

Central Massachusetts Metropolitan Planning Organization (CMMPO)



Unified Planning Work Program (UPWP)

**CMMPPO Endorsed FFY 2023 Program Year
Endorsed: June 15, 2022**

Unified Planning Work Program

Federal Fiscal Year 2023

Central Massachusetts MPO



Endorsed: June 15, 2022

Prepared by the transportation planning staff of the,



Prepared in cooperation with the Massachusetts Department of Transportation and the U.S. Department of Transportation – Federal Highway Administration and the Federal Transit Administration. The views and opinions of the Central Massachusetts Regional Planning Commission expressed herein do not necessarily reflect those of the Massachusetts Department of Transportation or the U.S. Department of Transportation.

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- Central Massachusetts Regional Planning Commission
- 1 Mercantile Street, Suite 520
- Worcester, MA 01608
- (508) 756-7717

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- Mrs. Janet Pierce, Executive Director
- Central Massachusetts Regional Planning Commission
- 1 Mercantile Street, Suite 520
- Worcester, MA 01608
- (508) 756-7717

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For additional copies of this document or to request it in accessible formats, contact the CMRPC Transportation Program staff:

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This document can be downloaded from the CMRPC website at: www.cmrpc.org

Central Massachusetts Metropolitan Planning Organization (CMMPO)

Endorsement Sheet

FFY 2023 Program Year Unified Planning Work Program (UPWP)

The Central Massachusetts Metropolitan Planning Organization (CMMPO) hereby endorses the FFY 2023 Program Year Unified Planning Work Program (UPWP) document. The UPWP describes all transportation and transportation related air quality planning activities anticipated within the region during the upcoming program year, indicating who will perform the work; the schedule for completing it, and the products that will be produced. The FFY 2023 Program Year UPWP document was endorsed on June 15, 2022, at a meeting of the CMMPO.

June 15, 2022



Jamey Tesler, Secretary and Chief Executive Officer
Massachusetts Department of Transportation
Chair, Central Massachusetts MPO

Central Massachusetts Metropolitan Planning Organization

Listing of CMMPO Members

1. **Jamey Tesler**, Secretary of Transportation, MassDOT
2. **Jonathan Gulliver**, Administrator, MassDOT-Highway
3. **Robert Hassinger**, CMRPC Chairperson
4. **Dennis Lipka**, WRTA Administrator
5. **Eric D. Batista**, Acting Worcester City Manager
6. **Barur Rajeshkumar**, North Subregion Representative
7. **Shelby Marshall**, Westborough Selectmen, Northeast Subregion Representative
8. **Jesse Limanek**, Southeast Subregion Representative
9. **Dennis Lamarche**, Southwest Subregion Representative
10. **Julie Quink**, Hardwick Selectmen, West Subregion Representative

Ex-Officio Members (Non-Voting):

1. **Leah Sirmin**, FTA Liaison
2. **Chris Timmel**, FHWA Liaison
3. **Adam Menard**, MPO Advisory Committee Designee

Listing of MPO Advisory Committee Members and Organizations:

1. **Alaa Abusalah**, Leicester Town Planner
2. **Daryl Amaral**, MassDOT District #2
3. **Sandy Amoakohene**, Worcester Division of Public Health
4. **Ethan Belding**, Central Mass Agency on Aging
5. **Sarah Bradbury**, MassDOT-H District 3 (alternate)
6. **Tom Coyne**, WRTA
7. **Maritza Cruz**, Main South Beacon Brightly Neighborhood Association
8. **Adam Menard**, Auburn Town Planner
9. **Chris Payant**, Westborough DPW Director
10. **Gina Plata-Nino**, Central West Justice Center
11. **Paula Simmons**, MassDOT-H District 2 (alternate)
12. **Ann Sullivan**, Projects Engineer, MassDOT-H District 3
13. **Jeremy Thompson**, 495/MetroWest Partnership
14. **Karen Valentine Goins**, WalkBike Worcester

Ex-Officio Members (Non-Voting):

1. **Chris Klem**, MassDOT OTP
2. **Derek Krevat**, MassDOT OTP
3. **Chris Timmel**, FHWA Liaison

Table of Contents

	<u>Page</u>
Executive Summary	1
Introduction	3
<i>Element 1: Management & Support of the Planning Process & Certification Activities</i>	25
Task 1.1 Management and Support of the “3C” Process	26
Task 1.2 Unified Planning Work Program (UPWP)	30
Task 1.3 Transportation Improvement Program (TIP)	31
Task 1.4 Title VI/Environmental Justice/Transportation Equity	36
Task 1.5 Public Participation	40
<i>Element 2: Data Collection and Analysis Activities</i>	44
Task 2.1 Data Collection and Analysis	45
Task 2.2 Regional Transportation Model	61
Task 2.3 Community and Regional Technical Assistance	64
Task 2.4 Performance Management – Targets and Reporting	70
<i>Element 3: Transportation Plan Refinement Activities</i>	74
Task 3.1 Corridor Profile Study	75
Task 3.2 Congestion Management Process Project Development	78
Task 3.3 Transportation Safety and Security Project Development	82
Task 3.4 Asset Management	86
Task 3.5 Livability (Bike/Ped, Pub Health/Travel, and Tourism)	94
Task 3.6 Freight and Intermodal Planning	100
Task 3.7 Long-Range Transportation Plan (LRTP) Development	105
Task 3.8 Climate Change – Resiliency, Sustainability, Vulnerability	112
<i>Element 4: Other Technical Activities</i>	116
Task 4.1 Transit/Elderly and Disabled/Rail and other Technical Activities	117
Task 4.2 WRTA Technical Assistance	121
Task Summary by Funding Source	127
Other Transportation Planning Studies	132
Listing of Previous Technical Studies by CMRPC	133
MassDOT Guidance	135
Listing of Transportation-Related Acronyms	142

Executive Summary

The Central Massachusetts Metropolitan Planning Organization (CMMPO) 2023 Unified Planning Work Program (UPWP) briefly describes and provides budgetary information for the transportation and related air quality planning activities that are to be conducted in the region during the coming federal fiscal year (FFY). Federal law requires the conduct of baseline transportation planning activities in all metropolitan areas receiving federal transportation construction funds. Under federal regulations pertaining to the transportation planning process, the UPWP must be prepared and endorsed annually by the Metropolitan Planning Organization (MPO) prior to the start of the planning program period. Central Massachusetts Regional Planning Commission (CMRPC), as the technical staff to the CMMPO, is responsible for preparing the UPWP each year under the terms outlined in a Memorandum of Understanding (MOU) dated May 2021.

UPWP **Element 1** provides for the management of the transportation planning process and the development of the annual work program. The annual Transportation Improvement Program (TIP) effort allows for the development of a prioritized listing (driven by performance measurement) of improvement projects, programmed for federal-aid funding, which are brought forth through the Management Systems as well as the proactive public outreach process. The TIP development process considers both the maintenance of existing multi-modal transportation infrastructure as well as a limited number of expansion projects (particularly in the healthy transportation modes), and is prepared in consultation with various stakeholder groups, including multi-modal and Environmental Justice (EJ)/Title VI communities.

UPWP **Element 2**: The collection & analysis of quality transportation data is integral to the CMMPO's ongoing planning efforts. Element 2 focuses, in part, on obtaining and analyzing traffic count data, conducting travel time surveys, monitoring park and ride facilities, vehicle crash research, and the assessment of pavement/sidewalk conditions. Although most of these efforts involve federal-aid roadways, study locations identified by the communities are also included, as well as data collection on transit, bike, and pedestrian modes. Additionally, this element also supports ongoing work on integrating the various mode data and performance analysis using the regional transportation network simulation model, and other data integration techniques.

UPWP **Element 3** work tasks include performance analysis of integrated Management Systems (safety, congestion, and pavement) for use in Corridor Profile and bottleneck reduction efforts as well as to assist in the development, selection and prioritization of potential TIP projects. Transportation system security, including identification of vulnerable transportation infrastructure and evacuation planning, is addressed under Safety and Security. Also, drawing on the Management Systems, this UPWP includes short & medium range management &

operations implementation efforts, as recommended from previous studies. Further, this element supports continued efforts to introduce ITS technologies to the region as well as expand local awareness of freight issues - both truck and rail - and their respective impacts on highway congestion and efforts to increase Commuter Rail service. The development of the 2024 Long Range Transportation Plan (LRTP) will identify projects and initiatives, most notably tracking performance management data, assisting communities in developing projects for implementation in one of the four program areas identified in the plan, working with potential project proponents on multi-mode projects, and assisting freight partners in securing grant funds. Planning for livability, sustainability and promotion of alternative mode, including strategies for greenhouse gas reduction and health linkages, as well as, identifying gaps and solutions to fill the gaps in Access to Essential Services and making linkages to enhance travel and tourism are also included in Element 3.

UPWP **Element 4** also considers intermodal planning, general public transportation planning, the transportation needs of transportation-disadvantaged populations, as well as the coordination of public transit with various human service agencies.

The work outlined in this FFY 2023 UPWP will be fully completed by CMMPO staff. Consultants and non-CMMPO staff are not expected to be working on any of these tasks, except in the case of ordinary collaborative work such as general committee work or meetings with planning partners.

Introduction

The Central Massachusetts Metropolitan Planning Organization (CMMPO) FFY 2023 Unified Planning Work Program (UPWP) briefly describes and provides budgetary information for the transportation and related air quality planning activities that are to be conducted in the region during the coming federal fiscal year (FFY). Federal law requires the conduct of baseline transportation planning activities in all metropolitan areas receiving federal transportation construction funds. Under federal regulations pertaining to the transportation planning process, the UPWP must be prepared and endorsed annually by the Metropolitan Planning Organization (MPO) prior to the start of the planning program period. Central Massachusetts Regional Planning Commission (CMRPC), as the technical staff to the CMMPO, is responsible for preparing the UPWP each year under the terms outlined in a Memorandum of Understanding (MOU) dated May 2021 and signed by the following CMMPO members:

- Massachusetts Department of Transportation (MassDOT) Secretary of Transportation
- Central Massachusetts Regional Planning Commission
- Worcester Regional Transit Authority
- City of Worcester
- North Subregion representative
- Northeast Subregion representative
- Southeast Subregion representative
- Southwest Subregion representative
- West Subregion representative

COVID-19 Implications

Staff has pivoted some of the work program elements to adjust to the global pandemic. The tasks that had seen the major impact are Public Engagement/Participation and yearly data collection/analysis activities. CMRPC has adjusted and learned from the need to use Virtual Public Participation tools and are devising ways to incorporate virtual technologies on a regular basis to enhance public engagement opportunities. Staff is continuing to monitor the immediate and long-term impacts to transportation and travel patterns caused by the pandemic. Staff will pay close attention to Nationwide/Statewide studies and research to incorporate into the planning activities moving forward.

Planning Priorities

Transportation planning tasks and activities contained in the FFY 2023 UPWP are largely shaped by past federal transportation authorizations and by the present Bipartisan Infrastructure Law (BIL). These laws set forth comprehensive transportation planning and project implementation requirements. In addition, the Civil Rights Act of 1964, the Americans with Disabilities Act (ADA) of 1990 and the Clean Air Act Amendments (CAAA) of 1990 continue to influence the transportation planning process.

The BIL continues the thrust of previous federal authorizations with its emphasis on the development of an intermodal transportation system that maximizes the efficient use of existing facilities and requires that all modes of transportation in the region be considered and evaluated under the Continuous, Cooperative, and comprehensive (3C) planning process. The BIL carries forward preexisting federal priorities for civil rights programs and requirements including Title VI, EJ, and limited English proficiency (LEP). The BIL also continues the advancement of planning activities that result in tangible products with implementation strategies where appropriate. All modes of transportation services will continue to be evaluated both individually and as a system to see how they might work more efficiently, with performance management techniques being utilized to measure this.

The Federal Planning Factors for the regional transportation planning process (supported in tasks throughout this UPWP) are:

- (1) Support the metropolitan area's economic vitality, 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 accessibility and mobility of people and 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, for 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) Enhance travel and tourism. *

* Added in The FAST Act (December 2015)

Some of these planning factors essentially have entire tasks devoted to them, while others have their intent woven throughout the fabric of various undertakings. Accomplishment of these planning objectives occurs in multiple tasks simultaneously, in several tasks independently, and in general techniques and approaches used in more than one task.

In addition to the above planning factors, this UPWP covers CMMPO work in several additional federal and state policy emphasis areas. The Planning Emphasis Areas have been updated using the new guidance for the BIL. The new emphasis areas that staff will work during the LRTP outreach is DOD and Federal Land Management Agency (FLMA) Coordination.

Federal Planning Policy Emphasis Areas

- Tackling the Climate Crisis – Transition to a Clean Energy, Resilient Future
- Equity and Justice⁴⁰ in Transportation Planning
- Complete Streets
- Public Involvement
- Strategic Highway Network (STRAHNET)/U.S. Department of Defense (DOD) Coordination
- Federal Land Management Agency (FLMA) Coordination
- Planning and Environment Linkages (PEL)
- Data in Transportation Planning

Commonwealth of Massachusetts Policy Emphasis Areas

- Addressing climate change by reducing Greenhouse Gases (GHG)
- Advancing Transportation Equity and civic engagement
- Promoting mode choice
- Using performance-based planning to prioritize investments

MassDOT's 2014 Long-Range Transportation Plan ('WeMove Massachusetts', or WMM) was its first multimodal plan covering the work of its individual modal divisions – i.e., aeronautics, highway, rail & transit, and others. It was developed to implement goals set during the Commonwealth's Transportation Reform Initiative (2009) and operationalized performance management in its investment decision-making process for the first time. WMM also gave MassDOT a head start in meeting federal MAP-21 performance management requirements. WMM, and the subsequent state Capital Investment Plan (CIP), connect MassDOT's policies,

investments, and funding with the public's stated transportation priorities in the name of increased safety and efficiency.

Also on the statewide level, MassDOT has completed various multi-modal plans, such as the Statewide Bicycle Plan, Pedestrian Plan, Freight Plan, and Rail Plan.

The Statewide Bicycle Plan was completed in 2018. The vision of this plan is to provide a safe, comfortable, and well connected bicycle network that will increase access for both transportation and recreational purposes. The plan will also advance bicycling statewide for everyday travel to the broadest base of users and free of geographic inequities. The Statewide Pedestrian Plan was also completed in 2018. This plan defines a vision for Massachusetts in which all people have a safe and comfortable walking option for short trips. The plan also establishes a comprehensive approach for MassDOT to lead by example to better operate and maintain the walking infrastructure under its jurisdiction and to make investments in new facilities.

The Statewide Freight Plan was completed in 2017. The plan documents target specific actions, particularly trucking rest stop and permitting needs. It also specifies the use of future year funding in a reasonably phased manner. The Statewide Rail Plan was completed in 2018. The plan lists several future year improvement projects that seek to address needs across the entire Commonwealth in a balanced fashion. Also, it addresses the need to both fund and complete already underway rail projects.

In addition, state officials signed the Healthy Transportation Compact, and established a Healthy Transportation Compact Advisory Council, with an interagency group consisting of the MassDOT, Executive Office of Health and Human Services, and the Office of Energy and Environmental Affairs, as required in recent transportation reform legislation. The purposes of the group are to 1) address transportation needs; 2) promote public health, and 3) promote a clean environment. The group developed goals that promote access to healthy transportation in various ways. The essence of these federal/state initiatives on promoting livability, addressing climate change, creating healthy environments, reducing energy demands, and establishing a performance-based transportation planning process are integrated into this UPWP.

MassDOT created the "Municipal Complete Streets Funding Program" in February 2016 to advance its commitment to increase mode shift and provide safe and accessible options for all travel modes for people of all ages and abilities. MassDOT is committed to the Complete Streets principles in policy and in practice. MassDOT is promoting Complete Streets throughout the Commonwealth through training, design guidance and funding. This UPWP emphasizes efforts that move CMRPC communities to create Complete Streets policies, prioritize locations, and finalize design and implementation of priorities.

As part of the development of the 2020 Long Range Transportation Plan (LRTP) document, the CMMPO restated its regional transportation-related vision:

“The CMMPO believes that a safe, efficient, and well-maintained transportation system, along with prudent land use planning and economic development, is an essential component of sustainable public policy aimed at improving people’s lives. The CMMPO envisions Central Massachusetts in 2040 as a region of 40 well-connected, livable communities with minimal traffic congestion and improved air quality. Healthy, creative transportation methods that integrate active travel modes through the use of technology will safely and efficiently move people between homes, jobs, and services and move products between places of manufacture and sale.”

The work tasks selected for inclusion in the FFY 2023 UPWP document attempt to address each of the region’s identified planning priorities, in the spirit of the FAST Act and more recent federal and state emphasis areas. The following describes the four main Elements of the UPWP and identifies the previously listed Federal Planning Factors that are heavily supported by number in parentheses (a chart is also included at the end of this section – note that each Element supports all factors, but some support other factors more heavily).

UPWP **Element 1** provides for the management of the transportation planning process and the development of the annual work program. The annual Transportation Improvement Program (TIP) effort allows for the development of a prioritized listing (driven by performance measurement) of improvement projects, programmed for federal-aid funding, which are brought forth through the Management Systems (Factors 1,2,4,5,6,7) as well as the proactive public outreach process. The TIP development process considers both the maintenance of existing multi-modal transportation infrastructure as well as a limited number of expansion projects (particularly in the healthy transportation modes), and is prepared in consultation with various stakeholder groups, including modal and Environmental Justice (EJ)/Title VI communities (Factors 1,5,7).

UPWP **Element 2:** The collection & analysis of quality transportation data is integral to the CMMPO’s ongoing planning efforts. Element 2 focuses, in part, on obtaining and analyzing traffic count data, conducting travel time surveys, monitoring park and ride facilities, vehicle crash research, and the assessment of pavement/sidewalk conditions. Although most of these efforts involve federal-aid roadways, study locations identified by the communities are also included, as well as data collection on transit, bike, and pedestrian modes (Factors 6, 7, 8). Additionally, this element also supports ongoing work on integrating the various mode data and performance analysis using the regional transportation network simulation model, and other data integration techniques.

UPWP **Element 3** work tasks include performance analysis of integrated Management Systems (safety, congestion, and pavement) for use in Corridor Profile and bottleneck reduction efforts as well as to assist in the development, selection and prioritization of potential TIP projects (Factors 2, 3, 4, 7, 8). Transportation system security, including identification of vulnerable transportation infrastructure and evacuation planning, is addressed under Safety and Security. Also, drawing on the Management Systems, this UPWP includes short & medium range management & operations implementation efforts, as recommended from previous studies. Further, this element supports continued efforts to introduce ITS technologies to the region as well as expand local awareness of freight issues - both truck and rail - and their respective impacts on highway congestion and efforts to increase Commuter Rail service (Factors 6,7). The development of the 2024 LRTP will identify projects and initiatives, most notably tracking performance management data, assisting communities in developing projects for implementation in one of the four program areas identified in the plan, working with potential project proponents on multi-mode projects, and assisting freight partners in securing grant funds. Planning for livability, sustainability and promotion of alternative mode, including strategies for greenhouse gas reduction and health linkages, as well as, identifying gaps and solutions to fill the gaps in Access to Essential Services and making linkages to enhance travel and tourism are also included in Element 3 (Factors 1,4,5,6,9,10).

UPWP Element 4 also considers intermodal planning (Factor 6), general public transportation planning, the transportation needs of transportation-disadvantaged populations, as well as the coordination of public transit with various human service agencies (Factor 4).

The work outlined in this FFY 2023 UPWP will be fully completed by CMMPO staff. Consultants and non-CMMPO staff are not expected to be working on any of these tasks, except in the case of ordinary collaborative work such as general committee work or meetings with planning partners.

Again, cognizant of federal/state requirements and initiatives, the 2023 UPWP has been crafted with the intent of addressing each of the identified planning priorities for the region. For clarification purposes, the time periods made reference to in this document for the various funding sources are as follows:

Anticipated Time Periods for FFY 2023 Program Year

Funding Source

FHWA/FTA/MassDOT (PL Funds) - FFY 2023 October 2022 - September 2023

WRTA - FFY 2023 October 2022 – June 2023, FFY 2024 July 2023 – September 2023

**Table 1: CMMPO FFY 2023 UPWP:
How the UPWP Addresses the 10 Planning Factors**

#	Planning Factor	
1	Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency	
	Element 1	TIP process encourages those projects that enhance economic vitality & bring efficiency to the system
		Public participation activities, and emphasizing Title VI/EJ communities supports global, balanced competitiveness
	Element 2	Collection & analysis of congestion data, model analysis, and performance management data supports identification of roadway inefficiencies related to economic development areas.
	Element 3	Plan refinement & efforts that involve identification of projects that meet the highest need of commuters & employers are emphasized in this element
	Element 4	Economic vitality requires multi-modal improvements and a secure system that are Element 4 emphasis areas
2	Increase the safety of the transportation system for motorized and non-motorized users	
	Element 1	The TIP programming process considers projects that most improve safety for all users
		Public participation activities aid in understanding safety from the users perspective

	Element 2	Element 2 contains safety data collection & analysis as well as analysis against safety performance measures
	Element 3	Safety is considered in project identification, operations & management efforts (including Road Safety Audits (RSA), and in ITS implementation
	Element 4	Safety receives multi-modal consideration, and is incorporated in security planning
3	Increase the security of the transportation system for motorized and non-motorized users	
	Element 1	The security of all users is considered in planning efforts, including those traditionally underserved.
	Element 2	Security is incorporated into performance management measures
	Element 3	ITS is considered an important measure to increase security. Security is considered for all users and in climate change planning
	Element 4	Element 4 contains a specific task for umbrella security planning with local, regional, & state Homeland Security partners
4	Increase accessibility and mobility of people and freight	
	Element 1	The TIP programming process considers projects that increase accessibility and mobility for all users
	Element 2	The data collection program aims at identifying accessibility and mobility gaps and inefficiencies
	Element 3	In addition to a specific freight task, Element 3 addresses various issues, such as pavement condition, that affect mobility
	Element 4	Mobility and accessibility are considered for all users

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	
	Element 1	The TIP programming process encourages projects that protect the environment and promote quality of life
	Element 2	Performance management measures encourage a balanced approach to transportation planning
		Americans with Disabilities Act (ADA) and sidewalk data collection and analysis identifies gaps in walk mode which inhibit quality of life
	Element 3	In addition to a task specifically devoted to climate change and quality of life, Element 3 tasks look to promote a balanced system
	Element 4	A balanced approach to quality of life includes considering transit.
6	Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight	
	Element 1	Title VI/EJ planning ensures that all users are considered
	Element 2	Data collection & analysis is performed for all modes and products showing connectivity gaps are included
	Element 3	Projects are identified that enhance integration and connectivity for all modes, and for freight
	Element 4	Enhanced transit services are planned to improve connectivity
7	Promote efficient system management and operation	

	Element 1	The TIP programming process encourages projects that increase efficient system management such as ITS
	Element 2	Data collection & analysis efforts, such as RSA, identify where system lacks efficient management
	Element 3	Element 3 efforts seek to identify solutions to system management & operations issues, such as need for signal coordination
	Element 4	Efficient system management is applicable to transit and to security planning efforts
8	Emphasize the preservation of the existing transportation system	
	Element 1	The TIP process prioritizes projects that preserve the existing system
	Element 2	Data collection & analysis efforts identify where system most needs preservation
	Element 3	Asset Management effort look to improve efficiency within the existing system and the prioritization of infrastructure maintenance
	Element 4	Transit planning seeks to preserve the existing system through preventive maintenance planning efforts
9	Improve the resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation	
	Element 1	The TIP process prioritizes that improve resiliency/reliability and include stormwater retrofits
	Element 2	Data collection & analysis efforts identify vulnerable infrastructure and flooding issues

	Element 3	Climate Change and Sustainability planning to understand the impacts of climate change. Environmental Consultation as part of TIP and LRTP process to include environmental concerns in the early project planning stages
	Element 4	Transit planning involves building resiliency of the fleet and reliability for its commuters
10	Enhance travel and tourism	
	Element 1	The TIP process prioritizes projects that enhance travel and make connections
	Element 2	Data collection & analysis efforts identify opportunities to enhance travel for commuting and recreation
	Element 3	Livability/Sustainability task look at specific study/project opportunities for enhance travel and tourism such as scenic byway studies
	Element 4	Transit planning seeks to connect people to recreational opportunities

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|--|--|
| 1.1 - Management and Support of the "3C" Process | 3.2 - Congestion Management Process (CMP) Project Development |
| 1.2 - UPWP | 3.3 - Transportation Safety and Security Project Development |
| 1.3 - TIP | 3.4 - Asset Management |
| 1.4 - Title VI/EJ/Trans. Equity | 3.5 – Livability (Bike/Ped, Pub Health/Travel, and Tourism) |
| 1.5 - Public Participation | 3.6 - Freight and Intermodal Planning |
| 2.1 - Data Collection and Analysis | 3.7 – LRTP Development |
| 2.2 - Regional Transportation Model | 3.8 - Climate Change – Resiliency, Sustainability, and Vulnerability |

2.3 - Community and Regional Technical Assistance 4.1 - Transit/Elderly and Disabled/Rail and Other Technical Activities
2.4 - Performance Management - Targets and Reporting 4.2 - WRTA Technical Assistance
3.1 -Corridor Profile Study

Development of the CMMPO FFY 2023 UPWP

The UPWP is a project-by-project description of all transportation planning and transportation-related air quality planning activities anticipated within the region during the upcoming program year. It indicates who will perform the work, as well as anticipated available funding, the schedule for completion, and the products that will be produced.

February 2022: MassDOT Office of Transportation (OTP) forwards federal Planning (PL) funding levels for each MPO/RPA to be used in the development of the *2023 UPWP* document. FFY *2023 UPWP* work tasks will continue to include emphasis areas of FAST Act and MAP-21 Implementation. New emphasis areas of the Bipartisan Infrastructure Law will be worked on, and products will be developed as deemed appropriate. Focus areas should include Performance Management, Planning Factors, Climate Change, Certification Reviews, Civil Rights, Development of Projects, Transit Planning, Bike/Pedestrian Planning and travel/tourism.

February 16, 2022: CMMPO meeting. Staff provides program funding and MassDOT & FHWA program guidance for the Draft FFY 2023 UPWP document.

February 23, 2022: CMMPO Advisory Committee meeting. Staff provides program funding and MassDOT & FHWA program guidance for the Draft FFY 2023 UPWP document.

March 16, 2022: CMMPO meeting. Staff provides budget and initial work task summary materials and Planning Emphasis Areas for the Draft FFY 2023 UPWP document.

March 23, 2022: CMMPO Advisory Committee meeting. Review of work tasks and funding with recommendation to CMMPO.

May 18, 2022: CMMPO meeting. MPO approves release of *Draft FFY 2023 UPWP* document for 21-day public review & comment period. Draft document subsequently posted on the CMRPC agency website. Legal advertisement appears in the *Telegram & Gazette*. Conduct region wide mailing to invite interested parties to attend public meeting.

May 25, 2022: CMMPO Advisory Committee meeting. Review of *Draft FFY 2023 UPWP* document. Recommendation concerning MPO endorsement sought.

June 1, 2022: Scheduled FFY *2023 UPWP* Virtual Public Meeting at 5:00 PM. Proceedings summarized for full consideration by the MPO.

June 8, 2022: 21-day public review & comment period on *Draft FFY 2023 UPWP* document closed. Endorsement process is now underway.

June 15, 2022: Scheduled meeting of the CMMPO. *Final FFY 2023 UPWP* work task summary reviewed; results of public meeting and MPO Advisory Committee discussed. MPO moves to endorse *Final FFY 2023 UPWP* document.

July-September 2022: *CMMPO Endorsed FFY 2023 UPWP* document finalized and submitted for MassDOT and subsequent FHWA & FTA review and approval.

October 1, 2022: FFY 2023 begins. *CMMPO Endorsed FFY 2023 UPWP* is now in effect.

UPWP Administrative Adjustment and Amendment Policy

The descriptions of the tasks to be accomplished and the budgets for these tasks are based on the best estimate of what can be accomplished within the confines of available resources. If, in the performance of this work program, it becomes apparent that certain tasks cannot be accomplished due to changing or unforeseen circumstances, the UPWP will be amended/adjusted by redefining the scope of the tasks and/or reallocating funds among tasks. These changes will be developed in cooperation with MassDOT, the FHWA, the Federal Transit Administration (FTA), the Worcester Regional Transit Authority (WRTA), and other concerned agencies as appropriate.

- A UPWP Amendment is the most extensive change procedure that a UPWP may undergo
- Amendment with 21-day public comment period: 1) an addition of a new task and/or deletion of a previously programmed task, 2) budget revisions equal to or greater than 25% for a particular task and 3) funding increase above the originally approved UPWP overall budget.
 - Amendments include major revisions to the UPWP including the addition or removal of an UPWP task(s), changes in start/completion dates that occur beyond the originally intended federal fiscal year(s) or a significant change in project scope, cost change equal to or greater than 25%, and/or time allocation that alters from the original intent of the project or intended conclusions.
 - Amendments are presented to the CMMPO and voted on for release to a 21-day public comment period. Upon completion of the public comment period, a vote of endorsement by the CMMPO is required. A formal request to the funding or fiduciary agency is necessary to modify the UPWP with changes being carried out by CMRPC staff upon approval in conformance to the Public-Private Partnerships (PPP).
- Adjustment with an approval vote from the CMMPO and sign-off from MassDOT OTP: modification of budget less than 25% or scope to an already programmed task.
 - Administrative Adjustments include adjustments to the work task, but maintaining the original intent of the required work for that particular task.
 - Examples include, but are not limited to the reallocation of budget funds less than 25%, changes in start/completion dates within the originally intended federal fiscal year(s) or adjustments to project scope.
 - These adjustments will be made as needed throughout the program year at the discretion of the CMRPC staff and upon mutual agreement of the agencies involved.
 - Proposed adjustments will be presented to the CMMPO for immediate endorsement and carried out by CMRPC staff with approval by the funding agency and under the guidelines established in the PPP.

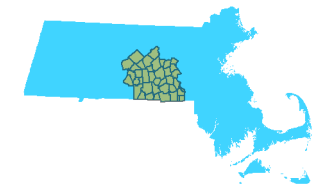
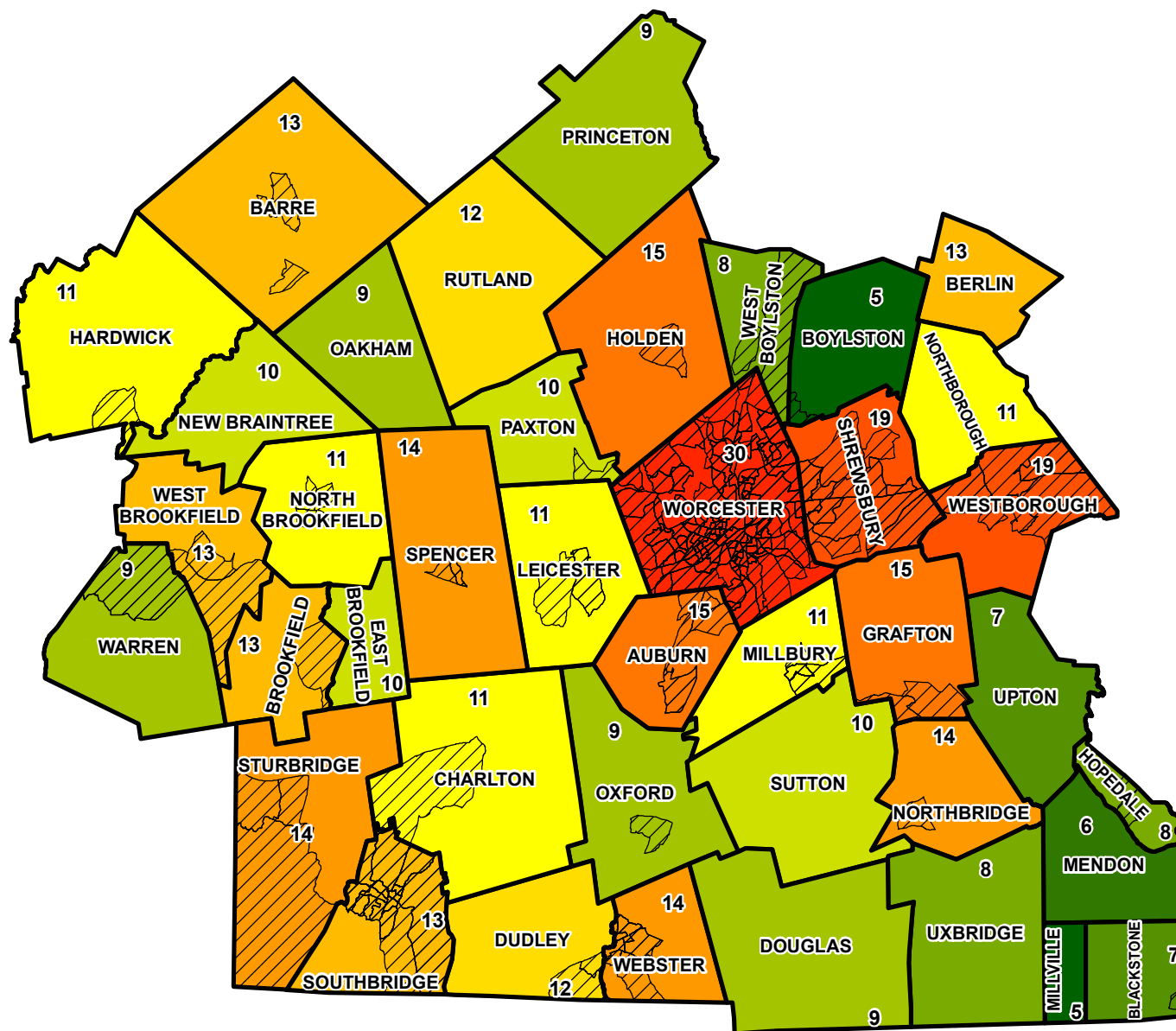
UPWP Equity Assessment

CMRPC conducted an equity assessment on MPO-funded UPWP work products from FFY 2018 through FFY 2023. This assessment process has previously been used on the regional TIP and identifies how regional TIPs have potentially impacted defined EJ block groups and vulnerable populations in the region. Vulnerable populations include zero vehicle households (13.5%), households with a person 75 years or older (9.3%), and linguistically-isolated households (9.45%).

UPWP's for program years 2018-2023 were reviewed to identify the transportation planning tasks that were completed for each of the 40 communities in the CMRPC region. The aggregate of CMMPO staff's completed tasks during this timeframe has resulted in a robust program of studies that shed light on the needs and opportunities for the Central Massachusetts transportation system. In addition, the CMMPO staff was able to provide specific assistance to all CMMPO communities during this timeframe; both in terms of data provided, advice on specific projects, and historical knowledge of transportation problems. CMMPO staff also provided community technical assistance that resulted in customized transportation studies and work products. Examples of this assistance include and are not limited to:

- Corridor Profile studies
- RSAs
- Freight studies
- TIP Development Program Orientation Meetings
- Complete Street analyses
- Assistance with implementation of Community Shuttle programs
- Parking studies
- Grant applications for healthy communities, transit support etc.
- Traffic and Turning Movement Counts (TMCs)
- Pavement data collection

The total number of completed tasks identified during the 2018-2023 program years is 463, which include community specific and region-wide tasks. At least one task was completed for each community during this timeframe. This information is summarized in table 2 below. Also, figure 1 below shows each community in the CMMPO region with block groups that have EJ and/or vulnerable populations. The color for each community from dark green to red shows the number of projects/studies over the last six years, with darker green being the least number of projects to red being the most projects. As the figure indicates, the distribution of projects is equitable amongst communities with EJ/Vulnerable populations. Since the 2020 Census has yet to release block groups with low-income and minority population 2010 EJ/Vulnerable Population is being used.



total



EJ & Vulnerable Populations

Block Groups



0 0.75 1.5 3 4.5 6 Miles

Information depicted on this map is for planning purposes only. This information is not adequate for legal boundary definition, regulatory interpretation, or parcel-level analysis. Use caution interpreting positional accuracy.

Source: Data provided by the Central Massachusetts Regional Planning Commission (CMRPC), massDOT/Office Of Transportation Planning Geospatial Resources Section and the Office of Geographic Information (MassGIS), Commonwealth of Massachusetts, InformationTechnology Division.

Produced by the Central Massachusetts Regional Planning Commission (CMRPC)
1 Mercantile Street, Suite 520
Worcester, MA 01608



Figure 1- UPWP Transportation Tasks Equity Analysis (FFY2018 - 2023)

Table 2: Transportation Tasks by Community and Year

Community	2018	2019	2020	2021	2022	2023	2018- 2023 Total	2020 Population	# of 2010 EJ/Vuln erable Pop Block Groups
Auburn	5	1	4	0	3	2	15	16,889	9
Barre	3	0	4	0	4	2	13	5,530	1
Berlin	4	0	3	2	2	2	13	3,158	0
Blackstone	3	1	1	0	1	1	7	9,208	1
Boylston	3	0	0	1	1	0	5	4,849	2
Brookfield	4	1	3	1	2	2	13	3,439	2
Charlton	3	1	1	1	2	3	11	13,315	1
Douglas	3	0	1	0	2	3	9	8,983	0
Dudley	4	0	2	2	2	3	12	11,921	1
East Brookfield	3	1	2	1	1	2	10	2,224	0
Grafton	3	2	3	2	3	2	15	19,664	5
Hardwick	3	0	2	2	3	1	11	2,667	1
Holden	3	1	3	1	5	2	15	19,905	1
Hopedale	3	0	2	1	1	1	8	6,017	1
Leicester	3	1	3	1	2	1	11	11,087	2
Mendon	3	0	2	0	0	1	6	6,228	0
Millbury	4	1	4	1	0	1	11	13,831	3
Millville	3	1	1	0	0	1	5	3,174	0

New Braintree	4	0	2	1	1	2	10	996	0
Northborough	3	0	1	2	3	2	11	15,741	3
Northbridge	4	1	2	2	3	2	14	16,335	1
North Brookfield	3	0	4	1	1	2	11	4,735	1
Oakham	3	0	3	0	1	2	9	1,851	0
Oxford	3	1	1	2	1	1	9	13,347	3
Paxton	4	0	2	0	2	2	10	5,004	1
Princeton	3	0	2	0	2	2	9	3,495	0
Rutland	3	0	3	0	3	3	12	9,049	0
Shrewsbury	3	2	2	3	5	4	19	38,325	19
Southbridge	3	1	1	3	2	3	13	17,740	23
Spencer	3	1	3	2	3	2	14	11,992	6
Sturbridge	3	1	2	2	3	3	14	9,867	2
Sutton	3	0	1	2	2	2	10	9,357	1
Upton	3	0	1	1	1	1	7	8,000	1
Uxbridge	3	0	1	2	1	1	8	14,162	0
Warren	3	0	2	1	1	2	9	4,975	4
Webster	3	2	1	2	3	3	14	17,776	14
Westborough	4	1	4	5	3	2	19	21,567	10
West Boylston	3	0	2	0	3	0	8	7,877	4
West Brookfield	3	1	2	1	3	3	13	3,833	2
Worcester	6	1	8	5	6	4	30	206,518	226
	Regional Totals:						463	604,631	351

Previous Transportation Studies

All Communities:

- Traffic Counting
- Travel time runs
- Complete Streets Prioritization Plans
- Municipal Vulnerability Plans
- Community Snapshots
- Transportation Management Association (TMA) Analysis
- Regional Freight Plan
- Pavement, Sidewalk & ADA Compliance Summary
- Worcester-Regional Transit Authority (WRTA) Hub & M/O Facilities Planning
- WRTA Services Monitoring
- Roadway Inventory File (RIF) updates
- LRTP Development and Implementation

Community Specific:

- **Auburn** – Park and Ride Study, Bottleneck Study, RSA, Complete Streets Program, Southbridge Street Corridor Profile, Master Plan Transportation Section, Culvert Assessment
- **Barre** – Complete Streets Program, WRTA/MART transit considerations
- **Berlin** – Park and Ride Study, RIF Update, Culvert Assessment, Special Counts
- **Blackstone** – Freight Study
- **Boylston** – Route 140 Corridor Profile, TIP Project Development
- **Brookfield** – Park and Ride Feasibility Study, WRTA Bus Shelter Study, Municipal Vulnerability Plan (MVP), Freight Study
- **Charlton** – Bottleneck Study, Bicycle & Pedestrian Count, RSA, Complete Streets Program, Open Space and Recreation Plan Transportation (ORTP) Section
- **Douglas** – Bicycle & Pedestrian Count, RSA, Signal Warrant Analysis
- **Dudley** – RSA, Transportation Needs Study
- **East Brookfield** – Bicycle & Pedestrian Count, Freight Study
- **Grafton** – Complete Streets Program, Bicycle & Pedestrian Plan, WRTA Shuttle Service, Freight Rail Study, Municipal Vulnerability Plan, Culvert Assessment
- **Hardwick** – Transportation Needs Study
- **Holden** – Neighborhood SAFE, Bicycle & Pedestrian Count, Bottleneck Study, Complete Streets Program, COA Assistance, Community Transit Grants
- **Hopedale** – N/A

- **Leicester** – Bicycle & Pedestrian Count, Complete Streets Program, Freight Study
- **Mendon** – RSA
- **Millbury** – Freight Rail Study, Pavement Management Study, Park and Ride Study, Bicycle and Pedestrian Count, Complete Streets Program, MVP
- **Millville** – Bicycle & Pedestrian Count, Freight Rail Study, Transportation Section of the Master Plan
- **Northborough** – RSA, Bottleneck Study, Post Occupancy Monitoring and Neighborhood Walk Audit
- **Northbridge** – Shuttle Service, RSA, Complete Streets Program, MVP, Culvert Assessment
- **North Brookfield** – Freight Study
- **New Braintree** – Freight Study
- **Oxford** – Bicycle & Pedestrian Count, Bottleneck Study, RSA, Complete Streets Program
- **Paxton** – Neighborhood SAFE, Shuttle Service, Lost Villages Scenic Byway
- **Princeton** – Bicycle & Pedestrian Count
- **Rutland** – Bicycle & Pedestrian Count, Complete Streets Program, Lost Villages Scenic Byway
- **Shrewsbury** - Bicycle & Pedestrian Count, Complete Streets Program, R, Route 140 Corridor Profile, Council on Aging (COA) Assistance, VIA shuttle service, Community Transit Grants
- **Southbridge** – Walkable Communities, Route 20 Corridor Profile
- **Spencer** – Freight Study
- **Sturbridge** - Bicycle & Pedestrian Count, Complete Streets Program, RSA, Route 20 Corridor Profile, Park and Ride Study, Pavement Management Study, Culvert Assessment
- **Sutton** – Freight Rail Study, Special counts
- **Upton** – Complete Streets Program
- **Uxbridge** – Complete Streets Program, Freight Rail Study, MVP
- **Webster** – RSA, Transportation Needs Study
- **Westborough** – Route 30 Corridor Profile, Bottleneck Study, Bicycle& Pedestrian Count, Shuttle Service, Complete Streets Program, Airline Trail Study, Circulation Study, VIA shuttle service
- **West Boylston** – Bicycle & Pedestrian Count, Complete Streets Program, Route 140 Corridor Profile, Pavement Management Study, MVP, Special Counts
- **West Brookfield** – Bicycle& Pedestrian Count, RSA, Complete Streets Program, Master Plan Transportation Section, Freight Study, Culvert Assessment

- **Worcester** –Transportation Safety Plan, Bottleneck Study, Parking Program Assessment, Park and Ride Study, Freight Plan Analysis, Downtown Parking & Transit Analysis, Complete Streets Program, Chandler Street TIP project public involvement, Accessible Taxi Service, Worcester Now | Next Advisory Committee

Element 1: Management & Support of the Planning Process and Certification Activities

Task 1.1: Management and Support of the “3C” Process

Description

The Management and Support task includes those activities that are necessary to maintain the federally prescribed 3C transportation planning process in the Central Massachusetts region. Included are the presentation of transportation plans and programs (i.e. RTP, TIP and UPWP); the coordination of transportation planning activities with other local and state agencies; contract administration; support of the Central MA Metropolitan Planning Organization (CMMPO), the CMMPO Advisory Committee, and Technical Task Forces; staff attendance at seminars and workshops; staff participation in statewide technical groups/teams; administering the extensive public outreach process as federally-required (including participation on various committees related to environmental justice and economic development); statewide funding proposal assistance; as well as the provision of technical assistance concerning various transportation topics and issues on a small scale, as-needed basis. These later tasks are shown under management and support since their limited magnitude and unpredictable occurrence make them difficult to list as planning tasks.

Previous Work

- Support of the CMMPO, the CMMPO Advisory Committee, and technical task forces including those established for corridor planning studies, Bike & Ped Task Force and the paratransit Transportation Planning Advisory Group (TPAG - Elderly & Disabled) Committee. Support includes outreach, development of agenda, meeting minutes, and preparation of presentation materials.
- Participation in statewide technical groups/teams including those established for air quality, safety, ITS, enhancements, ridesharing, statewide studies, and pavement.
- Ongoing work with numerous sub-regional and regional groups, including Blackstone Valley Heritage Corridor Stakeholders, regional public works, planners, economic development groups.
- Ongoing work with numerous local community groups, including Food & Active Living Policy Council, Mass in Motion, Worcester DPH, WalkBike Worcester, Worcester Department of Economic Development and neighborhood / community associations.
- Technical assistance to address community transportation concerns in the region.
- Review of ENF and EIR documents.
- Conducting of annual CMMPO Subregional representative selection process.

Procedures

The CMMPO staff will:

Support CMMPO Membership Elections and Membership Participation. Staff will conduct subregional nominations and selection of CMMPO representatives for those whose terms are expiring on September 30, 2023. In addition to new member orientation, staff must also continue to assure the continuous flow of relevant information in an appropriate format on all CMMPO matters to the members. Staff members will continue to encourage joint activities for the CMMPO and its Advisory Committee.

Support CMMPO Advisory Committees. Staff will provide for and actively encourage public and private participation in the 3C planning process through the CMMPO Advisory Committee (the broad stakeholder Advisory Committee to the CMMPO) and its Technical Task Forces. The CMMPO Advisory Committee continues to elevate its capacity for reviewing CMMPO materials and making informed recommendations.

Implement a Private Sector Assistance and Complaint Resolution Procedure. Staff will facilitate ongoing communication with private sector providers as deemed appropriate. Act to facilitate resolution of private sector complaints regarding the planning process or the provision of transit service. Assist private sector providers in understanding and complying with federal requirements affecting their operations.

Participate in Statewide User Groups and Technical Teams. Staff will participate in user groups and technical teams that have been established on a statewide basis to deal with technical issues associated with air quality, pavement management, safety, ITS, enhancements, ridesharing, and GIS. Provide staff lead/assistance to the sub committees as established by the Statewide Program Managers group. Currently staff leads the Data Users Group and a member of the UPWP PL formula funding subcommittee.

Participate in T4MA Executive Committee. Staff will participate in monthly Executive Committee meetings of the T4MA and bring forth transportations items as it pertains to the Central Mass Region.

Review Federal and State Transportation Programs. Staff will review federal and state transportation programs, guidelines, circulars and manuals, including such documents as the Statewide Capital Investment Plan as well as the new regulation on Metropolitan Transportation Planning are performed under this task.

Assist with Statewide Funding Proposals. Staff will review statewide guidelines for programs such as the Transportation Assistance Program, CMAQ, and MassWorks; support distribution of final statewide guidelines to local communities, the solicitation of projects from eligible applicants, and the evaluation of submitted proposals.

Prepare and Present the CMMPO UPWP, TIP and LRTP. Staff will prepare and present the UPWP, TIP, LRTP POP, and any other required documents and amendments to the CMMPO for appropriate action.

Distribute Required Documents. Staff will distribute the UPWP, TIP, and POP (as well as any amendments to same) to all state and federal agencies. Staff will also maintain all CMMPO documentation records and files and, in general, function as its secretary. Planning documents will be available online and in electronic format to the extent practical and feasible.

Implement Regional Models of Cooperation. Staff will continue to coordinate transportation planning with related activities and programs developed by other agencies and authorities in adjacent regions, including the Montachusett Regional Planning Commission (evacuation planning), Metropolitan Area Planning Council (MetroWest I495/I90), the Rhode Island Department of Administration (MA & RI-146 corridor and Blackstone River Greenway), Northeast Connecticut Council of Governments (I-395 corridor efforts), Pioneer Valley Regional Planning Commission (Ware/Warren Community Action Council efforts) and the Worcester Regional Transit Authority (Transit Advisory).

Perform Contract Administration. Staff will prepare applications, time sheets, progress reports, billing and perform other contract administration activities necessary to the conduct of the 3C transportation planning process.

Products & Schedule

- Election of local CMMPO members for FFY 2024 Program Year – **4th Quarter, FFY 2023**
- Review and Update of CMMPO Advisory Committee’s Bylaws/MOUs – **1st Quarter, FFY 2023**
- Contract Administration, Staffing and Agency wide policy/budgeting – **3rd Quarter, FFY 2023**
- Participate and provide recommendations for the PL formula funding to the MARPA – **2nd Quarter, FY 2023**
- Lead the Statewide Transportation Data Users Group (DUG) as part of MARPA Transportation Program Managers – **Ongoing**
- Participate and provide feedback at the T4MA Executive Committee meetings – **Ongoing**
- Updated inventory of private sector providers and documentation on any Private Sector Complaint Resolution – **As necessary**

- Continued coordination with all neighboring regional entities on projects and initiatives noted above, and others as they arise – **Ongoing**
- Continued coordination with the regional Transit Authority re. Transit Planning – **Ongoing**
- Continued participation in Statewide and Regional planning efforts - **Ongoing**
- Preparation of meeting material and meeting minutes of the CMMPO, CMMPO Advisory Committee, Transportation Program Managers and its sub-committees – **Ongoing**
- Progress Reports – Monthly MassDOT, Quarterly FHWA & FTA and Quarterly Certification Action plan progress reports- **Ongoing**

Task Title	Management & Support of “3C” Process				Ref. #	1.1
Funding Program/\$						
	FHWA/FTA/ PL		FTA Section 5307 (through WRTA)			
Participants	FHWA/FTA	State	FTA	WRTA	Total	
CMRPC	215,686	53,921			269,607	

Task 1.2: Unified Planning Work Program

Description

- The Unified Planning Work Program (UPWP), as described in the Introduction of this document, describes all transportation planning activities anticipated to be undertaken within the region in the coming program year.

Previous Work

- Unified Planning Work Program and Associated Amendments from 1973-2022

Procedures

- *Develop FFY 2024 Unified Planning Work Program:* CMRPC will develop the FFY 2024 UPWP for the region which describes all MassDOT-Highway/FHWA, FTA and WRTA funded transportation planning activities anticipated to be undertaken in the next program year. The document will be made available online.
- *Amend and Adjust FFY 2023 UPWP:* Performed as necessary.
- Annual update of CMMPO transportation publications for UPWP.

Products & Schedule

1. Draft FFY 2024 UPWP budget – **2nd Quarter, FFY 2023**
2. Updated Bibliography of Transportation Planning Publications – **3rd Quarter, FFY 2023**
3. Final FFY 2024 UPWP – **3rd Quarter, FFY 2023**
4. Amendments and Adjustments to FFY 2023 UPWP – **As necessary**

Task Title	Unified Planning Work Program				Ref. #	1.2
Funding Program/\$						
	FHWA/FTA/PL		FTA Section 5307 (through WRTA)			
Participants	FHWA/FTA	State	FTA	WRTA	Total	
CMRPC	16,000	4,000			20,000	

Task 1.3: Transportation Improvement Program (TIP)

Description

The Transportation Improvement Program (TIP) for a metropolitan area includes highway, bridge, transit, intermodal and discretionary projects that are proposed for funding under both Title 23 and the Federal Transit Act.

Each Massachusetts MPO updates its TIP annually. Each TIP must contain a priority list of projects and strategies for a five-year period and descriptions (type of work, limits, length, etc.) of each project as well as a financial plan demonstrating financial constraint within the regional funding targets provided annually by MassDOT OTP. The TIP has continued to evolve with the requirement for Performance-Based Planning and Programming (PBPP). The TIP is developed in accordance with the region's CMMPO Endorsed Public Participation Plan (PPP) with full consideration of Title VI & Environmental Justice (EJ) principles.

Previous Work

- TIP documents, from the earliest, 1976-1978, to the most recent, 2023-2027, time frames (45+ years of projects).

Procedures

- Amend/Adjust Existing 2023-2027 TIP: Staff will amend/adjust the CMMPO Endorsed 2023-2027 TIP, as necessary.
- Develop 2024-2028 TIP: Prior to developing the Draft 2024-2028 TIP in cooperation with MassDOT, staff will update the list of all highway, transit, and air quality projects that are expected to qualify for federal transportation funds for planning, engineering or construction during FFY 2024-2028. This list will only include projects that are consistent with the current CMMPO Endorsed LRTP, *Mobility2040, the Update for 2020*.

As part of the TIP development process, staff will consider the following:

- **LRTP:** This document serves as the transportation planning vision for the region. *Mobility2040, the Update for 2020* includes highway-related Major Infrastructure projects listed in 5-year bands. The PBPP aspects of the LRTP have evolved and are included based on the federal requirements of Safety Performance Measures (PM1), Bridge & Pavement Performance Measures (PM2) and System Performance, Freight & Air Quality Performance Measures (PM3). Additional information on PM1, PM2, and PM3 can be found in Task 2.4. The new LRTP will be in development during the FFY 2023 program year.

- **TIP Programs:** In relation to the five programs defined in the most recent LRTP to address the needs and priorities in the planning region, staff will look to establish procedures, already underway, to allow for the use of TIP funding to pay for eligible projects within the five defined programmatic areas. The five LRTP programs are:
 - Major Infrastructure Projects
 - Asset Management & System Operations
 - Transit Planning & Mobility Management
 - Livability & Healthy Transportation
 - Climate Change & Resiliency
- **PBPP:** Reaffirmed by the Bipartisan Infrastructure Law (BIL), staff is continuing the evolution of applicable TIP-related Performance Measures based on the federal requirements. CMMPO staff will work with MassDOT OTP through the Transportation Managers Group to continue to identify key Performance Measure metrics, establish threshold targets and measure progress on screened and prioritized TIP projects. The primary intent is to select those transportation projects with the greatest measurable returns for the investment. These federally-required performance measures are derived from a series of rules, as follows:
 - **Safety Performance Measures (PM1)**
 - **Pavement and Bridge Condition Measures (PM2)**
 - **Performance on the NHS, Freight and CMAQ Measures (PM3)**
 - **Transit Asset Management (TAM) Plan**
 - **Public Transportation Agency Safety Plan (PTASP)**
 - **Highway Safety Improvement Plan (HSIP)**
 - **Statewide and Non-Metropolitan Planning; Metropolitan Planning**
 - **Highway Asset Management Plans for NHS**
- **MassDOT Capital Investment Plan (CIP):** The most recent approved MassDOT CIP will be referenced when screening, prioritizing and selecting projects for inclusion on the CMMPO TIP.
- **eSTIP:** eSTIP is a program used to provide a standardized, statewide format to the regional TIPs while allowing for the streamlined development of the STIP, the combination of all regional TIPs. Required by MassDOT, staff will continue to use this system for highway-related TIP projects. Similarly, the GrantsPlus program is currently used for Transit-related TIP projects.
- **Visualization Techniques:** Continue the use of Geographic Information Systems (GIS) capabilities, aerial photography, drone imagery as well as digital photographs taken in the field to indicate project characteristics.

- **Environmental Consultation:** Through periodic meetings, engage the environmental community and other interested stakeholders in discussions regarding areas of environmental concern associated with both planned and proposed TIP projects. Continue to consider ways to avoid, minimize and mitigate anticipated impacts early in project development.
- **Title VI & EJ Compliance, Transportation Equity:** Continue developing and implementing transportation policies, programs and projects consistent with federal and state Title VI and EJ guidance. Assess benefits and burdens of CMMPO policies and projects respective to Title VI and EJ. Advance development of Transportation Equity measures as they relate to urban/rural areas, access to essential services, and other related considerations.
- **Highway Safety Improvement Program (HSIP):** Projects analytically-derived through MassDOT's ongoing "HSIP" activities will be considered for TIP programming by the CMMPO.
- **Congestion Mitigation Air Quality (CMAQ):** Staff will complete required calculations and the compilation of other standard materials necessary to gain eligibility for projects programmed under the "CMAQ" funding category.
- **Greenhouse Gas (GHG) Reduction:** Staff will complete standardized calculations and the compilation of other materials necessary to measure the GHG reduction potential of both highway and transit projects seeking TIP programming.
- **Transportation Alternatives Program (TAP):** Staff will seek eligible applicants and program projects for TAP funding. Typical TAP-funded projects often include bicycle and pedestrian improvements and Safe Routes to School projects.
- **Intelligent Transportation Systems (ITS):** Fully consider the potential for ITS applications, both stand-alone and project-specific, throughout the development of the TIP project listings.
- **Regional Equity:** All communities within the CMMPO region are provided equal opportunity to directly participate in the TIP development process. Staff considers those communities that have had none or few programmed projects as well as the total amount of federal funds allocated towards their recent projects.
- **Public Outreach:** Seek early involvement of decision makers, stakeholders and other interested parties through the CMMPO's Endorsed PPP.
- **Technical Assistance:** Continue ongoing series of "TIP Development Meetings", customized for a host community or group of communities that provide a comprehensive overview of TIP project development procedures.

- **Community Project Status Updates:** Continue ongoing efforts with the host communities to obtain periodic project status updates on programmed TIP target projects.
- **Project Delivery Reliability:** Staff obtains periodic status updates on programmed TIP projects throughout the year from MassDOT OTP and the Highway Districts. As needed, staff contacts or meets with project proponents to ensure that their designs are progressing and will continue to meet benchmark deadlines.
- **Relationship to TIP Target Projects:** A detailed table is compiled to correlate the regional target projects programmed on the TIP to other regional planning efforts and Performance Management.
- **Implementing Agencies:** As necessary, meet with MassDOT-Highway Division staff from the #2 & #3 District Offices and MassDOT OTP to obtain project information. MARPA also holds a “Annual Meeting” with MassDOT during the winter months partly for this purpose. Similarly, meet with the WRTA Administrator and staff concerning future transit-related projects.

As part of the TIP development process, MassDOT OTP staff is expected to:

- Provide the CMMPO staff with regional federal-aid “funding targets” based on the estimate of funds reasonably anticipated to be available in developing the TIP’s financial plan.
- Continue staff’s work to refine applicable PBPP measures and targets required by PM 1 – 3. Standardized methods to measure the results of transportation investments will continue to evolve. Measures used by the CMMPO are related to federal transportation planning emphasis areas that include congestion, pavement, safety, as well as modal shift to public transit, bicycling, walking, stormwater management & resiliency and travel & tourism. Further, staff intends to incorporate the recently revised planning emphasis areas included in the BIL.
- As determined necessary, CMMPO staff will continue to work with MassDOT OTP and MARPA to address and resolve TIP-related challenges.

The 2024-2028 TIP will also include sections on:

- TIP document narrative: Including mention of the national Planning Factors and the state’s GHG regulation. Also, a section discussing the current PBPP measures and targets for PM 1 - 3 that includes the PM scoring for both currently programmed and potential projects. Additionally, a summary of the relationship of regional target projects to regional planning efforts & PM is included.

- Proactive public outreach: Including regionally-customized TIP development schedule and all correspondence from the host communities, state & federal planning partners.
- Amendment/Adjustment procedures: As reflected in the CMMPO's Endorsed PPP.
- Federal Requirements Section: Including project listings for both highway and transit and the demonstration of financial constraint through a concise Financial Plan.
- Technical Appendices that document the TIP's Public Outreach, Environmental Consultation, EJ, Title VI and LEP aspects.

Products & Schedule

1. Draft highway & transit 2024-2028 TIP project listings – **2nd & 3rd Quarter, FFY 2023**
2. Preparation and hosting annual CMMPO Environmental Consultation for development of the TIP – **3rd Quarter, FFY 2023**
3. Endorsed highway & transit 2024-2028 TIP project listings and associated documentation – **3rd Quarter, FFY 2023**
 - Endorsement of the 2024-2028 TIP is anticipated to take place at a meeting of the CMMPO to be held in May 2023.
4. Amendments/Adjustments to 2023-2027 TIP – **As necessary**
5. Meet with project proponents to discuss status of their projects – **As necessary**
6. "TIP Development Meetings", guidance and reference materials customized for project host communities – **As necessary**

Task Title	Transportation Improvement Program				Ref. #	1.3
Funding Program/\$						
	FHWA/FTA/PL		FTA Section 5307 (through WRTA)			
Participants	FHWA/FTA	State	FTA	WRTA	Total	
CMRPC	56,000	14,000			70,000	

Task 1.4: Title VI/Environmental Justice/Transportation Equity

Description

Title VI of the Civil Rights Act of 1964 states that “no person in the United States shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subject to discrimination under any program or activity receiving federal financial assistance.” To fulfill this basic civil rights mandate, each federal agency which provides financial assistance for any program is authorized and directed by the United States Department of Justice to apply provisions of Title VI to each program by issuing applicable rules, regulations, or requirements for public participation.

Executive Order (EO) 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (February 11, 1994), requires each Federal agency to “make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.” EO 12898 directs each Federal agency to develop an agency-wide EJ strategy to implement these requirements.

Executive Order 13166 (2000) expanded the impact of the 1964 Civil Rights Act to address concerns that limited English proficient persons deserved equal participation in the transportation planning process. In accordance with the Executive Order, the U.S. DOT issued Policy Guidance Concerning Recipient’s Responsibilities to Limited English Proficient (LEP) Persons, which is modeled after the U.S. Department of Justice’s general LEP policy guidance document. As described in the guidance, DOT recipients are required to take reasonable steps to ensure meaningful access to their programs and activities by LEP persons. The guidance applies to all DOT funding recipients, including MPOs.

The Americans with Disabilities Act of 1990, 42 U.S.C. 12101, (‘ADA’) and all other Federal and State laws and regulations prohibiting discrimination on the basis of disability apply to the Central Massachusetts Metropolitan Planning Organization’s activities.

Moreover, the U.S. DOT Title VI Program released the Order 1000.12C in June 2021 to ensure that all DOT assisted programs are implemented in compliance with Title VI, so all the members of the public enjoy equality of opportunity, regardless of race, color, or national origin, including LEP populations. In other words, the benefits and services should be fairly and equitably distributed, projects will not deny access to any person on the basis of race, color, or national origin and will not further patterns of racial or ethnic segregation, and transportation programs do not pose a disparate impact on persons or communities on the basis of race, color, or national origin, including limited English proficiency.

The CMMPO uses U.S. Census data to determine regionally derived thresholds that include minority and low-income populations, as well as limited English proficiency populations, older adults (65 years of age or more) and households with no vehicle available. These thresholds are used as a standard procedure to evaluate projects' benefits and burdens, monitor the distribution of transportation funds in the region, are included in planning scenarios, and also to identify opportunities for targeted outreach, including language needs. Under the new U.S. DOT Justice40 Initiative, staff will explore opportunities to expand the variables included in the regional thresholds.

Previous Work

- Updated Environmental Justice definition, including regionally derived thresholds and the identification of populations traditionally in disadvantage or underrepresented.
- Updated CMMPO Limited English Proficiency Analysis and Language Implementation Plan (LEP/LAP).
- Completed a CMMPO Benefits and Burdens Analysis for the long-range transportation plan.
- Completed reports for MassDOT's Office of Diversity and Civil Rights (ODCR) required to demonstrate compliance with FHWA and FTA requirements.
- Leading the CMRPC Diversity, Equity and Inclusion Committee, and provided ongoing Title VI, LEP and EJ training sessions and resources to all staff.
- New and continued work with numerous community groups, including Worcester Department of Public Health/Central Mass., Regional Public Health Alliance, Worcester Community Connections Coalition, Centro, South East Asian Coalition, WRTA Riders' Advisory Committee, Mass in Motion, among many others.
- Translations of meeting notices, forms and other documents in other languages.
- WRTA Title VI Plan Updates for FTA*
- WRTA Public Participation Plan*

*Conducted previously under separate FTA scopes of work

Procedures

- *Review and Update the Existing CMMPO Public Participation Plan (PPP):* The PPP details procedures utilized in the TIP, UPWP, and LRTP development process, in accordance with the Bipartisan Infrastructure Law (BIL). These procedures include consultations with agencies responsible for land use management, natural resources protection, historic preservation, and Environmental Justice. The PPP was recently updated to

include new tools and techniques related to virtual public involvement, and to ensure that it continues to be effective in obtaining maximum participation by all stakeholders.

- *Implement WRTA 2021 Public Participation Plan (PPP):* The WRTA PPP follows FTA guidance and, as the WRTA's Service Area is nearly coterminous with the CMMPO region, much of the policies, data, and staff subtasks support both the WRTA PPP and the CMMPO PPP. Staff will continue to monitor WRTA outreach efforts as they support both plans.
- *Review Environmental Justice Outreach:* Staff will use the CMMPO PPP as a guide and an assessment tool for judging its effectiveness in engaging the region's low-income and minority populations. Staff will also continue to identify and implement work procedures that promote LEP persons' involvement. Staff will continue to participate actively with local groups concerned with Environmental Justice populations. Staff will also continue to strengthen current efforts to engage organizations that can assist in the involvement of those with limited English proficiency outside of Worcester; and will also look for opportunities to expand current network of organizations that serve minority and low-income population within the region.
- *Staff Training:* Continue developing training opportunities for all staff to be able to both comply with Title VI, EJ and LEP, and also to better engage LEP persons during public outreach processes.
- *Identify and Implement Best Practices for LEP Engagement:* Work with MassDOT Office of Diversity and Civil Rights (ODCR) and other planning partners to research best practices for identifying and implementing LEP, including translation techniques, interpretation services, and engagement strategies, including virtual engagement tools and resources for LEP populations.

Products & Schedule

1. Review and update stakeholders' outreach lists, including phone and contact information, mailing lists, etc. in preparation for the new CMMPO long-range transportation plan outreach efforts. – **1st Quarter, FFY 2023**
2. Evaluate the Transportation Disadvantage Communities in the region by identifying communities with disadvantages in access, health, environmental, economic, resilience and social as included in the U.S. DOT Justice40 Initiative. – **2nd Quarter, FFY 2023**
3. Update CMMPO LEP regional thresholds (LEP/LAP) – **2nd Quarter, FFY 2023**
4. Evaluate CMMPO Transportation Equity Criteria set in prior FFYs (land miles, assets, condition etc.) used to score TIP projects as part of the new CMMPO long-range transportation plan development – **3rd Quarter, FFY 2023**

5. Complete a Geographic and Equity Analysis for the options of major infrastructure projects that will be included in the new CMMPO long-range transportation plan – **3rd Quarter, FFY 2023**
6. Complete annual CMMPO Title VI Report – **4th Quarter, FFY 2023**
7. Update CMRPC Staff Language Assistance Guide and agency language assists – **As necessary**
8. Identify and implement public outreach standard procedures or protocols for in person and virtual public engagement for compliance with latest guidance on Title VI, EJ and limited English proficiency and best practices identified by MassDOT partners – **Ongoing**
9. Continue ongoing involvement with Transportation Equity partners, and cultivate new relationships, particularly outside of Worcester, with assistance from MassDOT ODCR, and identify opportunities for MicroProjects that address social vulnerabilities – **Ongoing**
10. Build staff capacity in Title VI/LEP guidelines and compliance – **Ongoing**
11. Continue engagement efforts with organizations that represent Title VI/EJ/LEP populations and amplify opportunities to participate in the transportation decision making process and in CMMPO supporting committees – **Ongoing**
12. Identify and implement best practices in areas of translation techniques, interpretation services, and engagement strategies with assistance from MassDOT ODCR – **Ongoing**
13. Attend or participate online in USDOT, MassDOT, NTI or advocacy organization-sponsored Title VI, EJ, LEP and Transportation Equity topic webinars and trainings – **Ongoing**
14. Continue monitoring transit access to essential services, particularly in CMMPO-designated Environmental Justice neighborhoods – **Ongoing**

Task Title	Title VI - LEP			Ref. #	1.4
Funding Program/\$					
	FHWA/FTA/PL		FTA Section 5307 (through WRTA)		
Participants	FHWA/FTA	State	FTA	WRTA	Total
CMRPC	40,000	10,000			50,000

Task 1.5: Public Participation

Description:

In accordance with 23 CFR 450.316, a Metropolitan Planning Organization (MPO) is required to engage in a metropolitan planning process that creates public involvement, participation, and consultation opportunities throughout the development of the Long-Range Transportation Plan (LRTP), the Unified Planning Work Program (UPWP) and the Transportation Improvement Program (TIP). MPOs must provide:

- Adequate public notice of public participation activities.
- Opportunities for review and comment at key decision points in LRTP, UPWP and TIP development.
- Information in multiple accessible formats, including electronic and in-person.

The CMMPO Public Participation Plan Program (PPP), like the CMMPO Metropolitan (Long-Range) Transportation Plan (LRTP) and Transportation Improvement Program (TIP), is developed in collaboration with the general public and with individuals and organizations with a specific interest in CMMPO activities.

Transit authorities are also required to administer an identical public participation process that is coordinated with MPO activities. The WRTA Public Participation Plan (PPP) and its five-year Capital Improvement Program (CIP) are like the above documents but tailored specifically to transit needs. Projects identified in the WRTA CIP are programmed in each CMMPO TIP; and the CMMPO PPP guides the public participation process for WRTA CIP projects.

Previous Work:

- Ongoing work with numerous local community groups, including Worcester Department of Public Health/Central Mass. Regional Public Health Alliance, Food & Active Living Policy Council, Worcester Regional Community Action Council, Mass in Motion, Worcester Department of Economic Development, and neighborhood/community associations.
- Extensive public outreach efforts during development of Mobility 2040: The Update for 2020.
- Review and update to the CMMPO Public Participation Plan (PPP) to include new metrics and tools and techniques related to virtual public involvement.
- Continued collection, documentation, and incorporation of public involvement in ongoing WRTA service planning process as it may influence CMMPO activities and projects.
- Transportation articles in electronic newsletters and on web pages.

Procedures:

- *Review and revise/update existing Public Participation Plan (PPP):* The CMMPO POP details the CMMPO public outreach procedures used during TIP, UPWP, and LRTP development. These procedures are designed for compliance with the Bipartisan Infrastructure Law (BIL) and include consultations with agencies responsible for land use management, natural resources protection, historic preservation, environmental justice, and travel and tourism. Staff reviews the CMMPO PPP annually to ensure that its procedures are effective, and to implement lessons learned regarding traditional and non-traditional public outreach best practices and MassDOT ODCR's guidance. Moreover, the CMMPO PPP public review process includes both, traditional outreach strategies and virtual public involvement opportunities.
- *Review and revise/update existing WRTA Public Participation Plan (PPP):* The CMRPC Transit staff prepared a new WRTA PPP that was adopted by the WRTA Advisory Board in May 2021, in accordance with FTA requirements. Staff will continue to administer public participation activities for the WRTA specific to its ongoing service planning process and will assist WRTA Administrative staff in other public participation activities. Virtual public involvement opportunities will be available along with other public outreach formats for the public review of the WRTA PPP.
- *Review and Refine Public Outreach Methods:* Staff will continue to provide maximum feasible opportunities for public participation in the transportation planning process, including virtual public meetings. Staff will also continue to maintain and expand the network of diverse organizations that participate in CMMPO and WRTA activities.
- *CMMPO/WRTA Staff Development and Training:* Continue training (and learning from) staff experiences and public outreach state of the practice information, including participation on FHWA EDC-6 webinars and peer exchanges, and with MassDOT EDC-6 Virtual Public Involvement Committee.
- *Outreach to Traditionally Underserved and Underrepresented Communities:* Staff will continue to identify and evaluate the performance of public participation initiatives that improve overall access to essential services. Staff will continue to conduct outreach to groups and populations that are traditionally underserved or have had a more limited involvement in the transportation planning process.
- *Preparation of Newsletter Articles & Website/Social Media Information on CMMPO and WRTA activities:* Continue with newsletter article preparation for inclusion in CMRPC electronic newsletters. Develop contents for social media presence and update the CMRPC website.

Products & Schedule

1. Complete a Public Participation Action Plan for the new CMMPO long-range transportation plan. The plan will include goals, schedule, guidelines, tools and strategies that the CMMPO staff will use throughout the yearlong planning process – **1st Quarter, FFY 2023**
2. Develop public outreach and engagement evaluation metrics for the new CMMPO long-range transportation plan – **1st Quarter, FFY 2023**
3. Review and update stakeholders' contact information. Identify opportunities to establish interactions with non-traditional stakeholders – **1st Quarter, FFY 2023**
4. Develop a social media content calendar and a web presence as part of the development of the new CMMPO long-range transportation plan – **1st Quarter, FFY 2023**
5. Schedule regional meetings (virtual, hybrid and in-person), stakeholders' meetings and engagement opportunities across the region as part of the new CMMPO long-range transportation plan – **1st & 2nd Quarter, FFY 2023**
6. Develop articles for electronic newsletters/news bulletins and social media content calendar – **Ongoing**
7. Develop easy-to-understand materials and resources as a mechanism to increase the opportunities to participate in the transportation decision-making process, particularly those who have traditionally underrepresented – **Ongoing**
8. Review and utilize/update organization contact information used for public outreach activities and provide this information to MassDOT for inclusion in their Title VI Planning Tool updates – **As necessary**
9. Translation of Vital Documents (i.e. LRTP, TIP, UPWP and PPP Executive Summaries, Title VI complaint procedures/forms) into Safe Harbor languages – **As Needed**
10. Ensure that the CMMPO creates opportunities for public involvement, participation, and consultation throughout TIP development and ongoing planning work by allowing for 1) adequate public notice of public participation activities; 2) opportunities for review and comment at key decision points in the development of the TIP; and 3) provision of multiple, accessible participation formats, including virtually and in-person - **Ongoing**
11. Identify and implement federal and MassDOT public outreach standard procedures or protocols – **Ongoing**

13. Attend FHWA/FTA sponsored public outreach topic webinars – **Ongoing**

Funding Program/\$					
	FHWA/FTA/PL		FTA Section 5307 (through WRTA)		
Participants	FHWA/FTA	State	FTA	WRTA	Total
CMRPC	40,000	10,000			50,000

Element 2: Data Collection and Analysis Activities

Task 2.1: Data Collection and Analysis

Description

The Data Collection and Analysis task is made up of CMRPC programs designed to collect and analyze various types of transportation planning data around the region. The portion of the road network that the CMRPC targets for data collection is the federal-aid eligible roadway network, which includes rural minor collectors while excluding Interstate highways and ramps.

One type of data collected by CMRPC is traffic counts, which are collected on a three-year rotation consisting of a northern subregion (21 communities), a southern subregion (18 communities) and the City of Worcester. There is an average of about 10 count locations in each community except for Worcester, where about 150 counts are conducted. Beyond the scope of CMRPC scheduled counts, approximately 30 additional counts are conducted for MassDOT throughout the region. The current schedule will allow for every federal-aid road in the region to be counted at least once every five years.

Another type of data collected by CMRPC is pavement data, which is similarly collected on a rotating three-year schedule consisting of about 400 road miles of pavement per year. Pavement data is collected using a “windshield survey”. Utilizing the same schedule as pavement, staff also collects the location and condition of curb ramps, sidewalks, cross walks and bike facilities on federal- aid eligible roadways using a “walking survey”. This data is then linked to previous work that mapped all sidewalks and ramp locations along federal aid- eligible roadways in the region.

In addition, travel time and delay studies are conducted along the Congestion Management Process (CMP) roadway focus segments. Peak period Turning Movement Counts (TMCs) and physical inventories are completed at identified critical intersections. Travel times and TMCs will also be used to analyze identified bottleneck locations, which can be used to support the staff’s transit planning activities in the region. In addition, a “utilization survey” is conducted at five MassDOT-Highway Division maintained Park and Ride facilities.

In coordination with MassDOT, bicyclist and pedestrian counts are also conducted across the region based on feedback received from the communities.

Furthermore, transit data is collected for general FTA oversight (i.e., Title VI) and specific FTA requirements (i.e., NTD) – as well as for MassDOT and CMMPO activities, which were previously conducted outside the CMMPO process, that are now integrated into this task.

In CMRPC’s efforts to create a more holistic approach to asset management, culverts and road-stream crossings in the region have been incorporated into the system. To locate and assess culverts, staff use North Atlantic Aquatic Connectivity Collaborative (NAACC), a non-profit that partners with Massachusetts Department of Ecological Restoration (DER) to train and assess

culverts. Culvert assessments will be used to identify and inventory all culvert conditions, especially critical and vulnerable culvert infrastructure. The program will collect culvert assessment data on federal aid roadways throughout the CMRPC region by focusing on a single community at a time, in addition to other assessment help for other projects as need be. As necessary, trained staff will help train other individuals or groups in the region to assess culverts using the NAACC protocol. The proposed schedule will allow for culverts on every federal-aid eligible roadway to be assessed at least once every several years, depending on its condition and vulnerability.

Another part of CMRPC's efforts to expand its ability to identify and inventory critical and vulnerable infrastructure will be utilized through its new in-house Unmanned Aircraft Systems (UAS), or drone, program. Major efforts are currently underway to understand which areas of data collection a drone could assist in, such as providing imagery for TIP presentations.

In 2023 the CMRPC is planning on resuming data collection efforts at the same levels as before the COVID-10 Pandemic.

Previous Work

Mobility

- Accessibility to Jobs: Accessibility to Jobs dataset acquired by MassDOT through the National Accessibility Evaluation (NAE) Pooled Fund Study sponsored by the Accessibility Observatory at the University of Minnesota and Minnesota Department of Transportation (MnDOT). Staff used MassDOT analysis guidelines and CMMPO developed analysis to determine how proposed projects might impacts the transportation network. (2020 – Present)

Asset Management Data Collection

- Pavement Data Collection
 - Collection of condition data for town-maintained federal-aid eligible roads. (1991 – 2005)
 - Collection of pavement condition on town-maintained and state-maintained federal-aid eligible roads (excluding interstates and ramps), as well as rural, minor collectors that provide important connections within the federal-aid eligible road network. (2005 – Present)
- Sidewalk and Curb Ramp Management – Data Collection and Analysis
 - Sidewalk condition data for sidewalks along the federal-aid eligible roads in tandem with the pavement data collection efforts. Staff also created GIS data documenting existing sidewalks on federal-aid eligible roads in the entire region.

A supplementary table was created to 'score' each sidewalk segment. This table corresponds to the GIS data for representational mapping purposes. (2013 – 2018)

- Sidewalk, curb ramp and cross walk data collection along federal-aid eligible roads that are undergoing pavement data collection. The data is collected using a walking survey and mobile GIS technology. Staff created a field collection guide document and associated reference sheets to help ensure uniform assessment throughout the region. These fields saw an update in 2021 to allow for more information to be collected regarding accessibility. (2019 – Present)
- Traffic Signal Data Collection
 - Staff inventoried the location and conditions for a small number of traffic signals along federal-aid eligible roads. The data collected was interested into a newly created GIS database. (2019 – Present)
 - Traffic Signal Data Collection Pilot Program. (2020 – Present)
- Culvert Assessment Data Collection
 - Completed NAACC training to become Lead Observer and Level 1/Level 2 Regional Coordinators. (2020-2021)
 - Developed a schedule to begin culvert assessments. (2021 – Present)
 - Considered resiliency and other prioritization tools to help identifying and assessing culverts. (2021 – Present)
 - Completed culvert assessments for the Sutton Avenue/Central Turnpike Corridor Profile Study in Upton and Sutton. (2021)
 - Assessed all culverts along federal aid roadways in West Brookfield. (2021)
 - Assessed culverts along federal aid roadways in Sturbridge. (2021 – Present)
 - Assessed culverts along Route 62 in Berlin. For a Corridor Profile Study. (2021)
- Annual Traffic Counting
 - Pilot CMRPC Traffic Counting Program. (1982 – 1983)
 - Comprehensive CMRPC Traffic Counting Program conducted on federal-aid eligible roads (excluding interstates and ramps), as well as rural minor collectors that provide important connections within the federal-aid eligible road network, and smaller local roads by request. Data collected from this effort includes traffic volumes, vehicle classification and vehicle speed. (1984 – Present)

- Transit Planning
 - Service Planning – data collection for fixed-route and paratransit operations (i.e., ridership by route, stop, and trip; ridership by provider, on-time performance by route, passengers per revenue mile/hour, and related measures. (2020 – Present)
 - Asset inventories asset usage, and conditions (TERM scores) for safety (i.e., preventable accidents, or miles between), and collect data and mapping of bus stops, routes, and ridership. (2020 – Present)
- Safety
 - Mapping of the Top 100 crash locations utilizing available MassDOT datasets and tools. The data will be mapped and listed utilizing GIS techniques. (2020 – Present)
- Economic Development
 - Mapping and analysis of the locations of Priority Development Areas, 43D Priority Development Sites, and Transformative Development Initiative Districts in the region. (2020 – Present)
- Title VI & Environmental Justice (EJ)
 - Mapping and analysis of vulnerable populations in the region used to help assess potential projects funded through the TIP and LRTP. (2020 – Present)
- Affordable Housing
 - Mapping and analysis of the locations of affordable housing units in the region. (2020 – Present)
- CMP
 - Travel time and delay studies on roadways identified as having existing congestion of where congestion is projects to occur, roadways that accommodate WRTA fixed-route bus service, roadways studied as part of a Corridor Profile, identified bottleneck locations, and select monitoring locations. (1995 – Present)
 - TMCs and physical intersection inventories with field observed signal timing and phasing as needed at Corridor Profile focus intersections, identified bottleneck locations, as well as CMP identified intersections. (1996 – Present)

- Utilization survey and physical inventory at the MassDOT-Highway Division Park and Ride Lot in Berlin (1995 – Present) and in Auburn, Millbury, and Sturbridge. (2013 – Present)
- Livability/Climate Change/Other Transportation Options
 - Pedestrian and bicycle counts on CMRPC recreational trails and Worcester streets, town requested locations, complete streets, safe routes to schools and other livability activities.
 - Location of bicycle facilities along all federal-aid eligible roadways collected in tandem with the pavement data collection schedule. (2016 – Present)
 - Local parking studies initial data collection of available spaces and regulations to support utilization studies. (2018 – Present)
- Data Analysis
 - Vehicle crash data was mapped and analyzed with roadway pavement data and traffic flow data using GIS software to identify critical intersections and roadway segments throughout the region.
 - WRTA bus-stop and ridership data was mapped and analyzed to help in transit planning activities.
 - Traffic count data has been mapped as points and segments for use by the planning staff and all communities.
 - Regional pavement condition data has been mapped in a usable format and has been used as part of different studies.
 - All past, current, and potential TIP projects have been mapped and analyzed with various datasets.
 - Community snapshots for all 40 communities in the CMRPC region.

Procedures

Mobility

- Accessibility to Jobs: Staff will utilize the Accessibility to Jobs dataset acquired by MassDOT through and NAE Pooled Fund Study sponsored by the Accessibility Observatory at the University of Minnesota and MnDOT. Associated dashboards and analysis developed by MassDOT and CMMPO staff will be used to help assess potential projects funded through the TIP and LRTP for increasing accessibility for all modes.

- Congested Corridor & Bottlenecks: Staff will identify and map the locations of congested corridors and bottlenecks in the region using tools available through MassDOT and regionally collected data.
- Access to Destinations: Staff will utilize the Access Observatory data and Conveyal in tandem with locally collected datasets to help inform planning work around accessibility to destinations. Conveyal can also be used for transit route planning.

Asset Management & Data Collection

- Pavement Data Collection
 - Data Preparation: Staff will complete collection on approximately 400 miles of roadway data in FFY 2023, which includes the communities of Worcester, West Boylston, Boylston, Shrewsbury, Grafton, Westborough, Northborough, and Berlin. CMRPC's GIS pavement inventory and Cartegraph OMS will be utilized to prepare field data sheets for each roadway segment.
 - Data Collection: Staff will use the 'windshield survey' data collection technique, staff will record the presence, severity, and extent of pavement distress types as defined within Cartegraph. Further, if deemed necessary, the MassDOT Road Inventory File (RIF) will be updated. Staff will also simultaneously collect the location and type of bicycle facilities along the region road network.
 - Data Analysis: Staff will utilize Cartegraph to determine Overall Condition Index ratings and backlog numbers for the region. This information will be added to the CMRPC Regional Pavement Tracking Tool and utilized to develop the Asset Management section of the LRTP and update the regional asset management dashboard.
 - Data Collaboration: Staff will share all collected data and underlying special datasets with member communities, MassDOT district staff and MassDOT OTP staff.
- Sidewalk Management
 - Data Collection: Staff will collect and enter condition data for sidewalks, curb ramps, and crosswalks along federal-aid eligible roadways. Collection will mainly take place in the Central subregion (Worcester) with additional efforts in areas missed in previous years. Due to previous years' work minimal data collection will be required.
 - Data Mapping: Staff will update GIS data in the corresponding subregions.

- Data Collaboration: Staff will share all collected data and underlying spatial datasets with member communities, MassDOT district staff, and MassDOT OTP staff.
- Traffic Signals
 - Data Collection: Staff will collect the condition of traffic signals at specific locations along federal-aid eligible roadways within the communities of Worcester, West Boylston, Boylston, Shrewsbury, Grafton, Westborough, Northborough, and Berlin. Data will be collected on state of good repair, functional efficiency, and conformity with current standards. Noting whether equipment serves roadways utilized by transit, or it is Opticom-equipped for emergency vehicle use.
 - Data Mapping: Staff will update and maintain the CMRPC Traffic Signal Inventory with collected 2023 locations and other information provided by communities.
 - Data Collaboration: Staff will share all collected data and underlying spatial data with member communities, MassDOT district staff, and MassDOT OTP staff.
- Culvert Management
 - Data Preparation: Staff will utilize the NAACC database to prioritize and assess culverts on federal-aid eligible roadways.
 - Data Collection: Staff will use the NAACC 'Non-Tidal Aquatic Connectivity Stream Crossing Survey' and 'Culvert Condition' data forms to assess the condition of culverts in the communities of Berlin and Boylston. The NAACC 'Aquatic Passability' scoring rubric will be utilized to evaluate the vulnerability of a culvert. Staff will provide NAACC training to individuals and other groups interested in culvert assessments.
 - Data Mapping: Staff will utilize online data sheets and NAACC records to keep track of which culverts have been assessed during 2023, when they were assessed, and the condition of the structure. Staff will also utilize the NAACC datacenter to update a regional culvert inventory and help develop the Asset Management section of the LRTP. This data will be downloaded and used on in-house maps to help identify and prioritize vulnerable culverts throughout the region.
 - Data Collaboration: Staff will share all collected data and underlying spatial datasets with member communities, MassDOT district staff, and MassDOT OTP staff.

- Data Analysis: Staff will utilize collected data to inform and help assess potential projects funded through the TIP and LRTP.
- UAS (drone) Program
 - Data Collection: Staff will utilize the in-house UAS for transportation-related tasks that it could benefit. Staff will also use the UAS for useful imagery of transportation projects and asset management efforts.
 - Data Mapping/Imagery Organization: Staff will edit and use the images taken from drone flights to include them in maps or other means of communicating transportation projects and other information.
- Annual Traffic Counting
 - Maintain Regional Traffic Count Information Center: Staff will add all 2022 count data to its extensive in-house database.
 - Conduct the regularly scheduled Traffic Counting Program: The FFY 2023 program will focus on the south traffic counting Subregion (includes 21 communities), as well as MassDOT-Highway Division requested counts and Town requested counts. Staff anticipates approximately 300 counts.
 - Conduct Axle Classification Surveys: These surveys are performed at all count locations conducted in the region that utilize pneumatic tube counting devices (currently 9 of the 10 devices used) with special attention given to locations near major intermodal freight facilities on National Highway System (NHS) Connectors.
 - Create Axle Classification summary information – For all completed counts in FFY 2023, axle classification data will be added to the vehicle classification database.
 - Maintain link with GIS: Maintain and update the traffic count database and the traffic flow map each year. Utilize the GIS mapping to identify gaps and allocate resources to collect traffic count data as needed. Maintain and update online resources to assess traffic data including ArcGIS Online maps and tools.
 - Data Submittal: Staff will upload completed count data to the Transportation Data Management System (MS2) website per MassDOT guidance.
 - Extract Vehicle Speeds: Staff will extract vehicle speeds for FFY 2023 and record the information in the regional database. Vehicle speed data will be extracted for use in GIS mapping and modeling.
 - Informing the development of the LRTP: Staff will utilize collected traffic data to inform the development of the LRTP

- Transit Planning
 - Service Planning: Data collection for fixed-route and paratransit operations (i.e., ridership by route, stop, and trip; ridership by provider, on-time performance by route, passengers per revenue mile/hour, and related measures.
 - Asset inventories asset usage, and conditions (TERM scores) for safety (i.e., preventable accidents, or miles between), and collect data and mapping of bus stops, routes, and ridership. (2020 – Present)
- Safety
 - Identification and Mapping: The Top 100 crash locations (intersections and corridors) will be identified utilizing available MassDOT datasets and tools. The data will be mapped and listed utilizing GIS techniques.
- Economic Development
 - Identification and Mapping: Staff will update and maintain the previously created database and map of Priority Development Areas, 43D Priority Development Sites, and Transformative Development Imitative Districts in the region.
 - Data Analysis: Utilize collected data to inform and help assess potential projects funded through the TIP and LRTP.
 - Data Collaboration: Share all collected data with member communities, MassDOT district staff, and MassDOT OTP staff.
- Title VI & Environmental Justice
 - Identification and Mapping: Staff will update and maintain the previously created database and map of vulnerable populations in the region (based on income, race, color, national origin, disability, age, and sex).
 - Data Analysis: Utilize collected data to inform and help assess potential projects funded through the TIP and LRTP.
- Affordable Housing
 - Identification and Mapping: Staff will update and maintain the previously created database and map of affordable housing units in the region.
 - Data Analysis: Utilize collected data to inform and help assess potential projects funded through the TIP and LRTP.
- CMP

- Park and Ride Utilization Surveys: As a monthly effort, staff will continue to monitor multiple MassDOT-maintained Park and Ride lots checking for utilization. Staff will coordinate with the MassDOT Districts as needed.
- TMC: Will be completed at critical intersections identified in the CMP, Corridor Profile, public outreach activities for Performance Management analysis, and evaluation of recently implemented projects. Signal timing and phasing data will be observed in the field and copies of the official permits will be obtained, if needed. Bicycle and pedestrian activity will also be monitored for each TMC location.
- Travel Time and Delay Studies: These studies will be conducted on roadway segments identified by the regional travel-demand-and-forecast model and along a limited number of segments where congestion is projected to occur. These studies will also be collected along roadways before and after TIP projects are completed to determine the effectiveness of the improvements. A Global Positioning System (GPS) unit will be used to collect the travel time and delay data.
- Livability/Climate Change/Other Transportation Options
 - Work with municipalities, MassDOT and other interested parties to identify areas that would benefit from bicyclist and pedestrian counts. Coordinate with MassDOT, making sure no overlap of count locations.
 - Collect and update the location of bicycle facilities along federal-aid eligible roads.
 - Collect locations of parking regulations/signs and spaces utilizing ArcGIS and ArcGIS Online.
 - Use sidewalk and Americans with Disabilities (ADA) ramp data for prioritizing transit/bike/pedestrian projects.
 - Collect extreme weather/climate change information to assess potential impact on access to essential services.
- Data Analysis
 - Convert spreadsheets and workbooks, where system performance data is currently stores, into database format compatible with GIS applications.
 - Modify databases, as necessary, to provide compatibility with the CMRPC GIS Center.

- Develop data dictionaries and metadata records for systems performance information.
- Refine and/or develop data collection procedures as appropriate to optimize the ability to store the information within GIS applications.
- Develop geographic interfaces for use in displaying and querying the transportation management system database for both internal agency uses and region-wide community use.
- Analyze various data layers to help and support the decision-making process for the TIP and LRTP efforts.
- Provide access to all the transportation planning data available via the internet.
- Map communities in the region that have adopted a 25 mph default speed limit and newly adopted safety zones and school zones.
- Share all collected data with member communities, MassDOT district staff, and MassDOT OTP staff.

Products & Schedule

Mobility

- Identification and mapping of accessibility to jobs data provided by MassDOT utilizing MassDOT and regionally sensitive criteria – **1st and 2nd Quarter, FFY 2023**
- Project Screening assistance for programmed and potential projects being considered for the TIP and LRTP for scoring based on the MassDOT accessibility to jobs dataset
 - Congested Corridors and Bottlenecks: Staff will identify and map the locations of congested corridors and bottlenecks in the region using tools available through MassDOT and regional collected data.
- Access to Destinations: Staff will utilize the Access Observatory data and Conveyal in tandem with locally collected datasets to help inform planning work around accessibility to destinations. – **Ongoing**

Asset Management Data Collection

- Pavement Data Collection
 - Data collected in FFY 2022 will be entered into Cartegraph creating updated electronic records for roads with newly collected data – **1st Quarter, FFY 2023**
 - Solicited towns in the region for any maintenance or repair activities on the federal-aid roadways to be entered into Cartegraph – **1st Quarter, FFY 2023**

- Data collection on federal-aid roadways schedules for collection – **3rd and 4th Quarter, FFY 2023**
- Provided pavement condition data for related transportation planning activities as requested – **Ongoing**
- Data Collaboration: Shared all collected data and underlying spatial data sets with member communities, MassDOT district staff and MassDOT OTP staff. – **Ongoing**
- Sidewalks
 - Integrated data collected during FFY 2021 with the corresponding GIS sidewalk and curb ramp inventory – **1st Quarter, FFY 2023**
 - Sidewalks and ADA ramps condition data collection for federal-aid eligible roadways – **3rd and 4th Quarter, FFY 2023**
 - Data Collaboration: Shared all collected data and underlying spatial data sets with member communities, MassDOT district staff and MassDOT OTP staff – **Ongoing.**
- Traffic Signal Inventory
 - Integrated data collected as part of the FFY 2021 continued pilot study into the CMRPC traffic signal inventory database – **1st Quarter, FFY 2023**
 - Traffic Signal inventory data collection in selected locations along federal-aid eligible roadways – **3rd and 4th Quarter, FFY 2023**
 - Data Collaboration: Shared all collected data and underlying spatial data sets with member communities, MassDOT district staff and MassDOT OTP staff– **Ongoing.**
- Culvert Data Collection
 - Identified and assessed culverts in selected locations within specific towns that cross federal-aid eligible roadways – **3rd and 4th Quarter, FFY 2023**
 - Uploaded culvert assessment data to the NAACC database, as well as the CMRPC culvert inventory database – **3rd and 4th Quarter, FFY 2023**
 - Provided culvert assessment data for related transportation planning activities as necessary – **Ongoing**
 - Data Collaboration: Shared all collected data and underlying spatial data sets with member communities, MassDOT district staff and MassDOT OTP staff– **Ongoing.**

- UAS (drone) Imagery
 - Integration of past drone imagery and other data collected into the appropriate CMRPC transportation inventory databases – **1st Quarter, FFY 2023**
 - Identified different ways drone imagery can improve CMRPC's efforts in transportation data collection and asset management – **2nd and 3rd Quarter, FFY 2023**
 - Integration of new drone imagery and other data collected during flights for transportation projects into the CMRPC Drone Imagery database – **4th Quarter, FFY 2023**
 - Data Collaboration: Shared all collected data and underlying spatial data sets with member communities, MassDOT district staff and MassDOT OTP staff – **Ongoing.**
- Inventory of Vulnerable Assets
 - Utilizing the MassDOT CIP as a guide, staff will utilize collected asset management to identify and report areas that are disproportionately at risk of climate change impacts – **4th Quarter, FFY 2023**
 - Data Collaboration: Shared all collected data and underlying spatial data sets with member communities, MassDOT district staff and MassDOT OTP staff.
- Annual Traffic Counting
 - Annual update to Daily Traffic Volumes and Peak Period Turning Movement Counts, and Axle Classification database – **1st Quarter, FFY 2023**
 - Annual Automatic Traffic Recorder calibration effort – **3rd Quarter, FFY 2023**
 - Traffic volume and axle classification counts – **3rd and 4th Quarter, FFY 2023**
- Transit Data Collection & Mapping
 - Mapping of Bus Stops – **Ongoing**
 - Mapping of Bus Routes – **Ongoing**
 - Mapping of Ridership – **Ongoing**
 - WRTA FFY 2022 Audit – **4th Quarter, FFY 2023**
 - NTD FY 2022 Reporting – **1st Quarter, FFY 2023**
 - MassDOT Rail and Transit Division – **Monthly and Quarterly (Quarterly in accordance with WRTA MOU)**

- Safety
 - Identification and mapping of the Top 100 crash location listing based on data provided by MassDOT – **3rd Quarter, FFY 2023**
 - Utilizing crash data to help inform project selection and prioritization – **Ongoing**
- Economic Development
 - Identification and mapping of Priority Development Areas, Chapter 43D Priority Development, and Transformative Development Initiative Districts – **1st and 2nd Quarter, FFY 2023**
 - Utilizing mapped data to help inform project selection and prioritization – **Ongoing**
- Title VI & EJ
 - Collection and mapping of data on vulnerable populations – **1st and 2nd Quarter, FFY 2023**
 - Utilizing mapped data to help inform project selection and prioritization – **Ongoing**
- Affordable Housing
 - Identification and mapping of Affordable Housing units – **1st and 2nd Quarter, FFY 2023**
 - Utilizing mapped data to help inform project selection and prioritization – **Ongoing**
- CMP
 - Park and Ride Utilization Surveys at MassDOT-maintained Park and Ride lots – **Ongoing**
 - TMCs will be completed along with physical intersection inventories, observed signal timing and phasing, and bicycle and pedestrian volumes at various intersections identified in the CMP, Corridor Profiles, and Bottlenecks – **3rd and 4th Quarter, FFY 2023**
 - Travel Time and Delay Studies will be completed on a number of identified roadway segments where congestion is projected to occur – **3rd and 4th Quarter, FFY 2023**

- Livability/Climate Change/Other Transportation Options
 - Collection of bicycle facility locations along federal-aid eligible roads and input into the GIS inventory – **1st Quarter, FFY 2023**
 - Prioritization of transit/bike/pedestrian projects – **Ongoing**
- Data Analysis
 - Maintaining the integrated database of the latest management systems information to guide future data collection activities, identification of gaps in the data, and future analysis – **1st Quarter, FFY 2023**
 - Continue integrating the database and map template used for TIP maps with other products for streamlines information documentation and sharing – **1st Quarter, FFY 2023**
 - Update the Highway Management Systems Map to include other modes, and evaluated how it ties with the regional performance measures, Freight Planning, Complete Streets, Vulnerable Infrastructure and identify potential priority corridors – **4th Quarter, FFY 2023**
 - Work on various data maps and tables to assist with ongoing transportation planning activities (i.e. pavement, safety, congestion, sidewalk, ADA ramps, bike lanes, etc.) – **Ongoing**
 - Integration of WRTA automatic passenger count data obtained through the ITS systems on the buses – **Ongoing**
 - As necessary, assisting various stakeholders with vehicle crash research/analysis/diagrams as related to safety related planning efforts for Roadway Safety Audits – **Ongoing**
 - Update demographic and employment data with the most current national data from the Census, ACS, and CTPP – **Ongoing**
 - Provide data collection support to various parking study projects as needed – **Ongoing**
 - Mapping of communities that have adopted a 25 mph default speed limit as well as new safety zones and school zones – **4th Quarter FFY 2023**

Task Title**Data Collection and Analysis****Ref. #****2.1**

Funding Program/\$					
	FHWA/FTA/PL		FTA Section 5307 (through WRTA)		
Participants	FHWA/FTA	State	FTA	WRTA	Total
CMRPC	160,000	40,000			200,000

Task 2.2: Regional Transportation Model

Description

The Regional Travel Demand Forecast Model is an important planning tool both for the evaluation of proposed regional transportation improvements and the projection of mobile source air emissions for significant regional projects. The model is the most effective and comprehensive way to project transportation needs within a twenty-year planning horizon as required by Federal regulation.

A regional travel demand forecasting model can estimate the traffic impacts caused by socio-economic (employment, households, and population) changes, identify both existing and projected congested areas, and estimate future Vehicle-Miles Traveled (VMT) on the regional highway system.

Previous Work

CMRPC has used travel demand forecast models for highway planning purposes since 1980. CMRPC is continually updating and maintaining its regional model for project-specific work and for back-up calculations of mobile source emissions. In the past year, the model was used extensively in support of the LRTP (*Mobility2040*), and various other planning activities. The model is being used more extensively for project-specific forecasting.

Over the past few years, the model is being used to understand the demand of other modes such as transit and freight. The model was used to analyze the recommendations from the Comprehensive Service Analysis for the WRTA service area. The model is currently being used to assess traffic impacts of land development in the town of Sutton.

Procedures

The population, household and employment projections for the Regional Travel Demand Forecast (TDF) Model will be reviewed and updated as part of the development of the 2024 LRTP update. The newer (2020) MassDOT – Highway Road Inventory Files (RIFs) will be incorporated into the updated version of the regional model to serve as the basis for the road network and require ongoing editing of the line files to verify functionality. The base year for the model is 2018 currently, and horizon (future) years are 2030 and 2040. Once the new demographic projections (2050) are completed and adopted it will be incorporated into the model. The Base year of the model will also be updated to 2020 with the new census data and Roadway inventory files.

As required by MAP-21 and now continuing into BIL, staff is closely following the evolution of applicable Travel Demand Model - related Performance Measures by USDOT. MPO staff created performance metrics for the Mobility2040 plan using the model outputs. Some of the metrics include congested locations, vehicle miles travelled, vehicle hours travelled and equity analysis.

Staff was able to use the model to produce results for the public outreach and major infrastructure scenario planning for the 2020 LRTP. The model was also used to evaluate the EJ vs. Non-EJ areas. Also, the proposed service changes to the transit routes were also modeled to understand the mode share changes. Additionally, the recently acquired Regional Integrated Transportation Information System (RITIS) data by MassDOT will be used to assess the truck component of the model and will be calibrated to use the model results to identify freight usage and bottlenecks.

Projects & Schedule

1. Continue modeling efforts to understand the traffic impacts due to major infrastructure projects in the region – ***All year, FY 2023***
2. Include WRTA service changes for the transit routes and calibrate the transit model – ***Ongoing***
3. Use the model to generate congested and bottleneck locations list for inclusion in the 2024 LRTP - ***2nd Quarter, FY 2023***
4. Integration of recent traffic counts, Conveyal and RITIS data to assist with the 2024 LRTP efforts – ***1st Quarter, FY 2023***
5. Modeling analysis to the Southeast sub-regional highway freight accommodation assessment study. More information about this study can be found in Task 3.6 – ***1st and 2nd Quarter, FY 2023***
6. Finalize town-based socio economic and population projections based on work with statewide subcommittee – ***1st Quarter 2023***
7. Synthesize the town level socio-economic projections to TAZ level and incorporate into the model to create base 2020 and LRTP 2050 model runs – ***2nd Quarter 2023***
8. Model various scenarios of major infrastructure projects to comparison metrics such as VMT, VHT, congestion etc. – ***2nd Quarter 2023***
9. Use the model to generate various Equity metrics for analysis in the LRTP – ***3rd Quarter 2023***
10. Aid in the traffic management plan development during the construction of major regional projects – ***Ongoing***

11. Integrate various data collected as part of the Regional Data Collection element (2.1)
such as traffic counts, TMCs, travel time runs into the model – ***Ongoing***

Task Title **Regional Transportation Model** **Ref. #** **2.2**

Funding Program/\$					
	FHWA/FTA/PL		FTA Section 5307 (through WRTA)		
Participants	FHWA/FTA	State	FTA	WRTA	Total
CMRPC	80,000	20,000			100,000

Task 2.3: Community and Regional Technical Assistance

Description

Under this Task, the CMMPO staff provides technical assistance to CMMPO member municipalities, WRTA Service Area communities, non-profit organizations, businesses, and state/federal agencies to integrate transportation, land use, health, environmental, and other planning activities. The staff realizes that member communities may not always have available staff to promote transportation planning objectives. It should be noted that efforts and products specified in this task may be interwoven with specific tasks, projects, and efforts that are listed in other UPWP tasks. This is due to the overarching nature of Community Technical Assistance and its inherent flexibility.

General transportation planning assistance includes but is not limited to: community specific access management reviews; safety and crash data screening and reviews, traffic impact analyses, development of land use and traffic growth rates, and assistance with/support of grant applications or other transportation related special studies, such as Complete Streets Prioritization Plans.

Local and regional transportation support includes working with committees, boards, and local officials regarding transportation planning issues. The staff assists with local transportation project development; prepares transportation chapters in municipal master plans, transportation related local ordinances or regulations, complete streets policies, walkability audits, Safe Routes to Schools (SRTS), or recommendations for Best Practice implementation.

Coordination with adjacent MPOs in Massachusetts, Connecticut, and Rhode Island is another way the CMMPO staff conducts interagency/interregional coordination and provide technical assistance to member communities. Freight and passenger rail, interstate commerce, travel and tourism, analyses of transportation policies, transit systems, and built environment structures to assess impacts to community health and climate resiliency, and performance-based planning are but a few of the possible areas where the CMMPO can work with its partner agencies.

Previous Efforts

The CMMPO staff has undertaken extensive efforts related to Community and Regional Technical Assistance since the formation of the MPO. With this new, specific, work task it would be impossible to list all previous related efforts. The following bullets highlight a brief selection of work completed to assist member communities over the years:

- Comprehensive CMRPC Traffic Counting Program, (1984-Present)
- Collection of pavement condition on town-maintained and state-maintained federal-aid eligible roads as well as rural, minor collectors that provide important connections within the federal-aid eligible road network. (2005- Present).
- Collection of location and condition of sidewalks, curb ramps and crosswalks on town-maintained and state-maintained federal-aid eligible roads as well as rural, minor collectors who provide important connections within the federal-aid eligible road network. (2012 – Present)
- MassDOT Road Inventory File Updates
 - Brookfield
- Local Pavement Management Plans
 - Millbury, Sturbridge, West Boylston
- Transportation & Circulation Chapter for Municipal Master Plans
 - Millville – 2017
 - West Brookfield – 2017
 - Auburn – 2019
 - Holden – 2019
 - Rutland 2022
 - Hopedale 2022
 - Boylston 2022
- Complete Streets Policy Development
 - Auburn, Barre, Berlin, Brookfield, Charlton, Dudley, Grafton, Holden, Leicester, Mendon, North Brookfield, Northbridge, Rutland, Shrewsbury, Spencer, Sturbridge, Upton, West Boylston
- Complete Streets Tier II Prioritization Plans
 - Spencer – 2017
 - West Boylston – 2017
 - Barre – 2018
 - Rutland – 2018
 - Berlin – 2019
 - Brookfield – 2019
 - Millbury – 2019
 - Shrewsbury – 2019
 - Sturbridge – 2019

- Auburn – 2020
- North Brookfield – 2020
- Dudley – 2021
- Parking Studies
 - Worcester -2020
 - Westboro - 2020 and 2021
- Grant Assistance
 - Spencer AARP Grant - 2020
 - Charlton Shared Streets Grant - 2021
 - MassTrails – 2020 and 2021
- Neighborhood walk Audits
 - Northborough 2022
- Post Occupancy Studies
 - Northborough 2022
- Local Warrants Analysis
 - Douglas 2022
- Worked with other MPOs, MassDOT, CMMPO municipalities, and other state and federal agencies on Population and Employment projections and growth factors for the updated Long-Range Transportation Plan – 2019
- Community Snapshots – All CMMPO member communities

Procedures

The CMMPO staff is committed to providing its forty member communities with a wide variety of transportation planning-related efforts and understands that flexibility is key as new opportunities are always being brought forward through innovative federal and state programs. The CMMPO staff will continue conducting special studies and providing technical assistance as needed as part of our work program to produce products that are consistent with federal requirements and support the regional transportation planning process. Staff will further develop and refine this work task in the coming years to provide a wide variety of projects and products that help support local, regional, state, and federal transportation initiatives.

Products & Schedule

1. Data Collection analysis, mapping and socio-economic projections assistance
 - Data collection: Assist communities as needed with local data collection needs above and beyond the regional data collection efforts including but not limited to traffic counting, pavement condition surveys, Sidewalk and Ramp Surveys - **3rd and 4th Quarter, FY 2023**
 - As needed, truck exclusion study counts – **Ongoing**
 - Data Analysis and Mapping: Assist communities as needed with data analysis and mapping needs associated with local data collection efforts and with data collected as part of the regional data collection efforts – **Ongoing**
2. Socio-economic projections assistance: assisted communities as needed with interpreting the regional socio-economic projections developed for the LRTP for use in local plans such as master plans and economic development plans – **Ongoing**
 - Produce local/community level summary files for updated socio-economic population projections **1st and 2nd Quarter, FFY 2023**
 - Continue limited technical assistance and support for community pavement management programs – **Ongoing**
 - Continue limited technical assistance for MassDOT Roadway Inventory Database updates, as requested. – **Ongoing**
 - Assist communities with management systems data to initiate project development discussion. – **Ongoing**
 - Assist communities with data collection, application and management for the Massachusetts culvert and small bridge grant program – **3rd and 4th Quarter, FY 2023**
- Complete Streets and Safe Routes to Schools
 - Tier II: Continued to assist municipalities with the development and adoption of prioritization plans
 - Working to assist communities developing Complete Streets Tier II prioritization plans – **Ongoing**
 - Tier III: As necessary and appropriate, assisted municipalities with preparing Complete Streets Tier III Construction Applications for submittal including application administration, project(s) selection, and grant-writing, and project funding requests. – **Ongoing**

- Continued to engage “inactive” municipalities with Complete Streets development through promotion of program benefits and other municipal examples. – **Ongoing**
- Worked with the City of Worcester – Transportation Advisory Group (TAG) on the development of a Complete Streets Prioritization Plan, review framework, and the City’s Master Plan – **Ongoing**
- As needed, assisted municipalities and associated partner schools with developing and submitting infrastructure project grant applications to the Safe Routes to Schools (SRTS) Program – **Ongoing**
- Coordinate collaboration between CMMPO municipalities and SRTS Program as complimentary efforts to Complete Streets development, including engagement with elementary/middle schools, data services, and assistance with grant applications as needed – **Ongoing**
- Americans with Disabilities Act (ADA) and Public Health Assistance
 - ADA Transition Plans: As necessary, assisted municipalities with development of and/or updates to their ADA Self-Evaluation and Transition Plans – **Ongoing**
 - Healthy Aging: Continued to support healthy aging initiatives across the region by engaging communities using the Massachusetts Age- and Dementia Friendly Integration Toolkit and similar state resources – **Ongoing**
 - Grant Assistance: Engaged communities with the AARP Age-Friendly Network; prepare applications for the AARP Community Challenge Grant Program, and provide grant administration support to the towns if awarded – **Ongoing**
 - Continued to improve and promote the CMMPO Sidewalk and Curb Ramp Database as an available tool for municipalities and other organizations to use for a wide range of projects – **Ongoing**
- Local and Regional Planning:
 - Master Plans: When applicable, worked with CMMPO member municipalities to update transportation sections or chapters of municipal master plans or other related comprehensive planning efforts/contracts. – **Ongoing**
 - Regional Plans: Continue work with CMRPC staff on the ongoing IMAGINE 2050 work efforts – **FFY 23 and 24**
 - DLTA Support: Supported the development of local projects seeking funding through the regions DLTA program– **Ongoing**

- Infrastructure Plan: Support the development of the regional infrastructure plan through an EEA grant – **1st Quarter 2023**
- CMMPO staff will develop a local sidewalk prioritization plan for Shrewsbury establishing a prioritization methodology and 5-year sidewalk capital improvement plan – **1st Quarter 2023**

Task Title **Community & Regional Technical Assistance** **Ref. #** **2.3**

Funding Program/\$					
	FHWA/FTA/PL		FTA Section 5307 (through WRTA)		
Participants	FHWA/FTA	State	FTA	WRTA	Total
CMRPC	97,470	24,368			121,838

Task 2.4: Performance Management – Targets and Reporting

Description

The CMMPO's Performance-Based Planning and Programming (PBPP) activity was initially established as required by MAP-21, the federal legislation enacted in 2012. Later, the requirement for performance management activities was reaffirmed by the FAST Act in 2015 and, most recently, the new BIL in 2021. This national legislation prompted FHWA and the FTA to finalize rules that specified federally-required performance measures for the states, MPOs and public transportation providers to track trends and develop targets.

The intent of the Performance Management Targets & Reporting work activity is to adhere to the federal PBPP requirements as well as report on regionally-customized performance-based measures and targets through an Annual System Performance Report. This effort seeks to integrate materials from the Congestion Management Process (CMP), Freight Planning, Pavement Management, Transportation Safety Planning, Traffic Monitoring, and other regional programs. In-house GIS capabilities continue to be used to maintain, map, and analyze information from the Management Systems that will support TIP target project listings development, LRTP major infrastructure project development & implementation as well as serve as a resource for various ongoing planning activities.

Previous Work

Since State FY 2014, the CMRPC Transit staff has prepared monthly Worcester Regional Transit Authority (WRTA) performance data summaries for MassDOT's Rail and Transit Division. The CMMPO first transitioned to PBPP with the preparation and endorsement of the LRTP *Mobility2040* in 2016. The initial, regionally-derived measures & targets have since been refined each fiscal year to respond to input from stakeholders, data availability and the addition of defined federal emphasis areas. In FFYs 2017 and 2018, the CMMPO coordinated with MassDOT, the WRTA, other Massachusetts MPOs and area stakeholders to consider and respond to the PBPP requirements. The CMMPO also gathered information and data to begin setting targets for each federally-mandated performance measure and to establish other regionally-customized measures it began monitoring. In this manner, the regional PM effort can address a range of federal transportation planning emphasis areas.

In addition, in FFY 2018 the CMRPC Transit staff became responsible for assisting the WRTA in developing and implementing MassDOT-required transit performance goals, measures and targets. This work was assigned based on a Memorandum of Understanding (MOU) between MassDOT and the WRTA that continues to carry forward.

Screening, monitoring and reporting tools have been developed by the CMMPO that allow for project-level and system-level analysis through the PBPP lens. These tools help the CMMPO decide which projects could best help the region meet the established PM targets and are described below.

Previously prepared products included:

- Refined locally-derived Performance Management Measures & Targets customized to the planning region along with associated documentation
- CMMPO Performance-Based Planning and Programming Brochure
- Performance Management Criteria Matrix
- Performance Management Scoring Worksheet
- Annual System Performance Report
- TIP Five-Year Retrospect Analysis Against Current Performance Metrics
- Performance Management Timeline

Procedures

- Adoption of the state targets for federally-mandated performance measures (23 CFR Part 490 and 515). The CMMPO will provide information necessary to support these measures that include, but are not limited to:
 - Safety Measures (PM 1) – current state measures adopted by the CMMPO on February 16, 2022; next update and anticipated adoption in February 2023.
 - Pavement and Bridge Condition Measures (PM 2) – state measures presented and adopted by the CMMPO in October 2018; next update in FFY 2023.
 - Performance of NHS, Freight and CMAQ Measures (PM 3) - state measures presented and adopted in October 2018; updated Non-SOV and Emissions targets adopted by the CMMPO on February 17, 2021; next update in FFY 2023.
 - Incorporation of Transit Asset Management (TAM) targets from the WRTA TAM Plan (adopted by the CMMPO in October 2018) into the planning process.
 - Incorporation of the Public Transit Agency Safety Plan (PTASP) targets in the planning process. The CMMPO adopted targets on February 17, 2021.
- Implementation of Thresholds – Work with MassDOT OTP and WRTA for inclusion of performance measures within the ongoing planning process. The CMMPO staff will continue to be responsible for reporting data and projects for periodic statewide performance measure assessments. This methodology will also apply to the WRTA with the establishment of their performance measures as required by FTA.

- With acceptable targets for performance measures identified in the FFY 2020 LRTP, staff will continue to maintain relevant data for transportation safety, traffic operations, pavement, and congestion management and provide comparison analyses before and after the implementation of projects.
- Inclusion and updates to certification documents of MassDOT performance measures that have or are anticipated to be adopted by the CMMPO. Staff will ensure these targets are incorporated in documents including, but not limited to, the CMMPO TIP and LRTP, as reflected in the UPWP.
- Inclusion with Projects – Incorporate the performance measure metrics with the Screening & Ranking Criteria for use in the review and ranking of TIP projects.
- Compilation of the Annual System Performance Report that includes the federally-required measures (highway & transit) as well as the CMMPO’s regionally-customized measures. Incorporate the new federal planning emphasis areas of climate & clean energy, equity, complete streets, public involvement, Department of Defense (DOD) coordination, Federal Land Management Agency (FLMA) coordination, planning & environmental linkages, and data sharing.

Staff will continue to participate in the ongoing evolution of PBPP, monitoring both rulemaking & guidance on the federal and state levels. Further, locally-derived performance measures & targets originating from *Mobility2040* will continue to be refined/revised for the development of the forthcoming new LRTP so that the results of transportation investments in the planning region can be measured, reviewed and assessed.

Products & Schedule

1. As necessary or required, based on US DOT federal rulemaking monitored by staff, review/refine locally-derived, previously established performance measure criteria – **Ongoing**
2. CMMPO annual adoption of Safety performance measures (PM1) – **2nd Quarter, FFY 2023**
3. CMMPO adoption of new PM2 and PM3 performance measures – **2nd or 3rd Quarter, FFY 2023**
4. Updated Annual System Performance Report showing progress of the federally-required and CMMPO regionally-customized performance measures and targets. As needed, refine measures and targets – **3rd Quarter, FFY 2023**
5. Considered PBPP criteria, both qualitative and quantitative, in the development of CMMPO certification documents including the 2024-2028 TIP screening & selection,

development of the new LRTP as well as future Corridor Profile efforts and other transportation planning activities – **Ongoing**

6. Coordinate with the Transportation Program Managers Performance Management Subcommittee on Performance Management target setting efforts with MassDOT and MPOs, as needed – **Ongoing**
7. Continue to assist the WRTA with any related work regarding the Public Transit Agency Safety Plan (PTASP). If needed, assist the CMMPO in establishing their own customized transit safety targets or follow the WRTA’s targets and integrate them into the CMMPO planning process - **Ongoing**
8. Prepare and submit WRTA and related transit performance data to FTA National Transit Database annually, and to MassDOT Rail & Transit Division on a monthly, quarterly and annual basis – **Ongoing**
9. Provide WRTA transit performance data in response to public information requests or in support of WRTA fare or service planning activities – **As required**

Task Title	Performance Management Analysis & Reporting	Ref. #	2.4
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Funding Program/\$					
	FHWA/FTA/PL		FTA Section 5307 (through WRTA)		
Participants	FHWA/FTA	State	FTA	WRTA	Total
CMRPC	44,000	11,000			55,000

Element 3: Transportation Plan Refinement Activities

Task 3.1: Corridor Profile Study

Description

A *Corridor Profile* integrates the information generated by the transportation Management Systems along a particular roadway corridor and analyzes Performance-Based Planning & Programming (PBPP) data, recommends both operational and physical improvements, and identifies project candidates for potential further study. Utilizing the range of data and analyses produced by the various transportation Management Systems maintained by staff as well as the CMMPO's planning partners, *Corridor Profile* efforts allow for the comprehensive integration and consideration of a range of performance-based planning factors along the region's federal-aid highway system. In addition, coordination with the WRTA will occur when analyzing transit-related activities along a study corridor. Ultimately, improvement options are suggested for consideration by MassDOT and the host communities. When consensus is reached, proposed improvement projects can be screened and prioritized by the CMMPO for potential future year programming in the annual TIP.

Previous Work

Corridor Profile efforts to date include:

- **FFY 2005:** Route 9 East, Shrewsbury & Westborough
- **FFY 2006:** Route 20 West, Auburn & Oxford
- **FFY 2007:** Route 9 West, Worcester, Leicester & Spencer
- **FFY 2008:** Routes 12/16/197, Dudley, Webster & Douglas (Thompson, CT)
- **FFY 2009/2010:** Route 140 Princeton (Sterling & Westminster MRPC communities)
- **FFY 2013/2014:** Route 31, Holden, Paxton & Spencer
- **FFY 2015/2016:** Route 12 & Southbridge Street, Auburn & Worcester
- **FFY 2017:** Route 140, West Boylston, Boylston & Shrewsbury
- **FFY 2019/2020:** Route 20, Sturbridge
- **FFY 2021:** Sutton Avenue & Central Turnpike, Oxford & Sutton
- **FFY 2022:** Route 62, Berlin

Procedures

CMMPO staff work efforts for FFY 2023 will include, but are not necessarily limited to, the following:

- Staff will conduct a performance-based competitive screening and selection process with the CMMPO to determine the next *Corridor Profile* locations to study.

- The *Corridor Profile* selected by the CMMPO will start to be compiled during this program year. Always evolving, *Corridor Profile* studies have become streamlined and concise to increase accessibility. Corridor Profile work includes the analysis of data from the following Management Systems:
 - Congestion Management Process (CMP)
 - Transportation Safety Planning Program
 - Pavement Management System (PMS)
 - Bridge Management System (BMS), maintained by MassDOT
 - Freight Planning
 - Transit Planning (coordinate with WRTA, when needed)
 - Traffic Counting
- Corridor Profile components will include:
 - Basic summarization of adjacent land use and preparation of standardized “Environmental Profile” maps.
 - Formulation of short, medium and longer-term improvements, both operational and physical.
 - Preparation of report document, complete with color graphics and maps, with an accompanying Technical Appendix.
 - Meetings with host community officials, as deemed necessary.

Products & Schedule

1. Selection of the next Corridor Profile study location based on a performance-based competitive screening and selection process – – **1st Quarter, FFY 2023**
2. Compilation of the CMMPO-selected Corridor Profile report document with associated Technical Appendices. The document will summarize all data collection, analysis results, and suggested multi-modal improvement options for host community consideration. With a major focus on the Long Range Transportation Plan during this program year, the completion of the selected Corridor Profile will likely be in FFY 2024 – **4th Quarter, FFY 2023**
3. Hold Corridor Profile public informational meetings, to be scheduled as necessary, with the assistance of the host communities. Public meetings typically focus on the suggested improvement options developed for the consideration of MassDOT and the Corridor Profile host communities – **4th Quarter, FFY 2024**

Task Title**Corridor Profile Study****Ref. #****3.1**

Funding Program/\$					
	FHWA/FTA/PL		FTA Section 5307 (through WRTA)		
Participants	FHWA/FTA	State	FTA	WRTA	Total
CMRPC	36,000	9,000			45,000

Task 3.2: Congestion Management Process Project Development

Description

MassDOT predecessor agencies, the RPAs, the MBTA and the RTAs initially developed the Massachusetts Congestion Management Process (CMP) (then called a Congestion Management “System”) as a cooperative effort. CMRPC staff served on the first Congestion Technical Team established in 1994. The team was charged with the responsibility for the overall design of the Commonwealth’s CMP as well as the development and evaluation of various “strategies” or improvement options. Although considered a statewide system, CMRPC has been responsible for both developing, evolving and maintaining the region’s customized CMP on behalf of the CMMPO within the framework established by FHWA’s CMP guidance. Participating state agencies have and are anticipated to continue providing technical support to the RPAs.

The CMP, as defined in federal regulation, is intended to serve as a systematic process that provides for safe and effective integrated management and operation of the multimodal transportation system. This process includes:

1. Development of congestion management objectives.
2. Establishment of measures of multimodal transportation system performance.
3. Collection of data and system performance monitoring to define the extent and duration of congestion and determine the causes of congestion.
4. Identification of congestion management strategies.
5. Implementation activities, including identification of an implementation schedule and possible funding sources for each strategy.
6. Evaluation of the effectiveness of implemented strategies.

The ongoing public outreach effort associated with the CMP will continue. The CMMPO Advisory Committee will continue providing guidance while ongoing public outreach efforts will also continue to provide opportunity for comment and suggestions.

Previous Work

- Produced annual Progress Reports (1995-Present). Format was updated in May 2019 using the FHWA guidebook on the CMP.
- Conducted Level of Service (LOS) analyses at identified critical intersections and suggested improvement options for consideration (1998-Present).

- MassDOT-Highway maintained Park and Ride facility in Berlin on Route 62 at I-495 has been a long-term monitoring location under the region's ongoing CMP effort (1995-Present). Four additional MassDOT Park and Ride lots located in Auburn, Millbury, and Sturbridge have also been monitored (2013-Present).
- Refined the focus roadway network utilizing the 2015 base-year regional Travel Demand Model to identify roadway segments where congestion currently exists or is projected to occur by 2040 (2017).
- Compiled inventory of all previously suggested, CMP-derived improvement options accompanied by subsequent development of a CMP "Toolbox" of recognized "Best Practice" roadway improvement procedures aimed at addressing identified congestion in the planning region (2013).
- Critical intersection monitoring efforts to measure traffic growth, to suggest improvement options and/or assess improvement project effectiveness (Ongoing).
- Traffic Bottleneck Reduction Program Progress Report (2011 & 2013). Bottleneck analysis now included in the annual CMP report (2014-Present).
- Collected bicycle and pedestrian data at all TMC intersections (2016-Present)
- Studied on-time performance for the WRTA fixed-route buses to help determine where congestion is occurring (2018-Present).
- Studied Access to Jobs data to determine how congestion affects access to jobs (2020).
- Used data from the National Performance Management Research Data Set (NPMRDS) and its vehicle probe-based travel time data to determine travel time reliability in the region (2020-Present).

Procedures

CMRPC's responsibilities for the FFY 2023 program year will include, but are not necessarily limited to, the following:

- Continue to comply with the FHWA guidelines on the CMP.
- CMP Analyses: As necessary, staff will continue to identify, screen, and prioritize strategies to alleviate measured congestion. Various types of data will be collected to identify priority areas. The data includes:
 - Turning Movement Counts: Observation of peak travel period traffic flows, physical intersection inventories and signal timing & phasing data will be utilized to conduct capacity analyses (LOS) at identified critical intersections.

- Travel Time & Delay Studies: Roadway segments observed in the field and analyzed to determine where congestion exists. Improvement options suggested as appropriate to address mobility deficiencies.
- MassDOT-maintained Park and Ride Utilization Studies: Coordinate with MassDOT when collecting data to monitor utilization of Park and Ride lots.
- Bottlenecks: Identify likely locations in the CMRPC region. Collect data to suggest potential improvement options.
- Bicycle and Pedestrian Counts: Collect as part of a TMC. These field observations help determine if the intersection is a high multi-modal activity location.
- WRTA Fixed-Route Buses: Analyze bus routes to determine those roadway segments exhibiting congestion based on on-time performance data.
- Traffic Volumes: Consider high volume roadways as part of the criteria used to identify congestion.
- Safety Analysis: Identify areas with a high number of crashes.
- Accessibility to Jobs: Using data provided by MassDOT, include accessibility to jobs analysis to determine potential congested corridors. The Accessibility Observatory data could also be used to identify where congestion contributes most to decreased access to jobs across the region.
- Regional Integrated Transportation Information System (RITIS): Provided by MassDOT, this tool is used to help determine congested corridors.
- The results of the regional Travel Demand Model maintained by staff will continue to be used to screen all roadway segments, major intersections, and bottleneck locations in the region's federal-aid highway system. A 2015 base-year model is used to identify roadway segments where congestion currently exists or is projected to occur by 2040.
 - Continue to research additional techniques used to determine CMP strategy effectiveness. Currently, the TIP is used to determine if implemented improvements have in fact reduced congestion on the region's roadways, specifically in the immediate project area.
- Reaffirmed by the BIL, staff will continue to follow the evolution of applicable CMP-related Performance Measures by US DOT. Staff anticipates working with MassDOT through the Transportation Manager's Group to continue the evolution of PBPP through the use of the nationally-required measures, targets and periodic evaluations to assess the results of the region's ongoing priority CMP activities.

Products & Schedule

1. Develop CMP-related analyses, maps, and graphics for use in the Long-Range Transportation Plan – **1st and 2nd Quarter, FFY 2023**
2. Use of established CMP performance measures and targets to help prioritize TIP and LRTP implementation projects – **2nd and 3rd Quarter, FFY 2023**
3. Identify one (1) priority location for study to determine the level of congested conditions observed/verified in the field. Analyses will be conducted for the identified location and a findings summary will be produced. A range of suggested low-cost TSM strategies or, if determined necessary, higher-cost improvement options will be produced for the consideration of MassDOT and the host communities – **3rd and 4th Quarter, FFY 2023**
4. Analysis of data, mapping and integration with other Management System and Performance-Based Planning & Programming data – **Ongoing**
5. Refine and evolve CMP Performance Measures, as necessary – **Ongoing**

Task Title	Congestion Mgmt Process Project Development				Ref. #	3.2
Funding Program/\$						
	FHWA//FTA/PL		FTA Section 5307 (through WRTA)			
Participants	FHWA/FTA	State	FTA	WRTA	Total	
CMRPC	36,000	9,000			45,000	

Task 3.3: Transportation Safety and Security Project Development

Description

FHWA, FTA and MassDOT have designated transportation safety as a top priority. The CMMPO's principal Transportation Safety Project Development goal is to recommend and program improvements that reduce or eliminate recurring crash incidents and associated fatalities, injuries, and property damage.

MassDOT's Strategic Highway Safety Program (SHSP) sets policies and priorities for safety planning and projects statewide. The 2018 Massachusetts SHSP was consistent with requirements outlined in the Federal transportation legislation, FAST Act. Currently, MassDOT is leading an update effort for a new SHSP.

In addition, the WRTA and its contractors are responsible for transit safety in accordance with Federal and MassDOT requirements. CMRPC Transit staff monitor and report transit safety performance statistics to both. Staff is responsible for assisting the WRTA with Transit Asset Management (TAM) Plan, which directly supports transportation safety, and the Public Transit Agency Safety Plan (PTASP).

Finally, the CMMPO acts as the fiduciary agent of the Central Region Homeland Security Advisory Council (CRHSAC) supporting all tasks and activities related to security planning in the region. Transportation security refers to both personal and homeland security, including the attention to vulnerability to intentional attack and natural disasters -and associated evacuation procedures. The CMMPO's priority is to ensure that the transportation system is secure for all users.

Previous Work

- Preparation of a CMMPO 2017-2019 Safety Report. The Report contained the Highway Safety Improvement Program (HSIP)-eligible crash locations for automobiles, bicycles and pedestrians. The report also highlighted the region's top crash 'corridors' and identified the top three crash locations in each CMMPO community, regardless of its status in the region's 'Top 5%' crash location listing.
- Participation in MassDOT Roadway Safety Audits for current and future year HSIP-eligible TIP projects.
- Initiation of Road Safety Audits (RSAs) on non HSIP-eligible projects to provide communities with safety recommendations that could be incorporated into annual roadway projects.
- Mapping of crash data to assist various stakeholder groups' safety improvement efforts.

- Assistance to MassDOT staff in developing “Systemic Approaches to Low-Cost Safety Enhancements”.
- Assistance with development of a Massachusetts Emergency Management Agency-funded Pre-Disaster Mitigation Plan for the region.
- Assistance to WRTA with development of a Continuity of Operations Plan (COOP) and periodic updates.
- Coordination of public transit providers operating in the region through CMMPO Advisory Committee activities supporting 3C transportation process.
- Assistance to WRTA with TAM Plan and PTASP development, monitoring, and reporting.
- Assistance communities with local Neighborhood Safety Walks in areas with high truck volumes.

Procedures

Related to security, staff will continue to implement the CMMPO security action plan by working with current stakeholders in security planning (i.e. WRTA and the Homeland Security Council) to assess gaps in planning for threats and to determine how they might be filled.

In March 2016, FHWA published a Final Rule establishing performance measures for State Departments of Transportation to implement Highway Safety Improvement Programs as required by MAP-21 and carried forward in provisions of the Bipartisan Infrastructure Legislation. Moreover, the CMMPO adopted the State’s safety targets (PM1) and the tasks included herein contribute towards those targets. Therefore, CMMPO staff annually review the metrics included in Mobility2040 to better reflect federal guidance and State’s targets. Staff will incorporate the adopted safety targets and data from MassDOT and the 2017 – 2019 CMMPO Safety Report in the development of the LRTP. Staff will measure progress according to its goals and performance metrics by:

- **Conducting Vehicle Crash Analysis and Monitoring Activities:** Utilizing a management systems approach, staff will analyze MassDOT crash data to update the LRTP. The LRTP will provide a detailed list of top crash locations, regional corridors, fatal crash locations and non-motorists crash locations in the region.
- **Coordinating with the Congestion Management Process:** Staff will use the high crash location report in conjunction with congested locations derived from the travel demand model to analyze the relationship between congestion and crash rates.

- **Conducting a Transit/Pedestrian Interface Assessment:** Staff will continue working with the Worcester Regional Transit Authority (WRTA) to analyze and incorporate ridership data into CMRPC's management systems database. Ongoing analyses regarding stop locations near high non-motorists' crash locations will be shared with the WRTA and the City of Worcester (and in other communities, if applicable) to implement safety measures.
- **Identifying Pedestrian/Bicyclist Activity Areas:** CMRPC continues to work with various stakeholders such as Mass in Motion, MassRIDES, Worcester Safe Routes to School Taskforce, Walk/Bike Worcester, and the Worcester Department of Public Health and with the City of Worcester Transportation Advisory Group to address safety and reduce non-motorist fatalities and serious injuries in the City of Worcester.
- **Coordinating with Massachusetts Strategic Highway Safety Plan:** Staff continues to participate in the implementation of the statewide Strategic Highway Safety Plan. Additionally, staff works with MassDOT in the Systemic Approaches to Low-Cost Safety Enhancements effort.
- **Supporting Education and Enforcement Activities:** Staff will continue its participation in the City of Worcester's Transportation Advisory Group and will identify opportunities to work with the enforcement agencies to improve safety in the region's communities.
- **Opportunities for Transit Safety Training Activities:** Staff will continue to identify potential training activities related with safety in the transit system in coordination with CRHSAC. Some potential activities may include cyberattacks and/or active shooters in transit facilities.

Products & Schedule

1. Analysis of past safety data and projects to identify trends and assess improvements particularly past TIP projects the utilized HSIP funding – **1st Quarter, FFY 2023**
2. Identification of opportunities for Demonstration Projects or the celebration of other educational events to promote safety for pedestrians and bicyclists – **Ongoing**
3. Updated annual Performance Measure Number 1: Safety (PM1) and analyzed current safety data and trends as part of the LRTP and TIP implementation – **3rd Quarter, FFY 2023**
4. Conducting/Participation in Roadway Safety Audits for current and future TIP projects with high crash locations – **Ongoing**
5. Conducting/Participation in Walk and Bike Audits and identify future TIP projects and/or microprojects – **Ongoing**

6. Coordination and participation in the implementation of the Massachusetts Strategic Highway Safety Plan – **Ongoing**
7. Identification of safety-related projects or projects with safety components, with special attention to high priority crash locations and work with the communities or MassDOT to develop TIP projects – **Ongoing**
8. Continued participation in the Working-level Traffic Records Coordinating Committee (WTRCC) in the implementation of the Strategic Plan for Traffic Records Improvement. – **Ongoing**
9. Utilize available safety data to update the LRTP – **1st and 2nd Quarter, FFY 2023**
10. Analysis of safety data and identify opportunities for systemic safety improvements in the region – **2nd Quarter, FFY 2023**
11. Promotion of the Safe Routes to School Program in the region and work actively with at least one school in the implementation of the program - **Ongoing**
12. Coordination with communities to continue to build the evacuation and mass shelter capability resource guide – **Ongoing**
13. Coordination and preparation of content relevant to WRTA TAM Plan, and PTASP at WRTA's direction – **Ongoing**
14. Identification and mapping of top 100 crash locations in the region based on data provided by MassDOT. In coordination with other data collection efforts - **3rd Quarter, FFY 2023**

Task Title	Transportation Safety Project Development			Ref. #	3.3
Funding Program/\$					
	FHWA/FTA/PL		FTA Section 5307 (through WRTA)		
Participants	FHWA/FTA	State	FTA	WRTA	Total
CMRPC	36,000	9,000			45,000

Task 3.4: Asset Management

Description

The CMMPO asset management program traditionally involves federal-aid eligible roadways within the region. As discussed under Task 2.1 (Data Collection), staff has developed a data collection cycle for various assets. Trained staff are deployed in the field utilizing ArcGIS Online to assess roadways, sidewalks and ADA ramp conditions. Other transportation assets are inventoried and inspected by MassDOT or other agencies; their data is subsequently obtained by CMRPC staff. MassDOT's Transportation Asset Management Plan (TAMP) is also used as a guide in the development of CMRPC's Asset Management Plan. The collected pavement distress data is analyzed utilizing an appropriate software package (Cartegraph) which produces condition ratings, recommended repairs, estimated repair costs, and priority rankings.

It is anticipated that the information collected for locally-maintained roadways will also benefit the region's communities as they plan their local improvements and possibly apply for federal-aid funding. To provide timely pavement, sidewalk and ADA ramp condition information for the development of the LRTP, data collection is conducted on a three-year rotating schedule on the federal-aid system, as well as rural minor collectors. As the data is collected all related inventory, listings and scenarios are refined and published as necessary. Evaluation is conducted at locations where improvements have been listed or proposed for inclusion on the CMMPO TIP to provide information for the Performance Measures Criteria process. It is anticipated that some roadway segments may need to be analyzed on an annual basis due to the fluctuation of projects on the CMMPO TIP listing.

The asset data collection and analyses performed support CMMPO project development and prioritization within specific modal plans, including the CMMPO and statewide bicycle and pedestrian plans. These activities also support the staff's transit service planning activities for the WRTA and other transit providers at the regional level, plus implementing MassDOT Rail and Transit Division policies and funding programs.

The CMMPO is now also responsible for adopting regional performance goals, measures and targets for public transit assets. Staff works closely with the WRTA and its contractors to collect and report such data and assists with preparation and updates of the WRTA Transit Asset Management Plan (TAM Plan), and WRTA Public Transportation Agency Safety Plan (PTASP).

Previous Work

Since 1991, the CMRPC staff has developed and maintained a robust regional pavement management program. This program has included the development of a pavement condition inventory for all federal-aid eligible roads, providing assistance to local communities on pavement management, and meeting with colleagues at other RPA's and MassDOT to discuss regional pavement management concepts.

In recent years, staff has used regional pavement condition data to assess the region's pavement assets, determine a regional pavement preservation backlog, and identify the investment required to improve the region's pavement conditions. This analysis has included a pavement condition map, regional condition "score," and a percentage breakdown of road miles in each of the five condition categories: 'excellent', 'good', 'fair', 'poor', and 'very poor'. Pavement data analysis was considered in all transportation research and concept evaluations.

Beginning in FFY 2019, CMRPC established a comprehensive asset management program, which builds upon its decades-long pavement management experience. Staff activities under this program include inventorying and analyzing various transportation infrastructures along federal-aid eligible roads in the CMRPC region.

Regional Pavement Management System (1991 – 2019)

- Town maintained federal-aid eligible roads (1991 – 2005)
- Town and state maintained federal-aid eligible roads (2005-2019)

Regional Asset Management System (2019 – Present)

- Pavement
 - Town and state maintained federal-aid eligible roads (2019- Present)
- Sidewalks
 - Sidewalks along town and state maintained federal-aid eligible roads (2019 – Present)
- Curb Ramps
 - Curb ramps along town and state maintained federal-aid eligible roads (2019 – Present)
- Crosswalks
 - Crosswalks along town and state maintained federal-aid eligible roads (2019 – Present)

- Traffic Signals
 - Traffic signals along town and state maintained federal-aid eligible roads (2020 – Present)
- Bridges and Culverts
 - Bridges and culverts along town and state maintained federal-aid eligible roads (2020 – Present)

Procedures

As required by MAP-21 and carried forward by the BIL, staff will closely follow the evolution of applicable USDOT Performance Management Measures and MassDOT's TAMP. CMRPC staff created performance metrics for Mobility2040 (2016) and updated them for the Mobility2040 the update for 2020 (2019) and will update the performance metrics for the upcoming 2024 LRTP using available federal guidance. To measure progress according to CMMPO goals and performance metrics, this work task will include but is not limited to the following activities:

Pavement Management

- Update the regional budget and condition scenarios utilizing the Cartegraph pavement management software for the LRTP update.
- Analyze collected pavement distress data and calculated conditions for the Performance Measures Criteria process.
- Work with communities to review/study or design projects to address the prioritized needs in the Asset Management and System Operations program area of the 2021 Regional Asset Management Report.

Sidewalk, Curb Ramp and Crosswalk Management

- Analyze collected sidewalk, curb ramp and crosswalk data for the Performance Measures Criteria process for the TIP and LRTP.
- Update and refine the sidewalk, curb ramp and crosswalk prioritization listing for the LRTP update.
- Update the backlog and repair cost estimations utilizing the CMMPO average cost figures for the LRTP update.

Bridge Management

- Utilize the MassDOT Bridge Inspection Management System for the Performance Measures Criteria Process for the TIP and LRTP.
- Update and refine the bridge prioritization listing using the MassDOT Bridge Inspection Management System for the TIP and LRTP.
- Update the backlog and repair cost estimations utilizing guidance from MassDOT and the CMMPO TIP and LRTP.

Culvert Management

- Utilize the MassDOT Culvert Inventory and the NAACC database for the Performance Measures Criteria Process for the TIP and LRTP.
- Update and refine culvert prioritization listing using the MassDOT Culvert Inventory and the NAACC database for the TIP and LRTP.
- Update the backlog and repair cost estimations utilizing guidance from MassDOT and the CMMPO for the TIP and LRTP.
- Create a listing of the most vulnerable culverts for each community.

Traffic Signal Management

- Analyze collected Traffic Signal data for the Performance Measures Criteria process as needed for the TIP and LRTP.
- Update and refine the Traffic Signals prioritization listing for the TIP and LRTP.
- Update the backlog and repair cost estimations utilizing the TIP, guidance from MassDOT and CMMPO average cost figures for the TIP and LRTP.

Bike Facilities

- Integrate Bikeability Index that will be developed using the Statewide Bike Plan as a guide into the asset management process for the TIP and LRTP.
- Analyze collected bike facility data for the performance Measures Criteria Process for the TIP and LRTP.
- Update and refine the bike facilities prioritization listing for the TIP and LRTP.

Transit

- Assist WRTA with monitoring performance according to current TAM and PTASP performance targets.
- Integrate targets into CMMPO process and evaluate/adjust as needed.

Regional Asset Management System

- Integrate data collected as part of the CMMPO data collection program (UPWP task 2.1) into one connected and integrated asset management database.
- Complete Asset Management section of LRTP.
- Utilize the regional asset management system to inform and measure the progress of the Performance Measures established as part of the LRTP.
- Utilize the use of the CMRPC Drone Program into the regional asset management database.
- Develop interactive tools that will display data used to inform the regional asset management database online.

Products & Schedule

Pavement Management

1. Completion of the pavement analysis for the LRTP and other associated documents - **2nd Quarter, FFY 2023**
2. Continued integration of other factors that impact pavement performance such as traffic counts and truck volume to improve the prioritization methodology and the ability of the regional model to predict pavement conditions— **3rd Quarter, FFY 2023**
3. Continued integration of sidewalks, curb ramps and crosswalks into the pavement condition database - **3rd Quarter, FFY 2023**
4. Provided communities with current pavement survey information to help inform potential roadway projects - **3rd and 4th Quarter FFY 2023**
5. Provided MassDOT with current pavement survey information and model analysis for informational purposes and to help support their efforts to maintain the Federal-Aid highway system- **3rd and 4th Quarter FFY2023**
6. Encouraged communities to repave town level high priority federal-aid roadways to maintain the region's Overall Condition Index – **Ongoing**

Sidewalks and Curb Ramp Management

1. Continued to refine methods for prioritizing potential gap and repair projects for sidewalks, curb ramps and crosswalks in coordination with UPWP task 3.5 - **2nd Quarter, FFY 2023**
2. Completion of sidewalk, curb ramp and crosswalk analysis for the LRTP and other associated documents - **2nd Quarter, FFY 2023**

3. Continued integration of pavement assets and traffic signal assets into the sidewalk, ramps and crosswalk database- **3rd Quarter, FFY 2023**
4. Provided communities with current sidewalk, curb ramp and crosswalk survey information to help inform potential projects - **3rd and 4th Quarter, FFY 2023**
5. Provided MassDOT with current sidewalk, curb ramp and crosswalk survey information to help inform potential projects - **3rd and 4th Quarter, FFY 2023**
6. Encouraged communities to replace and maintain town level high priority federal-aid sidewalks and curb ramps to maintain the region network – **Ongoing**

Bridge Management

1. Continued refining methods for tracking the conditions of the regions bridges and utilizing the MassDOT Bridge Inspection Management System - **2nd Quarter, FFY 2023**
2. Continued refining methods for prioritizing Bridge projects utilizing data from MassDOT- **2nd Quarter, FFY 2023**
3. Completed bridge analysis for the LRTP and other associated documents - **2nd Quarter, FFY 2023**
4. Continued integration of other assets and into the bridge database - **3rd Quarter, FFY 2023**
5. Provided communities with current MassDOT bridge condition information to help inform potential projects - **3rd and 4th Quarter, FFY 2023**
6. Encouraged communities to replace and maintain town level high priority federal-aid bridges to maintain the region network – **Ongoing**

Culvert Management

1. Continued to refine methods for tracking the conditions of the region's culverts using the NAACC database and the MassDOT database - **2nd Quarter, FFY 2023**
2. Continued to refine methods for prioritizing culvert projects utilizing data from MassDOT- **2nd Quarter, FFY 2023**
3. Completed culvert analysis for the LRTP and other associated documents - **2nd Quarter, FFY 2023**
4. Continued integration of other assets into the culvert database - **3rd Quarter, FFY 2023**
5. Provided communities with current MassDOT culvert condition information and NAACC condition information to help inform potential projects - **3rd and 4th Quarter, FFY 2023**

6. Encouraged communities to replace and maintain town level high priority federal-aid culverts to maintain the region network – **Ongoing**

Traffic Signal Management

1. Continued to refine methods for tracking the conditions of the region's traffic signals using the CMMPO database and the MassDOT database - **2nd Quarter, FFY 2023**
2. Continued to refine methods for prioritizing traffic signals utilizing data from MassDOT and the CMMPO data collection efforts - **2nd Quarter, FFY 2023**
3. Completed traffic signal analysis for the LRTP and other associated documents - **2nd Quarter, FFY 2023**
4. Continued to integrate other assets into the traffic signal database - **3rd Quarter, FFY 2023**
5. Provided communities with current traffic signal condition information to help inform potential projects - **3rd and 4th Quarter, FFY 2023**
6. Encouraged communities to replace and maintain town level high priority federal-aid traffic signal locations to maintain the region network – **Ongoing**

Bike Facilities

1. Continued to refine methods for tracking the location and conditions of the bike facilities using the CMMPO database and the MassDOT database - **2nd Quarter, FFY 2023**
2. Continued to refine methods for prioritizing bike facility projects utilizing data from MassDOT and the CMMPO data collection efforts- **2nd Quarter, FFY 2023**
3. Completed bike facility analysis for the LRTP and other associated documents - **2nd Quarter, FFY 2023**
4. Continued to integrate other assets into the bike facility database - **3rd Quarter, FFY 2023**
5. Provided communities with bike facility condition and location information to help inform potential projects - **3rd and 4th Quarter, FFY 2023**
6. Encouraged communities to expand and maintain town level high priority federal-aid bike facility locations to maintain the region network – **Ongoing**
7. Continued to refine methods for prioritizing potential bike facility gap projects - **2nd Quarter, FFY 2023**
8. Continued improving the bike ability index into the asset management process - **3rd Quarter, FFY 2023**

Transit

1. Continued assisting the WRTA with monitoring performance according to current TAM and PTASP performance targets – **Ongoing**
2. Continued Integration of WRTA targets into CMMPO project evaluation process - **Ongoing**

Asset Management Planning

1. Updated the regional asset management map and online dashboard - **2nd Quarter, FFY 2023**
2. Updated the LRTP priority listing - **2nd Quarter, FFY 2023**
3. Conducted public outreach with CMMPO communities, MassDOT and the general public to inform and educate them about the CMMPO asset management report and the current state of assets. - **Ongoing**
4. Assisted WRTA with maintenance and updating of TAM, and PTASP Plans; reporting performance against existing targets to MassDOT and NTD, and integrating applicable elements into CMMPO Performance Management process – **1st and 2nd Quarters, FFY 2023**
5. Continued to measure and refine the key Performance Measure metrics established as part of the Regional Transportation Plan - **2nd Quarter, FFY 2023**

Task Title	Asset Management			Ref. #	3.4
Funding Program/\$					
	FHWA/FTA/PL		FTA Section 5307 (through WRTA)		
Participants	FHWA/FTA	State	FTA	WRTA	Total
CMRPC	36,000	9,000			45,000

Task 3.5: Livability

Description

Central Massachusetts is committed to making the region and its communities livable by continuing planning in areas of active transportation, public health and travel and tourism. As transportation costs and congestion increase, people look for cost effective, healthier, and environmentally conscious modes of travel. Both walking and biking are growing as recognized daily healthy transportation modes locally and nationally. It is important to develop and support local initiatives towards safe, convenient, and equitable facilities for use by cyclists and pedestrians in the Central Massachusetts region.

The objective of this work task is to incorporate the Bipartisan Infrastructure Law (BIL) planning priority areas with the goals and objectives from the previous Mobility2040 Long Range Transportation Plan (LRTP) while also considering those of the upcoming LRTP. Local and regional efforts regarding the promotion of alternative modes have focused on the implementation of a Complete Streets approach that has been incorporated into MassDOT and FHWA guidance documentation and programming. CMRPC planning efforts are intended to help the Commonwealth work towards mode shift goals outlined in Complete Streets efforts, as well as promoting a complete and safe trail network and other healthy transportation options for all residents of Central Massachusetts.

During FFY2023 the CMMPO plans to foster better connections between health and transportation; enhance access to jobs, schools, and other services; capture more short trips by walking and biking; and capitalize on the value of existing community amenities for travel and tourism.

Previous Work

- Developed the 2021 *Regional Bicycle Compatibility Index* (BCI) to further expand on the 2018 Regional Bicycle Plan as an analysis of the current condition of federal-aid roadways and their ability to incorporate bicycle accommodations.
- Presented the 2021 BCI at the 2021 Moving Together Conference.
- Continues to participate on the MA Bicycle Advisory Council at the statewide level.
- Worked with the Worcester DPH, Green Hill Neighborhood Association, and Neighborways to develop and implement the Lincoln Street Demonstration Project; the first neighborhood-led art installation and placemaking effort in the City of Worcester.
- Developed the 2021 *Exploration of Bikeshare in the CMRPC Region* which explores the potential opportunities and challenges faced within the region related to bikeshare

type, the geographic and demographic characteristics of the region, and with regards to commuting, recreation, and tourism.

- Over the past year, staff has worked closely with the Town of Dudley on numerous efforts including providing technical assistance with their Complete Streets Tier 2 Prioritization Plan, Shared Streets and Spaces grant application to improve the safety of a notable dangerous intersection in the community and implement new pedestrian infrastructure, and Complete Neighborhoods Initiative application provided by the Massachusetts Housing Partnership.
- Assisted the Town of Uxbridge with a MassTrails grant application to analyze and prepare for the expansion of the Blackstone River Bikeway into the community's downtown.
- Facilitated a meeting with the Towns of Berlin, Northborough, Shrewsbury, and Westborough to begin discussions and planning efforts related to the development and expansion of the Boston Worcester Airline Trail (BWALT) system.
- Collaborated with RCCP staff to utilize funding from the 2020 Mass Trails grant to map trails in the Town of Holden, among others.
- Developed the *Power of Paint Guide* to provide guidance on placemaking projects in the region that focus on quick, low-cost installations of street murals, among others.
- Introduced *Active Central MA*, a transportation blog that covers topics around multi-mobility. This effort originated because of the 2021 Bay State Bike Month to raise awareness and promote bicycling in the region in coordination with the larger statewide effort.

Procedures

Building upon prior work efforts noted above, staff will continue to broaden its comprehensive approach to planning for healthy transportation modes, access to essential services, and travel and tourism.

- Continue to work with the WalkBike Worcester, and other regional stakeholders on identifying implementable projects, initiatives, and policies related to bicycle and pedestrian facilities. Provide technical support for policy and program developments related to bicyclist and pedestrian advocacy.
- Create/Re-activate the CMRPC Bicyclist & Pedestrian Task Force, as the CMRPC Active Transportation Coalition to discuss the BCI and receive guidance on the bike sharing study. The Active Transportation Coalition will utilize documents such as the Regional

Bicycle Plan and the BCI to determine where bicycle infrastructure will best compliment the region's multi-modal connectivity framework.

- Continue to work with regional stakeholders to promote bicyclist and pedestrian infrastructure development, its connections with public transportation, and its safety through the Complete Streets, Shared Streets and Spaces, and Safe Routes to School programs. This includes identifying opportunities for shared bicycle and transit options. The goal is to target a range of communities across the region using municipal interest, safety issues, and population needs as a guide.
- Work with municipalities, MassDOT, and stakeholders to develop stand-alone Transportation Alternatives Program (TAP) projects for programming in future year Transportation Improvement Program (TIP) financial scenarios.
- Work with municipalities, MassDOT, and other stakeholders to develop smaller-scaled projects that can be funded through Complete Streets, Shared Streets and Spaces, Safe Routes to School, and the newly allocated TIP funds for MicroProjects.
- Continue participation with the Massachusetts Bicyclist and Pedestrian Advisory Board (MABPAB) and other related statewide groups.
- Continue participation with the Blackstone River Valley National Heritage Corridor stakeholder group to implement trails development locally and across the region.
- Continue work with Worcester DPH, REACH and other organizations and stakeholders on the Greater Worcester Community Health Assessment, Community Health Improvement Plan, and other health related efforts.
- Continue to work on broad-based community initiatives with the WRTA, Mass in Motion, WalkBike Worcester, Worcester DPH, Safe Routes to School, the WRTA Riders' Advisory Committee (RAC) and the Transportation Advisory Group (TAG) and other groups to promote livability, access to essential services, and alternative modes of travel.
- Work with municipalities to support broad-based healthy aging initiatives through engagement with AARP, Massachusetts Executive Office of Elder Affairs, Massachusetts Healthy Aging Collaborative, Massachusetts Councils on Aging, and other similar state resources.

Products & Schedule

1. Collaborate with transportation staff on the upcoming CMMPO Long Range Transportation Plan. – **Ongoing**
2. Convene stakeholder meetings to identify community needs and priorities related to local and regional infrastructure– **1st Quarter**
3. Conduct data collection and analysis of CMRPC region’s current bicycle and pedestrian infrastructure, counts, and planned/future projects. Develop maps and materials to support these findings. – **2nd Quarter**
4. Develop bicycle and pedestrian priority actions for the region to be featured in the new CMMPO Long Range Transportation Plan – **3rd Quarter**

Bicycle & Pedestrian Programming:

1. Implementation of the Regional Bicycle and Pedestrian Plans and the BCI through identification of: - **Ongoing**
 - Standalone TAP projects
 - Complete Streets Tier 3 construction project assistance
 - Microprojects (allocated TIP funds)
 - Safe Routes to School projects
 - Shared Streets and Spaces projects
 - Mass Trails Grant projects
2. Continue working with statewide and regional partners and participating on related committees and working groups – MABPAB, CHIP, TAG, etc. - **Ongoing**
3. Continue to work with partner agencies and stakeholders on bicycle and pedestrian related events and planning efforts and on broad-based community initiatives to promote livability, access to essential services, and alternative modes of travel like: - **Ongoing**
 - Demonstration/pop-up projects
 - Bikeshare/micro-mobility
 - Bay State Bike Month
4. Ongoing maintenance of an active transportation dashboard for the region that acts an inventory to record existing and future multi-modal infrastructure, including priority segments and corridors that were analyzed in the Regional Bicycle and Pedestrians Plans and the BCI. – **Ongoing**

5. Collaborate and support MassBike's Worcester E-Bike Program pilot by conducting data collection and analysis of reduction of CO2 emissions related to reduced vehicle miles travelled, bicycle miles travelled, and key travel routes and destinations, among others. – **Ongoing**
6. Develop quarterly reports in collaboration with MassBike and other stakeholders that reflect ridership trends and emission reductions of the 100 selected e-bike participants, informed through regular check-ins and tracked miles traveled. – **1st, 2nd, 3rd, 4th Quarters**
7. Convene stakeholder meetings to identify opportunities to implement bikeshare pilots or programming in the region in relation to the *Exploration of Bikeshare in the CMRPC Region* findings. - **Ongoing**

Trails:

1. Continue ongoing trail support of regional trail stakeholders like the Blackstone Heritage Corridor and Wachusett Greenways to expand and complete the MCRT, Blackstone River Bikeway, SNETT, and BWALT. – **Ongoing**
2. Support RCCP staff in the implementation of the 2021 MassTrails grant to develop a trail accessibility toolkit for both youth and older adults. – **Ongoing**

Healthy Aging:

1. Continue to support healthy aging initiatives across the region by engaging communities with the Massachusetts Age- and Dementia Friendly Integration Toolkit and similar state resources or agencies. – **Ongoing**
2. Coordinate with RCCP staff and community/regional stakeholder to pursue a Regional Age & Dementia Friendly Designation through DTLA funding. – **2nd Quarter**
 - Convene six sub-regional public listening sessions across the CMRPC region to educate residents and decision makers about age-friendly and the regional initiative as well as collect feedback related to needs, gaps, and strengths in the region's infrastructure and programming for older adults to inform the Action Plan. – **1st Quarter**
 - Develop regional baseline report or action plan that reflect the findings of the regional survey and public listening sessions and identifies action items to enhance the livability of the region for older adults. – **2nd Quarter**

Safe Routes to School:

1. Continue to work with the Central MA Safe Routes to School (SRTS) outreach coordinator to increase school affiliation within the CMRPC region. Work with state, regional and local stakeholders to identify and implement SRTS strategies as well as opportunities for project development and/or TIP programming activities – **Ongoing**

Task Title	Livability		Ref. #		3.5
Funding Program/\$					
	FHWA/FTA/PL		FTA Section 5307 (through WRTA)		
Participants	FHWA/FTA	State	FTA	WRTA	Total
CMRPC	60,000	15,000			75,000

Task 3.6: Freight and Intermodal Planning

Description

The primary purpose of ongoing Freight Planning activities is to improve the performance and connectivity of the intermodal transportation system. Improvements in system performance increase the opportunities to move freight and interregional passengers with fewer impediments and at less cost. Freight planning aspects are fully considered by the CMMPO when establishing policy and in the screening, ranking and selection of both TIP and LRTP Major Infrastructure projects. Further, Freight Planning efforts provide useful inputs to the overall regional transportation planning process, particularly in the area of Performance Management.

The three main goals of Freight Planning in the region are as follows:

1. Improve the system performance of freight and interregional passenger intermodal corridors and terminals.
2. Work with host communities, decision makers and stakeholders, from both the public and private sectors. Continue to make available the most recent (as well as earlier) biannual Freight Planning Progress Reports on the agency website. Staff is available for questions or further information follow-up. Through ongoing public participation activities, staff will share the scope and findings of the Subregional Highway Freight Accommodation Assessment study series with the affected host communities. Staff will also continue to meet periodically with the providers of freight movement in the region, both railroad and trucking.
3. Assist in identifying and considering the impacts of potential CMMPO policy and programming decisions on available funding, network congestion & safety, disadvantaged populations, energy use and the natural environment.

The CMMPO, following the intent of US DOT Freight Planning provisions, is required to provide the opportunity for input from the region's communities as well as interested stakeholders. The CMRPC staff has formed relationships with various modal transportation providers in the region, including the railroads, trucking industry and intermodal transfer operators. Presently, it is critical for the CMMPO, host communities and stakeholders to understand the advantages and challenges of freight mobility when establishing regional transportation policy as well as screening potential improvement projects for inclusion in the TIP or LRTP. Accordingly, both the state's Freight and Railroad Plans serve as primary references to ongoing regional freight planning efforts.

Previous Work

- Continuing regional Rural & Urban Freight Corridor monitoring efforts including the collection of daily traffic volumes and vehicle classification counts.
- PowerPoint presentations compiled and refined by staff have worked to inform and educate decision makers & stakeholders about freight and passenger rail operations, known challenges and identified needs in the greater region.
- Regional Freight Planning Progress Report documents. Earliest 2008-2009 to the most recent, covering activities during 2020-2021.
- Community-based Freight Rail Economic Development Studies. DLTA funded, this effort included freight rail transportation provider Providence & Worcester Railroad and the host communities of Auburn & Oxford in 2014. In 2015/2016, five host communities in the Blackstone Valley were studied. Also, a site study for the City of Worcester and Rail Provider CSX was conducted in 2015. In each study, site-specific rail freight opportunities were identified along with associated land use concerns as well as customized improvement options for host community consideration, 2014-2016.
- Subregional Highway Freight Accommodation Assessment Study for the North and West subregions, 2021 & 2022
- Providing assistance to regional rail freight provider applications for MassDOT Industrial Rail Access Program (IRAP), US DOT and EPA grant funding. Most recently, staff supported the Grafton & Upton Railroad application to the FRA's 2019 Consolidated Rail Infrastructure and Safety Improvements (CRISI) grant program.
- Staff ongoing review of rail freight periodical Rail Pace magazine and, as needed, the Massachusetts Motor Transportation Association e-newsletter.
- Hosted MassDOT OTP meetings for development of both the Massachusetts State Freight and Railroad Plans.

Procedures

As the CMMPO must carry out, as necessary, the Freight Planning provisions of US DOT, this work activity includes:

- CMMPO Advisory Committee activities:
 - Continue to support the freight-related efforts of the CMMPO Advisory Committee. The Committee consists of a broad membership with a wide range of expertise and experience.

- As necessary, staff informs the Advisory Committee about freight planning activities in the greater region, including existing operations, identified challenges and planned improvements, seeking both feedback and general guidance.
- Compilation of a “Highway Freight Accommodation Assessment Study for State Numbered Routes” that focuses on the Southeast transportation planning subregion, which includes the communities of Blackstone, Douglas, Grafton, Hopedale, Mendon, Millbury, Millville, Northbridge, Sutton, Upton, and Uxbridge. The assessment study would consider both existing and anticipated future freight movement in this subregion. The study will likely suggest several roadway improvements options to assure the continued flow of freight while mitigating identified local impacts. The study will include, but not be limited to, state numbered Routes 16, 30, 96, 98, 122, 122A, 140, 146, 146A and US 20. The state’s Freight Plan will serve as a reference to this effort.
- Continue ongoing monitoring efforts by conducting traffic volume and vehicle classification counts on the region’s established Critical Rural & Urban Freight Corridors. Continue to refine heavy vehicle monitoring procedures.
- Continue ongoing efforts associated with major rest locations for long-distance truck drivers in the planning region. GeoDOT’s Rest Area Locator feature will be referenced as part of any needed screening effort. As necessary, potential rest area locations can be assessed based on adjacent or nearby highway projected daily truck volumes provided by the regional Travel Demand Model. Further, existing or permittable land uses would also be considered, including available nearby “big box” retail or warehousing parking opportunities.
- Participation as appropriate in an advisory manner with any Freight Rail Feasibility Analysis study efforts led by the CMRPC Regional Collaboration & Community Planning (RCCP) staff.
- Assist regional rail freight providers seeking MassDOT IRAP funding, US DOT FRA and EPA grants, as appropriate.
- Host and/or attend meetings (including virtual) of significance with providers of freight and/or interregional passenger service, allowing the opportunity for sharing information and strategy building, seeking to identify both challenges and advantages.
- Host, attend and participate at meetings of significance in the region and elsewhere (including virtual), particularly the New England Rail Club’s annual Railroad Expo, the Institute of Transportation Engineers (ITE), Massachusetts Motor Transportation Association (MMTA), New England Regional Freight (NERF) meetings and the

495/MetroWest Partnership's Transportation Committee. Attend US DOT "Talking Freight" webinar training series as pertinent.

- Review various periodicals, documents and research pertaining to freight and/or passenger issues, including Rail Pace magazine and the Massachusetts Motor Transportation Association e-newsletter.
- Address unanticipated Freight Planning-related requests from MassDOT OTP and/or FHWA.

Products & Schedule

1. Compilation of text, tables, graphics and other materials for the "Highway Freight Accommodation Assessment Study for State Numbered Routes" that focuses on the Southeast transportation planning subregion. – **4th Quarter, FFY 2023**
2. Continued study of major rest locations for long-distance truck drivers in the region. Expanded and/or refined existing summary listing and accompanying map. – **3rd Quarter, FFY 2023**
3. Conduct traffic volume and vehicle classification counts on the region's Critical Rural & Urban Freight Corridors. - **Ongoing**
4. As necessary, staff will continue to document the Freight Planning-related proceedings of the CMMPO Advisory Committee for consideration and reference by the CMMPO. - **Ongoing**
5. Host, attend and participate at meetings (including virtual) concerning freight and/or interregional passenger issues for MassDOT and other CMMPO planning partners as well as private freight transportation providers serving the greater region's railroad and trucking needs. - **Ongoing**
6. Participation in any DLTA-funded Rail Freight Feasibility Analysis Studies conducted by the CMRPC RCCP staff in an advisory capacity, as appropriate. – **As Necessary**
7. Attend various Freight Planning meetings in the region and elsewhere (including virtual), particularly the annual Railroad Expo, the Institute of Transportation Engineers (ITE), Massachusetts Motor Transportation Association (MMTA), New England Regional Freight (NERF) and the 495/MetroWest Partnership's Transportation Committee. Attend US DOT "Talking Freight" webinar training series as pertinent. – **Ongoing**

8. Staff will continue the ongoing review of rail freight periodical Rail Pace magazine and the Massachusetts Motor Transportation Association e-newsletter. - ***Ongoing***
9. Address any unanticipated Freight Planning-related requests from MassDOT OTP and/or FHWA. - ***As Necessary***

Task Title	Freight and Intermodal Planning	Ref. #	3.6
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Funding Program/\$					
	FHWA/PL		FTA Section 5307 (through WRTA)		
Participants	FHWA	State	FTA	WRTA	Total
CMRPC	40,000	10,000			50,000

Task 3.7: Long Range Transportation Plan Development

Description

The current Long-Range Transportation Plan (LRTP) for the planning region, “Mobility2040: The Update for 2020”, summarizes the CMMPO’s transportation initiatives, policy/programs and future year multi-modal infrastructure improvement projects over the next 25-year period. A revised, refined and updated LRTP needs to be endorsed every four years. As Mobility2040: The Update for 2020 was endorsed in July 2019, CMMPO Endorsement for the LRTP Update for 2024 is anticipated during July 2023.

Staff work activities, per US DOT requirements, to develop the 2024 LRTP document, conduct a proactive public outreach process and eventually seek CMMPO Endorsement will include the following:

- Identification of transportation facilities.
- Performance measures and targets.
- System performance overview.
- Environmental Mitigation activities, including active consultation.
- Financial Plan.
- Operational & Management strategies.
- Capital investment and other strategies.
- Transportation and transit enhancement activities.

Reaffirmed by the Bipartisan Infrastructure Law (BIL), the current LRTP is a performance-based planning document. Mobility2040: The Update for 2020 includes several key transportation planning goals and objectives along with performance-based measurements and targets. The CMMPO prioritize projects that are likely to have the highest improvement benefits when programming the limited transportation funding available to the planning region. Primarily, such projects are meant to reduce congestion, improve pavement and safety as well as support mode shift to public transit, bicycling and walking. In fact, the CMMPO’s Performance-Based Planning & Programming (PBPP) efforts consider a broad range of federal transportation planning factors as encouraged by the previous Federal transportation legislation. Accordingly, the CMMPO staff will continue to pursue the long-term development of projects and studies that evolve from the LRTP.

Previous Work

The CMMPO LRTP document series from 1993 under ISTEA to the latest CMMPO Endorsed Mobility2040: The Update for 2020, compiled under the FAST Act.

2022 Program Year Early Development Activities for 2024 LRTP:

- Continued participation on the statewide Socio-economic Projections Committee. Draft future year 2030, 2040 & 2050 projections are anticipated to be established by the Committee using a range of data sources including the UMass Donahue Institute. When eventually compiled over the coming months, and following a review by the CMMPO staff, final control numbers including total community-level projections will be made available for a community-based public review period. After the consideration of any host-community commentary, the new future benchmark year socio-economic projections will be applied to the regional Travel Demand Model.
- Completion of most recent Annual System Performance Report that includes the federally-required measures (highway & transit) as well as the CMMPO's regionally-customized measures. Notably, staff intends to incorporate the BIL's new federal planning emphasis areas of climate & clean energy, equity, complete streets, public involvement, Department of Defense (DOD) coordination, Federal Land Management Agency (FLMA) coordination, planning & environmental linkages, and data sharing. Further, staff continues to follow the evolution of federally-required PM 1-3 as well as the ongoing refinement of regionally-derived and customized PM measures and targets.
- Continued CMMPO and stakeholder discussions as well as Environmental Consultation activities that lend support to the implementation of committed Major Infrastructure improvements in the region reflected in Mobility2040: The Update for 2020 that include the following:
 - Route 20, Charlton & Oxford
 - Route 9, West Brookfield (Phases 1 & 2)
 - I-495/I-90 (MassPike) Interchange, Westborough/Hopkinton
 - I-495/Route 9 Interchange, Westborough/Southborough
 - I-290/Vernon St Bridge, Worcester
 - Rte. 20, Worcester and Shrewsbury

- Continue the collaboration with MassDOT – OTP in the evolution and implementation of the MicroProjects Program in the Central Massachusetts region. Outreach to the CMMPO member communities reflected on the challenges and promising opportunities for the Program. The CMMPO has supported the implementation of the MicroProjects Program by endorsing a set-aside of \$400,000 on both, the 2026 and 2027 Transportation Improvement Program (TIP). Staff will continue working closely with municipalities that are interested in pursuing a TIP project through this Program.
- Membership, attendance, and participation with the 495/MetroWest Partnership as well as the Partnership’s transportation subcommittee. One focus of the subcommittee is the continued support of plans to improve the MassPike (I-90), Route 9 and I-290 interchanges with I-495. In addition, the Partnership supports a range of potential transportation improvement projects along State Numbered Routes and other arterial highways in the eastern part of the planning region.
- Continued ongoing efforts with West Brookfield officials and MassDOT Highway Division D-2 concerning the TIP programming of the Route 9 Major Infrastructure Improvement project included in Mobility2040: The Update for 2020. As a result, the Route 9 project has been divided into two phases and both are programmed on the CMMPO’s most current endorsed TIP.
- Staff participation as necessary/requested by MassDOT OTP in the following statewide studies and subsequent, respective implementation efforts:
 - Statewide Bicycle Plan
 - Statewide Freight Plan
 - Statewide Pedestrian Plan
 - Statewide Railroad Plan
- Notably, the new LRTP will consider and reflect the recommendations of these Plans that are pertinent to the CMMPO planning region.
- Initiation of regularly scheduled staff meetings concerning the development effort necessary to compile the LRTP Update for 2024. This has resulted in a detailed document outline as well as a broad-ranging approach to conducting a multi-faceted public outreach effort. The CMMPO’s recently revised and endorsed Public Participation Plan (PPP) has served as the blueprint for this effort. Materials concerning the LRTP will be posted to the CMRPC agency website, including a planned interactive priority-identifying survey. Notably, in full consideration of the requirements associated with EJ, Title VI and LEP, staff intends to proactively engage the participation of traditionally underserved populations during the LRTP development. Several meeting venues, some

hybrid and/or virtual, with a range of stakeholders are envisioned. Other activities, such as interviews and site visits, are also anticipated/planned.

- CMRPC (including CMMPO staff) kicked off the Regional Plan “IMAGINE2050” in 2021 and the plan will work with various regional stakeholders and public to talk about the priorities for the region. Infrastructure has been identified as one of the priorities and staff will continue working on this and ensure information flows between the LRTP and IMAGINE2050 are seamless.

Procedures

Staff anticipates following FHWA, FTA and MassDOT OTP direction/guidance regarding the compilation of the LRTP Update for 2024 document, associated public outreach efforts as well as financial constraint ceilings. Also, continued membership and participation on both the statewide Socio-economic Projections Committee and Transportation Manager’s Group Performance Management Subcommittee is anticipated throughout the duration of the LRTP development effort.

Concurrently, staff plans to carry out public outreach activities while working to update the content of each defined chapter of the LRTP. The LRTP document is anticipated to include text, graphics & maps, tables, photographs, etc. Further, a “story board” format is being considered for the completed document’s Executive Summary. (A 2024 LRTP document master outline is being crafted at this time.)

Public Outreach Activities:

1. Commence, complete and summarize proactive, multi-faceted Public Outreach activities. This effort includes customized meetings with major stakeholders throughout the planning region. Summarize submitted comment, stakeholder input & outreach findings.
2. Report proactive, multi-faceted Public Outreach findings to CMMPO. Also, introduce staff-suggested LRTP recommendations, including both Major Infrastructure and MicroProject-based improvements, that address identified multi-modal needs. Subsequently, seek CMMPO action/approval on Public Outreach findings/staff-suggested recommendations. (MPO consensus will enable staff completion of associated LRTP chapter content.)

Document Preparation Activities:

1. The most recent Annual System Performance Report will serve as a major reference for the LRTP Update for 2024. The CMMPO staff continues to follow the evolution of federally-required PM 1-3 and Transit Performance Plans/targets for Safety and Asset Management as well as continuing the ongoing refinement of regionally-derived and customized PM measures and targets.
2. Existing and projected conditions for draft LRTP chapters, all modes, initiatives, policy/programs and projects.
3. Present staff-developed draft LRTP chapter materials “Identified Needs Overview” to CMMPO, all major modes, initiatives, policy/programs and projects.
4. Using established Performance Based Planning & Programming (PBPP) procedures, a range of Identified Needs will be screened, including several candidate Major Infrastructure projects as well as CMMPO-selected MicroProjects.
5. CMMPO action/approval of LRTP chapter materials, including Identified Needs and suggested staff recommendations that meet financial constraint parameters. For CMMPO consideration, present staff-developed suggested funding allocations among all major modes, initiatives, policy/programs and projects including identified system preservation needs.
6. Several candidate Major Infrastructure projects will be screened, prioritized and shortlisted. Finalization of Major Infrastructure improvement project listing summary within future five-year funding band parameters.

CMMPO Endorsement Proceedings:

1. **Commence CMMPO Endorsement Proceedings for LRTP Update for 2024.** Hold Annual Environmental Consultation Meeting for pending 2024 LRTP and 2024-2028 TIP. This EC Session will highlight the environmental aspects of 2024 LRTP document, perhaps focusing on the Major Infrastructure improvement project listing or suggested future-year CMMPO Programs
2. **Continue CMMPO Endorsement Proceedings for LRTP Update for 2024.** Anticipated early Draft document release for review by CMMPO, MassDOT OTP as well as federal planning partners FHWA & FTA. Subsequently, release Final document for 21-day public review & comment period.
3. **Complete CMMPO Endorsement Proceedings for LRTP Update for 2024.** Anticipated CMMPO Endorsement of the 2024 LRTP during July 2023. Federal planning partner review of 2024 LRTP commences. Staff anticipates CMMPO Endorsed and federal-approved 2024 LRTP in effect on October 1, 2023.

Products & Schedule

1. *Public Outreach Activities:*

Anticipated methods for engaging decision makers, stakeholders and members of the public will include, but not be limited to, formal meetings, targeted surveys, interviews with both transportation providers as well as users (for example, the providers and users of public transit), targeted outreach to disadvantaged populations as well as the use of the CMRPC agency website, social media and news releases (a 2024 LRTP development public outreach effort is being crafted at this time). Again, all public outreach will be conducted to meet the requirements of EJ, Title VI and LEP.

- Creation of webpage, story maps, social media and other digital tools for the LRTP – **1st Quarter 2023**
- Summary of proactive, multi-faceted Public Outreach activities. Summary to include submitted comment, stakeholder input & outreach findings – **1st Quarter, FY 2023**
- Summary of staff-suggested LRTP recommendations, including Major Infrastructure and Microproject improvements that address identified multi-modal needs – **2nd Quarter, FY 2023**
- Meeting attendance with host community officials and/or local stakeholders, participation and handout/website posting compilation in other LRTP implementation efforts and/or various studies being conducted within the planning region outside of defined UPWP tasks (example the concurrent compilation of the CMRPC Regional Plan *Imagine2050*). Further, participate in various other pertinent State studies where MassDOT is not the lead agency – **Ongoing**

2. *Document Preparation Activities:*

- Existing & projected conditions for draft LRTP chapter materials – **1st Quarter FY 2023**
- Draft LRTP chapter materials “Identified Needs Overview” – **2nd Quarter FY 2023**
- Final LRTP chapter materials with Identified Needs and suggested staff recommendations and financial allocations that meet constraint parameters – **2nd Quarter FY 2023**
- Final Major Infrastructure improvement project listing summary within future five-year funding band parameters – **2nd Quarter FY 2023**

3. *CMMPO Endorsement Proceedings:*

- Presentation & handout materials for annual Environmental Consultation Meeting for both pending 2024 LRTP and 2024-2028 TIP – **3rd Quarter, FY 2023**
- Draft 2024 LRTP document – **3rd Quarter, FY 2023**
- CMMPO Endorsed 2024 LRTP document & technical appendices – **4th Quarter, FY 2023**
- Endorsed by the CMMPO in July 2019, the planning staff is prepared to adjust or amend the current Mobility2040: The Update for 2020 document – **Ongoing**

Task Title **Long Range Transportation Plan Development** **Ref. #** **3.7**

Funding Program/\$					
	FHWA/FTA/PL		FTA Section 5307 (through WRTA)		
Participants	FHWA/FTA	State	FTA	WRTA	Total
CMRPC	120,000	30,000			150,000

Task 3.8: Climate Change – Resiliency, Sustainability, Vulnerability

Description

The Climate Change – Resiliency, Sustainability, Vulnerability Task is focused on encouraging host communities to adopt climate change resiliency strategies for critical and vulnerable transportation infrastructure, as well as adopting sustainable transportation initiatives to transition to electric vehicles (EVs), reduce dependence on automobile travel, reduce single-occupancy vehicle trips, and more efforts. The framework of this Task is supported by federal and state level initiatives that promote sustainability, reduce Greenhouse Gases (GHGs), address climate change, and promote resiliency in transportation planning. For example, the national FAST Act, and reaffirmed by the new Bipartisan Infrastructure Law (BIL), introduced factors related to enhancing the environment and promoting energy conservation. Similarly, Massachusetts has aimed to address climate change by reducing GHGs, promoting alternative mode choices, and using Performance Based Planning & Programming to assist in prioritizing transportation investments. As seen under the Performance Management task in this document, the CMMPO staff has fully incorporated the required federal PM 2 criteria that includes bridge & pavement condition into the regional planning process. Further, the federal transportation planning emphasis areas are also considered through other regionally-customized performance measures, including Stormwater Management & Resiliency.

While Climate Change and Asset Management are distinct areas of emphasis, these Tasks (Task 3.4 and Task 3.8) overlap in several ways. All planning regions in the Commonwealth experience the impacts of climate change, along with varied existing inventories of vulnerable infrastructure. Conducting vulnerability assessments while also developing strategies and tools to adapt programs to address climate change impacts can help inform regional transportation planning activities. To help with that, major efforts are being targeted to help identify and assess culverts and small bridges in the region. From these efforts, customized adaptation and mitigation strategies can be developed for eventual implementation. Further, relevant grants can be pursued to replace or retrofit identified vulnerable infrastructure. These ongoing planning efforts can help improve the resiliency of the planning region's transportation infrastructure while also minimizing its level of vulnerability.

For FFY 2023, the CMMPO plans to further integrate the Resiliency and Vulnerability aspects of this work element into a range of planning efforts. This could potentially be accomplished by working with subject matter experts and stakeholders to develop resources for the region through climate change-related performance measures. The results of this effort will be added as another module to the evolving, environmentally-related CMMPO Environmental Toolbox Series. Furthermore, staff will work with CMRPC's Regional Services to integrate the transportation planning process into plans and studies related to this task, such as the

Municipal Vulnerability Preparedness (MVP) Program, Hazard Mitigation Plans (HMP) and the Massachusetts Green Communities Program.

Previous Work

- Assisted WRTA staff with securing funds for, and implementing, Low - or No-Emissions vehicle technologies in fleet expansion/replacement activities as well as programmed funds in the Transit element of the CMMPO TIP for implementation of renewable energy technologies at both the WRTA Hub and Maintenance & Operations facilities.
- Assisted the Grafton & Upton Railroad with a Clean Diesel Funding Assistance Grant to update their locomotives to clean diesel.
- Participated in the development of the MARPA- sponsored Rural Plan (FFY 2019), including its Transportation Subcommittee – prepared comments for Massachusetts Municipal Association (MMA) Small Bridges and Culverts Working Group.
- Worked with the WRTA to encourage large employers and educational institutions to promote employee use of transit as a “green” effort and to save money. CMRPC provided geo-coding of employee addresses and matched them with bus route schedules.
- Used data from the U.S. Department of Energy (DOE) Alternative Fuels Data Center (AFDC) to begin identifying, mapping, and researching electric vehicle (EV) charging station infrastructure in the CMRPC region.
- Developed a Water Module to go along with the previously compiled Nature Based Solutions Toolkit.
- Developed an Air Quality Module to go along with the CMMPO Environmental Toolbox Series. The Module focused on the current state of EV charging infrastructure in the CMRPC region, and how communities can begin identifying ways to expand their charging infrastructure.
- Created an online GIS Dashboard for EV charging infrastructure to be used as a tool for CMRPC communities.
- Staff developed a program to assess culverts in the planning region by working with MA-DER and the North Atlantic Aquatic Connectivity Collaborative (NAACC), following guidance included in the “Massachusetts Stream Crossing Handbook” by the MA-DER. Staff also pursued training to continue this effort, including a “Lead Observer” and a “Level 1/Level 2 Regional Coordinator”.

- Worked with the CMRPC Regional Collaboration & Community Planning (RCCP) staff to host several Municipal Vulnerability Program workshops, and develop community strategies in resiliency, adaptation, and mitigation.
- Analyzed MVP and HMP maps to identify vulnerable infrastructure and transportation-related issues throughout the planning region.

Procedures

Building upon the prior work efforts listed above, staff will continue to broaden this comprehensive approach to planning for climate change, resiliency and adaptation.

- Build upon work from Evacuation Planning efforts to assess Vulnerable Infrastructure in the planning region.
- Continue evolving the regional culvert assessment program and use data to identify and prioritize culverts that are vulnerable and help plan for climate change resiliency and mitigation. This will include public outreach efforts and assistance in training opportunities in the region.
- Incorporate & analyze collected culvert assessment data to plan for climate change, resiliency and mitigation.
- Identify potential EV charging infrastructure locations across the region while working with the communities in the planning region.
- Continue to participate in the Transportation Climate Initiative Program (TCI-P) as needed.
- Continue to provide the planning region's communities with information about the FHWA Alternative Fuel Corridor (AFC) Program, Statewide Green Communities Program, and other potential funding opportunities.
- Work with CMRPC Regional Collaboration and Community Planning (RCCP) and Homeland Security divisions to incorporate appropriate efforts to identify opportunities to create sustainable cross-collaboration between regional development and transportation infrastructure – particularly in the development of MVP and HMP.
- Continue working with the WRTA to secure funding for new, or the reconditioning of existing, Low-or-No Emissions Vehicles and associated equipment, and to fund renewable energy technology retrofits (i.e., solar-powered bus shelter lighting).

Products & Schedule

1. Identification of vulnerable infrastructure and potential transportation capacity constraints that may have been identified during earlier Evacuation Planning and Municipal Vulnerability Preparedness efforts – **Ongoing**
2. Used the culvert inventory maps from both new and previously-conducted assessments to help assist with planning decisions to improve the resiliency and sustainability of road-stream crossings. – **Ongoing**
3. Continued identifying opportunities for culvert replacement grants, including the MA-DER’s “Culvert Replacement Municipal Assistance Grant Program” – **Ongoing**
4. Evolved the EV charging stations inventory dashboard to improve the identification of potential EV charging infrastructure locations. This includes seeking opportunities in rural areas as well as opportunities for Alternative Fuel Corridors. – **4th Quarter, FFY 2023**
5. Continued participation in statewide meetings, webinars, and working groups related to climate change. – **Ongoing**
6. Assisted CMRPC RCCP staff to incorporate Green Communities and critical infrastructure planning. - **Ongoing**
7. Assisted the WRTA to identify, apply, and secure funding for long-range facility and service planning that maintains an existing level of service and promotes future sustainability capabilities – **Ongoing**

Task Title **Climate Change – Resiliency and Sustainability** **Ref. #** **3.8**

Funding Program/\$					
	FHWA/PL		FTA Section 5307 (through WRTA)		
Participants	FHWA	State	FTA	WRTA	Total
CMRPC	50,000	12,500			62,500

Element 4: Other Technical Activities

Task 4.1: Transit/Elderly and Disabled/Rail and Other Technical Activities

Description

The CMRPC staff coordinates its work with the operators of several different transportation modes, including public (i.e., MBTA, WRTA) and private transportation. To transit, the CMRPC staff provides technical assistance under contract to the WRTA and operators of its funded services. Staff also assists non-WRTA communities/service providers within the CMMPO region. The staff devotes extra effort to planning public transportation services that elders, persons with disabilities, and transit-dependent populations can use effectively. In recent FYs, staff has begun monitoring emergent rideshare services, microtransit, and automated /electric connected vehicles as these innovations are or may be part of the region's future transportation network.

Previous Work:

- Coordination of and assistance to private non-profits applying for FTA Sections 5310/5316/5317 Program funds.
- Technical assistance to CMMPO region non-WRTA communities and non-WRTA funded transit service provider.
- Technical assistance to agencies, communities, and other constituents in coordinating WRTA and non-WRTA services.
- Development of integrated MBTA/private bus schedules from Worcester to Boston.
- Coordination of grant funded WRTA services including Via-WRTA service in Westborough and Shrewsbury.
- Technical assistance for development of the WRTA Hub facility at Worcester Union Station to better integrate public and private bus, commuter rail, and taxi modes.
- Active participation in organizations whose members or constituents are Environmental Justice populations to identify and develop transit resources.
- Continued assistance with the Massachusetts RideMatch database and website.
- Development of a CMMPO region-wide Coordinated Public Transportation – Human Services Transportation (CPT-HST) Plan (Latest Update: May 2019).
- Development of WRTAs Title VI Program (Latest Update: May 2021).

Procedures:

- Ongoing FTA Section 5310 and Transportation Alternatives Program (TAP) subtasks: a) review of services provided by CMMPO region recipients and success of same in meeting stated objectives in grant applications, and b) continued assistance to applicants with application preparation and service coordination.
- Continuing review/evaluation of the role of private for-profit and non-profit operators in providing both paratransit and other alternative transportation services, including those for persons with disabilities and elders, within the CMMPO region.
- Assisting persons with low incomes, elders, persons with disabilities and agencies that serve these populations in locating and obtaining appropriate transportation services to meet their needs.
- Providing reasonable level of technical assistance to non-WRTA funded providers of transportation services. Assist them in identifying ways to improve the operation and management of their services.
- Providing assistance to local communities in assessing their needs for local services and in-town shuttles to connect with WRTA services.
- Assisting with the coordination of existing and proposed transit and paratransit services for maximum vehicle utilization and operating efficiency.
- Reviewing ITS coordination and integration opportunities with area entities and WRTA.
- Monitoring the impacts of rideshare and microtransit companies and services, within the CMMPO region, based on annual data as provided by the TNC Division of the Department of Public Utilities.

Products & Implementation Schedules:

1. Provided eligible organizations with application assistance, guidance, and coordination of services for the MassDOT Community Transit Grant Program – **3rd Quarter, FFY 2023**
2. Analysis of anticipated annual datasets of TNC activity within CMMPO, and WRTA regions as produced by the TNC Division of the Department of Public Utilities – **4th Quarter, FFY 2023**
3. Exploration of pilot data collection program of parking utilization rates of MBTA commuter rail parking lots within the CMMPO region – **1st and 4th Quarter, FFY 2023**

4. Provided regional transit datasets such as: route on-time performance data into annual Congestion Management Process efforts; air quality analysis needed for transit TIP projects; and other transit-specific data for Regional Transportation Model – **2nd and 3^d Quarter FFY 2023**
5. Monitoring progress of the MBTA's Worcester Union Station Accessibility and Infrastructure Improvements Project – **Ongoing**
6. Provided reasonable level of technical, and transit planning assistance to CMMPO member communities and non-RTA funded providers of transportation services. Potential products include assessment of transportation needs, analysis of potential membership in a Regional Transit Authority, assistance with grant applications, etc. – **Ongoing**
7. Attended and/or provided administrative support to formal and ad hoc committees (i.e., Transportation Planning Advisory Group, Central Massachusetts Agency on Aging Advisory Committee, Regional Coordinating Council, Quaboag Region Coordinating Council, Transportation Advisory Committee, , Transportation Advocacy Coalition and others) that share interests in promoting coordinated transit and paratransit service for elders, persons with disabilities, and other human services organizations – **Ongoing**
8. Reviewed, maintained, and prepared updates to CPT-HST Plan, if necessary – **Ongoing**
9. Represented the CMMPO and assisted the WRTA in state-wide, inter-region, and long-range transit planning discussion/projects. – **Ongoing**
10. Assistance to local communities, employers, and advocacy organizations for local transit services connecting with WRTA, MBTA, and private transportation services – **Ongoing**
11. Assistance to communities with incorporation of best practice designs for transit accommodations into urban design/development review procedures – **Ongoing**
12. Active participation in MassDOT design planning for regional projects to ensure transit accommodations – **Ongoing**

Task Title

**Regional Transit & Paratransit
Services/Intermodal Planning**

Ref. #

4.1

Funding Program/\$					
	FHWA/FTA/PL		FTA Section 5307 (through WRTA)		
Participants	FHWA/FTA	State	FTA	WRTA	Total
CMRPC	48,000	12,000			60,000

Task 4.2: WRTA Technical Assistance

Description

CMRPC Transit staff will conduct or assist the WRTA in conducting a wide range of recurring operational planning activities as well as specific analyses and other studies. The work itemized in this Task will be performed in accordance with various reporting requirements and in conformity with the WRTA's adopted budget and contracts between the WRTA and CMRPC that are effective during the period covered by this UPWP.

Previous Work

- ADA Transportation Eligibility and Service Policy assistance
- CMMPO Coordinated Public Transit-Human Services Transportation (CHST) Plans
- WRTA Comprehensive Service Analysis, 2020 (CSA)
- Coordination with HECCMA and area colleges on new fixed-route service
- Customer Surveys (fixed-route and paratransit)
- Employer database geocoding
- Fare analyses and fare change proposals
- General fixed-route and paratransit service planning
- Grant writing for discretionary capital funding
- ITS Tasks including APC Calibration, Ridecheck/Clever Devices data monitoring and quality control maintenance
- Limited English Proficiency (LEP) Analyses / Language Assistance Plans (LAPs)
- MassDOT Community Transit Grant Program (CTGP) applications
- MassDOT Rail & Transit Division Performance Reporting (monthly and quarterly)
- National Transit Database (monthly and yearly reporting)
- Public participation (Regional Coordinating Council, Riders' Advisory Committee, Transportation Advisory Council, TPAG, etc.)
- Service Changes Administration and Tracking (3-4 times per year)
- Title VI Plans
- Transit Asset Management (TAM) Plan
- WRTA Advisory Board and Transit Advisory Group meeting content development and participation (i.e., Board reports, technical presentations)

Procedures

Federal and State Reporting Requirements

Staff prepares various reports detailing ridership and operational data as well as ongoing federal/state compliance efforts. Staff prepares these reports as part of ongoing data management activities for specific time periods. Staff handles requests for clarification of monthly and yearly data from FTA, and MassDOT. The reporting function is tied to the Data Management function described further below. Activities associated with this task include:

- Assistance with determination of costs and revenues to be allocated on a route and municipality basis for WRTA-provided fixed route services operated during FY 2022.
- Assistance with preparation and evaluation of WRTA FY 2022 fixed route and paratransit operating data as required for National Transit Database (NTD) reporting.
- Provision of monthly and quarterly data to the WRTA for reporting to MassDOT Rail & Transit Division.
- Development of a Title VI Implementation Plan and coordination of Title VI activities among WRTA Administration, Operations, Customer Service, and Marketing staffs at the administrator's direction. (Completed May 2021)
- Development of a Sub-recipient Oversight and Monitoring plan and assistance with implementation.
- Assistance with development and monitoring of the WRTA's Transit Asset Management Plan (TAM), and Public Transportation Agency Safety Plan (PTASP) as required by FTA Performance Management regulations, and
- Coordination with the CMMPO, development of Performance Management targets in the areas of Safety and Asset Management, and integration of those targets into the Long-Range Transportation Plan.

Data Management

Staff will manage ridership and operational data used for both federal and state reporting requirements and for service planning analyses. Data is managed by month, fiscal year, and service period. Activities associated with this task include:

- Maintenance of a system of documentation delineating the operating characteristics of the WRTA's fixed route system including route mileage, number of daily trips and dates of changes due to implemented service changes.

- Maintenance of a system delineating the operating characteristics of the WRTA's fixed route and paratransit systems, including documentation of system changes.
- ITS database management: validation/calibration (including spot manual counts) of Automated Passenger Counts (APC); data mining for service planning and, determining optimal data presentation including GIS mapping.

Paratransit System Monitoring/Assistance

Staff will assist the WRTA with contract management for its third-party paratransit providers SCM Elderbus and the ten Councils on Aging. In addition, staff will work with the WRTA's paratransit contractor (PBSTM) to manage compliance with the Americans with Disabilities Act, Title VI, and the monitoring of WRTA's Mobility Management Model. This task includes extensive hands-on support to SCM Elderbus and the Councils on Aging in the areas of ADA compliance, operational efficiencies, Federal Drug & Alcohol testing compliance, advising on driver issues (including training/retraining needs), notifications about driver training sessions, monitoring budget adherence, and determining optimal vehicle needs. Attention will also be given to precautions needed to protect drivers and passengers from COVID-19. Activities associated with this task include:

- Continuous monitoring/evaluation of paratransit operations within the WRTA Service Area, including overall performance, providing assistance to transit operators with day-to-day operational and policy issues faced.
- Assisting the WRTA in maintaining compliance with the fixed route/paratransit requirements of the Americans with Disabilities Act (ADA).
- Facilitating and coordinating the WRTA ADA Appeal Process and provision of staff support to the Appeal Panel.
- Assisting WRTA, local CoAs, communities and non-profit organizations with project applications for the annual MassDOT Community Transit Grant Program (CTGP), and other funding opportunities as they become available.

Project Development/Service Planning

Staff will coordinate WRTA project development and service planning functions. Work can include new or modified service concept development, grant applications (if appropriate), development of detailed scopes of services, coordinating implementation, and ongoing service monitoring. Activities associated with this task include:

- Fixed route operations monitoring/evaluation on a continuous basis, with revisions as necessary throughout FY 2023 to conform to WRTA plans, service standards, and adopted budget.

- Ongoing review of the fixed route service model (or select routes) with the goal of determining a more sustainable system using GIS mapped data and development of plans to adjust or revamp the system accordingly.
- Assistance in ongoing WRTA Title VI, Environmental Justice (EJ), public participation and limited English proficiency (LEP) compliance monitoring.
- Route planning including Hastus software scenario planning. Continue to provide back-up assistance with Hastus route cutting.
- Assistance with the potential development of a new fare collection system and integration of same with other WRTA IT technologies.

Resource Coordination

Staff will function as the lead coordinator for major cross-functional, cross-agency project implementations, including:

- Service changes
- Transit Asset Management Plan
- WRTA Title VI Program
- Coordinated Public Transit - Human Services Transportation Plan
- Performance Management target setting
- COOP planning, and
- Public Transportation Agency Safety Plan

The staff's coordination function is typically an intensive process of identifying tasks, roles, and responsibilities, and ensuring communication among all affected staff. Typically, weekly or bi-weekly coordination meetings are used to monitor progress, raise concerns that involve multiple WRTA departments, and ensure that all parties are up-to-date with upcoming tasks. Activities under this task will be determined on an as-needed basis. Assistance with potential grant applications typically involves coordination of resources, as does contingency planning.

Review of Federal/State/Local Requests/Materials

Staff will assist the WRTA Administrator in responding to unanticipated issues, information requests, geo-coding of databases, or quick analysis of federal and state actions on regional transit authority subject matters. Such issues are likely to include:

- Monitoring of federal guidance on Title VI, Performance Management (Asset Management and Safety).
- MARTA involvement in RTA related issues.

- Assistance with those studies which may be conducted by outside consultants for the WRTA as requested.
- Provision of technical assistance to WRTA providers in maintaining a drug/alcohol-free workplace and a compliant drug/alcohol testing program. This assistance will include identification of regulatory changes and recommendation for implementation strategy of same.
- Provision of other technical assistance to the WRTA as the WRTA may reasonably request.

Products & Schedule

1. FY 2022 fixed route cost and revenue allocation and paratransit operating data for yearly audit – **1st Quarter, FFY 2023**
2. FY 2022 fixed route and paratransit non-financial, asset management, and other operational data for National Transit Database (NTD) Annual Report and follow-up dialogue with FTA– **1st and 2nd Quarters, FFY 2023**
3. Continued assistance with data compilation and analyses as part of the quarterly reporting requirements to the biennial Memorandum of Understanding between MassDOT and WRTA – **All Quarters, FFY 2023**
4. Other technical assistance – **Ongoing**
5. Technical assistance for developing or updating required transit planning documents, including but not limited to: APC Certification, Transit Asset Management, COOP, Coordinated Public Transit - Human Services Transportation Plan, and Public Transportation Agency Safety Plan– **Ongoing**
6. ADA compliance assistance – **Ongoing**
7. Technical assistance in maintaining a drug/alcohol-free workplace and compliant drug/alcohol testing program, particularly related to paratransit providers – **Ongoing**
8. Fixed route planning technical assistance, including monitoring of current services with members of the WRTA Transit Advisory Group (TAG). Staff coordinates with the Administrator and other members to develop TAG agendas & provides data for committee analysis on a bi-weekly basis – **Ongoing**
9. Paratransit service planning and monitoring, including a) policy development and modification; b) service development and modifications; c) financial and statistical analyses/reporting on service providers – **Ongoing**

10. Public Participation, Title VI/LEP-LAP and EJ activity planning, implementation, and effectiveness measurement including surveys – **Ongoing**
11. Coordination of ADA Appeal Process assistance – **Ongoing**
12. Monitoring the VIA on-demand transit service and associated commuter rail parking lots utilization – **Ongoing**
13. Assistance with service change/expansion strategies– **Ongoing**
14. Continued WRTA - MBTA Commuter Rail service coordination at CMMPO region MBTA Commuter Rail stations – **Ongoing**
15. Monitoring WRTA Operations – CMRPC staff coordination of regional and statewide evacuation planning efforts – **Ongoing**
16. Reviewed major roadway and larger regional development projects for transit accommodations – **Ongoing**
17. Annual Transportation Improvement Program (TIP) capital projects presentation and public outreach requirements; amendments as they occur – **Ongoing**

Task Title	WRTA Technical Assistance			Ref. #	4.2
Funding Program/\$					
	FHWA/FTA/PL		FTA Section 5307 (through WRTA)		
Participant s	FHWA/FTA	State	FTA	WRTA	Total
CMRPC			294,000	73,500	367,500

Task Summary by Funding Source

The PL funding for FFY 2023, has an overall increase of 16.5% due to increase funding levels of the Bipartisan Infrastructure Law (BIL) passage. Staff reviewed the historical budget spent for each of the elements and added monies to tasks associated with the development of the Long Range Transportation Plan. Staff will begin public involvement for the plan this summer. There was a reduction in the WRTA Technical Assistance contract amount and monies were added to element 4.1 to support transit, paratransit and rail activities.

FFY 2023 Program Year Unified Planning Work Program

Task #	Description	FHWA/PL (thru DOT)	State Match	FTA 5307 (through WRTA)	WRTA Match	Totals
<i>Element 1: Management & Support of the Planning Process and Certification Activities</i>						
1.1	Management & Support of "3C" Process	215,686	53,921			269,607
1.2	Unified Planning Work Program	16,000	4,000			20,000
1.3	Transportation Improvement Program	56,000	14,000			70,000
1.4	Title VI - LEP	40,000	10,000			50,000
1.5	Public Participation	40,000	10,000			50,000
Subtotals:		367,686	91,921	0	0	459,607
<i>Element 2: Data Collection and Analysis Activities</i>						
2.1	Data Collection and Analysis	160,000	40,000			200,000
2.2	Regional Transportation Model	80,000	20,000			100,000
2.3	Community and Regional Technical Assistance	97,470	24,368			121,838
2.4	Performance Management Analysis and Reporting	44,000	11,000			55,000
Subtotals:		381,470	95,368	0	0	476,838
<i>Element 3: Transportation Plan Refinement Activities</i>						
3.1	Corridor Study	36,000	9,000			45,000
3.2	Congestion Mgt Process Project Development	36,000	9,000			45,000
3.3	Safety and Security Project Development	36,000	9,000			45,000
3.4	Asset Management	36,000	9,000			45,000
3.5	Livability (Bike/Ped, Public Health, Travel&Tourism)	60,000	15,000			75,000
3.6	Freight and Intermodal Planning	40,000	10,000			50,000
3.7	Long-term RTP Implementation	120,000	30,000			150,000
3.8	Climate Change - Resiliency, Sustainability, and Vulnerability	50,000	12,500			62,500
Subtotals:		414,000	103,500	0	0	517,500
<i>Element 4: Other Technical Activities</i>						
4.1	Transit /Paratransit / Rail & Technical Activities	48,000	12,000			60,000
4.2	WRTA Technical Assistance			294,000	73,500	367,500
Subtotals:		48,000	12,000	294,000	73,500	427,500
Totals:		1,211,156	302,789	294,000	73,500	1,881,445

*The combined PL/5303 contract will be administered by the Federal Highway Administration (FHWA) and that the match for 5303 funding will be provided by MassDOT.

Expenditure Category by Transportation Funding Source

<u>Expenditure Category</u>	<u>Contract / Funding Source</u> ¹		<u>TOTAL</u>
	FHWA/ MassDOT PL	FTA WRTA 5307	
Direct Salary	\$713,917	\$173,811	\$887,728
Overhead Costs	\$775,028	\$188,689	\$963,717
Direct Costs	<u>\$25,000</u>	<u>\$5,000</u>	<u>\$30,000</u>
Total	\$1,513,945	\$367,500	\$1,881,445

¹As reflected in '23 UPWP

FFY 2023 Program Year Unified Planning Work Program - Staff Hours

Task #	Description	Staff Hours
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Element 1: Management & Support of the Planning Process and Certification Activities

1.1	Management & Support of "3C" Process	2292
1.2	Unified Planning Work Program	240
1.3	Transportation Improvement Program	746
1.4	Title VI - LEP	599
1.5	Public Participation	599

Total Staff Hours for Element 1: 4476

Element 2: Data Collection and Analysis Activities

2.1	Data Collection and Analysis	4169
2.2	Regional Transportation Model	959
2.3	Community and Regional Technical Assistance	1298
2.4	Performance Management Analysis and Reporting	628

Total Staff Hours for Element 2: 7054

Element 3: Transportation Plan Refinement Activities

3.1	Corridor Study	479
3.2	Congestion Mgt Process Project Development	539
3.3	Safety and Security Project Development	719
3.4	Asset Management	539
3.5	Livability (Bike/Ped, Public Health, Travel&Tourism)	1438
3.6	Freight and Intermodal Planning	479
3.7	Long-term RTP Implementation	1598
3.8	Climate Change - Resiliency, Sustainability, and Vulnerability	1199

Total Staff Hours for Element 3: 6992

Element 4: Other Technical Activities

4.1	Transit /Paratransit / Rail & Technical Activities	719
4.2	WRTA Technical Assistance	4405

Total Staff Hours for Element 4: 5124

Total Staff Hours for FY 2023: 23647 hours

CMRPC Funding Summary FFY 2023 Program Year

Transportation Funding

Source	Value (\$)	% of Total
FHWA//FTA/MHD-PL ^{1 2}	\$1,513,945	80.5
FTA/WRTA ³	\$367,500	19.5
<i>Transportation Funding Total:</i>	1,881,445	100.0

Other Funding ⁴

Source	Value (\$)	% of Total
Homeland Security Fiduciary	0	0.0
Federal Grants	70,000	2.7
State Grants	690,000	27.1
Transportaiton Local Contract	32,000	1.3
Community Contract Work	1,550,000	60.8
Interest Income	5,000	0.2
Local Assessments	181,711	7.1
Retiree Health Ins Trust Fund	20,000	0.8
<i>Total:</i>	2,548,711	100.0

Overall Funding

Source	Value (\$)	% of Total
FHWA/MHD-PL ¹	1,513,945	34.2
FTA/WRTA ²	367,500	8.3
Local Assessments	181,711	4.1
Homeland Security Fiduciary	0	0.0
Federal Grants	70,000	1.6
Community Contract Work	1,550,000	35.0
Transportation Local Contracts	32,000	0.7
State Grants	690,000	15.6
Interest Income	5,000	0.1
Retiree Health Ins Trust Fund	20,000	0.5
<i>Total:</i>	4,430,156	100.0

¹ As reflected in '22 UPWP

² Includes 20% local/state match

³ FTA 5307 and WRTA match

⁴ As reflected in FFY '21 CMRPC Proposed Annual Budget

Allocation of Direct Staff Time to UPWP Identified Contracts

Staff Member	Category	% of Time to UPWP Identified Contracts
Rydant	Full Time	100
Krishnan	Full Time	100
New Hire	Full Time	100
Krasnecky	Full Time	100
Mellis	Full Time	100
Rhault	Full Time	100
Gemperline	Full Time	100
Blais	Full Time	100
Graxirena	Full Time	100
New Hire	Full Time	100
Raymond	Full Time	100
Wriggins	Full Time	100
Sangkagalo	Full Time	100
Transit Intern	Part Time	30
Franz ¹	Full Time	10
Bromage ¹	Part Time	40
Brennan ¹	Part Time	20
2 Trans Technicians ¹	Part Time	82
Land Use Staff ¹	Full Time	10

*(Trevor/McElwee/Glaubitz)

*Each of the three Land Use Staff will work a max of 10% - topics that cross-over transportation and land use

¹Based on one full time equivalent

Other Transportation Planning Studies

To assure that duplicative transportation planning efforts are not occurring within the CMRPC region, this section of the UPWP lists known transportation planning studies or projects being conducted by others. The staff is aware of the below efforts those agencies are currently working on. Stakeholders will be surveyed as part of the LRTP outreach efforts.

- **Devon Kurtz, Executive Director of the JHCBRVNHCC:** Blackstone River Bikeway Connectivity
- **David Mohler, Executive Director, MassDOT Office of Transportation Planning:** Quinebaug River Rail Trail, Blackstone River Bikeway, Grand Trunk Trail
- **Barry Lorion, District Highway Director (DHD) MassDOT-Highway District #3:** I-495/I-290 Interchange, I-495/Route 9, I-495/I-90 Interchange, Route 20 Shrewsbury, Route 9/Route 20 Interchange Northborough, Pleasant Street Worcester
- **MassDOT Aeronautics Division:** Southbridge Municipal Airport, Hopedale, Spencer, Tanner-Hiller Airports
- **Andrew B. Davis, Airport Director, Massachusetts Port Authority:** Worcester Regional Airport
- **Jay J. Fink, P.E., Commissioner of Public Works & Parks, City of Worcester:** Chandler Street, Route 20, and potential other projects
- **Steve Rolle, Planning Director Worcester:** Complete Streets Prioritization Plan, Worcester Now|Next City Master Plan
- **Galen Mook, MassBike:** Worcester eBike project
- **Dennis Lipka, WRTA:** Mobile Fare Payment System, Service Changes/Expansion, Fare Policy
- **Craig Blais, President, Worcester Business Development Corporation (WBDC):** Centech Park Grafton/Shrewsbury, and other significant site development

Listing of Previous Technical Studies Completed by CMRPC

WRTA Service Contingency Plan, 2010
WRTA Comprehensive Service Analysis, 2014/2015, 2020
Transportation Needs Survey: Town of Clinton, MA, 2016
WRTA Fixed-Route Passenger Satisfaction Survey, 2016, 2018
WRTA Paratransit Passenger Satisfaction Survey, 2000, 2004, 2017, 2019
Transportation Needs Survey: Northeastern Connecticut Council of Governments (NECCOG), 2017
WRTA Transit Asset Management (TAM) Plan, 2018
Coordinated Public Transit-Human Services Transportation (CPT-HST) Plan, 2019
WRTA Title VI Program, 2021

Northbridge Local Pavement Management Program Report, 2009
Millbury Local Pavement Management Program Report, 2011
West Boylston Local Pavement Management Program Report, 2008, 2017 update
Regional Pavement Report 2017
Sturbridge Local Pavement Management Program Report, 2016, 2018, 2019 update
Regional Asset Management Report, 2020 & 2021
West Brookfield Culvert Assessment Report, 2021

MA-9 East Corridor Profile (Worcester, Shrewsbury, Westborough), 2005
MA-20 West Corridor Profile (Auburn, Oxford), 2009
Lost Villages Scenic Byway Corridor Management Plan (MA-122, Paxton to Petersham), 2009
MA-9 West Corridor Profile (Worcester, Leicester, Spencer), 2010
MA Routes 12/16/197 Corridor Profile (Douglas, Webster, Dudley, Thompson-CT), 2010
MA-140 Corridor Profile (Sterling, Princeton, Westminster), 2010
MA-31 Corridor Profile (Holden, Paxton, Spencer), 2014
Southbridge Street Corridor Profile (Worcester, Auburn), 2017
MA-140 Corridor Profile (West Boylston, Boylston, Shrewsbury), 2018
MA-20 Corridor Profile (Sturbridge), 2019
Sutton Avenue & Central Turnpike Corridor Profile (Oxford, Sutton), 2021

Westborough Access Management Plan (MA-9, MA-135 to MA-30), 2011
Holden Access Management Plan (MA-122A, Shrewsbury St. to Mt. Pleasant Ave.), 2011
Boylston Access Management Plan (MA-140, MA-70 to I-290), 2013

Freight Rail Pilot Study & Feasibility Analysis: Management System Community Profiles for Towns of Auburn & Oxford, 2014
Blackstone Valley Freight Rail Study & Feasibility Analysis, 2015

Freight Planning Progress Report, 2013 & 2014/2015, 2016/2017, & 2018/2019
 North Subregion Highway Freight Accommodation Study, 2021
 West Subregion Highway Freight Accommodation Study, 2022

 2009 to 2011 Regional Safety Report, 2014
 2011 to 2013 Regional Safety Report, 2015
 2013 to 2015 Regional Safety Report, 2018
 2015 to 2017 Regional Safety Report, 2020

 Complete Streets Tier II: Prioritization Plans (Spencer & West Boylston), 2017
 Complete Streets Tier II Prioritization Plans (Barre & Rutland), 2018
 Complete Streets Tier II Prioritization Plans (Berlin, Brookfield, Millbury, Shrewsbury & Sturbridge), 2019
 Complete Street Tier II Prioritization Plans (Auburn & North Brookfield), 2020
 Complete Street Tier II Prioritization Plans (Dudley), 2021

 Neighborhood Safe Report (Holden & Paxton), 2014
 Central Massachusetts Regional Bicycle & Pedestrian Plans, 2011 & 2018
 Regional Trails & Bicycle Lane Count Report, 2019
 Bicycle Compatibility Index, 2021
 Northborough Road Safety Report, 2021
 Northborough 330/350 Bartlett Street Post Occupancy Study, 2021

 Worcester Regional Mobility Study, 2011
 Worcester area TDM/TMA Feasibility Assessment, 2016
 CMMPO Regional Transportation Plans: 2000, 2003, 2007, 2012, 2016, 2020
 Regional Traffic Count Volume Summaries, 2000-2021
 Congestion Management Process Progress Report, 2000-2021
 Worcester Parking Study, 2020
 Westborough Parking Study, 2021
 Spencer AARP Park Enhancements, 2020

 Please refer to earlier UPWP documents to view information for CMRPC technical studies completed prior to 2005.

MassDOT Guidance: Unified Planning Work Program FFY 2023

Guidance

To assist with the development and review of Federal Fiscal Year (FFY) 2023 Unified Planning Work Programs (UPWP), the Massachusetts Department of Transportation (MassDOT) Office of Transportation Planning (OTP) is providing the below guidance to be considered by your Metropolitan Planning Organization (MPO). These recommendations are intended to better align UPWPs with previously identified transportation planning needs from our statewide and federal partners.

UPWPs provide a scope of work for MPOs to achieve the regional vision outlined in Regional Transportation Plans (RTPs) in addition to the ongoing planning work of identifying and prioritizing federal aid projects on the Transportation Improvement Program (TIP).

Recommendations

General Guidance

- **Narrative Structure:** Please make sure document has ease of flow to the narrative and tables/graphics applicable to each section to make it understandable to the public.
- **Document Length:** Please ensure that task descriptions, summaries of impact analyses, and other UPWP narrative elements are as concise as possible. For example, task descriptions should be kept to one to two pages where possible to allow for greater readability and comprehension among members of the public. If additional information is available online (e.g., research study or project information page), then please include hyperlinks.
- **Figure Annotation:** Please ensure all charts, tables, and maps are legible and properly annotated.
- **Amendment/Adjustment Procedures:** Please provide a section clearly outlining Amendment/Adjustment procedures for the UPWP. The addition or removal of a task, significant change of scope, or cost change greater than 25% of the task cost will require FHWA approval.
- **MOU Review:** Please ensure all MOUs between MassDOT, your RPA, relevant RTAs, and neighboring RPAs clearly state amendment and adjustment procedures for all 3C documents. Additionally, please review any governing MOU to consider planning work related to recommended improvements and adjustments to align with current or desired practice.

- **2020 RTP Connection:** Please confirm document directly refers to and compliments the regional vision, goals, and objectives identified in the 2020 RTP.
- **Past UPWP Connections:** Please analyze individual tasks that were in previous UPWPs for past utilization to inform task budgets or other adjustments.
- **Statewide Modal Plan Connections:** Please coordinate and connect planning efforts with statewide modal plans where appropriate (mass.gov/statewide-plans).
- **Municipal Plan Connections:** Please connect capital investments to municipal strategic land use plans. Please work with municipalities to coordinate investments.
- **Other Regional Plan Connections:** Please connect capital investments to regional plans relevant to transportation planning, including Regional Comprehensive Plans and Comprehensive Economic Development Strategy (CEDS) plans.

Administrative Items

- **Task Structure:** Please ensure individual tasks include detailed scopes, budgets, schedules (including begin/complete dates and whether they are multi-year tasks) and detail the community beneficiaries.
- **Financial Narrative:** Financial plans should include a description of how the amount of funding reasonably expected to be made available was developed for both highway and transit revenues.
- **Direct Cost Budget:** As part of the UPWP's financial tables, please break out a direct cost budget and organize by category of expenditure.
- **Staff Specification:** Please ensure individual tasks anticipate staff-hours or consulting resources required. A summary of available staff-hours should be included for comparison. Additionally, please ensure all staff members and their position titles intended to work on tasks funded under the UPWP contract are listed within the UPWP document.

Task-Specific Guidelines

- **2024 Long Range Transportation Plan Update:** Please ensure there is a dedicated task and sufficient staff time budgeted for the development of the 2024 Long Range Transportation Plan (LRTP) and to have it align with MassDOT's Statewide Long Range Transportation Plan as appropriate.
- **Land Use, Housing, and Transportation Linkages:**
 - In line with language in the [Bipartisan Infrastructure Law](#) (BIL) (Sec. 30002) please consider the integration of land use, economic development, and housing

affordability goals as part of spatial transportation analyses. The development of a Housing Coordination Plan, as described in the BIL, is also an eligible activity using metropolitan planning funds.

- Additionally, please consider performing analyses that could assist communities advance housing production and affordability goals, as well as transit-oriented development, as described in [Section 3A of the Zoning Act](#).
- **Greenhouse Gas Reduction:** Efforts to evaluate opportunities to reduce greenhouse gas emissions should be prioritized. This may include strategies to: reduce freight sector greenhouse gas emissions; provide new bicycle and pedestrian facilities, Complete Streets projects, or bike share infrastructure; reduce existing general travel lanes, including their conversion transit priority lanes or active transportation uses; replace older transit vehicles with lower emitting vehicles and associated refueling infrastructure; and improve the frequency and reliability of transit services.
- **Transportation Equity:** Throughout all UPWP tasks, transportation equity should be considered a priority area. This may involve analyses that document high concentrations of underserved populations with poor access to essential services, that live near high-volume corridors, and that lack access to viable public transportation options, as well as potential transportation interventions.
- **TIP Program Implementation:** If the development of a discretionary TIP program has been or is imagined to be implemented, please budget for administrative work and staff time accordingly.
- **Transit Task Details:** Please be specific when allocating planning hours to transit-related tasks, particularly with respect to coordination with RTAs.
- **Performance-Based Planning:** Please include a task on Performance-Based Planning to allow sufficient staff time to coordinate with MassDOT, RTAs, and neighboring RPAs on relevant performance targets.
- **Public Participation Plan Update(s):** Please continue to implement and/or update PPPs based on new virtual public involvement tools and software, as well as the U.S. DOT's [June 2021 Title VI Executive Order](#). Although additional implementation guidance is forthcoming from U.S. DOT on this order, Section 4 (Community Participation Plans) contains several best practices that can be referenced.

Impact Analysis

- **Geographic Equity:** Please provide a geographic equity distribution table of past (2018–2022) and current UPWP-funded studies by municipality and number of tasks.

- **Social Equity:** Please provide a social equity distribution table of past (2018–2022) and current UPWP- funded studies considering environmental justice populations and language access. Measurement should be based on your regionally developed policies.

Data Collection

The data described in this section is suggested to collect/analyze to achieve consistency in data collection efforts across all regions, with the understanding that these efforts will be pursued to the extent feasible and the degree to which data is available in your region.

- *Park & Ride:* MassDOT collects data on an annual basis at MassDOT-owned Park & Ride facilities; please consult your MPO liaison if you would like access to this data.
- *Congestion:* Please identify and map congestion corridors and/or bottlenecks based on a regionally defined methodology and set of criteria using relevant tools, such as RITIS and Conveyal. Please include as part of the Congestion Management Process (CMP), if applicable.
- *Access to Destinations:* Please include any relevant work related to destination accessibility using Conveyal, the Accessibility Observatory (AO) data provided by MassDOT, and/or any other resources to inform planning efforts in the areas of economic development, CMP, and other relevant tasks.
- *Asset Management:* As part of ongoing MassDOT research on municipal asset management data collection and consistency, please continue to coordinate with MassDOT and municipalities on collecting and reporting asset management data, and include bicycle, pedestrian, and shared use path facilities. See MassDOT GeoDOT for most recent statewide inventory.
- *Bicycle and Pedestrian Traffic Counting Data:* Please specify the process to collect and report bicycle and pedestrian data including data collection methodology, equipment, locations, and reporting. MassDOT has finalized a primer to groups who would like to conduct bicycle and pedestrian counts available at this link (<https://www.mass.gov/guides/bicycle-and-pedestrian-counts>) with an appendix of pre-qualified vendors.
 - Additionally, this data can now be uploaded to MassDOT's Non-Motorized Database System (<https://mhd.ms2soft.com/tdms.ui/nmds/dashboard?loc=mhd>). Please coordinate with your MPO Liaison when sharing this data.

- *Transit:* Please collect and map data on bus stops and routes within your region. Please reference the latest MassDOT Engineering directives and design guidelines, as well as the relevant Transit Asset Management (TAM) plan(s).
- *Safety:* Please consider the creation of a “Top 100” crash locations list, including both intersections and corridors, based on regional criteria to develop a list of unsafe locations from a regional perspective. Additionally, as part of any safety analyses, please incorporate high risk data layers now included within MassDOT’s Impact Portal, available at the following link: <https://apps.impact.dot.state.ma.us/cdp/home>.
- *Title VI and Environmental Justice:* Please collect and map data on vulnerable populations (based on income, race, color, national origin, disability, age, and sex) and ensure that data on seniors and disabilities are reported separately.
- *Affordable Housing:* To the extent possible, please collect and map data on where affordable housing is in your region. [MassBuilds](https://massbuilds.com/maps) (massbuilds.com/maps) development database includes this information on affordable housing units completed, under construction, or projected.
- *Sidewalk Coverage:* Please share any spatial data related to sidewalk coverage on municipal roads throughout your region with MassDOT.
- *Bicycle Coverage:* Please share any spatial data related to bicycle facilities on municipal roads throughout your region with MassDOT.
- *Municipal Speed Data:* Please map communities in your respective regions have adopted the 25 mph default speed limit as well as new safety zones and school zones.

Errata

Final documents should be available in all relevant languages per your Title VI Language Assistance Plan.

Digital files should be legible to a screen reader, designed to accessible standards, and should have linked tables of contents for ease of use. The National Center on Disability and Access to Education has a series of primers for various word processing platforms available should you need guidance: <https://ncdae.org/resources/cheatsheets/>.

Public involvement and comment should be documented to ensure involvement activities are in line with your MPO Public Participation Plans’ standards.

Timeframe for UPWP Endorsement

All FFY 2023 UPWPs should be endorsed by each MPO no later than June 30, 2022. If there are concerns with meeting this target date, please coordinate with your MPO Liaison.

MPO Liaison UPWP Review Checklist

Completeness

ID	Review Item	Comments	Reference
A1	<input checked="" type="checkbox"/> * Table of Contents is accurate and internally-linked.		✓ -- for use in column B
A2	<input checked="" type="checkbox"/> * Document has no broken links.		✗ -- for use in column B
A3	<input checked="" type="checkbox"/> * Document has no text or image placeholders.		
A4	<input checked="" type="checkbox"/> * Charts, tables, and maps are legible and properly annotated.		
A5	<input type="checkbox"/> * Document passes an accessible check.	Adobe Acrobat's Accessibility Checker found a couple minor issues that can be addressed to help improve accessibility. Please consider running this check and addressing some of the issues.	
A6	<input checked="" type="checkbox"/> * New federal emphasis areas from the Bipartisan Infrastructure Law (BIL) are referenced.		https://www.transit.dot.gov/regulations-and-programs/transportation-planning/2021-planning-emphasis-areas
A7	<input checked="" type="checkbox"/> * Document is available in relevant languages per the MPO's Title VI Plan.		
A8	<input checked="" type="checkbox"/> * List of MPO members is current.		
A9	<input checked="" type="checkbox"/> * Signatory sheet is included and accurate.		
A10	<input checked="" type="checkbox"/> * Acronyms and partner agency lists are up to date.		

Narrative

ID	Review Item	Comments	Reference
B1	<input checked="" type="checkbox"/> * UPWP is comprehensible to the general public.		
B2	<input checked="" type="checkbox"/> * UPWP refers directly to vision, goals, and objectives from RTP.		
B3	<input checked="" type="checkbox"/> * UPWP Amendment/Adjustment procedures are explicit and align with latest federal guidance (see MAPRA materials)		
B4	<input checked="" type="checkbox"/> Governing MOUs between MassDOT, MPO, RTAs, and neighboring MPOs have been reviewed for potential improvements or updates.		
B5	<input checked="" type="checkbox"/> Planning efforts are coordinated with MassDOT modal plans.		https://www.mass.gov/statewide-plans

UPWP Tasks

ID	Review Item	Comments	Reference
C1	<input checked="" type="checkbox"/> * Individual tasks include detailed scopes, budgets, and		
C2	<input type="checkbox"/> * Individual tasks outline community beneficiaries.	Please consider, when possible, including the particular communities that will benefit and participate in each task in FFY 2023. For example, in which municipalities will culvert data collection take place under task 2.1- if this has already been determined.	

C3	✓	Transit-related tasks are specific.		
C4	✓	* Includes a task on performance-based planning.		
C5	✓	* Includes a task for an update to any congestion mitigation planning efforts.		Required for TMA MPOs if current CMP is out of date.
C6	□	* UPWP includes a summary of available staff hours.	Please include a summary of available staff hours; somewhere on pages 127 to 130, might be appropriate.	
C7	□	Individual tasks anticipate needed staff-hours / consulting resources.	Please include the number of staff hours you anticipate dedicating to each individual task	
C8	✓	Tasks from previous UPWPs have been analyzed for past utilization.		

Impacts Analysis

ID		Review Item	Comments	Reference
D1	✓	* UPWP includes a geographic equity distribution table showing 2017–2021 and current UPWP-funded studies by municipality and number of tasks.		
D2	✓	* UPWP includes a social equity distribution table of past and current UPWP-funded studies considering language access and EJ populations.		
D3	✓	* Public involvement and comment are explicitly documented and in line with MPO's Public Participation Plan.		

* indicates required by state or federal regulation.

Listing of Transportation-Related Acronyms

AASHTO:	American Assoc. of State Highway & Transportation Officials
ABP:	Accelerated Bridge Program
AC	Advanced Construction
ADA:	Americans with Disabilities Act of 1990
ADT:	Average Daily Traffic
AFC:	Automated Fare Collection
AICP:	American Institute of Certified Planners
APC:	Automatic Passenger Counter
APTA:	American Public Transit Association
ARRA:	American Recovery and Reinvestment Act
ATJ:	Access to Jobs
ATR:	Automatic Traffic Recorder
BIL:	Bipartisan Infrastructure Law
BMS:	Bridge Management System
BRT:	Bus Rapid Transit
BVCC:	Blackstone Valley Chamber of Commerce
CAAA:	Clean Air Act Amendments
CBD:	Central Business District
CDAG:	Community Development Action Grant
CDBG:	Community Development Block Grant
CFR:	Code of Federal Regulations
CIP:	Capital Investment Plan
CMAA:	Central Massachusetts Agency on Aging
CMAQ:	Congestion Mitigation Air Quality
CMMPO:	Central Massachusetts Metropolitan Planning Organization
CMP:	Congestion Management Process
CMRPC:	Central Massachusetts Regional Planning Commission
CMRPD:	Central Massachusetts Regional Planning District
CO:	Carbon Monoxide
COA:	Council On Aging
COG:	Council of Governments
CP:	Corridor Profile
CTPS:	Central Transportation Planning Staff
CY:	Calendar Year
DCR:	Department of Conservation and Recreation
DEP:	Department of Environmental Protection

DET:	Department of Education & Training
DHCD:	Department of Housing & Community Development
DLTA:	District Local Technical Assistance
DOT:	Department of Transportation
DPH:	Department of Public Health
DTA:	Division of Transitional Assistance
EDA:	Economic Development Administration
EIR:	Environmental Impact Report
EIS:	Environmental Impact Statement
EJ:	Environmental Justice
ENF:	Environmental Notification Form
EOEEA:	Executive Office of Energy and Environmental Affairs
EOT:	Executive Office of Transportation
EPA:	Environmental Protection Agency
EPDO:	Equivalent Property Damage Only
eSTIP:	Electronic STIP
FAA:	Federal Aviation Administration
FAPRO:	Federal Aid Programming Reimbursement Office
FAST ACT	Fixing America's Surface Transportation Act
FFY	Federal Fiscal Year
FHWA:	Federal Highway Administration
FRA:	Federal Railroad Administration
FTA:	Federal Transit Administration
FY:	Fiscal Year
GANs:	Grant Anticipation Notes
GHG	Greenhouse Gas
GIS:	Geographic Information System
GPS:	Global Positioning System
GWSA:	Global Warming Solutions Act
HCM:	Highway Capacity Manual
HIP:	Highway Infrastructure Program
HOV:	High Occupancy Vehicle
HPMS:	Highway Performance Monitoring System
HPP:	High Priority Project
HSIP:	Highway Safety Improvement Program
I&M:	Inspection & Maintenance
IIJA:	Infrastructure Investment and Jobs Act
IM:	Interstate Maintenance

IRI:	International Roughness Index
ITE:	Institute of Transportation Engineers
ITS:	Intelligent Transportation Systems
ISTEA:	Intermodal Surface Transportation Efficiency Act of 1991
JARC:	Job Access Reverse Commute
JHCBRVNHCC:	John H. Chafee Blackstone River Valley National Heritage Corridor Commission
LEP:	Limited English Proficiency
LOS:	Level of Service
LOTTR:	Level of Travel Time Reliability
LPA:	Local Planning Assistance
LPMS:	Local Pavement Management System
MAC:	Massachusetts Aeronautics Commission
MAP:	Mobility Assistance Program
MAP-21:	Moving Ahead for Progress in the 21 st Century Act
MARPA:	Massachusetts Association of Regional Planning Agencies
MARTA:	Massachusetts Association of Regional Transit Authorities
MassDOT:	Massachusetts Department of Transportation
MassGIS:	Massachusetts Geographic Information System
MassPort:	Massachusetts Port Authority
MBTA:	Massachusetts Bay Transportation Authority
MCAD:	Massachusetts Commission Against Discrimination
MEMA:	Massachusetts Emergency Management Agency
MEPA:	Massachusetts Environmental Policy Act
MHC:	Massachusetts Historical Commission
MISER:	Massachusetts Institute for Social and Environmental Research
MOU:	Memorandum of Understanding
MPO:	Metropolitan Planning Organization
MTA:	Massachusetts Turnpike Authority
MUTCD:	Manual on Uniform Traffic Control Devices
MWRA:	Massachusetts Water Resources Authority
NAAQS:	National Ambient Air Quality Standards
NBIS:	National Bridge Inventory Standards
NEPA:	National Environmental Policy Act
NFA:	Non Federal-Aid
NHFP:	National Highway Freight Program
NHFN:	National Highway Freight Network
NHPP:	National Highway Performance Program

NHS:	National Highway System
NOx:	Any of the Oxides of Nitrogen
NPMRDS:	National Performance Management Research Dataset
NSP:	National Public Transportation Safety Plan
NTD:	National Transit Database
NTS:	National Transportation System
NTSB:	National Transportation Safety Board
OA:	Obligation Authority
OCI:	Overall Condition Index (used with pavement)
ODCR:	Office of Diversity and Civil Rights
O ₃ :	Ozone
OTP	Office of Transportation Planning
PCI:	Pavement Condition Index
PHED:	Peak Hour Excessive Delay
PL:	Metropolitan Planning funds (federal)
PM:	Performance Measures
PMS:	Pavement Management System
PMUG:	Pavement Management User's Group
PPP:	Public Participation Program
PRC:	Project Review Committee
PRWORA:	Personal Responsibility & Work Opportunity Reconciliation Act
PSAC:	Project Selection Advisory Council
PTASP:	Public Transportation Agency Safety Plan
RIF:	Roadway Inventory Files
RFP:	Request for Proposal
RFQ:	Request for Qualifications
ROW:	Right of Way
RPA:	Regional Planning Agency
RSA:	Roadway Safety Audit
RTA:	Regional Transit Authority
RTACAP	Regional Transit Authority Capitol Assistance
RTP:	Regional Transportation Plan
SAFETEA-LU:	Safe, Accountable, Flexible and Efficient Transportation Equity Act
SCA:	State Contract Assistance
SD:	Structurally Deficient
SGR:	State of Good Repair
SHSP	Strategic Highway Safety Plan
SIP:	State Implementation Plan (for Air Quality)

SMS:	Safety Management System
SOV:	Single Occupancy Vehicle
SPR:	Statewide Planning & Research
SRTS	Safe Routes to School
STIP:	State Transportation Improvement Program
STBG:	Surface Transportation Block Grant Program
TAM:	Transit Asset Management Plan
TAMP:	Transportation Asset Management Plan (Highway)
TAP:	Transportation Alternative Program
TAZ:	Transportation Analysis Zone
TDC:	Transportation Development Credits
TDM:	Travel Demand Management
TEA-21:	Transportation Equity Act for the 21st Century
TEC:	Transportation Evaluation Criteria
TERM:	Transit Economic Requirements Model
TFPCC	Total Federal Participating Construction Cost
TI:	Transportation Improvement (in SAFETEA-LU)
TIP:	Transportation Improvement Program
Title VI	Title VI of the Civil Rights Act of 1964
TMA:	Transportation Management Association
TMC:	Turning Movement Count
TRB:	Transportation Research Board
TSM:	Transportation Systems Management
TTTR:	Truck Travel Time Reliability
ULB:	Useful Life Benchmark
UPWP:	Unified Planning Work Program
USDOT:	US Department of Transportation
UZA:	Urbanized Area
VMT:	Vehicle Miles of Travel
VOC:	Volatile Organic Compounds
WBDC:	Worcester Business Development Corporation
WEOEA:	Worcester Executive Office of Elder Affairs
WRA:	Worcester Redevelopment Authority
WRCC:	Worcester Regional Chamber of Commerce
WRTA:	Worcester Regional Transit Authority
YOE:	Year of Expenditure
3C:	Continuing, Comprehensive & Cooperative (planning process)

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