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Regional Trends & Recommendations

Regional Trends & Recommendations

Introduction

The following is a summary of all regional trends and recommendations identified above. Determining and monitoring these trends and recommendations is an important factor in making informed decisions for the Montachusett Region (Region). These trends and recommendations will serve as a checkup of the Region's transportation network and improvements and to guide them going forward.

Demographic Trends

Through the development and analysis of the demographics and projections for the Montachusett region, the following trends were identified and noted. Following these trends, a series of recommendations are presented for the region.

- Current growth expected to stall and begin a steady period of decline in future projections.
- The population in the region is aging faster than in the state or nation. This trend is also reflected in the 2030, 2040 and 2050 projections where the overall growth in the population of the region is expected to slow and decline. This aging of a large proportion of the population poses a number of planning challenges for the Region, including accessibility to health care and elderly services, public transportation, senior housing. In addition, there will be generational shifts in employment sectors and the workforce.
- Educational attainment rates are increasing in the regions male and female populations. However, they still remain lower than state averages. Efforts are needed in the Region to retain this increasing educated population and subsequently help to address shifts in the employment sectors.
- Seven Montachusett communities have a higher proportion of residents with a disability than the state as a whole. Athol, Fitchburg, and Gardner top the list. Among other planning considerations, the high percentages of residents with disabilities, coupled

with a steadily aging population, only help to emphasize the importance of multimodal and functional transportation network.

- Eighteen (18) of the region's 22 communities have a lower per capita income than the state (\$48,617), while eight rank below the state when examining median household income.
- An estimated 9.9% of individuals are living in poverty within the Commonwealth of Massachusetts. Six Montachusett communities have a higher concentration of poverty than the state as a whole, with Fitchburg (14.6%) and Gardner (14.1%) also exceeding the national poverty rate of 11.3%. Between 2020 and 2021, poverty rates showed a marginal uptick in the region, rising from 5.9% to 6.4%, still well below the state rate of nearly 10%. In order to reverse these trends, additional opportunities to create a more diverse employment sector is needed. Along with this, is the need for improved access to these jobs at a reasonable cost for those in the lower income strata.
- Based on an analysis of current and past transportation and highway projects versus identified Environmental Justice and Title VI populations, there does not appear to be an undo benefit or burden on these populations.
- Housing in the region trends toward single family homes. This along with a rising median home values can affectively price individuals out of the Montachusett Region. This can be especially harmful to younger, more highly educated individuals, which in turn can exasperate the aging population situation. In order to serve the regions changing population characteristics, i.e. aging, diversified, and low income, affordable housing units (either as single or multiple units) need to be an emphasis for the region's officials. Additionally, where appropriate direct tie ins to available transportation options should be a major factor for local officials in this area.
- Manufacturing continues to remain the largest employment sector in the region (nearly 16% of total employees) and integral to the economic health of many communities. The level of manufacturing-based employment, despite the decline in recent decades, continues to out strip that of both the state and country. While efforts continue toward

diversifying the regional economy into other growing sectors, including the service sectors, the region's comparative advantage of an experienced manufacturing workforce and industrial space will help keep manufacturing as a cornerstone in the region's economy.

- Montachusett Region commuters are more auto-reliant than in the state or the nation. Eighty-five percent (85%) of workers either drive alone or carpool to work as compared to 75% of workers in Massachusetts, and 82% of workers in the country. Montachusett residents are also significantly less reliant upon public transit. The longer commute times and distances of Montachusett individuals tend to put more emphasis on the traditional commuter roads in the region, i.e. Route 2, I-190, Route 117, Route 119, Route 140, Route 12, etc. The potential for increased public transit usage exists if expansion and costs can be implemented in a reasonable fashion. In addition, these segments of commuters are also likely to be impacted by technological changes in travel modes, i.e. autonomous vehicles, rideshare options and alternative energy vehicles. With a greater demand or usage of these technologies, critical support infrastructure is needed from long term parking areas for autonomous vehicles, to charging stations, to incentive programs.

Recommendations

The following is a series of recommendations based upon the identified trends related to the demographic profile of the Montachusett Region. It should not be viewed as a complete and finite list but rather a starting point for the continued review of the needs of the region.

1. The aging of the region's population requires that several issues be addressed:
 - a. Expanded transit options to vital services for elderly. Expansion to needed services such as medical and shopping should remain a priority. Additionally, connections between communities should be examined and implemented where feasible.
 - b. Upgrades, expansion and improvements to the pedestrian network in the core centers of communities and in and around identified service areas, i.e. medical

facilities, shopping centers, etc. Safer sidewalks and pedestrian corridors will also serve other segments of the population beyond the elderly.

- c. Safety improvements along the road and pedestrian/bicycle networks need to be expanded and prioritized to help deal with the aging population as well as assisting with other segments with their activities.
2. Identification and prioritization are needed for projects that assist the disabled community throughout the region. This would include better sidewalks, improved access to transit options, and eliminating gaps in the network that prevent or discourage usage (ex. incomplete or non-existing sidewalks on fixed route transit lines).
 3. Expansion of employment opportunities are needed in order to retain and expand the regional workforce. As the educational level continues to rise in the region, without adequate employment options, the population will continue to age as younger individuals seek better paying jobs outside of the region. Network improvements are needed to assist and encourage employers to remain in the region. This would involve infrastructure improvements to support industries, multiple travel options to bring employees to and from work, and expansion of outreach efforts to all segments of the population. Continued emphasis on maintaining pavement conditions and reducing bridge deficiencies will allow for greater marketing by municipalities of available industrial and commercial areas.
 4. Expansion of mode options for commuters needs to also be a priority for the region. This would also involve the region's trail/pedestrian/bicycle networks. These systems can be improved and expanded in order to provide additional walking and biking mode options.
 5. Additional planning is needed to address future technological advances in transportation as they occur and become more and more feasible. This would include issues such as:
 - a. Autonomous vehicles. Where will they "park" when riders have reached their destinations? Is there a need for special lots or facilities? Are there potential congestion issues at the start and end of work shifts? Will "peak hours" increase

because the autonomous vehicle may be making additional trips to desired locations (i.e. one trip in and one trip out in both the AM and PM (4 trips) as opposed to a driver that has one trip in and one trip out in the AM and PM (2 trips))?

- b. Electric vehicles. Where should charging stations be located? How many facilities exist and do they adequately serve the population now?

Environmentally, are there any drawbacks associated with batteries, etc., that need to be addressed?

- c. Ride share options. Can these systems be expanded to address the needs of the elderly, low income and disabled populations? Can the systems expand to the more rural communities to serve these areas without viable transit options?

- 6. The population is getting more and more diverse in terms of minority populations and language. Additional efforts are needed to draw these individuals into the transportation planning process to ensure adequate representation and service.

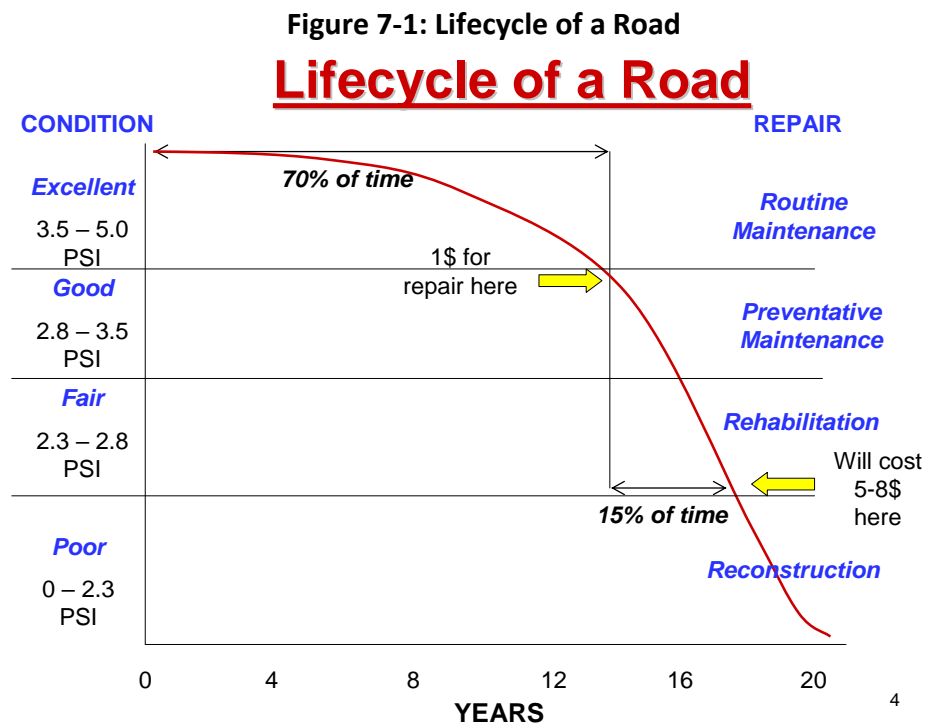
Infrastructure Trends

Analysis of roads and bridges in the Region demonstrate a network that is relatively stable, however, in danger of deterioration if proper investments are not maintained. It is important to prioritize maintenance and repair of these existing infrastructures to be able to maximize public funds and allow additional investments for improvements and expansion.

Infrastructure Recommendations

The transportation system in the Region largely consists of roads and bridges. Maintaining these assets are a challenge, however, we must understand the importance of a properly functioning and safe system. Maintaining a state of good repair should be a main priority and in our best interest in order to stretch our investments to the greatest benefits. Ultimately, it is recommended that investments are guided by proven asset management practices and the proper amount of investment is made to assure these assets do not deteriorate.

The figure below displays the concept of pavement lifecycle cost. A pavement's lifecycle is the time between reconstruction periods. Lifecycle cost is the total cost spent on maintenance and repairs for a particular pavement section during its lifecycle. One of the main focuses of pavement management is to keep lifecycle cost low to stretch the dollar in what is commonly an ever-decreasing maintenance budget.



Due to the rising cost of improvements and the declining funds for preserving existing infrastructure it is challenging to make improvements to the pavement network. Building a historical and measurable database of conditions in the Region allows for a snapshot of overall conditions which will allow us to determine how the network changes over time. Maintaining historical databases of bridge and pavement data paired with applying proven methods of asset management is recommended.

Infrastructure Action Items

- Continue to monitor network conditions to determine trends.
- Encourage use of pavement management principals among communities in Region and in decision making.

Safety Trends

Based on a five-year rolling average, roadway Fatalities have trended UPWARD since the 2008-2012 (08'-12') five-year period (Period) when 14 Fatalities occurred. For each Period since the 08'-12' Period, 15 to 16 Fatalities have occurred. No Period experienced less than 15 Fatalities. Two Periods experienced 16 Fatalities, including the 17'-21' Period. Also based on a five-year rolling average, Serious Injuries have trended DOWNWARD since the 08'-12' Period. From the 08'-12' Period to the 14'-18' Period, Serious Injuries decreased steadily from 125 to 97. The 15'-19' Period experienced 100 Serious Injuries followed by 98 each for the 16'-20' and 17'-21' Periods.

The MRPC will work cooperatively and in coordination with MassDOT for the implementation of the 2023 Massachusetts Strategic Highway Safety Plan (Plan). The Plan seeks to improve safety on all public roads in the state. The Plan provides a framework for how the state will work to make its roadways safer for all roadway users in a holistic manner through the Safe System Approach (SSA). The SSA is a system that works by anticipating human mistakes and keeps the kinetic energy of a crash on the human body at a tolerable level. The SSA identifies and mitigates risks on the roadway system to prevent crashes rather than waiting for crashes to occur followed by taking action afterward.

The MRPC was awarded a SS4A Action Plan Grant under the Bipartisan Infrastructure Law (BIL) to develop a Safety Action Plan for the Region. An Action Plan is a comprehensive safety action plan with the goal of developing a holistic, well-defined strategy to prevent Fatalities and Serious Injuries.

The Action Plan that a SS4A grant funds requires the following components:

- Leadership commitment and goal setting
- Planning structure through a committee, task force, or similar body
- Safety analysis of the existing conditions and historical trends
- Engagement and collaboration with the public and relevant stakeholders
- Equity

- Policy and process changes that assess the current policies, plans, and guidelines
- Strategy and project selections that identify a comprehensive set of projects and strategies that will address the safety issues described in the Action Plan
- Progress and transparency methods

Link to further description of the [SS4A Action Plan Components](#)

Safety Recommendations

Future Safety Improvement Projects

Table 7-1 below lists the top **HCI** from the full **All Mode HCIs Table** for each Member Community where **HCIs** occurred. Please see the Appendix for the full **All Mode HCIs Table**. All 106 locations in the table need safety improvements. However, projects cannot be completed for all of them at the same time. In light of this, the MRPC recommends that Member Communities select at least one to submit as a safety improvement project.

Table 7-1: Top HCIs in Member Communities

COMMUNITIES	Top HCI in each Community 2017 - 2019	Crash Count	1) Fatal &/or Serious Injury	2) Minor &/or Possible Injury	1 & 2 Total	PDO	EPDO	Region Top 5%	Region Top 100	State Top 200 HCI	**
ASHBY	GREENVILLE RD (SR 31) at TURNPIKE RD	17	2	5	7	10	157	Yes			
ATHOL	TEMPLETON RD (SR 2A) at ORCHARD ST	14	0	4	4	10	94		Yes		
AYER	GROTON HARVARD RD at CENTRAL AVE	13	0	5	5	8	113	Yes			
CLINTON	MAIN ST (SR 68) at BROOK ST	10	0	4	4	6	90		Yes		
	STERLING ST (SR 62) at GREELEY ST	10	0	4	4	6	90		Yes		
FITCHBURG	WATER ST (SR 12) at WANOOSNOC RD	50	1	13	14	36	330	Yes		Yes	Yes
GARDNER	TIMPANY BLVD (SR 68) at CONANT ST	19	0	6	6	13	139	Yes			
GROTON	MAIN ST (SR 119) at LOWELL RD (SR 40)	19	0	3	3	16	79		Yes		
HARVARD	JACKSON RD at GIVRY ST	9	0	6	6	3	129	Yes			
LANCASTER	LOWER BOLTON RD (SR 110) at BOLTON RD	28	1	10	11	17	248	Yes		Yes	Yes
LEOMINSTER	NORTH MAIN ST (SR 12) at LINDELL AVE	47	3	9	12	35	287	Yes		Yes	Yes
LEOMINSTER* & FITCHBURG*	NORTH MAIN ST (SR 12) at BATTLES ST*	23	0	7	7	16	163	Yes			
	NORTH MAIN ST (SR 12) at ERDMAN WAY*	22	0	5	5	17	122	Yes			
LUNENBURG	CHASE RD (SR 13) at MASSACHUSETTS AVE (SR 2A)	9	0	5	5	4	109	Yes			
STERLING	PRINCETON RD (62) at REDEMPTION ROCK TRAIL (140)	13	0	4	4	9	93		Yes		
TOWNSEND	MAIN ST (SR 119) at SOUTH ST	16	0	4	4	12	96		Yes		
WESTMINSTER	E MAIN ST (2A) at RAMP-RTS 2 EB/140 SB TO RTS 2A/140	20	1	3	4	16	100	Yes			
WINCHENDON	SPRING ST (SR 12) at GARDNER RD (SR 140)	10	0	4	4	6	90		Yes		

*these 2 HCIs occurred at the City Line **Abuts At-Risk Rd Seg

Tables 7-2-A and 7-2-B below list one **At-Risk Rd Seg** from the full **At-Risk Rd Segs Table** for each Member Community where an **At-Risk Rd Seg** occurred. Please see the Appendix for the full **At-Risk Rd Segs Table**. All 160 locations in the table need safety improvements. However, projects cannot be completed for all of them at the same time. In light of this, the MRPC recommends that Member Communities select at least one to submit as a safety improvement project.

Table 7-2-A: At-Risk Rd Segs in Member Communities

COMMUNITIES	At-Risk Rd Segs	Abuts All Mode HCI*
ASHBURNHAM	MAIN STREET	
ASHBY	MAIN STREET	
ATHOL	MAIN STREET	Yes
AYER	MAIN STREET	
CLINTON	MAIN STREET	
FITCHBURG	MAIN STREET	Yes
GARDNER	MAIN STREET	
GROTON	MAIN STREET	

* Abuts at least 1 HCI

Table 7-2-B: At-Risk Rd Segs in Member Communities

COMMUNITIES	At-Risk Rd Segs	Abuts All Mode HCI*
HARVARD	AYER ROAD	
LANCASTER	MAIN STREET	Yes
LEOMINSTER	MAIN STREET	Yes
LUNENBURG	MASSACHUSETTS AVE	
PETERSHAM	BARRE ROAD	
SHIRLEY	LANCASTER ROAD	
STERLING	MAIN STREET	
TEMPLETON	PATRIOTS ROAD	
TOWNSEND	MAIN STREET	
WESTMINSTER	EAST MAIN STREET	Yes
WINCHENDON	FRONT STREET	Yes

* Abuts at least 1 HCI

Safety Action Items

- To improve safety at **HCLs**; Bike HCLs; Ped HCLs; and **At-Risk Rd Segs**, or any combination thereof, safety improvement projects need to be considered for development based on the strategies and actions found in the Plan.
- Safety project development includes the requirement of conducting a Road Safety Audit (RSA) that will provide safety improvements alternatives before the design is initiated.
- Member Communities may choose to contact the MRPC for the **HCLs**; Bike HCLs; Ped HCLs; and **At-Risk Rd Segs** that may exist within their community.
- MRPC will contact Member Communities concerning the **HCLs**; Bike HCLs; Ped HCLs; and **At-Risk Rd Segs** for further study and potential project development.
- **HCLs**; Bike HCLs; Ped HCLs; and **At-Risk Rd Segs** data is updated by MassDOT which may add locations or subtract existing locations.
- The MRPC maintains Regional **HCLs**; Bike HCLs; Ped HCLs; and **At-Risk Rd Segs Tables**.
- The MRPC will be conducting an analysis of the Crash Types that are susceptible to Fatal crashes and Serious Injury crashes on road segments in the near future.
- The MRPC will be employing a consultant to assist in the completion of the SS4A Action Plan for the Region.

Bike & Pedestrian Trends

The desire for more multi modal transportation options within the Region has increased significantly over the past few years. More people are seeing the value in having these types of transportation options and are also advocating for the development of new, safer, bicycle and pedestrian facilities throughout the region. Programs such as Complete Streets and Safe Routes to School are gaining support from our communities -

- Complete Streets – 19 out of 22 communities have approved policies, one is registered, and 15 have received funding for multi modal projects
- Safe Routes to School – 18 out of 22 communities are partners with the program.

The State is also contributing financially to trail projects through the MassTrails Grant program. This program provides grants to support recreational trail and shared use pathway projects across the Commonwealth. These grants are reviewed and recommended by the

Massachusetts Recreational Trails Advisory Board and the Commonwealth’s Inter-Agency Trails Team. There are two funding sources for the grant –

- Recreational Trails Program (RTP) – these grants are federally funded through the Federal Highway Administration (FHWA), administered at the State level, and provide funding for the development and maintenance of recreational trail projects, both motorized and non-motorized.
- Commonwealth Trails Grants – “These grants are supported by the State’s annual Capital Investment Plan (CIP) and aim to help communities design, create and maintain off-road shared-use pathway connections between where Massachusetts residents live, learn, work, shop and recreate, especially by building out the longer distance regional networks of multi-use pathways across the state and filling in critical gaps in existing networks, or overcoming current barriers to connectivity.”

www.mass.gov/guides/masstrails-grants

In 2022, seven communities within the Region received MassTrails funding – Athol, Clinton, Gardner, Groton, Lunenburg, Sterling and Templeton.

Other notable funding sources are the Congestion Mitigation and Air Quality Improvement Program (CMAQ) and Transportation Alternatives Program (TAP). CMAQ provides federal funding for states to support projects and programs intended to improve air quality and reduce traffic congestion. Example projects include – traffic flow improvements, public transit services and facilities, bicycle and pedestrian facilities and programs, rideshare activities, etc. The Twin Cities Rail Trail phase 2 and the North Central Pathway bridge project are currently scheduled in the FY2024-2028 Transportation Improvement Plan. The BIL continues the Transportation Alternatives set-aside from the Surface Transportation Block Grant (STBG) program. Eligible uses of the set-aside funds include all projects and activities that were previously eligible under the Transportation Alternatives Program under the Moving Ahead for Progress in the 21st Century Act (MAP-21). This encompasses a variety of smaller-scale transportation projects such as pedestrian and bicycle facilities, recreational trails, safe routes to school projects, community improvements such as historic preservation and vegetation management, and environmental

mitigation related to stormwater and habitat connectivity.

(<https://www.mass.gov/doc/statewide-funding-programs-and-categories/download>)

Bike & Pedestrian Recommendations

As these multi modal trail and bikeway projects continue to be studied and developed, funding is always a major component. Increasing the existing funding programs and available dollar amounts are always critical to further these regionally significant projects. Additionally, continuing the study and planning of trail related developments in order to identify priority trails and trail connections are also key for alternate modes of transportation.

Bike & Pedestrian Action Items

- Encourage and support all communities to participate in the Complete Streets & Safe Routes to School programs.
- Encourage communities to apply for MassTrails & CMAQ funding for their trail projects.
- Continue to study priority trails and trail connections.
- Continue to support the development of trail projects throughout the Region.

Economic Vitality Trends

The MRPC recognizes that the transportation network plays an important role in the economic growth of the Region. Many sectors of the economy depend heavily on safe and efficient movement of goods and services by truck and rail.

The Economic Vitality section reveals two existing issues that continue to facilitate an increasing trend that hinders growth in economic vitality in the Region:

- Aging railroad bridges, most of which were constructed approximately 100 years ago, are narrow and many have bridge height restrictions. Also, the bridge alignment geometry of many railroad bridges is not aligned with the geometry of the intersecting road creating dangerous S-shaped horizontal curves with poor sight distance

- Many of the Route 2 interchanges, including the ramps, do not have the capacity to meet traffic volume demand. One new interchange in Athol has been proposed

Devens is an **EPA Smartway Affiliate Partner** that has connected numerous businesses directly to active rail lines by installing rail spurs. This helps to improve economic efficiencies and avoids unnecessary truck trips through the Region. Many types of organizations can become a **Smartway Affiliate Partner**.

Devens enforces the state's **Anti-Idling Law** and requires shore and auxiliary power technologies for freight operations. To enforce anti-idling laws, Devens has two requirements:

- It is included as a condition of approval in any development that requires compliance so that it can be enforced locally
- Projects are required to post signage at all loading docks to inform drivers

Devens partners with the State Police (contracted as the Devens Police Force) to assist with enforcement.

Over the past several years seven business in the Region have received project funding from the MassDOT **Industrial Rail Access Program (IRAP)**. On a cyclical basis, MassDOT solicits new candidate projects for funding under IRAP. IRAP accepts applications from freight rail-supported businesses across the state for projects to expand or improve rail or freight access that will support economic opportunity, safety, and job growth. MassDOT manages IRAP and typically solicits new candidate projects in the spring of each year.

Economic Vitality Recommendations

- Improve the narrow road and/or dangerous S-shaped horizontal curves and the height restrictions of the aging railroad bridges
- Improve Route 2 interchanges to meet current design standards and future traffic volume demand

Economic Vitality Action Items

- Encourage organizations in the Region to become EPA Smartway Affiliate Partners to improve freight sustainability
- Encourage organizations in the Region to apply for IRAP funded projects to expand or improve rail or freight access to support economic growth and safety
- Continue to seek to improve freight truck access on the RegionFCs, CUFCs, and CRFCs
- Continue to seek to improve external and internal freight truck access for the 10 Opportunity Zones
- Continue to seek a new interchange on Route 2 at South Athol Road in Athol
- Continue to seek to improve congested roads and bottleneck locations
- Continue to seek to safety improvement at High Crash Intersections and on At-Risk Road Segments
- Continue to seek to improve external and internal access to the regional recreational destinations
- MRPC will continue conducting freight corridor analyses

Congestion Trends

Pre-pandemic counts throughout the region showed a period of increased traffic. The proliferation of remote work and social activities during the pandemic have undoubtedly changed future trends in travel. Still, congestion remains throughout the region, especially in areas highlighted in this section. Along with increased traffic comes heavier and more frequent periods of congestion. Many of the highlighted areas in this section have shown congestion for many years, especially during rush hour. It is important to mitigate congestion issues that exist, while continuing to monitor changes in our network.

Congestion Recommendations

It is important to prepare for increased traffic and congestion throughout the region. Investments must be well thought out and balanced with other needs such as investments in maintenance and expansion. The following recommendations are made to help prevent the spread of congestion in the region.

- Continue to monitor trends throughout the region.
- Continue to monitor emerging technologies such as autonomous vehicles and ride hailing services and the impact made on congestion throughout the region.
- Continue to profile areas of heavy congestion and make recommendations for improvements.

Congestion Action Items

1. Continue to monitor trends throughout the Region.
2. Continue to monitor emerging technologies such as autonomous vehicles and ride hailing services and the impact made on congestion throughout the Region.
3. Continue to profile areas of heavy congestion and make recommendations for improvements.
4. Work with MART and the MBTA to increase ridership in modes other than automobiles.

Transit Trends

As indicated in the review of the ridership figures during the pandemic years of 2020 to 2022, clearly show and illustrate the negative impacts being felt by MART as well as other RTAs across the nation. Ridership and its corresponding revenue figures have placed a major strain and burden on the transit system from fixed routes to commuter rail. Figures also indicate that trends are beginning to turn around and rebound from the lowest points of the pandemic.

Filling service gaps, meeting service needs, and increasing accessibility to residents continues to be a priority for MART. MART will continue to review its various transit routes and options as well as its facilities and rolling stock.

Transit Recommendations

In order to provide increased mobility for Region residents that do not own automobiles or that choose to be less dependent on a personal vehicle, MART will need to continue to refine and implement public transit programs designed to increase ridership. To accomplish this, it will be

necessary to examine the routes and schedules in order to determine the most efficient and effective services. Overcoming the negative effects of the COVID pandemic will be a continued long-range effort for the transit authority. MART remains open to expanding services wherever possible to fill service gaps, meet unmet regional needs and increase accessibility to health facilities and social services.

Where it becomes apparent that certain services are needed, MART should continue to work with those institutions to examine requests, organizational involvement, and ways to help defray the cost of the additional services. Continued participation of local industries, businesses, major shopping centers and schools in developing appropriate schedules, routes and promotional programs is an important part of this ongoing planning and implementation of services.

Special service provided to the elderly and the disabled will need to be closely monitored to insure continuation of appropriate levels of service. The continuation of brokerage programs with the Department of Public Health, Department of Developmental Services, MassHealth, Department of Mental Health, MRC, and MCB is of major importance and should remain a focal issue.

In addition to increased and improved routing and scheduling, it will be necessary for MART to maintain and improve the operating condition of its vehicle fleet. The present vehicle fleet is constantly being replaced with new lift equipped ADA compliant equipment. The Montachusett TIP process should continue to be utilized to upgrade and replace buses and vans for the MART fleet, as well as continue to upgrade maintenance facilities. Opportunities in the Bipartisan Infrastructure Law (BIL) provide an opportunity to replace existing vehicles with electric, net zero and energy efficient vehicles. Additionally, the supporting infrastructure needed to supply these new technologies should also remain a major goal for MART.

It is recommended that MART collaborate with municipalities to lift the age requirement on the Council on Aging public transportation vehicles in order to provide service to a larger

portion of the community. The Council on Aging van services could be expanded to operate on weekends and nights so that those who utilize the service have more scheduling opportunities.

It is recommended that MART continue to increase its social media presence to better promote services and information to the community. MART should continue to collaborate with local municipalities to promote available public transit options on the municipalities' websites and social media pages. It is also recommended that MART continue to disseminate information through traditional media like local newspapers, local access television, and radio while still improving its social media presence. Within the last RTP, it was recommended that MART hold periodic training sessions in order to teach users on how to read and follow bus schedules. The pandemic obviously derailed this initiative. Training videos were developed and placed on the web as part of their outreach efforts. However, in person outreach meetings should return as an outreach effort for the Transit Authority.

Most of the above actions are designed to improve efficiency and lower overall demand on the highway system. There remain several key and identifiable avenues by which the MART system can be both properly maintained and improved. They are:

Table 7-3: Transit Recommendations

RTA Projects Recommendations	Expected FY	Reason for Recommendation	Est Cost
Ridership Demographics Study	2023-2026	A large project involving MART and its Operating company to understand where the ridership is, where they want to go etc. in order to maximize mobility.	N/A
ITC Roof, Concourse & Stair Tower, Main Street - Fitchburg	2023-2024	3 Projects to modernize and rehabilitate the aging Intermodal Transportation Center (ITC)	\$1,250,000
Rebranding Campaign	2023-2025	Standardization of agency image (Logo/Colors) across its portfolio of buildings and fleet vehicles	\$400,000
Elevator Modernization	2023-2024	Upgrade original elevator components following an assessment. Project will have two phases and cover all 7 elevators/lifts across MART the portfolio.	\$500,000
Hydrogen Fueling Station - FTA's Lo-No & Bus-Bus Facility Grant Submission	2024-2025	Infrastructure for Hydrogen Fueling station to make-ready the Water St. Facility for Hydrogen Fuel Cell (HFC) Zero Emission fleet vehicles	\$5,000,000
ITC Parking Garage - Structural Repairs, Main Street - Fitchburg	2024-2025	Address original design flaws to ensure structural integrity and safety and to prolong the facility's life expectancy.	\$950,000

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Fuel Station Upgrades - Systemwide	2024-2025	Final fuel station upgrades so that the system will last through the final rollover of the combustion fleet vehicles as the fossil fuels are phased out for ZEV (Hydrogen & EV).	\$235,000
North Main St. Parking Expansion - Leominster	2025	Additional parking at the new 840 North Main St. Facility in Leominster	\$480,000
HVAC Replacement 1427R Water Street - Fitchburg	2025	Replace underperforming HVAC system at Administrative offices.	\$400,000
EV Vehicle Charing Infrastructure - DOT-FHWA CFI Grant Submission	2025-2026	Infrastructure upgrades for Electric Vehicle Charging Stations, Solar Canopy, Battery Backup, and Utility hookup in order to make-ready the Water St. Facility for Electric Vehicle (EV) Zero Emission fleet vehicles	\$8,000,000
ITC Atrium, Main Street - Fitchburg	2026+	Repurpose for public/governmental use the underutilized North Pod Atrium at the Intermodal Transportation Center	\$680,000
ITC 2nd Floor 100 & 150 Main Street - Fitchburg	2026+	Refurbish existing open office space, improve layout, floor plan, and space use at the Intermodal Transportation Center.	\$900,000
ITC New Garage Lighting & Protection Main Street - Fitchburg	2026+	New garage lighting with anti-bird features at the Intermodal Transportation Center	\$200,000
ITC Asphalt Sealing & Restriping, Main Street - Fitchburg	2026+	Topcoat/resealing and striping of asphalt + concrete sealant at the Intermodal Transportation Center	\$320,000
Wachusett Station, Fitchburg Commuter Rail Asphalt Resealing + Concrete Sealing & Striping	2026+	Topcoat/resealing and striping asphalt + concrete sealant at the Wachusett Rail Station	\$380,000
NL Asphalt + Concrete Sealing & Restriping	2026+	Topcoat/resealing and striping asphalt + concrete sealant	\$280,000
Mechanic/Bay Side Update with New Equipment - Gardner Facility	2026+	Update Mechanic Space, Floors, Painting, Wash Bay Epoxy, plus 2 new Post Lifts	\$1,100,000
840 North Main St. Facility 2nd Floor Office Renovation - Leominster	2026+	2nd Floor Office Build Out and Refurbishment of Space for Better Utilization; to include Rehab of Bathrooms. An Assessment to determine a better layout to be conducted. Existing layout from a prior car dealership.	\$900,000
ITC Generator Replacement, Main Street - Fitchburg	2026+	Replace generator that supports 150 Main Street facility. Old generator installed in 2005 at the Intermodal Transportation Center.	\$120,000
840 North Main St. Facility Generator Replacement - Leominster	2026+	Replace generator that supports 150 Main Street facility. Old generator installed in 2005.	\$120,000

Transit Action Items

- Continue monitoring of routes and schedules so that any beneficial changes can be identified and implemented;
- Alternative sources of funding for continued transit operations must be developed and instituted;

- The marketing effort must be upgraded and increased to inform the public of transit availability and efficiency;
- Additional equipment such as radios, lift equipped trolleys, lift equipped buses, lift equipped vans, etc., should be acquired;
- Driver safety, CPR, first aid, and sensitivity courses should be maintained;
- Transit services for the elderly and disabled should continue to be upgraded as necessary to insure both availability and accessibility in compliance with MART's ADA complementary paratransit plan;
- Paratransit services provided by MART to social service agency clients should continue to be monitored for coordination of effort;
- Brokerage programs with Department of Public Health, MassHealth, Department of Mental Health, MRC, MCB, and Department of Developmental Services should be monitored for greater coordination and continued use of private enterprises.
- MAP Purchases for Elderly and Disabled Services (Section 5310).

The following are recommendations limited to commuter rail operations that likely effect the identified target populations.

- Increase available parking at the Shirley, Ayer and Littleton commuter rail stations.
- Extend train service to Gardner.
- Improve Handicapped accessibility at Shirley and Ayer Train Stations.
- Explore possibility of a Regional commuter rail facility in the Devens Enterprise Zone.

Environmental Trends

Climate change impacts such as global warming is expected to increase the frequency of precipitation and severity of weather events. It is important to anticipate the impact of such factors on transportation infrastructure.

Environmental Recommendations

The importance of the environment in the Region goes beyond just the moral responsibility to protect our planet. Natural resources and attractions which exist in the Region could also have economic benefits as well. Both the protection of our environment and the efficient connectivity of people to these assets should play a prominent role in transportation decision making now and in the future. Environmental Performance Measures set in this plan will help ensure progress continues to be made.

Environmental Action Items

1. Encourage the development of more projects which qualify for Congestion Mitigation and Air Quality (CMAQ) funds.
2. Maintain the prevalence of environmental factors when reviewing and prioritizing transportation projects.
3. Continue to monitor and assess vulnerable infrastructures.
4. Continue to promote opportunities for infrastructure upgrades through our local, state and federal partners.

Public Outreach Trends

Overall, the bulk of the survey respondents did not have a significant change in their transportation habits in relation to pre vs post pandemic and there were a lot of respondents who were seniors and/or retired so this may have impacted the outcome. Each community seems to have unique transportation needs. A lot of the survey responses focused on the need for more transportation infrastructure improvements, concerns with safety and improvements/increased transit options. It seems that transportation alternatives are still needed and the ones that currently exist may not meet the needs of most of the survey respondents. Based on feedback that we received from the Meeting in a Box forum, there are a lot of folks who use the senior center vans because they are a convenient door-to-door service. The issue is that there is not enough capacity to provide services to all residents.

Public Outreach Recommendations

Even though the outreach that was conducted for this Regional Transportation Plan was extensive, more attention could be considered to the special population groups in order to continue with the equity needs and goals of the Region. It is also clear that further analysis should be done for transportation alternatives such as senior services and on demand transportation services.

Public Outreach Action Items

- Continue to include various special populations and groups in the outreach efforts to ensure that a broad range of needs are identified and met
- Continue to expand on the outreach efforts by further developing the outreach contact lists

Equity Trends

After analyzing the types of projects being implemented, it seems that the majority of highway projects continue to consist of improvements to already existing infrastructure (ex. roadway resurfacing and rehabilitation, and bridge repair) as opposed to building new facilities and therefore do not bear an undue burden or benefit as compared to the rest of the region. These types of projects allow for smoother navigation through these areas (by personal vehicle, bicycling, walking or public transit) and provide improved access for commuting.

The Region continues to make strong connections with Title VI and EJ populations through email communication and meeting attendance. This pattern continues to increase, yet with the pandemic, public meetings seem to have slowed down. This is both a benefit and a burden where there appears to be more attendance for virtual meetings but participation and public input does not seem to have increased. It is hoped that involvement will show signs of increasing as time goes on.

Equity Recommendations

The MRPC continues to strive to solicit meaningful participation with Title VI and EJ populations through their Public Participation Plan, Limited English Proficiency Plan, and its submittals to MassDOT and the Federal transportation agencies through the Title VI. For this planning document there was extensive outreach to the EJ and Title VI populations by both daytime and evening meetings with locations along the public transportation routes, contacted public service agencies, online surveys, and were included as meeting topics during other agency meetings. With that being said, there is always room for improvement.

Equity Action Items

- Advance the outreach process by making stronger connections with Title VI and Environmental Justice type organizations and individuals.
- Continue to coordinate with local communities/organizations/advocates to monitor and address issues as they relate to identified target populations.
- Expand our mailing list to include other Title VI and EJ populations and organizations.
- Continue to monitor and advocate for TIP projects that show a benefit to Title VI and EJ areas.

Identified Infrastructure Needs

Through the development of the previous RTP, several projects or needs were identified. Some of these are relatively large in terms of scope, design and cost. The identified projects in the table below will likely entail several years of study, public outreach and design before implementation.

Table 7-4: Identified Infrastructure Needs		
Community	Location	Description
Athol	Route 2 at S. Athol Road Interchange	Access
Athol, Phillipston	Route 2 Lane Addition	Capacity
Fitchburg	Route 31 RR Bridge	Access
	Wachusett Station Improvements	Complete Streets, access
	Route 2 at Mt. Elam Road	Safety, GHG
Lancaster	Route 117 at Bolton Flats	Drainage upgrades
Leominster	Route 2 at Route 13 Interchange	Safety, GHG

	Route I190 & Route 2 Interchange	Capacity, safety
Leominster/Fitchburg	Merriam Ave/South Street Corridor	Capacity, GHG

Statewide Trends & Recommendations

National Electric Vehicle Infrastructure Program Deployment Plan (NEVI Plan) for Massachusetts “... is the framework for Massachusetts to expand its electric vehicle (EV) highway fast charging network through the National Electric Vehicle Infrastructure Program established by the Infrastructure Investment and Jobs Act (IIJA). Consistent with the intent of the NEVI Program, this plan focuses on direct current fast charging (DCFC) infrastructure serving long-distance travel corridors, specifically Massachusetts’ federally designated EV Alternative Fuel Corridors.”

Link to the plan: [NEVI Plan for Massachusetts](#)

Based on the findings established in the *Commission on the Future of Transportation in the Commonwealth, Choices for Stewardship: Recommendations to Meet the Transportation Future Volume 1* report, the following key challenges and recommendations were identified:

- Technology, mainly electrified autonomous vehicles and other transportation technologies, are inevitable. According to the study, these new developments “have the potential to improve safety, speed and efficiency, expand mobility options; and reduce greenhouse gas emissions – if they are harnessed properly and managed prudently.”
- A population that is growing at a rapid rate and is expected to add 600,000 more residents by 2040 will certainly be a challenge. An increasing aging population, in addition to the overall population growth, is even more challenging.
- The transportation system is inequitable. “Those who do not or cannot own or drive a car – due to youth or age, physical or developmental disability, or financial realities – spend more time and money commuting and sometimes simply cannot get where they need to go, especially in the rural and low-density areas.”
- Transportation needs vary across the Commonwealth and its communities.
- More trips are made in personal vehicles in which the driver is the only occupant. To operate more efficiently, the transportation system needs to move more people in

fewer vehicles. Increasing the availability and utilization of public transit and increasing the number of vehicles with more than one passenger would assist in this effort.

- Transportation systems are generally driven by development patterns not vice versa. Addressing development and land use patterns will aid in transportation challenges.
- The transportation sector is the largest and fastest growing contributor of GHGs. The goal of the Commonwealth is to reduce overall GHG emissions 80 percent by 2050 and to do so, transportation must play a key role.
- New transportation infrastructure must be well-thought-out with climate change in mind and existing infrastructure will need to be retrofitted over time to withstand sea level rise, more frequent and violent precipitation, and hotter summers.
- Prioritize and pay for needed investments – the Commonwealth must prioritize maintenance, modernization and expansion of its transportation system in order to create, operate and maintain a 21st century transportation system.

Other Statewide Recommendations

“Grouped into five thematic categories, the Commission has made 18 recommendations for how to best prepare Massachusetts’ transportation network for the challenges and opportunities of 2040...”

The five thematic categories are:

1. Modernize existing state and municipal transit and transportation assets to more effectively and sustainably move more people throughout a growing Commonwealth;
2. Create a 21st century “mobility infrastructure” that will prepare the Commonwealth and its municipalities to capitalize on emerging changes in transportation technology and behavior;
3. Substantially reduce greenhouse gas emissions from the transportation sector in order to meet the Commonwealth’s Global Warming Solutions Act (GWSA) commitments, while also accelerating efforts to make transportation infrastructure resilient to a changing climate;

4. Coordinate and modernize land use, economic development, housing, and transportation policies and investments in order to support resilient and dynamic regions and communities throughout the Commonwealth; and
5. Make changes to current transportation governance and financial structures in order to better position Massachusetts for the transportation system that it needs in the next years and decades.

The 18 recommendations include –

1. Prioritize investment in public transit as the foundation for a robust, reliable, clean and efficient transportation system.
2. Transform roadways and travel corridors to move more people and support changing travel modes and technologies.
3. Work with multiple stakeholders to better manage today’s traffic congestion – and the congestion challenges of the future.
4. Establish a Commonwealth Transportation Technology Transformation Initiative (T3I) to promote solutions to our most complicated transportation issues and build upon our reputation in transportation innovation and technology.
5. Support and accelerate efforts to consume transportation differently.
6. Enable and promote a statewide telecommunications infrastructure to support the availability of real-time transportation information and deployment of connected and autonomous vehicles.
7. Develop a long-term strategy for supporting connected and autonomous vehicles in Massachusetts.
8. Enable and promote a ubiquitous electric charging (and/or alternative fuel) infrastructure to support the widespread deployment of electric and autonomous vehicles.
9. Establish a goal that beginning in 2040, all new cars, light duty trucks, and buses sold in Massachusetts will be electric or use another technology that meets the same emissions standards.

10. Collaborate with other Northeast and Mid-Atlantic states to establish a regional, market-based program to reduce transportation sector greenhouse gas (GHG) emissions.
11. Make all current and future critical state and municipal transportation infrastructure resilient to a changing climate.
12. Ensure that sufficient electric capacity is available to provide reliable, clean, and competitively priced power supplies for all electricity users as electrification of the transportation sector accelerates.
13. Adopt land use policies and practices that support more dense, mixed-use, and transit-oriented development (TOD).
14. Use land use, economic development, and transportation policies and investment to enable Gateway Cities and the regions they anchor throughout the Commonwealth to compete for the growing number of residents and jobs.
15. Coordinate the planned reinvention of the MBTA commuter rail system with local, regional, and state land use and economic development strategies to maximize the ridership and economic benefits of the reinvented system.
16. Provide better mobility options in rural communities through reimagined public transportation, community transportation services, and public/private partnerships.
17. Prepare MassDOT and other transportation-related entities to effectively oversee a changing transportation system.
18. Develop a fiscally sound and responsible transportation resource plan to operate, maintain, and upgrade the transportation system.