

**CENTRAL MASSACHUSETTS  
METROPOLITAN PLANNING ORGANIZATION  
(CMMPO)**

**CMMPO ENDORSED FFY 2022 Program Year**

**Unified Planning Work Program  
(UPWP)**



*Prepared by the transportation staff of the*



**Endorsed: 6/16/2021**

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  
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Worcester, MA 01608  
(508) 756-7717

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Chinese: 如果用另一种语言需要的信息，请联系第六章专门CMRPC/CMMPO (508) 756-7717.

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Spanish: Si necesita esta información en otro lenguaje, favor contactar al especialista de Título VI de CMRPC/CMMPO al (508) 756-7717.

Swahili: Kiingereza: Ikiwa habari hii inahitajika kwa lugha nyingine, tafadhali wasiliana na Mtaalamu wa VI wa Pili ya CMRPC / CMMPO katika (508) 756-7717.

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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:

By mail: CMRPC  
Attn: Sujatha Krishnan, Transportation Program Manager  
1 Mercantile Street, Suite 520  
Worcester, MA 01608  
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By email: [sujatha@cmrpc.org](mailto:sujatha@cmrpc.org)

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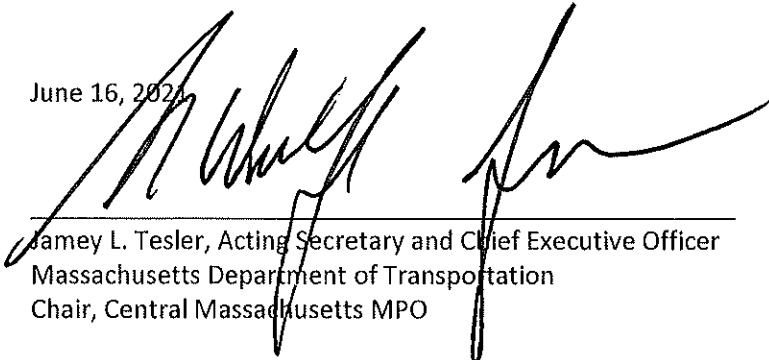
***Central Massachusetts Metropolitan Planning Organization (CMMPO)***

***Endorsement Sheet***

***FFY 2022 Program Year Unified Planning Work Program (UPWP)***

The Central Massachusetts Metropolitan Planning Organization (CMMPO) hereby endorses the FFY 2022 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 2022 Program Year UPWP document was endorsed on June 16, 2021 at a meeting of the CMMPO.

June 16, 2021



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

## Central Massachusetts Metropolitan Planning Organization

### Listing of CMMPO Members

1. **Jamey L. Tesler**, Acting Secretary of Transportation, MassDOT
2. **Jonathan Gulliver**, Administrator, MassDOT-Highway
3. **Robert Hassinger**, CMRPC Chairperson
4. **Dennis Lipka**, WRTA Administrator
5. **Edward M. Augustus, Jr.**, Worcester City Manager
6. **Barur Rajeshkumar**, North Subregion Representative
7. **Maurice DePalo**, Shrewsbury Selectmen, Northeast Subregion Representative
8. **Jesse Limanek**, Southeast Subregion Representative
9. **Dennis Lamarche**, Southwest Subregion Representative
10. **Julie Quink**, Hardwick Selectmen, West Subregion Alternate

### Ex-Officio Members (Non-Voting):

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

### Listing of MPO Advisory Committee Members and Organizations:

1. **Cassandra Anderson**, WDPH
2. **Gary Bechtholdt**, Town Planner, Town of Northbridge
3. **Sarah Bradbury**, MassDOT-H District 3
4. **Tom Coyne**, WRTA
5. **John Dewaele**, Grafton & Upton Railroad
6. **Jim Halpin**, WalkBike Worcester
7. **Laura Hanson**, MassDOT-H District 2
8. **Kathy Joubert**, Planner, Town of Northborough
9. **Joanne Kasper-Dunne**, Service Center, Massachusetts DEP
10. **Isabel McCauley**, Town Engineer, Town of Holden
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14. **Ann Sullivan**, Projects Engineer, MassDOT-H District 3
15. **Jeremy Thompson**, 495/Metrowest Partnership
16. **Karen Valentine Goins**, WalkBike Worcester

### Ex-Officio Members (Non-Voting):

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

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## Executive Summary

The Central Massachusetts Metropolitan Planning Organization (CMMPO) 2022 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 2020 Long Range Transportation Plan (LRTP) has identified new 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 2022 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 2022 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 2022 UPWP are largely shaped by past federal transportation authorizations and by the present Fixing America's Surface Transportation Act (FAST Act). 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 FAST Act 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 FAST Act carries forward preexisting federal priorities for civil rights programs and requirements including Title VI, EJ, and limited English proficiency (LEP). The FAST Act 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; \* and

(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.

#### Federal Planning Policy Emphasis Areas

- Bicyclist/Pedestrian Transportation Network Development
- Civil Rights
- Livability and Sustainability
- Transportation Equity, i.e. geographic distribution of planning studies and Long Range Transportation Plan (LRTP)/Transportation Improvement Program (TIP) Projects
- Development of tangible work products with implementation strategies
- Planning Emphasis Areas (PEAs)
  - Moving Ahead for Process in the 21<sup>st</sup> Century (MAP-21)/FAST Act Implementation – Transition to Performance-based Planning & Programming
  - Regional Models of Cooperation – Ensure a Regional Approach to Transportation Planning by Promoting Cooperation & Coordination across Transit Agency, MPO, & State Boundaries
  - Ladders of Opportunity – Access to Essential Services

#### Commonwealth of Massachusetts Policy Emphasis Areas

- Addressing climate change by reducing Greenhouse Gases (GHG);
- Advancing Transportation Equity and civic engagement;
- Promoting mode choice; and
- 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 a number of 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 2022 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 2020 LRTP has identified new 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 2022 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 2022 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 2022 Program Year

Funding Source

FHWA/FTA/MassDOT (PL Funds) - FFY 2022 October 2021 - September 2022

WRTA - FFY 2022 October 2021 – June 2022, FFY 2023 July 2022 – September 2022

**Table 1: CMMPO FFY 2022 UPWP:  
How the UPWP Addresses the 10 Planning Factors**

#	Planning Factor	
<b>1</b>	<b>Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency</b>	
	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
<b>2</b>	<b>Increase the safety of the transportation system for motorized and non-motorized users</b>	
	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
<b>3</b>	<b>Increase the security of the transportation system for motorized and non-motorized users</b>	
	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
<b>4</b>	<b>Increase accessibility and mobility of people and freight</b>	
	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
<b>5</b>	<b>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</b>	
	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.
<b>6</b>	<b>Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight</b>	
	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

<b>7</b>	<b>Promote efficient system management and operation</b>	
	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
<b>8</b>	<b>Emphasize the preservation of the existing transportation system</b>	
	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
<b>9</b>	<b>Improve the resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation</b>	
	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
<b>10</b>	<b>Enhance travel and tourism</b>	
	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

- |  |   |
|--|---|
| 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 Implementation
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 2022 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 2021:** MassDOT Office of Transportation (OTP) forwards federal Planning (PL) funding levels for each MPO/RPA to be used in the development of the *2022 UPWP* document. FFY *2022 UPWP* work tasks will include emphasis areas of FAST Act and MAP-21 Implementation as in Year 2017 (unless subsequently advised). 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 17, 2021:** CMMPO meeting. Staff provides program funding and MassDOT & FHWA program guidance for the Draft FFY 2022 UPWP document.

**February 24, 2021:** CMMPO Advisory Committee meeting. Staff provides program funding and MassDOT & FHWA program guidance for the Draft FFY 2022 UPWP document.

**March 17, 2021:** CMMPO meeting. Staff provides budget and initial work task summary materials and Planning Emphasis Areas for the Draft FFY 2022 UPWP document.

**March 24, 2021:** CMMPO Advisory Committee meeting. Review of work tasks and funding with recommendation to CMMPO.

**May 19, 2021:** CMMPO meeting. MPO approves release of *Draft FFY 2022 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 scheduled for June 2<sup>nd</sup>.

**May 26, 2021:** CMMPO Advisory Committee meeting. Review of *Draft FFY 2022 UPWP* document. Recommendation concerning MPO endorsement sought.

**June 2, 2021:** Scheduled FFY 2022 UPWP Virtual Public Meeting at 5:00 PM. Proceedings summarized for full consideration by the MPO.

**June 9, 2021:** 21-day public review & comment period on *Draft FFY 2022 UPWP* document closed. Endorsement process is now underway.

**June 16, 2021:** Scheduled meeting of the CMMPO. *Final FFY 2022 UPWP* work task summary reviewed; results of public meeting and MPO Advisory Committee discussed. MPO moves to endorse *Final FFY 2022 UPWP* document.

**July-September 2021:** *CMMPO Endorsed FFY 2022 UPWP* document finalized and submitted for MassDOT and subsequent FHWA & FTA review and approval.

**October 1, 2021:** FFY 2022 begins. *CMMPO Endorsed FFY 2022 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.

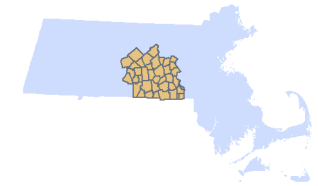
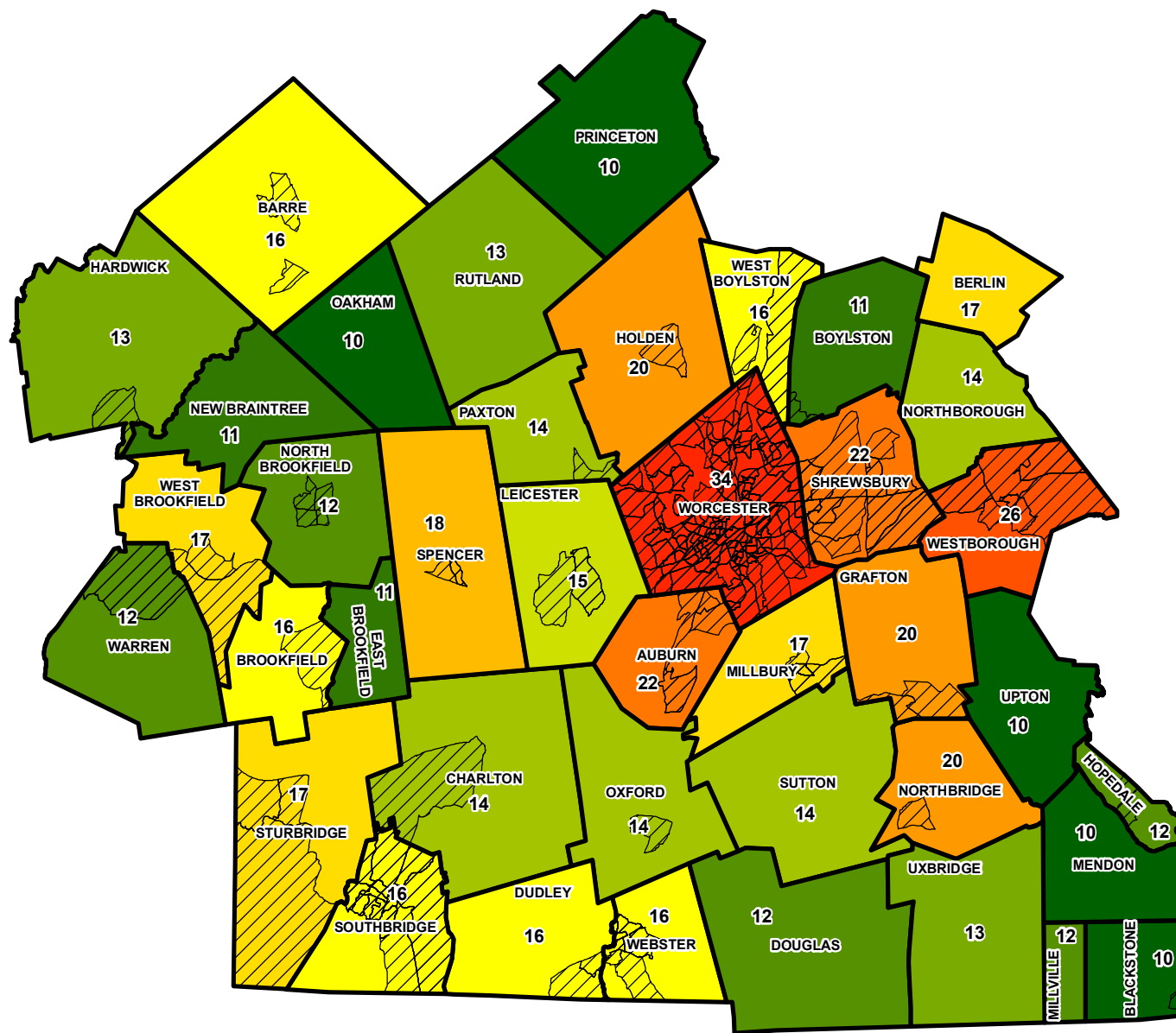
## UPWP Equity Assessment

CMRPC conducted an equity assessment on MPO-funded UPWP work products from FFY 2017 through FFY 2022. 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%).

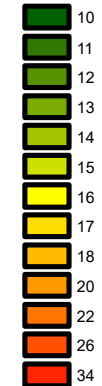
UPWP's for program years 2017-2022 were reviewed to identify the transportation planning tasks that were completed for each of the 40 communities in the CMRPC region. The aggregate of CMMPO staff's completed tasks during this timeframe has resulted in a robust program of studies that shed light on the 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 2017-2022 program years is 613, 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 are equitable amongst communities with EJ/Vulnerable populations.



#### Total Number of Projects



#### EJ & Vulnerable Populations



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, Information Technology 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 (FFY2017 - 2022)**

**Table 2: Transportation Tasks by Community and Year**

Community	2017	2018	2019	2020	2021	2022	2017-2022 Total	Population	# of EJ/Vulnerable Pop Block Groups
Auburn	9	5	1	4	0	3	22	16,188	9
Barre	5	3	0	4	0	4	16	5,398	1
Berlin	6	4	0	3	2	2	17	2,866	0
Blackstone	4	3	1	1	0	1	10	9,026	1
Boylston	6	3	0	0	1	1	11	4,355	2
Brookfield	5	4	1	3	1	2	16	3,390	2
Charlton	6	3	1	1	1	2	14	12,981	1
Douglas	6	3	0	1	0	2	12	8,471	0
Dudley	6	4	0	2	2	2	16	11,390	1
East Brookfield	3	3	1	2	1	1	11	2,183	0
Grafton	7	3	2	3	2	3	20	17,765	5
Hardwick	3	3	0	2	2	3	13	2,990	1
Holden	7	3	1	3	1	5	20	17,346	1
Hopedale	5	3	0	2	1	1	12	5,911	1
Leicester	5	3	1	3	1	2	15	10,970	2
Mendon	5	3	0	2	0	0	10	5,839	0
Millbury	7	4	1	4	1	0	17	13,261	3
Millville	7	3	1	1	0	0	12	3,190	0
New Braintree	3	4	0	2	1	1	11	999	0

Northborough	5	3	0	1	2	3	14	14,155	3
Northbridge	8	4	1	2	2	3	20	15,707	1
North Brookfield	3	3	0	4	1	1	12	4,680	1
Oakham	3	3	0	3	0	1	10	1,902	0
Oxford	6	3	1	1	2	1	14	13,707	3
Paxton	6	4	0	2	0	2	14	4,806	1
Princeton	3	3	0	2	0	2	10	3,413	0
Rutland	4	3	0	3	0	3	13	7,973	0
Shrewsbury	7	3	2	2	3	5	22	35,608	19
Southbridge	6	3	1	1	3	2	16	16,719	23
Spencer	6	3	1	3	2	3	18	11,688	6
Sturbridge	6	3	1	2	2	3	17	9,268	2
Sutton	6	3	0	1	2	2	14	8,963	1
Upton	4	3	0	1	1	1	10	7,542	1
Uxbridge	6	3	0	1	2	1	13	13,457	0
Warren	5	3	0	2	1	1	12	5,135	4
Webster	5	3	2	1	2	3	16	16,767	14
Westborough	9	4	1	4	5	3	26	7,669	10
West Boylston	8	3	0	2	0	3	16	3,701	4
West Brookfield	7	3	1	2	1	3	17	18,272	2
Worcester	9	6	1	8	5	6	34	181,045	226
	Regional Totals:						613	556,696	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 Ped/Bike Safety, Accessible Taxi Service

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

## **Task 1.1: Management and Support of the Continuing, Cooperative, and Comprehensive (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. Regional Transportation Program [RTP], Transportation Improvement Program [TIP] and Unified Planning Work Program [UPWP]); the coordination of transportation planning activities with other local and state agencies; contract administration; support of the Central Massachusetts 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 (EJ) 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 Department of Public Health (DPH), WalkBike Worcester, Worcester Department of Economic Development and neighborhood/community associations.
- Technical assistance to address community transportation concerns in the region.

- Review of Environmental Notification Form (ENF) and Environmental Impact Reports (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, 2022. 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.

*Facilitate a Private Transportation Assistance and inclusion in Transportation Planning process.* Staff will facilitate ongoing communication with private Transportation providers as deemed appropriate. Include private Transportation companies (freight and transit providers) in the transportation planning process via the MPO Advisory Committee as deemed appropriate. Assist with any Federal Grant opportunities to enhance the safety and operations of the Private Transportation providers. 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 Geographic Information System (GIS).

*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 (TAP), Community Multiscale Air Quality (CMAQ) Modelling System, 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, Public Outreach Program (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 – MRPC – (evacuation planning), Metropolitan Area Planning Council – MAPC – (MetroWest I495/I90), the Rhode Island Department of Administration (MA & RI-146 corridor and Blackstone River Greenway), Northeast Connecticut Council of Governments – NECCOG – (I-395 corridor efforts), Pioneer Valley Regional Planning Commission – PVRPC – (Ware/Warren Community Action Council efforts) and the Worcester Regional Transit Authority – WRTA – (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 2021 Program Year – **4<sup>th</sup> Quarter, FFY 2022**
- Reviewed and updated CMMPO Advisory Committee’s Bylaws – **1<sup>st</sup> Quarter, FFY 2022**
- Contract Administration, Staffing and Agency wide policy/budgeting – **3<sup>rd</sup> Quarter, FFY 2022**
- Participated and provided recommendations for the Metropolitan Planning Funds (PL) formula funding to the Massachusetts Association of Regional Planning Agencies (MARPA) – **2<sup>nd</sup> Quarter, FY 2022**
- Lead the Statewide Transportation Data Users Group (DUG) as part of MARPA Transportation Program Managers – **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 materials 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/ PL		FTA Section 5307 (through WRTA)		
Participants	FHWA	State	FTA	WRTA	Total
CMRPC	191,962	47,990			239,952

## Task 1.2: Unified Planning Work Program (UPWP)

### 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

- UPWP and Associated Amendments from 1973-2021

### Procedures

- *Develop FFY 2023 UPWP*: CMRPC will develop the FFY 2023 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 2022 UPWP*: Performed as necessary.
- Annual update of CMMPO transportation publications for UPWP.

### Products & Schedule

- Draft FFY 2023 UPWP budget – **3<sup>rd</sup> Quarter, FFY 2022**
- Updated Bibliography of Transportation Planning Publications – **3<sup>rd</sup> Quarter, FFY 2022**
- Final FFY 2023 UPWP – **3<sup>rd</sup> Quarter, FFY 2022**
- Amendments and Adjustments to FFY 2022 UPWP – **As necessary**

Task Title	Unified Planning Work Program				Ref. #	1.2
Funding Program/\$						
	FHWA/PL		FTA Section 5307 (through WRTA)			
Participants	FHWA	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 Outreach Program (POP) with full consideration of Title VI & Environmental Justice (EJ) principles.

### Previous Work

TIP documents, from the earliest, 1976-1978, to the most recent, 2022-2026, time frames (45+ years of projects).

### Procedures

1. Amend/Adjust Existing 2022-2026 TIP: Staff will amend/adjust the CMMPO Endorsed 2022-2026 TIP, as necessary.
2. Develop 2023-2027 TIP: Prior to developing the Draft 2023-2027 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, construction or purchase during FFY 2023-2027. 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 in the Update for 2020 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.

- **TIP Programs:** In relation to the programs defined in the most recent LRTP to address the needs and priorities in the planning region, staff will look to establish procedures to allow for the use of TIP funding to pay for 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 FAST Act, 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 eventually measure progress on screened and prioritized TIP projects. The 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, annual approved MassDOT CIP will be fully 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. Staff started to use this program in the development of the 2021-2025 TIP. Based on MassDOT guidance, staff will continue to use this system for highway-related TIP projects. (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.
- **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 the region'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 be included 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 Public Outreach Program (POP).
- **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 work with the host communities to obtain periodic project status updates on programmed TIP target projects. Staff will also explore the potential for bi-annual project update meetings scheduled with project proponents.
- **Project Delivery Reliability:** Establishment of TIP criteria to ensure project timeline adherence. Project design status criteria will be created and used to make sure programmed TIP projects keep progressing without delays. The criteria will not be the same as the project evaluation criteria used for scoring projects. Further, project status update meetings will likely be schedule two times a year with current project proponents making sure their designs are progressing.
- **Relationship to TIP Target Projects:** A detailed table is compiled to correlate the regional target projects listed in 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 staff to obtain project information. MARPA also holds a periodic “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 all 10 federal transportation planning emphasis areas including congestion, pavement, safety, as well as modal shift to public transit, bicycling, walking, stormwater management & resiliency and travel & tourism.
- As determined necessary, CMMPO staff will continue to work with MassDOT OTP and MARPA to address and resolve TIP-related challenges.

*The 2023-2027 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 while also including the PM scoring for current and potential projects. Additionally, a summary of regional target project relationships to regional planning efforts & PM.
- 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 POP.
- 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. Preparation and hosting annual CMMPO Environmental Consultation for development of the TIP – **3<sup>rd</sup> Quarter, FFY 2022**
2. TIP Program Implementation Status Overview, **2<sup>nd</sup> & 3<sup>rd</sup> Quarter, FFY 2022**
3. Draft highway & transit 2023-2027 TIP project listings – **2<sup>nd</sup> & 3<sup>rd</sup> Quarter, FFY 2022**
4. Endorsed highway & transit 2023-2027 TIP project listings – **3<sup>rd</sup> Quarter, FFY 2022**
  - Endorsement of the 2023-2027 TIP is anticipated to take place at a meeting of the CMMPO to be held in May 2022.
5. Amendments/Adjustments to 2022-2026 TIP – **As necessary**
6. Established TIP milestone criteria to ensure continued progress of programmed TIP projects – **2<sup>nd</sup> Quarter, FFY 2022**
7. "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/PL		FTA Section 5307 (through WRTA)		
Participants	FHWA	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 (DOJ) 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 (EJ) 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. Subsequently, in a 2011 Memorandum of Understanding (MOU) on Environmental Justice EO 12898 (EJ MOU) among federal agencies, United States Department of Transportation (USDOT) agreed to review and update its EJ Strategy. The USDOT revised its EJ Strategy in 2012, reaffirming USDOT’s commitment to EJ principles and to integrating those principles into Department of Transportation (DOT) programs, policies and activities.

EO 13166 (2000) expanded the impact of the 1964 Civil Rights Act to address concerns that limited English proficient (LEP) persons deserved equal participation in the transportation planning process. In accordance with the Executive Order, the US DOT issued Policy Guidance Concerning Recipient’s Responsibilities to LEP Persons, which is modeled after the United States Department of Justice’s (DOJ) 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 CMMPO activities.

## Previous Work

- Updated EJ Regional definition
- Updated CMMPO LEP Analysis and Language Implementation Plan
- 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
- Ongoing staff Title VI, LEP and EJ training sessions
- New and continued work with numerous community groups, including: Worcester Department of Public Health (DPH)/Central Mass. Regional Public Health Alliance, Worcester Community Connections Coalition, WRTA Riders' Advisory Committee, Mass in Motion
- Notification of the availability of reasonable meeting accommodations and language assistance at no charge – statement revised in FFY 2018; monitoring of assistive technologies, documentation of CMMPO region accessible meeting spaces
- Translations of meeting notices, forms and other documents in other languages, mostly Spanish
- WRTA Title VI Plan Updates for FTA\*
- WRTA Public Participation Plan (POP)\*

\*conducted previously under separate FTA scopes of work

## Procedures

- *Review Existing CMMPO Public Outreach Program (POP):* The POP details procedures utilized in the TIP, UPWP, and LRTP development process, in accordance with the FAST Act. These procedures include consultations with agencies responsible for land use management, natural resources protection, historic preservation, and EJ. The POP is reviewed on a regular basis to ensure that it continues to be effective in obtaining maximum participation by all stakeholders. The POP was recently reviewed to include traditional and non-traditional public outreach best practices and MassDOT ODCR guidance.

- *Implement WRTA FFY 2019 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 POP. Staff will continue to monitor WRTA outreach efforts as they support both the PPP and POP.
- *Review EJ Outreach:* Staff will use the CMMPO POP 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 EJ populations. Staff will also continue to strengthen current efforts to engage organizations that can assist in the involvement of those with LEP 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:* Train 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's 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. Updating of CMMPO LEP Analysis/Language Assistance Plan (LEP/LAP) – **2<sup>nd</sup> Quarter, FFY 2022**
2. Evaluation of CMMPO Transportation Equity Criteria set in prior FFYs (land miles, assets, condition etc.) used to score TIP projects as implemented in prior FFYs (at MassDOT ODCR's suggestion) – **3<sup>rd</sup> Quarter, FFY 2022**
3. Completion of a Geographic and Equity Analysis with MassDOT guidance in relation to Title VI/EJ/LEP population – **3<sup>rd</sup> Quarter, FFY 2022**
4. Completed annual CMMPO Title VI Report – **4<sup>th</sup> Quarter, FFY 2022**
5. Updated CMRPC Staff Language Assistance Guide and agency language assists – **As necessary**
6. Identification and implementation of 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**

7. Reviewing and updating of outreach lists, including mailing lists, phone and contact information. Continued engagement efforts with organizations that represent Title VI/EJ/LEP populations – ***Ongoing***
8. Continued ongoing involvement with Transportation Equity partners, and cultivating new relationships, particularly outside of Worcester, with assistance from MassDOT’s ODCR, and identify opportunities for microprojects that address social vulnerabilities – ***Ongoing***
9. Building of staff capacity in Title VI/LEP guidelines and compliance – ***Ongoing***
10. Identification and implementation of best practices in areas of translation techniques, interpretation services, and engagement strategies with assistance from MassDOT’s ODCR – ***Ongoing***
11. Attended or participated online in USDOT, MassDOT, National Transit Institute (NTI) or advocacy organization- sponsored Title VI, EJ, LEP and Transportation Equity topic webinars and trainings – ***Ongoing***
12. Continued 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/PL		FTA Section 5307 (through WRTA)		
Participants	FHWA	State	FTA	WRTA	Total
CMRPC	20,000	5,000			25,000

## **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 Public 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; and
- Information in multiple accessible formats, including electronic and in-person.

The CMMPO Public Outreach Program (POP), like the CMMPO LRTP and 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 similar to the above documents, but are tailored specifically to transit needs. Projects identified in the WRTA CIP are programmed in each CMMPO TIP; and the CMMPO POP guides the public participation process for WRTA CIP projects.

### **Previous Work:**

- Ongoing work with numerous local community groups, including Worcester Department of Public Health (DPH)/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
- Public Outreach Program Update

- 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 Outreach Plan (POP)*

The CMMPO POP details CMMPO staff public outreach procedures used during TIP, UPWP, and LRTP development. These procedures are designed for compliance with the FAST Act and include consultations with agencies responsible for land use management, natural resources protection, historic preservation, environmental justice, and travel and tourism. The staff reviews the CMMPO POP 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 guidance. Moreover, the CMMPO POP 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 FFY 2019, in accordance with Federal Transit Administration (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, including virtual public involvement*

Staff will continue to provide maximum feasible opportunities for public participation in the transportation planning process. Virtual formats present a unique opportunity to increase the CMMPO's reach, as such, public outreach methods should include online and virtual opportunities, including virtual public meetings, applications and other easy to use platforms. 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. Every Day Counts (EDC)-6 webinars and peer exchanges, and with MassDOT EDC-6 Public Outreach Committee.

### *Outreach to Traditionally Underserved Groups and Populations*

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. Reviewed and Updated CMRPC/CMMPO POP to add Virtual Public Involvement MassDOT guidelines, tools and techniques available to the CMMPO among other strategies to enhance virtual public involvement – **1<sup>st</sup> Quarter, FFY 2022**
2. Developed public outreach and engagement evaluation metrics – **1<sup>st</sup> Quarter, FFY 2022**
3. Developed articles for electronic newsletters/news bulletins and social media content calendar – **Ongoing**
4. Reviewed and utilized/updated 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**
5. Translation of Vital Documents (i.e. LRTP, TIP, UPWP and POP/PPP Executive Summaries, Title VI complaint procedures/forms) into Safe Harbor languages – **As Needed** (typically when revised)
6. Ensured 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, the UPWP and the LRTP; and 3) provision of multiple, accessible participation formats, including electronic and in-person - **Ongoing**

7. Identified and implemented federal and MassDOT public outreach standard procedures or protocols – ***Ongoing***
8. Continued ongoing community involvement and increase interactions with the subregions’ ‘edge’ communities, WRTA Service Area communities, cross-RPA/RTA communities, and UZA areas – ***Ongoing***
9. Attended FHWA/FTA sponsored public outreach topic webinars – ***Ongoing***

<b>Task Title</b>	<b>Public Participation</b>	<b>Ref. #</b>	<b>1.5</b>
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Funding Program/\$					
	FHWA/PL		FTA Section 5307 (through WRTA)		
Participants	FHWA	State	FTA	WRTA	Total
CMRPC	20,000	5,000			25,000

## **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 with the exception of 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. This allows for the identification and inventory of critical and vulnerable infrastructure. The program will collect culvert assessment data throughout the CMRPC region, prioritizing assessments based on

traffic and ecological considerations. Efforts are currently underway to use existing data from MassDOT and other state resources, like the Massachusetts Department of Restoration (MassDER) or the North Atlantic Aquatic Connectivity Collaborative (NAACC), to determine how many culverts exist within the region and each watershed. Beyond the CMRPC scheduled assessments, which will focus on federal-aid eligible roadways, staff plans to work with communities to identify and assess local culverts of concern. 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. This data will be linked to previous work that has collected the following: traffic counts, pavement data, and transit data.

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.

The COVID-19 pandemic had significant impacts on work planned in the FFY 2021 UPWP and as a result some of the work previously planned is being planned again in the 2022. Areas that were significantly impacted are traffic counting, pavement data collection and CMP data collection, UAS data collection.

## **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. (2021)
  - Developed a schedule to begin culvert assessments. (2021 – Present)
  - Considered resiliency and other prioritization tools to begin identifying and assessing the most vulnerable culverts. (2021 – Present)
  - Hired intern to begin assessing culverts for the upcoming data collection season (2021 – Present)
  - Completed culvert assessments for the latest Corridor Profile Study. (2021)
  - Worked with communities to identify and assess culverts in their town. (2021 – Present)
  - Identified areas in which drone imagery could be useful for culvert data collection efforts. (2021 – Present)

- 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 data miles of road in FFY 2022. 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 Report and 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 with additional efforts in areas missed in previous years.
  - 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. 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 Opticom-equipped for emergency vehicle use.
  - Data Mapping: Staff will update and maintain the CMRPC Traffic Signal Inventory with collected 2022 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 MassDOT Culvert Inventory and the NAACC database to prioritize culvert assessments on federal-aid eligible roadways. Staff will also work with towns and other stakeholders to identify and prioritize culvert assessments.
  - Data Collection: Staff will use the NAACC 'Non-Tidal Aquatic Connectivity Stream Crossing Survey' and 'Culvert Condition' data forms to assess the condition of a culvert. The NAACC 'Aquatic Passability' scoring rubric will be utilized to evaluate the vulnerability of a culvert. Staff will provide NAACC training to communities interested in culvert assessments. If necessary, state-owned culverts may also be assessed.

- Data Mapping: Staff will utilize online data sheets and NAACC records to keep track of which culverts have been assessed, when they were assessed, and the condition of the structure. Staff will also utilize the NAACC datacenter to update a regional culvert inventory and Asset Management Dashboard. This data will be used 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 2021 count data to its extensive in-house database.
  - Conduct the regularly scheduled Traffic Counting Program: The FFY 2022 program will focus on the South traffic counting Subregion, as well as MassDOT-Highway Division requested counts and Town requested accounts. Staff anticipates approximately 260 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 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 2022, 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 2022 and classification data. Vehicle speed data will be extracted for use in GIS mapping and modeling.
- 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: Established as an annual effort, staff will continue to monitor peak period parking accumulation at multiple MassDOT-maintained Park and Ride lots. 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 in order 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 use 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.
  - 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 – **1<sup>st</sup> and 2<sup>nd</sup> Quarter, FFY 2022**

- 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 – **Ongoing**
  - 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.

#### *Asset Management Data Collection*

- Pavement Data Collection
  - Data collected in FFY 2021 will be entered into Cartegraph creating updated electronic records for roads with newly collected data – **1<sup>st</sup> Quarter, FFY 2022**
  - Solicited towns in the region for any maintenance or repair activities on the federal-aid roadways to be entered into Cartegraph – **1<sup>st</sup> Quarter, FFY 2022**
  - Data collection on federal-aid roadways schedules for collection – **3<sup>rd</sup> and 4<sup>th</sup> Quarter, FFY 2022**
  - 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.
- Sidewalks
  - Integrated data collected during FFY 2021 with the corresponding GIS sidewalk and curb ramp inventory – **1<sup>st</sup> Quarter, FFY 2022**
  - Sidewalks and ADA ramps condition data collection for federal-aid eligible roadways – **3<sup>rd</sup> and 4<sup>th</sup> Quarter, FFY 2022**
  - Data Collaboration: Shared all collected data and underlying spatial data sets with member communities, MassDOT district staff and MassDOT OTP staff.
- Traffic Signal Inventory
  - Integrated data collected as part of the FFY 2021 continued pilot study into the CMRPC traffic signal inventory database – **1<sup>st</sup> Quarter, FFY 2022**

- Traffic Signal inventory data collection in selected locations along federal-aid eligible roadways – **3<sup>rd</sup> and 4<sup>th</sup> Quarter, FFY 2022**
- Data Collaboration: Shared all collected data and underlying spatial data sets with member communities, MassDOT district staff and MassDOT OTP staff.
- Culvert Data Collection
  - Conducted culvert assessment data collection in selected locations within specific towns that cross federal-aid eligible roadways – **3<sup>rd</sup> and 4<sup>th</sup> Quarter, FFY 2022**
  - Uploaded culvert assessment data to the NAACC database, as well as the CMRPC Culvert Inventory database – **3<sup>rd</sup> and 4<sup>th</sup> Quarter, FFY 2022**
  - 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.
- UAS (drone) Imagery
  - Integration of past drone imagery and other data collected into the appropriate CMRPC transportation inventory databases – **1<sup>st</sup> Quarter, FFY 2022**
  - Identified different ways drone imagery can improve CMRPC's efforts in transportation data collection and asset management – **2<sup>nd</sup> and 3<sup>rd</sup> Quarter, FFY 2022**
  - Integration of new drone imagery and other data collected during flights for transportation projects into the CMRPC Drone Imagery database – **4<sup>th</sup> Quarter, FFY 2022**
  - Data Collaboration: Shared all collected data and underlying spatial data sets with member communities, MassDOT district staff and MassDOT OTP staff.
- 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 – **4<sup>th</sup> Quarter, FFY 2022**
  - Data Collaboration: Shared all collected data and underlying spatial data sets with member communities, MassDOT district staff and MassDOT OTP staff.

- Annual Traffic Counting
  - ATR Traffic Counts:
    - Annual update to Daily Traffic Volumes and Peak Period Turning Movement Counts, and Axle Classification database – **1<sup>st</sup> Quarter, FFY 2022**
    - Annual Automatic Traffic Recorder calibration effort – **3<sup>rd</sup> Quarter, FFY 2022**
    - Traffic volume and axle classification counts – **3<sup>rd</sup> and 4<sup>th</sup> Quarter, FFY 2022**
- Transit Data Collection & Mapping
  - Mapping of Bus Stops – **Ongoing**
  - Mapping of Bus Routes – **Ongoing**
  - Mapping of Ridership – **Ongoing**
  - WRTA FFY 2021 Audit – **4<sup>th</sup> Quarter, FFY 2022**
  - NTD FY 2021 Reporting – **1<sup>st</sup> Quarter, FFY 2022**
  - 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 – **3<sup>rd</sup> Quarter, FFY 2022**
  - 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 – **1<sup>st</sup> and 2<sup>nd</sup> Quarter, FFY 2022**
  - Utilizing mapped data to help inform project selection and prioritization – **Ongoing**

- Title VI & EJ
  - Collection and mapping of data on vulnerable populations – **1<sup>st</sup> and 2<sup>nd</sup> Quarter, FFY 2022**
  - Utilizing mapped data to help inform project selection and prioritization – **Ongoing**
- Affordable Housing
  - Identification and mapping of Affordable Housing units – **1<sup>st</sup> and 2<sup>nd</sup> Quarter, FFY 2022**
  - Utilizing mapped data to help inform project selection and prioritization – **Ongoing**
- CMP
  - Park and Ride Utilization Surveys at MassDOT-maintained Park and Ride lots – **3<sup>rd</sup> and 4<sup>th</sup> Quarter, FFY 2022**
  - 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 – **3<sup>rd</sup> and 4<sup>th</sup> Quarter, FFY 2022**
- Livability/Climate Change/Other Transportation Options
  - Collection of bicycle facility locations along federal-aid eligible roads and input into the GIS inventory – **1<sup>st</sup> Quarter, FFY 2022**
  - 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 – **1<sup>st</sup> Quarter, FFY 2022**
  - Integrating the database and map templated used for TIP maps with other products for streamlines information documentation and sharing – **1<sup>st</sup> Quarter, FFY 2022**
  - Updated 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 – **4<sup>th</sup> Quarter, FFY 2022**

- Worked 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**
- Updated demographic and employment data with the most current national data from the Census, ACS, and CTPP – **Ongoing**
- Provided data collection support to various parking study projects as needed – **Ongoing**

Task Title	Data Collection and Analysis			Ref. #	2.1
Funding Program/\$					
	FHWA/PL		FTA Section 5307 (through WRTA)		
Participants	FHWA	State	FTA	WRTA	Total
CMRPC	116,000	29,000			145,000

## **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*), Kelley Square design 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.

As required by MAP-21 and now continuing into FAST Act, 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 vehicle miles travelled and vehicle hours travelled.

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. Continued modeling efforts to understand the traffic impacts due to major infrastructure projects in the region – ***All year, FY 2022***
2. Included August WRTA service changes for the transit routes and calibrate the transit model – ***1<sup>st</sup> and 2<sup>nd</sup>, FY Quarter, 2022***
3. Used the model to generate bottleneck locations list - ***2<sup>nd</sup> Quarter, FY 2022***
4. Integration of recent traffic counts, Conveyal and RITIS data to assist with the Congestion Management Program (CMP) report – ***1<sup>st</sup> Quarter, FY 2022***
5. Modeling analysis to the Southwest sub-regional highway freight accommodation assessment study. More information about this study can be found in Task 3.6 – ***1<sup>st</sup> and 2<sup>nd</sup> Quarter, FY 2022***
6. Worked on ongoing 2024 LRTP socio-economic projections and demographic data – ***3<sup>rd</sup> and 4<sup>th</sup> Quarter, FY 2022***
7. Aided in the traffic management plan development during the construction of major regional projects – ***Ongoing***
8. Integrated data collected as part of the Regional Data Collection element (2.1) in particular traffic count data – ***Ongoing***

Task Title	Regional Transportation Model			Ref. #	2.2
Funding Program/\$					
	FHWA/PL		FTA Section 5307 (through WRTA)		
Participants	FHWA	State	FTA	WRTA	Total
CMRPC	56,000	14,000			70,000

## **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 which 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 which 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
- 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- 2021)
- Grant Assistance
  - Spencer AARP Grant 2020
  - Charlton Shared Streets Grant 2021
  - MassTrails – 2020 and 2021
- Worked with 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 in order 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: assisted communities as needed with local data collection needs that are not fulfilled by the regional data collection efforts in the areas of traffic counting, pavement condition surveys, Sidewalk and Ramp Surveys - **3<sup>rd</sup> and 4<sup>th</sup> Quarter, FY 2022**
  - As needed, truck exclusion study counts – **Ongoing**
  - Data Analysis and Mapping: assisted 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**

- 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**
- Continued limited technical assistance and support for community pavement management programs – **Ongoing**
- Continued limited technical assistance for MassDOT Roadway Inventory Database updates, as requested. – **Ongoing**
- Assisted communities with management systems data to initiate project development discussion. – **Ongoing**
- Assisted communities with data collection, application and management for the Massachusetts culvert and small bridge grant program – **3<sup>rd</sup> and 4<sup>th</sup> Quarter, FY 2022**

## 2. 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 integration into 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**

- Coordinated 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**
3. 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**
4. 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: Worked on the development of a Rural Transportation Plan for the Region – **FFY 22 and 23**
  - District Local Technical Assistance (DLTA) Project Northborough: CMMPO staff studied the impacts of recent warehouse developments in the town of Northborough that are in proximity to residential areas, the regional high school, and sensitive environmental areas. The project will include data collection (traffic counts, sidewalk inventories and crash analysis), public outreach, walk audits and a monitoring effort – **1<sup>st</sup> Quarter, FY 2022**
  - DLTA Project Douglas: CMMPO staff conducted a signal warrants analysis in Douglas at an intersection determined by town staff to determine if a signal should be installed. This project will consist of data collection and analysis and assessment of possible other solutions – **1<sup>st</sup> Quarter, FY 2022**
  - DLTA Support: Supported the development of local projects seeking funding through the regions DLTA program– **Ongoing**

Funding Program/\$					
	FHWA/PL		FTA Section 5307 (through WRTA)		
Participants	FHWA	State	FTA	WRTA	Total
CMRPC	88,000	22,000			110,000

## **Task 2.4: Performance Management – Targets and Reporting**

### **Description**

The CMMPO's Performance-Based Planning and Programming (PBPP) was initially formed by MAP-21, the federal legislation enacted in 2012, and then later reaffirmed by the FAST Act in 2015. These two acts of legislation prompted FHWA and the FTA to finalize rules that specified federally-required performance measures for the states, MPOs and public transportation providers in order to track trends and develop targets.

The intent of the Performance Management Targets & Reporting work task 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 continues 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 is able to address each of the ten federal transportation 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 and 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 include:*

- 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
- Traffic count data has been mapped as points & segments
- Regional pavement condition data has been mapped and has been used in a number of studies
- Vehicle Crash Data from MassDOT has been mapped & analyzed
- WRTA bus stop & ridership data has been mapped and analyzed as part of transit planning activities
- All past, current and potential future TIP projects have been mapped and analyzed with various datasets
- “Community Snapshots”, based on the Management Systems, were compiled for all forty communities in the CMRPC region

## **Procedures**

1. 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:
  - a. Safety Measures (PM 1) – current state measures adopted by the CMMPO on February 17, 2021, next update and anticipated adoption in February 2022;
  - b. Pavement and Bridge Condition Measures (PM 2) – state measures presented and adopted by the CMMPO in October 2018;

- c. 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;
  - d. Incorporation of Transit Asset Management (TAM) targets from the WRTA TAM Plan (adopted by the CMMPO in October 2018) into the planning process;
  - e. Incorporation of the Public Transit Agency Safety Plan (PTASP) targets in the planning process. The CMMPO adopted targets on February 17, 2021.
2. Implementation of Thresholds – Work with MassDOT OTP and WRTA for inclusion of performance measures within the planning process for the CMMPO staff (CMRPC). The CMMPO staff will be responsible for reporting data and projects for an eventual statewide performance measure assessment. This methodology will also apply to the WRTA with the establishment of their performance measures as required by FTA.
  3. With acceptable targets for performance measures identified in the FFY 2020 LRTP, staff will continue to maintain relevant data for transportation safety, operation, pavement, and congestion management and provide comparison analyses before and after the implementation of projects.
  4. Inclusion and updates to certification documents of the state 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, LRTP, as reflected in the UPWP.
  5. Inclusion with Projects – Incorporate the performance measure metrics with the Screening & Ranking Criteria for use in the review and ranking of TIP projects.

Staff will continue to participate in the 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 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, reviewed/refined locally-derived, previously established performance measure criteria – **Ongoing**
2. CMMPO annual adoption of Safety performance measures (PM1) – **2<sup>nd</sup> Quarter**
3. Updated annual System Performance Report showing progress of the federally-required and CMMPO regionally-customized performance measures and targets. As needed, refined measures and targets – **3<sup>rd</sup> Quarter FFY 2022**

4. Considered PBPP criteria, both qualitative and quantitative, in the development of CMMPO certification documents including the 2023-2027 TIP screening & selection, LRTP *Mobility2040* implementation as well as future Corridor Profile efforts and other transportation planning activities – **Ongoing**
5. Coordinated with the Transportation Program Managers Performance Management Subcommittee on Performance Management target setting efforts with MassDOT and MPOs, as needed – **Ongoing**
6. Continued to assist the WRTA with any related work regarding the Public Transit Agency Safety Plan (PTASP). If needed, assisted the CMMPO in establishing their own customized transit safety targets or followed the WRTA’s targets and integrated into the CMMPO planning process - **Ongoing**
7. Prepared and submitted 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**
8. Produced WRTA transit performance data in response to public information requests or in support of WRTA fare or service planning activities – **As required**

<b>Task Title</b>	<b>Performance Management Analysis &amp; Reporting</b>	<b>Ref. #</b>	<b>2.4</b>
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Funding Program/\$					
	FHWA/PL		FTA Section 5307 (through WRTA)		
Participants	FHWA	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

### Procedures

CMMPO staff work efforts for FFY 2022 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* location to study.

- The *Corridor Profile* selected by the CMMPO will be compiled during this program year. Always evolving, *Corridor Profile* studies have become more streamlined and concise in order 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, if 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 – – **1<sup>st</sup> Quarter, FFY 2022**
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 – **4<sup>th</sup> Quarter, FFY 2022**
3. Assisted with Corridor Profile public informational meetings, to be scheduled as necessary. Public meetings typically focus on the suggested improvement options developed for the consideration of MassDOT and the Corridor Profile host communities – **3<sup>rd</sup> and 4<sup>th</sup> Quarter, FFY 2022**

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

Funding Program/\$					
	FHWA/PL		FTA Section 5307 (through WRTA)		
Participants	FHWA	State	FTA	WRTA	Total
CMRPC	32,000	8,000			40,000

## **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 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 "Tool Box" 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, improvement project effectiveness and/or to suggest improvement options (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).

## Procedures

Due to the COVID-19 pandemic in calendar year 2020, minimal data was collected for the CMP during the FFY 2021 program year. Data collection will resume in the FFY 2022 program year and CMRPC's responsibilities 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. Create prioritized listing of bottleneck locations, using the regional Travel Demand Model as a screening tool.
- Bicycle and Pedestrian Counts: Collect as part of a TMC. These field observations help to 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 Job: 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.

- 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 FAST Act, 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. Annual CMP Progress Report with 2021 data and analyses – **1<sup>st</sup> Quarter, FFY 2022**
2. Using of established CMP performance measures and targets to help prioritize TIP and LRTP implementation projects – **2<sup>nd</sup> and 3<sup>rd</sup> Quarter, FFY 2022**
3. Created a prioritized listing of bottleneck locations in the region. The regional Travel Demand Model was used to determine potential bottleneck locations. One priority location will be identified, studied and the level of congested conditions will be verified in the field. Analyses at the identified location will be undertaken 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 – **3<sup>rd</sup> and 4<sup>th</sup> Quarter, FFY 2022**
4. Researched additional CMP strategy effectiveness techniques used by other similar Massachusetts MPOs – **4<sup>th</sup> Quarter, FFY 2022**
5. Analysis of data, mapping and integration with other Management System and Performance-Based Planning & Programming data – **Ongoing**
6. Refined and evolved CMP Performance Measures, as necessary – **Ongoing**

Task Title	Congestion Mgmt Process Project Development	Ref. #	3.2
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Funding Program/\$					
	FHWA/PL		FTA Section 5307 (through WRTA)		
Participants	FHWA	State	FTA	WRTA	Total
CMRPC	32,000	8,000			40,000

## **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 updated 2018 Massachusetts SHSP is consistent with requirements outlined in the most recent Federal transportation legislation, FAST Act.

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**

1. Preparation of a CMMPO 2015-2017 Crash 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.
2. Participation in MassDOT Roadway Safety Audits for current and future year HSIP-eligible TIP projects.
3. 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.
4. Mapping of crash data to assist various stakeholder groups' safety improvement efforts.
5. Assistance to MassDOT staff in developing "Systemic Approaches to Low Cost Safety Enhancements".

6. Assistance with development of a Massachusetts Emergency Management Agency-funded Pre-Disaster Mitigation Plan for the region.
7. Assistance to WRTA with development of a Continuity of Operations Plan (COOP) and periodic updates.
8. Coordination of public transit providers operating in the region through CMMPO Advisory Committee activities supporting 3C transportation process.
9. Assistance to WRTA with TAM Plan and PTASP development, monitoring, and reporting.

## 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 FAST Act. 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 Mobilty2040 to better reflect federal guidance and state's targets. 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 produce a high-crash locations report. This report will provide a detailed list of top crash locations, regional corridors, fatal crash locations and bicyclist/pedestrian 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 bicyclist-pedestrian 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.

- ***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 – ***1<sup>st</sup> Quarter, FFY 2022***
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 implementation – ***3<sup>rd</sup> Quarter, FFY 2022***
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. Developed annual Safety Report and Community Safety Profiles with new available safety data – **Ongoing**
10. Analysis of safety data and identify opportunities for systemic safety improvements in the region – **2<sup>nd</sup> Quarter, FFY 2022**
11. Developed a Pedestrian and Bicycle Safety Action Plans for communities with higher risk of non-motorized crashes – **3<sup>rd</sup> Quarter, FFY 2022**
12. 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**
13. Coordination with communities to continue to build the evacuation and mass shelter capability resource guide – **Ongoing**
14. Coordination and preparation of content relevant to WRTA TAM Plan, and PTASP at WRTA's direction – **Ongoing**

<b>Task Title</b>	<b>Transportation Safety Project Development</b>	<b>Ref. #</b>	<b>3.3</b>
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Funding Program/\$					
	FHWA/PL		FTA Section 5307 (through WRTA)		
Participants	FHWA	State	FTA	WRTA	Total
CMRPC	32,000	8,000			40,000

## **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. In order 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 with 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 also 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 FAST Act, 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 update for 2020 (2019) available federal guidance. In order to measure progress according to CMMPO goals and performance metrics, this work task will include the following activities:

### *Pavement Management*

- Update the regional budget and condition scenarios utilizing the Cartegraph pavement management software
- 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 recently completed Mobility2040 – the update for 2020.

### *Sidewalk, Curb Ramp and Crosswalk Management*

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

### *Bridge Management*

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

### *Culvert Management*

- Utilize the MassDOT Culvert Inventory and the NAACC database for the Performance Measures Criteria Process
- Update and refine culvert prioritization listing using the MassDOT Culvert Inventory and the NAACC database
- Update the backlog and repair cost estimations utilizing guidance from MassDOT and the CMMPO TIP
- 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
- Update and refine the Traffic Signals prioritization listing
- Update the backlog and repair cost estimations utilizing the TIP, guidance from MassDOT and CMMPO average cost figures

### *Bike Facilities*

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

### *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 an update of the Regional Asset Management Report.
- 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 report online.

## **Products & Schedule**

### *Pavement Management*

- Completion of the pavement analysis for the asset management plan and other associated documents - **2<sup>nd</sup> Quarter, FFY 2022**
- 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— **3<sup>rd</sup> Quarter, FFY 2022**
- Continued integration of sidewalks, curb ramps and crosswalks into the pavement condition database - **3<sup>rd</sup> Quarter, FFY 2022**
- Provided communities with current pavement survey information to help inform potential roadway projects - **3<sup>rd</sup> and 4<sup>th</sup> Quarter FFY 2022**
- 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- **3<sup>rd</sup> and 4<sup>th</sup> Quarter FFY2022**
- 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*

- Continued to refine methods for prioritizing potential gap and repair projects for sidewalks, curb ramps and crosswalks in coordination with UPWP task 3.5 - **2<sup>nd</sup> Quarter, FFY 2022**
- Completion of sidewalk, curb ramp and crosswalk analysis for the asset management plan and other associated documents - **2<sup>nd</sup> Quarter, FFY 2022**

- Continued integration of pavement assets and traffic signal assets into the sidewalk, ramps and crosswalk database- **3<sup>rd</sup> Quarter, FFY 2022**
- Provided communities with current sidewalk, curb ramp and crosswalk survey information to help inform potential projects - **3<sup>rd</sup> and 4<sup>th</sup> Quarter, FFY 2022**
- Provided MassDOT with current sidewalk, curb ramp and crosswalk survey information to help inform potential projects - **3<sup>rd</sup> and 4<sup>th</sup> Quarter, FFY 2022**
- Encouraged communities to replace and maintain town level high priority federal-aid sidewalks and curb ramps to maintain the region network – **Ongoing**

#### *Bridge Management*

- Continued refining methods for tracking the conditions of the regions bridges and utilizing the MassDOT Bridge Inspection Management System - **2<sup>nd</sup> Quarter, FFY 2022**
- Continued refining methods for prioritizing Bridge projects utilizing data from MassDOT- **2<sup>nd</sup> Quarter, FFY 2022**
- Completed bridge analysis for the asset management plan and other associated documents - **2<sup>nd</sup> Quarter, FFY 2022**
- Continued integration of other assets and into the bridge database - **3<sup>rd</sup> Quarter, FFY 2022**
- Provided communities with current MassDOT bridge condition information to help inform potential projects - **3<sup>rd</sup> and 4<sup>th</sup> Quarter, FFY 2022**
- Encouraged communities to replace and maintain town level high priority federal-aid bridges to maintain the region network – **Ongoing**

#### *Culvert Management*

- Continued to refine methods for tracking the conditions of the region's culverts using the NAACC database and the MassDOT database - **2<sup>nd</sup> Quarter, FFY 2022**
- Continued to refine methods for prioritizing culvert projects utilizing data from MassDOT- **2<sup>nd</sup> Quarter, FFY 2022**
- Completed culvert analysis for the asset management plan and other associated documents - **2<sup>nd</sup> Quarter, FFY 2022**
- Continued integration of other assets into the culvert database - **3<sup>rd</sup> Quarter, FFY 2022**
- Provided communities with current MassDOT culvert condition information and NAACC condition information to help inform potential projects - **3<sup>rd</sup> and 4<sup>th</sup> Quarter, FFY 2022**

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

#### *Traffic Signal Management*

- Continued to refine methods for tracking the conditions of the region's traffic signals using the CMMPO database and the MassDOT database - **2<sup>nd</sup> Quarter, FFY 2022**
- Continued to refine methods for prioritizing traffic signals utilizing data from MassDOT and the CMMPO data collection efforts - **2<sup>nd</sup> Quarter, FFY 2022**
- Completed traffic signal analysis for the asset management plan and other associated documents - **2<sup>nd</sup> Quarter, FFY 2022**
- Continued to integrate other assets into the traffic signal database - **3<sup>rd</sup> Quarter, FFY 2022**
- Provided communities with current traffic signal condition information to help inform potential projects - **3<sup>rd</sup> and 4<sup>th</sup> Quarter, FFY 2022**
- Encouraged communities to replace and maintain town level high priority federal-aid traffic signal locations to maintain the region network – **Ongoing**

#### *Bike Facilities*

- Continued to refine methods for tracking the location and conditions of the bike facilities using the CMMPO database and the MassDOT database - **2<sup>nd</sup> Quarter, FFY 2022**
- Continued to refine methods for prioritizing bike facility projects utilizing data from MassDOT and the CMMPO data collection efforts- **2<sup>nd</sup> Quarter, FFY 2022**
- Completed bike facility analysis for the asset management plan and other associated documents - **2<sup>nd</sup> Quarter, FFY 2022**
- Continued to integrate other assets into the bike facility database - **3<sup>rd</sup> Quarter, FFY 2022**
- Provided communities with bike facility condition and location information to help inform potential projects - **3<sup>rd</sup> and 4<sup>th</sup> Quarter, FFY 2022**
- Encouraged communities to expand and maintain town level high priority federal-aid bike facility locations to maintain the region network – **Ongoing**
- Continued to refine methods for prioritizing potential bike facility gap projects - **2<sup>nd</sup> Quarter, FFY 2022**
- Continued improving the bike ability index into the asset management process - **3<sup>rd</sup> Quarter, FFY 2022**

### *Transit*

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

### *Asset Management Planning*

- Updated the regional asset management map and online dashboard - **2<sup>nd</sup> Quarter, FFY 2022**
- Updated the regional asset management report and priority listing - **2<sup>nd</sup> Quarter, FFY 2022**
- 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**
- 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 – **1<sup>st</sup> and 2<sup>nd</sup> Quarters, FFY 2022**
- Continued to measure the key Performance Measure metrics established as part of the Regional Transportation Plan - **2<sup>nd</sup> Quarter, FFY 2022**

Task Title	Asset Management	Ref. #	3.4
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Funding Program/\$					
	FHWA/PL		FTA Section 5307 (through WRTA)		
Participants	FHWA	State	FTA	WRTA	Total
CMRPC	32,000	8,000			40,000

## **Task 3.5: Livability (Bike/Ped, Pub Health/Travel and Tourism)**

### **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 transportation modes locally and nationally. It is important to develop safe and efficient facilities for use by cyclists and pedestrians in the Central Massachusetts region.

The objective of this work task is to incorporate FAST Act planning priority areas with the goals and objectives from the Mobility2040 Long Range Transportation Plan with respect to cycling and walking. Local and regional efforts regarding multimodal promotion have focused on the implementation of a Complete Streets approach that has been incorporated into MassDOT 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 FFY2022 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**

- Updated 2018 CMMPO Regional Bicycle Plan. In order to allow for a more thorough analysis, the two components of the previous 2011 CMMPO Regional Bicycle & Pedestrian Plan were split for the current update. This decision was made to reflect MassDOT's current efforts with the Statewide Bicycle Plan and the Statewide Pedestrian Plan. The update included public participation and outreach i.e. sub-regional meetings and a survey was developed in an effort to provide additional input and feedback about the regional needs regarding cycling.
- Updated 2018 CMMPO Regional Pedestrian Plan which included similar public participation and community outreach efforts as the Bicycle Plan Update in order to gather stakeholder and general public input.
- Completed pedestrian and bicycle counts on CMRPC recreational trails and municipal requested streets, as well as participation in multiple Bay State Bike Week events.
- Staff has participated on the MA Bicycle Advisory Council at the statewide level.

- Staff worked on the Scenic Byway Corridor Management Plan along MA-122 from Paxton to Petersham.
- Staff worked with the Worcester DPH to complete a Bicyclist and Pedestrian Plan for the Town of Grafton through a Mass in Motion mini-grant.
- Staff convened a meeting for school superintendents and Town Administrators and Managers aimed at increasing participation with the MassDOT Safe Routes to School program in order to improve student travel safety and promote bicycling/walking.
- Staff worked with the Town of Spencer to prepare a grant application to fund construction of a small park in its downtown that would connect to recently implemented Complete Streets and Downtown Revitalization improvements.
- Staff developed a georeferenced dataset with major tourism destinations in the region, industry segments, number of visitors, among other criteria.
- Staff has actively worked with Worcester DPH and other organizations and stakeholders through the Greater Worcester Community Health Assessment and the Greater Worcester Community Health Improvement Plan.
- Utilizing the CMMPO's Regional Bicycle Plan, staff completed a Bicycle Compatibility Index (BCI) that analyzes the ability of segments along federally eligible roadways to house multi-modal accommodations within their existing conditions.

## **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 complement 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 and Safe Routes to Schools 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, Safe Routes to School, and the newly allocated TIP funds for “MicroProjects”.
- Create/Re-active the Safe Routes to School Taskforce to continue partnerships with Worcester Public Schools, Mass in Motion, MassDOT, and other stakeholders to improve school travel for children.
- 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. Implementation of the Regional Bicycle Plan, Regional Pedestrian Plan, and the Bicycle Compatibility Index through identification of potential projects that support local and regional priorities. – **Ongoing**
2. Continued necessary updates to the BCI including the implementation of the action plan through the BCI prioritization process. – **Ongoing**
3. Worked with the Blackstone River Valley National Heritage Corridor and Wachusett Greenways stakeholder groups and municipalities to coordinate completion of the Blackstone River Greenway and MA Central Rail Trail including trail segments. – **Ongoing**
4. Utilization of the FY2021 Trails Grant to assist communities in promoting trail engagement and accessibility of aging and youth populations, and enhance the utilization and awareness of local trail systems. Activities related to these topics include the continued mapping of local trail systems, identifying gaps in the trail network as it relates to youth, aging, and underserved populations, and creating a Youth Stewardship Program to promote trail advocacy. - **Ongoing**
5. Assisted communities in advancing Bicycle and Pedestrian projects into the MassDOT Highway Division’s project development process for standalone TAP Projects, inclusion in larger roadway projects, Complete Streets Tier III construction projects, Safe Routes to School infrastructure projects, or as potential standalone “MicroProject”. – **Ongoing**
6. Maintained/updated non-motorized database including new on-street bike lanes, new trail segments and amenities, pedestrian and bicyclist counts, and the BCI. – **Ongoing**
7. Continued participation with the Massachusetts Bicyclist and Pedestrian Advisory Board (MABPAB) in order to stay engaged with the implementation of the Statewide Bicycle Plan and Statewide Pedestrian Plan. – **Ongoing**
8. Worked with the City of Worcester’s Transportation Advisory Group (TAG) on the development of a Complete Streets Prioritization Plan, review framework, and integration into the City’s Master Plan. – **Ongoing**
9. Continued working with partner agencies and stakeholders on bicycle and pedestrian related events and planning efforts such as Bay State Bike Week, Safe Routes to School, and on broad-based community initiatives with the WRTA, Mass in Motion, WalkBike Worcester, Worcester DPH, and other groups to promote livability, access to essential services, and alternative modes of travel, including opportunities for demonstration projects, among others. – **Ongoing**

10. Conducted a feasibility analysis for bike share opportunities within the region – **4<sup>th</sup> Quarter, FFY 2022**
11. Continued 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**
12. Worked with Land Use and Regional Services staff to continue efforts and project development related to Scenic Byways to promote open space conservation, travel, and tourism. – **Ongoing**
13. Worked with RCCP staff on project development related to the Community needs and updates to the Lost Villages Scenic Byway Corridor Management Plan. – **1<sup>st</sup> Quarter, FFY 2022**
14. Worked with WalkBike Worcester, Walk Boston, and other stakeholders to develop a guidance for walk audits. Utilize the guidance with municipalities to promote community involvement as a part of the prioritization process for Complete Streets – **Ongoing**
15. Continued 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**
16. 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**

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

## **Task 3.6: Freight and Intermodal Planning**

### **Description**

The primary mission of Freight Planning 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 (and a some 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 funding, environmental (natural, Title VI, EJ, LEP), energy, congestion & safety impacts of potential CMMPO policy and programming decisions.

The CMMPO, following the intent of US DOT Freight Planning provisions, is required to provide the opportunity for input from member 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 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, November 2020.
- 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.
- Providing assistance to regional rail freight provider applications for MassDOT Industrial Rail Access Program (IRAP), US DOT TIGER and EPA grant funding. Recently, during 2019, staff supported the Grafton & Upton Railroad application to the FRA's Consolidated Rail Infrastructure and Safety Improvements (CRISI) grant program.
- Staff ongoing review of rail freight periodical Rail Pace magazine and the Massachusetts Motor Transportation Association e-newsletter.
- Hosted MassDOT-OTP meetings for 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:

1. 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 deficiencies and planned improvements, seeking both feedback and general guidance.

2. Compilation of biennial Freight Planning Progress Report that details staff's efforts concerning highway trucking, railroad and intermodal freight movement activities throughout the greater planning region.
3. Compilation of a "Highway Freight Accommodation Assessment Study for State Numbered Routes" that focuses on the Southwest transportation planning subregion. The assessment study would consider both existing and anticipated future freight movement in this subregion. The study will likely suggest a number of roadway improvement options to assure the continued flow of freight while mitigating any identified local impacts. The study will include, but not be limited to, state numbered Routes 12, 16, 31, 49, 56, 131, 148, 169, 193, 197, 198 and US 20. The state's Freight Plan will serve as a reference to this effort.
4. 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.
5. Continue ongoing efforts associated with major rest locations for long-distance truck drivers in the planning region. Staff plans to use the Rest Area Locator feature on GeoDOT as part of this effort. Potential rest area locations will be assessed based on adjacent or nearby highway projected daily truck traffic provided by the Travel Demand Model, as well as existing or permittable land uses, such as "big box" retail or warehousing.
6. Continue participation in limited role with any Freight Rail Feasibility Analysis study efforts led by the CMRPC Regional Collaboration & Community Planning (RCCP) staff.
7. Assist regional rail freight providers seeking MassDOT IRAP funding, US DOT FRA and EPA grants, as appropriate.
8. 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.
9. 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 "Freight Matters" webinar training series as pertinent.

10. 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.
11. Address unanticipated Freight Planning-related requests from MassDOT OTP and/or FHWA.

## **Products & Schedule**

1. Compilation of sectional materials for the next biennial Freight Planning Progress Report document for 2020-2021. An overview of staff's freight planning efforts will be provided in a summary report. – **4<sup>th</sup> Quarter, FFY 2022**
2. Compilation of sectional materials for the "Highway Freight Accommodation Assessment Study for State Numbered Routes" that focuses on the Southwest transportation planning subregion. – **4<sup>th</sup> Quarter, FFY 2022**
3. Continued studying of major rest locations for long-distance truck drivers in the region. Expanded and/or refined existing summary listing and accompanying map. – **3<sup>rd</sup> Quarter, FFY 2022**
4. Conducted traffic volume and vehicle classification counts on the region's Critical Rural & Urban Freight Corridors. - **Ongoing**
5. As necessary, staff continued to document the Freight Planning-related proceedings of the CMMPO Advisory Committee for consideration and reference by the CMMPO. - **Ongoing**
6. Hosted, attended and participated 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**
7. Participation in any DLTA-funded Rail Freight Feasibility Analysis Studies conducted by the CMRPC RCCP staff in an advisory capacity, as appropriate. -**As Necessary**
8. Attended 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 "Freight Matters" webinar training series as pertinent. – **Ongoing**

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

<b>Task Title</b>	<b>Freight and Intermodal Planning</b>	<b>Ref. #</b>	<b>3.6</b>
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Funding Program/\$					
	FHWA/PL		FTA Section 5307 (through WRTA)		
Participants	FHWA	State	FTA	WRTA	Total
CMRPC	32,000	8,000			40,000

## Task 3.7: Long Range Transportation Plan (LRTP) Implementation

### Description

The Long-Range Transportation Plan (LRTP) for the planning region, *Mobility2040 Update for 2020*, contains transportation *policy*, evolving *programs* and crafted listings of multi-modal infrastructure improvement *projects* sought over the next 20-year period. The document also features CMMPO suggested *initiatives* for both advancement and continued study.

As required by the FAST Act, the *Mobility2040 Update for 2020* is a performance-based document. The *Update for 2020* features a range of performance-based objectives, measures & targets, fulfilling the requirements of PM1, PM2, PM3 as well as CMMPO-derived and customized Performance Management factors. All ten US DOT transportation planning emphasis areas are addressed through the CMMPO's now established and ongoing Performance-Based Planning & Programming activities. The PM criteria allow for the screening, prioritization and selection of candidate projects for inclusion in both the TIP and LRTP Major Infrastructure (MI) project listings.

A number of topics in *Mobility2040 Update for 2020* have been identified for further study. The LRTP's Chapter 5 provides a comprehensive listing of a broad range of *Needs*. Addressing these Needs allows the CMMPO to meet the goals and objectives of the regional transportation planning process. As such, staff will work to address the Needs inventoried in the *Update for 2020* in an evolving, programmatic manner. The five established LRTP Programs are:

1. Major Infrastructure (MI) projects, highway-related
2. Asset Management and System Operations
3. Transit Planning and Mobility Management
4. Livability and Healthy Transportation
5. Climate Change and Resiliency

The programmatic areas are based on the identified regional Needs and associated priorities, the federal transportation planning emphasis areas, regional goals established by the CMMPO, Management Systems data integration efforts and the public outreach process. The five programs are designed to advance the intended outcomes for the region reflected in the range of established performance measures. The CMMPO staff will also continue to pursue the development of longer-term initiatives, studies and projects that evolve from the LRTP.

## Previous Work

LRTP document series from 1993 under ISTEA to the latest CMMPO Endorsed *Mobility2040 Update for 2020*, compiled under the FAST Act. Evolving from prior LRTP efforts, the *Update for 2020* was restructured to provide separate and distinct chapters on “Needs” and “Analysis”.

## Procedures

Anticipated work activities that seek to implement *Mobility2040 Update for 2020* recommendations may include, but are not limited to, the following:

1. CMMPO staff will continue to work with state, regional and local stakeholders to facilitate the implementation of long-term *Mobility2040 Update for 2020* recommendations, including identified “Program” initiatives and the advancement of CMMPO-selected Major Infrastructure projects.
2. The CMMPO staff will work to address various identified Needs inventoried in the LRTP under the established five planning “Programs”. Each of the five Programs will involve initiatives, studies and projects or technical assistance for the region’s communities. Further, the Programs will be supported by other staff efforts including the Data Management Systems, Performance Management Systems and Transportation Equity.
3. CMMPO staff will continue to work with MassDOT OTP through the Transportation Managers Group to continue the evolution of performance-based planning through the use of nationally-required measurements, targets, and periodic evaluations to assess implementation progress. Similarly, staff will continue to review, assess and refine the CMMPO-customized performance-based regional transportation planning objectives, measures & targets.
4. Follow US DOT and MassDOT OTP direction/guidance in program evolution relating to such topics as project selection, CIP inclusion, GHG reduction efforts and Major Infrastructure.
5. CMMPO staff will continue participation in other LRTP implementation efforts and/or various studies being conducted within the region that are not part of direct UPWP tasks and/or MassDOT is not the lead agency.
6. Continue the integration of the priorities identified in *Mobility2040 Update for 2020*, the CMMPO TIP and the UPWP by monitoring the allocation of regional target funds by Program.
7. Continue working towards the implementation of Major Infrastructure projects and commence the evaluation of potential “MicroProjects” through a broad public outreach process.

## Products & Schedule

1. Endorsed by the CMMPO in July 2019, adjusted/amended the *Mobility2040 Update for 2020* document as determined necessary by the CMMPO - ***Ongoing, as appropriate***
2. Worked with state, regional and local stakeholders to facilitate implementation of *Mobility2040 Update for 2020* recommendations, including the five established Program initiatives which include the advancement of Major Infrastructure improvement projects - ***Ongoing, as appropriate***
3. Advancement of the five established Program initiatives to address identified regional Needs in a prioritized manner and continued monitoring progress within each Program area. It appears that each of the Program areas has the potential to advance multiple performance-related goals simultaneously while also improving cost-effectiveness. – ***Ongoing, as appropriate***
4. Continued evolution of PBP&P using nationally-required measurements, targets and periodic evaluation to assess implementation progress. Also, continue the review, assessment and refinement of CMMPO-customized performance-based objectives, measures & targets, in conjunction with the TIP’s project screening/scoring processes – ***4<sup>th</sup> Quarter FFY 2022***
5. Updated various prior-conducted LRTP analyses, including an update of the Management Systems Integration effort that resulted in “tiered” groupings of potential future improvements subsequently assigned to one of the five Program areas. Also, conduct new research and pursue regionally-derived studies pertinent to the identified Needs and associated priorities in the LRTP - ***Ongoing, as appropriate***
6. Participated in various other pertinent state studies being conducted in the CMMPO region - ***Ongoing, as appropriate***
7. As identified as a result of the CMMPO’s Federal Certification Review of September 2020, continued strengthening the relationship between the LRTP and the TIP by linking the LRTP project listings and Program areas, including updates of funding allocation by LRTP programmatic area in the TIP document – ***1<sup>st</sup> Quarter, FFY 2022***
8. Conducted outreach to the region’s communities to obtain information about the range of transportation initiatives, services and projects that they have been actively working on, or, are interested in pursuing related to active transportation, climate change and transit/paratransit service. This input will be used as primary source and guidance to determine potential opportunities for MicroProjects in the region. – ***1<sup>st</sup> Quarter, FFY 2022***

9. Developed protocols and standardized procedures to assist the region’s communities in the new process for submitting an application for a proposed “MicroProject”, detailing this process from conceptual stage to full implementation. – **2<sup>nd</sup> and 3<sup>rd</sup> Quarter, FFY 2022**

**Task Title**                      **Long-Term RTP Implementation**                      **Ref. #**                      **3.7**

Funding Program/\$					
	FHWA/PL		FTA Section 5307 (through WRTA)		
Participants	FHWA	State	FTA	WRTA	Total
CMRPC	60,000	15,000			75,000

## **Task 3.8: Climate Change – Resiliency, Sustainability, and Vulnerability**

### **Description**

The Climate Change – Resiliency and Sustainability 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 reduce dependence on automobile travel and reduce single-occupancy vehicle trips. 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 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, all ten federal transportation planning emphasis areas are also considered through other regionally-customized performance measures, including Stormwater Management & Resiliency. While Climate Change and Performance Management are distinct areas of emphasis, these tasks overlap in a number of ways. All planning regions in the state experience climate change-related issues, 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 inform regional transportation planning activities. Major efforts are being targeted in the identification and assessment of culverts and small bridges in the region. With this, 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 to improve the resiliency of the planning region's transportation infrastructure while also minimizing its level of vulnerability.

For FFY 2022, 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 in order 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 Transportation Planning Toolkit. 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.
- Developed a Water Module to go along with the previously compiled Nature Based Solutions Toolkit.
- Hosted the CMMPO’s Annual Environmental Consultation Session. Staff continued to develop 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”.
- Continued to work with the CMRPC Regional Collaboration & Community Planning (RCCP) staff to host a number of Municipal Vulnerability Program workshops, and develop community strategies in resiliency, adaptation, and mitigation.
- Continued to analyze 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 from climate change. 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. As necessary, continue to contribute to MassDOT OTP's CMAQ Consultation process in relation to the development of the annual CMMPO TIP.
- Continue to participate in the Transportation Climate Initiative Program (TCI-P).
- Continue to provide the planning region's communities with information about the FHWA Alternative Fuel Corridor (AFC) Program and the Statewide Green Communities Program.
- Work with CMRPC Land Use, Homeland Security, and Regional Services divisions to incorporate appropriate efforts so as 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. Prepared for and conducted Annual Environmental Consultation meeting, focusing on the Long Range Transportation Plan (LRTP) and Transportation Improvement Program (TIP), including stakeholder coordination for transportation planning and TIP Project Screening – **2<sup>nd</sup> Quarter, FFY 2022**
2. Refinement of the environmentally-related Transportation Planning Toolkit with emphasis on regional Air Quality – **4<sup>th</sup> Quarter, FFY 2022**
3. Identification of vulnerable infrastructure and potential transportation capacity constraints that may have been identified during earlier Evacuation Planning and Municipal Vulnerability Preparedness efforts – **Ongoing**

4. Continued participation in statewide meetings, webinars, and working groups related to climate change, an example being the Transportation Climate Initiative (TCI) – **Ongoing**
5. Continued identifying opportunities for culvert replacement grants, including the MA-DER’s “Culvert Replacement Municipal Assistance Grant Program” – **Ongoing**
6. Using the Culvert Inventory Maps from both new and previously-conducted assessments to assist with planning decisions to improve the resiliency and sustainability of road-stream crossings. – **Ongoing**
7. Assisted CMRPC RCCP staff to incorporate Green Communities and critical infrastructure planning. Develop an electric vehicle charging stations inventory map to improve associated analyses for the TIP and other transportation planning projects. This includes seeking opportunities in rural areas as well as opportunities for Alternative Fuel Corridors. – **Ongoing**
8. Explored applicability of drone imagery as a tool to assist in the improvement of the resiliency and sustainability of the region’s transportation infrastructure – **Ongoing**
9. Assisted the WRTA to identify, apply, and secure funding for long-range facility and service planning that maintains an existing level of service and also promotes future sustainability capabilities – **Ongoing**

<b>Task Title</b>	<b>Climate Change – Resiliency and Sustainability</b>	<b>Ref. #</b>	<b>3.8</b>
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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. Particular 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 / connected vehicles as these innovations are or may be part of the region's future transportation network.

### **Prior 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
- 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

## 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 shuttles 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 – **3<sup>rd</sup> Quarter, FFY 2022**
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 – **4<sup>th</sup> Quarter, FFY 2022**
3. Exploration of pilot data collection program of parking utilization rates of MBTA commuter rail parking lots within the CMMPO region – **1<sup>st</sup> and 4<sup>th</sup> Quarter, FFY 2022**

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 – **2<sup>nd</sup> and 3<sup>rd</sup> Quarter FFY 2022**
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, etc. - **Ongoing**
7. Attended and/or provided administrative support to formal and ad hoc committees (i.e. TPAG, Central Massachusetts Agency on Aging Advisory Committee, Regional Coordinating Council, Quaboag Region Coordinating Council, Transportation Advisory Committee, WRTA Riders' Advisory Committee, 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/PL		FTA Section 5307 (through WRTA)		
Participants	FHWA	State	FTA	WRTA	Total
CMRPC	24,000	6,000			30,000

## **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.

### **Prior Work**

- ADA Transportation Eligibility and Service Policy assistance
- CMMPO Coordinated Public Transit-Human Services Transportation (CHST) Plans
- WRTA Comprehensive Service Analysis, 2015 (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 2021.
- Assistance with preparation and evaluation of WRTA FY 2021 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.
- 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, and
- 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), organizing 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, and other 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 2022- to conform to WRTA plans, service standards, and adopted budget;

- Ongoing review of the fixed route service model (or various 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, and
- Provision of other technical assistance to the WRTA as the WRTA may reasonably request.

## Products & Schedule

1. FY 2021 fixed route cost and revenue allocation and paratransit operating data for yearly audit – **1<sup>st</sup> Quarter, FFY 2022**
2. FY 2021 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– **1<sup>st</sup> and 2<sup>nd</sup> Quarters, FFY 2022**
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, FY 2022**
4. Updated WRTA Bus Shelter and Passenger Amenities inventory – **1<sup>st</sup> and 2<sup>nd</sup> Quarters, FFY 2022**
5. Other technical assistance – **Ongoing**
6. 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**
7. ADA compliance assistance – **Ongoing**
8. Technical assistance in maintaining a drug/alcohol-free workplace and compliant drug/alcohol testing program, particularly related to paratransit providers - **Ongoing**
9. Consultant assistance, particularly related to ITS (i.e. fare collection system) and service planning – **Ongoing**
10. 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**

11. 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**
12. Public Participation, Title VI/LEP-LAP and EJ activity planning, implementation, and effectiveness measurement including surveys – **Ongoing**
13. Coordination of ADA Appeal Process assistance – **Ongoing**
14. Continued refinement of systems framework for analysis of ITS data and related interface with existing MPO data sets – **Ongoing**
15. Assistance with service change/expansion strategies– **Ongoing**
16. Continued WRTA - MBTA Commuter Rail service coordination at CMMPO region MBTA Commuter Rail stations – **Ongoing**
17. Monitoring WRTA Operations – CMRPC staff coordination of regional and statewide evacuation planning efforts - **Ongoing**
18. Reviewed major roadway and larger regional development projects for transit accommodations – **Ongoing**
19. 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/PL		FTA Section 5307 (through WRTA)			
Participant s	FHWA	State	FTA	WRTA	Total	
CMRPC			329,600	82,400	412,000	

## Task Summary by Funding Source

The PL funding for FFY 2022, has an overall reduction of 3% due to decrease of obligation authority of the FHWA/PL funds. Staff reviewed the historical budget spent for each of the elements and reduced funding in Elements 1.1, 2.3, and 4.1 to make the FFY 2022 budget financially constrained. COVID-19 has resulted in savings of some travel reimbursements and the ability to reduce training costs via virtual participation. This provided some reduction in the FFY 2022 direct expense budget as well.

### **FFY 2022 Program Year Unified Planning Work Program**

Task #	Description	FHWA/PL (thru DOT)	State Match	FTA 5307 (through WRTA)	WRTA Match	Totals
<b><i>Element 1: Management &amp; Support of the Planning Process and Certification Activities</i></b>						
1.1	Management & Support of "3C" Process	191,962	47,990			239,952
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	20,000	5,000			25,000
1.5	Public Participation	20,000	5,000			25,000
<b>Subtotals:</b>		303,962	75,990	0	0	379,952
<b><i>Element 2: Data Collection and Analysis Activities</i></b>						
2.1	Data Collection and Analysis	116,000	29,000			145,000
2.2	Regional Transportation Model	56,000	14,000			70,000
2.3	Community and Regional Technical Assistance	88,000	22,000			110,000
2.4	Performance Management Analysis and Reporting	44,000	11,000			55,000
<b>Subtotals:</b>		304,000	76,000	0	0	380,000
<b><i>Element 3: Transportation Plan Refinement Activities</i></b>						
3.1	Corridor Study	32,000	8,000			40,000
3.2	Congestion Mgt Process Project Development	32,000	8,000			40,000
3.3	Safety and Security Project Development	32,000	8,000			40,000
3.4	Asset Management	32,000	8,000			40,000
3.5	Livability (Bike/Ped, Public Health, Travel&Tourism)	60,000	15,000			75,000
3.6	Freight and Intermodal Planning	32,000	8,000			40,000
3.7	Long-term RTP Implementation	60,000	15,000			75,000
3.8	Climate Change - Resiliency, Sustainability, and Vulnerability	50,000	12,500			62,500
<b>Subtotals:</b>		330,000	82,500	0	0	412,500
<b><i>Element 4: Other Technical Activities</i></b>						
4.1	Transit /Paratransit / Rail & Technical Activities	24,000	6,000			30,000
4.2	WRTA Technical Assistance			329,600	82,400	412,000
<b>Subtotals:</b>		24,000	6,000	329,600	82,400	442,000
<b>Totals:</b>		961,962	240,490	329,600	82,400	1,614,452

\*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> <sup>1</sup>		<u>TOTAL</u>
	FHWA/ MassDOT PL	FTA WRTA 5307	
Direct Salary	\$582,148	\$201,226	\$783,374
Overhead Costs	\$595,304	\$205,774	\$801,078
Direct Costs	<u>\$25,000</u>	<u>\$5,000</u>	<u>\$30,000</u>
Total	\$1,202,452	\$412,000	\$1,614,452

<sup>1</sup>As reflected in '22 UPWP

## CMRPC Funding Summary FFY 2022 Program Year

### *Transportation Funding*

Source	Value (\$)	% of Total
FHWA//FTA/MHD-PL <sup>1 2</sup>	\$1,202,452	74.5
FTA/WRTA <sup>3</sup>	\$412,000	25.5
<i>Transportation Funding Total:</i>	1,614,452	100.0

### *Other Funding* <sup>4</sup>

Source	Value (\$)	% of Total
Homeland Security Fiduciary	150,500	7.3
Federal Grants	210,000	10.2
State Grants	390,000	18.9
Transportaiton Local Contract	55,000	2.7
DLTA Grant	133,000	6.4
Community Contract Work	928,000	44.9
Interest Income	6,917	0.3
Local Assessments	167,131	8.1
Retiree Health Ins Trust Fund	25,000	1.2
<i>Total:</i>	2,065,548	100.0

### *Overall Funding*

Source	Value (\$)	% of Total
FHWA/MHD-PL <sup>1</sup>	1,202,452	32.7
FTA/WRTA <sup>2</sup>	412,000	11.2
Local Assessments <sup>5</sup>	167,131	4.5
Homeland Security Fiduciary	150,500	4.1
Federal Grants	210,000	5.7
Community Contract Work	928,000	25.2
Transporation Local Contracts	55,000	1.5
DLTA Grant	133,000	3.6
State Grants	390,000	10.6
Interest Income	6,917	0.2
Retiree Health Ins Trust Fund	25,000	0.7
<i>Total:</i>	3,680,000	100.0

<sup>1</sup> As reflected in '22 UPWP

<sup>2</sup> Includes 20% local/state match

<sup>3</sup> FTA 5307 and WRTA match

<sup>4</sup> 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
Diallo	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
Narron	Full Time	100
Raymond	Full Time	100
Sangkagalo	Full Time	100
Transit Intern	Part Time	30
Franz <sup>1</sup>	Full Time	10
Bromage <sup>1</sup>	Part Time	40
2 Trans Technicians <sup>2</sup>	Part Time	82
Land Use Staff <sup>1</sup>	Full Time	10

\*(Trevor/Bayler/McElwee/Glaubitx)

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

<sup>1</sup>Based on one full time equivalent

<sup>2</sup>Eric Harris and Sara Stoja (2021 Summer)

## Other Transportation Planning Studies

In order to assure that duplicative transportation planning efforts are not occurring within the CMRPC region, this section of the UPWP provides summaries of known transportation planning studies being conducted by others. Each of the agencies listed below has been asked to provide summary information concerning their now-underway transportation planning studies. Their responses are available upon request.

- ***Devon Kurtz, Executive Director of the JHCBRVNHCC: Blackstone River Bikeway, other transportation-related planning efforts***
- ***David Mohler, Executive Director, MassDOT Office of Transportation Planning, attention Peter Sutton: 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***
- ***MassDOT Aeronautics Division: Southbridge Municipal Airport, Hopedale, Spencer, Tanner-Hiller Airports***
- ***Andrew B. Davis, Airport Director, Massachusetts Port Authority: Worcester Regional Airport***
- ***Peter Dunn, Chief Development Officer, City of Worcester: Blackstone Canal District, other transportation-related planning efforts***
- ***Jay J. Fink, P.E., Commissioner of Public Works & Parks, City of Worcester: Chandler Street, Route 20, and others***
- ***Craig Blais, President, Worcester Business Development Corporation (WBDC), attention Lisa Drexhage: Centech Park, and other significant site development***
- ***Karin Valentine Goins, WalkBike Worcester: Bicycle and Pedestrian projects***

## **Listing of Previous Technical Studies Completed by CMRPC**

Preliminary Evaluation of Alternative Fixed Route Bus Transfer Locations, 2002  
Updated WRTA Policy on Prohibited Drug Use and Alcohol Misuse, 2003  
Shingled Service Brochure for WRTA Paratransit Service Outside of Worcester, 2004  
WRTA FY '05 Service Contingency Plan, 2004  
WRTA Comprehensive Service Analysis, 2014/2015, 2020 update in progress  
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  
  
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  
  
Tri-Community Corridor Planning Study (Charlton, Southbridge, Sturbridge), 2000  
MA-20 (Northborough) Traffic Study, 2003  
Blackstone Valley Corridor Planning Study, 2003  
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  
  
 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  
  
 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, 2000-2020  
 Congestion Management Process Progress Report, 2000-2020  
 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 2000.

In order to assist with the development and review of Federal Fiscal Year (FFY) 2022 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. (Please note that MassDOT is coordinating with our federal partners on alignment of federal aid planning contracts.)

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 immediate federal aid projects on the Transportation Improvement Program (TIP).

## Recommendations

### General Rules

**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.

**2020 RTP Connection:** Please confirm document directly refers to and complements the regional vision, goals, and objectives identified in the 2020 RTP.

**Amendment/Adjustment Procedures:** Please provide a section clearly outlining Amendment/Adjustment procedures for the UPWP. In line with FHWA guidance, clearly specify that significant changes (e.g. the addition or removal of a task or significant change of scope) will require a 21-day public comment period, MPO endorsement, and FHWA approval.

**Statewide Modal Plan Connections:** Please coordinate and connect planning efforts with statewide modal plans where appropriate ([mass.gov/statewide-plans](https://mass.gov/statewide-plans)).

**Municipal Plan Connections:** Please connect capital investments to municipal strategic land use plans. Please work with local 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.

**Figure Annotation:** Please ensure all charts, tables, and maps are legible and properly annotated.

**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.

**Post-Pandemic Analysis:** Please review current goals, objectives, performance measures, and investments to determine whether they are still in line with regional needs.

**Financial Narrative:** Financial plans should include a description of how the amount of funding reasonably expected to be made available was cooperatively developed for both highway and transit revenues. Please contact your MPO Liaison if you need further guidance.

<p><b>UPWP Tasks</b></p>	<p><b>General Structure:</b> 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.</p> <p><b>Staff Specification:</b> Please ensure individual tasks anticipate staff-hours or consulting resources required. A summary of available staff-hours should be included for comparison.</p> <p><b>TIP Program Implementation:</b> Please include any relevant information from OTP's recently developed guidance pertaining to the flexibility of TIP target funding. Development of a work plan for a TIP program or the implementation of a program that has previously been studied are examples; if these develop, please budget for administrative work and staff time accordingly. Please refer to TIP Guidance for more.</p> <p><b>Past UPWP Connections:</b> Please analyze individual tasks that were in previous UPWPs for past utilization to inform task budgets or other adjustments.</p> <p><b>Transit Task Details:</b> Please be specific when allocating planning hours to transit-related tasks, particularly with respect to coordination with RTAs. When coordination is required with RTAs for tasks that are not primarily Section 5303-funded tasks, please discuss what coordination must occur.</p> <p><b>Performance-Based Planning:</b> 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.</p> <p><b>Public Participation Plan Update(s):</b> Please update PPP's based on the new virtual public involvement processes. Please reference guidance from MassDOT Office of Diversity &amp; Civil Rights and emulate for update of regional Public Participation Plans.</p>
<p><b>Data Collection</b></p>	<p><b>New Data Request:</b> Please work with your MPO Liaison to discuss the degree to which it is feasible to collect the data detailed below to achieve consistency in data collection efforts across all regions.</p> <p><b>Park &amp; Ride:</b> MassDOT will perform counts annually at MassDOT-owned Park &amp; Ride facilities; please consult your MPO liaison if staff wish to count more frequently or wish to discuss any exceptions.</p>
<p><b>Impact Analysis</b></p>	<p><b>Geographic Equity:</b> Please provide a geographic equity distribution table of past (2017–2021) and current UPWP-funded studies by municipality and number of tasks.</p> <p><b>Social Equity:</b> Please provide a social equity distribution table of past (2017–2021) and current UPWP funded studies considering environmental justice populations and language access. Measurement should be based on your regionally developed policies.</p>

## 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 will perform counts annually at MassDOT-owned Park & Ride facilities. Please consult your MPO Liaison if staff wish to count more frequently or wish to discuss any exceptions; please do not duplicate efforts.
- *Mobility*: 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, Streetlight, 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.
- *Vehicle Traffic Counting Data*: Please specify the process to collect and report vehicle data including data collection methodology, equipment, locations, and reporting. For data that is collected on the regional level but is not currently reported or shared with relevant partners (including MassDOT), explore collaboration efforts to share this data.
- *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 is finalizing an informational guidance that will serve as a primer to groups who would like to conduct bicycle and pedestrian counts. In addition, we are creating a data warehouse for MPOs and other external partners to upload, store, analyze, and share count data.
- *Resiliency*: The Capital Investment Plan (CIP) continues to consider resiliency and identify vulnerable assets across all MassDOT Divisions, including an update to MassDOT's project development design guidelines. Future regional planning efforts should build on this initiative and continue to identify areas that are disproportionately at risk of climate change impacts and, to the extent possible, vulnerable infrastructure assets, please.
- *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 produce 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. This should involve differentiation between crash types, including fatal and incapacitating. Please reference MassDOT’s Strategic Highway Safety Plan (SHSP) and your respective RTA’s Public Transportation Agency Safety Plan (PTASPs) currently in development.
- *Economic Development*: Please identify and map Priority Development Areas (PDAs), 43D Priority Development Sites, and Transformative Development Initiative Districts (TDIs) within your region
- *Title VI & 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](https://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.
- *Municipal Speed Limits*: Please share any spatial data related to speed limits on municipal roads throughout your region with MassDOT, including methodologies.

## 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: [ncdae.org/resources/cheatsheets/](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.

## Comments Received on the Draft 2022 UPWP

### FHWA Comments

Page	Comment
Overall	<ul style="list-style-type: none"> <li>• Ensure the document is 508-compliant. All unreadable graphics (logos) should have alternative text included</li> <li>• Minor text revisions and commendations (not included in this table) are noted directly in the PDF document.</li> <li>• Overall very thorough document that makes clear effort to meet all the requirements. Great level of detail.</li> </ul>
7	Under “Planning Priorities”: <ul style="list-style-type: none"> <li>• Consider removing list of planning factors here since the planning factors were introduced on page 4 (or vice versa)</li> </ul>
18	Under “UPWP Administrative Adjustment and Amendment Policy”: <ul style="list-style-type: none"> <li>• Update thresholds to 25% - equal to or greater to 25% for amendments; less than 25% for adjustments.</li> </ul>
27	Under Task 1.1: Management and Support of the “3C” Process: <ul style="list-style-type: none"> <li>• Regarding use of “POP,” if first mention, please spell out. Double check that acronyms are spelled-out initially throughout the document.</li> </ul>
31	Under Task 1.3: TIP: <ul style="list-style-type: none"> <li>• Regarding use of PM1, PM2, PM3, consider those without an understanding of performance management. Recommend spelling this out or referring below/Task 2.4 for additional context.</li> </ul>
41	Under Task 1.5: Public Participation <ul style="list-style-type: none"> <li>• Under Procedures, recommend including mention of virtual public involvement methods as part of this update.</li> </ul>
62	Under Task 2.2: Regional Transportation Model: <ul style="list-style-type: none"> <li>• Please provide explanation of what the “modeling analysis to sub-regional trucking accommodation study” is referring. What study is this? Refer to the appropriate task if there is more information on this elsewhere in the document.</li> </ul>
71	Under Task 2.4: Performance Management: <ul style="list-style-type: none"> <li>• Under Products &amp; Schedule, please mention annual safety target adoption as a product.</li> </ul>
85	Under Task 3.4: Asset Management: <ul style="list-style-type: none"> <li>• Noticed removal of reference to MassDOT's TAMP. Would recommend including in description to retain that coordination.</li> </ul>
97	Under Task 3.5: Livability <ul style="list-style-type: none"> <li>• For item #14 under Products &amp; Schedule, is there a goal for completing the walk audit guidance?</li> </ul>

Central Massachusetts FFY 2022 UPWP Review Checklist

Completeness

ID	Review Item	Comments	Reference
A1	✓ * Table of Contents is accurate and internally-linked.	Page vii - Internally linking the table of contents would enhance document accessibility.	
A2	✓ * Document has no broken links.		
A3	✓ * Document has no text or image placeholders.		
A4	✓ * Charts, tables, and maps are legible and properly annotated.		
A5	✓ * Document passes an accessible check.		
A6	✓ * Document is available in relevant languages per the MPO's Title VI Plan.		
A7	✓ * List of MPO members is current.		
A8	✓ * Signatory sheet is included and accurate.	Page v - Please revise the signatory sheet to just include one signature line for Acting Secretary Jamey Tesler, which the MPO Chair will sign on behalf of all MPO members.	
A9	✓ * Acronyms and partner agency lists are up to date.		

Narrative

ID	Review Item	Comments	Reference
B1	✓ * UPWP is comprehensible to the general public.		
B2	✓ * UPWP refers directly to vision, goals, and objectives from RTP.		
B3	✓ * UPWP Amendment/Adjustment procedures are explicit.	On page 18, please revise the threshold for what constitutes a UPWP amendment from 10% to 25%, per FHWA's guidance letter distributed at this year's MARPA meeting dated January 22, 2021. Additionally, please ensure that the scenario of a "funding increase above the originally approved UPWP overall budget" is listed in this section.	
B4	✓ Governing MOUs between MassDOT, MPO, RTAs, and neighboring MPOs have been reviewed for potential improvements or updates.		
B5	✓ Planning efforts are coordinated with MassDOT modal plans.		<a href="https://www.mass.gov/statewide-plans">https://www.mass.gov/statewide-plans</a>

UPWP Tasks

ID	Review Item	Comments	Reference
C1	✓ * Individual tasks include detailed scopes, budgets, and schedules.	<p><b>General comment:</b> This is a minor comment related to consistency and phrasing - throughout the document, the items under "products" are often phrased as verbs (e.g. "analyze past safety data" under Task 3.3). Please consider re-phrasing these to begin with nouns to reflect that they are products rather than activities (e.g. analysis of past safety data").</p> <p><b>General comment:</b> A few task procedures appear to overlap with one another (e.g. culvert assessments appear in both Task 2.1 for Data Collection and Task 3.8 for Climate Change; the advancement of micro-projects appears in a number of tasks including 3.5 for Livability and 3.7 for LRTP Implementation). Where there is overlap, more details on how these procedures are distinct between tasks would be beneficial.</p> <p><b>Task 1.1:</b> It would be beneficial to add context for the procedure involving private sector assistance. Does this refer to private providers of transportation? Examples of who this would involve would be useful.</p> <p><b>Task 1.3:</b> Please provide more detail on the TIP criteria described as part of the "Project Delivery Reliability" and indicate whether this is separate from the Transportation Evaluation Criteria (TEC).</p> <p><b>Task 2.1:</b> Please coordinate with MassDOT on any bicycle and pedestrian counts that are performed in the region, as there may be overlap and opportunities for equipment purchasing or input.</p> <p><b>Task 2.3:</b> Please feel free to use the new SRTS Dashboard available at this link (<a href="https://massdot.maps.arcgis.com/apps/opsdashboard/index.html#/67b6b4eb55ad4c359ed67af1c2ebc664">https://massdot.maps.arcgis.com/apps/opsdashboard/index.html#/67b6b4eb55ad4c359ed67af1c2ebc664</a>) for assistance with coordinating with municipalities on SRTS activities.</p> <p><b>Task 3.2:</b> Please note that the Accessibility Observatory data may be useful for identifying where congestion contributes most to decreased access to jobs across the region.</p> <p><b>Task 3.6:</b> Under the second main goal of the freight planning task, please specify which activities or issues will be coordinated with communities, decision-makers and stakeholders. Additionally, for the task on major rest locations, there may be information on GeoDOT (e.g. the Rest Area Locator) that could be of assistance with this effort. It would also be helpful to specify how rest locations are to be assessed (quantitative data, qualitative data, or a mix of both).</p>	
C2	✓ * Individual tasks outline community beneficiaries.		
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.	Page 123 - Please indicate whether Eric Harris, who is included within recent 3C invoices, or other new staff, should be included within the "Allocation of Direct Staff Time to UPWP Identified Contracts" on page 123.	
C7	✓ Individual tasks anticipate needed staff-hours / consulting resources.		
C8	✓ Tasks from previous UPWPs have been analyzed for past utilization.		

Impacts Analysis			
ID		Review Item	Comments
D1	✓	* UPWP includes a geographic equity distribution table showing 2017–2021 and current UPWP-funded studies by municipality and number of tasks.	Page 22 - A map spatially displaying where UPWP tasks have taken place over the past five years would be beneficial.
D2	✓	* UPWP includes a social equity distribution table of past and current UPWP-funded studies considering language access and EJ populations.	Within Table 2 on pages 20 - 21, please add numbers for the tasks in the FFY 2022 UPWP. It would also be beneficial to add totals for each row to show how many tasks each community has received in the past five years. Additionally, please define what constitutes vulnerable population block groups for the purpose of this analysis and provide a brief narrative assessment on takeaways from this analysis.
D3	✓	* Public involvement and comment are explicitly documented and in line with MPO's Public Participation Plan.	

\* Indicates required by state or federal regulation.



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June 9, 2021

Mr. Arthur Frost  
MassDOT Representative to CMMPO  
Central Massachusetts Regional Planning Commission  
1 Mercantile Street, Suite 520  
Worcester, MA 01608

Re: Unified Planning Work Program (UPWP) FY2022

Dear Mr. Frost:

On behalf of the 495/MetroWest Partnership, please accept the following as our official comments regarding the draft *Unified Planning Work Program* (UPWP) to FFY 2022 for the Central Massachusetts Metropolitan Planning Organization (CMMPO).

The 495/MetroWest Partnership is a unique public-private collaboration among businesses, municipalities, and other stakeholders focused on creating an environment that prepares for and cultivates sustainable growth across our 36-community region. The Partnership accomplishes this by providing coordination, education, and advocacy for solutions to regional constraints. The key priorities that the Partnership addresses within the 495/MetroWest region are separate and unique, but operate as part of an interrelated network of regional needs. These areas of focus include economic development, transportation, housing, energy and sustainable development, and water resources, among others.

Now more than ever, as the Commonwealth reopens following a protracted period of reduced activity due to the pandemic, the Partnership recognizes the importance of a robust, transparent, and interdisciplinary planning process. As statewide traffic volumes continue to increase week by week during peak travel hours, as large employers continue to roll out plans to return staff to on-site work locations, and as municipalities continue to reimagine public space and urban form in commercial centers, we anticipate the reemergence of transportation challenges that threatened the region's quality of life prior to the onset of the pandemic, such as traffic congestion and highway capacity issues, as well as the advent of new challenges.

While the CMMPO region includes only seven of the Partnership's 36 communities, we greatly appreciate the number of planning projects that have been completed in our region, most recently the Westborough Parking Study and the ongoing TMA Feasibility Assessment. In the current Draft UPWP, the Partnership strongly supports the inclusion of the following:

- Studying the impact of recent warehouse developments in Northborough that are proximate to residential areas, Algonquin Regional High School, and sensitive environmental areas;
- Conducting a feasibility analysis for bike share opportunities within the 495/MetroWest region;

- Developing protocols and standardized procedures to assist the region's communities in
- the new process for submitting applications for proposed "MicroProjects";
- Complete Streets policies, guidance, prioritization and implementation in the 495/MetroWest region;
- Continued assistance and coordination with the Worcester Regional Transit Authority (WRTA); and
- Identification and mapping of affordable housing units in the 495/MetroWest region.

In addition to these specific planning projects, the Partnership also supports ongoing tasks and products such as data collection, pavement management, TIP and LRTP development, sustainability and climate change efforts, as well as all the municipal assistance that occurs throughout the year.

We thank you for your consideration of our comment letter. Should you have any questions regarding our commentary, please do not hesitate to contact our Manager of Policy and Planning, Jeremy Thompson at (774)-760-0495 x 101 or by email at [jeremy@495partnership.org](mailto:jeremy@495partnership.org).

Sincerely,



Jason Palitsch  
Executive Director  
The 495/MetroWest Partnership

## **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
ANR:	Approval Not Required
APC:	Automatic Passenger Counter
APTA:	American Public Transit Association
ARRA:	American Recovery and Reinvestment Act
ATJ:	Access To Jobs
ATR:	Automatic Traffic Recorder
BMS:	Bridge Management System
BRT:	Bus Rapid Transit
BVCC:	Blackstone Valley Chamber of Commerce
CAAA:	Clean Air Act Amendments of 1990
CBD:	Central Business District
CDAG:	Community Development Action Grant
CDBG:	Community Development Block Grant
CFR:	Code of Federal Regulations
CIP:	Capital Improvement Program
CMAA:	Central Massachusetts Agency on Aging
CMAQ:	Congestion Mitigation and 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
COFC:	Container On Flat Car
COG:	Council of Governments
CPS:	Corridor Planning Study
CSS:	Context Sensitive Solutions
CTPS:	Central Transportation Planning Staff
DCR:	Department of Conservation and Recreation
DDS:	Department of Developmental Services
DEP:	Department of Environmental Protection
DET:	Department of Education & Training
DHCD:	Department of Housing & Community Development
DLTA:	District Local Technical Assistance
DMA:	Division of Medical Assistance

DOT:	Department of Transportation
DPH:	Department of Public Health
DTA:	Division of Transitional Assistance
E&D	Elderly & Disabled
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
ESS:	Elder Shopper Service
FAA:	Federal Aviation Administration
FAST ACT	Fixing America's Surface Transportation Act
FFY	Federal Fiscal Year
FHWA:	Federal Highway Administration
FO:	Functionally Obsolete
FRA:	Federal Railroad Administration
FTA:	Federal Transit Administration
GANS:	Grant Anticipation Notes
GHG	Greenhouse Gas
GIS:	Geographic Information System
GPS:	Global Positioning System
HAZMAT:	Hazardous Material
HCM:	Highway Capacity Manual
HOV:	High Occupancy Vehicle
HPMS:	Highway Performance Monitoring System
HPP:	High Priority Project
HSIP:	Highway Safety Improvement Program
I&M:	Inspection & Maintenance
IM:	Interstate Maintenance
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
LPA:	Local Planning Assistance
LPMS:	Local Pavement Management System

MAC:	Massachusetts Aeronautics Commission
MAGLEV:	Magnetic Levitated
MAP-21:	Moving Ahead for Progress in the 21 <sup>st</sup> 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
MEMA:	Massachusetts Emergency Management Agency
MEPA:	Massachusetts Environmental Policy Act
MHC:	Massachusetts Historical Commission
MHD:	Massachusetts Highway Department
MIS:	Major Investment Study
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
NAACC:	North Atlantic Aquatic Connectivity Collaborative
NAAQS:	National Ambient Air Quality Standards
NEPA:	National Environmental Policy Act
NFA:	Non Federal-Aid
NHFP	National Highway Freight Program
NHPP:	National Highway Performance Program
NHS:	National Highway System
NOx:	Any of the Oxides of Nitrogen
NTD:	National Transit Database
NTI:	National Transit Institute
NTS:	National Transportation System
NTSB:	National Transportation Safety Board
OCI:	Overall Condition Index (used with pavement)
OEDP:	Overall Economic Development Program
O3:	Ozone
OTP	Office of Transportation Planning
PCI:	Pavement Condition Index
PL:	Metropolitan Planning funds (federal)
PMS:	Pavement Management System
PMUG:	Pavement Management User's Group
POP:	Public Outreach Program
PRC:	Project Review Committee
PRWORA:	Personal Responsibility & Work Opportunity Reconciliation Act
PUD:	Planned Unit Development

PWED:	Public Works/Economic Development
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	RTA Capitol Assistance
RTP:	Regional Transportation Plan
SAFETEA-LU:	Safe, Accountable, Flexible and Efficient Transportation Equity Act
SAR:	Strategic Assessment Report
SD:	Structurally Deficient
SHSP	Strategic Highway Safety Plan
SIP:	State Implementation Plan (for Air Quality)
SL:	SAFETEA-LU, on occasion
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
T21:	TEA-21, on occasion
TAP:	Transportation Alternative Program
TAZ:	Transportation Analysis Zone
TBD:	Transportation Benefit District
TCM:	Transportation Control Measures
TDM:	Travel Demand Management
TEA-21:	Transportation Equity Act for the 21st Century
TEC:	Transportation Evaluation Criteria
TEU:	Twenty-foot container Equivalent Unit
TFPCC	Total Federal Participating Construction Cost
TI:	Transportation Improvement (in SAFETEA-LU)
TIF:	Transportation Information Forum
TIP:	Transportation Improvement Program
Title VI	Title VI of the Civil Rights Act of 1964
TMA:	Transportation Management Association
TMC:	Turning Movement Count
TOFC:	Trailer On Flat Car
TRB:	Transportation Research Board
TSM:	Transportation Systems Management
UPWP:	Unified Planning Work Program
VMS:	Variable Message Sign
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
WTW:	Welfare To Work
3C:	Continuing, Comprehensive & Cooperative (planning process)

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