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## Planning Scenarios

## Planning Scenarios

### Introduction

The 2020 Montachusett RTP utilized scenario planning as a method to chart out future expenditure for the region. These scenarios were based on a work undertaken by a state commission on the future of transportation as well as local input derived from past surveys and public workshop feedback. Based on the past success of this type of long-term planning, the scenario planning method will be the focus of this plan.

A past trend comparison will attempt to identify successes or shortcomings since the prior RTP. In addition, feedback from 2022-2023 public survey and workshops will be utilized to support or revise funding assumptions associated with the planning scenarios.

### 2020 Montachusett RTP Planning Scenarios

#### A. Commonwealth of Massachusetts

Executive Order No. 579 established the Commission on the Future of Transportation in the Commonwealth. This Commission was charged with examining issues related to transportation in Massachusetts in the year 2040. Five key trends identified for consideration by the Commission included: “changing demographics; a more volatile climate; disruptive technological advances; increased electrification; and a higher level of automation.” In response to this Executive Order, the Commission compiled and released a report entitled “*Choices for Stewardship: Recommendations to Meet the Transportation Future.*” Based on a review and analysis of trends in the state and in transportation, four scenarios were developed and considered by the Commission. These scenarios are summarized in the following section. For additional information regarding the state and regional planning scenarios, please refer to chapter 8 of the 2020 Montachusett RTP.

#### 1. Scenario 1 – Gridlock

*Headline* - The fast growth of Boston and its surrounding municipalities has continued, but without expansion of existing transportation capacity.

*Summary* - Jobs and housing continue to grow primarily in the Greater Boston region (GBR). However, employers are frustrated with Boston's high-density commercial and housing environment, and its residents, who once embraced city-oriented life, are discouraged by traffic congestion and unreliable and inconsistent public transit service.... These issues are causing residents and employers to look for opportunities outside of the GBR and the state in general. Other regional job hubs in the state face the same threats as the GBR.... uneven adoption of transportation technologies and new mobility services exacerbates congestion, GHG emissions, social inequities, and conflicts between public, private, and new mobility transportation services.

## 2. Scenario 2 – Vibrant Core

*Headline* - The GBR continues to grow, supported by new transportation technologies and systems that facilitate the success of a vibrant and livable metro region.

*Summary* - Jobs and housing growth continues primarily in Boston's core and close-in communities, especially those with MBTA service. With employers who still value face-to-face interaction over remote work environments and a society that embraces city-oriented life, the GBR has absorbed most of the state's jobs and population growth while some rural communities located farther away from Boston shrink as they continue to lose population. ...the cost of housing and commercial property pushes some people and businesses to more affordable areas farther from the Boston-centric core, .... growing the footprint of the urban core to Rt 495 and beyond. The adoption of technology advances .... support a vibrant, livable, and mobile core on target to meet GHG and related goals. Reliable public transit and micro-mobility options provide trips around the core and beyond.

## 3. Scenario 3 – Multiple Hubs

*Headline* - High-density growth takes place in several cities and their regions throughout the Commonwealth. Increased density and expanded mobility options create the opportunity to take advantage of lower cost housing and promotes job creation outside of the GBR core.

*Summary* - Jobs and housing growth happen in regional hub cities with their own economies, cultural identities, histories, and challenges. This dispersed growth occurs because the GBR and Boston itself is crowded, expensive, vulnerable to extreme weather, and hard to traverse. The commercial and housing development generally concentrates in the core of the regional hub cities and also drives growth in less dense suburbs. .... Outside of these regions, adoption of new transportation technologies and new mobility options is more limited due to longstanding infrastructure challenges and the aging of populations in rural and low-density communities. Because economic development is distributed throughout the state, most rural communities are not far from opportunities for jobs, education, shopping, healthcare, etc.

#### 4. Scenario 4 – Statewide Spread

*Headline* - Technology has transformed not just transportation but every aspect of people’s lives, including work, communication, commerce, and service delivery. This widespread use of technology allows for more choice for those with access to technology, while potentially disadvantaging others.

*Summary* - Jobs and housing growth are spread across the state in communities of all sizes and types as the importance of physical location has diminished via increased reliance on telecommunications networks. However, reliance on ride and vehicle sharing including... public transit is low outside of the GBR and other regions with a critical mass of people and jobs which is a result of the marginal cost of running transit service remaining high in those areas against increasingly more affordable C/AVs and EVs. .... Climate change makes many areas unviable for residents and businesses, but new connections are forged between regions as population spreads out. Social equity is

an increased concern as many workers displaced by technology face ongoing high rates of unemployment; and seniors and others with more limited mobility options are “stranded” in place, needing access to affordable housing and transportation to critical services and jobs.

## B. Montachusett Scenarios

After a review of scenarios developed by the Commonwealth, MRPC staff developed some scenarios based on the general concepts put forward by the Commission but more applicable to the region’s trends and communities. From an analysis of the trends identified in the 2020 RTP, the plan’s Vision, Goals, Objectives and Strategies, three different regional scenarios were compiled. Along with the broader concepts of each scenario, a list of applicable funding options and concepts were also developed. These funding options are based upon input derived through the outreach process for the 2020 RTP. By tying program funding options to the scenario concepts, a financial plan was developed and evaluated. The Montachusett scenarios are summarized as follows.

### Montachusett Scenario Development Process



#### 1. Scenario 1 – Status Quo

Scenario 1 relates to the Statewide Scenario 1 – Gridlock in that growth is expected to continue in the Greater Boston region without any expansion of transportation capacity. Within the Montachusett Region, communities will continue the approach of addressing network problems as they arise. Municipalities lack funding that would allow them to pro-actively identify and implement projects in order to offset impacts associated with the growth in the eastern part of the state. Unable to actively fund the needed designs required as part of the project

development process in a timely fashion, most communities must allocate funds over several years in order to see one project advance. Consequently, deterioration continues across the transportation networks leading to more complicated and costly improvement projects. This scenario assumes that conditions remain as is, i.e. the “Status Quo.”

|   |
|---|
| <i>Headline</i> - Population and household growth continue while employment continues to decline in the Montachusett Region. No changes or expansions are planned or made to the existing transportation systems.   |
| <i>Description</i> - By 2040 employment has declined across the region as employers find it difficult to attract prospective workers due to limited commercial options. Households increase as a result of the advantages housing costs of the Montachusett Region, and the commuter rail option offered by the MBTA Fitchburg Commuter Rail line. The problems associated with the existing system remain as any growth adds to current congestion, safety and accessibility issues. |

## 2. Scenario 2 – Multiple Hubs

This Scenario assumes that within the Montachusett Region, the municipalities that are the current major commercial, industrial and employment centers continue in that role much like Scenario 3 developed by the MA Future Transportation Commission. As growth spreads from the Boston region, communities expand their housing options and seek to retain their rural, small community characteristics and lifestyles. In order to do this, they will seek to improve and expand their connections to the existing commercial and employment centers or “regional hubs.” Thus, the focus is on “inter-community” connections, i.e. longer distance roads and networks that facilitate travel between communities. This assists residents as they seek out employment or goods but still maintain the “laid back” rural lifestyle. Transportation funding under this Scenario puts a greater emphasis on improving and maintaining their long distance, major roads and networks. Roads such as Route 12, Route 119, etc. facilitate the flow of residents to jobs and goods, therefore, the need to keep these “inter-community” networks efficient and viable.

*Headline* - Growth takes place across the Montachusett Region as well as throughout the Commonwealth. Expanded mobility options create the opportunity to take advantage of housing costs and expanded markets outside of the Greater Boston core which includes Montachusett Region cities and towns. The region's larger, more urban communities, i.e., Fitchburg, Leominster, Gardner, Athol and Clinton, remain the major commercial and employment destinations for the more rural communities. Longer distance commutes to Boston and Worcester continue.

*Description* - More dispersed growth occurs in the Montachusett Region because Greater Boston, and Boston itself, is crowded, expensive, vulnerable to extreme weather, and difficult travel. Greater Worcester also shares similar traits to a lesser extent. This results in Montachusett Region cities being transformed into regional hub cities and several towns into hub towns. This is also due to the supply of relatively affordable business and residential real estate in relation to Greater Boston and Greater Worcester. As a result, travel between communities and regional hubs are an emphasis area for transportation investments in order to facilitate inter-community movement.

### 3. Scenario 3 – Strong Community Centers

Scenario 3 assumes that each community within the Montachusett Region would seek to grow and enhance their own particular municipality through the improvement of transportation networks within their boundaries. Emphasis would be place on developing a strong town center area or destination that supports the commercial and employment needs of their citizens. As in the prior scenario, growth spreads from the Boston region and communities seek to expand their housing and employment options in order to attract new residents and retain their current ones. To do this, transportation investments focus on “intra-community” facilities rather than those systems that would take individuals out of the community to shop, work, etc. By prioritizing the travel needs within their existing borders, strong town or community centers can be obtained.

As with Scenario 2, this Scenario would also make use of the preferred emphasis of Montachusett Federal Aid Target funds as outlined above, i.e., the emphasis funding categories and their percentage of emphasis remain the same. To advance the projects that meet the needs of Scenario 3, each of the listed and identified funding strategies are broken down further to ensure a majority of the strategy funds goes towards advancing “intra-community” projects and networks.

*Headline* - Growth takes place across the Montachusett Region as well as throughout the Commonwealth. Expanded mobility options create the opportunity to take advantage of housing costs and expanded markets outside of the Greater Boston core which includes Montachusett Region cities and towns. The region's communities take advantage of these conditions by seeking to upgrade and improve travel within their communities and in particular to their town centers which are typically the major commercial and employment centers.

*Description* - More dispersed growth occurs in the Montachusett Region because Greater Boston, and Boston itself, is crowded, expensive, vulnerable to extreme weather, and difficult travel. Greater Worcester also shares similar traits to a lesser extent. This results in Montachusett Region municipalities improving mobility within their communities in order to foster growth in housing, commercial and where appropriate employment centers. Improved, safer intra-community networks result in a more vibrant town center for all populations. Travel within communities is an emphasis area for transportation investments in order to facilitate and continue community growth.

## **Funding Analysis of Projects vs. Planning Scenarios**

### **A. Scenario Funding Breakdown Across Federal Project Categories**

#### **1. Scenario 1 – Status Quo**

An examination of Federal Aid eligible Target projects from Montachusett MPO Endorsed TIPs that span FFY 2010 to 2020, when categorized based on 2020 RTP survey descriptions, shows that of the funds programmed, approximately 66% went towards Road Maintenance & Infrastructure, 13% towards Safety and 11% towards Pedestrian & Bicycle Facilities. No funds were defined as supporting Transit Options and Regional or Community Access. This therefore became the funding preference under Scenario 1 – Status Quo.

### **2020 RTP Scenario 1 Preferred Funding Option**

| <b>Average Percent of Total Funding Per Category<br/>FFY 2010 to FFY 2020</b> |                      |                |
|---|----------------------|----------------|
| Road Maintenance & Infrastructure   | \$107,666,164        | 65.83%         |
| Safety (High Crash Locations)   | \$20,999,284         | 12.84%         |
| Pedestrian & Bicycle Facilities   | \$17,392,242         | 10.63%         |
| Complete Streets  | \$9,744,916          | 5.96%          |
| Climate Change & Environment  | \$4,248,888          | 2.60%          |
| Congestion Relief   | \$3,494,626          | 2.14%          |
| Transit Options   |                      |                |
| Regional Access   |                      |                |
| Community Access  |                      |                |
| <b>Totals</b>   | <b>\$163,546,120</b> | <b>100.00%</b> |

Source: Montachusett 2020 RTP - Working Towards the Future



## 2. Scenario 2 – Multiple Hubs (Inter-Community)

As stated in the 2020 RTP, a preferred emphasis of Montachusett Federal Aid Target funds was identified. To advance projects that would meet the needs of Scenario 2, each of the listed funding strategies were then broken down further to ensure a majority of the strategy funds goes towards advancing “inter-community” projects and networks. This results in a funding strategy breakdown as follows:

**2020 RTP Scenario 2 Preferred Funding Option**

|    | <b>Funding Percentage Per Strategy<br/>Federal Aid Target Funds<br/>Scenario 2 – Multiple Hubs</b> | <b>Total Allocation %<br/>to Funding Category</b> | <b>Allocated % Funding Towards<br/><u>Inter Community</u><br/>Network</b> | <b>Allocated % Towards<br/>Remaining Projects</b> |
|----|--|---|---|---|
| 1  | Road Maintenance & Infrastructure  | 40%   | 30%   | 10%   |
| 2  | Transit Options  | 14%   | 10%   | 4%  |
| 3  | Pedestrian & Bicycle Facilities  | 12%   | 10%   | 2%  |
| 4  | Safety (High Crash Locations)  | 9%  | 7%  | 2%  |
| 5  | Climate Change & Environment   | 6%  | 4%  | 2%  |
| 6  | Congestion Relief  | 4%  | 3%  | 1%  |
| 7  | Complete Streets   | 5%  | 3%  | 2%  |
| 8  | Regional Access  | 5%  | 5%  | 0%  |
| 9  | Community Access   | 4%  | 4%  | 0%  |
| 10 | Other  | 1%  | 1%  | 0%  |

Source: Montachusett 2020 RTP - Working Towards the Future

## 3. Scenario 3 – Strong Community Centers (Intra-Community)

As with Scenario 2 above, this Scenario would also make use of the preferred emphasis of Montachusett Federal Aid Target funds as outlined in the 202 RTP. The overall emphasis of funding categories and percentage remains the same. However, to advance the projects that meet the needs of Scenario 3, each of the listed and identified funding strategies were broken down further to ensure a majority of the strategy funds would go towards advancing “intra-community” projects and networks. This results in a funding strategy for Scenario 3 similar to Scenario 2. The difference would be seen in the TIP process by the types of projects prioritized and funded.

## 2020 RTP Scenario 3 Preferred Funding Option

|    | Funding Percentage Per Strategy<br>Federal Aid Target Funds<br>Scenario 3 – Strong Community<br>Centers | Total<br>Allocation %<br>to Funding<br>Category | Allocated %<br>Funding Towards<br><u>Intra Community</u><br>Network | Allocated %<br>Towards<br>Remaining<br>Projects |
|----|---|---|---|---|
| 1  | Road Maintenance & Infrastructure   | 40%   | 30%   | 10%   |
| 2  | Transit Options   | 14%   | 10%   | 4%  |
| 3  | Pedestrian & Bicycle Facilities   | 12%   | 10%   | 2%  |
| 4  | Safety (High Crash Locations)   | 9%  | 7%  | 2%  |
| 5  | Climate Change & Environment  | 6%  | 4%  | 2%  |
| 6  | Congestion Relief   | 4%  | 3%  | 1%  |
| 7  | Complete Streets  | 5%  | 3%  | 2%  |
| 8  | Regional Access   | 5%  | 5%  | 0%  |
| 9  | Community Access  | 4%  | 4%  | 0%  |
| 10 | Other   | 1%  | 1%  | 0%  |

Source: Montachusett 2020 RTP - Working Towards the Future

### B. Federal Funding Programs vs. 2020 RTP Strategies

Projects or Federal funding categories that can meet the 2020 and 2024 RTP identified strategies include but are not limited to the following types:

| Strategy                                     | Project Funding or Type  | Strategy                 | Project Type  |
|--|--|--------------------------|---|
| <b>Road Maintenance &amp; Infrastructure</b> | STBG <ul style="list-style-type: none"> <li>• Resurfacing</li> <li>• Rehabilitation</li> <li>• Full Depth Reconstruction</li> <li>• Box Widening</li> <li>• Geometric Improvements</li> </ul>                        | <b>Congestion Relief</b> | <ul style="list-style-type: none"> <li>• Intersection Improvements</li> <li>• Corridor Improvements</li> <li>• Interchange Upgrades</li> <li>• Signal Re-Timing</li> </ul>  |
| <b>Safety</b>                                | HSIP <ul style="list-style-type: none"> <li>• Signal Installation/Upgrade</li> <li>• Roundabout Construction</li> <li>• Pavement Markings/Signage</li> <li>• Guardrails</li> <li>• Geometric Improvements</li> </ul> | <b>Transit Options</b>   | <ul style="list-style-type: none"> <li>• On Street Bus Cutouts</li> <li>• Sidewalk Improvements on/to Bus Routes</li> <li>• Sidewalk Improvements on/to Commuter Rail</li> <li>• ADA Access Improvement</li> <li>• Rolling Stock (Bus/Van)</li> </ul> |
| <b>Pedestrian &amp; Bicycle Facilities</b>   | TAP <ul style="list-style-type: none"> <li>• Trail Construction - On &amp; Off Street</li> <li>• Sidewalks</li> <li>• Benches &amp; Bike Racks/Shelters</li> <li>• Trail Signage &amp; Markings</li> </ul>           | <b>Regional Access</b>   | <ul style="list-style-type: none"> <li>• Major Highway Resurfacing/Improvements</li> <li>• Signage Upgrades</li> <li>• Accel/Decel Lane Improvements</li> </ul>   |

| Strategy                                | Project Funding or Type   | Strategy                | Project Type   |
|---|---|-------------------------|--|
| <b>Complete Streets</b>                 | STBG <ul style="list-style-type: none"> <li>• Widening for Bike &amp; Ped Lanes</li> <li>• Sidewalks</li> <li>• Crosswalks</li> <li>• Ped Signals</li> <li>• ADA Upgrades &amp; Improvements</li> </ul>   | <b>Community Access</b> | <ul style="list-style-type: none"> <li>• Signage Upgrades</li> <li>• Resurfacing</li> <li>• Geometric Improvements</li> <li>• Sidewalks</li> </ul> |
| <b>Climate Change &amp; Environment</b> | CMAQ <ul style="list-style-type: none"> <li>• Congestion Reduction</li> <li>• Air Quality Improvements</li> <li>• Signal Re-Timing</li> <li>• Stormwater Runoff</li> <li>• Drainage Improvements</li> <li>• Catch Basin Installation</li> </ul> | <b>Other</b>            | <ul style="list-style-type: none"> <li>• Safe Routes to School</li> </ul>  |

Source: Montachusett 2020 RTP - Working Towards the Future

### C. Project Review from TIP FFYs 2020 to 2027

Target projects were reviewed from the individual TIPs that covered the time frame from FFY 2020 to 2027. This review showed the following breakdown by funding category along with their estimated project costs. It should be noted that many of the examined projects cross several improvement categories. Road Maintenance and Infrastructure projects will often include improvements that can be identified or categorized as Complete Streets, Pedestrian & Bicycle Facilities, Safety, Congestion Relief, etc. improvement. This type of micro-analysis was not done due to the difficulty in identifying such elements within a larger project as well as trying to assign a cost factor to such work. Therefore, the TIP project description and federal funding category were used as the determining factor for assignment to a Planning Scenario category.

## FFY 2020 to FFY 2027 Project Categorization Analysis

|                                | Federal Funding Program |                     |                     |                    |                      |
|--------------------------------|-------------------------|---------------------|---------------------|--------------------|----------------------|
|                                | STBG                    | CMAQ                | HSIP                | TAP                | Total                |
| FFY 2020-2024 Target Breakdown | \$45,180,825            | \$3,635,255         | \$2,653,189         | \$1,165,335        | \$52,634,604         |
| Percent of Total \$            | 85.84%                  | 6.91%               | 5.04%               | 2.21%              |                      |
| FFY 2021-2025 Target Breakdown | \$43,593,630            | \$5,059,681         | \$3,858,312         | \$253,701          | \$52,765,324         |
| Percent of Total \$            | 82.62%                  | 9.59%               | 7.31%               | 0.48%              |                      |
| FFY 2022-2026 Target Breakdown | \$49,507,429            | \$2,299,122         | \$3,446,775         | \$143,458          | \$55,396,784         |
| Percent of Total \$            | 89.37%                  | 4.36%               | 6.53%               | 0.27%              |                      |
| FFY 2023-2027 Target Breakdown | \$58,063,768            | \$0                 | \$1,243,291         | \$138,144          | \$59,445,203         |
| Percent of Total \$            | 97.68%                  | 0.00%               | 2.09%               | 0.23%              |                      |
| <b>FFY 2020-2027 TOTALS</b>    | <b>\$196,345,652</b>    | <b>\$10,994,058</b> | <b>\$11,201,567</b> | <b>\$1,700,638</b> | <b>\$220,241,915</b> |
| <b>Percent of Total \$</b>     | <b>89.15%</b>           | <b>4.99%</b>        | <b>5.09%</b>        | <b>0.77%</b>       |                      |

Source: MPO Endorsed TIPs Covering FFY 2020 to FFY 2027

### D. Programmed TIP Projects from FFY 2010 to 2027 versus 2020 Planning Scenarios

#### 1. 2024 RTP Scenario 1 – Status Quo Analysis

An examination of Federal Aid eligible Target projects from Montachusett MPO Endorsed TIPs that span FFY 2010 to 2027, when categorized based on 2020 and 2024 RTP survey descriptions, shows that of the funds programmed, approximately 79% went towards Road Maintenance & Infrastructure, 8% towards Safety and 5% towards Pedestrian & Bicycle Facilities. No funds were defined as supporting Transit Options, Regional Access or Community Access. The total programmed funds include the amounts shown in the above Section 1. A. Scenario 1 - Status Quo and Section C. Project Review from TIP FFYs 2020 to 2027.

## 2024 RTP Scenario 1 Status Quo Funding Option

| Average Percent of Total Funding Per Category<br>FFY 2010 to FFY 2027 |                      |                |
|---|----------------------|----------------|
| Road Maintenance & Infrastructure                                     | \$304,011,816        | 79.21%         |
| Safety (High Crash Locations)   | \$32,200,851         | 8.39%          |
| Pedestrian & Bicycle Facilities                                       | \$19,092,880         | 4.97%          |
| Complete Streets  | \$9,744,916          | 2.54%          |
| Climate Change & Environment  | \$15,242,946         | 3.97%          |
| Congestion Relief   | \$3,494,626          | 0.91%          |
| Transit Options   |                      |                |
| Regional Access   |                      |                |
| Community Access  |                      |                |
| <b>Totals</b>   | <b>\$383,788,035</b> | <b>100.00%</b> |

Source: MPO Endorsed TIPs Covering FFY 2010 to FFY 2027

This revised funding breakdown shown in the above table therefore becomes the 2024 RTP funding preference identified as Scenario 1 – Status Quo.

### 2. 2024 RTP Scenario 2 – Multiple Hubs (Inter-Community) and 2024 RTP Scenario 3 Strong Community Centers (Intra-Community) Analysis

Looking back at the results of the 2024 RTP Public Survey, and in particular, Question 11 that asked respondents to “Rank in importance from 1 (most important) to 10 (least important), the following issues that need to be addressed in your travels over the next 25 years.”, the ranking of the issues changed from what was determined by the 2020 RTP survey.

In 2020, survey responses placed the issues in the following order of importance:

### 2020 RTP Survey Response Results

| Issue                             | 2020 RTP Rank |
|-----------------------------------|---------------|
| Road Maintenance & Infrastructure | 1             |
| Transit Options                   | 2             |
| Pedestrian & Bicycle Facilities   | 3             |
| Safety - High Crash Locations     | 4             |
| Climate Change & Environment      | 5             |
| Congestion Relief                 | 6             |
| Complete Streets                  | 7             |
| Regional Access                   | 8             |
| Community Access                  | 9             |
| Other                             | 10            |

Results from the 2024 RTP survey, placed the identified issues in the following order of importance:

### 2024 RTP Survey Response Results

| Issue                             | 2024 RTP Rank |
|-----------------------------------|---------------|
| Road Maintenance & Infrastructure | 1             |
| Safety - (Road & Highways)        | 2             |
| Transit Options                   | 3             |
| Congestion                        | 4             |
| Pedestrian & Bicycle Facilities   | 5             |
| Economic Development              | 6             |
| Climate Change & Environment      | 7             |
| Residential Development           | 8             |
| Improved Town Center              | 9             |
| Changing Demographics             | 10            |

For a direct comparison of the two survey results, please note that issue titles are not completely identical between the surveys. They can be matched up based on the overall assumption of the issue or strategy. Therefore, please refer to the table listing below.

### 2020 RTP Survey vs. 2024 Survey Response Results

| Rank | 2024 Issue Label (2020 Issue Label)             | 2020 RTP Rank | 2024 RTP Rank | Change |
|------|---|---------------|---------------|--------|
| 1    | Road Maintenance & Infrastructure               | 1             | 1             | NC     |
| 2    | Safety - Road & Highways (High Crash Locations) | 4             | 2             | +2     |
| 3    | Transit Options                                 | 2             | 3             | -1     |
| 4    | Congestion (Relief)                             | 6             | 4             | +2     |
| 5    | Pedestrian & Bicycle Accessibility (Facilities) | 3             | 5             | -2     |
| 6    | Economic Development (Regional Access)          | 8             | 6             | +2     |
| 7    | Climate Change & Environment                    | 5             | 7             | -2     |
| 8    | Residential Development (Community Access)      | 9             | 8             | +1     |
| 9    | Improved Town Center (Regional Access)          | 7             | 9             | -2     |
| 10   | Changing Demographics (Other)                   | 10            | 10            | NC     |

The most significant changes can be seen in the ranking of Safety, Congestion, and Economic Development. Each issue moved up in importance 2 slots from the 2020 survey. Similarly, Pedestrian & Bicycle Accessibility, Climate Change & Environment and an Improved Town Center dropped 2 slots in importance. Most significant when discussing the Planning Scenarios

for this RTP is the increased focus and importance to users of the transportation network on Safety and Congestion.

### 3. 2024 RTP Planning Scenario Adjustments

Based upon the planning survey results, adjustments were made to the preferred funding option ranking, however, the actual percentage splits remained unchanged.

#### **2024 RTP Scenario 2 Multiple Hubs (INTER - Community) Preferred Funding Option**

|    | <b>Funding Percentage Per Strategy<br/>Federal Aid Target Funds<br/>Scenario 2 – Multiple Hubs</b> | <b>Total<br/>Allocation %<br/>to Funding<br/>Category</b> | <b>Allocated % Funding<br/>Towards<br/><u>INTER Community</u><br/>Network</b> | <b>Allocated %<br/>Towards<br/>Remaining Projects</b> |
|----|--|---|---|---|
| 1  | Road Maintenance & Infrastructure  | 40%   | 30%   | 10%   |
| 2  | Safety - Road & Highways   | 14%   | 10%   | 4%  |
| 3  | Transit Options  | 12%   | 10%   | 2%  |
| 4  | Congestion   | 9%  | 7%  | 2%  |
| 5  | Pedestrian & Bicycle Accessibility   | 6%  | 4%  | 2%  |
| 6  | Economic Development   | 4%  | 3%  | 1%  |
| 7  | Climate Change & Environment   | 5%  | 3%  | 2%  |
| 8  | Residential Development  | 5%  | 5%  | 0%  |
| 9  | Improved Town Center   | 4%  | 4%  | 0%  |
| 10 | Changing Demographics  | 1%  | 1%  | 0%  |

#### **2024 RTP Scenario 3 Strong Community Centers (INTRA - Community) Preferred Funding Option**

|    | <b>Funding Percentage Per Strategy<br/>Federal Aid Target Funds<br/>Scenario 3 – Strong Community<br/>Centers</b> | <b>Total<br/>Allocation %<br/>to Funding<br/>Category</b> | <b>Allocated % Funding<br/>Towards<br/><u>INTRA Community</u><br/>Network</b> | <b>Allocated %<br/>Towards Remaining<br/>Projects</b> |
|----|---|---|---|---|
| 1  | Road Maintenance & Infrastructure   | 40%   | 30%   | 10%   |
| 2  | Safety - Road & Highways  | 14%   | 10%   | 4%  |
| 3  | Transit Options   | 12%   | 10%   | 2%  |
| 4  | Congestion  | 9%  | 7%  | 2%  |
| 5  | Pedestrian & Bicycle Accessibility  | 6%  | 4%  | 2%  |
| 6  | Economic Development  | 4%  | 3%  | 1%  |
| 7  | Climate Change & Environment  | 5%  | 3%  | 2%  |
| 8  | Residential Development   | 5%  | 5%  | 0%  |
| 9  | Improved Town Center  | 4%  | 4%  | 0%  |
| 10 | Changing Demographics   | 1%  | 1%  | 0%  |

## **2024 RTP Planning Scenarios**

From the review and analysis conducted above, three viable Planning Scenarios for this 2024 version of the Montachusett Regional Transportation Plan (RTP) can be summarized as follows.

### **A. Scenario 1 – Status Quo**

Distribution of funds are based upon infrastructure needs as they develop through the TIP process with no particular emphasis on one transportation issue over another. Funds are programmed based upon status and not through planning options developed by the regional communities.

#### **2024 RTP Planning Scenario 1 – Status Quo**

| <b>Funding Percentage Per Strategy<br/>Federal Aid Target Funds<br/>Based on Prior TIP Covering FFY 2010 to FFY 2027</b> | <b>Total Allocation % to<br/>Funding Category</b> |        |
|--|---|--------|
| Road Maintenance & Infrastructure  | 79%   | 79.21% |
| Safety - Road & Highways   | 8%  | 8.39%  |
| Pedestrian & Bicycle Accessibility   | 5%  | 4.97%  |
| Climate Change & Environment   | 4%  | 3.97%  |
| Improved Town Center   | 3%  | 2.54%  |
| Congestion   | 1%  | 0.91%  |
| Transit Options  |   |        |
| Economic Development   |   |        |
| Residential Development  |   |        |
| Changing Demographics  |   |        |

### **B. Scenario 2 – Multiple Hubs (Inter-Community)**

Funding distribution is based on a community that wishes to maintain and improve connections between communities. This advances the concept of traditional residential, industrial, commercial, etc. centers that exist across the region maintain those characteristics.

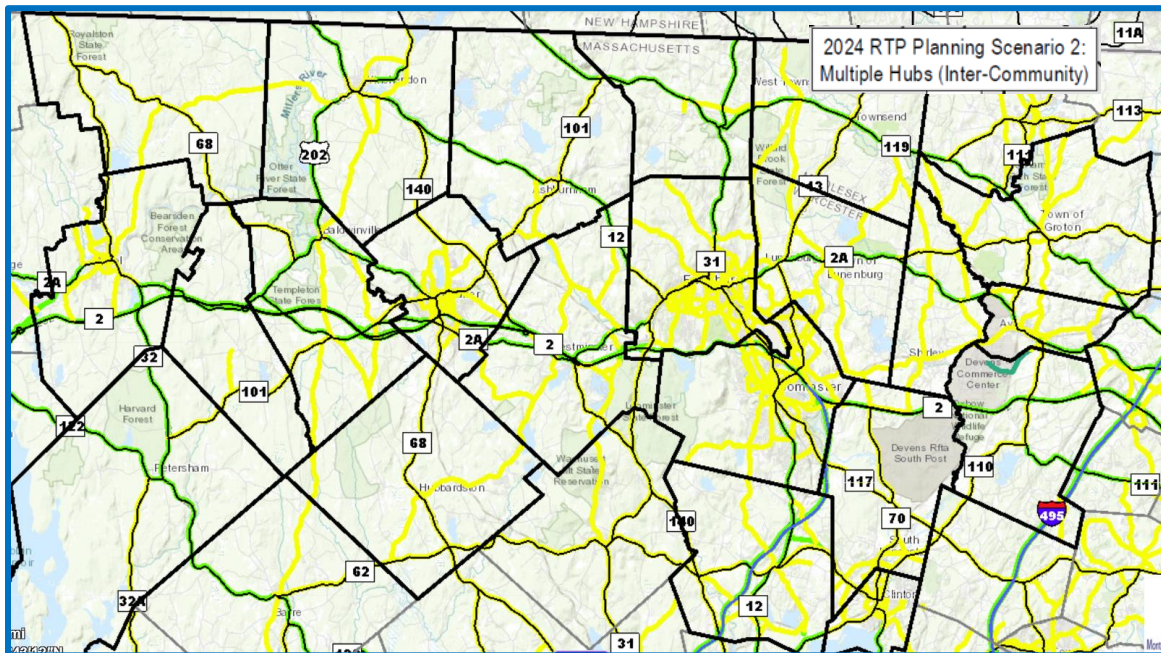
Communities are comfortable with their current role and are looking to make access to needed services outside of the town borders easier and more efficient for their residents. To advance this strategy, funding options should follow the following breakdown:



## 2024 RTP Scenario 2 - Multiple Hubs (INTER - Community)

| Funding Percentage Per Strategy<br>Federal Aid Target Funds<br>Scenario 2 – Multiple Hubs | Total<br>Allocation %<br>to Funding<br>Category | Allocated %<br>Funding Towards<br><u>INTER Community</u><br>Network | Allocated %<br>Towards<br>Remaining<br>Projects |
|---|---|---|---|
| Road Maintenance & Infrastructure   | 40%   | 30%   | 10%   |
| Safety - Road & Highways  | 14%   | 10%   | 4%  |
| Transit Options   | 12%   | 10%   | 2%  |
| Congestion  | 9%  | 7%  | 2%  |
| Pedestrian & Bicycle Accessibility  | 6%  | 4%  | 2%  |
| Economic Development  | 4%  | 3%  | 1%  |
| Climate Change & Environment  | 5%  | 3%  | 2%  |
| Residential Development   | 5%  | 5%  | 0%  |
| Improved Town Center  | 4%  | 4%  | 0%  |
| Changing Demographics   | 1%  | 1%  | 0%  |

## 2024 Planning Scenario 2 Multiple Hubs (INTER - Community) Illustration



### C. Scenario 3 Strong Community Centers (Intra-Community)

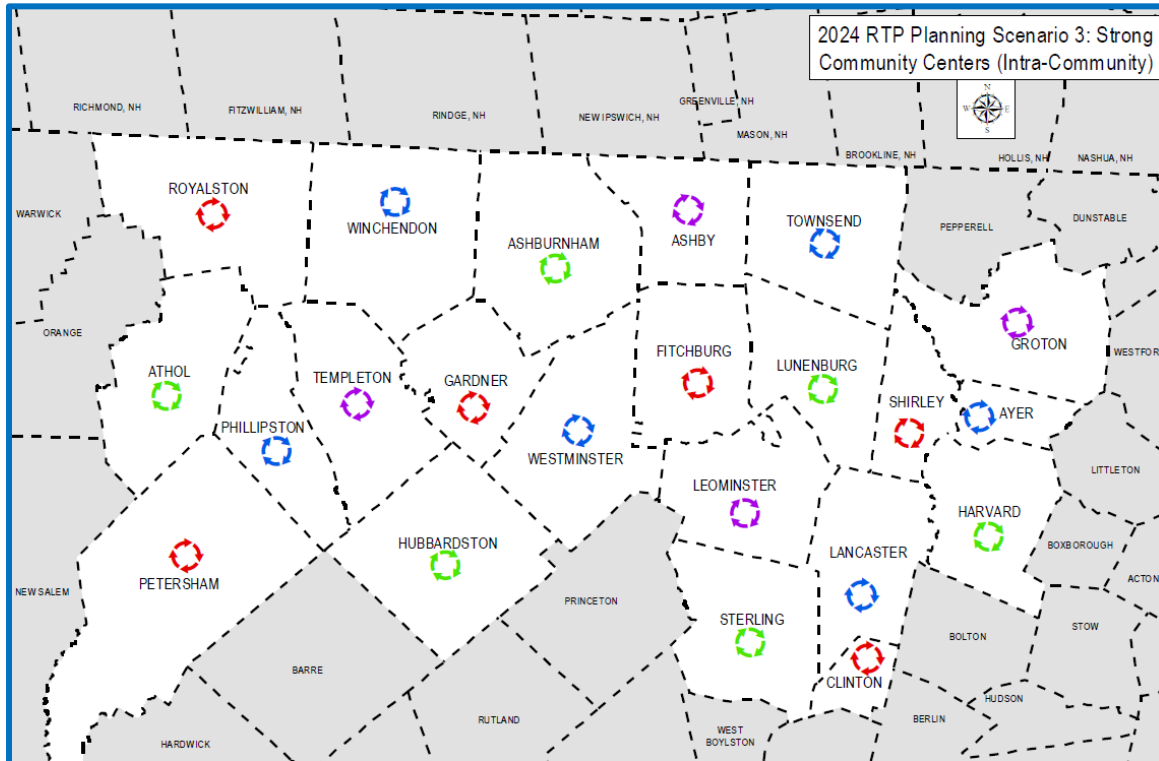
For this planning scenario, communities are interested in the expansion of all services within their town boundaries that can and will serve the needs of their residents. Access within the municipality is emphasized in order to attract or maintain commercial, industrial, residential,

etc. development. The overall goal of this scenario is to allow communities to provide their residents with all of the services they require.

### 2024 RTP Scenario 3 - Strong Community Centers (INTRA - Community)

| Funding Percentage Per Strategy<br>Federal Aid Target Funds<br>Scenario 3 – Strong Community<br>Centers | Total<br>Allocation %<br>to Funding<br>Category | Allocated %<br>Funding Towards<br><u>INTRA Community</u><br>Network | Allocated %<br>Towards<br>Remaining<br>Projects |
|---|---|---|---|
| Road Maintenance & Infrastructure   | 40%   | 30%   | 10%   |
| Safety - Road & Highways  | 14%   | 10%   | 4%  |
| Transit Options   | 12%   | 10%   | 2%  |
| Congestion  | 9%  | 7%  | 2%  |
| Pedestrian & Bicycle Accessibility  | 6%  | 4%  | 2%  |
| Economic Development  | 4%  | 3%  | 1%  |
| Climate Change & Environment  | 5%  | 3%  | 2%  |
| Residential Development   | 5%  | 5%  | 0%  |
| Improved Town Center  | 4%  | 4%  | 0%  |
| Changing Demographics   | 1%  | 1%  | 0%  |

### 2024 Planning Scenario 3 Strong Community Centers (INTRA - Community) Illustration



#### D. Example Projects That Support Preferred Planning Scenarios

The following is a listing of roadways, intersections, trails, sidewalks, etc. that could support one of more of the identified concepts of Scenarios 2 and 3. This listing is based upon data from this RTP but is not to be considered complete. They are identified as a way to provide a municipality with an idea of what type of project would be beneficial to the community if they wished to advance the Multiple Hubs (Inter-Community) or Strong Community Center (Intra-Community) Planning Scenario.

##### 1. 2024 RTP Funding Scenario 2

Infrastructure projects that would support the planning scenario of Multiple Hubs would, as defined earlier, promote and enhance travel from one municipality to another, i.e., Inter-Community travel. These would tend to be larger, more heavily traveled roads that cross community boundaries (or multiple communities) and are in most cases federal aid eligible. Bridges would be located along these same roads while intersections with congestion or safety issues that were left unattended would cause problems with access from one town to another.

Example roadways include:

| State Numbered Inter-Community Roads and the Communities They Connect |  |
|---|--|
| Route 2A  | Athol, Phillipston, Templeton, Gardner, Westminster, Fitchburg, Lunenburg, Shirley, Ayer |
| Route 12  | Sterling, Leominster, Fitchburg, Westminster, Ashburnham, Winchendon                     |
| Route 13  | Leominster, Lunenburg, Townsend  |
| Route 31  | Westminster, Fitchburg, Ashby,   |
| Route 32  | Petersham, Athol, Royalston  |
| Route 62  | Hubbardston, Sterling, Clinton   |
| Route 68  | Royalston, Phillipston, Templeton, Gardner, Hubbardston                                  |
| Route 70  | Clinton, Lancaster   |
| Route 101   | Petersham, Phillipston, Templeton, Gardner, Ashburnham                                   |
| Route 110   | Sterling, Clinton, Lancaster, Harvard, Ayer  |
| Route 111   | Harvard, Ayer, Groton  |
| Route 119   | Ashburnham, Ashby, Townsend, Groton  |
| Route 140   | Sterling, Westminster, Gardner, Winchendon   |

| Other Federal Aid Eligible Inter-Community Roads and the Communities They Connect |                          |
|---|--------------------------|
| South Street/New Westminster Road   | Westminster, Hubbardston |
| Barre Road/Burnshirt Road   | Templeton, Hubbardston   |
| East Road/Mountain Road   | Westminster, Princeton   |
| Chestnut Hill Avenue/Athol Road   | Athol, Royalston         |
| Winchendon Road/River Street  | Royalston, Winchendon    |
| Baldwinville Road/Bridge Street   | Winchendon, Templeton    |
| Williams Road/South Ashburnham Road   | Ashburnham, Westminster  |
| Lunenburg Road/West Townend Road  | Townsend, Lunenburg      |
| Chicopee Row/Groton Street  | Groton, Dunstable        |
| Front Street/West Main Street   | Shirley, Ayer            |
| Greeley Street/Parker Street  | Clinton, Lancaster       |
| Stow Road/East End Road   | Harvard, Bolton          |

Intersection locations in need of safety and/or congestion improvements that would contribute to the improvement of Inter-Community connections can be found in the Safety and Congestion chapters of this RTP.

## 2. 2024 RTP Funding Scenario 3

As stated, Scenario 3, Strong Community Centers, would focus and promote those infrastructure projects that enhance mobility within a municipality's boundaries. The community would look to address those roads that allow residents to access goods and services in the town in order to promote a more vibrant and diverse locality, i.e., Intra-Community travel. These types of roads would also tend to be federal aid eligible facilities as they would provide the biggest benefits to users. Intersection improvements would focus on safety and congestion at locations that directly impede traffic flow in the community.

As with Scenario 2, the example state numbered roadways listed above are federal aid eligible roads, however, project limits would be focused on sections completely within town boundaries. These projects would likely be smaller in length and cost than projects developed

under Scenario 2. Scenario 3 Intra-Community projects would also likely incorporate complete streets elements in order to meet the overall goal of access within the town.

The following table is a list of federal aid eligible road sections within a community that can lend support to the planning goal of a strong community center.

| Other Federal Aid Eligible Intra-Community Roads and the Community They Serve |  |
|---|--|
| Ashburnham  | Corey Hill Road, Williams Road, South Main Street  |
| Ashby   | Turnpike Road, South Road  |
| Athol   | South Athol Road, Hapgood Street, Chestnut Street, Riverbend Street, Schol Street, Pleasant Street, Tunnel Street, Exchange Street, North Orange Road, Crescent Street, Lenox Street, Chestnut Hill Avenue, Pequig Avenue  |
| Ayer  | Groton Shirley Road, Washington Street, Groton Harvard Road, West Main Street, Central Avenue, Sandy Pond Road, Westford Road, Willow Road, Harvard Road   |
| Clinton   | Greeley Street, Woodlawn Street, Pine Street, New Harbor Road, Beacon Street, Franklin Street, Green Street, Branch Street, Vale Street, Oak Street, Cameron Street, Berlin Street, High Street  |
| Fitchburg   | Depot Street, Fairmount Street, Reingold Avenue, Franklin Road, Electric Avenue, Oak Hill Road, Pratt Road, Saint Joseph Avenue, Clarendon Street, Beech Street, Rollstone Road, Mount Elam Road, Pine Street, South Street, Heywood Street, Canton Street, Wanoosnoc Road, Abott Avenue, Benson Street, Airport Road, Crawford Street, Bemis Road, Intervale Road, Summer Street, John Fitch Highway, Boutelle Street, Townsend Street, Pearl Street, North Street, Blossom Street, High Street, Boulder Drive, Main Street |
| Gardner   | Union Street, Minott Street, Pearson Boulevard, Betty Spring Road, Matthews Street, Green Street, Woodland Avenue, Park Street, Eaton Street, Clark Street, Racette Avenue, Sand Street, Coleman Street, Waterford Street, Baker Street, Greenwood Street, Nichols Street, Pleasant Street, Main Street, Logan Street, Elm Street, Chestnut Hill Avenue, Pine Street, Cross Street   |
| Groton  | Townsend Road, Pepperell Road, Broadmeadow Road, Chicopee Row, Nashua Road, Longley Road, Sandy Pond Road  |
| Harvard   | Littleton Road, Stow Road  |
| Hubbardston   | Barre Road, Elm Street, Brigham Street, New Westminster Road, Burnshirt Road   |
| Lancaster   | Bolton Road, High Street Ext., Lower Bolton Road, Center Bridge Road, George Hill Road, Mill Street, Parker Road, Deershorn Road, Sterling Road,   |
| Leominster  | Wachusett Street, Pleasant Street, Litchfield Street, Willard Street, Union Street, Elm Hill Avenue, Viscoloid Avenue, Mechanic Street, Sixth Street, Pond Street, West Street, Whitney Street, Water Street, Mill Street, Walnut Street, Merriam Avenue, Grove Avenue, Washington Street, Blossom Street, Exchange Street, Kingman Drive, Granite Street, Lindell Avenue, Hamilton Street, Abbott Avenue  |
| Lunenburg   | Summer Street, Whalom Road, Lakefront Avenue, Prospect Street, Leominster Road, Lancaster Avenue, Pratt Street, White Street, Main Street, Highland Street, Northfield Road, West Townsend Road, New West Townsend Road, Leominster Shirley Road   |
| Petersham   | Popple Camp Road, New Salem Road   |
| Phillipston   | Petersham Road, Queen Lake Road  |
| Royalston   | Warwick Road, Athol Road, Winchendon Road  |
| Shirley   | Center Road, Leominster Road, Main Street, Front Street, Lancaster Road, Walker Road, Parker Road, Townsend Road, Lawton Road  |

|             |   |
|-------------|---|
| Sterling    | Heywood Road, Rowley Hill Road, Meetinghouse Hill Road, Greenland Road, Muddy Pond Road, Boutelle Road, Gates Road, Campground Road, Squareshire Road, Chace Hill Avenue, Swett Hill Road, Kendall Hill Road, Maple Street, Bridge Street, Redstone Hill Road, Pratts Junction Road |
| Templeton   | Baldwinville Road, Bridge Street, Main Street, Depot Road, North Main Street, South Main Street, Cross Road, Hubbardston Road, Barre Road,  |
| Townsend    | Wheeler Road, New Fitchburg Road, Mason Road, Lunenburg Road, South Street, Warren Road, Shirley Road   |
| Westminster | South Ashburnham Road, Oakmont Avenue, North Common Road, Bacon Street, West Main Street, South Street, Minott Road, Mile Hill Road, Gatehouse Road, East Road, Stone Hill Road, Narrows Road, Depot Road, Bean Porridge Hill Road  |
| Winchendon  | High Street, Central Street, Glenallen Street, Hall Road, River Street, Baldwinville Road   |

Please note that the above should not be viewed as a comprehensive list. For more information on whether a particular road is federal aid eligible, please consult the MRPC online mapping program, [MrMapper](https://mrmapper.mrpc.org/) (<https://mrmapper.mrpc.org/>).

## **Conclusion**

These examples are provided for illustrative purposes. If a community wishes to initiate a infrastructure improvement project in their community that supports one of the Planning Scenarios, the MRPC is available to discuss any proposal and to assist in the project development process.

If any municipality has a question regarding what roads or intersections may be eligible for Federal Aid assistance, please contact the MRPC or visit the online data mapping site, [MrMapper](#). An interactive map of road classifications and eligibility can be found [here](#).

The following is a listing of pavement conditions on federal aid eligible roads in the region, along with cost estimates to bring or maintain these roads to “excellent” condition. Additional information regarding pavement conditions can be found in the Infrastructure chapter of this RTP. These federal aid miles are further broken down by local and state jurisdiction. Typically, state jurisdiction roads are higher classified arterials and interstates which connect population centers over long distances, while local jurisdiction roads consist of lower classification connectors within a community and its direct environs.



| 2022 REGIONWIDE | Condition | State  |           |              | Local  |           |               | Combined                 |        |           |               |
|-----------------|-----------|--------|-----------|--------------|--------|-----------|---------------|--------------------------|--------|-----------|---------------|
|                 |           | Miles  | Sq. Yards | Cost         | Miles  | Sq. Yards | Cost          | Repair Category          | Miles  | Sq. Yards | Total         |
|                 | Excellent | 87.48  | 1231774   | \$923,830    | 137.16 | 1931232   | \$1,448,424   | Routine Maintenance      | 224.65 | 3163006   | \$2,372,254   |
|                 | Good      | 92.32  | 1299862   | \$11,048,830 | 94.41  | 1329253   | \$11,298,654  | Preventative Maintenance | 186.73 | 2629116   | \$22,347,484  |
|                 | Fair      | 50.92  | 716941    | \$12,904,936 | 81.22  | 1143605   | \$20,584,898  | Rehabilitation           | 132.14 | 1860546   | \$33,489,834  |
|                 | Poor      | 11.13  | 156711    | \$7,052,015  | 156.53 | 2203943   | \$99,177,455  | Reconstruction           | 167.66 | 2360655   | \$106,229,469 |
|                 | Total     | 241.85 |           | \$31,929,611 | 469.32 |           | \$132,509,432 | Total                    | 711.17 |           | \$164,439,042 |

While there is a need to invest in both state and local jurisdiction roads, it is reasonable to assume that increased investment in *state jurisdiction* infrastructure would promote focus on Inter-Community connections and thus align with Scenario 2 – Multiple Hubs. Increased investment in *local jurisdiction* infrastructure would promote focus on Intra-Community connections and thus align with Scenario 3 – Strong Community Centers.