM TURKEY HILL ROAD TO SOUTH MAIN STREET (1.2 MILES)	STP	\$ 5,143,503	Construction
2019	607560	CHICOPEE- HOLYOKE- INTERSTATE MAINTENANCE AND RELATED WORK ON I-391	NHPP	\$ 11,309,875	Construction
2019	607736	CHICOPEE- SIGNAL & INTERSECTION IMPROVEMENTS AT 13 INTERSECTIONS ALONG ROUTE 33 (MEMORIAL DRIVE), FROM FULLER ROAD TO ABBEY STREET	HSIP	\$ 6,001,387	Construction
2019	608600	CHICOPEE- WEST SPRINGFIELD- HIGHWAY LIGHTING UPGRADE ON I-91	NHPP	\$ 4,300,759	Construction
2019	607474	GRANBY- SOUTH HADLEY- RESURFACING AND RELATED WORK ON ROUTE 202	NHPP	\$ 5,752,500	Construction
2019	604962	HOLLAND- RESURFACING & RELATED WORK ON BRIMFIELD ROAD, FROM THE BRIMFIELD/HOLLAND T.L. TO WALES ROAD (1.4 MILES - PHASE I)	STP	\$ 2,919,446	Construction
2019	608928	HUNTINGTON- SYSTEMATIC BRIDGE MAINTENANCE, H-27-019, ROUTE 112 OVER SYKES BROOK	NHPP-Off	\$ 526,506	Construction
2019	608429	MIDDLEFIELD- BRIDGE SUPERSTRUCTURE REPLACEMENT, M-19-010, CHESTER ROAD OVER SMART BROOK	STP-BR-OFF	\$ 970,807	Construction
2019	PV0001	P21 Express - Year 2 Operating	CMAQ	\$ 500,000	Construction
2019	608411	SPRINGFIELD- INTERSECTION IMPROVEMENTS AT BAY STREET AND	HSIP/CMAQ	\$ 1,886,880	Construction

		BERKSHIRE AVENUE			
2019	607987	WARE- INTERSECTION IMPROVEMENTS @ MAIN STREET, WEST STREET, NORTH STREET, SOUTH STREET & CHURCH STREET	STP/CMAQ/TAP	\$ 2,475,087	Construction
2019	603783	WESTFIELD- COLUMBIA GREENWAY RAIL TRAIL CONSTRUCTION (CENTER DOWNTOWN SECTION), FROM EAST SILVER STREET TO COWLES COURT, INCLUDES W-25,014, W-25-015, W-25-016, W-25-017, W-25-018 & W-25-019	CMAQ	\$ 6,532,895	Construction
2019	606912	WORTHINGTON- RECONSTRUCTION & RELATED WORK ON ROUTE 143 (PHASE I)	STP	\$ 8,900,000	Construction
TIP Year	Project ID	Project	Funding	Total Funds	Status
2020	607502	NORTHAMPTON- INTERSECTION IMPROVEMENTS AT KING STREET, NORTH STREET & SUMMER STREET AND AT KING STREET & FINN STREET	STBG / CMAQ	\$ 4,066,668	Not Advertised
2020	604434	CHICOPEE- RECONSTRUCTION & RELATED WORK ON FULLER ROAD, FROM MEMORIAL DR (RTE 33) TO SHAWINIGAN DR (2.0 MILES)	STBG / HSIP	\$ 9,735,424	Not Advertised
2020	608236	NORTHAMPTON- RECONSTRUCTION OF DAMON ROAD, FROM ROUTE 9 TO ROUTE 5, INCLUDES DRAINAGE SYSTEM REPAIRS & SLOPE STABILIZATION AT THE NORWOTTUCK	STBG	\$ 10,043,653	Not Advertised
2020	PV0001	NORTHAMPTON, AMHERST, CHICOPPE, EASTHAMPTON, HADLEY, HOLYOKE, SOUTH HADLEY, SPRINGFIELD, and WEST SPRINGFIELD: ValleyBike share (phase II)	STBG	\$ 1,200,000	Operating
2020	PV0002	P 21 Express Year 3	CMAQ	\$ 500,000	Operating
2020	608718	SPRINGFIELD- INTERSECTION IMPROVEMENTS AT BERKSHIRE AVENUE, COTTAGE AND HARVEY STREETS	HIP	\$ 3,154,158	Not Advertised
2020	608236	NORTHAMPTON- RECONSTRUCTION OF DAMON ROAD, FROM ROUTE 9 TO ROUTE 5, INCLUDES DRAINAGE SYSTEM REPAIRS & SLOPE STABILIZATION AT THE NORWOTTUCK	HIP	\$ 1,483,507	Not Advertised

2020	608631	WESTHAMPTON- BRIDGE REPLACEMENT, W-27-005, KINGS HIGHWAY OVER N BRANCH MANHAN RIVER	STBG-BR-OFF	\$ 1,937,318	Not Advertised
2020	400103	WESTFIELD- BRIDGE REPLACEMENT, W-25-006, ROUTE 10/202 (SOUTHWICK ROAD) OVER THE LITTLE RIVER	NHPP-On	\$ 13,276,980	Not Advertised
2020	606552	NORTHAMPTON- BRIDGE RECONSTRUCTION, N-19-059, I-91 OVER US 5/BMRR & N-19-060, I-91 OVER HOCKANUM ROAD	NHPP-On	\$ 4,671,793	Not Advertised
2020	608473	SOUTH HADLEY - RESURFACING AND RELATED WORK ON ROUTE 116	NHPP	\$ 4,987,500	Not Advertised
2020	608575	CHICOPEE TO HOLYOKE- GUIDE AND TRAFFIC SIGN REPLACEMENT ON I-391	HSIP	\$ 1,861,310	Advertised
2020	602911	CHICOPEE- CONNECTICUT RIVERWALK & BIKEWAY CONSTRUCTION, FROM BOAT RAMP NEAR I-90 TO NASH FIELD (2.5 MILES), INCLUDES NEW BRIDGE C-13-060 OVER OVERFLOW CHANNEL	CMAQ	\$ 3,041,445	Advertised

VIII. Air Quality Conformity Information

This section documents the latest air quality conformity determination for the 1997 ozone National Ambient Air Quality Standards (NAAQS) in the Pioneer Valley 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 (NO_x), 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.

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, this conformity determination is being made for the 1997 ozone NAAQS on the

Pioneer Valley Regions FFY 2021-2025 Transportation Improvement Program and the 2020-2040 Regional Transportation Plan.

The transportation conformity regulation at 40 CFR 93.109 sets forth the criteria and procedures for determining conformity. The conformity criteria for TIPs and RTPs 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 RTPs 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 Pioneer Valley Region FFY 2021-2025 Transportation Improvement Program and 2020-2040 Regional Transportation Plan 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 applies 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 other Massachusetts MPOs, with the most recent conformity consultation meeting held on March 6, 2019 (this most recent meeting focused on understanding the latest conformity-related court rulings and resulting federal guidance). 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 by and between Massachusetts Department of Environmental Protection, Massachusetts Executive Office of Transportation and Construction, Massachusetts Metropolitan Planning Organizations concerning the conduct of transportation-air quality planning in the development and implementation of the state implementation plan” (note: this MOU is currently being updated)

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, RTP, 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 Pioneer Valley MPO's Public Participation Plan was formally adopted in 2016. The Public Participation Plan ensures that the public will have access to the TIP and all supporting documentation, provides for public notification of the availability of the TIP and the public's right to review the document and comment thereon, and provides a 30-day public review and comment period prior to the adoption of the TIP and related certification documents.

The public comment period for this conformity determination commenced on April 24, 2019. 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, 2019 and subsequently, the Pioneer Valley MPO is expected to endorse this air quality conformity determination on May 28, 2019. 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 of past) as recommended projects or projects requiring further study.

DEP submitted to EPA its strategy of programs to show Reasonable Further Progress of a 15% reduction of VOCs in 1996 and the further 9% reduction of NO_x toward attainment of the National Ambient Air Quality Standards (NAAQS) for ozone in 1999. Within that strategy there are no specific TCM projects. The strategy does call for traffic flow improvements to reduce congestion and, therefore, improve air quality. Other transportation-related projects that have been included in the SIP control strategy are listed below:

- *Enhanced Inspection and Maintenance Program*
- *California Low Emission Vehicle Program*
- *Reformulated Gasoline for On- and Off-Road Vehicles*
- *Stage II Vapor Recovery at Gasoline Refueling Stations*
- *Tier I Federal Vehicle Standards*

Fiscal Constraint:

Transportation conformity requirements in 40 CFR 93.108 state that TIPs and transportation plans must be fiscally constrained consistent with DOT's metropolitan planning regulations at 23 CFR part 450. The Pioneer Valley 2021-2025 Transportation Improvement Program and 2020-2040 Regional Transportation Plan are fiscally constrained, as demonstrated in (Chapter 16 of the RTP and Page 39 of this document).

As of April 22, 2002, the city of Springfield was re-designated as being in attainment for carbon monoxide (CO) with an EPA-approved limited maintenance plan. In areas with approved limited maintenance plans, federal actions requiring conformity determinations under the transportation conformity rule are considered to satisfy the "budget test" (as budgets are treated as not constraining in these areas for the length of the initial maintenance period). Any future required "project level" conformity determinations for projects located within this community will continue to use a "hot-spot" analysis to assure that any new transportation projects in this CO attainment area do not cause or contribute to carbon monoxide non-attainment.

In summary and based upon the entire process described above, the Pioneer Valley 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 2021-2025 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 Pioneer Valley MPO's FFY 2021-2025 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.

IX. 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 2019 – 2022 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 the Department of Environmental Protection issued new regulations that require Metropolitan Planning Organizations to quantify impacts from project investments, track progress towards reductions, and consider impacts in the prioritization of GHG impacts from project investments. The targets for overall statewide GHG emissions are:



GreenDOT Policy

The transportation sector is the single largest emitter of greenhouse gases, accounting for over a third of GHG emissions, and therefore the transportation sector is a key focus of the *Clean Energy and Climate Plan*. MassDOT's approach to supporting the implementation of the plan is set forth in its GreenDOT Policy Directive, a comprehensive sustainability initiative that sets three principal objectives:

- **Reduce greenhouse gas (GHG) emissions.** MassDOT will achieve this by taking GHG emissions into account in all of its responsibilities, from strategic planning to project design and construction and system operations.
- **Promote the healthy transportation modes of walking, bicycling, and public transit.** MassDOT will achieve this by pursuing multi-modal, "complete streets" design standards; providing choice in transportation services; and by working with MPOs and other partners to prioritize and program a balance of projects that serve drivers, pedestrians, bicyclists, and public transit riders.
- **To support smart growth development.** MassDOT will achieve this by working with MPOs and other partners to make transportation investments that enable denser, smart growth development patterns that support reduced GHG emissions.

Regional GHG Tracking and Evaluation in RTPs

MassDOT coordinated with MPOs and regional planning agency (RPA) staffs on the implementation of GHG tracking and evaluation in development of each MPO's 2035 RTPs, which were adopted in September 2011. This collaboration has continued for the MPO's 2040 RTPs and 2019-22 TIPs.

Working together, MassDOT and the MPOs have attained the following milestones:

Modeling and long-range statewide projections for GHG emissions resulting from the transportation sector. Using the Boston MPO's regional model and the statewide travel demand model for the remainder of the state, GHG emissions were projected for 2020 no-build and build conditions, and for 2040 no-build and build conditions.

All of the MPOs included these GHG emission projections in their RTPs, along with a discussion of climate change and a statement of MPO support for reducing GHG emissions as a regional goal.

Project-Level GHG Tracking and Evaluation in the Transportation Improvement Program

It is also important to monitor and evaluate the GHG impacts of the transportation projects that are programmed in the MPO Transportation Improvement Programs (TIP). The TIP includes both the larger, regionally-significant projects from the RTPs, which have already had their aggregate GHG impacts calculated and reported in the RTP, as well as smaller projects that are not included in the RTP but that may nevertheless have impacts on GHG emissions. The principal 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 in future TIPs.

In order to monitor and evaluate the GHG impacts of TIP projects, MassDOT and the MPOs have developed the following approach for identifying anticipated GHG impacts and quantifying GHG impacts of projects, when appropriate, through the TIP. Different types of projects will have different anticipated GHG emissions impacts. The different project categories are outlined on the next two pages with this region's project tracking sheet on the third page.

Calculation of GHG Impacts for TIP Projects

The Office of Transportation Planning at MassDOT provided the spreadsheets that are used for determining Congestion Management and Air Quality Improvement (CMAQ) eligibility. These spreadsheets require the same inputs as the CMAQ calculations, and have been adapted to provide CO₂ impacts. The data and analysis required for these calculations is available from functional design reports that should be submitted for projects that would produce a measurable GHG impact.

Projects with Quantified Impacts

RTP Projects - Major capacity expansion projects would be expected to have a significant impact on GHG emissions. However, these projects are included in the RTPs and analyzed using the statewide model or Boston regional model, which would reflect their GHG impacts. Therefore, no independent TIP calculations are required.

- **Quantified Decrease in Emissions** - Projects that would be expected to produce a measurable decrease in emissions. The approach for calculating these impacts is described below. These projects should be 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 would enable increased walking and biking and decreased vehicle-miles traveled (VMT).
- **Quantified Decrease in Emissions from New/Additional Transit Service** - A bus or shuttle service that would enable increased transit ridership and decreased VMT
- **Quantified Decrease in Emissions from a Park and Ride Lot** A park-and-ride lot that would enable increased transit ridership/ increased ridesharing and decreased VMT
- **Quantified Decrease in Emissions from Bus Replacement**
A bus replacement that would directly reduce GHG emissions generated by that bus 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 Other Improvement**

Quantified Increase in Emissions – Projects that would be expected to produce a measurable increase in emissions

Projects with Assumed Impact

No Assumed Impact/Negligible Impact on Emission - Projects that do not change the capacity or use of a facility (e.g. a resurfacing project that restores a roadway to its previous condition, or a bridge rehabilitation/replacement that restores the bridge to its previous condition) would be assumed to have no GHG impact.

Assumed Nominal Decrease in Emissions - Projects that would be expected to produce a minor decrease in emissions that cannot be calculated with any precision. Examples of such projects include roadway repaving or reconstruction projects that add a new sidewalk or new bike lanes. Such a project would enable increased travel by walking or bicycling, but there may be not data or analysis to support any projections of GHG impacts. These projects should be categorized as a Qualitative Decrease in Emissions.

Assumed Nominal Increase in Emissions -Projects that would be expected to produce a minor increase in emissions that cannot be calculated with any precision. The projects should be categorized as a Qualitative Increase in Emissions.

Regional Greenhouse Gas Impact Summary Tables for FFY 2019 – 2022 TIP

The following table (table 23) summarizes the calculated quantitative and assumed qualitative impacts of the projects included in the regional FFY 2019 – 2022 TIP.

Table 24 Greenhouse Gas Summary Tables Tables FFY 2021

MassDot Project ID	MassDOT Project Description	GHG Analysis Type	GHG Impact Description	GHG CO2 Impact (kg/vr)	Additional Information
Federal Fiscal Year 2021					
Pioneer Valley					
605032	HADLEY- RECONSTRUCTION ON ROUTE 9, FROM MIDDLE STREET TO MAPLE/SOUTH MAPLE STREET	Quantified	Quantified Decrease in Emissions from Complete Streets Project	-354	
606552	NORTHAMPTON- BRIDGE REPLACEMENT, N-19-059, I-91 OVER US ROUTE 5 AND B&MRR, BRIDGE REPLACEMENT, N-19-060, I-91 OVER HOCKANUM ROAD AND IMPROVEMENTS TO I-91/INTERCHANGE 18	Qualitative	No assumed impact/negligible impact on emissions	0	
607773	WESTFIELD- IMPROVEMENTS & RELATED WORK ON ROUTE 20, COURT STEET & WESTERN AVENUE, LLOYDS HILL ROAD TO HIGH STREET/MILL STREET INTERSECTION (PHASE III)	Quantified	Quantified Decrease in Emissions from Complete Streets Project	-1,290	
608084	AMHERST- IMPROVEMENTS & RELATED WORK ON ROUTES 9 & 116, FROM UNIVERSITY DRIVE TO SOUTH PLEASANT STREET (0.8 MILES)	Quantified	Quantified Decrease in Emissions from Complete Streets Project	-3,109	
608782	SPRINGFIELD- INTERSECTION IMPROVEMENTS AT COTTAGE STREET, INDUSTRY AVENUE AND ROBBINS ROAD	Quantified	Quantified Decrease in Emissions from Traffic Operational Improvement	-41,123	Approved for CMAQ 2020
Pioneer Valley			Total GHG Increase (kg/year)	0	
			Total GHG Reduction (kg/year)	-45,876	
			Total GHG Difference (kg/year)	-45,876	
2021			Total GHG Increase (kg/year)	0	
			Total GHG Reduction (kg/year)	-45,876	
			Total GHG Difference (kg/year)	-45,876	

Table 24 Greenhouse Gas Summary Tables FFY 2022

MassDot Project ID	MassDOT Project Description	GHG Analysis Type	GHG Impact Description	GHG CO2 Impact (kg/yr)	Additional Information
Federal Fiscal Year 2022					
Pioneer Valley					
605032	HADLEY- RECONSTRUCTION ON ROUTE 9, FROM MIDDLE STREET TO MAPLE/SOUTH MAPLE STREET	Quantified	Quantified Decrease in Emissions from Complete Streets Project	-354	
606450	HOLYOKE- TRAFFIC SIGNAL UPGRADES AT 15 INTERSECTIONS ALONG HIGH & MAPLE STREETS	Quantified	Quantified Decrease in Emissions from Complete Streets Project	-12,567	
606552	NORTHAMPTON- BRIDGE REPLACEMENT, N-19-059, I-91 OVER US ROUTE 5 AND B&MRR, BRIDGE REPLACEMENT, N-19-060, I-91 OVER HOCKANUM ROAD	Qualitative	No assumed impact/negligible impact on emissions	0	
608157	SPRINGFIELD- MCKNIGHT COMMUNITY TRAIL CONSTRUCTION, FROM ARMORY STREET TO HAYDEN AVENUE (1.5 MILES)	Quantified	Quantified Decrease in Emissions from Bicycle and Pedestrian Infrastructure	-45,830	
608374	WEST SPRINGFIELD- RECONSTRUCTION OF MEMORIAL AVENUE (ROUTE 147), FROM COLONY ROAD TO THE MEMORIAL AVENUE ROTARY (1.4 MILES)	Quantified	Quantified Decrease in Emissions from Complete Streets Project	-8,434	
608466	GRANBY- RESURFACING AND RELATED WORK ON ROUTE 202 FROM KENDALL STREET TO SCHOOL STREET	Qualitative	Qualitative Decrease in Emissions	0	
608473	SOUTH HADLEY- RESURFACING AND RELATED WORK ON ROUTE 116	Qualitative	Qualitative Decrease in Emissions	0	
608487	WESTFIELD- RESURFACING AND RELATED WORK ON ROUTE 10 AND 202	Qualitative	Qualitative Decrease in Emissions	0	
608577	EASTHAMPTON- IMPROVEMENTS AND RELATED WORK ON UNION STREET (ROUTE 141) FROM PAYSON AVENUE TO HIGH STREET (0.36 MILES)	Quantified	Quantified Decrease in Emissions from Complete Streets Project	-3,170	
608719	AMHERST- BELCHERTOWN- NORWOTTUCK RAIL TRAIL RESURFACING, FROM STATION ROAD IN AMHERST TO WARREN WRIGHT ROAD IN BELCHERTOWN (1.5 MILES)	Qualitative	Qualitative Decrease in Emissions	0	To be Quantified in future TIP
609515	NORTHAMPTON- BRIDGE STREET ELEMENTARY SCHOOL IMPROVEMENTS (SRTS)	Qualitative	Qualitative Decrease in Emissions	0	
610652	AGAWAM- ROBINSON PARK ELEMENTARY SCHOOL IMPROVEMENTS (SRTS)	Qualitative	Qualitative Decrease in Emissions	0	
Pioneer Valley			Total GHG Increase (kg/year)	0	
			Total GHG Reduction (kg/year)	-70,355	
			Total GHG Difference (kg/year)	-70,355	
2022			Total GHG Increase (kg/year)	0	
			Total GHG Reduction (kg/year)	-70,355	
			Total GHG Difference (kg/year)	-70,355	

Table 24 Greenhouse Gas Summary Tables FFY 2023

MassDot Project ID	MassDOT Project Description	GHG Analysis Type	GHG Impact Description	GHG CO2 Impact (kg/yr)	Additional Information
Federal Fiscal Year 2023					
Pioneer Valley					
604209	HOLYOKE- WEST SPRINGFIELD- REHABILITATION OF ROUTE 5 (RIVERDALE ROAD), FROM I-91 (INTERCHANGE 13) TO MAIN STREET IN HOLYOKE &	Qualitative	Qualitative Decrease in Emissions	0	
606552	NORTHAMPTON- BRIDGE REPLACEMENT, N-19-059, I-91 OVER US ROUTE 5 AND B&MRR, BRIDGE REPLACEMENT, N-19-060, I-91 OVER HOCKANUM ROAD	Qualitative	No assumed impact/negligible impact on emissions	0	
606895	GRANBY- IMPROVEMENTS @ 2 LOCATIONS ON ROUTE 202: SCHOOL STREET & FIVE CORNERS	Quantified	Quantified Decrease in Emissions from Complete Streets Project	-273	
608163	WALES- RECONSTRUCTION & IMPROVEMENTS ON MONSON ROAD, FROM THE MONSON T.L. TO REED HILL ROAD (1.5 MILES)	Qualitative	Qualitative Decrease in Emissions	0	
608374	WEST SPRINGFIELD- RECONSTRUCTION OF MEMORIAL AVENUE (ROUTE 147), FROM COLONY ROAD TO THE MEMORIAL AVENUE ROTARY (1.4 MILES)	Quantified	Quantified Decrease in Emissions from Complete Streets Project	-8,434	
608489	WILBRAHAM- RESURFACING AND RELATED WORK ON ROUTE 20	Qualitative	Qualitative Decrease in Emissions	0	
608560	SPRINGFIELD- IMPROVEMENTS ON ST. JAMES AVENUE AT TAPLEY STREET	Qualitative	Qualitative Decrease in Emissions	0	
608565	SPRINGFIELD- IMPROVEMENTS ON ST. JAMES AVENUE AT ST. JAMES BOULEVARD AND CAREW STREET	Qualitative	Qualitative Decrease in Emissions	0	
608847	WALES- BRIDGE REPLACEMENT, W-02-002, HOLLAND ROAD OVER WALES BROOK	Qualitative	No assumed impact/negligible impact on emissions	0	
609120	LUDLOW- BRIDGE REPLACEMENT, L-16-026, PINEY LANE OVER BROAD BROOK	Qualitative	No assumed impact/negligible impact on emissions	0	
609409	SPRINGFIELD- BRIDGE REPLACEMENT, S-24-016, ARMORY STREET OVER CSX MAINLINE & S-24-026, ARMORY STREET OVER ABANDONED CSX	Qualitative	No assumed impact/negligible impact on emissions	0	
609517	LONGMEADOW- BLUEBERRY HILL ELEMENTARY SCHOOL IMPROVEMENTS (SRTS)	Qualitative	Qualitative Decrease in Emissions	0	
Pioneer Valley			Total GHG Increase (kg/year)	0	
			Total GHG Reduction (kg/year)	-8,707	
			Total GHG Difference (kg/year)	-8,707	
2023			Total GHG Increase (kg/year)	0	
			Total GHG Reduction (kg/year)	-8,707	
			Total GHG Difference (kg/year)	-8,707	

Table 24 Greenhouse Gas Summary Tables FFY 2024

MassDot Project ID	MassDOT Project Description	GHG Analysis Type	GHG Impact Description	GHG CO2 Impact (kg/yr)	Additional Information
Federal Fiscal Year 2024					
Pioneer Valley					
606552	NORTHAMPTON- BRIDGE REPLACEMENT, N-19-059, I-91 OVER US ROUTE 5 AND B&MRR, BRIDGE REPLACEMENT, N-19-060, I-91 OVER HOCKANUM ROAD	Qualitative	No assumed impact/negligible impact on emissions	0	
608374	WEST SPRINGFIELD- RECONSTRUCTION OF MEMORIAL AVENUE (ROUTE 147), FROM COLONY ROAD TO THE MEMORIAL AVENUE ROTARY (1.4 MILES)	Quantified	Quantified Decrease in Emissions from Complete Streets Project	-8,434	
608413	NORTHAMPTON- ROCKY HILL GREENWAY MULTI-USE TRAIL, FROM THE MANHAN RAIL TRAIL TO ROCKY HILL ROAD (0.4 MILES)	Quantified	Quantified Decrease in Emissions from Bicycle and Pedestrian Infrastructure	-3,665	
608423	EASTHAMPTON- IMPROVEMENTS AND RELATED WORK ON ROUTE 10, FROM WEST STREET TO THE NORTHAMPTON TOWN LINE	Qualitative	Qualitative Decrease in Emissions	0	
608460	HADLEY- BRIDGE REPLACEMENT, H-01-005, BAY ROAD (ROUTE 47) OVER THE FORT RIVER	Qualitative	No assumed impact/negligible impact on emissions	0	
608717	SPRINGFIELD- RECONSTRUCTION OF SUMNER AVENUE AT DICKINSON STREET AND BELMONT AVENUE (THE "X")	Quantified	Quantified Decrease in Emissions from Complete Streets Project	-39,183	
608846	MONSON- BRIDGE REPLACEMENT, M-27-015, OLD WALES ROAD OVER CONANT BROOK	Qualitative	No assumed impact/negligible impact on emissions	0	
608881	LONGMEADOW- SPRINGFIELD- RESURFACING AND INTERSECTION IMPROVEMENTS ON LONGMEADOW STREET (ROUTE 5) AND CONVERSE STREET (0.84	Quantified	Quantified Decrease in Emissions from Complete Streets Project	-3,410	
S10757	HAMPDEN- ROCKADUNDEE BRIDGE (H-04-004) OVER SCANTIC RIVER	Qualitative	No assumed impact/negligible impact on emissions	0	
Pioneer Valley			Total GHG Increase (kg/year)	0	
			Total GHG Reduction (kg/year)	-54,692	
			Total GHG Difference (kg/year)	-54,692	
2024			Total GHG Increase (kg/year)	0	
			Total GHG Reduction (kg/year)	-54,692	
			Total GHG Difference (kg/year)	-54,692	

Table 24 Greenhouse Gas Summary Tables FFY 2025

MassDot Project ID	MassDOT Project Description	GHG Analysis Type	GHG Impact Description	GHG CO2 Impact (kg/yr)	Additional Information
Federal Fiscal Year 2025					
Pioneer Valley					
604136	MONSON- PALMER- BRIDGE REPLACEMENT, M-27-007=P-01-007, STATE AVENUE OVER THE QUABOAG RIVER	Qualitative	No assumed impact/negligible impact on emissions	0	
608785	SOUTH HADLEY- RECONSTRUCTION OF MAIN STREET FROM THE CHICOPEE CITY LINE TO CANAL STREET (0.67 MILES)	Quantified	Quantified Decrease in Emissions from Complete Streets Project	-4,126	
608869	NORTHAMPTON- BRIDGE REPLACEMENT, N-19-068, OLD SPRINGFIELD ROAD OVER THE MILL RIVER	Qualitative	No assumed impact/negligible impact on emissions	0	
609065	HOLYOKE- RESURFACING AND RELATED WORK ON CABOT STREET AND RACE STREET (CENTER CITY CONNECTOR)	Quantified	Quantified Decrease in Emissions from Complete Streets Project	6,129	
609287	WORTHINGTON- RECONSTRUCTION & RELATED WORK ON ROUTE 143 (PHASE II), FROM PERU T.L. TO COLD STREET	Quantified	Quantified Decrease in Emissions from Complete Streets Project	-220	
610657	EASTHAMPTON- NORTHAMPTON- INSTALLATION OF A SHARED-USE PATH ALONG MOUNT TOM ROAD FROM THE MANHAN TRAIL TO ATWOOD DRIVE	Qualitative	Qualitative Decrease in Emissions	0	To be Quantified in future TIP
S10760	WESTHAMPTON- PERRY HILL ROAD (W-27-028) OVER NORTH BROOK OF MANHAN RIVER	Qualitative	No assumed impact/negligible impact on emissions	0	
Pioneer Valley			Total GHG Increase (kg/year)	6,129	
			Total GHG Reduction (kg/year)	-4,346	
			Total GHG Difference (kg/year)	1,783	
2025			Total GHG Increase (kg/year)	6,129	
			Total GHG Reduction (kg/year)	-4,346	
			Total GHG Difference (kg/year)	1,783	
2021 - 2025			Total GHG Increase (kg/year)	6,129	
			Total GHG Reduction (kg/year)	-183,976	
			Total GHG Difference (kg/year)	-177,847	

Table 25 Transit GHG Summary 2021

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 ▼
BCG0008757	Buy Replacement 35-FT Buses (3)	\$1,800,000	Quantified	5054.154	Quantified Decrease in Emissions from Bus Replacement	\$1,800,000	141684.718 kg per year per bus (3) buses
BCG0008769	Buy Replacement 40-FT Buses (12)	\$6,092,877	Quantified	1564506.59	Quantified Decrease in Emissions from Bus Replacement	\$6,092,877	141684.718 kg per bus (12) per year
BCG0009133	BUY REPLACEMENT 40-FT BUS - Electric (3) (RTACAP should be VW Mitigation)	\$3,000,000	Quantified	5941203	Quantified Decrease in Emissions from Bus Replacement	\$3,000,000	1980401 kg per bus per year (3)
BCG0009134	BUY REPLACEMENT 35-FT BUS - Electric (3) (RTACAP should be VW mitigation)	\$2,700,000	Quantified	5941203	Quantified Decrease in Emissions from Bus Replacement	\$2,700,000	1980401 kg per bus per year (3)
BCG0009135	REHAB/REBUILD 40-FT BUS (9)	\$2,925,000	Qualitative		Qualitative Decrease in Emissions	\$2,925,000	
BCG0009136	REHAB/REBUILD 35-FT BUS (6)	\$1,500,000	Qualitative		Qualitative Decrease in Emissions	\$1,500,000	

Table 26 Transit GHG Summary 2022

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 ▼
BCG0008744	Purchase 40' Replacement Buses (7)	\$3,600,317	Quantified	912628.843	Quantified Decrease in Emissions from Bus Replacement	\$3,600,317	130375.549 kg per bus (7) per year
BCG0008745	Replace 35' Buses (1)	\$502,777	Quantified	141684.718	Quantified Decrease in Emissions from Bus Replacement	\$502,777	141684.718 kg per year per bus (1) buses
BCG0008756	Purchase Replacement Vans (15)	\$1,114,958	Quantified	3902727.195	Quantified Decrease in Emissions from Bus Replacement	\$1,114,958	260181.813 kg per year per van (15)
BCG0009140	BUY REPLACEMENT 40-FT BUS - Electric (6) (RTACAP should be VW Mitigation)	\$3,412,905	Quantified	11882406	Quantified Decrease in Emissions from Bus Replacement	\$3,412,905	1980401 kg per bus per year (6)
BCG0009141	BUY REPLACEMENT 35-FT BUS - Electric (8) (RTACAP should be VW mitigation)	\$4,375,152	Quantified	11882406	Quantified Decrease in Emissions from Bus Replacement	\$4,375,152	1980401 kg per bus per year (6)
BCG0009142	REHAB/REBUILD 40-FT BUS (6)	\$1,950,000	Qualitative		Qualitative Decrease in Emissions	\$1,950,000	
BCG0009143	REHAB/REBUILD 35-FT BUS (4)	\$1,100,000	Qualitative		Qualitative Decrease in Emissions	\$1,100,000	

Table 27 Transit GHG Summary 2023

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 ▼
BCG0008758	Purchase 40' Replacement Buses (6)	\$3,178,566	Quantified	782253.294	Quantified Decrease in Emissions from Bus Replacement	\$3,178,566	130375.549 kg per bus (7) per year
BCG0008759	Purchase 35' Replacement Buses (3)	\$1,553,581	Quantified	425054.154	Quantified Decrease in Emissions from Bus Replacement	\$1,553,581	141684.718 kg per year per bus (1) buses
BCG0009144	BUY REPLACEMENT 40-FT BUS - Electric (5) (RTACAP should be VW Mitigation)	\$2,929,415	Quantified	9902005	Quantified Decrease in Emissions from Bus Replacement	\$2,929,415	1980401 kg per bus per year (5)
BCG0009145	BUY REPLACEMENT 35-FT BUS - Electric (5) (RTACAP should be VW Mitigation)	\$2,816,504	Quantified	9902005	Quantified Decrease in Emissions from Bus Replacement	\$2,816,504	1980401 kg per bus per year (5)

Table 28 Transit GHG Summary 2024

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 ▼
BCG0009149	BUY REPLACEMENT 40-FT BUS - Electric (6)	\$2,675,755	Quantified	11882406	Quantified Decrease in Emissions from Bus Replacement	\$2,675,755	1980401 kg per bus per year (6)
BCG0009146	REHAB/REBUILD 40-FT BUS (4)	\$1,500,000	Qualitative		Qualitative Decrease in Emissions	\$1,500,000	
BCG0009150	REHAB/REBUILD 40-FT BUS (3)	\$1,125,000	Qualitative		Qualitative Decrease in Emissions	\$1,125,000	
BCG0008779	Replacement 40' Bus (5)	\$2,728,269	Quantified	651877.745	Quantified Decrease in Emissions from Bus Replacement	\$2,728,269	130375.549 kg per bus (5) per year

Table 29 Transit GHG Summary

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 ▼
BCG0009153	REHAB/REBUILD 40-FT BUS (7)	\$2,500,882	Qualitative		Qualitative Decrease in Emissions	\$2,500,882
BCG0009154	REHAB/REBUILD 35-FT BUS (5)	\$1,425,000	Qualitative		Qualitative Decrease in Emissions	\$1,425,000

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APPENDICES

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APPENDIX A: MassDOT Targets

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FFY 2021-2025 STIP
2021-2025 BUDGET (Federal Aid + Match)

	2021 Current Obligation authority	2021 Proposed Obligation authority (91%)*	2022 Current Obligation authority	2022 Proposed Obligation authority (91%)*	2023 Current Obligation authority	2023 Proposed Obligation authority (91%)*	2024 Current Obligation authority	2024 Proposed Obligation authority (91%)*
Base obligation authority	\$ 641,988,270.00	\$ 621,541,829.00	\$ 638,744,163.00	\$ 634,503,827.00	\$ 676,662,004.60	\$ 647,736,142.00	\$ 689,684,332.90	\$ 661,244,412.00
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
Total estimated funding available	\$ 691,988,270.00	\$ 671,541,829.00	\$ 708,744,163.00	\$ 684,503,827.00	\$ 726,662,004.60	\$ 697,736,142.00	\$ 739,684,332.90	\$ 711,244,412.00
ABP GANS Repayment	\$ (65,190,000.00)	\$ (82,375,000.00)	\$ (89,590,000.00)	\$ (86,470,000.00)	\$ (93,985,000.00)	\$ (89,510,000.00)	\$ (98,715,000.00)	\$ (93,985,000.00)
Total non-earmarked funding available (federal aid)	\$ 606,798,270.00	\$ 589,166,829.00	\$ 619,154,163.00	\$ 598,033,827.00	\$ 632,677,004.60	\$ 608,226,142.00	\$ 640,969,332.90	\$ 617,259,412.00
Total non-earmarked funding available (federal aid + match)	\$ 750,612,944.18	\$ 728,525,042.88	\$ 766,455,220.10	\$ 739,775,237.22	\$ 782,700,504.29	\$ 752,059,445.48	\$ 792,949,657.91	\$ 763,212,630.54
Planning and Pass-throughs (excluding EWO)	\$ 47,887,887.47	\$ 48,138,639.97	\$ 47,887,887.47	\$ 48,186,662.47	\$ 45,080,547.47	\$ 45,428,785.47	\$ 45,080,547.47	\$ 45,479,733.47
Funding for Regional Priorities**	\$ 243,332,160.75	\$ 243,332,160.75	\$ 248,287,195.75	\$ 248,287,195.75	\$ 253,709,791.53	\$ 253,709,791.53	\$ 257,035,097.92	\$ 257,035,097.92
Highway Division Programs***	\$ 459,392,895.96	\$ 436,854,242.16	\$ 470,280,136.87	\$ 443,301,379.00	\$ 483,910,165.28	\$ 452,920,868.48	\$ 490,834,012.52	\$ 460,697,799.14

	2025 Proposed Obligation authority (91%)*
Base obligation authority	\$ 675,034,391
Planned redistribution request	\$ 50,000,000
Total estimated funding available	\$ 725,034,391
ABP GANS Repayment	\$ (122,185,000)
Total non-earmarked funding available	\$ 602,849,391.00
Total non-earmarked funding available (federal aid + match)	\$ 745,410,138.60
Planning and Pass-throughs (excluding EWO)	\$ 45,479,733.47
3.5596% Berkshire	\$ 8,935,836
42.9671% Boston	\$ 107,862,383
4.5851% Cape Cod	\$ 11,510,198
6.6901% Central Mass	\$ 21,815,177
2.5397% Franklin	\$ 6,375,531
0.3100% Martha's Vineyard	\$ 778,208
4.4296% Merrimack Valley	\$ 11,119,839
4.4596% Montachusett	\$ 11,195,149
0.2200% Nantucket	\$ 552,277
3.9096% Northern Middlesex	\$ 9,814,457
4.5595% Old Colony	\$ 11,445,933
10.8099% Pioneer Valley	\$ 27,136,613
8.9601% Southeastern Mass	\$ 22,492,971
Funding for Regional Priorities	\$ 251,034,571.91
Highway Division Programs	\$ 448,895,833.23

*Base Obligation Authority based on 2.1% growth rate from actual FFY 2020 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 (including EWO/Awards/Adjustments) need revised based on new ABP GANS schedule and proposed Obligation Authority

APPENDIX B: Metropolitan Planning Area (MPA) State and Local Consulted Agencies

As required in MAP-21, the Moving Ahead for Progress in the 21st Century Act (P.L. 112-141) consulted with agencies and officials responsible for other planning activities within the MPA (metropolitan planning area) that are affected by transportation (including State and local planned growth, economic development, environmental protection, airport operations, or freight movements) or coordinate its planning process (to the maximum extent practicable) with such planning activities

PVMPO fulfilled these requirements through the processes tied to the Joint Transportation Committee (JTC). Listed below are two tables, table 25 list agencies with transportation interest in the Metropolitan Planning Area (MPA) that were contacted for the purpose of consultation while developing the TIP. Table 26 lists the agencies from table 26 which responded and coordinated meetings were held during TIP development.

Table 25: Agencies Contacted

Agency	Agency Location
Westfield River Wild and Scenic Advisory Committee	Haydenville
MassDOT - Office of Transportation Planning	Boston
FEDERAL HIGHWAY ADMIN	Cambridge
US EPA	Boston
MassDOT	Boston
COUNCIL ON AGING	Granby
AIR QUALITY CONTROL (DEP)	Boston
FEDERAL TRANSIT ADMIN	Cambridge
MassDOT Highway Division District 1 & 2	Northampton/Lenox
OFFICE OF SOCIAL CONCERN	Springfield
Economic Development Council of Western Mass	Springfield
PETER PAN BUS LINES, INC.	Springfield
Pioneer Valley Transit Authority (PVTa)	Springfield
BARNES AIRPORT	Westfield
Pioneer Valley RR	Westfield
Bike/Ped Community (MassBike)	Williamsburg
UMASS Transit	Amherst
Columbia Greenway Rail Trail Committee	Westfield
Stockbridge Munsee Band of the Mohican Nation	Wisconsin

These agencies are solicited to comment and provide relevant information during TIP development and are invited to attend all meetings and workshop involving project evaluation. Agendas and information in regards the TIP and its development are distributed by mail prior to meetings as outlined in the Public Participation Plan for the Pioneer Valley.

Table 26: Agencies Providing Consultation)

Agency	Agency Location

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APPENDIX C: FAST Act Performance Management Information

The FHWA and FTA are jointly issuing this final rule to update the regulations governing the development of metropolitan transportation plans (MTP) and programs for urbanized areas, long-range statewide transportation plans and programs, and the congestion management process as well as revisions related to the use of and reliance on planning products developed during the planning process for project development and the environmental review process. The changes reflect the passage of the Moving Ahead for Progress in the 21st Century Act (MAP-21) and the Fixing America's Surface Transportation (FAST) Act. The MAP-21 continues many provisions related to transportation planning from prior laws; however, it introduces transformational changes and adds some new provisions. The FAST Act makes minor edits to existing provisions. The changes make the regulations consistent with current statutory requirements and implement the following: A new mandate for State departments of transportation (hereafter referred to simply as "States") and metropolitan planning organizations (MPO) to take a performance-based approach to planning and programming; a new emphasis on the nonmetropolitan transportation planning process, by requiring States to have a higher level of involvement with nonmetropolitan local officials and providing a process for the creation of regional transportation planning organizations (RTPO); a structural change to the membership of the larger MPOs; a new framework for voluntary scenario planning; new authority for the integration of the planning and environmental review processes; and a process for programmatic mitigation plans.²

PVPC accomplished the MTP requirements of FAST Act through the recent update to the Transportation Evaluation Criteria (TEC) for the Pioneer Valley MPO. The table below shows the relationship between FAST act planning factors and our TEC.

Fast Act Planning Factors Relationship to the Transportation Evaluation Criteria (TEC)

Factor	Fast Act 10 Planning Factors Description	TEC Scoring Criteria
1	Support the economic vitality of the metropolitan areas, especially by enabling global competitiveness, productivity, and efficiency.	Smart Growth and Economic Development, System Preservation, Modernization and Efficiency
2	Increase the safety of the transportation system for motorized and non-motorized users.	Safety and Security, Quality of Life
3	Increase the security of the transportation system for motorized and non-motorized users.	Safety and Security, Quality of Life
4	Increase the accessibility and mobility of people and for freight.	Mobility, Smart Growth and Economic Development
5	Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns.	Environment and Climate Change, Quality of Life, Livability, Smart Growth and Economic Development
6	Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight.	Smart Growth and Economic Development, Mobility
7	Promote efficient system management and operation.	System Preservation, Modernization and Efficiency, Mobility

²<https://www.federalregister.gov/articles/2016/05/27/2016-11964/statewide-and-nonmetropolitan-transportation-planning-metropolitan-transportation-planning#h-9>

8	Emphasize the preservation of the existing transportation system.	System Preservation, Modernization and Efficiency
9	Improve the resiliency and reliability of the transportation system and reduce or mitigate storm water impacts of surface transportation.	Environment and Climate Change
10	Enhancing travel and tourism.	Mobility, Quality of Life

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APPENDIX D: Planning Acronyms

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3C - Continuing, Comprehensive, and Cooperative Planning Process
AADT - Average Annual Daily Traffic
AASHTO - American Association of State Highway and Transportation Officials
ADA - Americans with Disabilities Act (1990)
ADT - Average Daily Traffic
AFV - Alternative Fuel Vehicles
ATR - Automatic Traffic Recorder
AVR - Average Vehicle Ridership
BAPAC - Barnes Aquifer Protection Advisory Committee
BID - Business Improvement District
BLOS - Bicycle Level of Service
BMP - Best Management Practice
BMS - Bridge Management System
CAAA - Clean Air Act Amendments of 1990
CBD - Central Business District
CDBG - Community Development Block Grant
CDC - Centers for Disease Control
CEDS - Comprehensive Economic Development Strategy
CIP - Capital Improvements Plan (or Program)
CMAQ - Congestion Mitigation and Air Quality Improvement Program
CMP - Congestion Management Process
CNG - Compressed Natural Gas
CO - Carbon Monoxide
COG - Council of Governments
CommPASS - Commonwealth Procurement Access and Solicitation System
CPA - Community Preservation Act
CPTC - Citizen Planner Training Collaborative
CRCOG - Capitol Region Council of Governments
CSO - Combined Sewer Overflow
DCR - Department of Conservation and Recreation
DEP - Department of Environmental Protection
DHCD - Department of Housing and Community Development
DLTA - Direct Local Technical Assistance
DOT - Department of Transportation
DPW - Department of Public Works
E.O. - Executive Order
EDC - Economic Development Council
EIR - Environmental Impact Report
EIS - Environmental Impact Statement
EJ - Environmental Justice
ENF - Environmental Notification Form
EOA - Economic Opportunity Area
EOEEA - Executive Office of Energy and Environmental Affairs
EPA - Environmental Protection Agency
FA - Federal Aid
FAST – Fixing America’s Surface Transportation Act
FC - Functional Classification (of roadways)
FHA - Federal Housing Administration
FHWA - Federal Highway Administration
FRCOG - Franklin Regional Council of Governments
FRTA – Franklin Regional Transit Authority
FTA - Federal Transit Administration
GHG - Greenhouse Gas
GIS - Geographic Information System
GPS - Global Positioning System
HOV - High Occupancy Vehicle

HUD - U.S. Department of Housing and Urban Development
ISTEA - Intermodal Surface Transportation Efficiency Act of 1991
ITS - Intelligent Transportation Systems
JARC - Job Access and Reverse Commute
JLSB - Jacob's Ladder Scenic Byway
JLT - Jacob's Ladder Trail
JTC - Joint Transportation Committee
LEP - Limited English Proficiency
LOS - Level of Service
LPMS - Local Pavement Management System
LRV - Light Rail Vehicle
LTA - Local Technical Assistance
M.G.L. - Massachusetts General Laws
MAP 21 - Moving Ahead for Progress in the 21st Century
MARPA - Massachusetts Association of Regional Planning Agencies
MassDOT - Massachusetts Department of Transportation
MassGIS - Massachusetts Geographic Information System
MEPA - Massachusetts Environmental Policy Act
MMA - Massachusetts Municipal Association
MOA - Memorandum of Agreement
MOU - Memorandum of Understanding
MPO - Metropolitan Planning Organization
MUTCD - Manual of Uniform Traffic Control Devices
NFA - Non-Federal Aid
NHS - National Highway System
NHTSA - National Highway Traffic Safety Administration
NOx - Nitrogen Oxide
NTSB - National Transportation Safety Board
OCI - Overall Condition Index (Pavement)
PCI - Pavement Condition Index
PL - [Metropolitan] Planning Funds
PMS - Pavement Management System
PMUG - Pavement Management Users Group
PPP - Public Participation Process
PVTA - Pioneer Valley Transit Authority
QV CDC - Quabog Valley Community Development Corp.
REB - Regional Employment Board
RIF - Roadway Inventory Files
RPA - Regional Planning Agency
RTA - Regional Transit Authority
RTP - Regional Transportation Plan
SAFETEA-LU - Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users
SBA - Small Business Administration
SIP - State Implementation Plan (for air quality)
SKC - Sustainable Knowledge Corridor
SOV - Single Occupancy Vehicle
SPR - Statewide Planning and Research Funds
STIP - Statewide Transportation Improvement Program
STP - Surface Transportation Program
TCSP - Transportation and Community System Preservation [Pilot Program]
TDM - Transportation Demand Management
TEA-21 - Transportation Equity Act for the 21st Century
TIP - Transportation Improvement Program
TMC - Turning Movement Count
TND - Traditional Neighborhood District
TOD - Transit Oriented Design (or Development)

TRB - Transportation Research Board
TRO - Trip Reduction Ordinance
TSM - Transportation Systems Management
UMass - University of Massachusetts
UPWP - Unified Planning Work Program
VMT - Vehicle Miles Traveled
VOC - Volatile Organic Compound
VOR - Vehicle Occupancy Rate
WBE - Women-owned Business Enterprises
WRWA - Westfield River Watershed Association
WRWSAC - Westfield River Wild & Scenic Advisory Committee
ZBA - Zoning Board of Adjustment (or Appeals)

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