6. Implementation Strategies

Introduction

The implementation of the Long Range Transportation Plan is more than simply the construction of the projects contained within it. Many of the goals identified in Chapter 2 are necessary additions to the local and regional planning process to ensure that all aspects of the transportation system are developed and maintained. Implementation strategies and recommendations are set out on the following pages organized by the eleven Long Range Plan Goals. These include a mix of actions that the MPO, member municipalities and other partners can take to help the region move toward attaining its goals.

Mobility

Goal 1 - Mobility

The region's transportation system offers safe, secure, efficient, and reliable access to employment, housing, commerce, services, entertainment, and recreation

Addressing the ability and ease with which individuals and goods can move from place to place has long been a centerpiece of making improvements to the transportation system. The widespread economic expansion after World War II in the United States was facilitated by the addition of interstate highways and the overall increase in the capacity of our roadways to move vehicles. Over the last twenty years, the high economic and social cost of further expansion has necessitated the use of a wider range of strategies to ensure that existing capacity is utilized as effectively and efficiently as possible. There are a variety of ways in which this can be implemented, notably through access management strategies and Intelligent Transportation Systems (ITS) improvements. Access management typically involves small scale policy, regulation, and design changes that minimize traffic conflicts and maximize traffic flow on existing facilities. Strong Access Management standards are recommended for communities to implement on state highways and other important roadways within their jurisdiction. This should be supplemented with an Access Management Memorandum of Understanding (MOU) between the New Hampshire Department of Transportation and the community to ensure that each entity understands the access control desired on a particular state highway.

ITS uses technological advances to improve traffic flow and safety and reduce congestion through strategies like traffic signal synchronization, electronic tolling, and traveler information services. The region has an approved and up-to-date ITS Architecture in place that guides investment strategies through agreed on policies and technology standards.

Actions

- Continue scheduled updates to Regional ITS Architecture and Strategy Plan and participate in updates to Statewide ITS Architecture. (Timeframe: 1-5 years)

- Promote integration of ITS and other efficiency strategies into the design of transportation projects as appropriate. (Timeframe: Ongoing)
- Continue implementation of improvements from corridor studies to address congestion on US 1 and NH 125 (Timeframe: Ongoing)
- Conduct corridor studies of other key congested highways (Timeframe: 1-10 Years):
  - NH 108/33 between Exeter and Portsmouth
  - NH 111 between Kingston & Salem
  - NH 101 Interchanges between Raymond & Hampton
  - NH 125 from NH 111 in Kingston to NH 101 in Epping
- Revisit Congestion Management Process (CMP) as a tool for identifying and tracking congested locations in the region. (Timeframe: 1-5 Years)
- Implement improvement to the Regional Travel Demand Model. (Timeframe: 1-5 Years)

Accessibility & Transportation Choice

Goal 2 – Transportation Choices

The region's transportation system offers equitable and reliable multi-modal transportation choices to better connect people to jobs and services.

Ensuring that all travelers have options beyond the single occupant vehicle is key to meeting the accessibility goals of the region. Beyond simply planning for and providing bicycle and pedestrian facilities and transit services, though, there is a role for the MPO in actively encouraging use of these options. The New Hampshire Climate Action Plan identified the transportation sector as the source of 33 percent of greenhouse gas emissions in New Hampshire, and identified actions for reducing those emissions including promoting alternatives to driving alone. Experience nationally in promoting safe walking and bicycling to school has shown that building new sidewalks or bikeways alone is often not enough to induce more kids walk or bicycle. There is a need for the other four elements of the 5Es model (Education, Encouragement, Enforcement and Evaluation) to build awareness, incentive behavior change and ensure safety.

Actions

- Work to expand transit access in key underserved communities lacking basic Monday-Friday demand response or volunteer driver transportation services. (Timeframe: 1-5 Years)
- Provide technical assistance to COAST, CART and TASC in developing regional community transportation options. (Timeframe: Ongoing)
- Facilitate regional efforts to coordinate public transit and human service transportation as a key strategy to expand access to community transportation. (Timeframe: Ongoing)
- Work with State and regional partners to sustain and expand inter-city rail and bus transportation options. (Timeframe: Ongoing)
- Ensure adequate capacity at Park and Ride facilities in the region (Timeframe: Ongoing)
- Support continued funding for the commuteSMARTseacoast TMA following completion of Spaulding Turnpike widening
- Work with transit agencies, TMAs, and others to expand employment transportation options in the region. (Timeframe: 1-5 Years)

- Evaluate potential for TMA along southern I-93 corridor. (Timeframe: 1-10 Years)
- Work to expand Federal and State funding available for transit services. (Timeframe: Ongoing)
- Collaborate with TMAs and other regional and statewide partners on initiatives to encourage alternative commutes such as Seacoast Bike/Walk to Work Day and Commute Green New Hampshire (Timeframe: Ongoing)
- Develop a stand-alone bicycle and pedestrian plan for the RPC region. (Timeframe: 1-5 years)
- Implement a complete streets policy for the region and corresponding approach for all federally funded transportation projects. (Timeframe: 1-5 Years)
- Expand data collection on bicycle and pedestrian volumes and routes. to provide a better basis for evaluating bicycle and pedestrian project needs. (Timeframe: 1-5 Years)
- Assist communities in implementing bicycle improvements on key regional bicycle and pedestrian routes. (Timeframe: Ongoing)
- Collaborate with regional and statewide partners on public education and enforcement initiatives to promote safe travel on the region's transportation system for all users. (Timeframe: 1-3 years and ongoing)
- Facilitate local Safe Routes to School programs and safety improvements connecting neighborhoods to schools. (Timeframe: 1-10 Years)
- Implement signage and lane marking improvements and standards that aid in wayfinding and improve safety for travelers. (Timeframe: 1-10 Years)
- Develop an assessment of likely implications of autonomous vehicle integration for the region, and local and regional actions needed to prepare for this. (Timeframe: 1-5 Years)

System Preservation & Modernization

Goal 3 – System Preservation & Modernization

The region's transportation system is maintained in good condition and the preservation and modernization needs of existing components are prioritized ahead of adding new highway capacity.

As the condition of roadways and bridge structures declines, the cost of repair rises substantially in both time and funds required. At appropriate funding levels, these structures are addressed prior to declining to the point where extensive and expensive fixes are needed to bring the facility back to good condition. NHDOT has undertaken a two-prong approach to addressing system preservation and modernization needs that differentiates between how roads and bridges are treated.

Bridges & Culverts

As discussed in the existing conditions chapter, NHDOT's Bridge Strategy consists of three components; establishing bridge priorities, making sustainable investments, and assessing the utility of redundant bridges, and this methodology sets the order in which deficient bridges in the region are addressed. In the RPC region, much of the system preservation and modernization discussion has centered around the aging bridges in the region and, in recent years, a number of the most critical and complicated facilities have been replaced or rehabilitated. This has resulted in substantial progress in repairing or replacing the state owned

"Red List" bridges in the region, and some progress reducing the number of municipal bridges that are in poor condition as well. The RPC has also been assessing stream crossings (culverts and bridges) within the region to provide state agencies and municipalities with information to identify critical and hazardous crossings. While not fully completed, the objective is to identify those stream crossings that may fail, particularly during major storm events and to identify if a crossing is a barrier to aquatic organisms, fish and other wildlife movement. Knowing the condition of stream crossings can help guide municipalities prioritize those crossing most in need of retrofit or replacement. Results from this assessment can be incorporated into municipal and regional hazard mitigation plans, vulnerability assessments and site specific restoration and mitigation projects.

Pavement Condition

Similar to the NHDOT Bridge Strategy, the NHDOT Pavement Strategy is based on three concepts: establishing tiers, focuses on sustainable investments, and keeping roads in working order. The pavement strategy differs in that the facilities in the worst condition will be maintained as best as possible, while those in good to fair condition will be maintained in that condition. This is based around the tier system which prioritizes preservation and rehabilitation work on the Interstate Highways, Turnpikes, and major roadway corridors, while the lower tiered state roadways are kept in good working order through maintenance paving. ***Map 3-3*** (Existing Conditions Chapter) shows how the tiered system is applied in the RPC region. NHDOT's short-term paving plan covering calendar years 2017-2019 establishes the initial strategy

ACTIONS

- Complete regional stream crossing condition analysis and provide information to communities and state agencies (Timeframe: 1-5 Years)
- Continue to dedicate resources to reduce the number of Red List bridges in the region. (Timeframe: Ongoing)
- Continue to work with NHDOT to ensure that bridge designs use materials promoting long lifespans and incorporate consideration for bicycle and pedestrian needs, minimize the impacts of natural hazards on the structures, as well as the potential impacts of climate change. (Timeframe: Ongoing)
- Continue to encourage the state and communities to provide adequate resources for bridge and culvert maintenance. (Timeframe: Ongoing)
- Encourage communities to adopt and maintain pavement management systems to track roadway conditions and plan for future maintenance and preservation needs. (Timeframe: Ongoing)
- Continue to encourage the expansion of resources available to maintain all modal elements of the transportation system to keep up with identified needs. (Timeframe: Ongoing)

SAFETY AND SECURITY

Goal 4 – Safety & Security

The region's transportation system is safe and secure for all users.

A primary focus of roadway improvements in the region is improving safety for all users. Based on the information in Existing Conditions (Chapter 3) and the Needs Assessment

(Chapter 4), a number of project specific actions have been identified to address safety and security concerns in the region. In addition, the New Hampshire Strategic Highway Safety Plan and the State Five Percent Report detailing high crash frequency intersections and segments in the region provide areas of focus for crash reduction efforts. While the region is seeing recent growth in the number and rate of crashes per 100 Million VMT, it is unclear if this is a long-term pattern. In either case, a broad focus on transportation safety will begin to address the problem.

There are currently few projects in the region that are designed specifically to address transportation system security concerns. However, ensuring that the network is resilient and adaptive to the impacts of natural and man-made hazards and climate change is a critical aspect of planning for the future of the region. Translating findings from recent vulnerability analyses into specific resiliency projects will be an emphasis for the MPO in the upcoming decade.

ACTIONS

- Work to improve accuracy of crash data. (Timeframe: Ongoing)
- Continue to work with NHDOT on Road Safety Audits and follow-up improvements for crash locations with fatalities and serious injuries. (Timeframe: Ongoing)
- Support the implementation by NHDOT and NHDOS of strategies identified in the Strategic Highway Safety Plan. (Timeframe: 1-5 Years)
- Ensure that safety for all users is included in the design of transportation improvement projects. (Timeframe: Ongoing)
- Ensure that transit stop locations have adequate and safe pedestrian access to adjacent land uses. (Timeframe: Ongoing)
- Work with state and regional partners to reduce distracted driving through a combination of education and enforcement. (Timeframe: 1-5 Years)
- Incorporate mandated Federal Performance Targets and metrics into the MPO Long Range Transportation Plan (Timeframe: 1-5 Years)
- Better define the role of safety in the Ten Year Plan project selection process (Timeframe: 1-5 Years)
- Incorporate more substantive safety analysis, including corridor-based crash rates, into any corridor studies conducted in the region to better identify deficiencies and address concerns. (Timeframe: ongoing)
- Work to ensure that the movement of hazardous materials through communities on rail and roadway is conducted in as safe a manner as possible. (Timeframe: Ongoing)
- Undertake a coastal evacuation route capacity and safety analysis. (Timeframe: 1-5 Years)
- Incorporate outcomes of the Regional Stream Crossing Assessment into the MPO Long Range Transportation Plan (Timeframe: 1-5 Years).
- Fully integrate analysis of regional vulnerability to sea level rise and storm surge into the Long Range Plan and project selection process for the region. (Timeframe: 1-5 Years)
- Work with state and regional partners to define the MPO role in security planning for the transportation system. This role should provide tangible benefits without adding a level of bureaucracy to the security planning process. (Timeframe: 1-5 Years)

- Incorporate transportation network planning into the current work with FEMA and local communities to develop hazard mitigation plans. (Timeframe: Ongoing)
- Analyze the transportation system for capacity and safety deficiencies that impact security and disaster planning concerns, and incorporate security and disaster planning into the project design and prioritization process. (Timeframe: 1-5 Years, Ongoing)
- Implement the recommendations from the 2016 Coastal Risks and Hazards Commission report for incrementally improving coastal infrastructure to increasingly severe storm activity and best available projections for future sea level rise. (Timeframe: 1-10 Years)

LAND USE INTEGRATION

Goal 5 – Land Use Integration

New commercial and residential development supports multiple modes of transportation and minimizes the need for expanding capacity of adjacent roads.

The pattern of land use and the needs of the transportation system are closely linked, and changes to each can have a significant effect on the other. Over time it has become clear that development patterns can strongly influence the growth in travel demand in a region. Regions with compact city centers that have a mix of uses and serve as employment hubs can generate 20-30 percent less automobile travel per capita than regions that are highly sprawled in their pattern. While the RPC region historically was compact in its settlement pattern, with many traditional downtown and village centers that remain active and viable, most of the development that has occurred over the past four decades has been far more dispersed and sprawling in character. This led to growth in the number of vehicle miles travelled at a rate two to three times that of the population growth and was unsustainable in the long term. There was a brief decline in VMT that accompanied the high energy costs and unemployment of the economic downturn. However, starting in 2008, as gas costs have declined and the economy has returned to full employment, VMT is on the rise again at a rate that is much higher than the growth in population.

Despite these rising numbers, market demand for housing in mixed-use downtown areas, together with extensive public input data, point to growing interest in "walkable" communities. As a transportation planning policy this Plan advocates efficient land use strategies which, among other benefits, continue to lower demand for automobile travel and reduce congestion. These strategies are critical mechanisms to maintain healthy air quality, as well preserve and maintain other natural resources, mitigate natural hazards and adapt to a changing climate, as well as minimize land consumption.

ACTIONS

- Promote compact, mixed use development, including Transit Oriented Design (TOD) where appropriate. (Timeframe: Ongoing)
- Prioritize transportation investment in the region's already developed areas through weighting of project selection criteria. (Timeframe: Ongoing)
- Promote development of Access Management standards for state highways in communities, and assist communities and NHDOT with the development of Access Management

agreements to guide project permitting. (Timeframe: 1-10 Years)

- Promote strong Access Management in designs for improvements (publicly and privately financed) along state highways and other corridors. (Timeframe: Immediate and ongoing)
- Encourage communities to conduct rigorous traffic impact analysis as part of development site review. (Timeframe: 1-5 Years, Ongoing)
- Encourage expanded use of the Developments of Regional Impact process to address concerns regarding the impacts of development beyond community boundaries. (Timeframe: 1-5 Years, Ongoing)
- Require the consideration of hazard mitigation and climate adaptation needs in the development of transportation projects. (Timeframe: 1-5 Years, Ongoing)

ENERGY & ENVIRONMENT

Goal 6 – Energy & Environment

The region's transportation system is proactive in protecting natural and historic resources; and is forward looking regarding energy use, energy efficiency and conversion to renewable energy sources.

The interaction of the transportation system with natural and cultural resources and energy use covers a multitude of topic areas and issues of concern to the region. Prominent among these for the MPO for many years has been reducing the impacts of the transportation system on air quality through projects and policies that reduce Vehicle Miles of Travel and promote less polluting modes of travel. While the MPO region is no longer in Non-Attainment for the National Ambient Air Quality Standards, strategies to reduce emissions of air pollutants and greenhouse gases remain a priority. Other work of the MPO under this goal includes improving resource inventories to better understand natural and cultural resources in the region and minimize impacts from new transportation; and conveying that information to project designers and the public to shape project development.

ACTIONS

- Expand natural and cultural resource inventory data to guide project planning and mitigation efforts. (Timeframe: Ongoing)
- Participate in project development to provide information to minimize resource impacts as well as shape mitigation efforts. (Timeframe: Ongoing)
- Continue to track NAAQS criteria pollutant levels in the region and prioritize projects that improve air quality. (Timeframe: Ongoing)
- Complete the stream crossing inventory on the state highway system to identify adverse ecological impacts from undersized culverts. (Timeframe: 1-5 Years)
- Incorporate greenhouse gas emissions into regional performance based planning efforts. (Timeframe: 1-5 Years)
- Promote transportation projects in the region that reduce total Vehicle Miles Traveled. (Timeframe: Ongoing)

RESILIENCY

Goal 7 – Resiliency

The region's transportation system is adaptive and resilient to climate change and natural and other hazards.

Changing weather patterns and the prevalence of extreme storm events in the northeast over the last ten years have focused attention on the vulnerability of the transportation network. Although many local and regional studies have confirmed that our climate may change more rapidly in the future, there is still uncertainty about when and how much it will occur. Tackling the impacts and in some instances positive opportunities that long term climate change pose requires integrating environmental and land use considerations with transportation planning. In order to accomplish this, integration must be a primary driver in the decision-making process supported by translation of sound science, research and analyses into policy and practice. The goal of resilience is to make decisions that ensure systems can respond with less impact and recover from extreme events faster.

The MPO can play a role in conducting the analysis necessary to understand where impacts from natural or other hazards may occur; and working to mitigate that potential where possible. ***Map 4-2*** indicates that over 80 miles of roadways in the seacoast could be impacted by sea level rise and coastal inundation from storms and the region needs to begin addressing and mitigating that risk.

NH Climate Action Plan

The NH Climate Action Plan (2009) recommends statewide actions to address existing and future challenges relating to economics, human health, natural systems, and infrastructure. The report offers guidance that "The state will need to plan for these impacts with the best understanding of the resources that are available to address the issue at the state, regional and national level. This would require more comprehensive and integrated planning with a variety of stakeholders and should begin immediately and continue into the future." Mitigation and adaptation are two of the primary strategies recommended to slow the rate of environmental change and reduce the potentially harmful effects of climate change.

The NH Climate Action Plan is available at https://www.des.nh.gov/organization/divisions/air/tsb/tps/climate/action_plan/nh_climate_action_plan.htm.

NH Coastal Risks and Hazards Commission

The NH Coastal Risks and Hazards Commission (CRHC) was charged with investigating future impacts of climate change and coastal hazards including flooding from increased precipitation, coastal storms and sea-level rise. Completing its work in December 2016, the CRHC issued a final report which is available at http://www.nhcrhc.org/. With respect to state and municipal planning, infrastructure management, land use and development, and environmental protection, the Commission's report offers 35 recommendations relating to the built landscape, natural resources, heritage and economy, and recommends the following general guidelines and principals to guide informed decisions today and in the future.

- Act Early. Responding now to the future threat of coastal flooding will maximize long-term cost savings that result from building a more resilient community.
- Respond Incrementally. Incremental and iterative approaches allow the community to refine and correction actions as information becomes available and conditions change.
- Revisit and Revise. As climate science is refined, periodically revisit climate change projections and assumptions, and adjust actions accordingly.
- Collaborate and Coordinate. To decrease costs and increase effectiveness of planning and preparation, state and local governments need to align policies, plans and responses about future coastal hazards to the greatest extent possible.
- Incorporate Risk Tolerance in Design. Buildings and facilities that are critical to public functions or safety, that are intended to last a very long time or that are expensive to replace, should be considered to have low risk tolerance and should consider future flood and coastal hazard in their design.
- Make No Regrets Decisions. A no regrets policy or approach refers to actions that yield multiples benefits even under the lowest flood or coastal hazard scenario, and should incur low costs or save money over the medium to long term.

The CRHC guidelines could serve as a standard framework for transportation related activities such as long range planning and decision making, maintenance of existing assets and resources, infrastructure siting and design, and investment in existing and future transportation assets and resources to ensure implementation of beneficial climate adaptation and resilience actions.

ACTIONS

- Incorporate impacts from sea-level rise and coastal storm surge flooding identified in the Tides to Storms Vulnerability Assessment (2015, RPC) and Climate Risk in the Seacoast Vulnerability Assessment (2016, RPC, SRPC, NH Coastal Program) into infrastructure management and improvement plans and other local and state policies and regulations. (Timeframe: 1-5 Years)
- Plan for necessary improvements to roadways and their supporting infrastructure to manage additional stormwater runoff from more frequent and extreme storm events, and adapt to long term sea-level rise. (Timeframe: 1-5 Years)
- Assess the impact of freshwater and tidal crossings on adjacent tidal wetlands, aquatic organism passage, and public safety under existing and future climate conditions. (Timeframe: 1-5 Years)
- Implement regulatory standards and/or enact enabling legislation to ensure that the best available climate science and flood risk information are used for the siting and design of new, reconstructed, and rehabilitated state-funded structures and facilities. (Timeframe: 1-5 Years)
- Develop natural resource restoration plans/strategies that explicitly consider future coastal risk and hazards, and the ecological services that they impact. (Timeframe: 1-10 Years)
- Work with state and regional partners to define the MPO role in security planning for the transportation system. This role should provide tangible benefits without adding a level of bureaucracy to the security planning process. (Timeframe: Ongoing)
- Incorporate transportation network planning into the current work with FEMA and local communities to develop hazard mitigation plans. (Timeframe: 5-10 Years)

- Analyze the transportation system for capacity and safety deficiencies that impact security and disaster planning concerns. (Timeframe: 5-10 Years)
- Incorporate security and disaster planning aspects into the project design and prioritization process. (Timeframe: 1-5 Years)
- Prioritize projects designed to increase the resiliency of the transportation system to anticipated impacts of climate change. (Timeframe: Ongoing)
- Coordinate with coastal municipalities on timely implementation of recommendations identified in municipal Natural Hazards Mitigation Plans, and consider impacts identified in the Tides to Storms Vulnerability Assessment and Climate Risk in the Seacoast Vulnerability Assessment. (Timeframe: Immediate and Ongoing)

ECONOMIC VITALITY

Goal 8 – Economic Vitality

Through strategic investment, the region's transportation system supports an innovative and competitive 21st century economy that connects people, goods, and communities to desired activity and economic centers.

Continued economic success in the region will rely upon the efficiency, effectiveness, safety and appeal of the transportation network that connects people and goods for commerce and recreation. Many of the projects included in the Long Range Plan support economic vitality locally or regionally through improved personal or freight mobility; access to employment and basic life needs; enhancing the safety and attractiveness of downtowns, and improvements on key tourism routes.

ACTIONS

- Prioritize projects for funding that are identified as regional infrastructure priorities in the Comprehensive Economic Development Strategy (CEDS). (Timeframe: Ongoing)
- Participate in the development of the New Hampshire State Freight Plan and integrate its recommendations into the Long Range Transportation Plan (Timeframe: 1-5 Years)
- Prioritize investment in rail, the Port of New Hampshire, and connecting transportation infrastructure. (Timeframe: 1-5 Years, Ongoing)
- Increase the capacity for both freight and inter-city passenger travel by constructing double-track on the B&M railway through entire region. (Timeframe: 10-20 Years)
- Implement recommendations from recently completed Scenic Byway Corridor Management Plans to improve wayfinding and visitor information. (Timeframe: 1-10 Years)
- Implement safety improvements along the NH Coastal Byway to accommodate sharing of the road by people driving, bicycling, and walking. (Timeframe: 1-10 Years)
- Undertake a study of tourism-based travel in the region and the transportation improvements necessary to maintain this economic base of the region. (Timeframe: 1-10 Years)
- Implement the recommendations from the 2016 Coastal Risks and Hazards Commission report to incrementally improve the resiliency of NH1A, NH1B and other coastal infrastructure to increasingly severe storm activity and best available projections for future sea level rise. (Timeframe: 1-10 Years)

Public Health

Goal 9 – Public Health

The region's transportation system is designed and built to support safe and healthy communities, facilitate active living opportunities, and aging in place.

Public health is influenced by the transportation system in multiple ways. Examples include something as simple as people's ability to travel to medical appointments, the impacts of vehicle emissions on air quality which affects heart and lung function, and the safety of the transportation system for people traveling by all modes – whether driving, walking, bicycling or riding transit.

A fourth facet of public health impacted by the transportation system is physical activity, and the extent to which our transportation system and communities are built to support active transportation – i.e. walking or bicycling for short trips.

Each of these aspects, and the strategies below, are addressed under other plan goals. However public health is pulled out explicitly as a goal, and the following strategies aggregated here, to underscore the impact transportation investments have on public health and healthcare. While often excluded from measures of economic vitality, these sectors account for over 17% of our economy, and are central to any measure of quality of life.

Actions

- Facilitate development of volunteer driver program capacity or other transit service to provide access to medical care and other basic life needs in underserved communities. (Timeframe: 1-5 Years)
- Facilitate development of local Safe Routes to School programs to enable children to walk/bike to school safely and encourage active transportation. (Timeframe: 1-10 Years, ongoing)
- Support safe accommodation of all travelers in roadway design through an MPO Complete Streets Policy, and assist municipalities in development of local policies. (Timeframe: 1-5 years)
- Encourage communities to implement compact, mixed-use development patterns that facilitate active transportation. (Timeframe: 1-10 Years, Ongoing)
- Assist in planning and implementation of a regional network of multi-use trails as traffic-separated transportation and recreation facilities supporting physical activity. (Timeframe: 1-5 Years, Ongoing)
- Continue to prioritize projects that improve air quality. (Timeframe: Ongoing)

Planning Process

Goal 10 – Efficient & Effective Planning Process

The MPO provides an efficient and effective implementation of the cooperative, coordinated, and continuous (3C) federal transportation planning process that aids in the efficient and effective implementation of projects.

A critical role of the MPO is to establish project priorities for implementation given limited funding for investment in the

maintenance, preservation, modernization, and improvement of transportation infrastructure. Project selection criteria and processes have been used by the MPO for many years to quantify and justify priorities but until recent years criteria were not consistently applied at the state level. In 2012-2013 NHDOT and the MPO developed and utilized a comprehensive process and a common set of criteria based around project benefits and impacts as well as project readiness and support concerns. These criteria were used in the development of the 2017-2026 Ten Year Plan and resulted in five of the region's top ten project priorities being programmed in the statewide Plan.

There is a strong interest in applying this process to project prioritization at the regional and state level for many types of projects across all modes of travel. To facilitate that, this process and the selection criteria need to be further defined and refined to better reflect the need for a strong transportation system across all modes and that reflects local, regional, and state priorities in the implementation of projects in the Ten Year Plan and the Transportation Improvement Program (TIP). Chapter 5 lists the current prioritized list of transportation projects for the region.

Actions

- Work with NHDOT to ensure that project selection criteria are regularly updated to reflect evolving local and regional priorities. (Timeframe: 1-2 Years)
- Refine the project development process through early data collection and scoping to better enable the project selection process with more complete information regarding project proposals. (Timeframe: 1-2 Years)
- Update the list of prioritized projects in the Long Range Transportation Plan to reflect the latest planning assumptions. (Timeframe: 1-2 Years - cyclical)
- Solicit communities, transit providers, and NHDOT for transportation needs over the short and long-term within the region. (Timeframe: 1-2 Years - cyclical)
- Assist communities in developing projects to be constructed through the biennial State Ten Year Plan process. (Timeframe: 1-2 Years - cyclical)
- Assist communities in developing projects to be constructed as part of the Transportation Alternatives and Congestion Mitigation and Air Quality Programs. (Timeframe: 1-2 Years - cyclical)
- Expand the MPO's initial list of federally mandated and SHRP2 performance measures to address regional needs and ensure measures addressing each MPO Goal (Timeframe: 1-5 Years)
- Maintain and expand participation by communities, particularly those lacking planning staff, and other stakeholders in MPO process (Timeframe: Ongoing)

Funding Availability

Goal 11 – Funding Availability

Adequate and predictable funding is available to meet current and future needs for transportation system maintenance, operation and modernization across all modes

One of the biggest challenges facing the state, the region, and communities is maintaining, operating and updating the transportation system in an era of reduced resources and weak political will to invest in infrastructure. Traditionally projects have been advanced to the State Ten Year Plan to be queued for eventual construction. However, given the current financial limitations with respect to state and federal funding, waiting for

any individual project to be constructed via that route is likely to take a minimum of 10 to 15 years, and might be a viable option only for large, long range projects. Even then, funding for maintaining the transportation system has not kept up with the repair and replacement needs of the infrastructure. The municipal and business sectors have a shared interest in working to restore state and federal investment in transportation infrastructure. In addition, communities will benefit from finding alternate means of financing many improvements. This will mean working with citizens, other communities, NH DOT, and private interests to find appropriate mechanisms. In addition, many communities have had success in recent years leveraging private development interests to achieve public transportation improvement goals through the use of development exactions and public/private partnerships.

ACTIONS

- Work with federal, state and regional partners to increase the amount of Federal and State funding available in the region to address project needs. In particular, work to establish a dedicated state funding stream for public transportation. (Timeframe: Immediate and ongoing)
- Work directly with communities to expand the options available for local financing of transportation system maintenance, preservation, and improvement. (Timeframe: Immediate and ongoing)
- Promote the use of public/private partnerships to spur investment in the transportation system where private development goals facilitate achievement of public priorities. (Timeframe: Immediate and Ongoing)
- Assist communities with the development of policies and regulations that aid in securing private development funding appropriate to the level of impact expected on adjacent transportation facilities. (Timeframe: 1-10 Years)
- Work with NH DOT to identify projects that may benefit from non-traditional contracting mechanisms such as design-build to expedite implementation. (Timeframe: 1-5 Years, Ongoing)

PLAN IMPACTS & MITIGATION

Beginning with the enactment of SAFETEA-LU and continuing with the FAST Act, MPO Long Range Transportation Plans are required to address the issue of environmental mitigation with the objective of introducing some forethought into how environmental impacts from major transportation projects in the region will be mitigated. While not intended to identify project specific mitigation requirements or opportunities, the plan must include a generalized discussion of potential mitigation activities and compare transportation plans with available State conservation plans, maps, and inventories. As we interpret it, the objective is to identify both the types of mitigation that are appropriate to the region and the potential opportunities for mitigation that are present in the region.

APPROPRIATE TYPES OF MITIGATION

Environmental impacts associated with transportation projects include both direct and indirect impacts. Mitigation activities considered will differ depending upon the type of impact, the specific resource affected, as well as the severity and duration of the impact. The following sequential mitigation strategy applies generally to all resources:

1. Avoidance – Alter the project so an impact does not occur
2. Minimization – Modify the project to reduce the severity of the impact
3. Mitigation – Undertake an action to alleviate or offset an impact, or to replace an appropriated resource.

Figure 6.1: Common Resource Impacts and Associated Mitigation Activities for Transportation Projects

RESOURCE	IMPACT	TYPE	DURATION	POTENTIAL MITIGATION
Air Quality	• Emissions from construction activity • Impacts from higher vehicle emissions	Direct and Indirect	Short term (construction); Long term (VMT)	• Dust abatement programs during construction • VMT reduction/demand management activities
Noise	• Noise from construction activity • Noise from facility operation	Direct and indirect	Short term (construction); Long term (VMT)	• Restrict night construction, sound suppression • Retain vegetative buffers • Build sound barriers
Water Quality	• Contamination from stormwater • increase in chloride levels • steam sedimentation	Direct and indirect	Short term (construction); Long term (facility operation)	• Restriction on impervious services/reduced pavement, lane or shoulder width • Stormwater management • Salt application BMPs; Construction BMPs
Wetlands	• Direct filling/destruction from roadway construction • wetland impairment from increase pollution loading • Indirect impact from secondary development	Direct and indirect	Short term (construction); Long term (facility location and operation)	• Avoidance through project design • Increase wetland buffers from constructed areas • Replacement or restoration of impaired wetlands • Permanent protection of threatened wetland and adjacent habitat through acquisition • Improved local planning and zoning
Floodplains	• Loss of flood storage and increased potential for destruction of property through flooding; • Loss of associated riparian habitat	Direct	Long term	• Avoidance through project design • Minimize constructed "footprint" in floodplain • Use elevated structures • Restore lost floodplain in same sub-watershed • Improved local planning and zoning
Archaeol. & Cultural Resources	• Loss of historically or culturally significant structures or features	Direct	Long term	• Avoidance/minimization through project design • Relocation of structures • Preservation by documentation (HABS/HAER)
Prime Farmland	• Direct loss through road construction • Indirect loss from ensuing development	Direct and Indirect	Long term	• Avoidance through project design • Improved local planning and zoning
Species of Concern	• Loss, fragmentation or degradation of habitat and dependent species; • Indirect loss of habitat from secondary development	Direct and Indirect	Long term	• Avoidance through project design/location; • Implement wildlife crossing facilities in design • Protect riparian and wetland buffers; • Replacement habitat acquisition and protection • Improved local planning and zoning

Figure 6.1 shows the most common types of impacts associated with constructed transportation projects in the RPC region in the past, as well as potential actions that have been or could be used to mitigate the impacts.

IDENTIFYING OPPORTUNITIES FOR MITIGATION

Mitigation strategies for most environmental impacts begin with an assessment of existing natural and cultural resources. Several data sources for natural resources exist which can provide detailed information on the location, quality, and extent of discreet natural resource types as map "layers", such as wetlands, aquifers, forest areas by type, and soils. However, there are fewer sources which look at these resource layers in combination and assess the value of different geographical areas based on the presence, quality, and interaction of two or more of these resource layers based on their value as a functioning ecosystem. Data on cultural resources tend to be less comprehensive, as few municipalities have comprehensive historical and cultural resource inventories. Much of the cultural resource inventory data from the past 20 years has been compiled for limited geographic areas as part of regulatory requirements for permitting public infrastructure projects such as highways or utility lines.

The Rockingham Planning Commission has been involved with the development of two sources of natural resource data for the region that provide resource information within a framework of analysis of the co-occurrence of two or more resource layers: the *New Hampshire Natural Services Network*, and the *Land Conservation Plan for New Hampshire's Coastal Watersheds*.

The *New Hampshire Wildlife Action Plan* provides another important data set useful in identifying high-value resource areas, and was used in part in the Coastal Land Conservation Plan's co-occurrence data. Both the Wildlife Action Plan and the Natural Services Network contain data at state, regional, and municipal scales and are therefore available for the entire RPC/MPO area. The Land Conservation Plan contains data for the coastal watershed region of New Hampshire, which includes about three-fifths of the land area of the RPC/MPO.

The two coastal vulnerability assessments completed in the past three years (Tides to Storms, 2015 and Climate Risk in the Seacoast, 2017) identified natural resource impacts from projected sea level rise and storm surge in addition to infrastructure impacts.

We have utilized all of these data sources here to identify opportunities for mitigation projects that involve habitat protection and resource conservation as prescribed in ***Figure 6.1*** for transportation projects that impact water quality, wetlands, floodplains, farmland soils or critical habitat.

Transportation project planners should consult these resources in developing mitigation recommendations for transportation projects in the RPC/MPO area:

- The Natural Services Network includes the following information: Water supply, flood storage, economically important soils, significant wildlife habitat, NH Wildlife Action Plan supporting landscapes, local natural resource inventory data, local land protection priorities, land trust protection priorities, class VI roads, recreation trails, active farms, and tree farms.

- The Land Conservation Plan for Coastal Watersheds contains information on the following resources and systems: forest ecosystems, freshwater ecosystems, irreplaceable coastal and estuarine resources, critical plant and wildlife habitat, and conservation focus areas.
- The NH Wildlife Action Plan: includes the following resource information: NH Wildlife habitat land cover, highest-ranking wildlife habitat by ecological condition, conservation focus areas, and species distribution.
- Cultural and Historic Resource Inventories on file with the NH Division of Historic Resources (NHDHR). Given the requirements of the National Historic Preservation Act of 1966, inventories have been prepared as part of Section 106 reviews for any federally funded or permitted public infrastructure project in the past 30 years. Some municipalities have also taken on comprehensive cultural resource inventories, known in NH as Town Wide Area Forms.
- Coastal Vulnerability Assessments including Tides to Storms (2015) focused on the seven Atlantic coast communities, and Climate Risk in the Seacoasts (C-RiSe, 2017) focused on ten additional communities with frontage on Great Bay or tidal rivers.

In addition to the conventional mitigation strategies identified in ***Figure 6.1***, land use strategies have become increasingly important to mitigate the environmental impacts of transportation projects – especially impact related to induced and secondary growth. These include but are not limited to tools such as districts or ordinances based on identified natural resources areas. Examples include the Conservation Overlay District model ordinance found in the Land Conservation Plan, as well as ordinances as found in *Innovative Land Use Controls: A Handbook*, prepared jointly by the NH Office of Energy and Planning (now the Office of Strategic Initiatives), the NH Department of Environmental Services, and the nine regional planning commissions. Tools in the Handbook include model ordinances on Transfer of Density Rights, The Village Plan Alternative Subdivision, Conservation Subdivisions, Erosion and Sediment Control, and Protection of Wildlife Habitat, among others.

Other mitigation strategies include land-trading programs in which impacts to natural resource areas may be mitigated by the purchase or protection of other high value natural resources areas within a defined geographical region.

Examples of such programs include wetland trading programs, transfer of density credit programs, and trading programs for high value, contiguous habitat areas that connects to existing protected areas. It is important to stress that any mitigation activities may involve not only the development community and planning professionals, but also must involve natural resource consultants and local and regional conservation organizations who can assist in the process of formulating successful mitigation strategies.

ENVIRONMENTAL JUSTICE

An important consideration for the 2040 Long Range Transportation Plan is the impact of its elements on minority and low-income populations in the MPO region. Title VI of the 1964 Civil Rights Act prohibits discrimination on the basis of race, color, or ethnic origin in the provision of transportation benefits and in the imposition of adverse impacts.

Building on Title VI, Executive Order 12898 (1994) , requires each federal agency to achieve environmental justice by identifying and addressing any disproportionately high and adverse human health or environmental effects, including interrelated social and economic effects, of its programs, policies, and activities on minority or low income population. Executive Order 12898 defines "minority" as a person who is African American, Hispanic, Asian American, American Indian, or an Alaskan Native. A low-income person means a person whose household income is at or below the federal poverty level. For 2017 the poverty threshold was $24,600 for a family of four.

The USDOT's Final Order to Address Environmental Justice in Minority Populations and Low Income Populations requires transportation programming and planning activities to:

- Include explicit consideration of the effects of transportation decisions on minority and low-income populations.

- Provide meaningful opportunities for public involvement by members of minority and low-income populations.
- Gather, where relevant, appropriate and practical, demographic information (race, color, national origin, and income level) on populations served or affected by transportation decisions.
- Minimize or mitigate any adverse impact on minority or low-income populations.

The Executive Order and Civil Rights Act require this Long Range Transportation Plan to address the needs and concerns of protected communities, both in terms of benefits received and impacts imposed. Procedurally, the MPO is working to address these needs through expanding its public outreach efforts. Substantively, the MPO is working to expand access to transportation for low-income and minority populations.