Transportation Improvement Program

Metropolitan Planning Organization

FY 2020-2024 METROPOLITAN PLANNING ORGANIZATION
PIONEER VALLEY REGION, MASSACHUSETTS

April 16, 2019

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)

2020 - 2024

FOR THE
METROPOLITAN PLANNING ORGANIZATION
PIONEER VALLEY REGION,
MASSACHUSETTS

Endorsed:

Catalyst for Regional Progress
PVPC

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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.

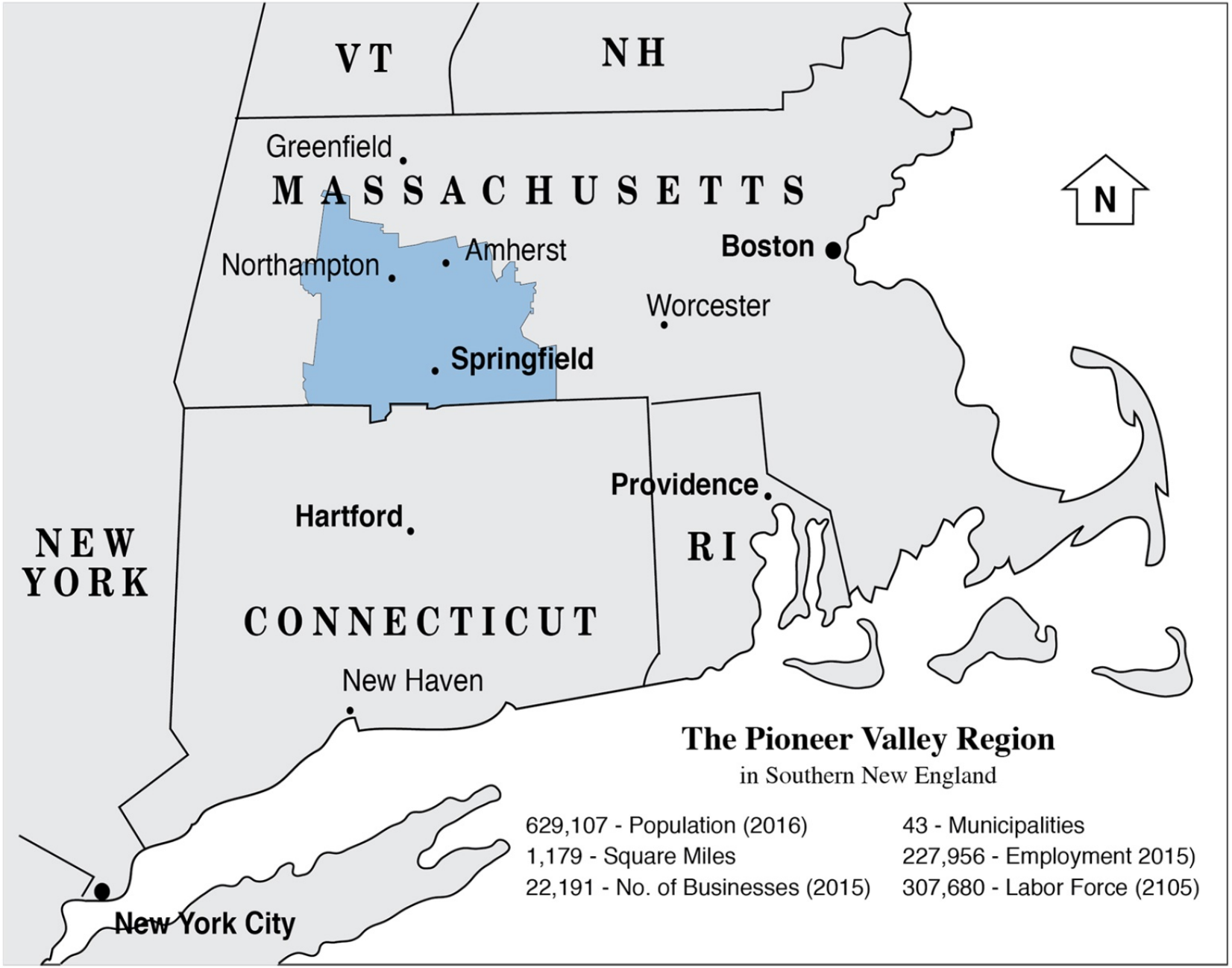
TIP Format and MPO Endorsement

The FFY 2019 - 2023 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 2019 - 2023 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 2019 and beyond. In response to this commitment, Pioneer Valley local officials in cooperation with regional and state officials from the 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 2019. Funding targets for the Pioneer Valley Region have been issued by MassDOT identifying potential resources for each year of the TIP.


VT
NH
Greenfield
MASSACHUSETTS
N
Boston
Amherst
Northampton
Worcester
Springfield
Providence
Hartford
NEW YORK
RI
CONNECTICUT
New Haven
New York City
The Pioneer Valley Region
in Southern New England
629,107 - Population (2016)
1,179 - Square Miles
22,191 - No. of Businesses (2015)
43 - Municipalities
227,956 - Employment 2015)
307,680 - Labor Force (2105)

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 AUTHORIZTION

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 stormwater 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 o n 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 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

[1] https://www.fhwa.dot.gov/fastact/summary.cfm

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

Table 1 Regional Performance Measure Status

Final Rule	Effective Date	Status	Updated
Safety Performance Measures (PM1)	April 14, 2016	MPO adopted state targets on February 26, 2019	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	March 26, 2019	Every Four Years

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 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 is presented in the following section.

Safety Performance Measures (PM1)

Pioneer Valley has chosen to adopt the statewide safety performance measure targets set by MassDOT for Calendar Year (CY) 2019. In setting these targets, MassDOT has followed FHWA guidelines by using statewide crash data and Highway Performance Monitoring System (HPMS) data for vehicle miles traveled (VMT) in order to calculate 5 year, rolling average trend lines for all FHWA-defined safety measures. For CY 2019 targets, four of the five safety measures—total number of fatalities, rate of fatalities per 100 million vehicle miles traveled, total number of incapacitating injuries, and rate of incapacitating injuries per 100 million VMT—were established by extending their trend lines into the 2015-2019 period. All four of these measures reflect a modest decrease in statewide trends. The fifth safety measure, the total number of combined incapacitating injuries and fatalities for non-motorized modes, is the only safety measure for which the statewide trend line depicts an increase. MassDOT's effort to increase non-motorized mode share throughout the Commonwealth has posed a challenge to simultaneously reducing non-

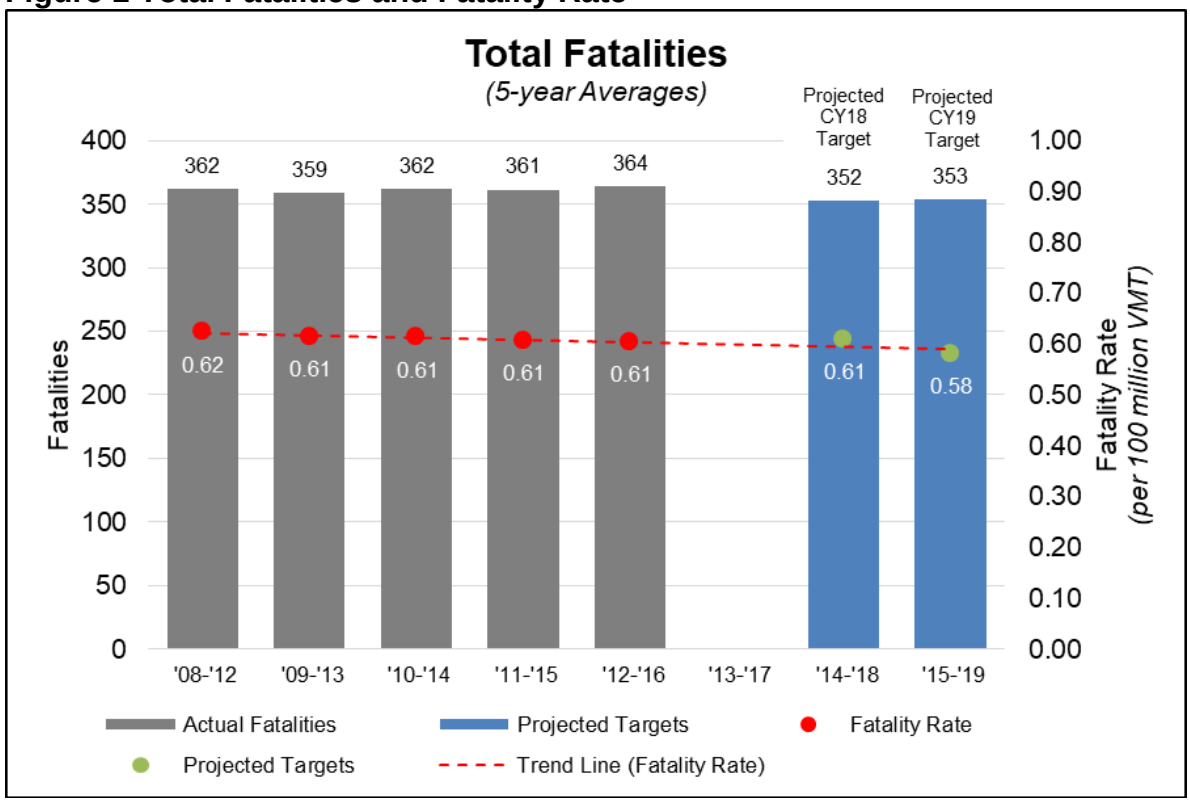
motorized injuries and fatalities. Rather than adopt a target that depicts an increase in the trend line, MassDOT has elected to establish a target of non-motorized fatalities and injuries and for CY 2019 that remains constant from the rolling average for 2012–2016. In recent years, MassDOT and the Pioneer Valley have invested in "complete streets," bicycle and pedestrian infrastructure, intersection and safety improvements in both the Capital Investment Plan (CIP) and Statewide Transportation Improvement Program (STIP) to address increasing mode share and to incorporate safety mitigation elements into projects. Moving forward, Pioneer Valley, alongside MassDOT, is actively seeking to improve data collection and methodology for bicycle and pedestrian VMT counts and to continue analyzing crash clusters and crash counts that include both motorized and non-motorized modes in order to address safety issues at these locations.

In all safety categories, MassDOT has established a long-term target of "Toward Zero Deaths" through MassDOT's Performance Measures Tracker2 and will be establishing safety targets for the MPO to consider for adoption each calendar year. While the MPO is not required by FHWA to report on annual safety performance targets, FHWA guidelines require MPOs to adopt MassDOT's annual targets or to establish their own each year.

The safety measures MassDOT has established for CY 2019, and that Pioneer Valley has adopted, are as follows:

1) Fatalities: The target number of fatalities for years CY 2019 is 353, down from an average of 364 fatalities for the years 2012–2016. [See Figure 1 for Our MPO vs. statewide comparison of the trend for this performance measure]

Figure 1 Total Fatalities and Fatality Rate

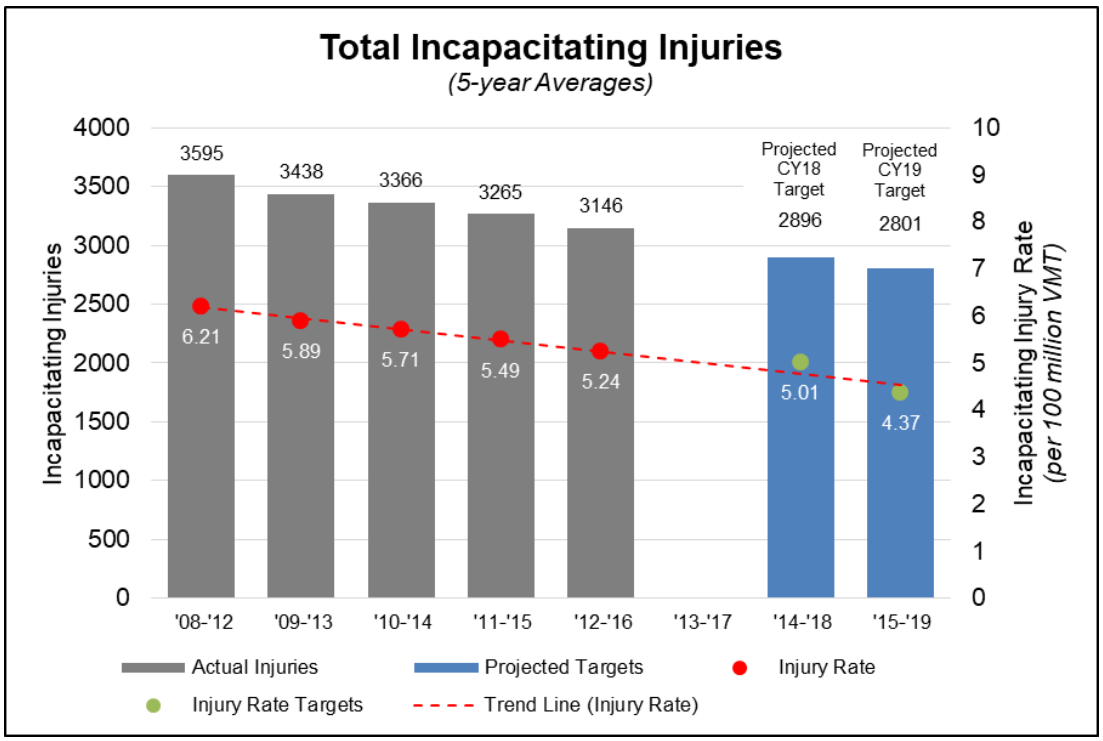


[2] https://www.mass.gov/lists/tracker-annual-performance-management-reports

2) Rate of Fatalities per 100 million VMT: The target fatality rate for years CY 2019 is 0.58, down from a 0.61 average for years 2012–2016. [See Figure 1 for Our MPO vs. statewide comparison of the trend for this performance measure]

3) Serious Injuries: The target number of incapacitating injuries for CY2019 is 2801, down from the average of 3146 for years 2012–2016. [See Figure 2 for Our MPO vs. statewide comparison of the trend for this performance measure]

Figure 2 Total Incapacitating Injuries and Injury Rate



4) Rate of Incapacitating Injuries per 100 million VMT: The incapacitating injury rate target for CY2019 is 4.37 per year, down from the 5.24 average rate for years 2012–2016. [See Figure 2 for Our MPO vs. statewide comparison of the trend for this performance measure]

Bridge & Pavement Performance Measures (PM2)

Pioneer Valley has chosen to adopt the 2-year (2020) and 4-year (2022) statewide bridge and pavement performance measure targets set by MassDOT. MassDOT was required to adopt a statewide target by May 20th, 2018, with MPOs either adopting the statewide target or establishing their own by November 2018. In setting these targets, MassDOT has followed FHWA guidelines by measuring bridges and pavement condition using the 9-point National Bridge Inventory Standards (NBIS); the International Roughness Index (IRI); the presence of pavement rutting; and the presence of pavement cracking. 2-year and 4-year targets were set for six individual performance measures: percent of bridges in good condition; percent of bridges in poor condition; percent of Interstate pavement in good condition; percent of Interstate pavement in poor condition; percent of non-Interstate pavement in good condition; and percent of non-Interstate pavement in poor condition. All of the above performance measures are tracked in greater detail in MassDOT's Transportation Asset Management Plan (TAMP), which is due to be finalized in July 2019.

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

Performance targets for pavement-related performance measures were based on a single year of data collection, and thus were set to remain steady under the guidance of FHWA. These measures are to be revisited at the 2-year mark (2020), once three years of data are available, for more informed target setting. MassDOT continues to measure pavement quality and to set statewide short-term and long-term targets in the MassDOT Performance Management Tracker using the Pavement Serviceability Index (PSI), which differs from IRI. These measures and targets are used in conjunction with federal measures to inform program sizing and project selection.

Performance Measure	Current (2017)	2-year target (2020)	4-year target (2022)
Bridges in good condition	15.22%	15%	16%
Bridges in poor condition	12.37%	13%	12%
Interstate Pavement in good condition	74.2%	70%	70%
Interstate Pavement in poor condition	0.1%	4%	4%
Non-Interstate Pavement in good condition	32.9%	30%	30%
Non-Interstate Pavement in poor condition	31.4%	30%	30%

Reliability, Congestion, & Emissions Performance Measures (PM3)

Pioneer Valley has chosen to adopt the 2-year (2020) and 4-year (2022) statewide reliability, congestion, and emissions performance measure targets set by MassDOT. MassDOT was required to adopt a statewide target by May 20th, 2018, with MPOs either adopting the statewide target or establishing their own by November 2018.

MassDOT followed FHWA regulation in measuring Level of Travel Time Reliability (LOTTR) on both the Interstate and non-Interstate NHS as well as Truck Travel Time Reliability (TTTR) on the Interstate system using the National Performance Management Research Dataset (NPMRDS) provided by FHWA. These performance measures aim to identify the predictability of travel times on the roadway network by comparing the average travel time along a given segment against longer travel times. For LOTTR, the performance of all segments of the Interstate and of the non-Interstate NHS are defined as either reliable or unreliable based on a comparison between the 50th percentile travel time and the 80th percentile travel time, and the proportion of reliable segments is reported. For TTTR, the ratio between the 50th percentile travel time and the 90th percentile travel time for trucks only along the Interstate system is reported as a statewide measure. As this data set has but one year of consistent data, FHWA guidance has been to set conservative targets and to adjust future targets once more data becomes available. To that end, MassDOT's reliability performance targets are set to remain the same.

Emissions reduction targets are measured as the sum total of all emissions reductions anticipated through CMAQ-funded projects in non-attainment or air quality maintenance areas (currently the cities of Lowell, Springfield, Waltham, and Worcester, and the town of Oak Bluffs) identified in the Statewide Transportation Improvement Program (STIP). This anticipated emissions reduction is calculated using the existing CMAQ processes.

Measure	Current (2017)	2-year (2020)	4-year (2022)
Non-Interstate LOTTR	80%	80%	80%
Interstate LOTTR	68%	68%	68%
TTTR	1.85	1.85	1.85
PHED (Boston UZA)	18.31	18.31	18.31
% non-SOV (Boston UZA)	33.6% (2016)	34.82%	35.46%
Emissions Reductions	Baseline (FFY 14–17)	1,622 CO 497.9 Ozone	TBD CO (Springfield) 1.1 Ozone

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%

Performance Measure Linked Investments

Insert Table showing project investment and corresponding PM

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 2020 through 2024 (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 2020 - 2024 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 Richard Kos	City of Chicopee
Mayor Alexander Morse	City of Holyoke
Mayor Brian P. Sullivan	City of Westfield
Mayor Nicole LaChapelle	Mayor of Easthampton
George Archible	Belchertown Board of Selectmen
Roger Fuller	Chesterfield Board of Selectmen
Rick Sullivan	Economic Development Council of Western Massachusetts
Alternates	
Mayor Domenic Sarno	Mayor of Springfield
Mayor William C. Reichelt	City of West Springfield
Carmina Fernandes	Ludlow Board of Selectmen
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 endorse 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.

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) COOPERATIVLEY 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

MassDOT developed a process and set of criteria to prioritize the region's TIP projects which was modified and endorsed by the MPO. 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 set forth by MAP -21. 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 INITATION

In the fall of 2017 MassDOT rolled out there 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

MASSDOT GREENDOT POLICY

MassDOT launched its GreenDOT initiative on June 2, 2010. GreenDOT was developed to assure a coordinated approach to sustainability and to integrate sustainability into the responsibilities and decision-making of all MassDOT employees. The following three mutually-reinforcing goals form the foundation of GreenDOT:

- Reduce greenhouse gas (GHG) emissions
- Promote the healthy transportation modes of walking, bicycling, and public transit
- Support smart growth development

The initiative is a comprehensive response to a range of state and MassDOT laws, policies and initiatives including: the Global Warming Solutions Act, the Green Communities Act, the Healthy Transportation Compact, Leading by Example, YouMoveMassachusetts, and Complete Streets. The Global Warming Solutions Act requires Massachusetts to reduce economy wide GHG emissions: 10% -25% below 1990 levels by 2020 and an 80% reduction below 1990 levels by

2050. The transportation sector is the largest GHG emitter, producing 31% of 1990 emissions and projected to produce 38% of 2020 emissions. GreenDOT also incorporates a statewide mode shift goal to triple the percentage of trips made by bicycling, transit and walking.

GreenDOT is also comprised on an additional by seven goals that can be tied to regional planning efforts. In the Pioneer Valley region, these goals and their recommended strategies have been incorporated into the new Transportation Evaluation Criteria (TEC) used to prioritize transportation improvement projects included as part of the TIP. The Tec is described in greater detail in Chapter 10 of the RTP. Table 1 summarizes the seven GreenDOT goals, their associated strategies and how they are addressed in the TEC for the Pioneer Valley.

Table 2 Integration of GreenDOT Goals into TIP

Policy/Planning - Design a Multi-Modal Transportation System, Triple Mode Share of Bicycling, Transit, and Walking, & Promote Healthy Transportation and Livable Communities	
Associated Strategy	**RTP/TEC Integration**
Providing secure and/or covered bicycle parking and shared used paths	Projects are eligible to receive up to 12 points for bicycle and pedestrian improvements in the "Livability" category. Projects receive 1 point for providing bicycle amenities such as bicycle parking.
Improving access to transit and other vital community services	Projects are eligible to receive up to 4 points by improving access to transit.
Designing complete street projects with municipalities	Complete Streets consistency is worth up to 3 points.
Encouraging Safe Routes to Schools projects	Projects that provide safe and reliable access to education receive 0.5 point.
Incorporating public health impacts in the transportation planning process	Projects that complete a Health Impact Assessment will receive 1 point.
Coordinating on regional and statewide bicycle and pedestrian planning efforts.	Many "Livability" subcategories in the TEC support regional and statewide bicycle and pedestrian planning efforts.
Supporting Bike Share programs locally and regionally.	Projects can receive 2 points for being part of a locally adopted Bike Share Program.
Prioritizing critical pedestrian and bicycle network gaps, i.e. Bay State Greenway	Critical Gaps are identified as part of PVPC's Regional Bicycle Linkages Map. Projects that provide connections to regional bikeways/walkways receive 1 point.
Improving bicycle and pedestrian counts	PVPC collects bicycle and pedestrian movements as part of all intersection turning movement counts.
Air - Reduce Greenhouse Gas Emissions & Improve Air Quality	
Associated Strategy	**RTP/TEC Integration**
Developing projects to improve air quality	Projects that demonstrate improvements to air quality can receive up to 1 point.
Analyzing GHG reduction strategies in transportation improvement projects and tracking progress	PVPC performs GHG analysis for all proposed RTP and TIP projects.
Setting regional goals for reducing VMT (travel demand)	Projects that demonstrate a significant reduction in single occupant vehicle use will receive 1 point.
Analyzing fleet fuel usage and supporting retrofits and procurement of alternative fuel vehicles	The RTP supports the use of alternatively fueled vehicles. PVTA has hybrid transit vehicles and is in the process of purchasing electric buses.

Supporting alternative fuels vehicle infrastructure	PVTA is in the process of purchasing an electric vehicle charging station.
Increasing bus and transit route efficiency	The PVPC has an ongoing task in its UPWP to study transit route efficiency.
Promoting anti-idling policies and educational outreach	Not specifically addressed in the TEC but included as a Need in the RTP
Energy - Consume Less Energy & Increase Reliance on Renewable Energy	
Associated Strategy	**RTP/TEC Integration**
Evaluating outdoor lighting and traffic signal systems, and retrofitting where feasible	Upgrades to traffic signal equipment can be worth up to 6 points.
Planning for the implementation of energy efficient measures and renewable energy projects	The RTP incorporates strategies from the Pioneer Valley Clean Energy Plan.
Land - Minimize Energy and Chemicals Used in Maintenance & Enhance Ecological Performance	
Associated Strategy	**RTP/TEC Integration**
Implementing sustainable stormwater management	Up to 2.5 points can be received through the use of green infrastructure and the reduction of impervious surfaces to manage stormwater.
Protecting and restoring native landscaping, woodland, and urban tree coverage	Projects that protect or enhance environmental assets receive 0.5 point.
Implementing sustainable road salt and sanding practices	Included as a strategy in the RTP.
Designing landscapes for wildlife habitat restoration, safe migration, and accommodation	Improvements to stream crossings and culverts that improve fish and wildlife passage receive 1 point.
Reducing outdoor light pollution	Not specifically addressed.
Advocating for urban trees into Complete Streets designs/studies	Complete Streets consistency is worth up to 3 points.
Materials - Improve Lifecycle Impacts of Investments & Purchase Environmentally Preferred Products	
Associated Strategy	**RTP/TEC Integration**
Planning for climate resiliency in the development of projects	Projects that preserve floodplains receive 0.5 point. Projects that improve storm resilience in areas prone to flooding receive up to 3 points.
Supporting the use and identify appropriate applications for warm mix and recycled content paving materials	Not specifically addressed.
Waste - Achieve Zero Solid Waste Disposal	
Associated Strategy	**RTP/TEC Integration**
Identifying projects with zero construction waste diversion goals	Not specifically addressed.
Implementing regional litter prevention programs with their respective municipalities	Not specifically addressed.
Water - Use Less Water & Improve Ecological Function of Water Systems	
Associated Strategy	**RTP/TEC Integration**
Planning projects that minimize impacts on surface water and enhance wetlands flood storage capacity	Projects that preserve wetlands receive 0.5 point.
Considering sea level rise and storm surge projections in project planning	Projects that improve storm resilience in areas prone to flooding receive up to 3 points.

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, 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 redemonstration of fiscal constraint. If an amendment involves "non-exempt" projects in nonattainment and maintenance areas, a conformity determination is required.

Amendments requires 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 were 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 purchases 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 2020 - 2024 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 3 Transportation Operating and Maintenance Expenditures

Total Available for Programming in the Pioneer Valley RTP	2016-2020 Total	2021-2025 Total	2026-2030 Total	2031-2035 Total	2036-2040 Total	GRAND TOTAL Total
	$ 420,177,748	**$ 426,618,217**	**$ 520,221,270**	**$ 582,504,200**	**$ 623,968,064**	**$ 2,573,489,499**
Statewide Interstate Maintenance	$ 29,750,182	$ 28,157,124	$ 35,185,257	$ 39,841,190	$ 42,920,276	**$ 175,854,029**
Statewide NHS	$ 19,572,131	$ 18,955,373	$ 23,686,712	$ 26,821,085	$ 28,893,926	**$ 117,929,227**
Statewide Bridge	$ 105,433,448	$ 102,111,025	$ 127,598,354	$ 144,482,963	$ 155,649,185	**$ 635,274,975**
Statewide Infrastructure	$ 4,219,341	$ 4,086,381	$ 5,106,359	$ 5,782,064	$ 6,228,925	**$ 25,423,070**
Remaining Statewide Programs	$ 96,040,886	$ 101,493,887	$ 126,827,176	$ 143,609,738	$ 154,708,473	**$ 622,680,160**
NFA Bridge Preservation	$ 54,049,500	$ 54,860,243	$ 55,670,985	$ 56,481,728	$ 57,292,470	**$ 278,354,926**
Regional Discretionary Funding	$ 111,112,260	$ 116,954,184	$ 146,146,427	$ 165,485,432	$ 178,274,809	**$ 717,973,112**

Source: Regional Transportation Plan, updated 2016

Table 4 Transit Operating and Maintenance Expenditures

Estimated Transit Operating Funds 2016 - 2040						
	2016-2020	**2021-2025**	**2026-2030**	**2031-2035**	**2036-2040**	**Grand Total**
State Contract Assistance	$ 125,723,298	$ 145,747,760	$ 168,961,600	$ 195,872,803	$ 227,070,262	$ 863,375,723
Local Assessments	$ 43,637,997	$ 49,372,389	$ 55,860,326	$ 63,200,831	$ 71,505,940	$ 283,577,483
5307 Federal Urbanized Area Fromula **	$ 53,120,529	$ 57,917,522	$ 62,393,619	$ 67,215,646	$ 72,410,341	$ 313,057,657
5339 Federal **	$ 3,614,988	$ 3,937,914	$ 4,242,253	$ 4,570,110	$ 4,923,307	$ 21,288,572
5310 Federal Ederly & Disabled	$ 2,704,105	$ 2,913,090	$ 3,138,225	$ 3,380,759	$ 3,642,038	$ 15,778,217
Farebox	$ 41,119,964	$ 45,399,763	$ 50,125,006	$ 55,342,057	$ 61,102,103	$ 253,088,893
Advertising, other revenue	$ 2,948,172	$ 3,255,020	$ 3,593,805	$ 3,967,851	$ 4,380,829	$ 18,145,677
Available for Programming in Pioneer Valley RTP	**$ 272,869,053**	**$ 308,543,458**	**$ 348,314,834**	**$ 393,550,057**	**$ 445,034,820**	**$ 1,768,312,222**
Estimated Capital Funds 2016 -2040						
	2016-2020	**2021-2025**	**2026-2030**	**2031-2035**	**2036-2040**	**Grand Total**
RTACAP	$ 20,285,825	$ 22,314,408	$ 24,545,848	$ 27,000,433	$ 29,700,476	$ 123,846,990
ITC Cap Program	$ 1,145,277	$ 1,259,805	$ 1,385,785	$ 1,524,364	$ 1,676,800	$ 6,992,031
Federal Matching grants	$ 63,410,806	$ 69,751,887	$ 76,727,075	$ 84,399,783	$ 92,839,761	$ 387,129,311
Total Transit Capital Funds for Programming in PV RTP	**$ 84,841,908**	**$ 93,326,099**	**$ 102,658,709**	**$ 112,924,579**	**$ 124,217,037**	**$ 517,968,332**
Grand Total of Revenue	**$ 357,710,961**	**$ 401,869,557**	**$ 450,973,543**	**$ 506,474,636**	**$ 569,251,857**	**$ 2,286,280,554**

Source: Regional Transportation Plan, updated 2016

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 2020 - 2024 TIP underwent a public review and comment period consistent with the Pioneer Valley Metropolitan Planning Organizations Public Participation Process. This began April 24, 2019 and continued until May 14, 2019. During this time, comments were received from (insert list of comments). A public hearing was held on May 8, 2019 as part of the JTC meeting. Below is a summary of the comments received during the public review and comment period.

Table 5 Comments Recieved 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.

INSERT TABLE OF COMMENTS RECEIVED DURING PUBLIC REVIEW

III. FEDERAL COMPONENT

PIONEER VALLEY MPO ENDORSEMENT

INSERT SIGNED ENDORSEMENT SHEETS

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.

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.

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.

FUNDING INFORMATION

FEDERAL AID TARGETS

The MassDOT provided the revised PVPC federal aid highway funding targets for the region in January 2019. The targets are provided for FFYs 2020 through 2024 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 FFY2021 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 - 2024. 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 2020 – 2024.

Table 6 Federal Highway Financial Plan

	2020	2021	2022	2023	2024	GRAND TOTAL
Total Target Funds	$25,782,146	$26,303,990	$26,839,603	$27,425,802	$27,785,265	**$134,136,806**
Total of Programmed	**$25,442,924**	**$26,303,990**	**$26,839,603**	**$27,149,154**	**$27,694,804**	**$133,430,475**
Programmed STP	$21,484,634	$20,543,799	$24,191,485	$20,480,052	$22,994,804	**$109,694,774**
Programmed HSIP	$3,034,891	$1,115,769	$2,118,494	$2,619,518	$1,100,000	**$9,988,672**
Programmed CMAQ	$923,399	$3,527,648	$0	$3,239,667	$3,000,000	**$10,690,714**
Programmed TAP	$0	$1,116,774	$529,624	$809,917	$600,000	**$3,056,315**
Difference	**$339,222**	**$0**	**$0**	**$276,648**	**$90,461**	**$706,331**

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 6 represents both apportioned items as well as discretionary items. The total programmed amount represents both the federal, state and local contributions.

Table 7 Federal Transit Financial Plan

	2020	2021	2022	2023	2024	GRAND TOTAL
Available Funding	$11,012,179	$13,637,357	$10,379,021	$11,498,144	$12,189,204	**$58,715,905**
Transit Capitol Investment	$11,012,179	$13,637,357	$10,379,021	$11,498,144	$12,189,204	**$58,715,905**
RTACAP	$134,500	$295,750	$549,000	$342,250	$473,750	**$1,795,250**
5307	$10,877,679	$13,341,607	$9,830,021	$11,155,894	$11,715,454	**$56,920,655**
5309	$0	$0	$0	$0	$0	**$0**
5310	$0	$0	$0	$0	$0	**$0**
Other Federal	$0	$0	$0	$0	$0	**$0**
Other Non Federal	$0	$0	$0	$0	$0	**$0**
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 – 2020 TO 2024

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 past 5 years (2020 through 2024) TIP. Table 8 provides the results of this analysis broken out by MPO sub-region while Table 2 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 8 and 9 the PVMPO has successfully programmed 19 projects in 12 communities over the next 5 years. The total funding commitment for these projects was just over $90 million. The average cost per project was $6.8 million (increase from $2.6 million last year) or 3.8 projects per year on average (Down from 6.8 projects per year). .

Table 8 Projects Proposed to be Completed in the 2020-2024 TIP by Sub-Region

	2020	2021	2022	2023	2024	Total	Total Funds	%Funds	%Population	Average Median Income	Average Median Below Poverty	Population
Sub Region 1	3	1	1	0	1	6	$ 30,741,315	24%	40%	$39,186	24.37%	248,238
Sub Region 2	0	1	1	1	0	3	$ 32,828,439	25%	17%	$64,795	8.53%	107,425
Sub Region 3	2	2	1	0	0	5	$ 42,326,150	33%	17%	$61,037	14.68%	105,185
Sub Region 4	0	0	0	2	1	3	$ 13,116,467	10%	21%	$73,499	6.84%	132,675
Sub Region 5	0	0	0	0	1	1	$ 9,957,440	8%	4%	$68,342	6.52%	28,047
	5	4	3	3	3	18	$ 128,969,811					
2020- Valley bike 1/8th funds: Northampton, Amherst, Chicopee, Easthampton, Hadley, Holyoke, South Hadley, Springfield, and West Springfield												
2020 - 0.5 project for PVTA P21 Express, running between Holyoke and Springfield												

Source: PVPC TIP

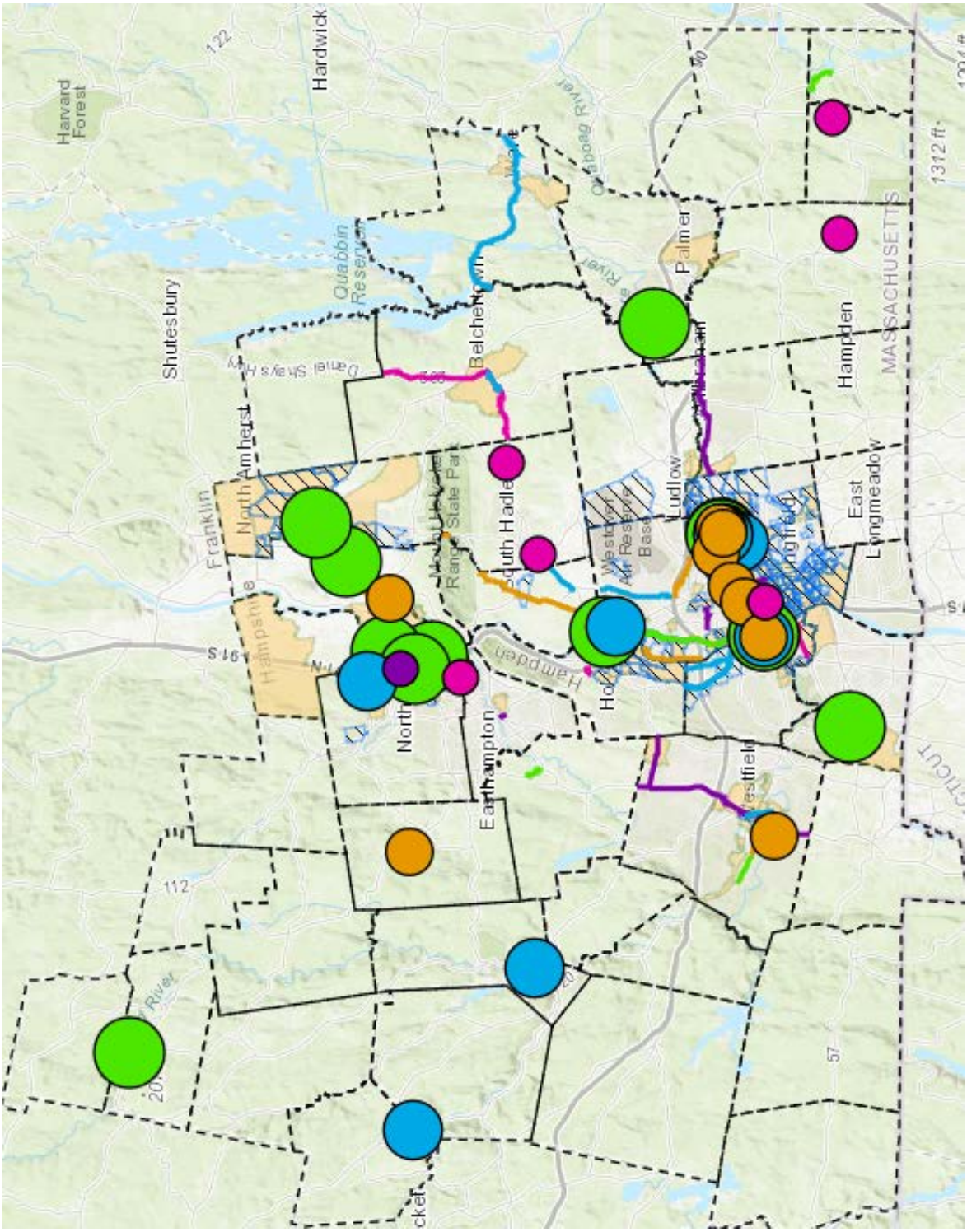
As can be seen in Table 8, the distribution of funds across the region is similar to the distribution of population across the region. Sub-region 1 will see 6 (33%) projects, but only about 24% of the available funding over the next 5 years. Sub-region 3 is anticipated to receive 16% more funding than population over the next 5 years. This is due in large to the MPO's commitment to fund a $24 million projects in West Springfield in 2022 and 2023. The PVMPO is committed to funding transportation improvement projects across the entire region. The community data provided in Table 8 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.

Table 9 Projects Proposed to be Completed in the 2020-2024 TIP by Municipality

	2020	2021	2022	2023	2024	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				1	$ 4,048,448	3.14%	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	1					1	$ 8,034,211	6.23%	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						0		0.00%	2.55%	$56,927	8.30%	15971
Goshen						0		0.00%	0.17%	$69,219	2.80%	1058
Granby				1		1	$ 2,865,964	2.22%	1.00%	$78,261	5.80%	6290
Granville						0		0.00%	0.26%	$75,208	7.10%	1612
Hadley		1	1			2	$ 24,849,740	19.27%	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	0.5		1			1.5	$ 5,495,339	4.26%	6.42%	$35,550	30.10%	40249
Huntington						0		0.00%	0.35%	$52,275	9.80%	2168
Longmeadow					1	1	$ 6,064,675	4.70%	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	2					2	$ 13,427,962	10.41%	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		0.00%	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	1.5	1			1	3.5	$ 17,211,765	13.35%	24.52%	$34,731	30.10%	153703
Tolland						0		0.00%	0.08%	$85,750	7.90%	483
Wales				1		1	$ 4,185,828	3.25%	0.30%	$52,500	5.30%	1875
Ware						0		0.00%	1.57%	$49,630	14.90%	9844
West Springfield			1	1		2	$ 24,348,731	18.88%	4.58%	$52,806	11.00%	28684
Westfield		1				1	$ 8,479,708	6.57%	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	$ 9,957,440	7.72%	0.19%	$71,300	4.60%	1167
Hampden County	3.5	2.0	2.0	2.0	2.0	11.5	73,820,257	57.24%	74.54%	$50,036	17.70%	467,313
Hampshire County	2.5	2.0	1.0	1.0	1.0	7.5	55,149,554	42.76%	25.46%	$61,460	13.90%	159596
Pioneer Valley Region	6	4	3	3	3	19	128,969,811			$ 52,108	16.60%	626909

Source: PVPC TIP

Figure 3 Project Programmed in the TIP



A higher resolution version of this figure can be found here:
http://pvpc.maps.arcgis.com/apps/StorytellingTextLegend/index.html?appid=f54bf3b6dfd04033980dcd9a898b85a3

IV. FEDERAL AID REGIONAL PROJECT LISTINGS

The following is a complete listing of the Pioneer Valley Federally Funded Transportation Improvement Projects for Fiscal Years 2020 - 2024.

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 were 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 10 Summary of Programmed Projects Section 1 A Federal Aid Target Projects

TIP Year	SID	Community	Project description		Funding	Total	Federal Funds	State / Local / Funds	Comments
2020	607502	Northampton	NORTHAMPTON- INTERSECTION IMPROVEMENTS AT KING STREET, NORTH STREET & SUMMER STREET AND AT KING STREET & FINN STREET	2	STBG / CMAQ	$ 3,384,309	$ 2,707,447	$ 676,862	Construction / (YOE $3,384,309) STP / 65 TEC / 25% STBG, CMAQ
2020	604043	Chicopee	CHICOPEE- RECONSTRUCTION & RELATED WORK ON FULLER ROAD, FROM MEMORIAL DR (RTE 33) TO SHAWINIGAN DR (2.0 MILES)	2	STBG / HSIP	$ 8,034,211	$ 6,427,369	$ 1,606,842	Construction / (YOE $8,034,211 STP) / 49.5 TEC / 75% STBG, HSIP
2020	608236	Northampton	NORTHAMPTON- RECONSTRUCTION OF DAMON ROAD, FROM ROUTE 9 TO ROUTE 5, INCLUDES DRAINAGE SYSTEM REPAIRS & SLOPE STABILIZATION AT THE NORWOTTUCK	2	STBG	$ 10,043,653	$ 8,034,922	$ 2,008,731	Construction / (YOE $9,971,219 STP) / 66.5 TEC / PS&E STBG
2020	608718	Springfield	SPRINGFIELD- INTERSECTION IMPROVEMENTS AT BERKSHIRE AVENUE, COTTAGE AND HARVEY STREETS	2	STBG / HSIP	$ 2,280,751	$ 1,824,601	$ 456,150	Construction / (YOE $2,280,751 STP) / 41.5 TEC Score 25% STBG, HSIP
2020	PV0001	Multiple	NORTHAMPTON, AMHERST, CHICOPPE, EASTHAMPTON, HADLEY, HOLYOKE, SOUTH HADLEY, SPRINGFIELD, and WEST SPRINGFIELD: ValleyBike share (phase II)	2	STBG	$ 1,200,000	$ 960,000	$ 240,000	Construction / YOE $1,200,000 / 35.5 TEC STBG, STBG
2020	PV0002	Multiple	P 21 Express Year 3	2	STBG	$ 500,000	$ 400,000	$ 100,000	Funding Year 3 / STBG
			2020 Total			**$ 25,442,924**	**$ 20,354,339**	**$ 5,088,585**	

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)	2	STBG,CMAQ,HSIP,TAP	$ 8,479,708	$ 6,783,766	$ 1,695,942	Construction / (YOE $8,479,708 STP) / 52.5 TEC / 25% STBG,CMAQ,HSIP,TAP
2021	608782	Springfield	SPRINGFIELD- INTERSECTION IMPROVEMENTS AT COTTAGE STREET, INDUSTRY AVENUE AND ROBBINS ROAD	2	CMAQ	$ 2,858,325	$ 2,286,660	$ 571,665	Construction / (YOE $2,858,325) STP) / 46.5 TEC Score 25% CMAQ
2021	608084	Amherst	AMHERST- IMPROVEMENTS & RELATED WORK ON ROUTES 9 & 116, FROM UNIVERSITY DRIVE TO SOUTH PLEASANT STREET (0.8 MILES)	2	STBG / TAP	$ 4,048,448	$ 3,238,758	$ 809,690	Construction / (YOE $4,048,448) / 53.5 TEC / 25% STBG, TAP
2021	605032	Hadley	HADLEY- RECONSTRUCTION ON ROUTE 9, FROM MIDDLE STREET TO MAPLE/SOUTH MAPLE STREET	2	STBG	$10,917,509	$ 8,734,007	$ 2,183,502	Construction / (YOE $24,849,741) A/C Year 1 of 2 FFY 2021 $10,917,509, FFY 2022 $13,932,231 /61 TEC / 25% / STBG
			2021 Total			**$26,303,990**	**$21,043,192**	**$ 5,260,798**	
2022	608374	West Springfield	WEST SPRINGFIELD- RECONSTRUCTION OF MEMORIAL AVENUE (ROUTE 147), FROM COLONY ROAD TO THE MEMORIAL AVENUE ROTARY (1.4 MILES)	2	STBG	$ 4,251,369	$ 3,401,095	$ 850,274	Construction / (YOE $24,348,731) AC Year 1 of 2 FFY 2022 $4,251,369 FFY2023 $20,097,362 / 70 TEC / 25% / STBG
2022	608577	Easthampton	EASTHAMPTON- IMPROVEMENTS AND RELATED WORK ON UNION STREET (ROUTE 141) FROM PAYSON AVENUE TO HIGH STREET (0.36 MILES)	2	STBG	$ 3,560,664	$ 2,848,531	$ 712,133	Construction / YOE $3,560,664 STP) / 60 TEC / Pre 25% STBG
2022	605032	Hadley	HADLEY- RECONSTRUCTION ON ROUTE 9, FROM MIDDLE STREET TO MAPLE/SOUTH MAPLE STREET	2	STBG / HSIP / TAP	$13,932,231	$11,145,785	$ 2,786,446	Construction / (YOE $24,849,741) A/C Year 2 of 2 FFY 2021 $10,917,509, FFY 2022 $13,932,231 /61 TEC / 25% STBG, HSIP, TAP
2022	606450	Holyoke	TRAFFIC SIGNAL UPGRADES AT 15 INTERSECTIONS ALONG HIGH & MAPLE STREETS	2	STBG	$ 5,095,339	$ 4,076,271	$ 1,019,068	Construction / (YOE $9,884,646 ($4,789,307 in statewide funding) = $5,095,339) / 63 TEC / 25 / STBG
			2022 Total			**$26,839,603**	**$21,471,682**	**$ 5,367,921**	

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	$20,097,362	$ 16,077,890	$ 4,019,472	Construction / (YOE $24,348,731) AC Year 2 of 2 FFY 2022 $4,251,369 FFY2023 $20,097,362 / 70 TEC / 25% / STP, CMAQ, TAP
2023	606895	Granby	GRANBY- IMPROVEMENTS @ 2 LOCATIONS ON ROUTE 202: SCHOOL STREET & FIVE CORNERS	2	STBG / HSIP	$ 2,865,964	$ 2,292,771	$ 573,193	Construction / (YOE $2,865,964) STP) / 42 TEC / 25% STP, HSIP
2023	608163	Wales	WALES- RECONSTRUCTION & IMPROVEMENTS ON MONSON ROAD, FROM THE MONSON T.L. TO REED HILL ROAD (1.5 MILES)	2	STBG	$ 4,185,828	$ 3,348,662	$ 837,166	Construction / Base $3,737,346 / 39.5 TEC / 25%
			2023 Total			**$27,149,154**	**$ 21,719,323**	**$ 5,429,831**	
2024	608881	Longmeadow	LONGMEADOW- SPRINGFIELD- RESURFACING AND INTERSECTION IMPROVEMENTS ON LONGMEADOW STREET (ROUTE 5) AND CONVERSE STREET (0.84 MILES)	2	STBG	$ 6,064,675	$ 4,851,740	$ 1,212,935	Construction (YOE $6,064,675 / 57.5 TEC / Pre 25% / STBG
2024	609287	Worthington	WORTHINGTON- RECONSTRUCTION & RELATED WORK ON ROUTE 143 (PHASE II)	2	STBG	$ 9,957,440	$ 7,965,952	$ 1,991,488	Construction / (YOE $9,957,440) STP / 41 TEC / 100% Project Phase I funded in FFY 2019 Total project cost was $16,300,000 / STBG
2024	608717	Springfield	SPRINGFIELD- RECONSTRUCTION OF SUMNER AVENUE AT DICKINSON STREET AND BELMONT AVENUE (THE "X")	2	STBG / HSIP /MCAQ / TAP	$11,672,689	$ 9,338,151	$ 2,334,538	Construction / (Base $10,062,663) 70.5 TEC / 25% / STP, CMAQ, HSIP, TAP
			2024 Total			**$27,694,804**	**$ 22,155,843**	**$ 5,538,961**	

Table 11 Federally Funded Projects Year 2020

Amendment / Adjustment Type ▼	STIP Program ▼	MassDOT Project ID ▼	Metropolitan Planning Organization ▼	Municipality Name ▼	MassDOT Project Description ▼	MassDOT District ▼	Funding Source ▼	Total Programmed Funds ▼	Federal Funds ▼	Non-Federal Funds ▼	Additional Information ▼ *Present information as follows, if applicable:* **a)** Planning / Design / or Construction; **b)** total project cost and funding sources used; **c)** advance construction status; **d)** MPO project score; **e)** name of entity receiving a transfer; **f)** name of entity paying the non-state non-federal match; **g)** earmark details; **h)** TAP project proponent; **i)** other information
►Section 1A / Regionally Prioritized Projects											
►Regionally Prioritized Projects											
	Intersection Improvements	607502	Pioneer Valley	Northampton	NORTHAMPTON- INTERSECTION IMPROVEMENTS AT KING STREET, NORTH STREET & SUMMER STREET AND AT KING STREET & FINN STREET	2	STBG	$ 2,460,910	$ 1,968,728	$ 492,182	Construction / (YOE $3,384,309) STP / 65 TEC / 25% STBG, CMAQ
	Intersection Improvements	607502	Pioneer Valley	Northampton	NORTHAMPTON- INTERSECTION IMPROVEMENTS AT KING STREET, NORTH STREET & SUMMER STREET AND AT KING STREET & FINN STREET	2	CMAQ	$ 923,399	$ 738,719	$ 184,680	Construction / (YOE $3,384,309) STP / 65 TEC / 25% STBG, CMAQ
	Roadway Reconstruction	604043	Pioneer Valley	Chicopee	CHICOPEE- RECONSTRUCTION & RELATED WORK ON FULLER ROAD, FROM MEMORIAL DR (RTE 33) TO SHAWINIGAN DR (2.0 MILES)	2	STBG	$ 6,025,658	$ 4,820,526	$ 1,205,132	Construction / (YOE $8,034,211 STP) / 49.5 TEC / 75% STBG, HSIP
	Roadway Reconstruction	604043	Pioneer Valley	Chicopee	CHICOPEE- RECONSTRUCTION & RELATED WORK ON FULLER ROAD, FROM MEMORIAL DR (RTE 33) TO SHAWINIGAN DR (2.0 MILES)	2	HSIP	$ 2,008,553	$ 1,807,698	$ 200,855	Construction / (YOE $8,034,211 STP) / 49.5 TEC / 75% STBG, HSIP
	Roadway Reconstruction	608236	Pioneer Valley	Northampton	NORTHAMPTON- RECONSTRUCTION OF DAMON ROAD, FROM ROUTE 9 TO ROUTE 5, INCLUDES DRAINAGE SYSTEM REPAIRS & SLOPE STABILIZATION AT THE NORWOTTUCK	2	STBG	$ 10,043,653	$ 8,034,922	$ 2,008,731	Construction / (YOE $9,971,219 STP) / 66.5 TEC / PS&E STBG
	Intersection Improvements	608718	Pioneer Valley	Springfield	SPRINGFIELD- INTERSECTION IMPROVEMENTS AT BERKSHIRE AVENUE, COTTAGE AND HARVEY STREETS	2	STBG	$ 1,254,413	$ 1,003,530	$ 250,883	Construction / (YOE $2,280,751 STP) / 41.5 TEC Score 25% STBG, HSIP
	Intersection Improvements	608718	Pioneer Valley	Springfield	SPRINGFIELD- INTERSECTION IMPROVEMENTS AT BERKSHIRE AVENUE, COTTAGE AND HARVEY STREETS	2	HSIP	$ 1,026,338	$ 923,704	$ 102,634	Construction / (YOE $2,280,751 STP) / 41.5 TEC Score 25% STBG, HSIP
	Bicycles and Pedestrians	PV0001	Pioneer Valley	Multiple	NORTHAMPTON, AMHERST, CHICOPPE, EASTHAMPTON, HADLEY, HOLYOKE, SOUTH HADLEY, SPRINGFIELD, and WEST SPRINGFIELD: ValleyBike share (phase II)	2	STBG	$ 1,200,000	$ 960,000	$ 240,000	Construction / YOE $1,200,000 / 35.5 TEC STBG, STBG
	Planning / Adjustments / Pass-throughs	PV0002	Pioneer Valley	Multiple	P 21 Express Year 3	2	STBG	$ 500,000	$ 400,000	$ 100,000	Funding Year 3 / STBG
							Regionally Prioritized Projects subtotal ►	**$ 25,442,924**	$ 20,657,828	$ 4,785,096	◄ Funding Split Varies by Funding Source
►Section 1A / Fiscal Constraint Analysis											
							Total Regional Federal Aid Funds Programmed ►	**$ 25,442,924**	**$ 25,782,146**	**◄Total**	**$ 339,222 Target Funds Available**
							STBG programmed ►	$ 21,484,634	$ 17,187,707	**◄ STBG**	
							HSIP programmed ►	$ 3,034,891	$ 2,731,402	**◄ HSIP**	
							CMAQ programmed ►	$ 923,399	$ 738,719	**◄ CMAQ**	
							TAP programmed ►	$ -	$ -	**◄ TAP**	

Section 1A instructions: **MPO Template Name)** Choose Regional Name from dropdown list to populate header and MPO column; **Column C)** Enter ID from ProjectInfo; **Column E)** Choose Municipality Name from dropdown list; **Column H)** Choose the Funding Source being used for the project - if multiple funding sources are being used enter multiple lines; **Column I)** Enter the total amount of funds being programmed in this fiscal year and for each funding source; **Column J)** Federal funds autocalculates. Please verify the amount and only change if needed for flex. **Column K)** Non-federal funds autocalculates. Please verify the split/match - if matching an FTA flex, coordinate with Rail & Transit Division before programming; **Column L)** Enter Additional Information as described - please do not use any other format.

Table 11: Federally Funded Projects Year 2020 (Continued)

►Section 1B / Earmark or Discretionary Grant Funded Projects											
►Other Federal Aid											
			Pioneer Valley		Other Federal Aid		HPP	$ -	$ -	$ -	
							Other Federal Aid subtotal ►	**$ -**	$ -	$ -	◄ Funding Split Varies by Funding Source
►Section 2A / State Prioritized Reliability Projects											
►Bridge Program / Inspections											
	Bridge Program		Pioneer Valley		Bridge Inspection			$ -	$ -	$ -	
							Bridge Program / Inspections subtotal ►	**$ -**	$ -	$ -	◄ Funding Split Varies by Funding Source
►Bridge Program / Off-System											
	Bridge Program	608631	Pioneer Valley	Westhampton	WESTHAMPTON- BRIDGE REPLACEMENT, W-27-005, KINGS HIGHWAY OVER N BRANCH MANHAN RIVER	2	STBG-BR-OFF	$ 1,937,318	$ 1,549,854	$ 387,464	
							Bridge Program / Off-System subtotal ►	**$ 1,937,318**	$ 1,549,854	$ 387,464	◄ 80% Federal + 20% Non-Federal
►Bridge Program / On-System (NHS)											
	Bridge Program	400103	Pioneer Valley	Westfield	WESTFIELD- BRIDGE REPLACEMENT, W-25-006, ROUTE 10/202 (SOUTHWICK ROAD) OVER THE LITTLE RIVER	2	NHPP-On	$ 13,276,980	$ 10,621,584	$ 2,655,396	
	Bridge Program	606552	Pioneer Valley	Northampton	NORTHAMPTON- BRIDGE RECONSTRUCTION, N-19-059, I-91 OVER US 5/BMRR & N-19-060, I-91 OVER HOCKANUM ROAD	2	NHPP-On	$ 4,671,793	$ 3,737,434	$ 934,359	AC Year 1 of 5, Total Cost $56,891,767
							Bridge Program / On-System (NHS) subtotal ►	**$ 17,948,773**	$ 14,359,018	$ 3,589,755	◄ Funding Split Varies by Funding Source
►Bridge Program / On-System (Non-NHS)											
	Bridge Program		Pioneer Valley		Bridge Program / On-System (Non-NHS)			$ -	$ -	$ -	
							Bridge Program / On-System (Non-NHS) subtotal ►	**$ -**	$ -	$ -	◄ 80% Federal + 20% Non-Federal
►Bridge Program / Systematic Maintenance											
	Bridge Program		Pioneer Valley		Bridge Program / Systematic Maintenance			$ -	$ -	$ -	
							Bridge Program / Systematic Maintenance subtotal ►	**$ -**	$ -	$ -	◄ Funding Split Varies by Funding Source
►Interstate Pavement											
	Interstate Pavement		Pioneer Valley		Interstate Pavement			$ -	$ -	$ -	
							Insterstate Pavement subtotal ►	**$ -**	$ -	$ -	◄ 90% Federal + 10% Non-Federal
►Non-Interstate Pavement											
	Non-Interstate Pavement	608473	Pioneer Valley	South Hadley	SOUTH HADLEY - RESURFACING AND RELATED WORK ON ROUTE 116	2	NHPP	$ 4,987,500	$ 3,990,000	$ 997,500	
							Non-Interstate Pavement subtotal ►	**$ 4,987,500**	$ 3,990,000	$ 997,500	◄ 80% Federal + 20% Non-Federal
► Roadway Improvements											
	Roadway Improvements		Pioneer Valley		Roadway Improvements			$ -	$ -	$ -	
							Roadway Improvements subtotal ►	**$ -**	$ -	$ -	◄ 80% Federal + 20% Non-Federal
► Safety Improvements											
	Safety Improvements	608575	Pioneer Valley	Multiple	CHICOPEE TO HOLYOKE- GUIDE AND TRAFFIC SIGN REPLACEMENT ON I-391	2	HSIP	$ 1,861,310	$ 1,675,179	$ 186,131	
							Safety Improvements subtotal ►	**$ 1,861,310**	$ 1,675,179	$ 186,131	◄ Funding Split Varies by Funding Source

Table 11: Federally Funded Projects Year 2020 (Continued)

►Section 2B / State Prioritized Modernization Projects											
► ADA Retrofits											
	ADA Retrofits		Pioneer Valley		ADA Retrofits			$ -	$ -	$ -	
							ADA Retrofits subtotal ►	**$ -**	$ -	$ -	◄ 80% Federal + 20% Non-Federal
►Intersection Improvements											
	Intersection Improvements		Pioneer Valley		Intersection Improvements			$ -	$ -	$ -	
							Intersection Improvements subtotal ►	**$ -**	$ -	$ -	◄ Funding Split Varies by Funding Source
►Intelligent Transportation Systems											
	Intelligent Transportation Systems		Pioneer Valley		Intelligent Transportation Systems			$ -	$ -	$ -	
							Intelligent Transportation System subtotal ►	**$ -**	$ -	$ -	◄ 80% Federal + 20% Non-Federal
►Roadway Reconstruction											
	Roadway Reconstruction		Pioneer Valley		Roadway Reconstruction			$ -	$ -	$ -	
							Roadway Reconstruction subtotal ►	**$ -**	$ -	$ -	◄ Funding Split Varies by Funding Source
►Section 2C / State Prioritized Expansion Projects											
►Bicycles and Pedestrians											
	Bicycles and Pedestrians	602911	Pioneer Valley	Chicopee	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	2	CMAQ	$ 3,041,445	$ 2,433,156	$ 608,289	
							Bicycles and Pedestrians subtotal ►	**$ 3,041,445**	$ 2,433,156	$ 608,289	◄ 80% Federal + 20% Non-Federal
►Capacity											
	Capacity		Pioneer Valley		Capacity			$ -	$ -	$ -	
							Capacity subtotal ►	**$ -**	$ -	$ -	◄ Funding Split Varies by Funding Source
►Section 3 / Planning / Adjustments / Pass-throughs											
►Planning / Adjustments / Pass-throughs											
			Pioneer Valley		ABP GANS Repayment	Multiple		$ -	$ -	$ -	
			Pioneer Valley		ABP GANS Repayment	Multiple		$ -	$ -	$ -	
			Pioneer Valley		Award adjustments, change orders, etc.	Multiple		$ -	$ -	$ -	
			Pioneer Valley		Award adjustments, change orders, etc.	Multiple		$ -	$ -	$ -	
			Pioneer Valley		Award adjustments, change orders, etc.	Multiple		$ -	$ -	$ -	
			Pioneer Valley		Award adjustments, change orders, etc.	Multiple		$ -	$ -	$ -	
			Pioneer Valley		Metropolitan Planning	Multiple		$ -	$ -	$ -	
			Pioneer Valley		Metropolitan Planning	Multiple		$ -	$ -	$ -	
			Pioneer Valley		State Planning and Research Work Program I, (SPR I), Planning	Multiple		$ -	$ -	$ -	
			Pioneer Valley		State Planning and Research Work Program II, (SPR II), Research	Multiple		$ -	$ -	$ -	
			Pioneer Valley		Railroad Crossings	Multiple		$ -	$ -	$ -	
			Pioneer Valley		Railroad Crossings	Multiple		$ -	$ -	$ -	
			Pioneer Valley		Recreational Trails	Multiple		$ -	$ -	$ -	
							Other Statewide Items subtotal ►	**$ -**	$ -	$ -	◄ Funding Split Varies by Funding Source

Table 11: Federally Funded Projects Year 2020 (Continued)

►Section 4 / Non-Federally Aided Projects										
►Non-Federally Aided Projects										
	Non Federal Aid		Pioneer Valley		Non-Federal Aid			$ -		$ -	
	Non-Federally Aided Projects		Pioneer Valley		Non-Federal Aid			$ -		$ -	
							Non-Federal Aid subtotal►	$ -		$ -	◄100% Non-Federal

2020 Summary	TIP Section 1 - 3: ▼	TIP Section 4: ▼	Total of All Projects ▼	
Total ►	$ 55,219,269	$ -	$ 55,219,269	◄ Total Spending in Region
Federal Funds ►	$ 44,665,036		$ 44,665,036	◄ Total Federal Spending in Region
Non-Federal Funds ►	$ 10,554,234	$ -	$ 10,554,234	◄ Total Non-Federal Spending in Region

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

Table 12: Federally Funded Projects 2021

Amendment / Adjustment Type ▼	STIP Program ▼	MassDOT Project ID ▼	Metropolitan Planning Organization ▼	Municipality Name ▼	MassDOT Project Description ▼	MassDOT District ▼	Funding Source ▼	Total Programmed Funds ▼	Federal Funds ▼	Non-Federal Funds ▼	Additional Information ▼ *Present information as follows, if applicable:* **a)** Planning / Design / or Construction; **b)** total project cost and funding sources used; **c)** advance construction status; **d)** MPO project score; **e)** name of entity receiving a transfer; **f)** name of entity paying the non-state non-federal match; **g)** earmark details; **h)** TAP project proponent; **i)** other information
►Section 1A / Regionally Prioritized Projects											
►Regionally Prioritized Projects											
	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	$ 6,136,732	$ 4,909,386	$ 1,227,346	Construction / (YOE $8,479,708 STP) / 52.5 TEC / 25% STBG,CMAQ,HSIP,TAP
	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	CMAQ	$ 669,323	$ 535,458	$ 133,865	Construction / (YOE $8,479,708 STP) / 52.5 TEC / 25% STBG,CMAQ,HSIP,TAP
	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	Construction / (YOE $8,479,708 STP) / 52.5 TEC / 25% STBG,CMAQ,HSIP,TAP
	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	$ 557,884	$ 446,307	$ 111,577	Construction / (YOE $8,479,708 STP) / 52.5 TEC / 25% STBG,CMAQ,HSIP,TAP
	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	Construction / (YOE $2,858,325) STP) / 46.5 TEC Score 25% CMAQ
	Roadway Improvements	608084	Pioneer Valley	Amherst	AMHERST- IMPROVEMENTS & RELATED WORK ON ROUTES 9 & 116, FROM UNIVERSITY DRIVE TO SOUTH PLEASANT STREET (0.8 MILES)	2	STBG	$ 3,489,558	$ 2,791,646	$ 697,912	Construction / (YOE $4,048,448) / 53.5 TEC / 25% STBG, TAP
	Roadway Improvements	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	Construction / (YOE $4,048,448) / 53.5 TEC / 25% STBG, TAP
	Roadway Reconstruction	605032	Pioneer Valley	Hadley	HADLEY- RECONSTRUCTION ON ROUTE 9, FROM MIDDLE STREET TO MAPLE/SOUTH MAPLE STREET	2	STBG	$ 10,917,509	$ 8,734,007	$ 2,183,502	Construction / (YOE $24,849,741) A/C Year 1 of 2 FFY 2021 $10,917,509, FFY 2022 $13,932,231 /61 TEC / 25% / STBG
							Regionally Prioritized Projects subtotal ►	**$ 26,303,990**	$ 21,154,769	$ 5,149,221	◄ Funding Split Varies by Funding Source
►Section 1A / Fiscal Constraint Analysis											
							Total Regional Federal Aid Funds Programmed ►	**$ 26,303,990**	**$ 26,303,990**	**◄Total**	**$ - Target Funds Available**
							STBG programmed ►	$ 20,543,799	$ 16,435,039	**◄ STBG**	
							HSIP programmed ►	$ 1,115,769	$ 1,004,192	**◄ HSIP**	
							CMAQ programmed ►	$ 3,527,648	$ 2,822,118	**◄ CMAQ**	
							TAP programmed ►	$ 1,116,774	$ 893,419	**◄ TAP**	

Section 1A instructions: **MPO Template Name)** Choose Regional Name from dropdown list to populate header and MPO column; **Column C)** Enter ID from ProjectInfo; **Column E)** Choose Municipality Name from dropdown list; **Column H)** Choose the Funding Source being used for the project - if multiple funding sources are being used enter multiple lines; **Column I)** Enter the total amount of funds being programmed in this fiscal year and for each funding source; **Column J)** Federal funds autocalculates. Please verify the amount and only change if needed for flex. **Column K)** Non-federal funds autocalculates. Please verify the split/match - if matching an FTA flex, coordinate with Rail & Transit Division before programming; **Column L)** Enter Additional Information as described - please do not use any other format.

Table 12: Federally Funded Projects Year 2021 (Continued)

►Section 1B / Earmark or Discretionary Grant Funded Projects											
►Other Federal Aid											
			Pioneer Valley		Other Federal Aid		HPP	$ -	$ -	$ -	
							Other Federal Aid subtotal ►	**$ -**	$ -	$ -	◄ Funding Split Varies by Funding Source
►Section 2A / State Prioritized Reliability Projects											
►Bridge Program / Inspections											
	Bridge Program		Pioneer Valley		Bridge Inspection			$ -	$ -	$ -	
							Bridge Program / Inspections subtotal ►	**$ -**	$ -	$ -	◄ Funding Split Varies by Funding Source
►Bridge Program / Off-System											
	Bridge Program		Pioneer Valley		Bridge Program / Off-System			$ -	$ -	$ -	
							Bridge Program / Off-System subtotal ►	**$ -**	$ -	$ -	◄ 80% Federal + 20% Non-Federal
►Bridge Program / On-System (NHS)											
	Bridge Program	608460	Pioneer Valley	Hadley	HADLEY- BRIDGE REPLACEMENT, H-01-005, BAY ROAD (ROUTE 47) OVER THE FORT RIVER	2	NHPP-On	$ 5,714,160	$ 4,571,328	$ 1,142,832	
	Bridge Program	606552	Pioneer Valley	Northampton	NORTHAMPTON- BRIDGE RECONSTRUCTION, N-19-059, I-91 OVER US 5/BMRR & N-19-060, I-91 OVER HOCKANUM ROAD	2	NHPP-On	$ 9,539,115	$ 7,631,292	$ 1,907,823	AC Year 2 of 5, Total Cost $56,891,767
							Bridge Program / On-System (NHS) subtotal ►	**$ 15,253,275**	$ 12,202,620	$ 3,050,655	◄ Funding Split Varies by Funding Source
►Bridge Program / On-System (Non-NHS)											
	Bridge Program		Pioneer Valley		Bridge Program / On-System (Non-NHS)			$ -	$ -	$ -	
							Bridge Program / On-System (Non-NHS) subtotal ►	**$ -**	$ -	$ -	◄ 80% Federal + 20% Non-Federal
►Bridge Program / Systematic Maintenance											
	Bridge Program		Pioneer Valley		Bridge Program / Systematic Maintenance			$ -	$ -	$ -	
							Bridge Program / Systematic Maintenance subtotal ►	**$ -**	$ -	$ -	◄ Funding Split Varies by Funding Source
►Interstate Pavement											
	Interstate Pavement		Pioneer Valley		Interstate Pavement			$ -	$ -	$ -	
							Insterstate Pavement subtotal ►	**$ -**	$ -	$ -	◄ 90% Federal + 10% Non-Federal
►Non-Interstate Pavement											
	Non-Interstate Pavement	608487	Pioneer Valley	Westfield	WESTFIELD - RESURFACING AND RELATED WORK ON ROUTES 10 AND 202	2	NHPP	$ 2,730,000	$ 2,184,000	$ 546,000	
	Non-Interstate Pavement	608489	Pioneer Valley	Wilbraham	WILBRAHAM - RESURFACING AND RELATED WORK ON ROUTE 20	2	NHPP	$ 8,283,600	$ 6,626,880	$ 1,656,720	
							Non-Interstate Pavement subtotal ►	**$ 11,013,600**	$ 8,810,880	$ 2,202,720	◄ 80% Federal + 20% Non-Federal
► Roadway Improvements											
	Roadway Improvements		Pioneer Valley		Roadway Improvements			$ -	$ -	$ -	
							Roadway Improvements subtotal ►	**$ -**	$ -	$ -	◄ 80% Federal + 20% Non-Federal
► Safety Improvements											
	Safety Improvements		Pioneer Valley		Safety Improvements			$ -	$ -	$ -	
							Safety Improvements subtotal ►	**$ -**	$ -	$ -	◄ Funding Split Varies by Funding Source

Table 12: Federally Funded Projects Year 2021 (Continued)

►Section 2B / State Prioritized Modernization Projects											
► ADA Retrofits											
	ADA Retrofits		Pioneer Valley		ADA Retrofits			$ -	$ -	$ -	
							ADA Retrofits subtotal ►	**$ -**	$ -	$ -	◄ 80% Federal + 20% Non-Federal
►Intersection Improvements											
	Intersection Improvements		Pioneer Valley		Intersection Improvements			$ -	$ -	$ -	
							Intersection Improvements subtotal ►	**$ -**	$ -	$ -	◄ Funding Split Varies by Funding Source
►Intelligent Transportation Systems											
	Intelligent Transportation Systems		Pioneer Valley		Intelligent Transportation Systems			$ -	$ -	$ -	
							Intelligent Transportation System subtotal ►	**$ -**	$ -	$ -	◄ 80% Federal + 20% Non-Federal
►Roadway Reconstruction											
	Roadway Reconstruction		Pioneer Valley		Roadway Reconstruction			$ -	$ -	$ -	
							Roadway Reconstruction subtotal ►	**$ -**	$ -	$ -	◄ Funding Split Varies by Funding Source
►Section 2C / State Prioritized Expansion Projects											
►Bicycles and Pedestrians											
	Bicycles and Pedestrians	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	$ 812,026	$ 649,621	$ 162,405	
							Bicycles and Pedestrians subtotal ►	**$ 812,026**	$ 649,621	$ 162,405	◄ 80% Federal + 20% Non-Federal
►Capacity											
	Capacity		Pioneer Valley		Capacity			$ -	$ -	$ -	
							Capacity subtotal ►	**$ -**	$ -	$ -	◄ Funding Split Varies by Funding Source
►Section 3 / Planning / Adjustments / Pass-throughs											
►Planning / Adjustments / Pass-throughs											
			Pioneer Valley		ABP GANS Repayment	Multiple		$ -	$ -	$ -	
			Pioneer Valley		ABP GANS Repayment	Multiple		$ -	$ -	$ -	
			Pioneer Valley		Award adjustments, change orders, etc.	Multiple		$ -	$ -	$ -	
			Pioneer Valley		Award adjustments, change orders, etc.	Multiple		$ -	$ -	$ -	
			Pioneer Valley		Award adjustments, change orders, etc.	Multiple		$ -	$ -	$ -	
			Pioneer Valley		Award adjustments, change orders, etc.	Multiple		$ -	$ -	$ -	
			Pioneer Valley		Metropolitan Planning	Multiple		$ -	$ -	$ -	
			Pioneer Valley		Metropolitan Planning	Multiple		$ -	$ -	$ -	
			Pioneer Valley		State Planning and Research Work Program I, (SPR I), Planning	Multiple		$ -	$ -	$ -	
			Pioneer Valley		State Planning and Research Work Program II, (SPR II), Research	Multiple		$ -	$ -	$ -	
			Pioneer Valley		Railroad Crossings	Multiple		$ -	$ -	$ -	
			Pioneer Valley		Railroad Crossings	Multiple		$ -	$ -	$ -	
			Pioneer Valley		Recreational Trails	Multiple		$ -	$ -	$ -	
							Other Statewide Items subtotal ►	**$ -**	$ -	$ -	◄ Funding Split Varies by Funding Source

Table 12: Federally Funded Projects Year 2021 (Continued)

►Section 4 / Non-Federally Aided Projects										
►Non-Federally Aided Projects										
	Non Federal Aid		Pioneer Valley		Non-Federal Aid			$ -		$ -	
							Non-Federal Aid subtotal►	$ -		$ -	◄100% Non-Federal

2021 Summary	TIP Section 1 - 3: ▼	TIP Section 4: ▼	Total of All Projects ▼	
Total ►	$ 53,382,891	$ -	$ 53,382,891	◄ Total Spending in Region
Federal Funds ►	$ 42,817,890		$ 42,817,890	◄ Total Federal Spending in Region
Non-Federal Funds ►	$ 10,565,001	$ -	$ 10,565,001	◄ Total Non-Federal Spending in Region

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

Table 13: Federally Funded Projects 2022

Amendment / Adjustment Type ▼	STIP Program ▼	MassDOT Project ID ▼	Metropolitan Planning Organization ▼	Municipality Name ▼	MassDOT Project Description ▼	MassDOT District ▼	Funding Source ▼	Total Programmed Funds ▼	Federal Funds ▼	Non-Federal Funds ▼	Additional Information ▼ *Present information as follows, if applicable:* **a)** Planning / Design / or Construction; **b)** total project cost and funding sources used; **c)** advance construction status; **d)** MPO project score; **e)** name of entity receiving a transfer; **f)** name of entity paying the non-state non-federal match; **g)** earmark details; **h)** TAP project proponent; **i)** other information
►Section 1A / Regionally Prioritized Projects											
►Regionally Prioritized Projects											
	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	$ 4,251,369	$ 3,401,095	$ 850,274	Construction / (YOE $24,348,731) AC Year 1 of 2 FFY 2022 $4,251,369 FFY2023 $20,097,362 / 70 TEC / 25% / STBG
	Roadway Improvements	608577	Pioneer Valley	Easthampton	EASTHAMPTON- IMPROVEMENTS AND RELATED WORK ON UNION STREET (ROUTE	2	STBG	$ 3,560,664	$ 2,848,531	$ 712,133	Construction / YOE $3,560,664 STP) / 60 TEC / Pre 25% STBG
	Roadway Reconstruction	605032	Pioneer Valley	Hadley	HADLEY- RECONSTRUCTION ON ROUTE 9, FROM MIDDLE STREET TO MAPLE/SOUTH MAPLE STREET	2	STBG	$ 11,284,113	$ 9,027,290	$ 2,256,823	Construction / (YOE $24,849,741) A/C Year 2 of 2 FFY 2021 $10,917,509, FFY 2022 $13,932,231 /61 TEC / 25% STBG, HSIP, TAP
	Roadway Reconstruction	605032	Pioneer Valley	Hadley	HADLEY- RECONSTRUCTION ON ROUTE 9, FROM MIDDLE STREET TO MAPLE/SOUTH MAPLE STREET	2	HSIP	$ 2,118,494	$ 1,906,645	$ 211,849	Construction / (YOE $24,849,741) A/C Year 2 of 2 FFY 2021 $10,917,509, FFY 2022 $13,932,231 /61 TEC / 25% STBG, HSIP, TAP
	Roadway Reconstruction	605032	Pioneer Valley	Hadley	HADLEY- RECONSTRUCTION ON ROUTE 9, FROM MIDDLE STREET TO MAPLE/SOUTH MAPLE STREET	2	TAP	$ 529,624	$ 423,699	$ 105,925	Construction / (YOE $24,849,741) A/C Year 2 of 2 FFY 2021 $10,917,509, FFY 2022 $13,932,231 /61 TEC / 25% STBG, HSIP, TAP
	Intersection Improvements	606450	Pioneer Valley	Holyoke	TRAFFIC SIGNAL UPGRADES AT 15 INTERSECTIONS ALONG HIGH & MAPLE STREETS	2	STBG	$ 5,095,339	$ 4,076,271	$ 1,019,068	Construction / (YOE $9,884,646 ($4,789,307 in statewide funding) = $5,095,339) / 63 TEC / 25 / STBG
							Regionally Prioritized Projects subtotal ►	**$ 26,839,603**	$ 21,683,532	$ 5,156,071	◄ Funding Split Varies by Funding Source

►Section 1A / Fiscal Constraint Analysis

Total Regional Federal Aid Funds Programmed ►	**$ 26,839,603**	**$ 26,839,603**	**◄Total**	**$ - Target Funds Available**
STBG programmed ►	$ 24,191,485	$ 19,353,188	**◄ STBG**	
HSIP programmed ►	$ 2,118,494	$ 1,906,645	**◄ HSIP**	
CMAQ programmed ►	$ -	$ -	**◄ CMAQ**	
TAP programmed ►	$ 529,624	$ 423,699	**◄ TAP**	

Section 1A instructions: **MPO Template Name)** Choose Regional Name from dropdown list to populate header and MPO column; **Column C)** Enter ID from ProjectInfo; **Column E)** Choose Municipality Name from dropdown list; **Column H)** Choose the Funding Source being used for the project - if multiple funding sources are being used enter multiple lines; **Column I)** Enter the total amount of funds being programmed in this fiscal year and for each funding source; **Column J)** Federal funds autocalculates. Please verify the amount and only change if needed for flex. **Column K)** Non-federal funds autocalculates. Please verify the split/match - if matching an FTA flex, coordinate with Rail & Transit Division before programming; **Column L)** Enter Additional Information as described - please do not use any other format.

Amendment / Adjustment Type ▼	STIP Program ▼	MassDOT Project ID ▼	Metropolitan Planning Organization ▼	Municipality Name ▼	MassDOT Project Description ▼	MassDOT District ▼	Funding Source ▼	Total Programmed Funds ▼	Federal Funds ▼	Non-Federal Funds ▼	Additional Information ▼
►Section 1B / Earmark or Discretionary Grant Funded Projects											
►Other Federal Aid											
			Pioneer Valley		Other Federal Aid		HPP	$ -	$ -	$ -	
							Other Federal Aid subtotal ►	**$ -**	$ -	$ -	◄ Funding Split Varies by Funding Source

Table 13: Federally Funded Projects Year 2022 (Continued)

►Section 2A / State Prioritized Reliability Projects											
►Bridge Program / Inspections											
	Bridge Program		Pioneer Valley		Bridge Inspection			$ -	$ -	$ -	
							Bridge Program / Inspections subtotal ►	**$ -**	$ -	$ -	◄ Funding Split Varies by Funding Source
►Bridge Program / Off-System											
	Bridge Program	608869	Pioneer Valley	Northampton	NORTHAMPTON- BRIDGE REPLACEMENT, N-19-068, OLD SPRINGFIELD ROAD OVER THE MILL RIVER	2	STBG-BR-OFF	$ 3,981,000	$ 3,184,800	$ 796,200	
	Bridge Program	608847	Pioneer Valley	Wales	WALES- BRIDGE REPLACEMENT, W-02-002, HOLLAND ROAD OVER WALES BROOK	2	STBG-BR-OFF	$ 540,096	$ 432,077	$ 108,019	
	Bridge Program	608846	Pioneer Valley	Monson	MONSON- BRIDGE REPLACEMENT, M-27-015, OLD WALES ROAD OVER CONANT BROOK	2	STBG-BR-OFF	$ 1,742,784	$ 1,394,227	$ 348,557	
							Bridge Program / Off-System subtotal ►	**$ 6,263,880**	$ 5,011,104	$ 1,252,776	◄ 80% Federal + 20% Non-Federal
►Bridge Program / On-System (NHS)											
	Bridge Program	606552	Pioneer Valley	Northampton	NORTHAMPTON- BRIDGE RECONSTRUCTION, N-19-059, I-91 OVER US 5/BMRR & N-19-060, I-91 OVER HOCKANUM ROAD	2	NHPP-On	$ 11,128,545	$ 8,902,836	$ 2,225,709	AC Year 3 of 5, Total Cost $56,891,767
							Bridge Program / On-System (NHS) subtotal ►	**$ 11,128,545**	$ 8,902,836	$ 2,225,709	◄ Funding Split Varies by Funding Source
►Bridge Program / On-System (Non-NHS)											
	Bridge Program		Pioneer Valley		Bridge Program / On-System (Non-NHS)			$ -	$ -	$ -	
							Bridge Program / On-System (Non-NHS) subtotal ►	**$ -**	$ -	$ -	◄ 80% Federal + 20% Non-Federal
►Bridge Program / Systematic Maintenance											
	Bridge Program		Pioneer Valley		Bridge Program / Systematic Maintenance			$ -	$ -	$ -	
							Bridge Program / Systematic Maintenance subtotal ►	**$ -**	$ -	$ -	◄ Funding Split Varies by Funding Source
►Interstate Pavement											
	Interstate Pavement		Pioneer Valley		Interstate Pavement			$ -	$ -	$ -	
							Insterstate Pavement subtotal ►	**$ -**	$ -	$ -	◄ 90% Federal + 10% Non-Federal
►Non-Interstate Pavement											
	Non-Interstate Pavement	608466	Pioneer Valley	Multiple	BELCHERTOWN-GRANBY RESURFACING AND RELATED WORK ON ROUTE 202	2	NHPP	$ 3,372,062	$ 2,697,650	$ 674,412	
	Non-Interstate Pavement	604209	Pioneer Valley	Multiple	HOLYOKE-WEST SPRINGFIELD- REHABILITATION OF ROUTE 5	2	NHPP	$ 14,489,928	$ 11,591,942	$ 2,897,986	
							Non-Interstate Pavement subtotal ►	**$ 17,861,990**	$ 14,289,592	$ 3,572,398	◄ 80% Federal + 20% Non-Federal
► Roadway Improvements											
	Roadway Improvements		Pioneer Valley		Roadway Improvements			$ -	$ -	$ -	
							Roadway Improvements subtotal ►	**$ -**	$ -	$ -	◄ 80% Federal + 20% Non-Federal
► Safety Improvements											
	Safety Improvements		Pioneer Valley		Safety Improvements			$ -	$ -	$ -	
							Safety Improvements subtotal ►	**$ -**	$ -	$ -	◄ Funding Split Varies by Funding Source

Table 13: Federally Funded Projects Year 2022 (Continued)

►Section 2B / State Prioritized Modernization Projects											
► ADA Retrofits											
	ADA Retrofits		Pioneer Valley		ADA Retrofits			$ -	$ -	$ -	
							ADA Retrofits subtotal ►	**$ -**	$ -	$ -	◄ 80% Federal + 20% Non-Federal
►Intersection Improvements											
	Intersection Improvements	606450	Pioneer Valley	Holyoke	HOLYOKE- TRAFFIC SIGNAL UPGRADES AT 15 INTERSECTIONS ALONG HIGH & MAPLE STREETS	2	CMAQ	$ 4,789,307	$ 3,831,446	$ 957,861	
	Intersection Improvements	608565	Pioneer Valley	Springfield	SPRINGFIELD- IMPROVEMENTS ON ST. JAMES AVENUE AT ST. JAMES BOULEVARD AND	2	HSIP	$ 2,592,000	$ 2,332,800	$ 259,200	
	Intersection Improvements	608560	Pioneer Valley	Springfield	SPRINGFIELD- IMPROVEMENTS ON ST. JAMES AVENUE AT TAPLEY STREET	2	HSIP	$ 1,716,574	$ 1,544,916	$ 171,657	
							Intersection Improvements subtotal ►	**$ 9,097,880**	$ 7,709,162	$ 1,388,719	◄ Funding Split Varies by Funding Source
►Intelligent Transportation Systems											
	Intelligent Transportation Systems		Pioneer Valley		Intelligent Transportation Systems			$ -	$ -	$ -	
							Intelligent Transportation System subtotal ►	**$ -**	$ -	$ -	◄ 80% Federal + 20% Non-Federal
►Roadway Reconstruction											
	Roadway Reconstruction		Pioneer Valley		Roadway Reconstruction			$ -	$ -	$ -	
							Roadway Reconstruction subtotal ►	**$ -**	$ -	$ -	◄ Funding Split Varies by Funding Source
►Section 2C / State Prioritized Expansion Projects											
►Bicycles and Pedestrians											
	Bicycles and Pedestrians	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	$ 1,620,000	$ 1,296,000	$ 324,000	
	Bicycles and Pedestrians	608157	Pioneer Valley	Springfield	SPRINGFIELD- MCKNIGHT COMMUNITY TRAIL CONSTRUCTION, FROM ARMORY STREET TO HAYDEN AVENUE (1.5 MILES)	2	CMAQ	$ 3,694,624	$ 2,955,699	$ 738,925	
							Bicycles and Pedestrians subtotal ►	**$ 5,314,624**	**$ 4,251,699**	**$ 1,062,925**	◄ 80% Federal + 20% Non-Federal
►Capacity											
	Capacity		Pioneer Valley		Capacity			$ -	$ -	$ -	
							Capacity subtotal ►	**$ -**	$ -	$ -	◄ Funding Split Varies by Funding Source
►Section 3 / Planning / Adjustments / Pass-throughs											
►Planning / Adjustments / Pass-throughs											
			Pioneer Valley		ABP GANS Repayment	Multiple		$ -	$ -	$ -	
			Pioneer Valley		ABP GANS Repayment	Multiple		$ -	$ -	$ -	
			Pioneer Valley		Award adjustments, change orders, etc.	Multiple		$ -	$ -	$ -	
			Pioneer Valley		Award adjustments, change orders, etc.	Multiple		$ -	$ -	$ -	
			Pioneer Valley		Award adjustments, change orders, etc.	Multiple		$ -	$ -	$ -	
			Pioneer Valley		Award adjustments, change orders, etc.	Multiple		$ -	$ -	$ -	
			Pioneer Valley		Metropolitan Planning	Multiple		$ -	$ -	$ -	

Table 13: Federally Funded Projects Year 2022 (Continued)

			Pioneer Valley		Metropolitan Planning	Multiple		$ -	$ -	$ -	
			Pioneer Valley		State Planning and Research Work Program I, (SPR I), Planning	Multiple		$ -	$ -	$ -	
			Pioneer Valley		State Planning and Research Work Program II, (SPR II), Research	Multiple		$ -	$ -	$ -	
			Pioneer Valley		Railroad Crossings	Multiple		$ -	$ -	$ -	
			Pioneer Valley		Railroad Crossings	Multiple		$ -	$ -	$ -	
			Pioneer Valley		Recreational Trails	Multiple		$ -	$ -	$ -	
							Other Statewide Items subtotal ►	**$ -**	$ -	$ -	◄ Funding Split Varies by Funding Source
►Section 4 / Non-Federally Aided Projects											
►Non-Federally Aided Projects											
	Non Federal Aid		Pioneer Valley		Non-Federal Aid			$ -		$ -	
							Non-Federal Aid subtotal►	**$ -**		$ -	◄100% Non-Federal

2022 Summary	TIP Section 1 - 3: ▼	TIP Section 4: ▼	Total of All Projects ▼	
Total ►	$ 76,506,523	$ -	$ 76,506,523	◄ Total Spending in Region
Federal Funds ►	$ 61,847,925		$ 61,847,925	◄ Total Federal Spending in Region
Non-Federal Funds ►	$ 14,658,598	$ -	$ 14,658,598	◄ Total Non-Federal Spending in Region

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

Table 14: Federally Funded Projects Year 2023

Amendment / Adjustment Type ▼	STIP Program ▼	MassDOT Project ID ▼	Metropolitan Planning Organization ▼	Municipality Name ▼	MassDOT Project Description ▼	MassDOT District ▼	Funding Source ▼	Total Programmed Funds ▼	Federal Funds ▼	Non-Federal Funds ▼	Additional Information ▼ *Present information as follows, if applicable:* **a)** Planning / Design / or Construction; **b)** total project cost and funding sources used; **c)** advance construction status; **d)** MPO project score; **e)** name of entity receiving a transfer; **f)** name of entity paying the non-state non-federal match; **g)** earmark details; **h)** TAP project proponent; **i)** other information
►Section 1A / Regionally Prioritized Projects											
►Regionally Prioritized Projects											
	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)		STBG	$ 14,427,945	$ 11,542,356	$ 2,885,589	Construction / (YOE $24,348,731) AC Year 2 of 2 FFY 2022 $4,251,369 FFY2023 $20,097,362 / 70 TEC / 25% / STP, CMAQ, TAP
	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)		CMAQ	$ 3,239,667	$ 2,591,734	$ 647,933	Construction / (YOE $24,348,731) AC Year 2 of 2 FFY 2022 $4,251,369 FFY2023 $20,097,362 / 70 TEC / 25% / STP, CMAQ, TAP
	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)		TAP	$ 809,917	$ 647,934	$ 161,983	Construction / (YOE $24,348,731) AC Year 2 of 2 FFY 2022 $4,251,369 FFY2023 $20,097,362 / 70 TEC / 25% / STP, CMAQ, TAP
	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)		HSIP	$ 1,619,833	$ 1,457,850	$ 161,983	Construction / (YOE $24,348,731) AC Year 2 of 2 FFY 2022 $4,251,369 FFY2023 $20,097,362 / 70 TEC / 25% / STP, CMAQ, TAP
	Intersection Improvements	606895	Pioneer Valley	Granby	GRANBY- IMPROVEMENTS @ 2 LOCATIONS ON ROUTE 202: SCHOOL STREET & FIVE CORNERS	2	STBG	$ 1,866,279	$ 1,493,023	$ 373,256	Construction / (YOE $2,865,964) STP) / 42 TEC / 25% STP, HSIP
	Intersection Improvements	606895	Pioneer Valley	Granby	GRANBY- IMPROVEMENTS @ 2 LOCATIONS ON ROUTE 202: SCHOOL STREET & FIVE CORNERS	2	HSIP	$ 999,685	$ 899,717	$ 99,969	Construction / (YOE $2,865,964) STP) / 42 TEC / 25% STP, HSIP
	Intersection Improvements	608163	Pioneer Valley	Wales	WALES- RECONSTRUCTION & IMPROVEMENTS ON MONSON ROAD, FROM THE MONSON T.L. TO REED HILL ROAD (1.5 MILES)	2	STBG	$ 4,185,828	$ 3,348,662	$ 837,166	Construction / Base $3,737,346 / 39.5 TEC / 25%
							Regionally Prioritized Projects subtotal ►	**$ 27,149,154**	$ 21,981,275	$ 5,167,879	◄ Funding Split Varies by Funding Source
►Section 1A / Fiscal Constraint Analysis											
							Total Regional Federal Aid Funds Programmed ►	**$ 27,149,154**	**$ 27,425,802**	**◄Total**	**$ 276,648 Target Funds Available**
							STBG programmed ►	$ 20,480,052	$ 16,384,042	**◄ STBG**	
							HSIP programmed ►	$ 2,619,518	$ 2,357,566	**◄ HSIP**	
							CMAQ programmed ►	$ 3,239,667	$ 2,591,734	**◄ CMAQ**	
							TAP programmed ►	$ 809,917	$ 647,934	**◄ TAP**	
►Section 1B / Earmark or Discretionary Grant Funded Projects											
►Other Federal Aid											
			Pioneer Valley		Other Federal Aid		HPP	$ -	$ -	$ -	
							Other Federal Aid subtotal ►	**$ -**	$ -	$ -	◄ Funding Split Varies by Funding Source

Section 1A instructions: **MPO Template Name)** Choose Regional Name from dropdown list to populate header and MPO column; **Column C)** Enter ID from ProjectInfo; **Column E)** Choose Municipality Name from dropdown list; **Column H)** Choose the Funding Source being used for the project - if multiple funding sources are being used enter multiple lines; **Column I)** Enter the total amount of funds being programmed in this fiscal year and for each funding source; **Column J)** Federal funds autocalculates. Please verify the amount and only change if needed for flex. **Column K) N**on-federal funds autocalculates. Please verify the split/match - if matching an FTA flex, coordinate with Rail & Transit Division before programming; **Column L)** Enter Additional Information as described - please do not use any other format.

Table 14: Federally Funded Projects Year 2023 (Continued)

►Section 2A / State Prioritized Reliability Projects											
►Bridge Program / Inspections											
	Bridge Program		Pioneer Valley		Bridge Inspection			$ -	$ -	$ -	
							Bridge Program / Inspections subtotal ►	**$ -**	$ -	$ -	◄ Funding Split Varies by Funding Source
►Bridge Program / Off-System											
	Bridge Program	609120	Pioneer Valley	Ludlow	LUDLOW- BRIDGE REPLACEMENT, L-16-026, PINEY LANE OVER BROAD BROOK	2	STP-BR-OFF	$ 577,920	$ 462,336	$ 115,584	
							Bridge Program / Off-System subtotal ►	**$ 577,920**	$ 462,336	$ 115,584	◄ 80% Federal + 20% Non-Federal
►Bridge Program / On-System (NHS)											
	Bridge Program	608848	Pioneer Valley	Springfield	SPRINGFIELD- BRIDGE REPLACEMENT, S-24-016, ARMORY STREET OVER CSX MAINLINE	2	NHPP-On	$ 5,723,440	$ 4,578,752	$ 1,144,688	
	Bridge Program	608853	Pioneer Valley	Springfield	SPRINGFIELD- BRIDGE REPLACEMENT, S-24-026, ARMORY STREET OVER CSX	2	NHPP-On	$ 3,948,640	$ 3,158,912	$ 789,728	
	Bridge Program	606552	Pioneer Valley	Northampton	NORTHAMPTON- BRIDGE RECONSTRUCTION, N-19-059, I-91 OVER US 5/BMRR & N-19-060, I-91 OVER HOCKANUM ROAD	2	NHPP-On	$ 11,378,353	$ 9,102,682	$ 2,275,671	AC Year 4 of 5, Total Cost $56,891,767
							Bridge Program / On-System (NHS) subtotal ►	**$ 21,050,433**	$ 16,840,346	$ 4,210,087	◄ Funding Split Varies by Funding Source
►Bridge Program / On-System (Non-NHS)											
	Bridge Program		Pioneer Valley		Bridge Program / On-System (Non-NHS)			$ -	$ -	$ -	
							Bridge Program / On-System (Non-NHS) subtotal ►	**$ -**	$ -	$ -	◄ 80% Federal + 20% Non-Federal
►Bridge Program / Systematic Maintenance											
	Bridge Program		Pioneer Valley		Bridge Program / Systematic Maintenance			$ -	$ -	$ -	
							Bridge Program / Systematic Maintenance subtotal ►	**$ -**	$ -	$ -	◄ Funding Split Varies by Funding Source
►Interstate Pavement											
	Interstate Pavement		Pioneer Valley		Interstate Pavement			$ -	$ -	$ -	
							Insterstate Pavement subtotal ►	**$ -**	$ -	$ -	◄ 90% Federal + 10% Non-Federal
►Non-Interstate Pavement											
	Non-Interstate Pavement		Pioneer Valley		Non-Interstate Pavement			$ -	$ -	$ -	
							Non-Interstate Pavement subtotal ►	**$ -**	$ -	$ -	◄ 80% Federal + 20% Non-Federal
► Roadway Improvements											
	Roadway Improvements		Pioneer Valley		Roadway Improvements			$ -	$ -	$ -	
							Roadway Improvements subtotal ►	**$ -**	$ -	$ -	◄ 80% Federal + 20% Non-Federal
► Safety Improvements											
	Safety Improvements		Pioneer Valley		Safety Improvements			$ -	$ -	$ -	
							Safety Improvements subtotal ►	**$ -**	$ -	$ -	◄ Funding Split Varies by Funding Source

Table 14: Federally Funded Projects Year 2023 (Continued)

►Section 2B / State Prioritized Modernization Projects											
► ADA Retrofits											
	ADA Retrofits		Pioneer Valley		ADA Retrofits			$ -	$ -	$ -	
							ADA Retrofits subtotal ►	**$ -**	$ -	$ -	◄ 80% Federal + 20% Non-Federal
►Intersection Improvements											
	Intersection Improvements	606156	Pioneer Valley	Holyoke	HOLYOKE- RECONSTRUCTION OF I-91 INTERCHANGE 17 & ROUTE 141	2	HSIP	$ 6,735,389	$ 6,061,850	$ 673,539	
							Intersection Improvements subtotal ►	**$ 6,735,389**	$ 6,061,850	$ 673,539	◄ Funding Split Varies by Funding Source
►Intelligent Transportation Systems											
	Intelligent Transportation Systems		Pioneer Valley		Intelligent Transportation Systems			$ -	$ -	$ -	
							Intelligent Transportation System subtotal ►	**$ -**	$ -	$ -	◄ 80% Federal + 20% Non-Federal
►Roadway Reconstruction											
	Roadway Reconstruction		Pioneer Valley		Roadway Reconstruction			$ -	$ -	$ -	
							Roadway Reconstruction subtotal ►	**$ -**	$ -	$ -	◄ Funding Split Varies by Funding Source
►Section 2C / State Prioritized Expansion Projects											
►Bicycles and Pedestrians											
	Bicycles and Pedestrians	607823	Pioneer Valley	Southampton	SOUTHAMPTON- GREENWAY RAIL TRAIL CONSTRUCTION, FROM COLEMAN ROAD TO ROUTE 10 (3.5 MILES)	2	CMAQ	$ 6,810,409	$ 5,448,327	$ 1,362,082	
							Bicycles and Pedestrians subtotal ►	**$ 6,810,409**	$ 5,448,327	$ 1,362,082	◄ 80% Federal + 20% Non-Federal
►Capacity											
	Capacity		Pioneer Valley		Capacity			$ -	$ -	$ -	
							Capacity subtotal ►	**$ -**	$ -	$ -	◄ Funding Split Varies by Funding Source
►Section 3 / Planning / Adjustments / Pass-throughs											
►Planning / Adjustments / Pass-throughs											
			Pioneer Valley		ABP GANS Repayment	Multiple		$ -	$ -	$ -	
			Pioneer Valley		ABP GANS Repayment	Multiple		$ -	$ -	$ -	
			Pioneer Valley		Award adjustments, change orders, etc.	Multiple		$ -	$ -	$ -	
			Pioneer Valley		Award adjustments, change orders, etc.	Multiple		$ -	$ -	$ -	
			Pioneer Valley		Award adjustments, change orders, etc.	Multiple		$ -	$ -	$ -	
			Pioneer Valley		Award adjustments, change orders, etc.	Multiple		$ -	$ -	$ -	
			Pioneer Valley		Metropolitan Planning	Multiple		$ -	$ -	$ -	
			Pioneer Valley		Metropolitan Planning	Multiple		$ -	$ -	$ -	
			Pioneer Valley		State Planning and Research Work Program I, (SPR I), Planning	Multiple		$ -	$ -	$ -	
			Pioneer Valley		State Planning and Research Work Program II, (SPR II), Research	Multiple		$ -	$ -	$ -	
			Pioneer Valley		Railroad Crossings	Multiple		$ -	$ -	$ -	
			Pioneer Valley		Railroad Crossings	Multiple		$ -	$ -	$ -	
			Pioneer Valley		Recreational Trails	Multiple		$ -	$ -	$ -	
							Other Statewide Items subtotal ►	**$ -**	$ -	$ -	◄ Funding Split Varies by Funding Source

Table 14: Federally Funded Projects Year 2023 (Continued)

►Section 4 / Non-Federally Aided Projects										
►Non-Federally Aided Projects										
	Non Federal Aid		Pioneer Valley		Non-Federal Aid			$ -		$ -	
	Non-Federally Aided Projects		Pioneer Valley		Non-Federal Aid			$ -		$ -	
							Non-Federal Aid subtotal►	$ -		$ -	◄100% Non-Federal

2023 Summary	TIP Section 1 - 3: ▼	TIP Section 4: ▼	Total of All Projects ▼	
Total ►	$ 62,323,305	$ -	$ 62,323,305	◄ Total Spending in Region
Federal Funds ►	$ 50,794,134		$ 50,794,134	◄ Total Federal Spending in Region
Non-Federal Funds ►	$ 11,529,170	$ -	$ 11,529,170	◄ Total Non-Federal Spending in Region

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

Table 15 Federally Funded Projects Year 2024

Amendment / Adjustment Type ▼	STIP Program ▼	MassDOT Project ID ▼	Metropolitan Planning Organization ▼	Municipality Name ▼	MassDOT Project Description ▼	MassDOT District ▼	Funding Source ▼	Total Programmed Funds ▼	Federal Funds ▼	Non-Federal Funds ▼	Additional Information ▼ *Present information as follows, if applicable:* **a)** Planning / Design / or Construction; **b)** total project cost and funding sources used; **c)** advance construction status; **d)** MPO project score; **e)** name of entity receiving a transfer; **f)** name of entity paying the non-state non-federal match; **g)** earmark details; **h)** TAP project proponent; **i)** other information
►Section 1A / Regionally Prioritized Projects											
►Regionally Prioritized Projects											
	Roadway Improvements	608881	Pioneer Valley	Longmeadow	LONGMEADOW- SPRINGFIELD- RESURFACING AND INTERSECTION IMPROVEMENTS ON	2	STBG	$ 6,064,675	$ 4,851,740	$ 1,212,935	Construction (YOE $6,064,675 / 57.5 TEC / Pre 25% / STBG
	Roadway Reconstruction	609287	Pioneer Valley	Worthington	WORTHINGTON- RECONSTRUCTION & RELATED WORK ON ROUTE 143 (PHASE II)	2	STBG	$ 9,957,440	$ 7,965,952	$ 1,991,488	Construction / (YOE $9,957,440) STP / 41 TEC / 100% Project Phase I funded in FFY 2019 Total project cost was $16,300,000 / STBG
	Intersection Improvements	608717	Pioneer Valley	Springfield	SPRINGFIELD- RECONSTRUCTION OF SUMNER AVENUE AT DICKINSON STREET AND	2	STBG	$ 6,972,689	$ 5,578,151	$ 1,394,538	Construction / (Base $10,062,663) 70.5 TEC / 25% / STP, CMAQ, HSIP, TAP
	Intersection Improvements	608717	Pioneer Valley	Springfield	SPRINGFIELD- RECONSTRUCTION OF SUMNER AVENUE AT DICKINSON STREET AND	2	CMAQ	$ 3,000,000	$ 2,400,000	$ 600,000	Construction / (Base $10,062,663) 70.5 TEC / 25%
	Intersection Improvements	608717	Pioneer Valley	Springfield	SPRINGFIELD- RECONSTRUCTION OF SUMNER AVENUE AT DICKINSON STREET AND	2	HSIP	$ 1,100,000	$ 990,000	$ 110,000	Construction / (Base $10,062,663) 70.5 TEC / 25%
	Intersection Improvements	608717	Pioneer Valley	Springfield	SPRINGFIELD- RECONSTRUCTION OF SUMNER AVENUE AT DICKINSON STREET AND	2	TAP	$ 600,000	$ 480,000	$ 120,000	Construction / (Base $10,062,663) 70.5 TEC / 25%
							Regionally Prioritized Projects subtotal ►	**$ 27,694,804**	$ 22,265,843	$ 5,428,961	◄ Funding Split Varies by Funding Source

►Section 1A / Fiscal Constraint Analysis

Total Regional Federal Aid Funds Programmed ►	**$ 27,694,804**	**$ 27,785,265**	**◄Total**	**$ 90,461 Target Funds Available**
STBG programmed ►	$ 22,994,804	$ 18,395,843	**◄ STBG**	
HSIP programmed ►	$ 1,100,000	$ 990,000	**◄ HSIP**	
CMAQ programmed ►	$ 3,000,000	$ 2,400,000	**◄ CMAQ**	
TAP programmed ►	$ 600,000	$ 480,000	**◄ TAP**	

Section 1A instructions: **MPO Template Name)** Choose Regional Name from dropdown list to populate header and MPO column; **Column C)** Enter ID from ProjectInfo; **Column E)** Choose Municipality Name from dropdown list; **Column H)** Choose the Funding Source being used for the project - if multiple funding sources are being used enter multiple lines; **Column I)** Enter the total amount of funds being programmed in this fiscal year and for each funding source; **Column J)** Federal funds autocalculates. Please verify the amount and only change if needed for flex. **Column K)** Non-federal funds autocalculates. Please verify the split/match - if matching an FTA flex, coordinate with Rail & Transit Division before programming; **Column L)** Enter Additional Information as described - please do not use any other format.

►Section 1B / Earmark or Discretionary Grant Funded Projects											
►Other Federal Aid											
			Pioneer Valley		Other Federal Aid		HPP	$ -	$ -	$ -	
			Pioneer Valley		Other Federal Aid		HPP	$ -	$ -	$ -	
							Other Federal Aid subtotal ►	**$ -**	$ -	$ -	◄ Funding Split Varies by Funding Source

Table 15: Federally Funded Projects Year 2024 (Continued)

►Section 2A / State Prioritized Reliability Projects											
►Bridge Program / Inspections											
	Bridge Program		Pioneer Valley		Bridge Inspection			$ -	$ -	$ -	
							Bridge Program / Inspections subtotal ►	**$ -**	$ -	$ -	◄ Funding Split Varies by Funding Source
►Bridge Program / Off-System											
	Bridge Program		Pioneer Valley						$ -	$ -	
							Bridge Program / Off-System subtotal ►	**$ -**	$ -	$ -	◄ 80% Federal + 20% Non-Federal
►Bridge Program / On-System (NHS)											
	Bridge Program	606552	Pioneer Valley	Northampton	NORTHAMPTON- BRIDGE RECONSTRUCTION, N-19-059, I-91 OVER US 5/BMRR & N-19-060, I-91 OVER HOCKANUM ROAD	2	NHPP-On	$ 20,173,960	$ 16,139,168	$ 4,034,792	AC Year 5 of 5, Total Cost $56,891,767
							Bridge Program / On-System (NHS) subtotal ►	**$ 20,173,960**	$ 16,139,168	$ 4,034,792	◄ Funding Split Varies by Funding Source
►Bridge Program / On-System (Non-NHS)											
	Bridge Program		Pioneer Valley		Bridge Program / On-System (Non-NHS)			$ -	$ -	$ -	
							Bridge Program / On-System (Non-NHS) subtotal ►	**$ -**	$ -	$ -	◄ 80% Federal + 20% Non-Federal
►Bridge Program / Systematic Maintenance											
	Bridge Program		Pioneer Valley		Bridge Program / Systematic Maintenance			$ -	$ -	$ -	
							Bridge Program / Systematic Maintenance subtotal ►	**$ -**	$ -	$ -	◄ Funding Split Varies by Funding Source
►Interstate Pavement											
	Interstate Pavement		Pioneer Valley		Interstate Pavement			$ -	$ -	$ -	
							Insterstate Pavement subtotal ►	**$ -**	$ -	$ -	◄ 90% Federal + 10% Non-Federal
►Non-Interstate Pavement											
	Non-Interstate Pavement	TBD	Pioneer Valley	Multiple	BELCHERTOWN-WARE - PAVEMENT PRESERVATION AND RELATED WORK ON ROUTE 9	2	NHPP	$ 8,298,350	$ 6,638,680	$ 1,659,670	
							Non-Interstate Pavement subtotal ►	**$ 8,298,350**	$ 6,638,680	$ 1,659,670	◄ 80% Federal + 20% Non-Federal
► Roadway Improvements											
	Roadway Improvements		Pioneer Valley		Roadway Improvements			$ -	$ -	$ -	
							Roadway Improvements subtotal ►	**$ -**	$ -	$ -	◄ 80% Federal + 20% Non-Federal
► Safety Improvements											
	Safety Improvements		Pioneer Valley		Safety Improvements			$ -	$ -	$ -	
							Safety Improvements subtotal ►	**$ -**	$ -	$ -	◄ Funding Split Varies by Funding Source

Table 15: Federally Funded Projects Year 2024 (Continued)

►Section 2B / State Prioritized Modernization Projects											
► ADA Retrofits											
	ADA Retrofits		Pioneer Valley		ADA Retrofits			$ -	$ -	$ -	
							ADA Retrofits subtotal ►	**$ -**	$ -	$ -	◄ 80% Federal + 20% Non-Federal
►Intersection Improvements											
	Intersection Improvements		Pioneer Valley		Intersection Improvements			$ -	$ -	$ -	
							Intersection Improvements subtotal ►	**$ -**	$ -	$ -	◄ Funding Split Varies by Funding Source
►Intelligent Transportation Systems											
	Intelligent Transportation Systems		Pioneer Valley		Intelligent Transportation Systems			$ -	$ -	$ -	
							Intelligent Transportation System subtotal ►	**$ -**	$ -	$ -	◄ 80% Federal + 20% Non-Federal
►Roadway Reconstruction											
	Roadway Reconstruction		Pioneer Valley		Roadway Reconstruction			$ -	$ -	$ -	
							Roadway Reconstruction subtotal ►	**$ -**	$ -	$ -	◄ Funding Split Varies by Funding Source
►Section 2C / State Prioritized Expansion Projects											
►Bicycles and Pedestrians											
	Bicycles and Pedestrians		Pioneer Valley		Bicycles and Pedestrians			$ -	$ -	$ -	
							Bicycles and Pedestrians subtotal ►	**$ -**	$ -	$ -	◄ 80% Federal + 20% Non-Federal
►Capacity											
	Capacity		Pioneer Valley		Capacity			$ -	$ -	$ -	
							Capacity subtotal ►	**$ -**	$ -	$ -	◄ Funding Split Varies by Funding Source
►Section 3 / Planning / Adjustments / Pass-throughs											
►Planning / Adjustments / Pass-throughs											
			Pioneer Valley		ABP GANS Repayment	Multiple		$ -	$ -	$ -	
			Pioneer Valley		ABP GANS Repayment	Multiple		$ -	$ -	$ -	
			Pioneer Valley		Award adjustments, change orders, etc.	Multiple		$ -	$ -	$ -	
			Pioneer Valley		Award adjustments, change orders, etc.	Multiple		$ -	$ -	$ -	
			Pioneer Valley		Award adjustments, change orders, etc.	Multiple		$ -	$ -	$ -	
			Pioneer Valley		Award adjustments, change orders, etc.	Multiple		$ -	$ -	$ -	
			Pioneer Valley		Metropolitan Planning	Multiple		$ -	$ -	$ -	
			Pioneer Valley		Metropolitan Planning	Multiple		$ -	$ -	$ -	
			Pioneer Valley		State Planning and Research Work Program I, (SPR I), Planning	Multiple		$ -	$ -	$ -	
			Pioneer Valley		State Planning and Research Work Program II, (SPR II), Research	Multiple		$ -	$ -	$ -	
			Pioneer Valley		Railroad Crossings	Multiple		$ -	$ -	$ -	
			Pioneer Valley		Railroad Crossings	Multiple		$ -	$ -	$ -	
			Pioneer Valley		Recreational Trails	Multiple		$ -	$ -	$ -	
							Other Statewide Items subtotal ►	**$ -**	$ -	$ -	◄ Funding Split Varies by Funding Source

Table 15: Federally Funded Projects Year 2024 (Continued)

►Section 4 / Non-Federally Aided Projects										
►Non-Federally Aided Projects										
	Non Federal Aid		Pioneer Valley		Non-Federal Aid			$ -		$ -	
							Non-Federal Aid subtotal►	$ -		$ -	◄100% Non-Federal

2019 Summary	TIP Section 1 - 3: ▼	TIP Section 4: ▼	Total of All Projects ▼	
Total ►	$ 56,167,114	$ -	$ 56,167,114	◄ Total Spending in Region
Federal Funds ►	$ 45,043,691		$ 45,043,691	◄ Total Federal Spending in Region
Non-Federal Funds ►	$ 11,123,423	$ -	$ 11,123,423	◄ Total Non-Federal Spending in Region

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

Table 16: Universe of Projects and TEC Scores

Draft TIP	Municipality	SID	Project Name and Description	Design	TEC Score	TEC Rank	Estimated Cost
	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	Amherst	608084	AMHERST- IMPROVEMENTS & RELATED WORK ON ROUTES 9 & 116, FROM UNIVERSITY DRIVE TO SOUTH PLEASANT STREET (0.8 MILES)	25	53.5	10	$ 3,892,738
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		19	$ 1,083,220
	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	Belchertwon / Granby	608466	BELCHERTOWN- GRANBY- RESURFACING AND RELATED WORK ON ROUTE 202	0	17	38	$ 4,491,288
	Chesterfield	608886	RECONSTRUCTION OF NORTH ROAD AND DAMON POND ROAD	0	10	42	$ 4,441,000
2020	Chicopee	604434	RECONSTRUCTION & RELATED WORK ON FULLER ROAD, FROM MEMORIAL DR (RTE 33) TO SHAWINIGAN DR (2.0 MILES)	75	49.5	13	$ 8,034,211
	Chicopee	609061	CHICOPEE - INTERSECTION RECONSTRUCTION, MONTGOMERY ROAD AT GRANBY ROAD AND MCKINSTRY AVENUE, AND MONTGOMERY ROAD AT TURNPIKE ACCESS ROAD	0	46.5	15	$ 6,000,000
Removed	Chicopee	602912	CHICOPEE- CHICOPEE RIVER RIVERWALK MULTI-USE PATH CONSTRUCTION, FROM GRAPE STREET TO FRONT STREET (NEAR ELLERTON STREET) (1 MILE)	25	33.0	15	$ 4,000,000
2020 SW	Chicopee	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	100	30.5	16	$ 3,041,445
	Cummington	606797	ROUTE 9 RETAINING WALL	0	8.0	44	$ 1,660,000
2022	Easthampton	608577	EASTHAMPTON- IMPROVEMENTS AND RELATED WORK ON UNION STREET (ROUTE 141) FROM PAYSON AVENUE TO HIGH STREET (0.36 MILES)	25	60.0	8	$ 3,284,450
	Easthampton/ Southampton	608423	IMPROVEMENTS AND RELATED WORK ON TWO SECTIONS OF ROUTE 10 IN EASTHAMPTON AND SOUTHAMPTON	0	28.5	30	$ 2,799,540
	Goshen	602888	ROUTE 9 RECONSTRUCTION	0	25.0	33	$ 7,500,000
2023	Granby	606895	ROUTE 202 INTERSECTION IMPROVEMENTS 2 LOCATIONS @ 5 CORNERS AND @ SCHOOL STREET	25	42.0	19	$ 2,588,655
	Granville	608736	GRANVILLE- RECONSTRUCTION OF ROUTE 57	0	29.0	29	$ 7,000,000
2021/2022	Hadley	605032	HADLEY- RECONSTRUCTION ON ROUTE 9, FROM MIDDLE STREET TO MAPLE/SOUTH MAPLE STREET	25	61.0	7	$ 23,893,982
	Hadley	608089	INTERSECTION, BICYCLE AND PEDESTRIAN IMPROVEMENTS @ ROUTES 9, 116 & WESTGATE CENTER DRIVE	0	25.5	32	$ 1,544,720
	Hadley	607886	RESURFACING AND RELATED WORK ON ROUTE 47 FROM COMINS DRIVE TO OLD RIVER DRIVE, INCLUDES CULVERT REPLACEMENT AT RUSSELVILLE BROOK	0	16 (2.88)	39	$ 2,100,000
	Hadley	606547	PEDESTRIAN SIGNAL INSTALLATION AT 2 LOCATIONS ALONG ROUTE 9 NEAR WEST ST	0	14.5	40	$ 134,600
	Hatfield	608553	HATFIELD- RESURFACING AND RELATED WORK ON ROUTES 5 &10, FROM 350 FEET NORTH OF CHURCH AVE TO THE WHATELY TOWN LINE (3.2 MILES)	0	6.5	45	$ 3,124,760
	Holland	608727	HOLLAND- RESURFACING & RELATED WORK ON BRIMFIELD ROAD, FROM WALES ROAD TO STURBRIDGE STREET (0.9 MILES - PHASE II)	0	27.5	31	$ 1,051,476
2022 STP / SW CMAQ	Holyoke	606450	TRAFFIC SIGNAL UPGRADES AT 15 INTERSECTIONS ALONG HIGH & MAPLE STREETS ($4,789,307 in statewide funding)	25	63.0	6	$ 9,152,450
	Holyoke	609065	RESURFACING AND RELATED WORK ON CABOT STREET AND RACE STREET (CENTER CITY CONNECTOR)	0	53.5	10	$ 5,125,070
2023 SW	Holyoke	606156	RECONSTRUCTION OF I-91 INTERCHANGE 17 & ROUTE 141	0	53.0	11	$ 6,013,740
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	14	$ 11,075,240
	Longmeadow	607430	RESURFACING & RELATED WORK ON LONGMEADOW STREET (ROUTE 5), FROM THE CT S.L. TO CONVERSE STREET (2.88 MILES)	0/25	44.5	16	$ 2,394,860
2024	Longmeadow / Springfield	608881	RESURFACING AND INTERSECTION IMPROVEMENTS ON LONGMEADOW STREET (ROUTE 5) AND CONVERSE STREET (0.84 MILES)	0	57.5	9	$ 5,228,168

Table 16: Universe of Projects and TEC Scores

Draft TIP	Municipality	SID	Project Name and Description	Design	TEC Score	TEC Rank	Estimated Cost
2020	Northampton	608236	NORTHAMPTON- RECONSTRUCTION OF DAMON ROAD, FROM ROUTE 9 TO ROUTE 5, INCLUDES DRAINAGE SYSTEM REPAIRS & SLOPE STABILIZATION AT THE NORWOTTUCK RAIL TRAIL	PS&E	66.5	4	$ 10,043,653
2020	Northampton	607502	INTERSECTION IMPROVEMENTS AT KING STREET, NORTH STREET & SUMMER STREET AND AT KING STREET & FINN STREET	25	65.0	5	$ 3,384,309
	Northampton	605048	IMPROVEMENTS ON ROUTE 5 (MOUNT TOM ROAD) - FROM BRIDGE E-5-4 OVER THE MANHAN RIVER TO 850' SOUTH OF I-91 NB EXIT 18 RAMP (0.85 MILES)	25	40.0	22	$ 1,923,075
	Northampton	609286	NORTHAMPTON- DOWNTOWN COMPLETE STREETS CORRIDOR AND INTERSECTION IMPROVEMENTS ON MAIN STREET (ROUTE 9)	0	67.5	3	$ 7,654,605
2021 SW	Northampton	608413	NORTHAMPTON- ROCKY HILL GREENWAY MULTI-USE TRAIL, FROM THE MANHAN RAIL TRAIL TO ROCKY HILL ROAD (0.4 MILES)	25	34.0	14	$ 780,794
2020	Northampton	PV0001	NORTHAMPTON, AMHERST, CHICOPPE, EASTHAMPTON, HADLEY, HOLYOKE, SOUTH HADLEY, SPRINGFIELD, and WEST SPRINGFIELD: ValleyBike share (phase II)	Contract	35.5	12	$ 1,210,000
	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	34	$ 6,134,080
	Palmer	607372	PALMER- RECONSTRUCTION OF ROUTE 32, FROM 1/2 MILE SOUTH OF RIVER STREET TO THE WARE T.L. (PHASE II) (2.1 MILES)	0	23.0	34	$ 8,326,770
	Russell	608945	RUSSELL- RESURFACING & RELATED WORK ON ROUTE 20	0	14.0	41	$ 6,500,000
2020 SW	South Hadley	608473	SOUTH HADLEY- RESURFACING AND RELATED WORK ON ROUTE 116	25	43.5	17	$ 5,885,003
	South Hadley	608785	MAIN STREET ROAD IMPROVEMENT PROJECT	0	38.5	24	$ 3,089,720
	Southampton	604653	REHABILITATION OF EAST STREET - FROM COLLEGE HIGHWAY EASTERLY TO COUNTY ROAD (2.6 MILES)	25	31.5	27	$ 5,022,200
2022 SW	Southampton	607823	SOUTHAMPTON- GREENWAY RAIL TRAIL CONSTRUCTION, FROM COLEMAN ROAD TO ROUTE 10 (3.5 MILES)	0	19.5	18	$ 6,080,722
	Southwick	606141	RECONSTRUCTION OF FEEDING HILLS ROAD (ROUTE 57), FROM COLLEGE HIGHWAY TO THE AGAWAM T.L	0	42.5	18	$ 4,080,000
	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	36	$ 3,600,000
2024	Springfield	608717	SPRINGFIELD- RECONSTRUCTION OF SUMNER AVENUE AT DICKINSON STREET AND BELMONT AVENUE (THE "X")	25	70.5	1	$ 10,062,663
2021	Springfield	608782	SPRINGFIELD- INTERSECTION IMPROVEMENTS AT COTTAGE STREET, ROBBINS ROAD AND INDUSTRY AVE	25	46.5	15	$ 2,748,386
2020	Springfield	608718	SPRINGFIELD- INTERSECTION IMPROVEMENTS AT BERKSHIRE AVENUE, COTTAGE AND HARVEY STREETS	25	41.5	20	$ 2,280,751
2020 SW	Springfield	608560	IMPROVEMENTS ON ST. JAMES AVENUE AT TAPLEY STREET	25		46	$ 1,589,420
2021 SW	Springfield	608565	IMPROVEMENTS ON ST. JAMES AVENUE AT ST. JAMES BOULEVARD AND CAREW STREET	0		47	$ 2,400,000
2022 SW	Springfield	608157	SPRINGFIELD- MCKNIGHT COMMUNITY TRAIL CONSTRUCTION, FROM ARMORY STREET TO HAYDEN AVENUE (1.5 MILES)	0	36.5	11	$ 4,300,000
2024	Wales	608163	WALES- RECONSTRUCTION & IMPROVEMENTS ON MONSON ROAD, FROM THE MONSON T.L. TO REED HILL ROAD (1.5 MILES)	25	39.5	23	$ 3,737,346
	Wales	605669	PEDESTRIAN ACCESS IMPROVEMENTS & RELATED WORK ON ROUTE 19	0	9.0	43	$ 312,500
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	2	$ 22,545,121
	West Springfield	604746	BRIDGE REPLACEMENT, W-21-006, CSX RAILROAD OVER UNION STREET	0	21.0	35	$ 12,403,054
2021	Westfield	607773	WESTFIELD- IMPROVEMENTS & RELATED WORK ON ROUTE 20, COURT STEET & WESTERN AVENUE, LLOYDS HILL ROAD TO HIGH STREET/MILL STREET INTERSECTION (PHASE II) Eastern Section	25	52.5	12	$ 8,153,565
2021 SW	Westfield	608487	WESTFIELD- RESURFACING AND RELATED WORK ON ROUTE 10 AND 202	0	29	29	$ 2,760,000
	Westfield	608073	WESTFIELD- WESTFIELD RIVER LEVEE MULTI-USE PATH CONSTRUCTION, FROM CONGRESS STREET TO WILLIAMS RIDING WAY (NEAR MEADOW STREET) (2 MILES)	0	36	13	$ 4,801,730

Table 16: Universe of Projects and TEC Scores

Draft TIP	Municipality	SID	Project Name and Description	Design	TEC Score	TEC Rank	Estimated Cost
2021 SW	Wilbraham	608489	WILBRAHAM- RESURFACING AND RELATED WORK ON ROUTE 20	0	36.0	25	$ 9,441,500
	Williamsburg	607231	RECONSTRUCTION OF HIGH AND MOUNTAIN STREET	0	18.0	37	$ 7,033,957
	Williamsburg	608787	WILLIAMSBURG- CONSTRUCTION OF THE "MILL RIVER GREENWAY" SHARED USE PATH	0	29.0	17	$ 14,400,000
2024	Worthington	609287	ROUTE 143 RECONSTRUCTION (PHASE II) PERU TOWN LINE TO COLD STREET	100	41.0	21	$ 8,584,000
			61 Total Projects				**$ 342,132,443**

Projects listed in appendix Z 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 2020 - 2024

The following is a complete listing of programmed transit projects for FFY 2020 - 2024

Table 17: FFY 2020 Transit Project Information

Funding Program	Project ID	Project Title	Federal	Match	Total Cost
Regional Transit Authority Capital Assistance Program (RTACAP)	BCG0007825	Environmental Compliance	$ -	$ 6,250	$ 6,250
Regional Transit Authority Capital Assistance Program (RTACAP)	BCG0007831	Purchase & Replace Shop Equipment	$ -	$ 46,250	$ 46,250
Regional Transit Authority Capital Assistance Program (RTACAP)	BCG0007857	Replacement supervisory vehicles (2)	$ -	$ 50,000	$ 50,000
Regional Transit Authority Capital Assistance Program (RTACAP)	BCG0008047	Robbins Road Intersection Design	$ -	$ 32,000	$ 32,000
Section 5307: Urbanized Area Formula	BCG0007822	Purchase Bus Shelters, benches, trash receptacles,etc.	$ 40,000	$ 10,000	$ 50,000
Section 5307: Urbanized Area Formula	BCG0007823	Purchases signage and lighting	$ 8,000	$ 2,000	$ 10,000
Section 5307: Urbanized Area Formula	BCG0007824	Purchase bicycle Equipment for shelters and buses	$ 5,600	$ 1,400	$ 7,000
Section 5307: Urbanized Area Formula	BCG0007829	Buy Replacement 40' Diesel Bus (16)	$ 1,360,000	$ 2,185,000	$ 3,545,000
Section 5307: Urbanized Area Formula	BCG0007830	Replace support vehicle (2)	$ 36,000	$ 36,000	$ 72,000
Section 5307: Urbanized Area Formula	BCG0007842	Information Technology Systems	$ 1,047,634	$ 261,909	$ 1,309,543
Section 5307: Urbanized Area Formula	BCG0007871	Buy Replacement 35" Bus (17)	$ 2,429,568	$ 3,254,568	$ 5,684,136
Section 5307: Urbanized Area Formula	BCG0008128	Facility Managment Project	$ 160,000	$ 40,000	$ 200,000
			$ 5,086,802	**$ 5,925,377**	**$ 11,012,179**

Table 18: FFY 2021 Transit Project Information

Funding Program	Project ID	Project Title	Federal	Match	Total Cost
Regional Transit Authority Capital Assistance Program (RTACAP)	BCG0005043	Replace Northampton Maintenance Facility Bus Wash System, Year 2	$ -	$ 22,000	$ 22,000
Regional Transit Authority Capital Assistance Program (RTACAP)	BCG0006938	Replace Support Vehicles (2)	$ -	$ 100,000	$ 100,000
Regional Transit Authority Capital Assistance Program (RTACAP)	BCG0007832	Replace Supervisory Vehicles (2)	$ -	$ 50,000	$ 50,000
Regional Transit Authority Capital Assistance Program (RTACAP)	BCG0007833	Purchase/Replace Shop Equipment	$ -	$ 37,500	$ 37,500
Regional Transit Authority Capital Assistance Program (RTACAP)	BCG0007834	Environmental Compliance	$ -	$ 6,250	$ 6,250
Regional Transit Authority Capital Assistance Program (RTACAP)	BCG0008040	Administration Building - Slate Roof Restoration	$ -	$ 40,000	$ 40,000
Regional Transit Authority Capital Assistance Program (RTACAP)	BCG0008129	Robbins Road Intersection Design - Yr 3	$ -	$ 40,000	$ 40,000
Section 5307: Urbanized Area Formula	BCG0007835	Bus Shelters, Benches, Trash Recepticles	$ 78,584	$ 19,646	$ 98,230
Section 5307: Urbanized Area Formula	BCG0007836	Bus Stop Signage and Lighting	$ 16,000	$ 4,000	$ 20,000
Section 5307: Urbanized Area Formula	BCG0007837	Bicyle access equipment for buses and shelters	$ 5,600	$ 1,400	$ 7,000
Section 5307: Urbanized Area Formula	BCG0007838	Information Technology Systems	$ 1,268,498	$ 317,125	$ 1,585,623
Section 5307: Urbanized Area Formula	BCG0007858	Buy Replacement 35-FT Buses (14)	$976,936	$ 4,091,835	$ 5,068,771
Section 5307: Urbanized Area Formula	BCG0007874	Buy Replacement 40-FT Buses (15)	$2,133,097	$ 4,428,886	$ 6,561,983
			$ 4,478,715	**$ 9,158,642**	**$ 13,637,357**

Table 19: FFY 2022 Transit Project Information

Funding Program	Project ID	Project Title	Federal	Match	Total Cost
Regional Transit Authority Capital Assistance Program (RTACAP)	BCG0006167	Replace Bus Wash System at UMTS	$ -	$ 250,000	$ 250,000
Regional Transit Authority Capital Assistance Program (RTACAP)	BCG0006962	Purchase shop equipment	$ -	$ 37,500	$ 37,500
Regional Transit Authority Capital Assistance Program (RTACAP)	BCG0007846	Purchase replacement support vehicles (1)	$ -	$ 24,000	$ 24,000
Regional Transit Authority Capital Assistance Program (RTACAP)	BCG0007847	Replace Supervisory Vehicles (1)	$ -	$ 12,500	$ 12,500
Regional Transit Authority Capital Assistance Program (RTACAP)	BCG0007848	Environmental Compliance	$ -	$ 5,000	$ 5,000
Regional Transit Authority Capital Assistance Program (RTACAP)	BCG0008035	Northampton - Replace Bus Wash System - Yr 2	$ -	$ 220,000	$ 220,000
Section 5307: Urbanized Area Formula	BCG0007844	Purchase 40' Replacement Buses (15)	$ 2,262,570	$ 2,286,570	$ 4,549,140
Section 5307: Urbanized Area Formula	BCG0007845	Replace 35' Buses (10)	$ 976,936	$ 1,476,936	$ 2,453,872
Section 5307: Urbanized Area Formula	BCG0007849	Purchase Shelters and shelter accessories	$ 80,668	$ 20,167	$ 100,835
Section 5307: Urbanized Area Formula	BCG0007850	Signage & Lighting	$ 16,000	$ 4,000	$ 20,000
Section 5307: Urbanized Area Formula	BCG0007851	Bike Access for shelters and Buses	$ 5,600	$ 1,400	$ 7,000
Section 5307: Urbanized Area Formula	BCG0007852	Information Technology Systems	$ 1,267,373	$ 316,843	$ 1,584,216
Section 5339: Bus and Bus Facilities (NC)	BCG0007856	Purchase Replacement Vans (15)	$ 863,263	$ 251,695	$ 1,114,958
			$ 5,472,410	**$ 4,906,611**	**$ 10,379,021**

Table 20: FFY 2023 Transit Project Information

Funding Program	Project ID	Project Title	Federal	Match	Total Cost
Regional Transit Authority Capital Assistance Program (RTACAP)	BCG0007861	REHAB/RENOVATE - Environmental Compliance	$ -	$ 6,250	$ 6,250
Regional Transit Authority Capital Assistance Program (RTACAP)	BCG0007866	NTF rehabs: bathrooms, bays, ceilings, MEP upgrades, IT Room, etc.	$ -	$ 176,000	$ 176,000
Regional Transit Authority Capital Assistance Program (RTACAP)	BCG0008025	UMTS MEP updgrades, restrooms, administration	$ -	$ 70,000	$ 70,000
Regional Transit Authority Capital Assistance Program (RTACAP)	BCG0008027	Admin Building- Replace roof mounted HVAC	$ -	$ 90,000	$ 90,000
Section 5307: Urbanized Area Formula	BCG0007859	Purchase 40' Replacement Buses (15)	$ 2,509,406	$ 3,143,092	$ 5,652,498
Section 5307: Urbanized Area Formula	BCG0007860	Purchase 35' Replacement Buses (6)	$ 1,032,582	$ 1,045,082	$ 2,077,664
Section 5307: Urbanized Area Formula	BCG0007862	Purchase Bus Shelters, benches, trash receptacles,etc.	$ 82,795	$ 20,699	$ 103,494
Section 5307: Urbanized Area Formula	BCG0007863	Purchase and replace bicycle equipment for shelters and buses	$ 5,600	$ 1,400	$ 7,000
Section 5307: Urbanized Area Formula	BCG0007864	Purchase & Replace signage and lighting	$ 16,000	$ 4,000	$ 20,000
Section 5307: Urbanized Area Formula	BCG0007865	Information Technology Systems	$ 1,202,069	$ 300,517	$ 1,502,586
Section 5339: Bus and Bus Facilities (NC)	BCG0007875	Purchase Replacement Vans (9)	$ 896,326	$ 896,326	$ 1,792,652
			$ 5,744,778	**$ 5,753,366**	**$ 11,498,144**

Table 21: FFY 2024 Transit Project Information

Funding Program	Project ID	Project Title	Federal	Match	Total Cost
Regional Transit Authority Capital Assistance Program (RTACAP)	BCG0008143	Rehab Northampton Maint Facility, Year 4	$ -	$ 260,000	$ 260,000
Regional Transit Authority Capital Assistance Program (RTACAP)	BCG0008144	UMTS - Install AC in Maintenance Area	$ -	$ 50,000	$ 50,000
Regional Transit Authority Capital Assistance Program (RTACAP)	BCG0008145	HITC-Bus B ay Canopy/Pavement Upgrades	$ -	$ 120,000	$ 120,000
Regional Transit Authority Capital Assistance Program (RTACAP)	BCG0008146	Purchase Shop Equipment - All Garages	$ -	$ 37,500	$ 37,500
Regional Transit Authority Capital Assistance Program (RTACAP)	BCG0008147	Enviromental Compliance	$ -	$ 6,250	$ 6,250
Section 5307: Urbanized Area Formula	BCG0008048	Replacement 40' Bus (17)	$ 2,415,315	$ 3,016,350	$ 5,431,665
Section 5307: Urbanized Area Formula	BCG0008049	Replacement 35-FT Bus (9)	$ 1,032,582	$ 1,682,582	$ 2,715,164
Section 5307: Urbanized Area Formula	BCG0008139	PURCHASE BUS SHELTERS	$ 106,567	$ 26,642	$ 133,209
Section 5307: Urbanized Area Formula	BCG0008140	Signage and Lighting	$ 85,600	$ 21,400	$ 107,000
Section 5307: Urbanized Area Formula	BCG0008141	Bike access Equipment	$ 16,000	$ 4,000	$ 20,000
Section 5307: Urbanized Area Formula	BCG0008142	Information Technology Systems	$ 1,132,674	$ 283,169	$ 1,415,843
Section 5339: Bus and Bus Facilities (NC)	BCG0008050	Replacement Vans (24)	$ 930,655	$ 961,919	$ 1,892,574
			$ 5,719,393	**$ 6,469,811**	**$ 12,189,204**

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 2018-2019 TIP projects are identified in table 22.

Table 22 Project Implementation

Year	Highway Project Description	SID	Status	Programmed	Status
2018	AGAWAM- INTERSECTION IMPROVEMENTS AT ROUTE 187 & ROUTE 57	604203	STP	$ 3,288,000	Construction
2018	NORTHAMPTON- IMPROVEMENTS ON I-91 INTERCHANGE 19 AT ROUTE 9 AND DAMON ROAD	604597	NFP	$ 7,438,490	Construction
2018	WESTFIELD- ROUTE 20 ACCESS IMPROVEMENTS ON COURT STREET & WESTERN AVENUE, FROM LLEWELLYN DRIVE EASTERLY TO LLOYDS HILL ROAD (PHASE I)	603449	STP	$ 3,630,245	Construction
2018	SOUTHAMPTON- RECONSTRUCTION OF GLENDALE ROAD (PHASE II) FROM COLLEGE HIGHWAY (RT 10) NORTHWESTERLY TO POMEROY MEADOW RD (3,801 FEET)	604738	STP	$ 2,710,700	Construction
2018	HOLYOKE- RESURFACING & RELATED WORK ON HERITAGE STREET, FRONT STREET & DWIGHT STREET FROM MAPLE ST TO THE 1ST LEVEL CANAL (.54 MILES)	607256	STP	$ 2,283,489	Awarded
2018	AMHERST- HADLEY- NORTHAMPTON- TRANSIT SIGNAL PRIORITY UPGRADES AT VARIOUS LOCATIONS	608786	TAP	$ 792,630	Construction
2018	AMHERST- HADLEY- NORTHAMPTON- TRANSIT SIGNAL PRIORITY UPGRADES AT VARIOUS LOCATIONS	608786	STP	$ 407,369	Not Advertised
2018	PVTA P21 Express Service Between Union Station in Springfield and the Holyoke Transportation Center	PV0005	CMAQ	$ 500,000	Funded
2018	WESTFIELD- ROUTE 20 ACCESS IMPROVEMENTS ON COURT STREET & WESTERN AVENUE, FROM LLEWELLYN DRIVE EASTERLY TO LLOYDS HILL ROAD (PHASE I)	603449	HPP	$ 2,503,688	Construction
2018	HOLYOKE- BRIDGE REPLACEMENT, H-21-018, LYMAN STREET OVER FIRST LEVEL CANAL	600936	NHPP-On	$ 11,762,603	Awarded
2018	PALMER - BRIDGE REHABIILITATION, P-01-005, MAIN STREET OVER QUABOAG RIVER	608870	NHPP-Off	$ 3,000,000	Construction
2018	CUMMINGTON- BRIDGE MAINTENANCE, C-21-025, ROUTE 9 OVER THE WESTFIELD RIVER	607939	NHPP-On	$ 312,000	Construction
2018	HOLYOKE- STRUCTURAL STEEL BEAM CLEANING AND PAINTING, H-21-048, I-91 NB & SB OVER WESTFIELD ROAD	607959	NHPP-On	$ 1,564,622	Construction

2018	SPRINGFIELD- NORTH END PEDESTRIAN PATH CONSTRUCTION (UNDER THE CONNECTICUT RIVER RAILROAD), BETWEEN PLAINFIELD STREET AND BIRNIE AVENUE, INCLUDES CONSTRUCTION OF NEW UNDERPASS S-24-044	607589	TAP	$ 6,640,845	Awarded
2018	SPRINGFIELD- NORTH END PEDESTRIAN PATH CONSTRUCTION (UNDER THE CONNECTICUT RIVER RAILROAD), BETWEEN PLAINFIELD STREET AND BIRNIE AVENUE, INCLUDES CONSTRUCTION OF NEW UNDERPASS S-24-044	607589	CMAQ	$ 421,266	Awarded
2019	HOLYOKE- IMPROVEMENTS AT KELLY COMMUNITY SCHOOL (SRTS)	608790	TAP	$ 1,264,935	Not Advertised
2019	NORTHAMPTON- ROUNDABOUT CONSTRUCTION AT INTERSECTION ROUTES 5/10 (NORTH KING STREET) & HATFIELD STREET	606555	CMAQ	$ 4,109,480	Not Advertised
2019	AGAWAM- RECONSTRUCTION OF ROUTE 187 FROM 425 FT. SOUTH OF S. WESTFIELD STREET TO ROUTE 57 (0.3 MILES - PHASE I)	600513	STP	$ 2,622,622	Not Advertised
2019	BELCHERTOWN- IMPROVEMENTS & RELATED WORK ON ROUTES 202 & 21, FROM TURKEY HILL ROAD TO SOUTH MAIN STREET (1.2 MILES)	608412	STP	$ 5,143,503	Not Advertised
2019	CHICOPEE- HOLYOKE- INTERSTATE MAINTENANCE AND RELATED WORK ON I-391	607560	NHPP	$ 11,309,875	Advertised
2019	CHICOPEE- SIGNAL & INTERSECTION IMPROVEMENTS AT 13 INTERSECTIONS ALONG ROUTE 33 (MEMORIAL DRIVE), FROM FULLER ROAD TO ABBEY STREET	607736	HSIP	$ 6,001,387	Not Advertised
2019	CHICOPEE- WEST SPRINGFIELD- HIGHWAY LIGHTING UPGRADE ON I-91	608600	NHPP	$ 4,300,759	Advertised
2019	GRANBY- SOUTH HADLEY- RESURFACING AND RELATED WORK ON ROTUE 202	607474	NHPP	$ 5,752,500	Not Advertised
2019	HOLLAND- RESURFACING & RELATED WORK ON BRIMFIELD ROAD, FROM THE BRIMFIELD/HOLLAND T.L. TO WALES ROAD (1.4 MILES - PHASE I)	604962	STP	$ 2,919,446	Not Advertised
2019	HUNTINGTON- SYSTEMATIC BRIDGE MAINTENANCE, H-27-019, ROUTE 112 OVER SYKES BROOK	608928	NHPP-Off	$ 526,506	Advertised

2019	MIDDLEFIELD- BRIDGE SUPERSTRUCTURE REPLACEMENT, M-19-010, CHESTER ROAD OVER SMART BROOK	608429	STP-BR-OFF	$ 970,807	Advertised
2019	P21 Express - Year 2 Operating	PV0001	CMAQ	$ 500,000	Funded
2019	SPRINGFIELD- INTERSECTION IMPROVEMENTS AT BAY STREET AND BERKSHIRE AVENUE	608411	HSIP/CMAQ	$ 1,886,880	Not Advertised
2019	WARE- INTERSECTION IMPROVEMENTS @ MAIN STREET, WEST STREET, NORTH STREET, SOUTH STREET & CHURCH STREET	607987	STP/CMAQ/TAP	$ 2,475,087	Not Advertised
2019	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	603783	CMAQ	$ 6,532,895	Not Advertised
2019	WORTHINGTON- RECONSTRUCTION & RELATED WORK ON ROUTE 143 (PHASE I)	606912	STP	$ 8,900,000	Not 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 (NOx), the two major precursors to ozone formation to achieve attainment of the ozone standard.

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

In 1997, the EPA proposed a new, eight-hour ozone standard that replaced the one- hour standard, effective June 15, 2005. Scientific information had shown that ozone could affect human health at lower levels, and over longer exposure times than one hour. The new standard was challenged in court, and after a lengthy legal battle, the courts upheld it. It was finalized in June 2004.The eight-hour standard is 0.08 parts per

million, averaged over eight hours and not to be exceeded more than once per year. Nonattainment areas were again further classified based on the severity of the eight-hour values. Massachusetts as a whole was classified as being in moderate nonattainment for the eight-hour standard, and was separated into two nonattainment areas—Eastern Massachusetts and Western Massachusetts.

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

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

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

Also on May 21, 2012, the air quality designations areas for the 2008 NAAQS were published in the Federal Register. In this Federal Register, the only area in Massachusetts that was designated as nonattainment is Dukes County. All other Massachusetts counties were designated as attainment/unclassified for the 2008 standard. On March 6, 2015, (80 FR 12264, effective April 6, 2015) EPA published the Final Rulemaking, "Implementation of the 2008 National Ambient Air Quality Standards (NAAQS) for Ozone: State Implementation Plan Requirements; Final Rule." This rulemaking confirmed the removal of transportation conformity to the 1997 Ozone NAAQS.

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 2020-2024 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 2020-2024 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 apply to regional emissions analysis. In the 1997 ozone NAAQS areas, the use of latest planning assumptions requirement applies to assumptions about transportation control measures (TCMs) in an approved SIP (See following section on Timely Implementation of TCMs).

Consultation:

The consultation requirements in 40 CFR 93.112 were addressed both for interagency consultation and public consultation. Interagency consultation was conducted with FHWA, FTA, US EPA Region 1, MassDEP, and the 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 NOx 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 and must be fiscally constrained consistent with DOT's metropolitan planning regulations at 23 CFR part 450. The Pioneer Valley 2020-2024 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 2020-2024 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 2020-2024 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.
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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.
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GreenDOT Policy and Metropolitan Planning Organizations

The Commonwealth's thirteen metropolitan planning organizations (MPOs) are integrally involved in helping to achieve the GreenDOT goals and supporting the GHG reductions mandated under the GWSA. The MPOs are most directly involved in helping to achieve the GHG emissions reductions under the second goal – to promote healthy transportation modes through prioritizing and programming an appropriate balance of roadway, transit, bicycle and pedestrian investments – and assist in the third goal by supporting smart growth development patterns through the creation of a balanced multi-modal transportation system. This will be realized through the transportation goals and policies espoused in the 2017 Regional Transportation Plans (RTPs), the major projects planned in the RTPs, and the mix of new transportation projects that are programmed and implemented through the TIPs. The GHG tracking and evaluation processes enable the MPOs to identify the anticipated GHG impacts of the planned and programmed projects, and also to use GHG impacts as a criterion in prioritizing transportation projects.

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 CO_2 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.
- **Quantifed 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) summarize the calculated quantitative and assumed qualitative impacts of the projects included in the regional FFY 2019 – 2022 TIP.

Table 23 Greenhouse Gas Summary Tables FFY 2020

►Section 1A / Regionally Prioritized Projects

►Regionally Prioritized Projects

607502	NORTHAMPTON- INTERSECTION IMPROVEMENTS AT KING STREET, NORTH STREET & SUMMER STREET AND AT KING STREET & FINN STREET	$ 2,460,910	Qualitative		Qualitative Decrease in Emissions	To be quantified
607502	NORTHAMPTON- INTERSECTION IMPROVEMENTS AT KING STREET, NORTH STREET & SUMMER STREET AND AT KING STREET & FINN STREET	$ 923,399	Qualitative		Qualitative Decrease in Emissions	To be quantified
604043	CHICOPEE- RECONSTRUCTION & RELATED WORK ON FULLER ROAD, FROM MEMORIAL DR (RTE 33) TO SHAWINIGAN DR (2.0 MILES)	$ 6,025,658	Quantified	205,229	Quantified Decrease in Emissions from Traffic Operational Improvement	
604043	CHICOPEE- RECONSTRUCTION & RELATED WORK ON FULLER ROAD, FROM MEMORIAL DR (RTE 33) TO SHAWINIGAN DR (2.0 MILES)	$ 2,008,553	Quantified		Quantified Decrease in Emissions from Traffic Operational Improvement	
608236	NORTHAMPTON- RECONSTRUCTION OF DAMON ROAD, FROM ROUTE 9 TO ROUTE 5, INCLUDES DRAINAGE SYSTEM REPAIRS & SLOPE STABILIZATION AT THE NORWOTTUCK	$ 10,043,653	Quantified	1,983	Quantified Decrease in Emissions from Complete Streets Project	
608718	SPRINGFIELD- INTERSECTION IMPROVEMENTS AT BERKSHIRE AVENUE, COTTAGE AND HARVEY STREETS	$ 1,254,413	Qualitative		Qualitative Decrease in Emissions	To be quantified
608718	SPRINGFIELD- INTERSECTION IMPROVEMENTS AT BERKSHIRE AVENUE, COTTAGE AND HARVEY STREETS	$ 1,026,338	Qualitative		Qualitative Decrease in Emissions	To be quantified
PV0001	NORTHAMPTON, AMHERST, CHICOPPE, EASTHAMPTON, HADLEY, HOLYOKE, SOUTH HADLEY, SPRINGFIELD, and WEST SPRINGFIELD: ValleyBike share (phase II)	$ 1,200,000	Quantified	11,731	Quantified Decrease in Emissions from Bicycle and Pedestrian Infrastructure	
PV0002	P 21 Express Year 3	$ 500,000	Quantified	28,901	Quantified Decrease in Emissions from New/Additional Transit Service	
			Quantified Impact ►	247,844		

Table 23 Greenhouse Gas Summary Tables FFY 2020(Continued)

►Section 1B / Earmark or Discretionary Grant Funded Projects						
►Other Federal Aid						
0	Other Federal Aid	$ -				
			Quantified Impact ►	0		
►Section 2A / State Prioritized Reliability Projects						
►Bridge Program / Inspections						
0	Bridge Inspection	$ -	Qualitative		No assumed impact/negligible impact on emissions	
			Quantified Impact ►	0		
►Bridge Program / Off-System						
608631	WESTHAMPTON- BRIDGE REPLACEMENT, W-27-005, KINGS HIGHWAY OVER N BRANCH MANHAN RIVER	$ 1,937,318	Qualitative		No assumed impact/negligible impact on emissions	
			Quantified Impact ►	0		
►Bridge Program / On-System (NHS)						
400103	WESTFIELD- BRIDGE REPLACEMENT, W-25-006, ROUTE 10/202 (SOUTHWICK ROAD) OVER THE LITTLE RIVER	$ 13,276,980	Qualitative		No assumed impact/negligible impact on emissions	
606552	NORTHAMPTON- BRIDGE RECONSTRUCTION, N-19-059, I-91 OVER US 5/BMRR & N-19-060, I-91 OVER HOCKANUM ROAD	$ 4,671,793	Qualitative		No assumed impact/negligible impact on emissions	
			Quantified Impact ►	0		
►Bridge Program / On-System (Non-NHS)						
0	Bridge Program / On-System (Non-NHS)	$ -				
			Quantified Impact ►	0		
►Bridge Program / Systematic Maintenance						
0	Bridge Program / Systematic Maintenance	$ -	Qualitative		No assumed impact/negligible impact on emissions	
			Quantified Impact ►	0		
►Interstate Pavement						
0	Interstate Pavement	$ -	Qualitative		No assumed impact/negligible impact on emissions	
			Quantified Impact ►	0		
►Non-Interstate Pavement						
608473	SOUTH HADLEY - RESURFACING AND RELATED WORK ON ROUTE 116	$ 4,987,500	Quantified		Quantified Decrease in Emissions from Complete Streets Project	
			Quantified Impact ►	0		
► Roadway Improvements						
0	Roadway Improvements	$ -	Qualitative		No assumed impact/negligible impact on emissions	
			Quantified Impact ►	0		
► Safety Improvements						
608575	CHICOPEE TO HOLYOKE- GUIDE AND TRAFFIC SIGN REPLACEMENT ON I-391	$ 1,861,310	Qualitative		Qualitative Decrease in Emissions	
			Quantified Impact ►	0		

Table 23 Greenhouse Gas Summary Tables FFY 2020 (Continued)

►Section 2B / State Prioritized Modernization Projects						
► ADA Retrofits						
0	ADA Retrofits	$ -				
			Quantified Impact ►	0		
►Intersection Improvements						
0	Intersection Improvements	$ -				
			Quantified Impact ►	0		
►Intelligent Transportation Systems						
0	Intelligent Transportation Systems	$ -	Qualitative		Qualitative Decrease in Emissions	
			Quantified Impact ►	0		
►Roadway Reconstruction						
0	Roadway Reconstruction	$ -				
			Quantified Impact ►	0		
►Section 2C / State Prioritized Expansion Projects						
►Bicycles and Pedestrians						
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	$ 3,041,445	Quantified	73,253	Quantified Decrease in Emissions from Bicycle and Pedestrian Infrastructure	
			Quantified Impact ►	73,253		
►Capacity						
0	Capacity	$ -				
			Quantified Impact ►	0		
►Section 3 / Planning / Adjustments / Pass-throughs						
►Planning / Adjustments / Pass-throughs						
0	ABP GANS Repayment	$ -				
0	ABP GANS Repayment	$ -				
0	Award adjustments, change orders, etc.	$ -				
0	Award adjustments, change orders, etc.	$ -				
0	Award adjustments, change orders, etc.	$ -				
0	Award adjustments, change orders, etc.	$ -				
0	Metropolitan Planning	$ -				
0	Metropolitan Planning	$ -				
0	State Planning and Research Work Program I, (SPR I), Planning	$ -				
0	State Planning and Research Work Program II, (SPR II), Research	$ -				
0	Railroad Crossings	$ -				
0	Railroad Crossings	$ -				
0	Recreational Trails	$ -				
			Quantified Impact ►	0		
►Section 2A / Non-Federal Projects						
►Non-Federally Aided Projects						
0	Non-Federal Aid	$ -				
0	Non-Federal Aid	$ -				
			Quantified Impact ►	0		
2020 X Region MPO GHG Tracking Summary				**Total Quantified Impact ▼**		
			Quantified Impact ►	321,097		

Table 23 Greenhouse Gas Summary Tables FFY 2021

►Section 1A / Regionally Prioritized Projects

►Regionally Prioritized Projects

607773	WESTFIELD- IMPROVEMENTS & RELATED WORK ON ROUTE 20, COURT STEET & WESTERN AVENUE, LLOYDS HILL ROAD TO HIGH STREET/MILL STREET INTERSECTION (PHASE II)	$ 6,136,732	Quantified	1,290	Quantified Decrease in Emissions from Complete Streets Project	
607773	WESTFIELD- IMPROVEMENTS & RELATED WORK ON ROUTE 20, COURT STEET & WESTERN AVENUE, LLOYDS HILL ROAD TO HIGH STREET/MILL STREET INTERSECTION (PHASE II)	$ 669,323	Quantified			
607773	WESTFIELD- IMPROVEMENTS & RELATED WORK ON ROUTE 20, COURT STEET & WESTERN AVENUE, LLOYDS HILL ROAD TO HIGH STREET/MILL STREET INTERSECTION (PHASE II)	$ 1,115,769	Quantified			
607773	WESTFIELD- IMPROVEMENTS & RELATED WORK ON ROUTE 20, COURT STEET & WESTERN AVENUE, LLOYDS HILL ROAD TO HIGH STREET/MILL STREET INTERSECTION (PHASE II)	$ 557,884	Quantified			
608782	SPRINGFIELD- INTERSECTION IMPROVEMENTS AT COTTAGE STREET, INDUSTRY AVENUE AND ROBBINS ROAD	$ 2,858,325	Qualitative		Qualitative Decrease in Emissions	To be quantified
608084	AMHERST- IMPROVEMENTS & RELATED WORK ON ROUTES 9 & 116, FROM UNIVERSITY DRIVE TO SOUTH PLEASANT STREET (0.8 MILES)	$ 3,489,558	Quantified	3,109	Quantified Decrease in Emissions from Complete Streets Project	
608084	AMHERST- IMPROVEMENTS & RELATED WORK ON ROUTES 9 & 116, FROM UNIVERSITY DRIVE TO SOUTH PLEASANT STREET (0.8 MILES)	$ 558,890	Quantified		Quantified Decrease in Emissions from Complete Streets Project	
605032	HADLEY- RECONSTRUCTION ON ROUTE 9, FROM MIDDLE STREET TO MAPLE/SOUTH MAPLE STREET	$ 10,917,509	Quantified	354	Quantified Decrease in Emissions from Complete Streets Project	
			Quantified Impact ►	3,463		

Table 23 Greenhouse Gas Summary Tables FFY 2021 (Continued)

►Section 1B / Earmark or Discretionary Grant Funded Projects						
►Other Federal Aid						
0	Other Federal Aid	$ -				
				Quantified Impact ►	0	
►Section 2A / State Prioritized Reliability Projects						
►Bridge Program / Inspections						
0	Bridge Inspection	$ -	Qualitative		No assumed impact/negligible impact on emissions	
				Quantified Impact ►	0	
►Bridge Program / Off-System						
0	Bridge Program / Off-System	$ -				
				Quantified Impact ►	0	
►Bridge Program / On-System (NHS)						
608460	HADLEY- BRIDGE REPLACEMENT, H-01-005, BAY ROAD (ROUTE 47) OVER THE FORT RIVER	$ 5,714,160	Qualitative		No assumed impact/negligible impact on emissions	
606552	NORTHAMPTON- BRIDGE RECONSTRUCTION, N-19-059, I-91 OVER US 5/BMRR & N-19-060, I-91 OVER HOCKANUM ROAD	$ 9,539,115	Qualitative		No assumed impact/negligible impact on emissions	
				Quantified Impact ►	0	
►Bridge Program / On-System (Non-NHS)						
0	Bridge Program / On-System (Non-NHS)	$ -				
				Quantified Impact ►	0	
►Bridge Program / Systematic Maintenance						
0	Bridge Program / Systematic Maintenance	$ -	Qualitative		No assumed impact/negligible impact on emissions	
				Quantified Impact ►	0	
►Interstate Pavement						
0	Interstate Pavement	$ -	Qualitative		No assumed impact/negligible impact on emissions	
				Quantified Impact ►	0	
►Non-Interstate Pavement						
608487	WESTFIELD - RESURFACING AND RELATED WORK ON ROUTES 10 AND 202	$ 2,730,000	Qualitative		Qualitative Decrease in Emissions	To be quantified
608489	WILBRAHAM - RESURFACING AND RELATED WORK ON ROUTE 20	$ 8,283,600	Qualitative		Qualitative Decrease in Emissions	To be quantified
				Quantified Impact ►	0	
► Roadway Improvements						
0	Roadway Improvements	$ -	Qualitative		No assumed impact/negligible impact on emissions	
				Quantified Impact ►	0	
► Safety Improvements						
0	Safety Improvements	$ -				
				Quantified Impact ►	0	

Table 23 Greenhouse Gas Summary Tables FFY 2021 (Continued)

►Section 2B / State Prioritized Modernization Projects						
► ADA Retrofits						
0	ADA Retrofits	$ -				
			Quantified Impact ►	0		
►Intersection Improvements						
0	Intersection Improvements	$ -				
			Quantified Impact ►	0		
►Intelligent Transportation Systems						
0	Intelligent Transportation Systems	$ -	Qualitative		Qualitative Decrease in Emissions	
			Quantified Impact ►	0		
►Roadway Reconstruction						
0	Roadway Reconstruction	$ -				
			Quantified Impact ►	0		
►Section 2C / State Prioritized Expansion Projects						
►Bicycles and Pedestrians						
			Quantified Impact ►	0		
►Capacity						
0	Capacity	$ -				
			Quantified Impact ►	0		
►Section 3 / Planning / Adjustments / Pass-throughs						
►Planning / Adjustments / Pass-throughs						
0	ABP GANS Repayment	$ -				
0	ABP GANS Repayment	$ -				
0	Award adjustments, change orders, etc.	$ -				
0	Award adjustments, change orders, etc.	$ -				
0	Award adjustments, change orders, etc.	$ -				
0	Award adjustments, change orders, etc.	$ -				
0	Metropolitan Planning	$ -				
0	Metropolitan Planning	$ -				
0	State Planning and Research Work Program I, (SPR I), Planning	$ -				
0	State Planning and Research Work Program II, (SPR II), Research	$ -				
0	Railroad Crossings	$ -				
0	Railroad Crossings	$ -				
0	Recreational Trails	$ -				
			Quantified Impact ►	0		
►Section 2A / Non-Federal Projects						
►Non-Federally Aided Projects						
0	Non-Federal Aid	$ -				
			Quantified Impact ►	0		
2021 X Region MPO GHG Tracking Summary				**Total Quantified Impact ▼**		
			Quantified Impact ►	3,463		

Table 23 Greenhouse Gas Summary Tables FFY 2022

►Section 1A / Regionally Prioritized Projects

►Regionally Prioritized Projects

608374	WEST SPRINGFIELD- RECONSTRUCTION OF MEMORIAL AVENUE (ROUTE 147), FROM COLONY ROAD TO THE MEMORIAL AVENUE ROTARY (1.4 MILES)	$ 4,251,369	Qualitative		Qualitative Decrease in Emissions	To be quantified
608577	EASTHAMPTON- IMPROVEMENTS AND RELATED WORK ON UNION STREET (ROUTE 141) FROM	$ 3,560,664	Quantified	3,170	Quantified Decrease in Emissions from Complete Streets Project	
605032	HADLEY- RECONSTRUCTION ON ROUTE 9, FROM MIDDLE STREET TO MAPLE/SOUTH MAPLE STREET	$ 11,284,113				Accounted for in FFY 2021
605032	HADLEY- RECONSTRUCTION ON ROUTE 9, FROM MIDDLE STREET TO MAPLE/SOUTH MAPLE STREET	$ 2,118,494				Accounted for in FFY 2021
605032	HADLEY- RECONSTRUCTION ON ROUTE 9, FROM MIDDLE STREET TO MAPLE/SOUTH MAPLE STREET	$ 529,624				Accounted for in FFY 2021
606450	TRAFFIC SIGNAL UPGRADES AT 15 INTERSECTIONS ALONG HIGH & MAPLE STREETS	$ 5,095,339				
				Quantified Impact ►	3,170	

►Section 1B / Earmark or Discretionary Grant Funded Projects

►Other Federal Aid

0	Other Federal Aid	$ -				
				Quantified Impact ►	0	

►Section 2A / State Prioritized Reliability Projects

►Bridge Program / Inspections

0	Bridge Inspection	$ -	Qualitative		No assumed impact/negligible impact on emissions	
				Quantified Impact ►	0	

►Bridge Program / Off-System

608869	NORTHAMPTON- BRIDGE REPLACEMENT, N-19-068, OLD SPRINGFIELD ROAD OVER THE MILL RIVER	$ 3,981,000	Qualitative		No assumed impact/negligible impact on emissions	
608847	WALES- BRIDGE REPLACEMENT, W-02-002, HOLLAND ROAD OVER WALES BROOK	$ 540,096	Qualitative		No assumed impact/negligible impact on emissions	
608846	MONSON- BRIDGE REPLACEMENT, M-27-015, OLD WALES ROAD OVER CONANT BROOK	$ 1,742,784	Qualitative		No assumed impact/negligible impact on emissions	
				Quantified Impact ►	0	

►Bridge Program / On-System (NHS)

606552	NORTHAMPTON- BRIDGE RECONSTRUCTION, N-19-059, I-91 OVER US 5/BMRR & N-19-060, I-91 OVER HOCKANUM ROAD	$ 11,128,545	Qualitative		No assumed impact/negligible impact on emissions	
				Quantified Impact ►	0	

►Bridge Program / On-System (Non-NHS)

0	Bridge Program / On-System (Non-NHS)	$ -				
				Quantified Impact ►	0	

►Bridge Program / Systematic Maintenance

0	Bridge Program / Systematic Maintenance	$ -	Qualitative		No assumed impact/negligible impact on emissions	
				Quantified Impact ►	0	

Table 23 Greenhouse Gas Summary Tables FFY 2022 (Continued)

►Interstate Pavement						
0	Interstate Pavement	$ -	Qualitative		No assumed impact/negligible impact on emissions	
			Quantified Impact ►	0		
►Non-Interstate Pavement						
608466	BELCHERTOWN-GRANBY RESURFACING AND RELATED WORK ON ROUTE 202	$ 3,372,062	Qualitative		Qualitative Decrease in Emissions	To be quantified
604209	HOLYOKE-WEST SPRINGFIELD-REHABILITATION OF ROUTE 5	$ 14,489,928	Qualitative		Qualitative Decrease in Emissions	To be quantified
			Quantified Impact ►	0		
► Roadway Improvements						
0	Roadway Improvements	$ -	Qualitative		No assumed impact/negligible impact on emissions	
			Quantified Impact ►	0		
► Safety Improvements						
0	Safety Improvements	$ -				
			Quantified Impact ►	0		
►Section 2B / State Prioritized Modernization Projects						
► ADA Retrofits						
0	ADA Retrofits	$ -				
			Quantified Impact ►	0		
►Intersection Improvements						
606450	HOLYOKE- TRAFFIC SIGNAL UPGRADES AT 15 INTERSECTIONS ALONG HIGH & MAPLE STREETS	$ 4,789,307	Qualitative		Qualitative Decrease in Emissions	To be quantified
608565	SPRINGFIELD- IMPROVEMENTS ON ST. JAMES AVENUE AT ST. JAMES BOULEVARD AND CAREW	$ 2,592,000	Qualitative		Qualitative Decrease in Emissions	To be quantified
608560	SPRINGFIELD- IMPROVEMENTS ON ST. JAMES AVENUE AT TAPLEY STREET	$ 1,716,574	Qualitative		Qualitative Decrease in Emissions	To be quantified
			Quantified Impact ►	0		
►Intelligent Transportation Systems						
0	Intelligent Transportation Systems	$ -	Qualitative		Qualitative Decrease in Emissions	
			Quantified Impact ►	0		
►Roadway Reconstruction						
0	Roadway Reconstruction	$ -				
			Quantified Impact ►	0		
►Section 2C / State Prioritized Expansion Projects						
►Bicycles and Pedestrians						
608719	AMHERST- BELCHERTOWN- NORWOTTUCK RAIL TRAIL RESURFACING, FROM STATION ROAD IN AMHERST TO WARREN WRIGHT ROAD IN BELCHERTOWN (1.5 MILES)	$ 1,620,000	Qualitative		Qualitative Decrease in Emissions	To be quantified
608157	SPRINGFIELD- MCKNIGHT COMMUNITY TRAIL CONSTRUCTION, FROM ARMORY STREET TO HAYDEN AVENUE (1.5 MILES)	$ 3,694,624	Quantified	45,830	Quantified Decrease in Emissions from Bicycle and Pedestrian Infrastructure	
			Quantified Impact ►	45,830		
►Capacity						
0	Capacity	$ -				
			Quantified Impact ►	0		

Table 23 Greenhouse Gas Summary Tables FFY 2022 (Continued)

►Section 3 / Planning / Adjustments / Pass-throughs

►Planning / Adjustments / Pass-throughs

0	ABP GANS Repayment	$ -				
0	ABP GANS Repayment	$ -				
0	Award adjustments, change orders, etc.	$ -				
0	Award adjustments, change orders, etc.	$ -				
0	Award adjustments, change orders, etc.	$ -				
0	Award adjustments, change orders, etc.	$ -				
0	Metropolitan Planning	$ -				
0	Metropolitan Planning	$ -				
0	State Planning and Research Work Program I, (SPR I), Planning	$ -				
0	State Planning and Research Work Program II, (SPR II), Research	$ -				
0	Railroad Crossings	$ -				
0	Railroad Crossings	$ -				
0	Recreational Trails	$ -				
		Quantified Impact ►		0		

►Section 2A / Non-Federal Projects

►Non-Federally Aided Projects

0	Non-Federal Aid	$ -				
		Quantified Impact ►		0		

2022 X Region MPO GHG Tracking Summary	Total Quantified Impact ▼
Quantified Impact ►	49,000

Table 23 Greenhouse Gas Summary Tables FFY 2023

►Section 1A / Regionally Prioritized Projects

►Regionally Prioritized Projects

608374	WEST SPRINGFIELD- RECONSTRUCTION OF MEMORIAL AVENUE (ROUTE 147), FROM COLONY ROAD TO THE MEMORIAL AVENUE ROTARY (1.4 MILES)	$ 14,427,945	Qualitative			
608374	WEST SPRINGFIELD- RECONSTRUCTION OF MEMORIAL AVENUE (ROUTE 147), FROM COLONY ROAD TO THE MEMORIAL AVENUE ROTARY (1.4 MILES)	$ 3,239,667	Qualitative			
608374	WEST SPRINGFIELD- RECONSTRUCTION OF MEMORIAL AVENUE (ROUTE 147), FROM COLONY ROAD TO THE MEMORIAL AVENUE ROTARY (1.4 MILES)	$ 809,917	Qualitative			
608374	WEST SPRINGFIELD- RECONSTRUCTION OF MEMORIAL AVENUE (ROUTE 147), FROM COLONY ROAD TO THE MEMORIAL AVENUE ROTARY (1.4 MILES)	$ 1,619,833	Qualitative			
606895	GRANBY- IMPROVEMENTS @ 2 LOCATIONS ON ROUTE 202: SCHOOL STREET & FIVE CORNERS	$ 1,866,279	Quantified	273	Quantified Decrease in Emissions from Complete Streets Project	
606895	GRANBY- IMPROVEMENTS @ 2 LOCATIONS ON ROUTE 202: SCHOOL STREET & FIVE CORNERS	$ 999,685	Quantified		Quantified Decrease in Emissions from Complete Streets Project	
608163	WALES- RECONSTRUCTION & IMPROVEMENTS ON MONSON ROAD, FROM THE MONSON T.L. TO REED HILL ROAD (1.5 MILES)	$ 4,185,828	Qualitative		Qualitative Decrease in Emissions	To be quantified
			Quantified Impact ►	273		

►Section 1B / Earmark or Discretionary Grant Funded Projects

►Other Federal Aid

0	Other Federal Aid	$ -				
			Quantified Impact ►	0		

►Section 2A / State Prioritized Reliability Projects

►Bridge Program / Inspections

0	Bridge Inspection	$ -	Qualitative		No assumed impact/negligible impact on emissions	
			Quantified Impact ►	0		

►Bridge Program / Off-System

609120	LUDLOW- BRIDGE REPLACEMENT, L-16-026, PINEY LANE OVER BROAD BROOK	$ 577,920				
			Quantified Impact ►	0		

Table 23 Greenhouse Gas Summary Tables FFY 2023 (Continued)

►Bridge Program / On-System (NHS)						
608848	SPRINGFIELD- BRIDGE REPLACEMENT, S-24-016, ARMORY STREET OVER CSX MAINLINE	$ 5,723,440	Qualitative		No assumed impact/negligible impact on emissions	
608853	SPRINGFIELD- BRIDGE REPLACEMENT, S-24-026, ARMORY STREET OVER CSX	$ 3,948,640	Qualitative		No assumed impact/negligible impact on emissions	
606552	NORTHAMPTON- BRIDGE RECONSTRUCTION, N-19-059, I-91 OVER US 5/BMRR & N-19-060, I-91 OVER HOCKANUM ROAD	$ 11,378,353	Qualitative		No assumed impact/negligible impact on emissions	
			Quantified Impact ►	0		
►Bridge Program / On-System (Non-NHS)						
0	Bridge Program / On-System (Non-NHS)	$ -				
			Quantified Impact ►	0		
►Bridge Program / Systematic Maintenance						
0	Bridge Program / Systematic Maintenance	$ -	Qualitative		No assumed impact/negligible impact on emissions	
			Quantified Impact ►	0		
►Interstate Pavement						
0	Interstate Pavement	$ -	Qualitative		No assumed impact/negligible impact on emissions	
			Quantified Impact ►	0		
►Non-Interstate Pavement						
0	Non-Interstate Pavement	$ -	Qualitative		Qualitative Decrease in Emissions	
			Quantified Impact ►	0		
► Roadway Improvements						
0	Roadway Improvements	$ -	Qualitative		No assumed impact/negligible impact on emissions	
			Quantified Impact ►	0		
► Safety Improvements						
0	Safety Improvements	$ -				
			Quantified Impact ►	0		
►Section 2B / State Prioritized Modernization Projects						
► ADA Retrofits						
0	ADA Retrofits	$ -				
			Quantified Impact ►	0		
►Intersection Improvements						
606156	HOLYOKE- RECONSTRUCTION OF I-91 INTERCHANGE 17 & ROUTE 141	$ 6,735,389	Qualitative		Qualitative Decrease in Emissions	To be quantified
			Quantified Impact ►	0		
►Intelligent Transportation Systems						
0	Intelligent Transportation Systems	$ -	Qualitative		Qualitative Decrease in Emissions	
			Quantified Impact ►	0		
►Roadway Reconstruction						
0	Roadway Reconstruction	$ -				
			Quantified Impact ►	0		

Table 23 Greenhouse Gas Summary Tables FFY 2023 (Continued)

►Section 2C / State Prioritized Expansion Projects

►Bicycles and Pedestrians

				Quantified Impact ►	0	

►Capacity

0	Capacity	$ -				
				Quantified Impact ►	0	

►Section 3 / Planning / Adjustments / Pass-throughs

►Planning / Adjustments / Pass-throughs

0	ABP GANS Repayment	$ -				
0	ABP GANS Repayment	$ -				
0	Award adjustments, change orders, etc.	$ -				
0	Award adjustments, change orders, etc.	$ -				
0	Award adjustments, change orders, etc.	$ -				
0	Award adjustments, change orders, etc.	$ -				
0	Metropolitan Planning	$ -				
0	Metropolitan Planning	$ -				
0	State Planning and Research Work Program I, (SPR I), Planning	$ -				
0	State Planning and Research Work Program II, (SPR II), Research	$ -				
0	Railroad Crossings	$ -				
0	Railroad Crossings	$ -				
0	Recreational Trails	$ -				
				Quantified Impact ►	0	

►Section 2A / Non-Federal Projects

►Non-Federally Aided Projects

0	Non-Federal Aid	$ -				
0	Non-Federal Aid	$ -				
				Quantified Impact ►	0	

2023 X Region MPO GHG Tracking Summary	**Total Quantified Impact ▼**
Quantified Impact ►	273

Table 23 Greenhouse Gas Summary Tables FFY 2024

►Section 1A / Regionally Prioritized Projects						
►Regionally Prioritized Projects						
608881	LONGMEADOW- SPRINGFIELD- RESURFACING AND INTERSECTION IMPROVEMENTS ON	$ 6,064,675	Qualitative			To be quantified
609287	WORTHINGTON- RECONSTRUCTION & RELATED WORK ON ROUTE 143 (PHASE II)	$ 9,957,440	Qualitative		Qualitative Decrease in Emissions	To be quantified
608717	SPRINGFIELD- RECONSTRUCTION OF SUMNER AVENUE AT DICKINSON STREET AND BELMONT	$ 6,972,689	Qualitative		Qualitative Decrease in Emissions	To be quantified
608717	SPRINGFIELD- RECONSTRUCTION OF SUMNER AVENUE AT DICKINSON STREET AND BELMONT	$ 3,000,000	Qualitative		Qualitative Decrease in Emissions	To be quantified
608717	SPRINGFIELD- RECONSTRUCTION OF SUMNER AVENUE AT DICKINSON STREET AND BELMONT	$ 1,100,000	Qualitative		Qualitative Decrease in Emissions	To be quantified
608717	SPRINGFIELD- RECONSTRUCTION OF SUMNER AVENUE AT DICKINSON STREET AND BELMONT	$ 600,000	Qualitative		Qualitative Decrease in Emissions	To be quantified
			Quantified Impact ►	0		
►Section 1B / Earmark or Discretionary Grant Funded Projects						
►Other Federal Aid						
0	Other Federal Aid	$ -				
0	Other Federal Aid	$ -				
			Quantified Impact ►	0		
►Section 2A / State Prioritized Reliability Projects						
►Bridge Program / Inspections						
0	Bridge Inspection	$ -	Qualitative		No assumed impact/negligible impact on emissions	
			Quantified Impact ►	0		
►Bridge Program / Off-System						
0	0	$ -	Qualitative		No assumed impact/negligible impact on emissions	
			Quantified Impact ►	0		
►Bridge Program / On-System (NHS)						
606552	NORTHAMPTON- BRIDGE RECONSTRUCTION, N-19-059, I-91 OVER US 5/BMRR & N-19-060, I-91 OVER HOCKANUM ROAD	$ 20,173,960	Qualitative		No assumed impact/negligible impact on emissions	
			Quantified Impact ►	0		
►Bridge Program / On-System (Non-NHS)						
0	Bridge Program / On-System (Non-NHS)	$ -				
			Quantified Impact ►	0		
►Bridge Program / Systematic Maintenance						
0	Bridge Program / Systematic Maintenance	$ -	Qualitative		No assumed impact/negligible impact on emissions	
			Quantified Impact ►	0		
►Interstate Pavement						
0	Interstate Pavement	$ -	Qualitative		No assumed impact/negligible impact on emissions	
			Quantified Impact ►	0		

Table 23 Greenhouse Gas Summary Tables FFY 2024 (Continued)

►Non-Interstate Pavement						
TBD	BELCHERTOWN-WARE - PAVEMENT PRESERVATION AND RELATED WORK ON ROUTE 9	$ 8,298,350	Qualitative		No assumed impact/negligible impact on emissions	
			Quantified Impact ►	0		
► Roadway Improvements						
0	Roadway Improvements	$ -	Qualitative		No assumed impact/negligible impact on emissions	
			Quantified Impact ►	0		
► Safety Improvements						
0	Safety Improvements	$ -				
			Quantified Impact ►	0		
►Section 2B / State Prioritized Modernization Projects						
► ADA Retrofits						
0	ADA Retrofits	$ -				
			Quantified Impact ►	0		
►Intersection Improvements						
0	Intersection Improvements	$ -				
			Quantified Impact ►	0		
►Intelligent Transportation Systems						
0	Intelligent Transportation Systems	$ -	Qualitative		Qualitative Decrease in Emissions	
			Quantified Impact ►	0		
►Roadway Reconstruction						
0	Roadway Reconstruction	$ -				
			Quantified Impact ►	0		
►Section 2C / State Prioritized Expansion Projects						
►Bicycles and Pedestrians						
0	Bicycles and Pedestrians	$ -				
			Quantified Impact ►	0		
►Capacity						
0	Capacity	$ -				
			Quantified Impact ►	0		

Table 23 Greenhouse Gas Summary Tables FFY 2024 (Continued)

►Section 3 / Planning / Adjustments / Pass-throughs

►Planning / Adjustments / Pass-throughs

0	ABP GANS Repayment	$ -				
0	ABP GANS Repayment	$ -				
0	Award adjustments, change orders, etc.	$ -				
0	Award adjustments, change orders, etc.	$ -				
0	Award adjustments, change orders, etc.	$ -				
0	Award adjustments, change orders, etc.	$ -				
0	Metropolitan Planning	$ -				
0	Metropolitan Planning	$ -				
0	State Planning and Research Work Program I, (SPR I), Planning	$ -				
0	State Planning and Research Work Program II, (SPR II), Research	$ -				
0	Railroad Crossings	$ -				
0	Railroad Crossings	$ -				
0	Recreational Trails	$ -				
		Quantified Impact ►		0		

►Section 2A / Non-Federal Projects

►Non-Federally Aided Projects

0	Non-Federal Aid	$ -				
		Quantified Impact ►		0		

2019 X Region MPO GHG Tracking Summary	Total Quantified Impact ▼
Quantified Impact ►	0

Figure 24 Completed Highway and Transit Project GHG Analysis

MassDOT Project ID ▼	MassDOT Project Description ▼	Total Programmed Funds ▼	GHG Analysis Type ▼	GHG CO_2 Impact (kg/yr) ▼	GHG Impact Description ▼	Additional Description ▼	Fiscal Year of Contract Award (2015 and forward) ▼
604035	HADLEY- SIGNAL & INTERSECTION IMPROVEMENTS AT	$ 4,038,060.00	Quantified	41711	Quantified Decrease in Emissions from Traffic Operational Improvement		2015
605222	SPRINGFIELD- NORTH END & BRIGHTWOOD INFRASTI	$ 6,033,000.00	Quantified	106558	Quantified Decrease in Emissions from Traffic Operational Improvement		2015
605066	NORTHAMPTON- INTERSECTION IMPROVEMENTS AT I	$ 2,106,590.00	Quantified	1036092	Quantified Decrease in Emissions from Traffic Operational Improvement		2015
603730	WEST SPRINGFIELD- CONNECTICUT RIVERWALK & BIK	$ 1,840,736.00	Quantified	33007	Quantified Decrease in Emissions from Bicycle and Pedestrian Infrastructure		2015
605385	SPRINGFIELD- SIGNAL & INTERSECTION IMPROVEMEN	$ 2,297,372.00	Quantified	127991	Quantified Decrease in Emissions from Traffic Operational Improvement		2016
604968	WESTFIELD- COLUMBIA GREENWAY RAIL TRAIL CONST	$ 3,004,516.00	Quantified	15503	Quantified Decrease in Emissions from Bicycle and Pedestrian Infrastructure		2016
604446	WESTFIELD- RECONSTRUCTION OF ROUTE 187 (LITTLE	$ 6,206,541.00	Quantified	970	Quantified Decrease in Emissions from Complete Streets Project		2016
606445	LONGMEADOW- RESURFACING & RELATED WORK ON	$ 2,742,048.00	Quantified	8019	Quantified Decrease in Emissions from Complete Streets Project		2016
605011	LUDLOW- RECONSTRUCTION OF CENTER STREET (ROUTE 21), FROM 35' WEST OF BEACHSIDE DRIVE WESTERLY TO GAS LINE BESIDE MTA OVERPASS (3,500 FEET)	$ 5,485,350.00	Quantified	145846	Quantified Decrease in Emissions from Traffic Operational Improvement		2017
PV001	PIONEER VALLEY REGIONAL BICYCLE SHARE (PHASE 1)	$ 1,343,971	Quantified	6335	Quantified Decrease in Emissions from Bicycle and Pedestrian Infrastructure		2017
604033	SOUTHWICK- RECONSTRUCTION CONGAMOND ROAD (ROUTE 168), FROM COLLEGE HIGHWAY & ENDS 250 FEET SHORT OF STATE LINE (1.2 MILES)	$ 7,227,498	Quantified	289	Quantified Decrease in Emissions from Traffic Operational Improvement		2017

608411	SPRINGFIELD- INTERSECTION IMPROVEMENTS AT BAY	$ 1,886,880	Quantified	222751	Quantified Decrease in Emissions from Traffic Operational Improvement		2018
604203	AGAWAM- INTERSECTION IMPROVEMENTS AT ROUTE 187 & ROUTE 57	$ 3,288,000	Quantified	3406	Quantified Decrease in Emissions from Traffic Operational Improvement		2018
604597	NORTHAMPTON- IMPROVEMENTS ON I-91 INTERCHANGE 19 AT ROUTE 9 AND DAMON ROAD	$ 7,438,490	Quantified	17566	Quantified Decrease in Emissions from Traffic Operational Improvement		2018
603449	WESTFIELD- ROUTE 20 ACCESS IMPROVEMENTS ON COURT STREET & WESTERN AVENUE, FROM LLEWELLYN DRIVE EASTERLY TO LLOYDS HILL ROAD (PHASE I)	$ 6,133,933	Quantified	3224	Quantified Decrease in Emissions from Complete Streets Project		2018
604738	SOUTHAMPTON- RECONSTRUCTION OF GLENDALE ROAD (PHASE II) FROM COLLEGE HIGHWAY (RT 10) NORTHWESTERLY TO POMEROY MEADOW RD (3,801 FEET)	$ 2,710,700	Quantified	1462	Quantified Decrease in Emissions from Complete Streets Project		2018
607256	HOLYOKE- RESURFACING & RELATED WORK ON HERITAGE STREET, FRONT STREET & DWIGHT STREET FROM MAPLE ST TO THE 1ST LEVEL CANAL (.54 MILES)	$ 3,758,081	Quantified	3227	Quantified Decrease in Emissions from Complete Streets Project		2018
607589	SPRINGFIELD- NORTH END PEDESTRIAN PATH CONSTRUCTION (UNDER THE CONNECTICUT RIVER RAILROAD), BETWEEN PLAINFIELD STREET AND BIRNIE AVENUE, INCLUDES CONSTRUCTION OF NEW UNDERPASS S-24-044	$ 7,062,111	Quanified	405	Quantified Decrease in Emissions from Bicycle and Pedestrian Infrastructure		2018
602911	PVTA P21 Express Service Between Union Station in Springfield and the Holyoke Transportation Center	$ 500,000	Quantified	7049	Quantified Decrease in Emissions from New/Additional Transit Service		2018
600513	AGAWAM- RECONSTRUCTION OF ROUTE 187 FROM 4	$ 2,622,622	Quantified	414	Quantified Decrease in Emissions from Complete Streets Project		2019
608412	BELCHERTOWN- IMPROVEMENTS & RELATED WORK C	$ 5,143,503	Quantified	1107	Quantified Decrease in Emissions from Complete Streets Project		2019
607987	WARE- INTERSECTION IMPROVEMENTS @ MAIN STRE	$ 2,475,000	Quantified	995	Quantified Decrease in Emissions from Complete Streets Project		2019
604962	HOLLAND- RESURFACING & RELATED WORK ON BRIM	$ 2,919,446	Quantified	317	Quantified Decrease in Emissions from Complete Streets Project		2019
606912	WORTHINGTON- RECONSTRUCTION & RELATED WOR	$ 8,900,000	Quantified	345	Quantified Decrease in Emissions from Complete Streets Project		2019
PV0001	P21 Express - Year 2 Operating	$ 500,000	Quantified	24671	Quantified Decrease in Emissions from New/Additional Transit Service		2019

FTA Activity Line Item	Transit Agency	Project Description	Total Cost	GHG Analysis Type	GHG CO_2 Impact (kg/yr)	GHG Impact Description	Additional Description	Fiscal Year Programmed (2015 and forward)
		Replacement Vans (4)	$283,795	Quantified	244982.231	Quantified Decrease in Emissi	61245.55775675 per van	2018
		Replace Mini Buses for Shuttles (3)	$270,000	Quantified	201096.704	Quantified Decrease in Emissi	67032.234517 per minibus	2018
		Replacement 40' Buses (4)	$2,161,631	Quantified	51432.885	Quantified Decrease in Emissi	12858.2213575 Per Bus	2018
	RTD0007283	Buy Replacement 40' Diesel Bus (4)	$2,226,480	Quantified	502,986	Quantified Decrease in Emissi	(125,746.61 per bus)(4 busses)= 502,986 kg/yr CO2	2019
	RTD0007282	Buy Replacement 35" Bus (4)	$2,203,970	Quantified	566,672	Quantified Decrease in Emissi	(141,667.92 per bus)(4 busses)=566,671.68 kg/yr CO2	2019
	RTD0006949	Purchase Replacement Vans (27)	$1,836,620	Quantified	17,313,393	Quantified Decrease in Emissi	(641,236.79 per van)(27 vans) = 17,313,393 kg/yr CO2	2019
111202	PVTA	Buy replacements 35ft) bus (5)	2017556	Qualitative		Qualitative Decrease in Emiss	5310 to be quantified	2015
111304	PVTA	Buy <30ft bus for expansion (4)	380000	Quantified		Qualitative Decrease in Emiss	5310 to be quantified	2015
117C00	PVTA	ADA operating projects	1479468	Qualitative		Qualitative Decrease in Emiss	5310 to be quantified	2015
111301	PVTA	Purchase - Buses for expanded service, 40'	1528810	Qualitative		Qualitative Decrease in Emiss	5310 to be quantified	2015
111204	PVTA	Buy , 30' mini bus, replacement (4)	280000	Qualitative		Qualitative Decrease in Emiss	5310 to be quantified	2015
111201	PVTA	BUY REPLACEMENT 40-FT BUS (6) - Match in FY 16	$2,373,838	Qualitative		Qualitative Decrease in Emiss	5310 to be quantified	2015
111202	PVTA	BUY REPLACEMENT 35-FT BUS (5) - Match in FY16	$1,958,199	Qualitative		Qualitative Decrease in Emiss	5310 to be quantified	2015
111301	PVTA	BUY 40-FT BUS FOR EXPANSION (4) Match in FY16	$1,582,559	Qualitative		Qualitative Decrease in Emiss	5310 to be quantified	2015
111301	PVTA	BUY 40-FT BUS FOR EXPANSION (2) - Match in FY 16	635220	Qualitative		Qualitative Decrease in Emiss	5310 to be quantified	2015
111301	PVTA	BUY 40-FT BUS FOR EXPANSION (2) - Match in FY 16	757970	Qualitative		Qualitative Decrease in Emiss	5339 to be quantified	2015
111216	PVTA	Purchase - Replacement: Vans (6)	$391,988					2015
111301	PVTA	BUY 40-FT BUS FOR EXPANSION (4) - Match for FY 15	$395,640				match for above	2016
111201	PVTA	BUY REPLACEMENT 40-FT BUS (6) Match for FY 15	$593,460				match for above	2016
111202	PVTA	BUY REPLACEMENT 35-FT BUS (5) - Match for FY15	$489,549				match for above	2016
111301	PVTA	BUY 40-FT BUS FOR EXPANSION (2) (Match for FY15)	$203,195				match for above	2016
111301	PVTA	BUY 40-FT BUS FOR EXPANSION (2) (Match for FY15)	$196,805				match for above	2016
RTD0004706	PVTA	Purchase - Replacement: Vans (12)	$781,298	Quantified		Qualitative Decrease in Emissions		2017
RTD0005149	PVTA	BUY REPLACEMENT VAN (7)	$436,948	Quantified		Qualitative Decrease in Emissions		2017

APPENDICES

APPENDIX A: MassDOT Targets

FFY 2020-2024 STIP
2020 BUDGET

			Obligation authority (federal aid only)	Matching funds	FFY 2020 (Proposed) (federal aid + match)
		Base obligation authority	$ 626,330,019		
		Planned redistribution request	$ 50,000,000		
		Total Estimated Funding Available	**$ 676,330,019**		
		ABP GANS Repayment	$ (81,570,000)		
Total non-earmarked funding available			**$ 594,760,019**	**$ 139,025,281**	**$ 733,785,300**
Planning / Adjustments / Pass-throughs					
Award adjustments, change orders, etc.			$ 27,084,260	$ 6,771,065	**$ 33,855,325**
Metropolitan planning			$ 10,008,876	$ 2,502,219	**$ 12,511,095**
State planning and research			$ 20,431,055	$ 5,107,764	**$ 25,538,819**
Freight Plan flex to Rail and Transit			$ 2,245,872	$ 561,468	**$ 2,807,340**
Recreational trails			$ 1,186,729	$ 296,682	**$ 1,483,411**
Railroad grade crossings			$ 2,000,000	$ 222,222	**$ 2,222,222**
SRTS education			$ 1,080,000	$ 270,000	**$ 1,350,000**
Transit grant program			$ 1,580,000	$ 395,000	**$ 1,975,000**
		subtotal of planning / adjustments / pass-throughs	**$ 65,616,792**	**$ 16,126,420**	**$ 81,743,212**
Funding for regional priorities	regional share %	MPO	Total federal aid	Matching funds	Total funding (proposed)
	3.5596%	**Berkshire**	$ 6,791,857	$ 1,697,964	**$ 8,489,822**
	42.9671%	**Boston**	$ 81,982,925	$ 20,495,731	**$ 102,478,656**
	4.5851%	**Cape Cod**	$ 8,748,552	$ 2,187,138	**$ 10,935,690**
	8.6901%	**Central Mass**	$ 16,581,054	$ 4,145,264	**$ 20,726,318**
	2.5397%	**Franklin**	$ 4,845,848	$ 1,211,462	**$ 6,057,310**
	0.3100%	**Martha's Vineyard**	$ 591,492	$ 147,873	**$ 739,365**
	4.4296%	**Merrimack Valley**	$ 8,451,852	$ 2,112,963	**$ 10,564,815**
	4.4596%	**Montachusett**	$ 8,509,093	$ 2,127,273	**$ 10,636,366**
	0.2200%	**Nantucket**	$ 419,769	$ 104,942	**$ 524,711**
	3.9096%	**Northern Middlesex**	$ 7,459,671	$ 1,864,918	**$ 9,324,589**
	4.5595%	**Old Colony**	$ 8,699,706	$ 2,174,927	**$ 10,874,633**
	10.8099%	**Pioneer Valley**	$ 20,625,716	$ 5,156,429	**$ 25,782,146**
	8.9601%	**Southeastern Mass**	$ 17,096,225	$ 4,274,056	**$ 21,370,281**
		Total funding of regional priorities	**$ 190,803,952**	**$ 47,700,940**	**$ 238,504,702**
Highway Division programs			**$ 338,339,275**	**$ 75,197,921**	**$ 413,537,196**
Reliability programs			**$ 283,939,275**	**$ 63,681,254**	**$ 347,620,529**
Bridge program			$ 151,472,055	$ 37,868,014	**$ 197,709,931**
		Inspections	*$ 14,320,000*	*$ 3,580,000*	*$ 17,900,000*
		Systematic maintenance	*$ 8,000,000*	*$ 2,000,000*	*$ 10,000,000*
		On-system NHS (minimum)	*$ 94,900,000*	*$ 23,725,000*	*$ 118,625,000*
		On-System Non-NHS	*$ 9,100,000*	*$ 2,275,000*	*$ 11,375,000*
		Off-system	*$ 28,500,000*	*$ 7,125,000*	*$ 35,625,000*
Interstate pavement program			$ 37,585,665	$ 4,176,185	**$ 41,761,850**

FFY 2020-2024 STIP
2021 BUDGET

			Obligation authority *(federal aid only)*	Matching funds	FFY 2021 (Proposed) *(federal aid + match)*
		Base obligation authority	$ 641,988,270		
		Planned redistribution request	$ 50,000,000		
		Total Estimated Funding Available	**$ 691,988,270**		
		ABP GANS Repayment	$ (85,190,000)		
Total non-earmarked funding available			**$ 606,798,270**	**$ 143,814,674**	**$ 750,612,944**
Planning / Adjustments / Pass-throughs					
Award adjustments, change orders, etc.			$ 18,903,344	$ 4,725,836	**$ 23,629,180**
Metropolitan planning			$ 10,008,876	$ 2,502,219	**$ 12,511,095**
State planning and research			$ 20,431,055	$ 5,107,764	**$ 25,538,819**
Freight Plan flex to Rail and Transit			$ 2,245,872	$ 561,468	**$ 2,807,340**
Recreational trails			$ 1,186,729	$ 296,682	**$ 1,483,411**
Railroad grade crossings			$ 2,000,000	$ 222,222	**$ 2,222,222**
SRTS education			$ 1,080,000	$ 270,000	**$ 1,350,000**
Transit grant program			$ 1,580,000	$ 395,000	**$ 1,975,000**
		subtotal of planning / adjustments / pass-throughs	**$ 57,435,876**	**$ 14,081,191**	**$ 71,517,067**
Funding for regional priorities	regional share %	MPO	Total federal aid	Matching funds	Total funding (proposed)
	3.5596%	**Berkshire**	$ 6,929,328	$ 1,732,332	**$ 8,661,660**
	42.9671%	**Boston**	$ 83,642,302	$ 20,910,575	**$ 104,552,877**
	4.5851%	**Cape Cod**	$ 8,925,627	$ 2,231,407	**$ 11,157,034**
	8.6901%	**Central Mass**	$ 16,916,663	$ 4,229,166	**$ 21,145,829**
	2.5397%	**Franklin**	$ 4,943,930	$ 1,235,983	**$ 6,179,913**
	0.3100%	**Martha's Vineyard**	$ 603,464	$ 150,866	**$ 754,330**
	4.4296%	**Merrimack Valley**	$ 8,622,922	$ 2,155,730	**$ 10,778,652**
	4.4596%	**Montachusett**	$ 8,681,322	$ 2,170,330	**$ 10,851,652**
	0.2200%	**Nantucket**	$ 428,265	$ 107,066	**$ 535,331**
	3.9096%	**Northern Middlesex**	$ 7,610,659	$ 1,902,665	**$ 9,513,324**
	4.5595%	**Old Colony**	$ 8,875,793	$ 2,218,948	**$ 11,094,741**
	10.8099%	**Pioneer Valley**	$ 21,043,192	$ 5,260,798	**$ 26,303,990**
	8.9601%	**Southeastern Mass**	$ 17,442,261	$ 4,360,565	**$ 21,802,827**
		Total funding of regional priorities	**$ 194,665,923**	**$ 48,666,432**	**$ 243,332,161**
Highway Division programs			**$ 351,348,526**	**$ 81,067,051**	**$ 432,415,577**
Reliability programs			**$ 242,628,526**	**$ 55,414,829**	**$ 298,043,354**
Bridge program			$ 143,847,945	$ 35,961,986	**$ 179,809,931**
		Inspections	*$ -*	*$ -*	$ -
		Systematic maintenance	*$ 8,000,000*	*$ 2,000,000*	$ 10,000,000
		On-system NHS (minimum)	*$ 94,900,000*	*$ 23,725,000*	$ 118,625,000
		On-System Non-NHS	*$ 9,100,000*	*$ 2,275,000*	$ 11,375,000
		Off-system	*$ 28,500,000*	*$ 7,125,000*	$ 35,625,000

FFY 2020-2024 STIP
2022 BUDGET

			Obligation authority *(federal aid only)*	Matching funds	FFY 2022 (Proposed) *(federal aid + match)*
		Base obligation authority	$ 658,744,163		
		Planned redistribution request	$ 50,000,000		
		Total Estimated Funding Available	**$ 708,744,163**		
		ABP GANS Repayment	$ (89,590,000)		
Total non-earmarked funding available			**$ 619,154,163**	**$ 147,301,057**	**$ 766,455,220**
Planning / Adjustments / Pass-throughs					
Award adjustments, change orders, etc.			$ 25,270,365	$ 6,317,591	**$ 31,587,956**
Metropolitan planning			$ 10,008,876	$ 2,502,219	**$ 12,511,095**
State planning and research			$ 20,431,055	$ 5,107,764	**$ 25,538,819**
Freight Plan flex to Rail and Transit			$ 2,245,872	$ 561,468	**$ 2,807,340**
Recreational trails			$ 1,186,729	$ 296,682	**$ 1,483,411**
Railroad grade crossings			$ 2,000,000	$ 222,222	**$ 2,222,222**
SRTS education			$ 1,080,000	$ 270,000	**$ 1,350,000**
Transit grant program			$ 1,580,000	$ 395,000	**$ 1,975,000**
		subtotal of planning / adjustments / pass-throughs	**$ 63,802,897**	**$ 15,672,946**	**$ 79,475,843**
Funding for regional priorities	regional share %	MPO	Total federal aid	Matching funds	Total funding (proposed)
	3.5596%	**Berkshire**	$ 7,070,426	$ 1,767,607	**$ 8,838,033**
	42.9671%	**Boston**	$ 85,345,463	$ 21,336,366	**$ 106,681,829**
	4.5851%	**Cape Cod**	$ 9,107,375	$ 2,276,844	**$ 11,384,218**
	8.6901%	**Central Mass**	$ 17,261,128	$ 4,315,282	**$ 21,576,410**
	2.5397%	**Franklin**	$ 5,044,601	$ 1,261,150	**$ 6,305,751**
	0.3100%	**Martha's Vineyard**	$ 615,752	$ 153,938	**$ 769,690**
	4.4296%	**Merrimack Valley**	$ 8,798,505	$ 2,199,626	**$ 10,998,132**
	4.4596%	**Montachusett**	$ 8,858,094	$ 2,214,524	**$ 11,072,618**
	0.2200%	**Nantucket**	$ 436,986	$ 109,246	**$ 546,232**
	3.9096%	**Northern Middlesex**	$ 7,765,631	$ 1,941,408	**$ 9,707,038**
	4.5595%	**Old Colony**	$ 9,056,526	$ 2,264,131	**$ 11,320,657**
	10.8099%	**Pioneer Valley**	$ 21,471,682	$ 5,367,921	**$ 26,839,603**
	8.9601%	**Southeastern Mass**	$ 17,797,428	$ 4,449,357	**$ 22,246,785**
		Total funding of regional priorities	**$ 198,629,796**	**$ 49,657,399**	**$ 248,286,997**
Highway Division programs			**$ 356,721,470**	**$ 81,970,711**	**$ 438,692,181**
Reliability programs			**$ 250,221,470**	**$ 57,429,045**	**$ 307,650,514**
Bridge program			$ 158,167,945	$ 39,541,986	**$ 197,709,931**
		Inspections	*$ 14,320,000*	*$ 3,580,000*	*$ 17,900,000*
		Systematic maintenance	*$ 8,000,000*	*$ 2,000,000*	*$ 10,000,000*
		On-system NHS (minimum)	*$ 94,900,000*	*$ 23,725,000*	*$ 118,625,000*
		On-System Non-NHS	*$ 9,100,000*	*$ 2,275,000*	*$ 11,375,000*
		Off-system	*$ 28,500,000*	*$ 7,125,000*	*$ 35,625,000*

FFY 2020-2024 STIP
2023 BUDGET

			Obligation authority (federal aid only)	Matching funds	FFY 2023 (Proposed) (federal aid + match)
		Base obligation authority	$ 676,662,005		
		Planned redistribution request	$ 50,000,000		
		Total Estimated Funding Available	**$ 726,662,005**		
		ABP GANS Repayment	$ (93,985,000)		
Total non-earmarked funding available			**$ 632,677,005**	**$ 150,023,500**	**$ 782,700,504**
Planning / Adjustments / Pass-throughs					
Award adjustments, change orders, etc.			$ 12,257,029	$ 3,064,257	**$ 15,321,286**
Metropolitan planning			$ 10,008,876	$ 2,502,219	**$ 12,511,095**
State planning and research			$ 20,431,055	$ 5,107,764	**$ 25,538,819**
Recreational trails			$ 1,186,729	$ 296,682	**$ 1,483,411**
Railroad grade crossings			$ 2,000,000	$ 222,222	**$ 2,222,222**
SRTS education			$ 1,080,000	$ 270,000	**$ 1,350,000**
Transit grant program			$ 1,580,000	$ 395,000	**$ 1,975,000**
		subtotal of planning / adjustments / pass-throughs	**$ 48,543,689**	**$ 11,858,144**	**$ 60,401,833**
Funding for regional priorities	regional share %	MPO	Total federal aid	Matching funds	Total funding (proposed)
	3.5596%	**Berkshire**	$ 7,224,850	$ 1,806,213	**$ 9,031,063**
	42.9671%	**Boston**	$ 87,209,479	$ 21,802,370	**$ 109,011,849**
	4.5851%	**Cape Cod**	$ 9,306,287	$ 2,326,572	**$ 11,632,859**
	8.6901%	**Central Mass**	$ 17,638,125	$ 4,409,531	**$ 22,047,657**
	2.5397%	**Franklin**	$ 5,154,779	$ 1,288,695	**$ 6,443,474**
	0.3100%	**Martha's Vineyard**	$ 629,201	$ 157,300	**$ 786,501**
	4.4296%	**Merrimack Valley**	$ 8,990,672	$ 2,247,668	**$ 11,238,340**
	4.4596%	**Montachusett**	$ 9,051,563	$ 2,262,891	**$ 11,314,453**
	0.2200%	**Nantucket**	$ 446,530	$ 111,632	**$ 558,162**
	3.9096%	**Northern Middlesex**	$ 7,935,238	$ 1,983,810	**$ 9,919,048**
	4.5595%	**Old Colony**	$ 9,254,328	$ 2,313,582	**$ 11,567,910**
	10.8099%	**Pioneer Valley**	$ 21,940,642	$ 5,485,160	**$ 27,425,802**
	8.9601%	**Southeastern Mass**	$ 18,186,139	$ 4,546,535	**$ 22,732,674**
		Total funding of regional priorities	**$ 202,968,036**	**$ 50,741,958**	**$ 253,709,792**
Highway Division programs			**$ 381,165,279**	**$ 87,423,397**	**$ 468,588,676**
Reliability programs			**$ 267,601,252**	**$ 61,384,440**	**$ 326,834,487**
Bridge program			$ 166,996,123	$ 41,749,031	**$ 207,515,202**
		Inspections		$ -	$ -
		Systematic maintenance	*$ 8,629,176*	*$ 2,157,294*	*$ 10,722,914*
		On-system NHS	*$ 94,900,000*	*$ 23,725,000*	*$ 118,625,000*
		On-System Non-NHS	*$ 9,815,687*	*$ 2,453,922*	*$ 12,197,315*
		Off-system	*$ 28,500,000*	*$ 7,125,000*	*$ 35,625,000*
Interstate pavement program			$ 24,711,290	$ 2,745,699	**$ 27,456,989**
Non-interstate DOT pavement program			$ 56,414,722	$ 14,103,681	**$ 70,518,403**

FFY 2020-2024 STIP
2024 BUDGET

			Obligation authority *(federal aid only)*	Matching funds	FFY 2024 (Proposed) *(federal aid + match)*
		Base obligation authority	$ 689,684,333		
		Planned redistribution request	$ 50,000,000		
		Total Estimated Funding Available	**$ 739,684,333**		
		ABP GANS Repayment	$ (98,715,000)		
Total non-earmarked funding available			**$ 640,969,333**	**$ 151,980,325**	**$ 792,949,658**
Planning / Adjustments / Pass-throughs					
Award adjustments, change orders, etc.			$ 12,257,029	$ 3,064,257	**$ 15,321,286**
Metropolitan planning			$ 10,008,876	$ 2,502,219	**$ 12,511,095**
State planning and research			$ 20,431,055	$ 5,107,764	**$ 25,538,819**
Recreational trails			$ 1,186,729	$ 296,682	**$ 1,483,411**
Railroad grade crossings			$ 2,000,000	$ 222,222	**$ 2,222,222**
SRTS education			$ 1,080,000	$ 270,000	**$ 1,350,000**
Transit grant program			$ 1,580,000	$ 395,000	**$ 1,975,000**
		subtotal of planning / adjustments / pass-throughs	**$ 48,543,689**	**$ 11,858,144**	**$ 60,401,833**
Funding for regional priorities	regional share %	MPO	Total federal aid	Matching funds	Total funding (proposed)
	3.5596%	**Berkshire**	$ 7,319,544	$ 1,829,886	**$ 9,149,430**
	42.9671%	**Boston**	$ 88,352,510	$ 22,088,128	**$ 110,440,638**
	4.5851%	**Cape Cod**	$ 9,428,262	$ 2,357,066	**$ 11,785,328**
	8.6901%	**Central Mass**	$ 17,869,304	$ 4,467,326	**$ 22,336,629**
	2.5397%	**Franklin**	$ 5,222,342	$ 1,305,585	**$ 6,527,927**
	0.3100%	**Martha's Vineyard**	$ 637,448	$ 159,362	**$ 796,810**
	4.4296%	**Merrimack Valley**	$ 9,108,510	$ 2,277,128	**$ 11,385,638**
	4.4596%	**Montachusett**	$ 9,170,199	$ 2,292,550	**$ 11,462,749**
	0.2200%	**Nantucket**	$ 452,382	$ 113,096	**$ 565,478**
	3.9096%	**Northern Middlesex**	$ 8,039,243	$ 2,009,811	**$ 10,049,054**
	4.5595%	**Old Colony**	$ 9,375,622	$ 2,343,905	**$ 11,719,527**
	10.8099%	**Pioneer Valley**	$ 22,228,212	$ 5,557,053	**$ 27,785,265**
	8.9601%	**Southeastern Mass**	$ 18,424,500	$ 4,606,125	**$ 23,030,625**
		Total funding of regional priorities	**$ 205,628,284**	**$ 51,407,020**	**$ 257,035,098**
Highway Division programs			**$ 386,797,360**	**$ 88,715,161**	**$ 475,512,521**
Reliability programs			**$ 271,555,215**	**$ 62,291,428**	**$ 333,846,643**
Bridge program			$ 169,463,650	$ 42,365,912	**$ 211,829,562**
		Inspections	*$ 14,320,000*	*$ 3,580,000*	*$ 17,900,000*
		Systematic maintenance	*$ 8,756,680*	*$ 2,189,170*	*$ 10,945,850*
		On-system NHS	*$ 94,900,000*	*$ 23,725,000*	*$ 118,625,000*
		On-System Non-NHS	*$ 9,960,724*	*$ 2,490,181*	*$ 12,450,904*
		Off-system	*$ 28,500,000*	*$ 7,125,000*	*$ 35,625,000*
Interstate pavement program			$ 25,076,422	$ 2,786,269	**$ 27,862,692**
Non-interstate DOT pavement program			$ 57,248,203	$ 14,312,051	**$ 71,560,253**

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
Columbmia Greenway Rail Trail Committee	Westfield

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

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.[3]

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 Critieria (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.	Smarch 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

[3] 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 stormwater impacts of surface transportation.	Environment and Climate Change
10	Enhancing travel and tourism.	Mobility, Quality of Life

APPENDIX D: Planning Acronyms

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
Comm-PASS - 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
QVCDC - Quaboag 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)