



STRAFFORD MPO METROPOLITAN TRANSPORTATION PLAN

YEARS

2021- 2045

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The Role of the Metropolitan Planning Organization

Stafford Metropolitan Planning Organization (SMPO) is a subdivision of Stafford Regional Planning Commission and carries out all transportation planning efforts.

Stafford MPO staff work closely with the NH Department of Transportation to implement data collection programs, assist and advocate for local transit agencies and municipal projects, and create long-range plans which address safety and quality of life.

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Municipalities

Barrington

New Durham

Brookfield

Newmarket

Dover

Northwood

Durham

Nottingham

Farmington

Rochester

Lee

Rollinsford

Madbury

Somersworth

Middleton

Stafford

Milton

Wakefield

Staff

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INTRODUCTION

What is the Metro Plan?

In the United States, transportation planning is facilitated by a network of metropolitan planning organizations (MPOs) that are established in any urbanized area that exceeds a population of 50,000. The Strafford Regional Planning Commission (SRPC) is the designated metropolitan planning organization for the Strafford region and one of four MPOs in New Hampshire. The Strafford MPO is governed by representatives from each of the 18 municipalities in the Strafford region. Federal regulations require each MPO to develop a Metropolitan Transportation Plan (Metro Plan) that covers at least 20 years and includes specific information about system performance, planned projects, and financial resources. The Metro Plan should help guide the prioritization and funding of regional transportation investments and must be updated every five years (every four years in areas that fail to meet federal air quality standards).

The Transportation Planning Process

Transportation planning in the state is a coordinated effort involving the New Hampshire Department of Transportation (NHDOT), Federal Highway Administration (FHWA), Partner State Agencies, the MPOs, and the rural regional planning commissions (RPCs). The Federal legal framework for highway transportation planning is included in Title 23, Part 450 of the United States Code; federal public transit planning is included in Title 49. The federal government needs to regularly authorize transportation funds to states through legislation. The current authorizing legislation is called the Fixing America's Transportation System Act (known as the FAST Act). The FAST Act was signed into law on December 4, 2015 and upheld core pieces of previous authorizing legislation. A central part of the transportation planning process, described explicitly in 450 USC, is that it should be:

Continuing, Cooperative and Comprehensive

1. Support the economic vitality of the United States, the States, metropolitan areas, and nonmetropolitan areas, especially by enabling global competitiveness, productivity, and efficiency;
2. Increase the safety of the transportation system for motorized and non-motorized users;
3. Increase the security of the transportation system for motorized and non-motorized users;
4. Increase accessibility and mobility of people and freight;
5. Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns;
6. Enhance the integration and connectivity of the transportation system, across and between modes throughout the State, for people and freight;
7. Promote efficient system management and operation;
8. Emphasize the preservation of the existing transportation system;
9. Improve the resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation; and
10. Enhance travel and tourism.

Strafford MPO's Metro Plan

The 2021–2045 Metropolitan Transportation Plan is the comprehensive transportation planning document of the Strafford MPO. It integrates transportation perspectives into considerations of the environment and natural resources, economics, demographics, land use, infrastructure, and public health. It stems from an overall vision for the future, affirms regional planning goals, determines strategies and time-bound targets for reaching those goals, and designates objective measures for tracking progress.

Projects and Fiscal Constraint

The Metro Plan also has a specific role in programming current and anticipated state and federal funds to be invested in operation and improvement of the transportation system in the Strafford region. All metro plans are required to demonstrate that they are fiscally constrained – that a rational methodology was used to determine current and future available funding, and planned projects and programs do not exceed expected funding. (See the financial plan and fiscal constraint for more detail).

Performance-Based Planning: a common approach

Federal law – and common sense – also require projects and funding to be programmed based on the observed performance of the system. The metro plan tracks several performance measures that inform planning and funding decisions for the region. These measures are included in the indicators section of the Metro Plan. Some of the performance measures are mandated by federal law and require all state Departments of Transportation and MPOs to set targets for each of the measures.

There are seven national performance goals to be tracked by MPOs, which overlap with many of the core themes in the Metro Plan and are reflected in Strafford MPO's project development and selection practices:

In addition to the Federal Highway Administration (FHWA) performance goal areas are four Federal Transit Administration (FTA) performance areas:

1. **Safety**—To achieve a significant reduction in traffic fatalities and serious injuries on all public roads.
2. **Infrastructure condition**—To maintain the highway infrastructure asset system in a state of good repair.
3. **Congestion reduction**—To achieve a significant reduction in congestion on the National Highway System.
4. **System reliability**—To improve the efficiency of the surface transportation system.
5. **Freight movement and economic vitality**—To improve the national freight network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development.
6. **Environmental sustainability**—To enhance the performance of the transportation system while protecting and enhancing the natural environment.
7. **Reduced project delivery delays**—To reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion through eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies' work practices.

In addition to the Federal Highway Administration (FHWA) performance goal areas are four Federal Transit Administration (FTA) performance areas:

1. **Rolling Stock** – The percentage of revenue vehicles (by type) that exceed the useful life benchmark (ULB).
 2. **Equipment** – The percentage of non-revenue service vehicles (by type) that exceed the ULB.
 3. **Facilities** – The percentage of facilities (by group) that are rated less than 3.0 on the Transit Economic Requirements Model (TERM) Scale.
 4. **Infrastructure**** – The percentage of track segments (by mode) that have performance restrictions. Track segments are measured to the nearest 0.01 of a mile.
- ** This measure does not apply to the Strafford region because it does not contain any rail infrastructure that qualifies under federal regulations.

Regional Planning Integration

The Metro Plan integrates federal planning mandates and guidelines with regional planning documents published by SRPC. Local Solutions for the Strafford Region, SRPC's regional master plan, was adopted in January 2015 and concerns many planning issues that are directly related to the Metro Plan. Five of the broad themes that describe the master plan's goals and recommendations relate directly to transportation:

- **Health and Wellbeing**: Transportation is a modern necessity, and the ability to travel safely between home, work, and services is essential for a good quality of life.
- **Economic Prosperity**: The strength of local economies depends on their links to wider regional, state, and national economies through a modern transportation network.
- **Stewardship and Engagement**: Transportation planning affects everyone, and everyone should be a part of planning their community's future.
- **Accessibility and Equity**: Residents of the region should have access to safe, affordable, convenient, and efficient transportation options and their quality of life should not depend on their ability to own a vehicle.
- **Resilience**: Transportation infrastructure is vulnerable to the impacts of climate change. Transportation also currently depends on fossil fuels that drive of climate change. Improving the transportation system's resilience will require strong infrastructure, cleaner fuel technology, and incentives for travelers to use alternative modes of transportation.

Metro Plan Structure

A Brief Description of the Region

This section provides an overarching introduction to the region's geography, people, and transportation systems.









Public Participation – What We Heard From You

This section describes outreach and engagement techniques used to gather input from the public and details the results.

Regional Themes

This section is a focused discussion of specific planning issues around the region. It is designed to emphasize current and emerging trends and challenges in clear

language. No big tables of numbers or fancy charts and graphs; look for those in the regional data snapshot in the appendix.

-  Overall System Performance
-  Infrastructure Conditions
-  Safety
-  Intra-Regional Transit
-  Inter-Regional Transit
-  Economic Linkages
-  Housing & Jobs
-  Population Demographics

Implementing the Plan

This section provides more detail about efforts the MPO will be taking in coming years to address the regional trends and challenges described in the themes. Specific content:

- Project development process
- Performance-based Planning
- Data Analysis
- Resilience and Climate Changes
- Environmental Impacts and Mitigation Strategies
- Air Quality Conformity
- Ensuing Equity
- Major Projects – Anticipated Benefits and Potential Impacts
- Financial Plan and Fiscal Constraint

Appendix

- Transportation Project Lists
 - Transportation projects over the next four years (Transportation Improvement Program)
 - Transportation projects programmed for four to six years from now (NH Ten Year Plan)
 - Projects planned beyond ten years from now



Data Snapshot Icon

- This icon references sections in the Data Snapshot that have relevant information to the theme being discussed.

Regional Data Snapshot

Strafford Regional Planning Commission has developed a standalone Regional Data Snapshot that serves as a central collection of metrics related to regional planning. The metrics cover a wide range of topics, many of which are not directly related to transportation. The Snapshot is not an MPO document but serves as a reference for the regional factors discussed in the themes and implementation section of the Metro Plan.

1. Demographics
 - a. Population Estimates and Projections
 - b. Age
 - a. Minority Population
 - b. Sex
 - c. Disability
 - d. Linguistically Isolated Households
 - e. Education Attainment
 - f. Vehicle Access
2. Economic Vitality
 - a. Employment and the Labor Force
 - b. Income
 - c. Cost of Living
 - d. Meals and Rooms Tax Receipts
3. Livability & Quality of Life
 - a. Housing Market
 - b. Traffic Safety
4. Mobility and Accessibility
 - a. Infrastructure Conditions
 - b. Passenger Rail & Airports
 - c. Freight Commodities
 - d. Public Transit
 - e. Active Transportation
 - f. Road Classification Systems
5. Resiliency
 - a. Transportation Related Emissions
 - b. Sea Level Rise and Flooding

A Brief Description of The Region

Geography

The Strafford MPO region is in southeastern New Hampshire; it shares a border with Maine, and is about 60 miles from Boston, Massachusetts, and Portland, Maine. The New Hampshire Lakes Region and White Mountains lie to the north, the Seacoast and Greater Boston to the south. Massachusetts has a strong influence on southern New Hampshire due to employment in the Boston Metro Area. The region's northern communities are influenced by the recreational opportunities in the Lakes Region and the White Mountains.

Eighteen communities comprise the Strafford MPO region, which is centered around the Dover-Rochester NH-ME urbanized area. The cities of Dover, Rochester, and Somersworth make up the core of the urbanized area. Around the core urbanized area are urban clusters in Farmington, Rollinsford, and Durham. Newmarket is part of the Strafford MPO region, but is incorporated into the Portsmouth, NH-ME Urbanized Area because of its proximity. The 2010 Census showed that pockets of urbanization are moving into Barrington, Lee, and Madbury due to their proximity to expanding urban communities, but the rest of the region is rural.

People

For the past two decades, the Strafford MPO region has been one of the fastest growing areas of the state. According to the 2010 census, 146,895 people lived in the Strafford region.

The greatest population densities are centered around the urban downtown areas of Rochester, Dover, Newmarket, and Somersworth, with additional distinct town centers in Farmington, Rollinsford and Durham.

Durham has unique population density because of the University of New Hampshire's flagship campus.



Map of the Strafford Region and surrounding states.

Minority populations are also highest in the three cities of Dover, Rochester, and Somersworth. Somersworth has the highest minority densities, particularly in census blocks in the downtown. Somersworth is noted for its strong Indonesian community, which has an annual festival.

An Aging Population

An aging population is a defining factor for communities across the country, and especially for New Hampshire. According to census numbers, between 2000 and 2010, the population of people over 65 in the Strafford region grew by nearly 20%. Analysis by the NH Alliance for Healthy Aging suggests that by 2030, one out of every three people in the state will be over 65. The NH Office of Strategic Initiatives (OSI) also suggests that Strafford County could see a 62% increase in people of 65 by 2040. Seniors are generally spread out across the Strafford region. Ensuring the transportation system supports people as they age is a critical challenge, particularly in rural areas where public transit is more expensive to operate because of the long distances between destinations. The Strafford region has excellent demand response service, but there is still unmet need in rural towns.

The Region's Transportation Systems

Southeast New Hampshire (including the Strafford MPO and Rockingham MPO regions) has the richest mix of transportation modes in the state:

- Major public highways and the Spaulding turnpike, which will be implementing all-electronic tolling in 2021.
- The Cooperative Alliance for Seacoast Transportation (COAST) provides fixed route public transit to six New Hampshire communities and four Maine communities, as well as on-demand fixed route in three New Hampshire communities.
- In addition to their on-campus routes, University of New Hampshire's Wildcat Transit provides fixed route public transit that connects Dover, Portsmouth, and Newmarket to the flagship campus in Durham.
- COAST and several specialized providers operate demand-response transit service for seniors and people with disabilities. These services are coordinated through the Alliance for Community Transportation.
- C&J Buslines connects Dover NH, Portsmouth NH, and Seabrook NH, to downtown Boston and Logan Airport, and New York City through intercity bus service.
- Amtrak's Downeaster passenger rail service has stops in Dover, Durham, and Exeter. It operates between Boston, MA and Brunswick, ME.
- New Hampshire Northcoast operates regular freight rail shipments from Ossipee NH through Rochester and Rollinsford, linking up with the Pan Am Line in Dover.
- While Rochester's Skyhaven Airport is not large enough for commercial passenger flights, Portsmouth International Airport at Pease Tradeport has flights to several destinations through Allegiant Air.
- Towns and cities are expanding their networks of infrastructure that provide safe routes for bicycles and pedestrians. There are also several recreational rail trails that connect communities and the region.

Vision for the Region's Future

The Strafford region's transportation network is safe, reliable, and affordable; it connects people to affordable housing, livable-wage jobs, and educational opportunities regardless of their age, income, or where they live.

Transportation infrastructure is well-maintained and resilient, frequent fixed-route transit serves a diverse

workforce, demand-response transit enables people to lead active lives regardless of age or disability, inter-regional bus and rail links the region to neighboring economies, freight moves efficiently through a variety of modes, town centers are the epicenter for a growing network of pedestrian and bicycle routes.

PUBLIC OUTREACH

What We Heard from You

Public outreach is a critical foundation of the Metro Plan. Any plan should be reflective of the region's needs based on input from a wide range of stakeholders so that strategies and projects will lead to inclusive advancement. Strafford RPC conducted an integrated outreach approach for the 2021 Metro Plan consisting primarily of three processes: A comprehensive survey, a regional workshop, and meetings with individual municipalities and agencies to develop prospective projects (and manage ongoing projects). The initial survey of transportation stakeholders comprised a wide range of topics and responses were solicited throughout the region. The January 2020 regional workshop focused on the integration of transportation, housing, and economic development. Municipal staff and technical professionals from around the region met to discuss how these three issues are linked in planning for the region's future.

The survey and workshop were conducted before the 2020 COVID-19 pandemic. The impacts of COVID-19 were immediate at the national and local level, and will continue into the future. As a result, SRPC staff followed up with workshop attendees to assess and adjust its outcomes. Notes have been added to survey and workshop summaries below where changes in trends and issues were obvious or are anticipated. COVID-19 did not eliminate any of the challenges facing the region, in many cases it only made those challenges more urgent.

Strafford RPC staff meet with municipal and agency staff regularly to discuss local and regional projects. Projects may already have funding programmed and are nearing construction, they may be in the state's Ten Year Plan and approaching final development, or they may be in the early stages of development. This is an iterative and ongoing process. See the plan Implementation chapter and project list for more details on the project solicitation and development process.

Transportation Survey Results

Support for Seniors

The majority of respondents were concerned or very concerned about the need to improve transportation access for the rising number of seniors. Ensuring continued quality of life for seniors is a critical issue and transportation plays a strong role. Respondents prioritized potential strategies for increasing transportation for seniors in this order:

1. Better promotion of existing services
2. Increased state and federal funding support for senior transportation
3. Volunteer driver programs that provide non-emergency medical trips
4. Free public transportation service for seniors in urban areas

Commuting Patterns

The COVID-19 pandemic may result in a reduction in the number of people using rail and inter-city bus to travel long distances for work if those workers are able to work from home full-time or part-time. Staff from C&J Buslines say ridership is slowly returning and they are anticipating that more people will take C&J for recreation than work in the future (personal communication).



Strafford MPO staff conducting outreach for the Level of Traffic Stress project in 2019. (SRPC Photo)

75%

of respondents work full or part time, **47%** of which work in the Portsmouth/Newington area, Dover, or Durham.

<30 min

is the commute time for **60%** of respondents.

7 out of 10

commuters drive alone, while **5%** carpool or walk, **2%** use COAST or Wildcat, and **4%** bike.

~30%

of respondents never work from home, while another **~30%** work from home 1-2 times a week or a few times a month

COVID-19 had an immediate and drastic impact on employment. While some sectors have recovered, the effects will likely be lasting. Virtual meetings and online work have allowed many sectors to shift to working from home. Increased adoption of remote work and telecommuting will undoubtedly change the relationship between transportation, housing, and economic development but the full impacts are unclear.

Public Transit

When respondents were asked what would encourage them to use public transit more often, lower transit fares were not a major factor for people. Most respondents said more frequent service and expanded routes would encourage them to take public transit. SRPC's survey was completed prior to COAST implementing a new route system in July 2020. COAST received feedback from riders that mirrors the results from SRPC's outreach. COAST's new route system made several improvements that increased service efficiency and performance. It linked nearly all routes so they operate on an hourly frequency, and it now uses the Spaulding turnpike as a central express route that links with local connectors.

The survey asked people to propose new or improved services to the overall transit network. The most popular responses were:

- New intercity bus from the seacoast to Manchester, Manchester Airport, and Concord
- Commuter rail from the region to Boston
- More frequent bus service throughout the seacoast

Strafford MPO regularly coordinates with transit providers on expansion and improvement to existing services, including rail and bus. COVID-19 is expected to have long-term effects on the provision of transit service in the region. Working remotely became more common because of the pandemic. If working from home becomes a permanent option for more workers, this will impact where people choose to live, how they travel, and how transit serves communities and the region.

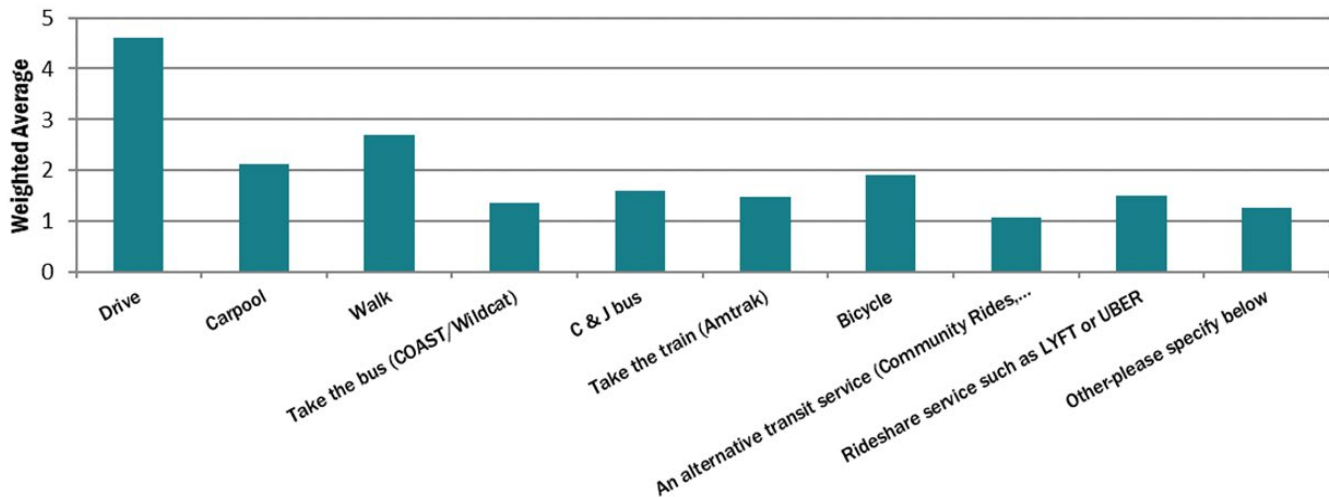
Non-work trips

People were asked how they accomplish their non-work trips during the average week. 68% said they drive every time, but 11% said they walk every time.

Infrastructure

The survey asked several questions about the condition of the region's transportation infrastructure. When respondents rated the quality of facilities and accessibility for people with mobility challenges, they said traffic calming (to slow vehicle speeds), crosswalks (with visual and auditory aids), and the amount of sidewalks were most in need of improvement.

Transportation modes for non-work related daily activities



Weighted Average Key: 5 equates to respondents using this mode every day, 4 is 1-2 times per week, 3-a few times a month, 2-a few times a year, 1-never, and 0 is not applicable.

Respondents were asked to prioritize a list of potential transportation improvements for the region. The top four improvements were:



#1

Sidewalks, Crosswalks, and Pedestrian safety,

#2

Services for the senior population and those with disabilities,

#3

Road Conditions,

#4

Bicycle Access and Safety.

They also identified the top “urgent” improvements that should be prioritized for the transportation system that included:



#1

Road maintenance improvements,

#2

Increase resiliency to growing climate change threats and storm events,

#3

More bike lanes,

#4

More services for our senior population and those living with disabilities.

Vehicle Technology Advancements

Technology enhancements require planning for corresponding infrastructure improvements. Electric vehicles and the need for charging stations has been a regular topic of conversation. 97% of survey respondents said they do not own an electric vehicle (EV), however, 52% said they were very likely or somewhat likely to purchase an EV in the future. Overall, respondents said it is important for the state to invest in EV charging infrastructure.

Looking toward the future, respondents were asked to rate their comfort level with the concept of self-driving cars. The average was 42 on a scale of 1 (I'm terrified) to 100 (Technology is incredible! I can't wait).

Vehicle Availability

42% of respondents feel access to transportation for health appointments, errands, and social activities for the aging population is an extremely urgent issue.

Respondents identified the top 4 strategies to address this as:



#1

Free public transportation service for seniors in urban areas

#2

Volunteer driver programs that provide non-emergency medical trips

#3

Better promotion of existing services

#4

Increased state and federal funding support for senior transportation

Funding

Transportation funding is a perennial challenge, exacerbated by rising construction costs and level or decreased public funding.

50%

of respondents would support additional taxes or fees to increase transportation funding. To address funding gaps, respondents were asked their opinion on various revenue generators.

Let's Break It down...



1 in 5 support revenue generators like new fees based on fuel efficiency, raising tolls, and a gas tax.



1 in 3 support new fees based on miles traveled.

Climate change

Respondents were asked to rate their concerns about potential environmental threats to transportation infrastructure. People were most concerned with impacts from flooding and extreme precipitation (42%), followed by, pavement failure due to extreme temperatures (35%), and sea-level rise (25%).

Workshop Summary

The 2020 regional workshop brought together municipal and agency staff, local board members, and technical professionals to discuss the integration of housing, transportation, and economic development in planning for the region's future. The workshop started by asking participants to imagine idealistic, or dream, improvements without considering cost or logistics (e.g., "COAST buses every 15 minutes", "real estate tax reductions for seniors", or "more advanced manufacturing in the region and training for employees"). Using those idealistic scenarios, participants brainstormed short-, medium-, and long-term strategies and actions that could lead to real progress toward the underlying concepts of these goals.



Stakeholders participate in the 2020 Regional Workshop to inform the MTP. (SRPC Photo)

Transportation

Transportation should be affordable and accessible to the whole population. In terms of transit, the region needs more frequent public transit service with more connections and capacity. This could include increased east-west transit, such as Seacoast to Concord routes, and increasing the frequency of the Downeaster to Boston or Portland. New Hampshire would have to provide financial support for these developments to happen. It is also necessary that the region prepare for emerging technologies such as electric and autonomous vehicles.

Mixed housing and mixed-use downtowns will also require increased safety improvements and access for pedestrians and bicyclists, and associated infrastructure and networks. There is also an expressed desire to enjoy more transit options to recreation opportunities. Ideas such as a train to North Conway or a beach bus are popular.

Housing

The region needs housing that is more affordable and tailored to different sectors of the population. People of different ages, income brackets, and at different stages of life have distinct needs that should be reflected or incorporated into housing choices. Housing should be located within proximity of both services and transportation to reduce transportation costs and congestion.

To move towards this objective, local regulations need to be flexible in order to ensure community livability and sustainability and respond to housing trends (e.g., smaller or tiny homes). Local planning can set the vision for what a “home” and housing looks like. Housing developments should have an increased focus on conserving land and reducing environmental impact; building codes should be updated to include energy requirements that would increase quality and safety of housing. Housing development is driven by market demand; municipalities should collaborate with housing agencies, developers, and real estate professionals to be responsive to marketability and ensure affordability.

Economic Development

The region needs to respond to an evolving economy and equitable economic development in New Hampshire and will require new revenues. The model of the big box store is no longer relevant and there is a renewed focus on the role and value of downtowns. There is a vast amount of land used for big box stores that can be reevaluated to assess their future redevelopment potential. More residents now value a walkable community and want to spend their money locally and support small businesses. Outdated ordinances and regulations can be a barrier to downtown redevelopment and business; these can be updated and adapted to reflect evolving economic needs and conditions. Additionally, there is a interest in development of a small business incubator and supporting infrastructure. Employment and economic development need to be conscientiously tied to transportation: along corridors, within reach of current transit, and updating our bike and pedestrian networks.

There need to be more diverse employment opportunities based on stage of life and more mid-career jobs. Education and funding need to be focused on changes in the economy with increased training programs in manufacturing, and skilled trades. Community colleges can fill gaps in job training for the jobs that exist. There needs to be a general shift in education and perception about the traditional four-year degree. Pushing all students to go to college and accrue very large student debt is not addressing the labor market needs and is affecting a lot of people in our region.

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OVERALL SYSTEM PERFORMANCE

Goals

- Maintain and improve the reliability of the highway system.
- Reduce congestion and travel delay.
- Increase accessibility to alternative modes of transportation.
- Increase safety for non-motorized modes of transportation.

Discussion

Service the Highway Network

The Strafford MPO is a growing region where public transit is a critical service and municipalities are investing more in growing local networks of bicycle and pedestrian routes. But it's also a rural region where cars and trucks are required for most trips. Over 80% of trips are made by people driving alone in a personal vehicle and the average household logs nearly 23,400 miles per year. Many people live in the region and commute to jobs elsewhere, including Manchester, Concord, and the Boston Metro area.

The highway network includes a good mix of roads with high-capacity and local access. Due to large volumes of commuters in the morning and evening, there is some predictable congestion at specific points on the highway network. Aside from a few isolated spots, congestion is minimal throughout the region. Travel times on the National Highway System routes (NH16, NH125, US4, NH9, and NH11) are consistently reliable. The Spaulding Turnpike, NH125, and US4/NH202 are critical corridors for inter-regional travel and freight. Tourism is critical to the New Hampshire economy and the many visitors travel to and through the Strafford region on their way to vacation spots and second homes. This causes congestion at specific locations such as the junction of the Spaulding Turnpike and Rt 11 in Rochester.

The highway network facilitates reliable truck freight travel in the region. In some cases, large volumes of trucks choose to travel at night to avoid higher traffic volumes during the day. Some major routes like US4 and NH125 bisect municipalities like Northwood and Barrington. High traffic and freight volumes through these towns restricts the development of their community centers and creating safety hazards.

Over 40% of greenhouse gas emissions in New Hampshire come from transportation (NHDES)¹. The next largest source of emissions is electricity generation (20%). While New Hampshire has good air quality overall, emissions still contribute to ground-level ozone which causes respiratory illness and can reach dangerous levels in the hot summer months. Identifying and mitigating locations with reoccurring congestion is an effective way to reduce emissions. Strafford MPO staff analyzed highway travel patterns using data from the

1 <https://www.des.nh.gov/climate-and-sustainability/climate-change/greenhouse-gas>



See statistics that support this discussion in the following data snapshots sections:

- **Mobility & Accessibility**
- **Resilience**



Bicyclists celebrate the opening of the bike lane adjacent to the Little Bay Bridge. (SABR Photo)

National Performance Management Research Data Set (NPMRDS). They looked at the most recent regular weekday travel (Tuesdays, Wednesdays, and Thursdays) from February to April and during peak tourism season (August), as well as weekend travel. The major corridors in the region (e.g., NH16, NH125, and US4) appear to operate well and didn't show congestion. However, there are specific locations where periodic congestion was observed on a regular basis. See the Implementation section for details and analysis on these locations and potential projects.

Reducing congestion reduces air pollution, and a more effective strategy is to reduce the number of people driving alone by increasing public transit ridership and promoting alternatives like carpooling, telecommuting, biking, and walking. This is important as climate change is leading to more days over 90 degrees, impacting people who are more susceptible to heat and air quality impacts.

Communities are developing local and regional connections for bicycles and pedestrians, but safe routes for regular commuting and recreation by bicycle are still limited throughout the region. Strafford MPO has analyzed the regional network for bicycle safety (known as level of traffic stress). Much of the network that is safe for most riders is in urban centers or on isolated neighborhood streets. The Strafford region has its own network of trails developed by the state, municipalities, and private groups. Trails are important in a state where tourism is a central part of the economy. The Farmington Recreation Rail Trail extends 6 miles, connects to Rochester and is part of an extensive network of snowmobile trails. The Rockingham Recreation trail will take you from Newmarket all the way to Manchester or Windham. Municipalities are building their local trail networks to improve pedestrian safety and access. Dover's Community Trail begins along the Cocheco River, passes through the transportation center, past elementary, middle, and high schools, and connects to a large housing development. Somersworth has connected their schools with the downtown on an improved network of sidewalks and trails. Rochester is developing a Riverwalk for recreation and economic development. Several rail trails connect rural and urban communities in the region.

Electric vehicles are becoming more prevalent and in-demand. Municipalities, individual companies, and state government are looking to make investments in electric vehicle infrastructure. Aside from specific charging locations in Rochester, Dover, and Durham, much of the Strafford region lacks public charging stations for electric vehicles ([electric and alternative fuels map²](#)). Electric vehicles adoption is higher in neighboring states like Massachusetts; tourists visiting from out of state will be looking for charging stations on their way to the Strafford region or points north. Electric vehicle adoption is growing in New Hampshire and the public charging network needs to support that growth. Personal electric vehicles can be charged at home, however people will need more charging stations at or near their workplaces to ensure they have enough power to get back home.

What We Can Do

Strafford MPO will take advantage of new tools to analyze travel patterns, congestion, and network gaps throughout the region. The regional traffic demand model is a powerful tool that will be used to identify specific locations where congestion occurs and develop potential solutions. Strafford MPO will continue to help municipalities continue to grow their local networks of bicycle and pedestrian networks to enable more people to bike and walk. The recent analysis of the highway network using a level-of-stress approach will help identify gaps and potential projects. Strafford MPO will also promote and support alternative modes through Seacoast CommuteSMART.

Technology is playing a growing role in the transportation system. All-electronic tolling will be installed at the Dover and Rochester toll plazas on the Spaulding Turnpike which will have a major impact on emissions and noise at those locations. Autonomous vehicles are in development, but infrastructure is unprepared for widespread adoption. Strafford MPO will work to identify where the transportation network is vulnerable to

2 <https://afdc.energy.gov/stations/#/find/nearest?fuel=ELEC>

climate change impacts. In addition to assessing congestion and travel patterns, the travel demand model can also be used to plan response and recovery efforts in emergency scenarios where important bridges may be damaged or closed by a storm or other event. Strafford MPO should conduct a regional planning effort around trails and outdoor recreation. Local planning and regional inventories could be built upon to create a regional trails and recreation plan.

Electric vehicle technology is maturing and more people are switching to them for their daily driving needs. However, electric vehicle charging infrastructure in New Hampshire is currently inadequate to facilitate rapid growth of electric vehicle adoption. Strafford MPO will conduct analysis and use planning tools to identify optimal locations for new charging stations. This includes both DC fast charging and level-2 charging. DC fast chargers can charge an average vehicle in approximately 20 minutes and are better suited to commercial centers for quick charges on longer trips. Level-2 chargers take about 6-8 hours to charge the average vehicle and would be better suited for employment centers where employees could charge their vehicles during the workday. Electric vehicles are an effective mitigation strategy for reducing emissions that cause climate change, but electricity sources need to also be sustainable for positive impacts to be fully realized.

Policy in Action

Strafford MPO is in a perfect position to continue advocating for a multimodal transportation system. New Hampshire is a rural state and personal vehicles will continue to dominate, yet there are plenty of opportunities to build support and investment for other modes. Southeast New Hampshire has the richest mix of transportation modes in the state: highways and turnpike, fixed route and demand response public transit, passenger and freight rail, intercity bus, commercial and freight air, and a marine port. The framework is there, it just needs to be built on.



INFRASTRUCTURE CONDITIONS

Goals

- Keep public roads in good condition.
- Restore or upgrade bridges and culverts in critical condition.
- Prioritize planning and projects focused on adapting to climate change and improving infrastructure resilience.
- Increase adoption of alternative transportation modes to reduce wear and tear on roads.

Discussion

Transportation Infrastructure in the Strafford Region

Generally, the highway network is in good condition. In 2017, none of the region's highway miles or bridges on National Highway System routes were rated as being in poor condition. However, there are 17 municipally owned bridges that are on the red list because part of their structure is in poor condition or near failing (per national bridge inspection standards). Three of those bridges are officially closed because of a structural failure. Local bridges may be on small routes with low volume, but they can be vital links for local travel and freight. Multiple red-list bridges in the region are on the border with Maine, such as in Milton and Wakefield. Municipalities are responsible for maintenance of locally owned roads and information on the condition of locally owned roads is locally managed. Strafford MPO participates in a program to assess the condition of local roads – the Road Surface Management System (RSMS). This includes data collection and development of a local road maintenance plan. In a rural area like the Strafford region, even the smallest route or bridge may be a critical link for evacuation or emergency response. Climate change is leading to more frequent extreme storms, which will put more pressure on vulnerable roads, bridges, and culverts.

Climate Change

Climate change is already having obvious impacts on transportation infrastructure. More powerful and frequent storms cause dramatic damage that disrupts traffic and accessibility. But climate change science predicts long-term, accelerating impacts that will become more pervasive and consistent. Higher summer temperatures degrade asphalt roads, can warp railroad tracks, and even affect the performance of aircraft. Municipalities, states, and the country will need to develop adaptation strategies to ensure transportation services can be maintained.



See statistics that support this discussion in the following data snapshots sections:

- **Mobility & Accessibility**
- **Resiliency**

What We Can Do

Strafford MPO is increasing analysis and planning dedicated to climate change. GIS tools help identify vulnerable infrastructure plan projects to preserve critical parts of the network, and support emergency response. The Implementation section of this plan contains more detail about mitigation and adaptation strategies.

Strafford MPO supports NHDOT's emphasis on maintaining existing highway infrastructure, rather than build new infrastructure that will add to state and local costs. Strafford MPO is not directly involved with the maintenance of the highway network, but it can prioritize other efforts that have a positive impact on infrastructure conditions. Decreasing the number of trips people take alone in their cars reduces congestion, reduces wear and tear on roads, and improves safety. Strafford MPO will continue to work with NHDOT and municipalities to coordinate improvement projects with paving schedules, so work is completed efficiently. RSMS assessments have been completed in Wakefield, Rollinsford, Nottingham, and New Durham. The assessment results are used to develop a 10-year road maintenance plan with municipal staff. Strafford MPO will continue to conduct RSMS assessments.

Policy in Action

Much of the revenues for highway maintenance and improvement come from fuel taxes (known as the gas tax). Emission reductions from more fuel-efficient cars has improved the environment and human health, but this has also meant decreasing revenues for transportation system maintenance and operations. NHDOT prioritizes road and bridge maintenance through the statewide Ten Year Plan and has needed funding through additional sources (such as a government loan through the TIFIA program) to make progress on highway paving and red list bridges. Strafford MPO has given testimony at legislative hearings on proposed revenue bills and will continue to advocate for new revenues for transportation maintenance and improvement to the New Hampshire legislature.



SAFETY

Goals

- Reduce the number of crashes on public roadways that result in fatalities and severe injuries.
- Reduce the number of crashes involving non-motorized users and build safer streets where bicycle and pedestrian activity is high.
- Reduce motorcycle crashes.
- Proactively identify high-crash locations.

Discussion

Highway Safety in the Strafford Region

Safety is arguably the most important factor in transportation. People need a transportation system that enables them to accomplish their daily tasks without risk. The ultimate goal for the Strafford region and the State is zero fatalities on all public roads. This is the only acceptable number of fatal crashes when people's lives are at stake. New Hampshire is a Vision Zero state and Strafford MPO supports this philosophy.

Nationwide, the annual number of fatal crashes has been decreasing over the long term and New Hampshire follows that trend. Technology in vehicles and evolving laws have undoubtedly contributed. However, 101 people were killed on New Hampshire roads in 2019. Over the past five years there have been an average of 14 fatal crashes per year in our region; this is about 12% of the statewide total. There has been an average of 61 crashes resulting in serious injuries per year in the region which is about 13% of the statewide total.

More people are walking and biking to work and for recreation so communities and transportation agencies are investing more in infrastructure improvements for non-motorized users. Municipalities are especially focused on making town centers more walkable and bikeable. But this has also resulted in a rise in the number of pedestrian and cyclist injuries and fatalities. In the past 5 years, on average, 9 cyclists or pedestrians have been killed or seriously injured in the region per year.

The largest contributor to crashes is driver errors – whether it is an honest mistake, distraction, or reckless negligence. Distracted driving, speeding, and alcohol or drug impairment are all primary factors in fatal and severe crashes. Frustratingly, because of human error, crashes tend to occur randomly because even the best designed infrastructure can only do so much if someone isn't paying attention.

Human behavior may be the largest factor in safety outcomes, but infrastructure improvements are still an effective way to improve the safety of the transportation system. Strafford MPO staff regularly collaborate with local public safety staff and NHDOT to identify locations in the Strafford region where improvements could reduce the possibility of crashes. Local crash data is critical to understanding why crashes are happening at



See statistics that support this discussion in the following data snapshots sections:

- Livability & Quality of Life

an intersection or along a stretch of road. In July 2020, NH House Bill 1182 was passed into law and enabled state agencies to access crash reports and share them with regional planning commissions. This increased access will help Strafford MPO identify locations and factors that are causing crashes.

Autonomous and connected vehicle technology (cars, trucks, and transit vehicles that can operate without a driver) is an exciting advancement. This technology is advancing rapidly and has the potential to significantly reduce crashes by eliminating the human error factor. Modern cars already have some semi-automated features such as lane departure correction and obstacle-sensors that break automatically. Vehicle technology is advancing far more rapidly than infrastructure in rural areas. Poor road conditions (such as faded lane markings) reduce the viability of current automated vehicle technology. Significant investment in infrastructure will be required before automated vehicles are practical in New Hampshire.

What We Can Do

Road Safety Audits

Strafford MPO staff will continue to work with police departments and state agencies to identify locations that are eligible for a road safety audit. These are facilitated by NHDOT and are focused on locations that have a history of fatal and severe crashes.

Collaboration for Data Accuracy and Access

Strafford MPO will continue to collaborate with state agencies and police departments to ensure crash data are accurate. Advocacy for new crash recording equipment and training for local police will include advocacy for regional planning commissions to access data from crash reports that is critical for identifying causal factors.

Bicycle and Pedestrian Safety Analysis

Non-motorized users like cyclists and pedestrians are the most vulnerable to injury or death on public roads. Cars are the dominant form of transportation and the highway network is built primarily for the convenience of personal vehicles. Thankfully, engineering standards and planning emphasize a more balanced approach. Strafford MPO can utilize Level of Traffic Stress (LTS) and related tools to identify gaps and develop potential projects to improve safety and accessibility for non-motorized users. This will be done in collaboration with NHDOT, partner RPCs, and municipalities. The Implementation section of the Metro Plan describes efforts and techniques Strafford MPO is pursuing to increase safety and accessibility for non-motorized users.

Safety Hotspot Analysis

Increased access to crash data will help SRPC identify locations where crashes are occurring regularly and propose potential solutions. Safety hotspot analysis can also be conducted on major corridors like NH125 and the Spaulding Turnpike/NH16 in collaboration with NHDOT's Transportation System Management and Operations Bureau.

Policy in Action

Improving safety on public roadways is one of Strafford MPO's top priorities. Advocating for state policy changes and support for law enforcement are a significant factor in achieving safety improvement goals. This is arguably the most critical factor because human behavior is the central driver of safety hazards. Strafford MPO will continue working with state agencies and legislators to advocate for new policy and laws that improve safety for all users of public roads.



INTRA-REGIONAL TRANSPORTATION

Goals

- Increase funding for public transit.
- Promote ridership on regional public transit.
- Increase frequency on existing public transit routes.
- Increase service coverage and coordination of demand-response transit service for seniors and people with disabilities.
- Coordinate new development with public transit access.
- Increase transit access for seniors and people with disabilities.

Discussion

Public Transit Need, Value, and Sustainability

The Cooperative Alliance for Seacoast Transportation (COAST) launched a new, more efficient system of routes in July 2020 that provides better connections throughout the region. There are 71,300 people and 34,200 jobs within a half mile of the new route system. People want more public transit and mode options for getting to work and other daily tasks. Ridership on the COAST fixed route system has grown over 150% since 2000. Rider surveys show that people ride the bus primarily for employment, shopping, medical appointments, and education (generally in that order). Most people who ride COAST for critical work and shopping trips are doing so more than 3 times a week. Riders also reported using COAST regularly during the week for recreation and entertainment.

In early 2020, the COVID-19 virus caused many private businesses and public agencies to adapt their operations to slow the rapid spread of the disease. COAST service was suspended for all of April and part of May 2020. When service resumed, ridership was predictably low, but has steadily returned to pre-COVID-19 levels. The rapid recovery in ridership shows the value of public transit for residents in the region. Strafford MPO staff will be working with transit providers to adapt service as COVID affects patterns in housing, commuting, and community development.

The expanding senior population is a familiar trend in New Hampshire. The number of people older than 65 is growing throughout the region and is projected to double by 2040. Enabling seniors to maintain their independence and quality of life as their desire or ability to drive diminishes is a significant transportation challenge in a rural region. Through the Americans with Disabilities Act (ADA), COAST provides door-door service for people who live along bus routes but can't reach bus stops on their own. Demand for this service has grown 880% since 2008 (data from COAST). Because it is door-to-door and on-demand, this type of service is the most expensive to provide. Multiple agencies in the Strafford and Rockingham regions provide



See statistics that support this discussion in the following data snapshots sections:

- **Demographics**
- **Mobility & Accessibility**



COAST BUS STOP

High St. (Goodwill)

Route
1
North

Route
100 AM



Download the
DOUBLEMAP APP
for Real-Time
Information

Stop Number
1036

Please text this number for information

603-743-5777

www.coastbus.org

New COAST Bus sign in Somersworth with update system information. (COAST Photo)

demand-response transit and coordinate their services through the Alliance for Community Transportation (ACT). Demand-response services include non-emergency medical appointments, shopping trips, food delivery or transportation to meal sites, and social activities. ACT recently developed a central call-taking and ride scheduling platform called TripLink that further coordinates existing services and makes it easier for clients to find the service that best fits their needs. ACT is a model for transportation service delivery, and yet there is growing unmet need in the region due to the growing senior population and lack of resources for transportation and healthcare providers.

COAST provides critical service for people with mobility challenges, but it is an unfortunate and incorrect stigma that public transit is mainly for people who can't drive because they're poor, old or disabled. In COAST's most recent survey of riders, half of the respondents said they ride the bus for reasons other than lack of vehicle access or mobility. Many noted wanting to reduce congestion and environmental impacts, reducing wear on their own vehicle, or that they simply liked riding the bus rather than driving alone. Public transit is also a huge economic driver. The estimated annual regional economic impact of COAST is over \$24M (data from COAST). Averaged out across the country, every \$1.00 invested in public transit yields \$4.00 of economic return. The economic benefits of public transit are diverse, and the financial benefits stay in the region where service is provided.

Public transit improves transportation options for individuals and reduces congestion and emissions. It increases access to businesses without the need for additional parking. Access to public transit is a valuable attribute for properties and those along transit routes will have higher value. Transit oriented development describes the approach of clustering development close to transit service (usually fixed route bus or passenger rail). Such clustered development provides even greater results if the development is mixed-use, combining residential with shopping and other services, in walking distance of transit. This also helps the transit system since the most efficient route is a straight line. Downtowns and town centers are perfect opportunities to use a transit-oriented approach to increase property values, develop spaces designed for people, rather than cars, and create affordable housing.

Funding for public transit in New Hampshire is a critical issue. Federal funds for operating public transit require matching dollars and in New Hampshire this burden is currently borne exclusively by municipalities. The state provides some assistance for replacing buses, but operations are largest cost of public transportation

2018 Transit Funding by State					
State	2018 Population	2018 State Funding	2018 Per Capita Funding	2018 State Funding for Operating	Per Capita Funding for Operating
Massachusetts	\$6,902,149	\$2,105,381,276	\$305.03	\$1,493,586,393	\$216.39
Connecticut	\$3,572,665	\$651,477,883	\$182.35	\$376,188,456	\$105.30
Rhode Island	\$1,507,315	\$58,441,037	\$55.27	\$52,182,561	\$49.35
Vermont	\$626,299	\$7,955,199	\$12.70	\$6,638,732	\$10.60
Maine	\$1,338,404	\$1,540,322	\$1.15	\$147,845	\$0.86
New Hampshire	\$1,356,458	\$1,353,603	\$1.00	\$0	\$0
Source: AASHTO 2020			National Average	\$ 58.69	
			National Median	\$5.04 (North Dakota)	

service. In addition, under the current FAST Act, the amount of federal transit funding available is projected to increase by only 1.5% per year (FTA apportionments). New Hampshire is 48th in the country for federal and state funding for public transit.

The availability of certified drivers is a national issue that also affects COAST and other transit providers. A commercial driver's license (CDL) is required to drive large trucks, and an additional endorsement is required to carry passengers. Drivers with these qualifications are in short supply and there is only one training center in the state. This is also a local issue because school bus drivers need their CDL and passenger endorsement. Northwood's 2019 school year started late because of a lack of qualified school bus drivers.

Climate Change

Strafford MPO advocates for investment in public transit as a major component of a regional strategy for mitigating climate change. Making it easier and more convenient for people to reach destinations by public transit or other alternative modes reduces emissions that contribute to climate change. Further, reducing the volume of cars on the road has additional benefits like reducing congestion and increasing safety.

What We Can Do

Funding Advocacy

Funding is arguably the central challenge for COAST over the next three years. NHDOT awarded funds to COAST through the Congestion Mitigation and Air Quality improvement program (CMAQ) to implement their new route system. However, that funding expires in 3 years and new revenues must be found to make up the difference. Strafford MPO will be working during that time to study COAST's economic impact, promote its value throughout the region, and advocate to state legislators for the need for sustainable funding for public transit in New Hampshire.

Technology opportunities

New technologies could support public transit operations and improve the on-time performance of buses. Traffic signals could be upgraded to sense when a bus is approaching an intersection and keeps the light green until it passes. This is not the same as emergency vehicle preemption which turns all lights red as an emergency vehicle approaches. Strafford MPO will collaborate with municipalities and COAST to investigate implementation of transit signal prioritization within the COAST service area.

Strafford MPO staff will continue to participate on the boards of COAST and ACT and advocate for increased funding to support these critical transportation services. Strafford MPO is currently researching connections between public transit and economic development in the region. This research includes interviews with major employers and other local agencies and businesses. Current transit research speaks broadly about the economic benefits of public transit in rural and urban settings but lacks specific perspective that reflects the NH Seacoast.

Policy in Action

Strafford MPO will continue to advocate for public transit to increase the sustainability of transit service in the region. The regional study on public transit and economic development will include specific focus on communication to state decision-makers regarding the value of public transit to residents and the economy. The Statewide Ten Year Plan is updated every two years and allocates all funding for New Hampshire's transportation needs for the next ten years. The Ten Year Plan is reviewed by the House and the Senate and Strafford MPO takes every opportunity to advocate for public transit and other regional priorities.



INTER-REGIONAL TRANSPORTATION

Goals

- Improve linkages to existing intercity bus and rail service for pedestrians, cyclists, and local transit.
- Support policy and develop projects that expand inter-city bus service to new destinations.
- Increase capacity of active railroads in the region to increase frequency of passenger and freight rail service.

Discussion

Our connection to other Regions and States

The Strafford region is situated approximately one hour from economic centers in Portland, Maine, Boston, Massachusetts, and Manchester and Concord, New Hampshire. Connecting to these metro areas is vital to the economic vitality of the Strafford region. Currently, passenger rail connects the Strafford region to Boston and Portland on the Amtrak Downeaster and intercity bus connects the region to Boston (and New York City).

Ridership levels makes it clear that these services are in-demand and that people value alternatives to personal cars and trucks. The Amtrak Downeaster's ridership grew for 9 out of 12 months during 2019¹. Total ridership for the year was 574,404, 7.8% higher than 2018, and broke the all-time record of 546,056 set in 2017. 44.3 million passenger miles were logged that year and vital ticket revenues were generated. Yet, Amtrak service is constrained by the capacity of the tracks that run through the region. Because most of the route consists of single track, only a certain number of trains can operate at any given time because of the lack of "track siding" where trains can pass each other. Amtrak shares the limited space with freight rail traffic as well. Starting on September 15, 2020, the Downeaster allowed riders to bring their bicycles into the passenger compartment with them. The number of bikes per car is limited, but this adds another means for riders to make their final mile connection.

C&J Buslines provides essentially 24-hour service that connects stations in Dover and Portsmouth, New Hampshire and Newburyport, Massachusetts to South Station and Logan Airport in Boston. C&J also travels to New York City. Ridership has grown steadily since service started and has reached the point where C&J has become the victim of its own success. Parking has become a critical issue as the Dover and Portsmouth stations, which also serve as regional park & rides for commuters. The lots have become packed year-round because of growing C&J ridership, use by commuters for carpooling, and unfortunately some abuse of their purpose.

The COVID-19 pandemic that began in early 2020 had a major, immediate impact on Amtrak Downeaster

¹ <https://media.amtrak.com/2020/01/amtrak-downeaster-achieves-record-ridership-in-2019/>



See statistics that support this discussion in the following data snapshots sections:

- Mobility & Accessibility



The C&J provides transportation from Dover to Boston. (SRPC Photo)

and C&J service. The Downeaster was fully suspended between April 13th, and June 15th of 2020. C&J also shut down in April and was not able to resume service until August 23rd. The pandemic will have lasting effects on the demand for inter-city services. C&J staff noted that they expect ridership to take over a year to return to pre-pandemic levels; before the pandemic they employed 140 people and the pandemic cut that to 64. A large percentage of C&J's ridership was for leisure travel or long-distance work trips. Working remotely and holding virtual meetings has become more common and will likely continue to alter travel patterns across the country.

The Strafford region has good multi-modal connections to metro regions to the south and north, but employment and educational opportunities in Concord and Manchester are only accessible by car. The 2020 Statewide Strategic Transit Assessment Study funded by NHDOT looked at communities and areas of the state that lacked transit service. The region is well-covered by fixed route through the Cooperative Alliance for Seacoast Transportation, Wildcat Transit, and by demand-response service through the Alliance for Community Transportation. But the NHDOT Transit Assessment identified east-west service as a priority service gap. It estimated that commuter bus service (primarily for employment) from Rochester to Concord would have around 23,000 riders per year and service from Portsmouth to Manchester would have around 26,000 riders. The assessment also identified rural areas that lack connection to the existing inter-city network. A Portsmouth to Concord connection could have around 11,500 riders. It also identified the need for a north-south connection from the Strafford region to communities in the North Country, though it was a lower priority. A new connection between Dover, North Conway, and Berlin would provide better mobility along the eastern border in those currently underserved communities. The lasting impacts of COVID-19 will have to be taken into account as these new services and routes are considered in the future.

Developing a stronger multimodal network is one strategy for increasing workforce mobility and mitigating climate change and regional air pollution. In the United States, motor vehicles are responsible for approximately one-third of all carbon dioxide (CO₂) emissions – which are accelerating global warming and climate change. These emissions can be reduced by increasing options for alternative transportation and incentivizing people to leave their cars at home. Regional air quality is also affected by the reliance on cars and trucks. In the United States, motor vehicles are responsible for up to half the chemical by-products that cause smog and ground-level ozone; they release more than 50 percent of hazardous air pollutants; and they emit up to 90 percent of the carbon monoxide found in urban air. Owning, operating, and maintaining a personal vehicle is expensive. That expense limits the mobility of people with low-income, especially in rural areas where critical services may be many miles apart.

What We Can Do

The lack of east-west transit service has been a topic of concern for many years. Strafford MPO will work with Rockingham, Southern, and Central Regional Planning Commissions to further assess the feasibility of the Statewide Transit Assessment identified commuter and inter-city services.

The New Hampshire Legislature established a Public-Private Partnership Infrastructure Oversight Commission, in 2016, that was chaired by the Commissioner of NHDOT. Public-Private Partnerships (known as P3) are used to finance new infrastructure. In 2019, the P3 commission prioritized developing a new long-term lease agreement for the maintenance and operation of the Dover and Portsmouth bus terminals. In 2020, the commission released a request for proposals, citing the parking capacity challenges and the need to continue the vital bus service. It identified possible expansion of the current park and rides and implementation of fee-based parking to manage capacity and abuse, and to fund improved maintenance and operations at the facilities. Strafford MPO will continue to support the implementation of the long-term lease agreement and P3 at the Portsmouth and Dover bus terminals.

Strafford MPO will continue collaborating with municipalities, planning partners, and agencies like the Northern New England Passenger Rail Authority (which operates the Amtrak Downeaster) to expand and

enhance passenger rail service in the region. Additional track siding and double tracks, upgrading existing tracks, and modern signal control systems should be prioritized. This will require continued advocacy for support through state funds. Past efforts have included applications for funding through the Congestion Mitigation Air Quality Program to improve tracks and capacity for trains. Strafford MPO will continue to work with stakeholders to identify additional rail improvements.

Policy in Action

Strafford MPO regularly advocates for the advancement of a multimodal transportation system in NH. Investments in transit, passenger rail, and bicycle and pedestrian infrastructure were all top priorities identified by Strafford MPO staff in testimony on the Statewide Ten Year Plan.

Strafford MPO has also been able to communicate the need for more multimodal improvements to congressional representatives. Most notably, transportation planners and staff from New Hampshire's four MPOs met with Congressman Chris Pappas to discuss ongoing transportation challenges as he worked on an update to the federal transportation authorization. One of the overarching issues was that New Hampshire's federal transportation funding is the lowest out of the 50 states. This hampers New Hampshire's ability to develop a modern, multimodal transportation network.



ECONOMIC LINKAGES

Goals

- Improve multimodal connections that increase mobility and accessibility of people and freight.
- Support the development of walkable community centers that promote local businesses and create a sense of place.
- Increase capacity of existing rail infrastructure for passenger and freight.
- Increase economic resilience to the impacts of climate change.

Discussion

Transportation's Link to the Economy

The transportation system is critical to the region's economy. It gets us to work, school, and other daily tasks, gets goods to and from markets, connects visitors to the region, gives us access to recreation, and keeps us connected socially. The highway network is relied on for freight movement; over 80% of freight to and from New Hampshire is on large trucks, which cause the greatest amount of wear and tear on roads due to their weight. Trucks passing through small, rural towns can contribute to safety hazards and damage local roads when major highways are closed.

Truck freight is still vital for local last-mile delivery of goods, but the safest, most efficient way to move large volumes of freight over longer distances is by rail. It has its own dedicated infrastructure, has limited interaction with passenger vehicles, is more fuel-efficient, and can move huge volumes. New Hampshire Northcoast Rail (NHN) was built to transport sand, aggregates, and other raw materials from Ossipee and Rochester for construction projects. NHN moves more freight by tonnage than any other short line railroad in New Hampshire; an average of 600,000 tons annually of freight consisting primarily of concrete sand, propane, and steel. That's the equivalent of removing 40,000 large tractor-trailer trucks—and the associated wear and tear—from local and state roads. In Rollinsford, the NHN line joins rails owned by Pan Am, which are shared by additional freight trains and the Amtrak Downeaster. Aside from a few spots where trains can pass each other, most of the track through the Strafford and Rockingham regions allows only one train in one direction. Since NHN and Amtrak share these rails with other freight providers, the number and length of trains that can operate on the tracks is very limited.

The closest large airport is Pease Tradeport in Portsmouth. Skyhaven Airport in Rochester cannot handle large commercial flights or freight, but the airfield has been expanded recently and the adjacent manufacturing complex with Albany and Safran is a logical partnership for expanding air services.



See statistics that support this discussion in the following data snapshots sections:

- **Economic Vitality**
- **Mobility & Accessibility**



DOVER TRANSPORTATION CENTER



33 CHESTNUT STREET

Dover Transportation Center Sign. (SRPC Photo)

While natural gas is common in the urbanized cities like Dover, Rochester, and Somersworth, statewide close to half of all homes in New Hampshire rely on fuel oil for heat. 90% of that comes through the Port of New Hampshire and Sprague Terminal in Newington. From there the network of state and local roads is relied on for home delivery. Fuel oil is by far New Hampshire's largest import by value, and its largest exports by value are electronics, machinery, and precision instruments. For additional statewide freight planning efforts, refer to the [State Freight Plan¹](#) published by NHDOT.

Tourism is New Hampshire's main economic driver and again, the highway network is depended on by visitors and residents alike. There are notable tourist destinations in the north, but the Strafford region has plenty of beautiful places, interesting historic sites, and local restaurants to visit. Strafford MPO works with several municipalities on two registered scenic byways that are designed to give drivers a unique experience. The Mills Scenic Byway tours the cities and towns with river mills that were the core of manufacturing in their heyday and are being revitalized. The Branch River Scenic Byway is being expanded to integrate unique places in the northern part of the Strafford region. This expansion effort is in collaboration with [Explore Moose Mountains²](#), an initiative to promote tourism and economic development in the Moose Mountains region.

Climate Change

Climate change represents an existential threat to New Hampshire's economy. The impacts may be most obvious on the tourism industry. Global climate change is impacting New Hampshire's regional environment and what attracts people to the state for a quintessential Northern New England experience. Winters are getting shorter; ponds are freezing later and melting earlier, snowpack on ski slopes is shallower. Unpredictable patterns in precipitation and seasonal temperatures are affecting the famous fall foliage. Summers are getting hotter and drier. Some of the state's iconic wildlife is threatened by the large-scale changes: more ticks are surviving the warmer winters to reduce moose populations; brook trout are unable to survive in many of the streams and rivers in which they used to thrive.

What We Can Do

Improving the multimodal capacity of the freight network is a priority for the region. New Hampshire's reliance on truck freight increases the cost of highway maintenance and makes the freight network and economy more vulnerable to potential disruptions. Strafford MPO will continue to work with MPO colleagues, freight stakeholders, and decision-makers to improve the multimodal connectivity of the region's freight network. This includes identifying upgrades to NHN and Pan Am railroads to improve efficiency and capacity of passenger and freight rail service. The Northern New England Passenger Rail Authority (NNEPRA) has proposed and implemented several expansions of track siding that allow trains to pass each other. Strafford MPO assisted UNH in expanding the passenger rail station to accommodate more passengers and be more accessible for people with disabilities. Capacity is currently the limiting factor for passenger and freight rail along the Pan Am line. Most of the route comprises a single track with few places for trains to pass each other. Currently, the Amtrak Downeaster is at capacity and adding a car to accommodate more passengers isn't possible without additional track or siding.

Strafford Regional Planning Commission also operates as an Economic Development District (Strafford EDD) to collaborate with community and business leaders in developing the region's economy. Transportation plays a critical part of economic development by enabling a wider range of people to be mobile and access businesses, recreation, and social engagement. Strafford MPO will continue to work with regional stakeholders to improve accessibility through a multimodal network. Public transit service provided by the Cooperative Alliance for Seacoast Transportation (COAST) is an essential transportation service for a broad range of workers in the region. Strafford MPO is working with COAST and economic development stakeholders to

1 <https://www.nh.gov/dot/org/projectdevelopment/planning/freight-plan/>

2 <http://exploremoosemountains.org/>

expand COAST service and link local economies.

Strafford MPO will continue to collaborate with Explore Moose Mountains initiative to promote tourism and economic development in the northern rural section of the region. This includes expansion of the Branch River Scenic byway in partnership with the Lakes Region Planning Commission.

The COVID-19 outbreak in early 2020 had wide ranging impacts on the economy, many of which will require long-term recovery. Some of the initial impacts to the transportation system were ironically positive, with lower traffic volumes and reduced emissions. Many people also took the opportunity to walk and bicycle around their communities, and the number of people visiting local parks spiked sharply. The long-term impacts are far less certain. Such a massive economic downturn will inevitably have long-term impacts on municipal and state budgets, and their ability to maintain critical infrastructure. Public transit service in the region shut down almost entirely during the Governor’s stay-at-home order. COAST receives no state funding to support its operations and relies on local funds to match federal dollars, and municipal budgets are expected to be hurt by the COVID-19 shutdown.

While not strictly a transportation issue, access to high-speed internet remains inconsistent across New Hampshire. Main Street storefronts are the classic image of economic development in our rural region. But websites, social media, and online networking are just as critical as a vibrant streetscape. COVID-19 demonstrated how important it is to have reliable highspeed internet service, for continued business operations and local government decision-making.

Policy in Action

Strafford MPO will continue to plan and advocate for a truly multimodal transportation network. This includes projects to improve connections between modes (such as COAST and C&J Buslines), and projects to improve transit frequency (such track siding that can increase Amtrak capacity, and adapting traffic signals to increase efficiency of bus travel). Personal vehicles are required for much of the travel in a rural region, so if someone can’t drive alone or doesn’t have access to a vehicle, they may be limited in the education, nutrition, employment, healthcare, and recreation resources they can access. This means they may also be unable to fully participate in the local and regional economy.

Strafford MPO will continue to support and advocate for public transit service which provides equitable mobility and accessibility throughout the region. Multimodal improvements will require innovative and flexible sources of revenue. Strafford MPO will continue to engage state legislators to develop novel revenue sources that reflect modern needs.



HOUSING & JOBS

Goals

- Increase public transit service in the region
- Support coordination of affordable housing development with public transit and multimodal transportation improvements
- Improve accessibility for non-motorized modes, especially in areas with low income and limited transportation options
- Increase workforce mobility
- Build resilience in areas where people are most vulnerable to climate change

Discussion

Where People Live and Work

The Center for Neighborhood Technology maintains a national level [Housing and Transportation Cost Index](#)¹. It shows that for the average household in the region, housing and transportation costs account for 45% of total income. Generally, a home is considered affordable when total housing cost is less than 30% of household income. 26% of households are above this threshold. However, according to the index the Strafford region has the lowest combined housing and transportation cost in New Hampshire, with some rural regions like Coos County reaching a combined cost of 62%. Within the Strafford region, rural municipalities have slightly higher combined costs. This is a critical factor for lower-income rural residents or those who are on a fixed income such as the growing number of seniors in New Hampshire.

According to 2018 American Community Survey data, nearly 60% of people living in the Strafford region commute outside the region for jobs. The highway network is critical for reliable travel outside the region; public transit and alternative modes should be emphasized for mobility and accessibility within the region.

The Strafford region is a beautiful place to live, and housing prices are rising as the region grows. Affordable housing for the region's workforce is key to ensuring economic sustainability and quality of life for a broad range of people. One municipality's zoning and housing ordinance have an impact on their neighboring communities. Rural and urban communities may have varying goals and priorities, but housing is a regional issue that spans political borders.

1 <https://htaindex.cnt.org/map/>



See statistics that support this discussion in the following data snapshots sections:

- **Demographics**
- **Economic Vitality**
- **Livability & Quality of Life**

COVID-19

The COVID-19 pandemic had an immediate economic impact throughout the country and municipalities. According to research by the [Pew Research Center](#)², between February and July of 2020, the number of young adults (18-29 year-olds) living at home with their parents jumped from 47% to 52%. That broke the last record set during the great depression. That is just one impact; the US will be challenged by the ripple effects for years to come. Because of business closures, there was also an immediate decrease in daily vehicle traffic across the country. The pandemic will likely have long-term effects on transportation demand; many businesses and public services may permanently adjust to online and virtual interaction with customers and clients. This will result in a sharp decline in state and federal gas tax revenues that fund transportation programs. Long-distance business travel decreased significantly with the pandemic and national shutdown. C&J Buslines ceased all service for several months and anticipates a multi-year recovery to pre-pandemic ridership.

Climate Change

Climate change is a global challenge. It is already affecting our lives and events in one part of the country or world will impact that small state of New Hampshire. The west coast wildfires are the most dramatic and visible impact. Recent years have seen the scale of those fires increasing; each year more fires are displacing more people. Some people will have the means to rebuild and adapt but increasing climate impacts will mean more climate refugees and migrants, something that still seems new to the United States. Climate change will fall hardest on those who have the least. Increasing magnitude and frequency of events like fires and hurricanes will force more people from their homes. Affordable housing is already a national issue and climate change will turn it from a planning challenge to an immediate crisis.

What We Can Do

Transportation should not be a limiting factor in someone's access to essential services and quality of life. Strafford MPO will increase collaboration with the Seacoast Workforce Housing coalition and related agencies to find way to better coordinate housing and transportation in the seacoast. Strafford MPO will increase focus on communities and populations that are more transportation limited (such as low income and seniors). Strafford MPO will also continue working with regional partners to increase transportation options for employment accessibility. One example is the collaboration between the Portsmouth Naval Shipyard, Southern Maine MPO, and Rockingham MPO to improve transportation access for shipyard employees who travel from throughout the region. Geographical analysis of the region's vulnerable populations will enable Strafford MPO staff to identify and develop projects that increase transportation access.

Policy in Action

The affordability of housing is paired with transportation access and cost. Equity for residents of the region will require continuing collaboration between planners, housing advocates, municipalities, and developers. Strafford MPO can help facilitate dialog between local and regional stakeholders to coordinate housing policy across the region. Strafford MPO advocates for residential development in town and city centers that is paired with public transit and walkable, bikeable infrastructure. The affordability of housing is not just related to the base cost of a house or apartment; transportation costs and proximity to critical services are major parts of the equation.

² <https://www.pewresearch.org/fact-tank/2020/09/04/a-majority-of-young-adults-in-the-u-s-live-with-their-parents-for-the-first-time-since-the-great-depression/>



POPULATION AND DEMOGRAPHICS

Goals

- Increase transportation independence for a growing number of seniors
- Increase access to jobs and essential services for people with low income and limited vehicle access
- Increase funding for public transit

Discussion

People in the Strafford Region

The Strafford region is growing steadily around 1% per year. The NH Office of Strategic Initiatives (OSI) projects that this growth will continue. The headline issue in the region and the state is the increasing number of people over 65. The Census shows a steady increase over the past decade and OSI projects the senior population will more than double by 2045. The Cooperative Alliance for Seacoast Transportation (COAST) also has data that document the rise in seniors. COAST is required to provide demand response transit service for people who live within $\frac{3}{4}$ of a mile of the nearest bus route and are physically unable to reach a bus stop. Demand for this service has risen by 880% over the last 10 years. This service is vital, but it is also the most expensive; COAST's Americans with Disabilities Act (ADA) costs have risen over 500% during the same ten years. Imagine how a doubling of the senior population will affect demand for specialized transportation service. COAST is already limited by lack of state financial support and the cost of matching federal dollars for transit service falls to municipalities. Without ADA and fixed route transit service, people who are unable to drive would be reliant on family and friends or simply unable to accomplish essential tasks. Census numbers indicate that the largest increases in senior population have been in rural communities; this makes the transportation challenge more difficult where people and their destinations are spread out.

Transportation Equity

The region's minorities are primarily concentrated in urban municipalities. Somersworth has the most concentrated minority population in their active Indonesian community. Minority status is an indicator of potential transportation concerns if English is not someone's first language. Access to jobs and income may be constrained by language proficiency and equitable transportation service could be a further limiting factor. Similarly, if a family or individual has limited income transportation is a limiting factor when transportation costs are a quarter of household income (on average). According to the Censues, in many parts of the region over 8% of the population has limited access to vehicles. There are specific Census Block Groups in the



See statistics that support this discussion in the following data snapshots sections:

- **Demographics**
- **Mobility & Accessibility**
- **Livability & Quality of Life**

cities (Dover, Rochester, and Somersworth), and rural communities (Wakefield, Milton, and Farmington) where more than 100 housing units do not have a vehicle and are more than a half-mile from the nearest supermarket.

Climate Change

Everyone is vulnerable to impacts from climate change, but it will have a disproportionately high impact on people with lower income, are older, who live farthest from critical services, who don't speak English as a first language, or people with disabilities. Storms have been getting stronger and more frequent with climate change and evacuation routes may become suddenly impassible due to damage. The Strafford region is crisscrossed by streams and rivers, and bridges and culverts in poor condition can be damaged or destroyed by intense rainstorms. Rural residents with mobility challenges are particularly vulnerable in emergency situations if the road network is damaged. Climate change is having the most visible regular effect on coastal communities, where high spring tides predictably flood roads, homes, and businesses. People are concentrated at the coasts and may be forced to move inland as sea levels rise and coastal storms continue to impact communities. Both emergency evacuations and long-term, permanent migration will strain the services of the region's transportation system.

What We Can Do

Strafford MPO will ensure vulnerable and transportation-limited populations are specifically identified and addressed in planning efforts. This will include detailed demographic analysis to identify where vulnerable populations may be concentrated to develop targeted outreach efforts and project development. Staff will continue to participate on the boards of COAST and the Alliance for Community Transportation (ACT) and partner with them to expand transit service. ACT coordinates medical, nutritional, and social transportation services for seniors and people with disabilities throughout the region. Strafford MPO will work with ACT and Rockingham Planning Commission to implement recommendations in the Coordinated Human Services Transportation Plan focused on demand-response service improvements. Strafford MPO can use technical tools like the travel demand model and bicycle level of stress analysis to identify obstacles to transportation accessibility and propose potential projects. These could include opportunities for transit-oriented development for downtown housing, or non-motorized transportation improvement projects (through the Transportation Alternatives Program). Strafford MPO will use detailed demographic analysis to identify areas of special concern for seniors. People 65 and older live throughout the region in both urban and rural communities. Public transportation services play the largest role in maintaining mobility for seniors, but localized infrastructure improvements can contribute to quality of life.

Policy in Action

Public transit is one of the best ways to ensure transportation equity and accessibility (to say nothing of the congestion, air quality, and safety benefits). Strafford MPO will continue to engage decision-makers and advocate for sustainable transit funding in New Hampshire. The State of New Hampshire does not provide funds for transit operations (the largest share of costs, by far). Strafford MPO staff will continue advocating for the need for new sources of revenue to support the state's transportation system, including transit. State law also prohibits the use of turnpike revenues for anything other than direct turnpike maintenance and improvement. Currently this restriction extends to public transit, but COAST's operating system is centered on the turnpike and reduces traffic congestion and infrastructure wear and tear. Strafford MPO supports COAST's request that turnpike revenues be eligible for transit operating assistance. At the federal level, the fares that transit riders pay do not count as match for federal dollars. Strafford MPO has discussed this and other public transit funding challenges to be addressed in the next federal authorization of transportation funds.

IMPLEMENTATION

Executive Summary

This section of the Metro Plan focuses on how Strafford MPO can address the challenges described earlier and achieve goals for an improved transportation network. The Metro Plan uses a performance-based approach to planning transportation system improvements. It must consider what financial resources are reasonable to expect be available over the plan period to implement planned improvements. Quantitative analysis plays a critical role in identifying projects. A range of data (e.g. crashes, infrastructure conditions, travel demand, and demographics) will help determine the projects that are needed the most. Building the resilience of communities and transportation infrastructure against impacts from climate change is a primary focus of the plan. The Metro Plan considers how planned improvement may impact natural and cultural resources in coordination with the NHDOT Bureau of Natural & Cultural Resources and proposed strategies for reducing impacts. , The 2021-2045 Metro Plan has an increased focus on equity and includes a framework for ensuring that historically underserved populations have more of a voice in the planning process. The Appendix includes transportation projects programmed and planned from now, through 2045.

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Overview of Projects

The Metro Plan comprises the next 25 years of needed transportation improvements. It includes a wide range of projects that fit within three timeframes:

Some projects are already in the process of final planning and construction. These are included in the **Transportation Improvement Program (TIP)** which comprises the next four years.

Other projects are five to ten years from implementation. The **State Ten Year Plan** includes the TIP years, plus an additional 6 years of projects that are in the early planning stages but have funding programmed for them.

Years 11-25 in the Metro Plan are called the out-years and include many projects that are in the early stages of planning or are visions for the future. These projects will require additional planning, data analysis, and identification of likely funding sources. They may have general cost estimates, but do not have specific funding programmed for implementation. Some projects in the Metro Plan are only in the vision stage and do not have a specific scope or cost estimate

Transportation Project Origins

Prospective transportation projects come from many potential sources. Some projects start as a concept in the long-term “out-years” of the Metro Plan and are refined through the Ten Year Plan process and the finally implemented in the TIP. These projects are developed in collaboration with municipal staff. Other projects are incorporated directly to the TIP through specific funding programs like Transportation Alternatives, which funds bicycle and pedestrian projects.

Moving forward, Strafford MPO is increasing its focus on equity in planning. This means reaching out directly to people whose voices are not typically heard in the planning process. That outreach will include a more inclusive visioning process to envision transportation improvements with residents and staff, rather than beginning outreach with a specific solution or project in mind.

The Integrated Metro Plan, Ten Year Plan, and TIP

While the Metro Plan, Ten Year Plan, and TIP are published as separate documents, they are linked as most projects progress through each and funding tracked to ensure fiscal constraint with projected budgets. The Metro Plan tracks all 25 years of planned or programmed projects and funding, so if the TIP or Ten Year Plan are modified or updated, the Metro Plan is concurrently updated.

Summary of Programmed and Planned Projects

The appendix presents detailed information about projects that are programmed in the TIP and Ten Year Plan, and planned beyond ten years in the Metro Plan out-years. Individual projects are named after the municipality in which they will be constructed and receive a unique identifying tracking number. Some projects are named after multiple towns in they straddle borders. There are many programmed projects and improvements that do not appear individually because they are funded through statewide “programmatics”. These include small-scale safety improvements funded through the Highway Safety Improvement Program (HSIP), culvert replacements, and maintenance of road pavement. There are also projects that have a more regional impact like the Newington-Dover Bridge project or the replacement of the toll plazas in Dover and Rochester on the Spaulding Turnpike.

The 2021-2024 Transportation Improvement Program

There are a total of 21 individual projects identified in the 4-year TIP. Most of those projects will begin construction before 2025, however some of them will only be starting the formal engineering process during that period.

- 9 are for bridge replacements or rehabilitation
- 5 are for general highway or intersection improvements
- 2 are focused on bicycle/pedestrian or complete streets improvements
- 2 are technology improvements (including conversion of the Spaulding turnpike toll plazas)
- 1 is a standalone transit capital replacement project for UNH Transit*
- 2 are for the Newington-Dover project that includes the Little Bay and General Sullivan bridges

(* COAST has a dedicated federal funding source for transit capital replacement)

The 2021-2030 Ten Year Plan

There are nine individual projects that will be commencing during the remaining six years of the Statewide Ten Year Transportation Plan (between 2025 and 2030).

- 3 are for bridge replacements or rehabilitation
- 2 are focused on bicycle/pedestrian or complete streets improvements
- 4 are for general highway or intersection improvements

Municipality	Projects with scope and preliminary cost estimate	Vision Projects
Barrington	3	2
Brookfield	1	1
Dover	2	7
Durham	4	9
Farmington	3	6
Lee	3	4
Madbury	3	0
Middleton	0	4
Milton	3	2
New Durham	4	3
Newmarket	3	8
Northwood	0	3
Nottingham	1	2
Rochester	5	7
Rollinsford	0	0
Somersworth	2	2
Strafford	0	0
Wakefield	1	4

The Metro Plan Out-Years

The Metro Plan includes projects that are in the planning phase and are programmed for years 2031-2045. Strafford MPO staff assist with developing projects that municipalities prioritize. Projects need to be refined to have a planning-level scope and cost estimate to be prepared to match with eligible funding sources. Projects without a scope and cost estimate are included as “vision” projects if they are still a priority for municipalities. There are a total of 38 projects in the Metro Plan out-years that have a scope and cost estimate; 64 other are vision projects.

Performance-Based Planning

A performance-based approach is at the core of the MPO planning process. This means that quantifiable trends are used to inform decisions about how federal funds are invested to improve the transportation

system. Strafford MPO collaborates with state agencies and the three other MPOs in NH (Rockingham, Southern, and Nashua RPCs) on the performance-based approach to planning. This includes data sharing and coordinated analysis. Current federal law specifies seven national performance goals to be tracked by states and MPOs (23 CFR 490).

Federal Highway Administration Performance Measures

1. **Safety**—To achieve a significant reduction in traffic fatalities and serious injuries on all public roads.
2. **Infrastructure condition**—To maintain the highway infrastructure asset system in a state of good repair.
3. **Congestion reduction**—To achieve a significant reduction in congestion on the National Highway System.
4. **System reliability**—To improve the efficiency of the surface transportation system.
5. **Freight movement and economic vitality**—To improve the national freight network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development.
6. **Environmental sustainability**—To enhance the performance of the transportation system while protecting and enhancing the natural environment.
7. **Reduced project delivery delays**—To reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion through eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies' work practices.

There are multiple measures associated with the national goals listed above and Strafford MPO is required to set goals, calculate performance measures, and identify targets to demonstrate progress at the regional level. For example:

- **Safety Performance Goal** - To achieve a significant reduction in traffic fatalities and serious injuries on all public roads.
- **Performance Measure** - Number of fatalities per year (5-year rolling average, 2011–2015)
- **Performance Target** - Current 5-year average of fatalities: 11.8 (Example target for number of fatalities: ≤ 11.8)

The performance targets are shown in system performance reports as part of the Regional Data Snapshot and incorporated into the Metro Plan by reference. Some performance measures do not apply to the Strafford MPO. For instance, the region does not have any federal interstate highway (e.g., Interstate 95) so performance measures specific to interstate traffic are not relevant. Individual projects may contribute to multiple performance targets (such as a new roundabout that reduces traffic congestion and fatal crashes at the same time). While MPOs are required to set and update performance targets, there is not a defined penalty for not achieving targets.

Federal Transit Administration

In addition to the Federal Highway Administration (FHWA) areas are three Federal Transit Administration (FTA) performance areas (49 CFR 625.43):

1. **Rolling Stock** – The percentage of revenue vehicles (by type) that exceed the useful life benchmark (ULB)
2. **Equipment** – The percentage of non-revenue service vehicles (by type) that exceed the ULB.

3. **Facilities** – The percentage of facilities (by group) that are rated less than 3.0 on the Transit Economic Requirements Model (TERM) Scale.
4. **Infrastructure** – The percentage of track segments (by mode) that have performance restrictions. This measure does not apply to the Strafford region because it does not contain any rail infrastructure that qualifies under federal regulations.

Supplemental Performance Measures

The four MPOs in New Hampshire worked with partners and stakeholders to develop several performance measures to supplement the federally required measures. These supplemental measures were selected based on specific aspects of the New Hampshire transportation system and related needs. For instance, the motorcycle fatalities measure speaks to the prevalence of motorcycles in the state. The supplemental measures provide a more comprehensive picture of the performance of New Hampshire’s transportation system and will help link regional planning efforts in transportation, economic development, and environmental sustainability. More information and trends on these measures can be found in the full Regional Data Snapshot.

- Transportation related greenhouse gas (GHG) emissions (in tons) per capita.
- Percentage of transit fleet powered by alternative fuels.
- Percentage of major employers served by public transit.
- Percentage of total population within 0.25 miles of a public transit stop.
- Percentage of low-income population within 0.25 miles of public transit.
- Fixed-route-transit ridership in millions.
- Remaining useful life of transit fleet.
- Number of motorcycle fatalities per year (5 year rolling average).

Performance goal area: Safety

New Hampshire is a “vision zero” state, which means zero fatalities is the only acceptable goal for safety improvements to public highways. Obviously this is an ambitious goal that will not be reached overnight. Federal performance management requirements specify that targets must be realistic and data-driven, so an incremental approach based on annual targets must be taken.

Strafford MPO adopts the targets for safety set by NHDOT and will do its part to help the state meet its targets (see below).

Safety Performance Targets		
Safety Performance Measure	NHDOT Performance Target	SRPC Proportion of Target*
Number of fatalities	120	13.2
Rate of fatalities (per 100 million VMT)	.884	**
Number of serious injuries	456.4	50.2
Rate of serious injuries (per 100 million VMT)	3.353	**
Number of non-motorized fatalities and serious injuries	45.9	6.9

* SRPC supports the state targets and uses the region proportion of statewide crashes as a benchmark for progress. The Strafford region has an average of 11% of the statewide fatalities and serious injuries.
 **SRPC’s fatality and serious injury rates appear higher than the overall state rates. This is likely because on average, the regional share of VMT is smaller in proportion to the regional share of fatalities and serious injuries.

While some intersections or road segments have identifiable safety hazards, fatal and severe crashes tend to occur randomly across the state and most are caused by driver error, not infrastructure issues. In support of the state performance targets and vision-zero philosophy, Strafford MPO is pursuing a variety of efforts to improve safety in the region, including the following:

- Identifying highway infrastructure improvement projects that could reduce fatal and severe crashes.
- Seeking opportunities for collaborative planning with public safety officials.
- Promoting safer alternative modes of transportation (such as public transit) and improving safety for bicycles, pedestrians, and other non-motorized travelers.

The following are examples of safety-focused projects in the Metro Plan:

- Dover-Rochester-Somersworth (29604) Complete streets improvements from Week’s Crossing in Dover to Innovation Drive in Rochester
- Northwood-Nottingham (41595) Intersection safety improvements to the US 4/NH 152 intersection
- Durham (16254): Signalize intersection of US 4 westbound off ramp with NH 108.

Performance goal area: Infrastructure Condition

Infrastructure condition targets were set with the state in 2018 and they will be updated in 2021. Strafford MPO has adopted to support the targets for infrastructure condition set by NHDOT. Pavement and bridges in the Strafford region are in excellent condition compared to other parts of the state. The Strafford MPO staff continues to work with municipalities and agency staffers to track local and state-owned bridges that need repair or replacement (many of them on the “red list”).

Infrastructure Condition Targets	
Performance Measure	Performance Target
Percentage of the Interstate in Good condition	No Interstate miles in the Strafford region
Percentage of the Interstate in Poor condition	No Interstate miles in the Strafford region
Percentage of the Non-interstate NHS in Good condition	65% in good condition
Percentage of the Non-interstate NHS in Poor condition	12% or less in poor condition
Percentage of NHS bridges in Good condition	57%
Percentage of NHS bridges in Poor condition	7%

The following are examples of projects in the Metro Plan focused on infrastructure condition:

- Newfields–Newmarket (28393): Bridge Rehabilitations, address bridges carrying NH 108 and BMRR.
- Barrington (41415): Rehab or Replacement of red list bridge carrying US 4 over Oyster River in the Town of Barrington.
- NHDOT’s Tier-2 highway pavement rehabilitation and resurfacing programs.

Performance goal area: System Reliability and Resilience

Strafford MPO has adopted to support the targets for system reliability and resilience set by NHDOT. It is important to note that travel times are still considered “reliable” even if there are periods of congestion and delay. As long as those periods happen at consistent, predictable times, they do not count against system reliability. All segments of the National Highway System in the Strafford region are above the 85 percent

target set by NHDOT. Strafford MPO staff work with municipalities and agencies to identify and address segments of highway that are congested regularly. This is accomplished using analysis tools like the National Performance Management Research Data Set. Through this, Strafford MPO has access to up-to-date data on traffic congestion on major highways in the region. Such analysis tools help Strafford MPO develop projects in the Metro Plan to be refined and incorporated into the TIP.

System Reliability Targets	
Performance Measure	Performance Target
Percent of person-miles traveled on the Interstate that are reliable	No Interstate miles in the Strafford region
Percent of person-miles traveled on the non-Interstate NHS that are reliable	85%
Annual Hours of Peak Hour Excessive Delay (PHED) Per Capita	Only applies in designated urbanized areas with population over 1,000,000
Percent of Non-Single Occupancy Vehicle (SOV) Travel	
Total Emissions Reduction	Only applies in areas that are designated as Nonattainment or Maintenance areas for air quality

The following projects specifically address congestion and system reliability:

- Somersworth (41741): Signal optimization on High Street/Route 108 corridor.
- Dover-Rochester (29440): Open road tolling at the Dover and Rochester facilities on the Spaulding Turnpike.
- COAST public transit operations that support adoption of alternatives to driving alone, reduce congestion, and improve travel reliability.

Performance goal area: Freight Movement and Economic Vitality

The Strafford MPO region does not have any interstate miles and is not required to set a formal performance target for this measure. Freight is an important planning focus area for the region. In the near future, Strafford MPO will be working with NHDOT to develop corridor studies that will have a freight component. Projects that improve system reliability also contribute to truck travel and freight movement.

Freight and Economic Vitality Performance Measure	
Performance Measure	Performance Target
Truck Travel Time Reliability (TTTR) Index (Interstate only)	No Interstate miles in the Strafford region

Performance goal area: Environmental Sustainability

No formal performance measures have been established under federal law for this goal area. Reducing impacts on the environment and natural resources is a primary objective for the Strafford MPO. Air quality is affected by congestion and on-road emissions, and water quality is affected by contaminants in runoff from roads and other impervious surfaces. Strafford MPO is focused on promoting alternative modes of transportation that reduce congestion, and on ensuring that projects have reduced impacts on water quality.

Environmental Sustainability Performance Measure	
Performance Measure	Performance Target
Total Emissions Reduction	Only applies in areas that are designated as a Nonattainment or Maintenance areas for air quality

The Metro Plan has several projects focused on reducing congestion on highways in the Strafford region. These projects, combined with public transit service and ongoing efforts to improve the safety and accessibility of the multimodal network, reduce air quality impacts.

- Dover-Rochester-Somersworth (29604): Complete streets improvements from Week’s Crossing in Dover to Innovation Drive in Rochester.
- COAST regional public transit service.

Performance goal area: Reduced Project Delivery Delays

No formal performance measures have been established under federal law for this goal area. Strafford MPO works with agencies, municipalities, and other funding recipients to ensure projects are programmed and completed as effectively and efficiently as possible. MPOs are planning agencies and are not involved in the technical design and engineering of transportation projects. However, Strafford MPO plays a role in improving project delivery by working to ensure proposed projects consider relevant contextual factors and have accurate cost estimates.

Performance goal area: Accessibility

No formal performance measures have been established under federal law for this goal area. Strafford MPO helps communities plan projects that will improve the accessibility of the transportation network to all users. Staff are currently working on outreach, data collection, and data analysis to identify projects that improve accessibility at the local level.

The following are examples of projects in the 2021–2024 TIP focused on Accessibility:

- Dover (41373): Construct a multi-use path from Knox Marsh Rd. to Bellamy Rd.
- Dover-Rochester-Somersworth (29604) Complete streets improvements from Week’s Crossing in Dover to Innovation Drive in Rochester

Transit Performance Targets in the Strafford MPO Region

Federal regulations include performance measures specific to public transit providers under the Federal Transit Administration. Strafford MPO works with COAST, UNH Wildcat, and agency partners to ensure funding and projects are programmed in the TIP and advocates for support of regional public transit services. COAST and UNH Wildcat are directly responsible for managing their capital funding needs, but Strafford MPO works with them to set regional targets for public transit performance management. The established performance

measures and current performance targets for the public transit fleet and facilities are described in detail below.

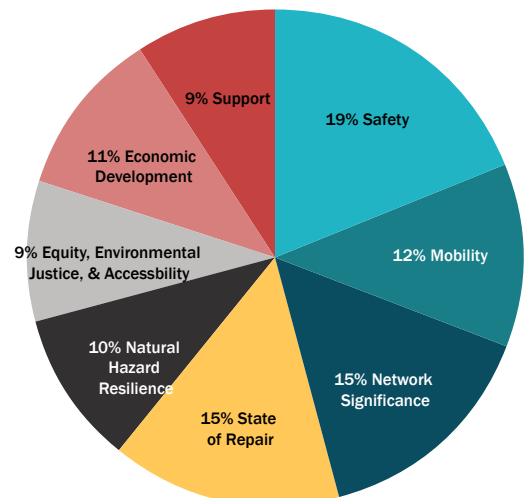
The FTA performance measures applicable to the Strafford region are based on the relative age of revenue-generating vehicles (e.g., buses that carry passengers), equipment (vehicles that do not carry passengers), and facilities (e.g., bus maintenance and storage buildings) owned by public transit providers. The targets are based on how many assets are within established limits for age and condition. Vehicles are tracked relative to age (known as a useful life benchmark), and facilities are rated based on their condition. For more details, visit Strafford MPO's webpage on performance measures. As is the case for the FHWA measures, there are no penalties for transit providers or MPOs that do not meet the performance targets set for the region.

Safety Performance Targets				
Asset Category	Performance Measure	Asset Class	Baseline	Target
Rolling Stock	Age - % of revenue vehicles within a particular asset class that have met or exceeded their Useful Life Benchmark (ULB)	Class 1	55%	44%
		Class 2	29%	36%
		Class 3	0%	0%
		Class 4	0%	0%
		Class 5	14%	25%
		Class 6	100%	100%
Equipment	Age - % of non-revenue vehicles that have met or exceeded their Useful Life Benchmark (ULB)	All vehicles	50%	40%
Facilities	Condition - % of facilities with a condition rating below 3.0 on the FTA TERM Scale	Passenger	NA	NA
		Administrative	0%	0%
		Maintenance	0%	0%
		Storage	NA	NA

Note: transit providers' vehicle fleets are constantly changing as old vehicles are retired and new vehicles replace them. This table may not be updated every time COAST and Wildcat fleets are updated. Contact SRPC, UNH Wildcat, or COAST for up-to-date fleet information.

Incorporating Performance Measures into Project Selection

The performance measures described above inform the transportation planning process at large, but they are also incorporated into the project selection process. Every two years, projects are selected from the Metro Plan out years to progress to the statewide Ten Year Plan. Strafford MPO Technical Advisory and Policy members prioritize those candidate projects using criteria that correspond to the federal performance measures. The criteria are weighted each project selection cycle, and the 2020 criteria weightings are shown at right.



Data Analysis

Congestion Management Analysis

Strafford MPO uses specialized travel data to develop projects that achieve progress in the Congestion Reduction and System Reliability performance measures.

The Federal Highway Administration (FHWA) supports a diverse group of technical experts that generates the National Performance Management Research Data Set (NPMRDS). The NPMRDS is a national archive of data on vehicle speed and travel time along the National Highway System. The data come from millions of connected vehicles, trucks, and mobile devices that anonymously supply location and movement data. The NPMRDS was developed by the FHWA specifically to help states, MPOs, and local governments with performance management and research. It is provided free of charge to DOTs and MPOs, but Strafford MPO and the three other MPOs in NH purchased access to expanded data so they could analyze additional roads beyond the National Highway System.

Strafford MPO staff looked at the most recent data from 2019. Because New Hampshire sees large seasonal variability in traffic due to tourism, analysis started with baseline “normal” weekday traffic based on the following parameters:

- Between 7:00am to 7:00pm
- On Tuesdays, Wednesdays, and Thursdays
- Between February and April (2019)

Based on the NPMRDS data, corridors in the region move traffic efficiently even during peak traffic demand. While congestion is not a widespread problem, some specific locations were identified where traffic congestion is regular and predictable. Traffic congestion is not just an inconvenience to drivers sitting in it, it causes air pollution that can pose a serious health risk.

These locations are identified below, along with proposed improvements.

Locations with Congestion on the network		
Road/Intersection	Municipality	Description and Notes
NH108 at Spaulding Turnpike	Dover	Congestion is constant during weekdays and weekends. The configuration is beyond capacity. A double roundabout has been proposed and is programmed in the Metro Plan for year 2043. Final design and planning will require coordination with the NHDOT turnpikes bureau.
NH16 at NH153	Wakefield	Long traffic queues are regular on weekends likely due to recreational traffic (northbound on Fridays; southbound on Sundays). NHDOT is monitoring the signal for timing adjustments. Updated signal green-time and traffic prioritization could be an alternative to additional lanes.
US202 at NH125	Rochester	Evening eastbound traffic causes regular congestion on US202 between the NH125 interchange to the Maine border.

Locations with Congestion on the network cont.		
NH11 at Spaulding Turnpike	Rochester	Evening northbound congestion is regular from Spaulding Exit 15 through the commercial corridor along NH11. Especially heavy on weekends with northbound recreation traffic. A widening project has been developed by Rochester to improve traffic flow and is programmed in the Ten Year Plan.
US4 at Spaulding Turnpike	Dover	Heavy eastbound traffic in the morning. This congestion was observed prior to completion of the roundabout at the end of US4 as part of the Newington-Dover construction project. Post construction analysis will be conducted to assess the roundabout's effectiveness.

Complete Streets and Non-Motorized Users

Strafford MPO uses multiple analyses described below to achieve progress in the federal Safety performance measures. Non-motorized users of the transportation system are particularly vulnerable to crashes with vehicles.

Bicycle Level of Stress Analysis

In May 2019, Strafford MPO completed an analysis of Bicycle Level of Traffic Stress (BLTS) for the region's highway network. The analysis was part of a collaborative effort among several RPCs and Plymouth State University to create a more comprehensive model for bicycle planning throughout the state. BLTS looks at multiple aspects of each road segment to assess how stressful (and safe) it would be to ride a bicycle along that segment:

- Directions (one-way or two)
- Number of travel lanes
- Average daily traffic volume
- Traffic speeds
- Presence of a parking strip
- Presence of bike lanes
- Width of shoulders

Depending on the condition of these parameters, each road segment is assigned a score from 1 to 4, with 1 being the least stressful and 4 being the most. Examples of level-1 roads would be those with a completely separate bicycle/pedestrian path. Several projects in the Metro Plan focused on bicycle and pedestrian improvements are based on the BLTS analysis and input from residents at outreach events for the BLTS project and the statewide bicycle and pedestrian plan.

The BLTS analysis also informed the development of a statewide bicycle and pedestrian improvement plan. Regional and statewide planning efforts are coordinated so projects contained in the Metro Plan may also be in the Statewide Bicycle and Pedestrian Plan. Bicycle improvement projects may be very simple in scope (such as coordinating with road striping to move fog lines and widen the apparent shoulder) or require more

LTS 1	<ul style="list-style-type: none"> • Low stress • Suitable for all ages and abilities
LTS 2	<ul style="list-style-type: none"> • Low stress with attention required • Tolerable for most adults
LTS 3	<ul style="list-style-type: none"> • More stress than LTS 2 • Suitable for confident and experienced adults
LTS 4	<ul style="list-style-type: none"> • Most stressful • Suitable only for the most traffic tolerant

Bicycle Level of Traffic Stress Rating Scheme

complex planning and additional funding. All projects will require coordination with municipalities or NHDOT, most may require both. Below is an example of the possible range of such projects from simple to complex. The project tables the appendix contain a full list of potential projects focused on bicycle and pedestrian improvements.

Town	Route(s)	Description/Scope
Dover	Spur Rd, Dover Point Rd	Wayfinding for optimal route from Little Bay bridge/General Sullivan Bridge, connecting to downtown along Dover Point Rd
Somersworth	NH236	Shoulder widening from NH108 to High St
Farmington	Main St	Shared land markings (“Sharrows”) through downtown
Rochester	Rail Trail	Rail trail extension from Lowell St to Gonic

Regional and Local Sidewalk Assessments

Strafford MPO completed a regional sidewalk assessment over the spring and summer of 2020. This assessment looked at basic conditions on a simple “good/fair/poor” scale and did a simple assessment of accessibility (e.g., can someone using a wheelchair or pushing a stroller safely use the sidewalk?). Additionally, Strafford MPO staff have completed more in-depth sidewalk assessments in Rochester and select locations in other municipalities. These assessments will help Strafford MPO and municipalities plan strategically for expansion of sidewalk networks.

Demographic Data

Strafford MPO can use detailed demographic information in Census data to identify where bicycle and pedestrian improvement projects can create the greatest benefit (Refer to the demographic data snapshots). For instance, projects could be prioritized in areas where a greater proportion of households may have limited access to a vehicle, and where there are large gaps in a safe bicycle and pedestrian network.

Other Regional Analyses

Strafford MPO has conducted other planning efforts that can contribute to improving and expanding the bicycle and pedestrian network. Two recent efforts were “Pathways to Play” and “Promoting Outdoor Play”. Pathways to Play examined recreation sites in the city of Somersworth and where residents may lack access to them because of transportation barriers (e.g. a busy road with no sidewalks or crosswalks). Promoting Outdoor Play created a full regional catalogue of recreation sites and a publicly accessible online map that includes information about each site.

Project Identification

The resources described above will provide information about how to identify, develop, and prioritize projects to improve accessibility and safety for non-motorized users of the transportation network. Strafford MPO can use data to identify gaps in the network where people might choose to ride a bike or walk rather than drive. The data can also help identify where people might lack access to essential services because of a lack of safe infrastructure for walking and biking.

Crash Data Analysis

Improving safety of the transportation system is a priority for Strafford MPO. We're focused specifically on reducing crashes that result in fatalities and serious injuries. Human error is the dominant cause of crashes, but fatalities and serious injuries are avoidable with careful planning. For Strafford MPO and NHDOT the goal is to achieve **zero** fatalities on public roads – no other number is acceptable. Strafford MPO uses several techniques to identify safety challenges and achieve advances in the federal Safety performance measures.

Crash Data

In July 2020, a new state law gave Regional Planning Commissions increased access to the statewide crash database compiled by the NH Department of Safety. This increased Strafford MPO's ability to identify unsafe locations on the region's highway network and propose projects to be completed with municipal and state collaboration. There is still wide variety in how local police departments records crashes and reports them for inclusion in the state database. Very few have digital systems and many still use paper forms that are submitted once a year. This leads to variability and inconsistencies in crash data. Strafford MPO continuously seeks opportunities to engage and collaborate with state and local highway safety officials on improvements to data management and sharing.

Road Safety Audits

NHDOT's road safety audit program provides funding for rapid response to locations on the highway network that have high crash rates, especially crashes resulting in fatalities and serious injuries. Successful applications to the program result in a multi-agency review of dangerous intersections or road segments and a customized approach to addressing the observed problem. Strafford MPO has been successful working with municipalities to identify locations that are eligible for the road safety audit program and will continue to do so.

Local road safety plans

The road safety audit program described above can rapidly respond with spot improvements to safety challenges but ultimately only responds to safety problems after they arise. Strafford MPO is also focused on developing a more comprehensive plans for safety improvement. One such opportunity is using funding through the state Highway Safety Improvement Program (HSIP) to develop Local Road Safety Plans with individual municipalities. This is an implementation-focused planning approach based on a series of steps:

1. Identify stakeholders
2. Analyze safety data
3. Choose proven solutions
4. Implement solutions

This approach looks at the range of safety challenges within an entire community to customize potential solutions. Strafford MPO will work with municipalities and state partners to identify candidate municipalities for developing local road safety plans.

Network geometry analysis

Crash data are critical for identifying and improving problematic areas but are primarily reactive if used alone. Strafford MPO is focused on developing techniques and tools that can address safety problems before they result in fatalities or serious injuries. In general, if one looks at where crashes occur across the whole region, they appear random and spread out. However, road design can have a large impact on driver behavior

and safety outcomes. For instance, a wide straight road encourages drivers to speed up. Acute intersections that form a “Y” shape rather than a “T” reduce visibility. Strafford MPO can use GIS to analyze road geometry and crash histories from similar locations to identify opportunities to improve road design and avoid safety problems before they cause crashes.

Resilience and Climate Change

Climate change is global challenge that requires immediate action at all levels of decision-making and governance. In relation to the Strafford MPO, climate change puts pressure on government agencies to build resilience in the transportation network. While vulnerabilities will differ from one location to another, possible impacts may result from increases in precipitation, coastal flooding, wildfires, heat, and other extreme weather events associated with climate change. For all areas, climate impacts to the transportation industry can cause disruptions to service operations, threaten assets and infrastructure, and effect underlying markets such as losses of insurance coverage in vulnerable areas and higher fuel and energy prices.¹

People in rural areas are particularly vulnerable because many households spread across the landscape may rely on a single bridge for emergency access. These rural areas are also more likely to have limited resources for maintaining, rebuilding, and adapting infrastructure.² Understanding and assessing place-specific vulnerabilities to climate change, including consideration of multiple climate scenarios is a critical component of the transportation planning process. The ways Strafford MPO can support action on climate change fall into two distinct areas: mitigation and adaptation. There are multiple strategies Strafford MPO is currently using or developing to mitigate the acceleration of climate change and help adapt to impacts that are expected.

1 https://www.bsr.org/reports/BSR_Climate_Adaptation_Issue_Brief_Transportation.pdf

2 <https://nca2018.globalchange.gov/chapter/12/>

Mitigation

Definition: measures to prevent, reduce, or compensate for adverse effects and environmental impacts of greenhouse gas emissions that are contributing to and accelerating climate change.

Goal: Decrease the on-road emissions that contribute to climate change and its impacts

Objective	Strategy	Tools/Resources	Implementation notes
Increase adoption of electric vehicle technology	Identify strategic locations for new electric vehicle charging stations.	GIS and site prioritization tools	Strafford MPO collaborates with state agencies and municipalities regularly to identify sites
Increase the number of local destinations that are connected by sidewalk and safe bike routes	<ul style="list-style-type: none"> • Work with municipalities to develop projects focused on non-motorized accessibility in town/city centers • Increase the number of local destinations that are connected by sidewalk and safe bike routes 	<ul style="list-style-type: none"> • Bicycle level of stress analysis • Regional and local sidewalk assessments • Crash data 	Tools are currently being deployed to identify and develop projects
Increase the frequency and dependability of public transit	<ul style="list-style-type: none"> • Advocate for public transit investment with state and local decision-makers • Implement transit signal prioritization technology along bus routes 	<ul style="list-style-type: none"> • Transit on-time performance data • Vehicle-to-infrastructure technology • Guides from the National Association of City Transportation Officials (NACTO) 	COAST and Dover have already developed a project for potential deployment.
Increase use of mixed-use and transit-oriented development approaches	<ul style="list-style-type: none"> • Collaborate with municipalities on efforts to revitalize downtowns for density near public transit routes • Work with municipalities to develop projects focused on non-motorized accessibility in town/city centers 	<ul style="list-style-type: none"> • Relationships with municipal staff and decision-makers including internal communication between planning area experts at SRPC • Guides from NACTO 	Current and ongoing

Adaptation

Definition: changing actions and approaches to reduce risk to infrastructure development, resource management, and governance in response to observed or anticipated impacts from climate change

Goal: decrease vulnerability to climate change impacts and increase local and regional preparedness for climate variability and potential impacts

Objective	Strategy	Tools/Resources	Implementation notes
Decrease the vulnerability of Environmental Justice and Title VI populations	Identify key locations where people are most vulnerable to climate impacts and emergencies (e.g. cut off due to a road failure)	GIS analysis of census data paired with data on projected sea level rise, storm surge, and floodplains	Currently underway
Increase the emergency preparedness of the highway network	<ul style="list-style-type: none"> Identify how infrastructure failures at certain points in the network would affect emergency response and evacuation Share data and analysis with municipal and state partners for Transportation System Operations and Maintenance (“TSMO”) 	Use GIS analysis and travel demand model for scenario planning	Strafford MPO’s travel demand model requires final adjustments for implementation and adaptation as an emergency scenario planning tool. This work will be done with an engineering firm.
Improve climate adaptation planning	<ul style="list-style-type: none"> Identify points in the transportation network that are most vulnerable to climate impacts Integrate climate adaptation data and implementation strategies in transportation planning documents 	GIS analysis of the highway network paired with data on projected sea level rise, storm surge, and floodplains	Currently underway
Improve understanding of municipal needs and challenges around climate adaptation	<ul style="list-style-type: none"> Conduct assessment of municipal priorities around climate impacts 	Online survey tools, existing relationships	Currently underway

Adaptation

Definition: changing actions and approaches to reduce risk to infrastructure development, resource management, and governance in response to observed or anticipated impacts from climate change

Goal: decrease vulnerability to climate change impacts and increase local and regional preparedness for climate variability and potential impacts

Objective	Strategy	Tools/Resources	Implementation notes
<p>Improve disaster response and recovery at the municipal and regional levels</p>	<ul style="list-style-type: none"> • Develop a disaster response guide with multiple disaster scenarios • Identify how infrastructure failures would affect emergency responses and evacuation 	<ul style="list-style-type: none"> • Use GIS analysis and travel demand model for scenario planning • Use FHA Climate Adaptation Guide for scenario examples¹² • Community Resilience Building Workshop Guide³ 	<p>Develop guide and scenarios in conjunction with local partners such as UNH and Cooperative Extension</p>

1 Climate Change Adaptation Guide for Transportation Systems Management, Operations, and Maintenance - Appendix E. Sample Handout for Workshop on Climate Change Risk - FHWA Office of Operations (dot.gov)

2 Climate Change Adaptation Guide for Transportation Systems Management, Operations, and Maintenance - Appendix A. Matrix of Climate-Sensitive Decisions - FHWA Office of Operations (dot.gov)

3 Community Resilience Building Workshop Guide

Environmental Impacts and Mitigation Strategies

Transportation projects require careful consideration to avoid impacts to precious natural resources. Even the smallest road can represent a dangerous barrier to wildlife and create a risk of collisions with motor vehicles. Paved surfaces and other transportation infrastructure can increase erosion and impact water resources. Out-of-date or poorly maintained bridges and culverts can impact stream health and make essential crossings vulnerable to damage from flooding.

Impacts from transportation improvement projects may be direct or indirect. Examples of direct impacts are permanent filling of a wetland to widen an existing road or build a new road, or increased noise from traffic. Indirect impacts may be less obvious and spread out over time. Indirect impacts would include changes in stormwater flows that slowly erode a stream bank during storms, and changes to wildlife movement due to increased traffic. Some impacts may also be temporary, such as those from construction disturbances.

The National Environmental Protection Act requires a detailed assessment of environmental impacts for all federally funded transportation projects. Long range projects in the Metro Plan (those planned for more than ten years from now) are in early development stages when detailed environmental analysis would be impractical. However, Strafford MPO conducts a preliminary environmental analysis to guide development of projects, identify potential impacts and possible mitigation strategies.

Not all projects proposed in the Metro Plan require preliminary environmental analysis. Only those projects that would clearly have a lasting environmental impact are assessed (such as a new bridge or roadway). Several types of projects in the Metro Plan may be excluded from environmental review:

- Planning projects
- Bridge replacement or enhancement projects that may result in temporary disturbance but will not have permanent increased impacts
- Projects involving widening along corridors that have already been built up (e.g. an existing downtown or commercial corridor)
- Projects that are conceptual or vision projects are not evaluated until they have a clear purpose and scope
- Projects involving realignment of a roadway for safety improvements would likely have minimal long-term impacts, but such projects will be assessed on a case-by-case basis

Each project that will likely have impacts based on its scope or scale will be assessed in nine areas of potential impact – detailed in the table below. Many of these areas can be assessed using GIS data (such as wetlands) but others require a combination of data and educated assumptions.

Historic and Cultural Resources

New Hampshire is full of historic and cultural resources that can be damaged or lost if they are not considered in the early project planning phases. Strafford MPO has access to comprehensive databases of such resources that can identify potential conflicts with planned projects and help preserve important historic resources. Staff will also collaborate with local historical societies who have on-the-ground knowledge about historic sites that may be impacted by planned transportation projects. Some projects, such as rail trails, are opportunities to celebrate the region's past while reviving old infrastructure for a new purpose.

Preliminary Environmental Analysis Evaluation

Resources to be Evaluated	How We Will Evaluate Them
Air Quality	Educated assumptions about different project types (for example, sign replacement projects will not have air quality impacts, whereas projects involving excavation may have short-term air quality impacts)
Noise	Educated assumptions about different project types (for example, sign replacement projects will have very little and short-lasting noise impacts, whereas excavation projects may have longer-term and louder noise impacts)
Water Quality	Educated assumptions about different project types (for example, urban sign replacement projects are not going to have any water quality impacts, whereas excavation projects nearby a water resource may have some water quality impacts). Consideration of municipalities' designation as an MS4 community.
Wetlands	GIS - Subset of National Wetlands Inventory data layer
Riparian Habitats	GIS - Subset of National Wetlands Inventory data layer
Floodplains	GIS - FEMA Floodplains data layer
Archaeological and Cultural Resources	GIS, Multiple data layers: Historic Cultural Features, Graveyards, Community Anchor Institutions. Consultation with local Historical Societies; National Register of Historic Places
Prime Farmland	GIS - USDA Soils data layer
Species of Concern	Will be evaluated using the US Fish and Wildlife Service Information for Planning and Consultation tool
Contamination Hazards	Project proximity to contamination remediation sites and local potential contamination sites (NHDES data layers)

Impact Mitigation Strategies

The early planning stages of a project are the best opportunity to identify potential environmental impacts and take measures to reduce them. Strafford MPO will work with municipalities and other stakeholders to find the best balance between achieving the purpose and need of a project with protecting natural resources. Strategies to do this will fall under three main categories:

- **Avoidance** – Alter the project so an impact does not occur. An alternative location may be required to avoid impacting sensitive habitats or vital resources.
- **Minimization** – Modify the project to reduce the severity of the impact. If alternative locations are not available, the scope of the project may need to be adjusted. For example, replacing a vital culvert or bridge with a more modern design that improves natural streamflow and allows fish and wildlife access to the stream.

- **Mitigation** – Undertake an action to alleviate or offset an impact, or to replace an affected resource. Some techniques can mitigate impacts and add esthetic value, such as rain gardens which capture stormwater.

Air Quality Conformity

Purpose

Ensuring good air quality continues to be an important goal for the region, and overall the state continues to make progress on improving air quality. Specifically, reducing ozone concentrations exacerbated by greenhouse gas emissions has been a goal in New Hampshire for years. For over two decades, NHDOT, the New Hampshire Department of Environmental Services (NHDES), and RPCs have been working to reduce ozone levels guided by U.S. Environmental Protection Agency (EPA) standards. Two standards have been in effect in New Hampshire since the mid-1990s: the 1997 standard of 80 parts per billion (ppb) measured over an eight-hour period and the more stringent 2008 standard of 75 ppb, also measured over an eight-hour period.

Current Status

In July 2013, all of New Hampshire was considered unclassifiable/attainment for the 2008 eighthour ozone National Ambient Air Quality Standard (NAAQS), also known as the 2008 ozone standard. At that point, the 1997 eighthour ozone NAAQS (the 1997 ozone standard) was revoked for transportation purposes in the Boston–Manchester–Portsmouth (SE) NH area. Transportation conformity no longer applies to the ozone NAAQS in New Hampshire in accordance with the “geographic applicability” of the transportation conformity rule at 40 CFR 93.102(b).

On Oct. 16, 2015, the EPA issued a final rule reducing the NAAQS standard for ozone to 70 ppb from the previous 75 ppb. The region was still in compliance with the new standard, so this ruling did not affect the development of the Strafford MPO TIP.

Recent Court Decision

In February 2018, the South Coast Air Quality Management District of California filed a lawsuit challenging the EPA’s final rule for implementing the 2008 NAAQS standard for ozone. One potential impact of the court case would have required MPOs throughout the country to conduct retroactive air quality conformity analyses regardless of their status for the ozone NAAQS. The court’s final decision vacated portions of EPA’s 2008 ozone NAAQS requirements, but upheld EPA’s revocation of the 1997 ozone NAAQS. This meant that Strafford MPO did not have to conduct a retroactive conformity analysis. The court’s decision specified that transportation conformity for the 1997 ozone NAAQS could be demonstrated by showing certain requirements have been met. These include the following:

- Use of the latest planning assumptions
- Consultation [all MPOs in New Hampshire participate in regular Interagency consultation]
- Transportation Control Measures
- Fiscal constraint

The latest planning assumptions and fiscal constraints described in the 20209–2045 metro plan and the 2021–2024 TIP show that the documents meet the Clean Air Act and Transportation Conformity rule requirements for the 1997 ozone NAAQS.

Ensuring Equity

Overview

Ensuring equity in transportation processes is necessary but often challenging. To help guide this process the Strafford MPO has developed its own set of documents on public participation, Title VI, and environmental justice policies. The documents guide how the MPO interacts with and uses equitable practices with the public and Title VI populations. For more information on these policies, definitions, and practices, please see Strafford MPO's [Public Participation Plan](#)⁴ and [Title VI and Environmental Justice Program](#)⁵.

Historically Underserved Communities (HUC): Communities who are disproportionately affected by environmental risks – including climate change – due to social factors (such as age, poverty, race, health, language proficiency, education level, and access to transportation). These groups are underrepresented in political decision-making and public investment. (Developed by RPC staff for the Dover Equity Project)

Long-range plans, such as the 2020-2045 MTP, are an expression of a region's values. These documents establish goals and a vision—including objectives and implementation measures—that will shape the patterns, design, and function of a region in a way that meets future needs. These plans play an essential role in determining people's access to opportunities for success by directing how resources are invested within the community. The way a plan is written and implemented directly impacts how equitable it becomes.

In the transportation world, equity and environmental justice are directly related to public health impacts and mitigation efforts. It is essential to include historically underserved communities throughout the **entire** transportation planning process to avoid negative impacts and to ensure these populations are not disproportionately affected. Practically, this means focusing outreach on historically underserved communities, ensuring their voices are heard and valued throughout the entire planning processes, and ensuring they have the knowledge to make informed decisions.

What might inequitable transportation planning in New Hampshire look like? Here is a hypothetical example. A municipality wants to add a new exit to a main highway in their region, based on a large expansion plan. The project will impact a large number of resident's properties—including noise and air pollution and decreasing property values based on their proximity to the exit. Land for the exit is purchased based on the lowest cost, and this land is adjacent to one of the town's low-income neighborhoods. Public notices are posted in the newspaper and library for a project meeting on a Wednesday morning at 10:00am at the Town Hall to discuss the proposed location but no one shows up, and the project moves forward.

This hypothetical project demonstrates how a community can create an inequitable outcome by not holding equity as a pivotal point in their community engagement and planning process, excluding certain historically underrepresented communities from being part of the decision-making process. First, the land purchase was made based solely on finances and didn't consider how it would impact the adjacent residents. Second, the public notice meeting was scheduled at a time inconvenient for the lower income residents who were likely working at 10:00am on a Wednesday. Also, these residents were not properly notified as not everyone purchases or reads the newspaper or necessarily visits the library. Such inequitable processes have created lasting and subsequent impacts for affected communities.

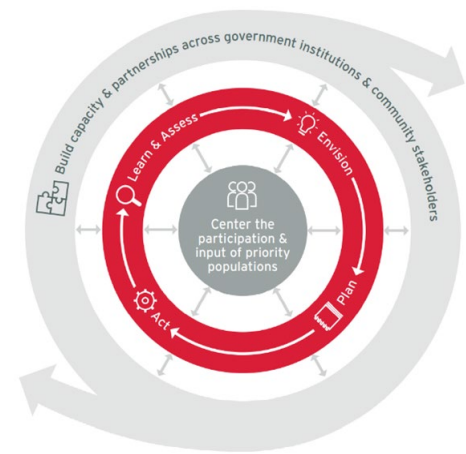
⁴ <http://strafford.org/plans/public-participation-plan/>

⁵ <http://strafford.org/engage/civil-rights/>

Common Equity Planning Pitfalls

Transportation planning pitfalls that cause inequity can be unintentional but no less damaging. Equity needs to be consistently considered to ensure project and location specific engagement tools and conscious decision-making are used in the planning process.

- Most transportation planning decisions lean heavily on public meetings to advertise and explain their process and plans, and to serve as the required “feedback” from the public. These meetings often present some common barriers to inclusion. Meetings are often held at inconvenient times and locations, with technical language and jargon that is unfamiliar to the public.
- Childcare is not provided—this often prohibits parents of young children from participating.
- Translation services are not available.
- Lack of compensation undervalues participant’s time.
- Public hearings usually occur late in the planning process, making it hard to address issues raised by the public.



Elements of an equitable planning process. (ChangeLab Solutions)

The implications of these pitfalls often reinforce patterns of community disinvestment, marginalization, racial segregation, differing neighborhood quality, and varied access to opportunities along race and socioeconomic class lines. These patterns in neighborhood quality can lead to serious social and health inequities.

Addressing Pitfalls

Equitable planning processes increase the likelihood that plans will holistically benefit the target communities and advance community health and equity. An equitable planning process can address common pitfalls by centering the participation and input of historically underserved communities throughout the entire planning process, building capacity and partnerships among local and regional governments and community stakeholders, and applying an equity approach to every stage of the planning process.

An Equitable MPO Framework

An equitable transportation planning process resists the status quo approach to planning and will increase the plan’s likelihood of advancing community health and equity. There are four phases of the Strafford MPO’s equitable planning framework: Learn and Assess, Envision, Plan, and Act.⁶

Disaster Response and Recovery

A potential climate-related transportation project will be used as an example to walk through the four phases. The disaster response and recovery (DRR) project would improve disaster response and recovery at the municipal and regional levels by creating scenarios showing how climate change will impact transportation infrastructure and travel routes. An example is increased flooding that makes a major road impassable and blocks access to a municipal neighborhood. The project would, with input from impacted communities, identify and assess deficiencies that combined with climate change affect emergency response and evacuation, then develop recommendations for future actions to mitigate the hazards and improve response and recovery.

6 https://www.changelabsolutions.org/sites/default/files/2020-12/ThePlannersPlaybook_FINAL_20201207.pdf

The following walks through the Equitable Framework process, using the MPO as the project coordinator. This process can be replicated and utilized by municipal, state or other organizational staff.

Learn and Assess

Emphasis on community members' experiences creates value, strengthens input into the planning process, and cultivates a deeper understanding of community concerns. This phase is when data collection occurs. It is necessary to collect and share both qualitative and quantitative data to create a mutual understanding of a community's baseline conditions, strengths, assets, and challenges.

Strafford MPO will use a mixed method approach to data collection. This means incorporating both quantitative data collection and social science practices. Quantitative data collection includes Census data analysis, community asset mapping, and disaggregation of data by demographic indicators to increase understanding of inequity patterns. Social science practices include conducting personal interviews, focus groups, and ground truthing to validate quantitative data collection. Doing so allows for assessment of both a community's deficits and their strength or sources of resilience.

Equitable transportation planning processes start every project in partnership with those who will be affected by the end product. The first step is to identify who the project will impact. Strafford MPO will utilize both geographic data and the metrics developed by SRPC staff to identify historically underserved populations. Metrics include those with limited vehicle access, and more at the Census Tract and Block Group levels. For more information on these metrics, see the Regional Data Snapshot.

During the DRR data collection phase, Strafford MPO will gather quantitative data to create a GIS analysis and utilize the travel demand model to show what infrastructure and travel routes will be impacted by different climate scenarios. As the same time, staff will be gathering qualitative data, reaching out to municipalities, and getting on-the-ground insight on problem areas. Information will also be gathered on what historically underrepresented communities will be affected by both the model and the problem areas identified by local experts.

Envision

Visioning develops community consensus on goals for the future. These goals are the basis for planning policy decisions and actions. Inclusive visioning workshops will be designed to encourage participation by all segments of the community as identified in the Learn and Assess phase. After which, the project team will draft and workshop a vision statement. The priority population will ensure it is understandable across cultural barriers and reflects their interests and hopes.

While reaching out to communities for local expertise on problem sites, MPO staff share project goals and survey what actions and policies these communities would like to see implemented. These groups will be invited to workshop potential solutions that include all affected parties and are economically and equitably sensible. This part of the process builds trust and relationship between the planners and those who will be impacted by the plan.

Co-design is built on the belief that all people are creative and that, as experts in their own experiences, they should be involved in designing policies and programs that affect them. Australia has implemented this in large public processes.⁷

⁷ Australia: Healthy Housing — Civic Design Lab AND Blomkamp E. The promise of co-design for public policy. Aust J Public Adm. 2018;77(4):729-743. doi:10.1111/1467-8500.12310

Plan

This is where the planning goals, policies and actions come together into one document and then adopted. To bolster equity during this phase and to avoid common pitfalls, the Strafford MPO will continue to put people at the center of plan development. This means using **co-design** or human-centered design that creates solutions with the communities most affected by the plan's actions. Starting with this approach will cultivate a planning process that includes goals and policies that foster community engagement, equitably distribute community benefits and burdens, and consider potential equity tradeoffs. This process can also utilize [health impact assessments \(HIA\)](#)⁸ to identify, assess, and communicate unforeseen health impacts that might have been missed otherwise.

Once the data is collected and community workshops completed, MPO staff will continue to work in conjunction with the communities to draft a plan that identifies their needs. The process may include a HIA to determine any unforeseen health impacts on the communities. The draft will then be sent directly to participants—rather than only posting it in the local newspaper—for input. Once input is received and incorporated, the document will be complete and ready for adoption.

Act

This implementation phase is critical for achieving the community's vision and plan goals. A first step is to set implementation priorities based on equity. Criteria can include levels of urgency for action, estimated level of cost or effort necessary, and the anticipated impact or value of an action. Another action might include developing a community advisory board that participates in plan implementation efforts and helps establish performance metrics and reporting.

Once the DRR policy or document is completed, Strafford MPO staff will continue communication with communities on their implementation efforts and ensure their completion in conjunction with public input.

Projects in the Metro Plan

Several projects programmed in the Metro Plan will have positive equity impacts at the local and regional level. Strafford MPO will use the techniques and tools outlined above to develop more projects like the ones listed below.

Dover-Somersworth-Rochester (29604) – complete streets improvements along NH108

Project status: design and engineering underway; construction expected in 2024.

This project had a stronger multi-modal approach from its original conception. The design considers more than just safety and convenience for cars and trucks. It looks at transit riders, cyclists, and pedestrians.

Farmington Project #L05001

Project status: in the State Ten Year Plan; expected year of construction is 2030

This project will expand the sidewalk network and improve linkages to and through the downtown. Residential zones are tightly clustered around the downtown; students walking to school need more protected walking routes.

Regional Project R01004

Project status: currently in the Metro Plan out-years; requires collaboration between municipalities and COAST.

8 <https://www.ncbi.nlm.nih.gov/books/NBK83546/>

Public transit benefits a wide range of people and any improvements to service have strong equity impacts throughout the region. This project would install transit signal prioritization technology on existing traffic signals along transit routes. The technology would hold green lights longer for approaching transit buses and increase route efficiency. The existing project is scoped for all signals on transit routes in Dover but could be expanded to other communities.

Actions to Ensure an Equitable Transportation Decision Making Process

Event/Decision Point	Issue	Solution/Suggested Actions
Public Meeting Noticing	<ul style="list-style-type: none"> Does not reach all affected parties in community. Historically aimed at a population that is already involved in local concerns. Not sent directly to those who are affected. 	<ul style="list-style-type: none"> Local Radio Direct letters to residents, particularly for those who may not have access to or may not use technology. Use a town or city emergency announcement messaging system. This can be sent to all residents in the same way they get a parking ban alert or road construction alert. In this increasingly digital age, many community residents get their local news solely through social media, town Facebook pages for instance. This can be used to get the word out to a much larger section of the population. Many towns and cities have weekly or monthly newsletters to the community. Being prepared and having your meeting information ready to go when these go out would ensure a broader reach.
Public Meeting Accommodations	<ul style="list-style-type: none"> Lack of attendance 	<ul style="list-style-type: none"> Hold virtual meetings. Go out to the neighborhood that is affected, have an outdoor public meeting on their street or common gathering area if it exists. Find a community champion, investigate if a community member would like to hold a meeting in their house or yard. Engage members of local community, especially SRPC commissioners to be advocates of information on the project.
Education	<ul style="list-style-type: none"> Lack of awareness of environmental affects Misunderstanding data 	<ul style="list-style-type: none"> Find innovative ways to impart information, infographics, discussions, videos, social media, stories and testimonials to make the process and effects transparent and relatable. Build interest and excitement or protest-MPO plays an objective role but stimulating discussion and engagement is necessary.

Event/Decision Point	Issue	Solution/Suggested Actions
Feedback Loop	<ul style="list-style-type: none"> Community gives time and effort and does not hear back on middle stages of process 	<ul style="list-style-type: none"> Create a communications structure that prompts public updates every two weeks or month so that the community is kept informed as the process continues. EG. scheduled social media updates or e-mail updates.
Meetings	<ul style="list-style-type: none"> People only engaged when there's a problem, or entity wants to build a project 	<ul style="list-style-type: none"> Building relationships and identifying key people in the community to become involved in the process and be community advocates and conduits to information.
Data Collection Issues	<ul style="list-style-type: none"> Data collection is usually heavily based on quantitative analysis which doesn't represent the full picture of a geographic area or population. 	<ul style="list-style-type: none"> Shift to a mixed method approach to understand demographic, but also consider community perspectives. Use ground truthing to verify data.
Inclusive Visioning and Prioritization of Equity	<ul style="list-style-type: none"> Projects are generally conceptualized by planners and engineers. This could be a more collaborative process with earlier community involvement. 	<ul style="list-style-type: none"> Early investment will bring positive returns and buy in for a project. Involve the public/community at the conceptual stage of project development.

Major Projects – Anticipated Benefits and Potential Impacts

The Metro Plan contains numerous projects in various states of planning and development. Several are significant and deserve to be highlighted for their potential contribution to goals or impacts that will require careful planning and mitigation. Many projects have overlapping benefits in the performance measures, regional goals, and implementation strategies described above.

Municipality and Project Number:	
Durham (project L04001 in the Metro Plan out years)	
General Info	
Project Location	Main St/NH 155A/Mast Road Intersection
Project Scope	Intersection safety improvements (new traffic signal or possible roundabout)
Project Need	New development in student housing outside campus is increasing traffic on NH155A and the current intersection will soon be unable to safety control traffic
Implementation Status	Currently in the Metro Plan out-years; candidate for the State Ten Year Plan
Objectives & Anticipated Benefits	
Safety	This intersection is stop-controlled and does not currently have a concerning crash history, but continuing development may increase traffic volumes and cause safety hazards. A traffic signal or roundabout would proactively address future safety hazards.
Congestion	Congestion is not a concern at this intersection, but continued development may increase wait times and lead to congestion. A roundabout would virtually eliminate possible future congestion.
Bicycle/Pedestrian	An existing multi-use path parallel to the project is not anticipated to be impacted
Potential Impacts and Mitigation Strategies	
Environmental Impacts	
Air Quality	Positive impact expected. Roundabouts reduce vehicle emissions by maintaining traffic flow
Noise	Minimal impacts. Some noise from accelerating vehicles will be eliminated.
Water Quality	Project is near College Brook. Onsite stormwater treatment should consider potential for using existing low-impact development techniques.
Wetlands	Emergent wetland plants in southeastern and northeastern quadrants. Onsite stormwater treatment should consider potential for using existing low-impact development techniques.
Riparian Habitats	Minimal impacts anticipated due to low proximity to rivers and streams.
Floodplains	Minimal impacts anticipated due to low proximity to rivers and streams.
Archaeological and Cultural Resources	None known at this point.

Municipality and Project Number:

Durham (project L04001 in the Metro Plan out years) cont.

Prime Farmland	Project directly adjacent to UNH-owned land in agriculture use.
Species of Concern	None known at this point. Survey may be needed
Contamination Hazards	None anticipated - Nearest site is 800 feet from intersection. No local contamination sites
Climate Change Impacts	
Flooding	Minimal Impacts anticipated due to low proximity to rivers and streams

Municipality and Project Number:

Rochester (project L14002 in the Metro Plan out years)

General Info

Project Location	Route 11 (Farmington Rd)
Project Scope	The current scope is to widen 3,200 feet of NH11 to a four-lane configuration from beginning of existing three lane section north of the Spaulding Turnpike off/on ramp, to the Rochester Toyota entrance (approximately 390 feet south of Crane Drive).
Project Need	Congestion is a major concern on this section of the NH11 Corridor. Increasing traffic volumes are also creating safety hazards for businesses and residents along the corridor. This project is “phase II” of improvements along NH11 associated with expansion of the Granite Ridge commercial development.
Implementation Status	Currently in the Metro Plan out-years; candidate for the State Ten Year Plan

Objectives & Anticipated Benefits

Congestion	This project will decrease traffic congestion
Economic Development	This project will contribute to the continued development of this corridor and support planned commercial development in the vicinity.
Safety	This project is paired with a signalization project at Nashoba Drive that includes extensive sidewalk construction. Ensuring pedestrian accessibility and safety is equally important to improving vehicle traffic flow.

Potential Impacts and Mitigation Strategies

Environmental Impacts	
Air Quality	Widening at this scale may not directly increase traffic volumes and emissions. Additional analysis needed to quantify emissions.
Noise	Noise will increase with more concentrated traffic in a five-lane configuration. Additional noise pollution study needed to mitigate impacts to abutting residential properties.
Water Quality	Additional paved surface will significantly increase stormwater. No direct impacts to water quality expected. Onsite stormwater treatment should consider potential for using existing low-impact development techniques, especially adjacent to residential areas and near businesses for esthetic enhancement.
Wetlands	Sections of northbound lane are adjacent to wetlands along the Chochoeco River. Project is far enough away from wetlands that impacts are expected to be minimal with effective on-site stormwater treatment.
Riparian Habitats	Minimal direct impacts expected due to low proximity to rivers and streams.
Floodplains	Minimal direct impacts expected due to low proximity to rivers and streams.
Archaeological and Cultural Resources	Historic cemetery just opposite Granite Ridge expected to be outside proposed project extent. No additional sites known.

Municipality and Project Number:

Rochester (project L14002 in the Metro Plan out years) cont.

Potential Impacts and Mitigation Strategies

Environmental Impacts

Prime Farmland	Minimal impacts anticipated
Species of Concern	None known at this point. Survey needed
Contamination Hazards	Three remediation sites along the project corridor

Municipality and Project Number:

Somersworth (project L16001 in the Metro Plan out years)

General Info

Project Location	West High St/Maple St/Sunset Drive intersection
Project Scope	Relocate pedestrian crosswalks across High St to west of Maple and east of Sunset. One pedestrian refuge median island with plantings on each approach of High St. Eliminate excess pavement in Maple/High St corner and replace with planted median island.
Project Need	This project is on NH236 which connects Somersworth downtown to NH108. It is in a residential area near schools and other community centers so pedestrian and traffic safety are both critical.
Implementation Status	This project is currently in the Metro Plan out years and is being developed with city staff for future inclusion in the Ten Year Plan or application through another funding source.

Objectives & Anticipated Benefits

Safety	This is a proactive safety project on a primary corridor in a residential area surrounding the City's schools. There have not been serious crashes here yet, but traffic volumes will rise with the city's growth. The intention is to increase walkability in neighborhoods and ensure continued safety.
Accessibility	This project will directly connect to existing and programmed pedestrian safety projects funded through the Transportation Alternatives program and Ten Year Plan.

Potential Impacts and Mitigation Strategies

Environmental Impacts	
Air Quality	Congestion is not a regular factor at this location. Benefits are primarily for driver and pedestrian safety.
Noise	Limited impacts expected. Proposed design will likely slow vehicle speeds and reduce engine noise.
Water Quality	No additional pavement needed; no impacts expected.
Wetlands	Minimal impacts anticipated
Riparian Habitats	Minimal impacts anticipated
Floodplains	Minimal impacts anticipated
Archaeological and Cultural Resources	Project is near historic district. No impacts anticipated; could improve walking access to local historic sites.
Prime Farmland	Minimal impacts anticipated
Species of Concern	Minimal impacts anticipated
Contamination Hazards	No adjacent remediation or potential contamination

Municipality and Project Number:

Dover (L03006 in the Metro Plan out years)

General Info

Project Location	NH108 bridge over the Bellamy River
Project Scope	Multi-lane roundabouts at Mill St and Back river Rd (at each end of the bridge).
Project Need	This is a highly congested section of corridor that is important for regional commuting at an interchange with local and turnpike traffic. Schools, healthcare facilities, and commercial developments are adjacent or nearby.
Implementation Status	This is currently a long-range project. Dover has conducted studies with consultants for traffic analysis and initial alternative design. Design and construction of this project will require coordination with NHDOT turnpikes.

Objectives & Anticipated Benefits

Congestion	Reducing congestion and improving travel times is a goal for the region, and a federal performance goal. Analysis of NPMRDS travel data in 2019 confirms congestion is regular throughout the day and especially heavy during peak morning and evening travel periods.
Safety	This location has numerous, complex turning movements. Roundabouts create much safer traffic flow and have significant reductions in fatal and severe injuries. Project design should carefully consider opportunities to improve bicycle and pedestrian safety is at the juncture of planned expansion of the community trail and access to a new walking path along the Bellamy River.

Potential Impacts and Mitigation Strategies

Environmental Impacts	
Air Quality	Heavy congestion leads to localized air quality impacts. A new configuration with roundabouts would improve traffic flow and reduce wait times that lead to decreased air quality.
Noise	Noise levels would likely not change.
Water Quality	Dover is an MS4 community. Special attention should be paid to stormwater treatment.
Wetlands	The current design would not require widening of the existing bridge and eliminate potential impacts to adjacent wetlands.
Riparian Habitats	The current design would not require widening of the existing bridge and eliminate potential impacts to the adjacent river.
Floodplains	The current design would not require widening of the existing bridge but options for increasing the resilience of the infrastructure should be considered since this project is in a floodplain.
Archaeological and Cultural Resources	The Sawyer Woolen Mills is listed on the national historic building register. Archaeological resources are potentially present due to the proximity to the 108 bridge.
Prime Farmland	Minimal impacts anticipated

Municipality and Project Number:

Dover (L03006 in the Metro Plan out years) cont.

Potential Impacts and Mitigation Strategies

Environmental Impacts

Species of Concern	Minimal impacts anticipated
Contamination Hazards	Minimal impacts anticipated - Nearest site is 200 feet from bridge
Climate Change Impacts	
Flooding	The adjacent wetland should be assessed for stormwater storage capacity and alternatives should be developed for improving the resilience of the infrastructure and the bridges existing compatibility with the river.

Municipality and Project Number:	
Newmarket (Project L11005 in the Metro Plan out years)	
General Info	
Project Location	Beech St Extension
Project Scope	New passenger rail station and parking. There is a current parking lot with a small vacant building that could be converted to a rail stop along the Downeaster line.
Project Need	Passenger rail expansion is a priority in SE New Hampshire because of the link with Boston, MA and Portland, ME. Expanding the multi-modal network in the region is critical for continued economic development.
Implementation Status	This is a long-range project requiring significant investment. Project will depend on expansion of existing rail lines to accommodate additional cars on existing trains or additional runs. Trains are currently at capacity and adding cars (lengthening trains) is not feasible due to track capacity limitations.
Objectives & Anticipated Benefits	
Congestion	Commuting patterns are affected by the proximity of the large metro areas of Boston and Portland. Passenger rail service could be highly effective in reducing congestion if it can be expanded.
Multi-modal Development	Enhancing the multi-modal transportation system is a primary goal in the Strafford region. SE New Hampshire has the richest mix of modes in the state; it needs to be developed to provide diverse transportation options.
Accessibility	Passenger rail expansion would be a major asset for the region's growing urban communities. This would make transit-oriented development more feasible.
Economic Development	The Amtrak Downeaster has seen record levels of passengers over the past five years. Those passengers are traveling for employment and recreation within and outside the region. Enhancing the connections to the region through passenger rail will be critical for continued economic development.
Potential Impacts and Mitigation Strategies	
Environmental Impacts	
Air Quality	There would be local air quality impacts from the train idling and re-accelerating. Station design should consider ways to reduce wait times.
Noise	Passenger and freight trains already travel through this site; additional noise would be noticeable with development of a new rail stop.
Water Quality	The tracks are already active; impacts from construction of the station are unknown but the site is already developed.
Wetlands	Wetlands are present; new impacts are unknown
Riparian Habitats	Minimal impacts anticipated

Municipality and Project Number:	
Newmarket (Project L11005 in the Metro Plan out years) cont.	
Floodplains	Minimal impacts anticipated
Archaeological and Cultural Resources	No impacts anticipated; site is already developed
Potential Impacts and Mitigation Strategies	
Environmental Impacts	
Prime Farmland	Minimal impacts anticipated
Species of Concern	Minimal impacts anticipated
Contamination Hazards	Adjacent to one remediation site (Newmarket Dump Site on Beech Street Extension)
Climate Change Impacts	
Flooding	There are spots along the rail line between Boston and Portland that travel through coastal wetlands and are extremely vulnerable to damage from sea level rise and storm surge. Expansion of passenger rail service will need to address long-term resilience of this critical infrastructure.

Municipality and Project Number:

Barrington (L01002) in the Metro Plan out years

General Info

Project Location	NH125 and NH9 intersection
Project Scope	Install sidewalks along NH9 between Christmas Ln and the Barrington Middle School. Includes pedestrian crossing signals at NH125 intersection and midblock crossings across NH9 on both sides of NH125.
Project Need	The intersection currently has no pedestrian facilities. This is a barrier to economic development in an area where several small businesses operate and more commercial and residential development is planned or anticipated. The lack of pedestrian facilities is also a safety hazard for students walking to the town middle school.
Implementation Status	Barrington has applied for funding through the Ten Year Plan and Transportation Alternatives program

Objectives & Anticipated Benefits

Safety	This project will have significant benefits for pedestrian safety; there are no facilities currently present.
Economic Development	This project is located in the center of Barrington's commercial development. Pedestrian access and safety will be important for the continued development of the town center as residential and commercial properties are developed.

Potential Impacts and Mitigation Strategies

Environmental Impacts	
Air Quality	The current scope of this project will not have a measurable impact on existing air quality
Noise	The current scope of this project will not have a measurable impact on existing air quality
Water Quality	Minimal impacts anticipated
Wetlands	Minimal impacts anticipated
Riparian Habitats	Minimal impacts anticipated
Floodplains	Minimal impacts anticipated
Archaeological and Cultural Resources	Minimal impacts anticipated
Prime Farmland	Minimal impacts anticipated
Species of Concern	Minimal impacts anticipated
Contamination Hazards	Minimal impacts anticipated. Four remediation sites are 300-600 feet away; 500 feet from nearest potential contamination site.

Municipality and Project Number:

Rollinsford and Dover (project R01005 in the Metro Plan out years)

General Info

Project Location	Active rail lines between Dover and Rollinsford
Project Scope	Track siding rehabilitation and expansion
Project Need	Active rails are currently at-capacity for train traffic, restricting passenger rail and freight volumes. Track siding increases capacity, but current siding is not compatible with trains.
Implementation Status	The Northern New England Passenger Rail Authority (NNERPA) has proposed projects through past CMAQ rounds. Improvements are planned, and “shovel-ready”.

Objectives & Anticipated Benefits

Congestion	Commuting patterns are affected by the proximity of the large metro areas of Boston and Portland. Passenger rail service could be highly effective in reducing congestion if it can be expanded.
Multi-modal Development	Enhancing the multi-modal transportation system is a primary goal in the Strafford region. SE New Hampshire has the richest mix of modes in the state; it needs to be developed to provide diverse transportation options.
Accessibility	Passenger rail expansion would be a major asset for the region’s growing urban communities. This would make transit-oriented development more feasible.
Economic Development	The Amtrak Downeaster has seen record levels of passengers over the past five years. Those passengers are traveling for employment and recreation within and outside the region. Enhancing the connections to the region through passenger rail will be critical for continued economic development.

Potential Impacts and Mitigation Strategies

Environmental Impacts	
Air Quality	Track siding has significant improvements to air quality because it allows trains to pass each other without slowing down. Additional analysis can be done to quantify air quality benefits. Overall, improving transit alternatives to driving alone will reduce transportation emissions in the region.
Noise	Improvements to track siding will not significantly increase or reduce existing noise of trains
Water Quality	No impacts anticipated; Right-of-way is already developed and does not need to be expanded for track siding enhancement
Wetlands	Minimal impacts anticipated
Riparian Habitats	Minimal impacts anticipated
Floodplains	Minimal impacts anticipated

Municipality and Project Number:

Rollinsford and Dover (project R01005 in the Metro Plan out years) cont.

Potential Impacts and Mitigation Strategies

Environmental Impacts

Archaeological and Cultural Resources	Need to confirm eligibility of Boston and Maine Railroad eligibility for National Register.
Prime Farmland	Minimal impacts anticipated
Species of Concern	Minimal impacts anticipated
Contamination Hazards	Remediation sites: 17 sites within 300 feet of railroad corridor, but none directly on the railroad corridor; one site is within 30 feet of the railroad corridor (Oak Street Tank Farm, Oak Street in Rollinsford), and one site is within 80 feet of the railroad corridor (TKL Corporation, Oak Street in Rollinsford), all others are at least 100 feet from the railroad corridor. Potential Contamination sites: One site is about 400 feet from railroad corridor (Berry's Transmission Service, Rollins Road in Rollinsford)

Climate Change Impacts

	There are spots along the rail line between Boston and Portland that travel through coastal wetlands and are extremely vulnerable to damage from sea level rise and storm surge. Expansion of passenger rail service will need to address long-term resilience of this critical infrastructure.
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Municipality and Project Number:	
Dover, COAST, UNH Wildcat (project R01004 in the Metro Plan out years)	
General Info	
Project Location	Traffic signals on COAST and Wildcat bus routes in Dover
Project Scope	Transit signal prioritization on all signals along COAST & Wildcat routes in Dover
Project Need	Public transit in the region must serve a large land area – balancing the frequency of buses with number of people served. Increasing the efficiency and reliability of public transit is important for increasing ridership.
Implementation Status	Project has been scoped and has a cost estimate, ready to apply for funding, would require minimal construction time.
Objectives & Anticipated Benefits	
Congestion	Public transit can have a significant impact on congestion by reducing in-region trips taken alone in a car. Increasing public transit reliability will increase its attractiveness to prospective riders.
Air Quality	In-depth analysis is needed to quantify air quality benefits. Increasing transit performance will reduce emissions.
Economic Development	The region is growing, and public transit will play an increasingly important role in economic development, especially in urban communities. COAST passengers ride for employment, healthcare, shopping, and recreation – proportionately in that order.
Potential Impacts and Mitigation Strategies	
Environmental Impacts	
Air Quality	Improved transit service will have air quality benefits
Noise	No increase in existing noise levels
Water Quality	Minimal impacts anticipated
Wetlands	Minimal impacts anticipated
Riparian Habitats	Minimal impacts anticipated
Floodplains	Minimal impacts anticipated
Archaeological and Cultural Resources	Minimal impacts anticipated
Prime Farmland	Minimal impacts anticipated
Species of Concern	Minimal impacts anticipated
Contamination Hazards	
Climate Change Impacts	
	Public transit is an important strategy for mitigating vehicle emissions that are driving climate change.

Municipality and Project Number:

Madbury (project 41596 in the State Ten Year Plan)

General Info

Project Location	Intersection of NH155, Madbury Rd, and Town Hall Rd
Project Scope	Intersection improvement study
Project Need	This intersection has extreme geometry that is a safety hazard. Heavy daily commuters, school buses, and UNH transit buses travel through this intersection daily. There is no history of fatalities or serious injuries, but proactive safety improvements are necessary.
Implementation Status	This project is funded as a study in fiscal year 2027; Strafford MPO is working with the town and NHDOT to accelerate this project as quickly as possible.

Objectives & Anticipated Benefits

Safety	The safety focused project scope will be determined through the study.
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Potential Impacts and Mitigation Strategies

Environmental Impacts	
Air Quality	Minimal impacts anticipated
Noise	Minimal impacts anticipated
Water Quality	Minimal impacts anticipated
Wetlands	Minimal impacts anticipated
Riparian Habitats	Minimal impacts anticipated
Floodplains	Minimal impacts anticipated
Archaeological and Cultural Resources	To be determined; the future scope may require significant excavation and realignment of the existing intersection impacting abutting land.
Prime Farmland	Minimal impacts anticipated
Species of Concern	Minimal impacts anticipated
Contamination Hazards	None or minimal impacts anticipated - nearest site is 400 feet from intersection

Municipality and Project Number:

Northwood-Nottingham (project 41595 in the state Ten Year Plan)

General Info

Project Location	152/US4 Intersection
Project Scope	Intersection safety improvements (detailed scope to be determined)
Project Need	US4 is the only high-volume, high speed corridor in the region that connects east to Concord. The intersection with NH152 is highly skewed and on a hill, creating a significant safety hazard.
Implementation Status	This project is funded in the state Ten Year Plan with engineering to start in 2023 and construction planned to start in 2026.

Objectives & Anticipated Benefits

Safety	This is a critical corridor in the region and safety improvements are vital.
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Potential Impacts and Mitigation Strategies

Environmental Impacts	
Air Quality	Minimal impacts anticipated
Noise	Minimal impacts anticipated
Water Quality	Minimal impacts anticipated
Wetlands	Minimal impacts anticipated
Riparian Habitats	Minimal impacts anticipated
Floodplains	Minimal impacts anticipated
Archaeological and Cultural Resources	Minimal impacts anticipated
Prime Farmland	Minimal impacts anticipated
Species of Concern	Minimal impacts anticipated
Contamination Hazards	One remediation site is adjacent to the intersection (Glunt Property, 88 First NH Turnpike in Northwood); Two sites are within 200 feet of the intersection

Municipality and Project Number:

Dover-Rochester (project 29440 in the TIP)

General Info

Project Location	Spaulding Turnpike toll plazas in Dover and Rochester
Project Scope	Convert existing toll plazas to all-electronic tolling
Project Need	Part of modernization of the turnpike system
Implementation Status	This project is scheduled for construction in 2021

Objectives & Anticipated Benefits

Congestion	Congestion is not a significant problem at these locations, but all-electronic tolling removes all physical infrastructure on the road surface and vehicles maintain highway speeds. This eliminates slowing at traditional toll collection plazas.
Air Quality	Enabling vehicles to continue at highway speeds has significant air quality benefits because they do not burn fuel accelerating from a full stop or the present speed limit (25 mph). This benefit is magnified for large trucks and buses.
System Reliability	This project will contribute to the reliability of the turnpike system and make it more cost-effective to operate.
Safety	Traditional toll plazas – with built structures to guide vehicles pose a safety risk if drivers are not paying attention or not obeying speed limits. Removing physical structures eliminates this safety risk.
Climate Change	Projects that reduce vehicle emissions contribute to Strafford MPO’s goal of mitigating climate change.

Potential Impacts and Mitigation Strategies

Environmental Impacts	
Air Quality	Positive air quality benefits
Noise	All-electronic toll collection reduces engine noise from accelerating vehicles
Water Quality	Minimal impacts anticipated
Wetlands	Minimal impacts anticipated
Riparian Habitats	Minimal impacts anticipated
Floodplains	Minimal impacts anticipated
Archaeological and Cultural Resources	Currently being reviewed
Prime Farmland	Minimal impacts anticipated
Species of Concern	Minimal impacts anticipated
Contamination Hazards	No remediation or contamination sites adjacent to either toll plaza.

Municipality and Project Number:

Dover, Somersworth, Rochester (project 29604 in the TIP)

General Info

Project Location	NH108 corridor between Weeks Crossing in Dover and Innovation Drive in Rochester
Project Scope	Complete Streets consistent with improvements under U-3 alternative
Project Need	This corridor is developing quickly and has a lot of potential for balancing economic development with multimodal improvements.
Implementation Status	Preliminary engineering is underway with collaboration between a consultant, NHDOT, the 3 cities, COAST bus, and Strafford MPO. Construction programmed for 2024

Objectives & Anticipated Benefits

Congestion	This project will be designed based on projected traffic volumes to ensure long-term corridor capacity.
Safety	Improving safety for a wide range of users is a core objective of this project.
Economic development	The corridor has significant potential for economic development, both for commercial and residential. Complete streets is a design philosophy that considers economic development objectives along with transportation.
Multimodal Development	The complete streets philosophy balances improvements for vehicles, non-motorized users, and public transit. Multimodal development is a primary objective for Strafford MPO.
Climate Change	The complete streets philosophy strives to make more trips feasible by foot or bike, reducing the need for vehicle trips and resulting emissions.

Potential Impacts and Mitigation Strategies

Environmental Impacts	
Air Quality	Direct emissions reduction may be difficult to quantify; additional analysis will be needed.
Noise	Minimal impacts anticipated
Water Quality	Any additional stormwater will be required to be treated on-site
Wetlands	Minimal impacts anticipated
Riparian Habitats	Minimal impacts anticipated
Floodplains	Minimal impacts anticipated
Archaeological and Cultural Resources	Currently being reviewed
Prime Farmland	Minimal impacts anticipated
Species of Concern	Minimal impacts anticipated
Contamination Hazards	There are 25 remediation sites and 38 potential contamination sites adjacent to this corridor.

Municipality and Project Number:

Lee 42876

General Info

Project Location	Lee traffic circle (US4 and NH125)
Project Scope	Construct up to an 80-space park and ride lot near the junction of US4 and NH125
Project Need	This project is part of congestion mitigation for the Newington-Dover Little Bay Bridge replacement project (record of decision). Park and ride lots are valuable for encouraging carpooling for daily employment commuting. This site is at the intersection of NH125 and US4 with significant southbound and eastbound commuting travel.
Implementation Status	This project is in the TIP with construction programmed for 2022

Objectives & Anticipated Benefits

Congestion	The region is growing, and traffic volumes will rise with development. Park and rides are one of many strategies for managing congestion.
Safety	Providing more options and encouraging alternatives to driving alone contributes to reductions in vehicle emissions that are driving climate change.

Potential Impacts and Mitigation Strategies

Environmental Impacts	
Air Quality	This project has measurable air quality benefits that were calculated as part of its development.
Noise	Minimal impacts anticipated
Water Quality	Minimal impacts anticipated
Wetlands	Minimal impacts anticipated
Riparian Habitats	Minimal impacts anticipated
Floodplains	Minimal impacts anticipated
Archaeological and Cultural Resources	Survey of potential above- and below-ground archaeological and historic resources may be needed
Prime Farmland	Minimal impacts anticipated
Species of Concern	Minimal impacts anticipated
Contamination Hazards	No contamination or remediation sites in proximity

Financial Plan and Fiscal Constraint

A critical element of the Metro Plan is that it must be financially constrained. This means that the total costs of projects and services contained in it may not exceed the amount of funding that can reasonably be expected to be available in the MPO area for the period being considered. Projects and programs that are recommended in the Metro Plan must be shown to be realistic given the financial resources that are reasonably expected to be available in the future. The four-year TIP and Ten Year Plan are fiscally constrained by NHDOT through state coordination; they form the basis for estimates of financial resources in the Metro Plan.

Transportation Funding

For purposes of implementing the provisions of the Fixing America's Surface Transportation (FAST) Act, the Federal Highway Administration (FHWA), and the Federal Transit Administration (FTA) jointly issued revised planning regulations governing the development of the Long Range Transportation Plans (the Plan) and Transportation Improvement Programs for urbanized areas. These regulations are designed to ensure that metropolitan transportation planning and programming are adequate and that the areas are eligible for Federal highway and transit funds. One part of the planning regulations requires that the Plan include a financial plan "that demonstrates how the adopted transportation plan can be implemented" and provides supporting regulations in 23 CFR Part 450.324(g)(11):

Federal Regulation References

Financial Plan: 23 CFR Part 450.324 (g)(11),

Public transit funding: 49 U.S.C. Chapter 53

- I. For purposes of transportation system operations and maintenance, the financial plan shall contain system-level estimates of costs and revenue sources that are reasonably expected to be available to adequately operate and maintain Federal-aid highways (as defined by 23 U.S.C. 101(a)(5)) and public transportation (as defined by title 49 U.S.C. Chapter 53).
- II. For the purpose of developing the metropolitan transportation plan, the MPO, public transportation operator(s), and State shall cooperatively develop estimates of funds that will be available to support metropolitan transportation plan implementation, as required under §450.314(a). All necessary financial resources from public and private sources that are reasonably expected to be made available to carry out the transportation plan shall be identified.
- III. The financial plan shall include recommendations on any additional financing strategies to fund projects and programs included in the metropolitan transportation plan. In the case of new funding sources, strategies for ensuring their availability shall be identified.
- IV. In developing the financial plan, the MPO shall take into account all projects and strategies proposed for funding under title 23 U.S.C., title 49 U.S.C. Chapter 53 or with other Federal funds; State assistance; local sources; and private participation. Revenue and cost estimates that support the metropolitan transportation plan must use an inflation rate(s) to reflect "year of expenditure dollars," based on reasonable financial principles and information, developed cooperatively by the MPO, State(s), and public transportation operator(s).
- V. For the outer years of the metropolitan transportation plan (i.e., beyond the first 10 years), the financial plan may reflect aggregate cost ranges/cost bands, as long as the future funding source(s) is reasonably expected to be available to support the projected cost ranges/cost bands.
- VI. For nonattainment and maintenance areas, the financial plan shall address the specific financial strategies required 2045 Long Range Transportation Plan – DRAFT 1/8/19 Constrained Plan 5-2 to ensure the implementation of Transportation Control Measures (TCMs) in the applicable State Implementation Plan (SIP).

VII. For illustrative purposes, the financial plan may include additional projects that would be included in the adopted transportation plan if additional resources beyond those identified in the financial plan were to become available.

VIII. In cases that the FHWA and the FTA find a metropolitan transportation plan to be fiscally constrained and a revenue source is subsequently removed or substantially reduced (i.e., by legislative or administrative actions), the FHWA and the FTA will not withdraw the original determination of fiscal constraint; however, in such cases, the FHWA and the FTA will not act on an updated or amended metropolitan transportation plan that does not reflect the changed revenue situation.

Anticipated Revenues

Revenues expected to be available for transportation improvement projects were estimated utilizing data from the 2021-2024 Transportation Improvement Program (TIP) adopted in March 2021, as well as the financial plan from the 2021-2030 State Ten Year Plan approved by the Legislature and signed by the Governor in July 2020. Those documents provided the total funding estimates for FHWA and FTA apportioned funds, State funding sources, and local (and other) resources for projects in the region. Beyond 2030, funding is projected based on a trend analysis of federal revenues from 2010. This fiscal constraint documentation details the resources expected to be available for the duration of the Plan and is included below.

The tables on page 76 show projections of Federal Transit Administration Section 5307 Urban Formula funding anticipated to be available to COAST (the public transit agency in the region). In the Strafford MPO region, section 5307 funding may be used for operating expense at a 50% federal/50% non-federal match split; as well as capital expenses (at an 80% federal/20% non-federal match split. Non-federal funding is typically drawn from municipalities in New Hampshire, but may also include state, private sector, and other sources. COAST receives funding based on apportionments to the Dover-Rochester and Portsmouth Urbanized Areas, which may be used for either capital or operating expenses. Beyond apportionments for FY2021-FY2024 identified in the FAST Act, future allocations are forecast to increase 1.5% annually. The Plan anticipates that the two transit systems will provide service levels that can be supported by this level of funding, including continuation of existing service and proposed service expansions.

Existing Funding Sources

Federal Transit Funding

There are a number of programs that support transit planning and development, which are funded through the Federal Transit Administration (FTA). One primary objective of MAP-21 was to reduce the total number of programs into fewer funding categories with more flexibility; many of these programs were continued in the FAST Act. The list below is a sample of transit programs supported by federal law.

FTA: Urbanized Area Formula Grants (Section 5307)

The largest of FTA's grant programs, this program provides grants to urbanized areas (populations of 50,000 and more) to support public transportation. This is a formula-based program where funding is distributed based on the level of transit service provision, population, and other factors.

FTA: Enhanced Mobility of Seniors and Individuals with Disabilities (Section 5310)

This program provides formula funding to increase the mobility of seniors and persons with disabilities. Funds are apportioned based on each State's share of the targeted populations and are now apportioned to both States (for all areas under 200,000) and large urbanized areas (over 200,000). New Hampshire uses this program to provide Purchase of Service funding for the purchase of vehicle hours to provide transportation to elderly and disabled members of the public.

FTA: Rural Area Formula Grants (Section 5311)

This program provides capital, planning, and operating assistance to support public transportation in rural areas, defined as areas with fewer than 50,000 residents. Funding is based on a formula that uses land area, population, and transit service.

FTA: Bus and Bus Facilities Program (Section 5339)

A formula grant program is established under Section 5339, replacing previous discretionary Bus and Bus Facilities programs. This capital program provides funding to replace, rehabilitate, and purchase buses and related equipment, and to construct bus-related facilities. Each year, \$65.5 million will be allocated with each State receiving \$1.25 million and each territory (including DC and Puerto Rico) receiving \$500,000. The remaining funding will be distributed by formula based on population, vehicle revenue miles and passenger miles. This program requires a 20 percent local match.

Other Transit Funding Sources

FHWA/FTA CMAQ Funds

Funds are eligible for transportation related projects in ozone and carbon monoxide non-attainment and maintenance areas. Projects must contribute to meeting the attainment of national ambient air quality standards, whether through reductions in vehicle miles traveled, fuel consumption, or through other factors. Funding may be used for transit capital and operating funds.

Municipalities

COAST provides public transportation for ten communities in the Seacoast region and Berwick, Maine (five communities in the Strafford MPO region). COAST relies on voluntary municipal contributions to support about 11 percent of its operating budget and has no authority to mandate regional or municipal funding, except to withhold services, or levy rider fines.

Local Option Fee

NHRSA 261:153, VI enables municipalities to adopt an additional motor vehicle registration fee (up to \$5) to fund local transportation improvements. Funds raised can be used as local match for public transit. Three municipalities in the Strafford MPO region have taken advantage of the local option fee: Dover, Durham, and Newmarket.

Private Sources

Private companies can contribute funding for public transportation and have that funding be counted towards the local match. In the past, companies have collaborated with COAST to provide bus service for their organization. During the summer 2008, COAST operated a Beach Bus serving the communities of Epping, Exeter, and Hampton. Funding for the Beach Bus came from Exeter Hospital, a public utilities company, and the New Hampshire Division of Parks and Recreation.

Direct Public Transportation Revenue Sources

The following funding sources benefit public transportation operators directly.

Fare Box

COAST charges fares for passengers riding the bus routes, however, fares cannot be counted towards the local match for federal funds.

Transit Advertising

Transit Advertising includes revenues generated through advertising on COAST vehicle and bus shelters.

Projected Transit Funding

Fiscal Years 2021-2024

Funding for Fiscal Years 2021-2024 comes from the Statewide Transportation Improvement Program. Transit funding through the FTA is assumed to be fiscally constrained per NHDOT fiscal constraint analysis. Table 1 indicates federal funds available to COAST from fiscal years 2021-2024.

Fiscal Years 2025-2030

Funding for Fiscal Years 2025 to 2030 come from the last six years of the current approved Statewide Ten Year Transportation Improvement Plan. Table 2 indicates FTA funding for COAST as programmed in the 2017-2026 Ten Year Plan.

COAST Funding in Fiscal Years 2021-2024	
Fiscal Year	Funding
2021	\$9,456,471
2022	\$3,271,169
2023	\$3,344,303
2024	\$3,419,055
Average/Year	\$4,872,750
Total	\$19,490,999

Transit Funding Fiscal Years 2025 -2030	
Fiscal Year	Funding
2031	\$3,740,222
2032	\$3,796,325
2033	\$3,853,270
2034	\$3,911,069
2035	\$3,969,735
2036	\$4,029,281
2037	\$4,089,720
2038	\$4,151,066
2039	\$4,213,332
2040	\$4,276,532
2041	\$4,340,680
2042	\$4,405,790
2043	\$4,471,877
2044	\$4,538,955
2045	\$4,607,040
Average/Year	\$4,159,660
Total	\$62,394,896

Transit Funding Fiscal Years 2025 -2030	
Fiscal Year	Funding
2025	\$2,918,985
2026	\$2,977,365
2027	\$3,036,912
2028	\$3,097,651
2029	\$3,159,604
2030	\$3,222,796
Average/Year	\$3,068,886
Total	\$18,413,313

Fiscal Years 2031-2045

The projected estimates for COAST are based on the funding levels shown in the final six years of the Ten Year Plan. Beyond apportionments in the TIP years, future allocations are forecast to increase 1.5% annually. Fiscal constraint assumes that COAST will provide service levels that can be supported by this level of funding, including continuation of existing service and proposed service expansions.

Existing Highway Funding Sources

The following funding sources are available for maintenance and improvements to road networks in the Strafford MPO region. Funding is divided into two categories: federal aid and state aid.

National Highway System (NHS)

This funds projects on the designated NHS (when approved); the interim NHS includes highways that are on the interstate system and selected principal arterials. Funding for this category is an 80 percent federal match and a 20 percent local match.

Surface Transportation Program (STP)

This program funds projects chosen by states and localities for any road with a higher functional class than local or rural minor collectors. Funding for all STP categories is an 80 percent federal match and a 20 percent local match. There are several subcategories of STP funds applicable for the Strafford MPO, for example, “STP Any Area”, “STP Non-Urban”, and “STP Hazard Elimination.” However, the State can transfer funds within these categories; therefore, for the purposes of general financial forecasting, all but STP Transportation Enhancements have been grouped into a single category.

Bridge Rehabilitation and Replacement

This category includes three subcategories, which are grouped as a single “Bridge” category in the funding forecasts. They are:

1. **On-System:** Bridges on roads that are functionally classified higher than local. 70 percent of all eligible funding for bridges is in this category.
2. **Off-System:** Bridges on the Municipal Highway System (municipally owned). Priorities for this category use a first-come-first served system. 30 percent of all eligible bridge funding is in this category.
3. **On/Off-System:** Bridges either on or off system; funding for this category is an 80 percent federal and a 20 percent local match.

FHWA/FTA CMAQ

CMAQ funds are eligible for transportation related projects in ozone and carbon monoxide non-attainment areas. Projects must contribute to meeting attainment of national ambient air quality standards, whether through reductions in vehicle miles traveled, fuel consumption, or through other factors. Projects may also come from the State Implementation Plan (SIP). No funds may be provided under this category that will result in the construction of new capacity available to single occupancy vehicles, unless the project consists of a high occupancy vehicle facility available to single occupant vehicles only at other than peak travel times. Funding for this category is an 80 percent federal and a 20 percent local match (90 percent federal/10 percent local match for some projects).

State Planning & Research (SPR)

One component of SPR grants includes funding for MPOs and RPCs to conduct planning related studies. In the past Strafford MPO has received SPR Funding for the Phase I and Phase II of the Route 125 Corridor Study.

MPO Funding

Each MPO receives federal funding to carry out the necessary functions required of an MPO. Each MPO receives a specified amount of the state allocation of funding based on a formula agreed-upon by the state and MPOs. A 20 percent local match to the federal share is required.

Existing State Aid Funding Sources

Betterment Funds

This type of funding is accrued to the state by earmarking a portion of the State gas tax receipts. The NHDOT determines the priority of potential projects around the state for these funds. No federal or local match is required for use of Betterment funds.

Turnpike Funds

Several turnpike projects within the Strafford MPO region are being completed using Turnpike Funds. The Newington-Dover Project, to widen the Little Bay Bridges across the Piscataqua River and improve highway access from Gosling Road in Portsmouth to the tolls in Dover, has several individual construction contracts under the project number 11238. One of the final stages of that project is to replace the original General Sullivan bridge to maintain a dedicated, separate bicycle and pedestrian crossing.

Fiscal Constraint Calculations

As mentioned above, fiscal years 2021 to 2030 comprise the four-year TIP and State Ten Year Plan. Those plans are both constrained by the state in collaboration with the Regional Planning Commissions. They form the basis for assumptions used to ensure the long-range phase of the Metro Plan (projects after 2030) are also reasonably constrained. Funding availability and other challenges are difficult to predict beyond ten years in the future, so a conservative approach is used. For instance, if a project has a potential low- and high-cost estimate, it is assumed that the higher cost is most likely.

Federal Funding Assumptions

Agencies participating in the monthly Interagency Consultation process collaboratively developed planning assumptions for use in fiscal constraint analyses. The members of the interagency consultation process include MPOs, NHDOT, NHDES, EPA, FHWA, and FTA.

1. All programmed funding numbers for fiscal years 2015-2030 were derived from the draft STIP (FYs 2021-2024) and Ten Year Plan (FYs 2021-2030) provided by NHDOT.
2. Estimated funding for the out years (2031-2045) assumes current Federal Aid funding levels from the FAST Act will remain essentially flat.
3. The 2.8% of growth was also applied to project cost estimates to ensure documents show “year of expenditure” dollars to represent project cost.
4. The percentage of federal-aid highway funding theoretically dedicated to each region is based on two factors: the lane miles of federal-aid eligible highways in the region and regional population. Strafford Region is theoretically allocated 10.1% of New Hampshire’s federal-aid highway funding.
5. For years 2031-2045, total project costs are shown, and it is assumed that a 20% match will be raised from non-federal funds. Most federal transportation projects and programs are funded with 80% federal dollars and 20% (non-federal) matching funds.

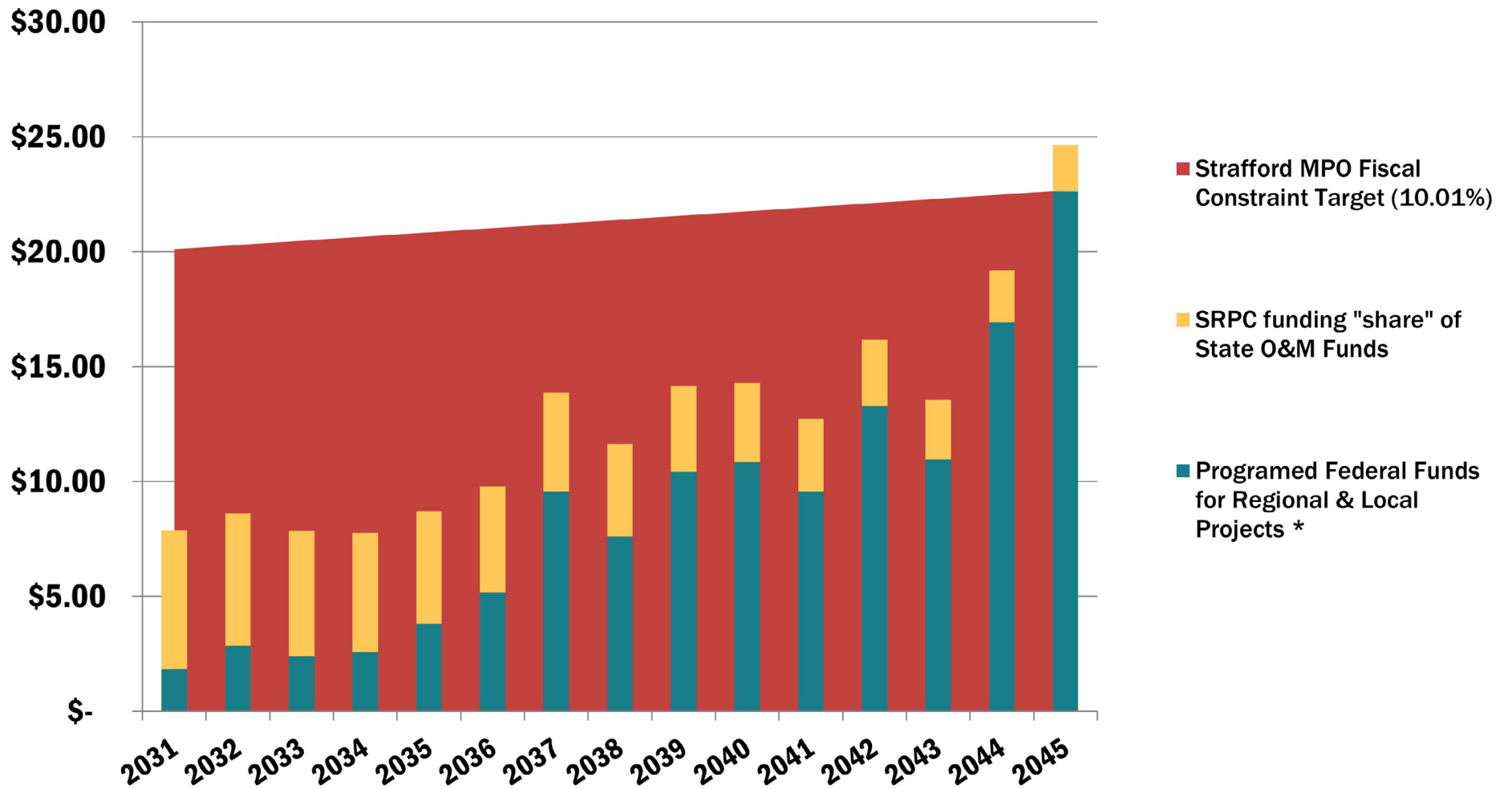
Plans with Programmed Funds		Fiscal Year ¹	Statewide Federal Aid (FHWA) ¹	Strafford MPO Fiscal Constraint Target (10.01%) ¹	Programed Regional Transit Funds ¹	Strafford MPO Programmed Funds for Regional and Local Projects ^{1,2}	Fiscal Year Balance ³	
2021-2045 SMPO Metropolitan Transportation Plan	Statewide Ten Year Plan	2021-2024 TIP	2021	\$204.55	\$20.48	\$9.46	\$24.25	NA
		2022	\$202.23	\$20.24	\$3.27	\$5.92	NA	
		2023	\$196.52	\$19.67	\$3.34	\$3.72	NA	
		2024	\$191.63	\$19.18	\$3.42	\$21.67	NA	
	Statewide Ten Year Plan	2025	\$194.63	\$19.48	\$2.92	\$5.52	NA	
		2026	\$193.23	\$19.34	\$2.98	\$2.94	NA	
		2027	\$193.20	\$19.34	\$3.04	\$4.71	NA	
		2028	\$191.17	\$19.14	\$3.10	\$6.44	NA	
		2029	\$189.40	\$18.96	\$3.16	\$0.25	NA	
		2030	\$184.38	\$18.46	\$3.22	\$3.99	NA	
		2031	\$200.87	\$20.11	\$3.74	\$1.84	\$18.27	
		2032	\$202.71	\$20.29	\$3.80	\$2.86	\$17.43	
		2033	\$204.54	\$20.47	\$3.85	\$2.39	\$18.09	
		2034	\$206.38	\$20.66	\$3.91	\$2.57	\$18.09	
		2035	\$208.22	\$20.84	\$3.97	\$3.81	\$17.03	
		2036	\$210.05	\$21.03	\$4.03	\$5.18	\$15.85	
		2037	\$211.89	\$21.21	\$4.09	\$9.56	\$11.65	
		2038	\$213.72	\$21.39	\$4.15	\$7.61	\$13.79	
		2039	\$215.56	\$21.58	\$4.21	\$10.42	\$11.16	
		2040	\$217.40	\$21.76	\$4.28	\$10.84	\$10.92	
2041	\$219.23	\$21.95	\$4.34	\$9.57	\$12.38			
2042	\$221.07	\$22.13	\$4.41	\$13.29	\$8.84			
2043	\$222.91	\$22.31	\$4.47	\$10.97	\$11.34			
2044	\$224.74	\$22.50	\$4.54	\$16.91	\$5.58			
2045	\$226.58	\$22.68	\$4.61	\$22.63	\$0.05			

1 Numbers are in millions of dollars

2 Includes Turnpike-funded projects AND Does not include statewide “programmatic” funds that support operations and maintenance.

3 Fiscal constraint target (10.01% of federal aid) minus programmed regional and local projects AND Only applied to Metro Plan out-years. TIP and Ten Year Plan years are assumed to be fully programmed and constrained

Strafford Region Programmed Federal Funding for Local & Regional Projects in Fiscal Years 2031-2045 (Millions of Dollars)



Operations & Maintenance

23 CFR Part 450.324(f)(11) requires that “[F]or purposes of transportation system operations and maintenance, the financial plan shall contain system-level estimates of costs and revenue sources that are reasonable expected to be available to adequately operate and maintain Federal-aid highways...”

Statewide costs for operations and maintenance are estimated by NHDOT based on anticipated needs for the regular maintenance and operation of the federal aid highway system in New Hampshire.

Operations and Maintenance Funding Assumptions

Federal-Aid Highway Maintenance and Operations Funding

NHDOT manages the maintenance and operations of the state-owned highway system and MPOs are not directly involved. Since NHDOT must manage the entire state, the amount of funding directly invested in each region will vary from year to year. General estimates of highway and bridge operations and maintenance funding needs are included for planning purposes.

- A trend analysis of the funding for general operations and maintenance programmed in the Ten Year Plan was used to project funding available beyond 2031. This includes funds allocated for pavement, bridges, and roadside maintenance.
- A year-of-expenditure calculation for years 2031 to 2045 used a 2.8% inflation rate.
- A 4% “share” of that funding for the Strafford region is assumed based on the percentage of state-maintained highway miles in the region.

Turnpikes

New Hampshire’s turnpike system is self-funded from toll revenues generated and the MPOs are not directly involved in their improvement or maintenance. Estimates of turnpike operations and maintenance costs are included for illustrative purposes.

- The previous five years of operations and maintenance were collected from annual turnpike financial reports (actual costs were used, not budgeted costs)
- The average percentage of total costs for each of NH’s three turnpikes was calculated:
 - 50% for the Central turnpike (e.g. F.E. Everett)
 - 25% for the Blue Star turnpike (e.g. I95)
 - 25% for the Spaulding turnpike (e.g. NH16)
- The Spaulding turnpike is 33.2 miles long; 29.36 miles (88%) are in the Strafford region, 3.84 miles (12%) are in the Rockingham region.

Local O&M needs

Additional detail on projected local need for highway and bridge maintenance is also included for reference and general planning purposes.

- Historic revenue and expenditure data from 2014-2019 were downloaded from the NH Finance Consortium’s database
- An average of the most recent five years (2014-2019) of local funds appropriated to highway and bridge was calculated for each municipality in the region
 - primarily from MV registrations and highway block grant aid

- A per-mile cost for highways for each town was calculated based on local revenues and local-owned highway miles
- A regional total of all towns' five-year averages was projected for 2021 to 2045 using a year-of-expenditure calculation based on 2.8% inflation rate

Transit funding

- Funding data was requested from COAST
 - UNH Wildcat Transit operations are primarily funded through student fees but FTA and other federal grants are used for capital projects (e.g. bus replacement and facility upgrades).
- Available funding is projected from last year of STIP through 2045

Estimated Funding Need for Highway and Bridges Operations and Maintenance for the Strafford Region (Millions of \$)

	Fiscal Year	Pavement	Bridges	Roadside	Total State O&M Funds	SRPC funding "share" for State Highways	Estimated Local Road O&M Needs	Total SRPC O&M Needs
2021-2024 TIP	2021	\$86.42	\$185.25	\$11.78	\$283.45	\$11.34	\$37.55	\$48.89
	2022	\$95.16	\$89.66	\$12.06	\$196.88	\$7.88	\$38.61	\$46.48
	2023	\$71.93	\$99.09	\$11.80	\$182.82	\$7.31	\$39.69	\$47.00
	2024	\$70.83	\$90.91	\$12.06	\$173.80	\$6.95	\$40.80	\$47.75
Statewide Ten Year Plan	2025	\$83.28	\$62.20	\$12.14	\$157.62	\$6.30	\$41.94	\$48.97
	2026	\$80.72	\$78.73	\$14.06	\$173.51	\$6.94	\$43.11	\$50.61
	2027	\$80.93	\$83.09	\$14.04	\$178.06	\$7.12	\$44.32	\$51.59
	2028	\$72.04	\$95.32	\$14.06	\$181.42	\$7.26	\$45.56	\$53.14
	2029	\$95.24	\$62.43	\$17.92	\$175.59	\$7.02	\$46.84	\$54.10
	2030	\$87.72	\$47.67	\$14.06	\$149.45	\$5.98	\$48.15	\$54.37
Metro Plan out years (long-range projects) 2031	2031	\$83.78	\$46.18	\$16.02	\$145.97	\$5.84	\$49.50	\$55.54
	2032	\$84.02	\$38.31	\$16.48	\$138.81	\$5.55	\$50.88	\$56.64
	2033	\$84.27	\$30.44	\$16.94	\$131.64	\$5.27	\$52.31	\$57.78
	2034	\$84.52	\$22.57	\$17.40	\$124.48	\$4.98	\$53.77	\$58.95
	2035	\$84.76	\$14.70	\$17.86	\$117.32	\$4.69	\$55.28	\$60.17
	2036	\$85.01	\$6.83	\$18.31	\$110.15	\$4.41	\$56.83	\$61.43
	2037	\$85.25	\$(1.04)	\$18.77	\$102.99	\$4.12	\$58.42	\$62.73
	2038	\$85.50	\$(8.91)	\$19.23	\$95.83	\$3.83	\$60.05	\$64.08
	2039	\$85.74	\$(16.78)	\$19.69	\$88.66	\$3.55	\$61.74	\$65.47
	2040	\$85.99	\$(24.64)	\$20.15	\$81.50	\$3.26	\$63.46	\$66.91
	2041	\$86.24	\$(32.51)	\$20.61	\$74.33	\$2.97	\$65.24	\$68.40
	2042	\$86.48	\$(40.38)	\$21.07	\$67.17	\$2.69	\$67.07	\$69.94
	2043	\$86.73	\$(48.25)	\$21.53	\$60.01	\$2.40	\$68.95	\$71.53
	2044	\$86.97	\$(56.12)	\$21.99	\$52.84	\$2.11	\$70.88	\$73.17
	2045	\$87.22	\$(63.99)	\$22.45	\$45.68	\$1.83	\$72.86	\$74.87

Projected Turnpike Operations and Maintenance Needs (Millions of \$)

Fiscal Year	Statewide Projected Average Annual Turnpike O&M costs	Estimated Spaulding O&M Need *	Total Spaulding O&M needs (Strafford Region) **
2021	\$16.28	\$4.07	\$3.58
2022	\$16.73	\$4.18	\$3.68
2023	\$17.20	\$4.30	\$3.78
2024	\$17.68	\$4.42	\$3.89
2025	\$18.18	\$4.55	\$4.00
2026	\$18.69	\$4.67	\$4.11
2027	\$19.21	\$4.80	\$4.23
2028	\$19.75	\$4.94	\$4.35
2029	\$20.30	\$5.08	\$4.47
2030	\$20.87	\$5.22	\$4.59
2031	\$21.46	\$5.36	\$3.61
2032	\$22.06	\$5.51	\$3.71
2033	\$22.67	\$5.67	\$3.81
2034	\$23.31	\$5.83	\$3.92
2035	\$23.96	\$5.99	\$4.03
2036	\$24.63	\$6.16	\$4.14
2037	\$25.32	\$6.33	\$4.25
2038	\$26.03	\$6.51	\$4.37
2039	\$26.76	\$6.69	\$4.49
2040	\$27.51	\$6.88	\$4.62
2041	\$28.28	\$7.07	\$3.63
2042	\$29.07	\$7.27	\$3.73
2043	\$29.89	\$7.47	\$3.84
2044	\$30.72	\$7.68	\$3.94
2045	\$31.58	\$7.90	\$4.05

*Spaulding Turnpike represents 25% of total turnpike O&M costs on average.

**88% of Spaulding Turnpike miles are in the Strafford region.

Spaulding Tpk miles in SRPC region	29.36	88%
Spaulding TPke miles in RPC region	3.84	12%
Total Spaulding Turnpike Miles	33.2	100%

Note: Turnpike O&M costs estimated for information only. SRPC is not directly involved with turnpike operations.

APPENDIX

2021-2024 SRPC Transportation Improvement Program Update

1/14/2021

Please refer to the 2019-2022 TIP document and project listing for detailed COAST transit funding information. NHDOT groups federal funding for statewide public transit in large programs (e.g. FTA 5307); MPOs and RPCs track funding for individual transit providers and projects. Strafford MPO is currently updating its project database and will be incorporating individual project funding for final publication of the 2019-2022 TIP.

COAST5307 COAST5307

Towns: Regional

Road: Various

Scope: COAST operating, ADA, capital PM, planning, FTA 5307 funds plus pending CMAQ-to-FTA transfer.

Acronyms:

Proposed Funding

Funding Sources

Dover 41373

Towns: Dover
Road: Rte 155, Rte 108, Bellamy Rd. Daley Dr. Durham Rd (Community Trail)
Scope: Construct multi-use path from Knox Marsh Rd. to Bellamy Rd.
Acronyms:

Proposed Funding

Phase	Fiscal Year	Federal	State	Other	Total	
PE	2021	\$20,538		\$0	\$5,134	\$25,672
ROW	2021	\$34,400		\$0	\$8,600	\$43,000
CON	2022	\$116,164		\$0	\$144,315	\$260,479
CON	2023	\$119,417		\$0	\$29,854	\$149,271

Funding Sources

FHWA

TAP - Transportation Alternatives

OTHER

Towns

DOVER 41746

Towns: DOVER
Road: RTE 108
Scope: Traffic signal improvements and installation of a camera system to monitor traffic flow.
Acronyms:

Proposed Funding

Phase	Fiscal Year	Federal	State	Other	Total	
CON	2021	\$104,000		\$0	\$26,000	\$130,000

Funding Sources

FHWA

Congestion Mitigation and Air Quality Program

OTHER

Towns

DOVER 41824

Towns: DOVER

Road: NH 16

Scope: Bridge Superstructure Replacement for NH 16 NB (#106/133) and SB (#105/133) over Cocheco River

Acronyms:

Proposed Funding

Phase	Fiscal Year	Federal	State	Other	Total
PE	2021	\$0	\$45,000	\$0	<i>\$45,000</i>
PE	2022	\$0	\$308,400	\$0	<i>\$308,400</i>
PE	2023	\$0	\$158,518	\$0	<i>\$158,518</i>
PE	2024	\$0	\$108,637	\$0	<i>\$108,637</i>
CON	2024	\$0	\$543,187	\$0	<i>\$543,187</i>

Funding Sources

NHDOT

Turnpike Renewal & Replacement

DOVER - ROCHESTER 29440

Towns: DOVER, ROCHESTER

Road: Spaulding Turnpike

Scope: Open Road Tolling Conversion at the Dover and Rochester Toll Plazas

Acronyms:

Proposed Funding

Phase	Fiscal Year	Federal	State	Other	Total
CON	2021	\$0	\$17,990,000	\$0	<i>\$17,990,000</i>

Funding Sources

NHDOT

Turnpike Capital

DOVER - SOMERSWORTH - ROCHESTER 29604

Towns: DOVER, ROCHESTER, SOMERSWORTH
Road: NH 108
Scope: NH Rte 108 - Complete Streets consistent with improvements under U-3 alternative
Acronyms:

Proposed Funding

Phase	Fiscal Year	Federal	State	Other	Total
PE	2021	\$345,316		\$0	\$345,316
PE	2022	\$1,228,135		\$0	\$1,228,135
ROW	2022	\$1,526,580		\$0	\$1,526,580
CON	2024	\$6,215,049		\$0	\$6,215,049

Funding Sources

FHWA

STBG-State Flexible

NHDOT

Toll Credit

Dover, NH - South Berwick, ME 41433

Towns: Dover, NH; South Berwick, ME
Road: Gulf Road
Scope: Address Red List bridge carrying Gulf Road over Salmon Falls River between Dover and South Berwick
Acronyms:

Proposed Funding

Phase	Fiscal Year	Federal	State	Other	Total
PE	2024	\$122,847		\$0	\$122,847
				\$111,679	\$234,526

Funding Sources

FHWA

STBG-State Flexible

NHDOT

Toll Credit

OTHER

Maine

DURHAM 16254

Towns: DURHAM
Road: US 4 / NH 108
Scope: Signalize intersection of US 4 westbound off ramp with NH 108
Acronyms:

Proposed Funding

Phase	Fiscal Year	Federal	State	Other	Total
ROW	2021	\$1,100	\$0	\$0	\$1,100

Funding Sources

FHWA

Equity Bonus
National Highway Performance
STBG-5 to 200K
STBG-Areas Less Than 200K
STBG-Non Urban Areas Under 5K
STBG-State Flexible

NHDOT

Toll Credit

Durham 41432

Towns: Durham
Road: Bennett Road
Scope: Address the Red List bridge carrying Bennett Road over PAR in the Town of Durham (093/080)

Acronyms:

Proposed Funding

Phase	Fiscal Year	Federal	State	Other	Total
PE	2024	\$116,246		\$0	\$116,246

Funding Sources

FHWA

STBG-Off System Bridge

STBG-State Flexible

NHDOT

Toll Credit

Durham 42873

Towns: Durham
Road: UNH
Scope: Purchase two CNG Buses and one Diesel (B20 biodiesel) bus.
Acronyms: CMAQ: Congestion Mitigation Air Quality Improvement Program

Proposed Funding

Phase	Fiscal Year	Federal	State	Other	Total
OTHER	2021	\$1,200,000		\$300,000	\$1,500,000

Funding Sources

FHWA

Congestion Mitigation and Air Quality Program

OTHER

Towns

LEE 41322

Towns: LEE
Road: NH Route 125
Scope: Bridge Replacement of culvert carrying NH 125 over Little River Br No 073/084
Acronyms:

Proposed Funding

Phase	Fiscal Year	Federal	State	Other	Total	
PE	2021	\$220,000		\$0	\$0	\$220,000
ROW	2022	\$16,500		\$0	\$0	\$16,500
CON	2022	\$1,650,000		\$0	\$0	\$1,650,000

Funding Sources

FHWA

Hwy Infrastructure
National Highway Performance
STBG-Non Urban Areas Under 5K

NHDOT

Toll Credit

LEE 42876

Towns: Lee
Road: NH125
Scope: Construct up to an 80 space Park and Ride Lot near the junction of US4 and NH125.
Acronyms: CMAQ: Congestion Mitigation Air Quality Improvement Program

Proposed Funding

Phase	Fiscal Year	Federal	State	Other	Total	
PE	2021	\$137,500		\$0	\$0	\$137,500
ROW	2022	\$84,810		\$0	\$0	\$84,810
CON	2022	\$876,370		\$0	\$0	\$876,370

Funding Sources

FHWA

Congestion Mitigation and Air Quality Program

NHDOT

Toll Credit

MILTON, NH-LEBANON, ME 40658

Towns: Milton
Road: Townhouse Road over Northeast Pond
Scope: Bridge Replacement-Townhouse Road over Northeast Pond-formerly Br. #168/152 - proposed Br. #168/151
Acronyms: MOBRR: Municipally-Owned Bridge Replacement and Rehabilitation

Proposed Funding

Phase	Fiscal Year	Federal	State	Other	Total
PE	2021	\$96,250	\$0	\$87,500	\$183,750
ROW	2022	\$5,654	\$0	\$5,140	\$10,794
CON	2023	\$596,026	\$0	\$817,423	\$1,413,449

Funding Sources

FHWA

STBG-5 to 200K

STBG-Non Urban Areas Under 5K

NHDOT

Toll Credit

OTHER

Maine

Non Par Other

Towns

NEWFIELDS - NEWMARKET 28393

Towns: NEWFIELDS, NEWMARKET

Road: NH 108

Scope: Bridge Rehabilitations, address bridges carrying NH 108 over BMRR Bridge numbers 127/081 & 125/054

Acronyms:

Proposed Funding

Phase	Fiscal Year	Federal	State	Other	Total
PE	2021	\$275,000	\$0	\$0	\$275,000

Funding Sources

FHWA

Equity Bonus

STBG-5 to 200K

STBG-State Flexible

NHDOT

Toll Credit

NEWINGTON - DOVER 11238

Towns: DOVER, NEWINGTON

Road: NH 16 / US 4 / SPLDG TPK

Scope: NH 16 WIDEN TURNPIKE INCLUDING LITTLE BAY BRIDGES FROM GOSLING ROAD TO DOVER TOLL.

Acronyms:

Proposed Funding

Phase	Fiscal Year	Federal	State	Other	Total
PE	2021	\$0	\$1,495,000	\$0	\$1,495,000
CON	2021	\$0	\$295,000	\$0	\$295,000

Funding Sources

NHDOT

Turnpike Capital

NEWINGTON - DOVER 11238S

Towns: DOVER, NEWINGTON
Road: SPAULDING TURNPIKE / LITTLE BAY BRIDGES
Scope: Remove the superstructure General Sullivan Br & provide the most cost effective bike/ped connection

Acronyms:

Proposed Funding

Phase	Fiscal Year	Federal	State	Other	Total
CON	2024	\$0	\$14,388,114	\$0	\$14,388,114

Funding Sources

NHDOT

Turnpike Capital

Northwood-Nottingham 41595

Towns: Northwood, Nottingham
Road: RT 4 & 152
Scope: Intersection safety improvements to the US 4/NH 152 intersection

Acronyms:

Proposed Funding

Phase	Fiscal Year	Federal	State	Other	Total
PE	2023	\$307,119	\$0	\$0	\$307,119

Funding Sources

FHWA

National Highway Performance

NHDOT

Toll Credit

PAVE-T2-REHAB PAVE-T2-REHAB

Towns: Statewide
Road: Various
Scope: Rehab of Tier 2 roads.
Acronyms:

Proposed Funding

Phase	Fiscal Year	Federal	State	Other	Total
PE	2021	\$200,000	\$0	\$0	\$200,000
PE	2022	\$50,000	\$0	\$0	\$50,000
PE	2023	\$125,000	\$0	\$0	\$125,000
PE	2024	\$125,000	\$0	\$0	\$125,000
ROW	2021	\$30,000	\$0	\$0	\$30,000
ROW	2022	\$30,000	\$0	\$0	\$30,000
ROW	2023	\$30,000	\$0	\$0	\$30,000
ROW	2024	\$30,000	\$0	\$0	\$30,000
CON	2021	\$2,345,000	\$0	\$0	\$2,345,000
CON	2022	\$6,509,000	\$0	\$0	\$6,509,000
CON	2024	\$836,000	\$0	\$0	\$836,000

Funding Sources

FHWA

National Highway Performance

STBG-State Flexible

NHDOT

Betterment

Toll Credit

PROGRAM BRDG-HIB-M&P

Towns: Statewide

Road: Various

Scope: Maintenance and preservation efforts for High Investment Bridges

Acronyms:

Proposed Funding

Phase	Fiscal Year	Federal	State	Other	Total
PE	2021	\$100,000	\$0	\$0	<i>\$100,000</i>
PE	2022	\$85,000	\$0	\$0	<i>\$85,000</i>
PE	2023	\$100,000	\$0	\$0	<i>\$100,000</i>
PE	2024	\$100,000	\$0	\$0	<i>\$100,000</i>
ROW	2021	\$20,000	\$0	\$0	<i>\$20,000</i>
ROW	2022	\$20,000	\$0	\$0	<i>\$20,000</i>
ROW	2023	\$20,000	\$0	\$0	<i>\$20,000</i>
ROW	2024	\$20,000	\$0	\$0	<i>\$20,000</i>
CON	2022	\$269,000	\$0	\$0	<i>\$269,000</i>
CON	2023	\$2,800,000	\$0	\$0	<i>\$2,800,000</i>
CON	2024	\$2,800,000	\$0	\$0	<i>\$2,800,000</i>

Funding Sources

FHWA

Hwy Infrastructure

National Highway Performance

STBG-5 to 200K

STBG-State Flexible

NHDOT

Toll Credit

PROGRAM BRDG-T1/2-M&P

Towns: Statewide
Road: Tier 1-2 Bridges
Scope: Maintenance & preservation of tier 1 & 2 bridges.
Acronyms:

Proposed Funding

Phase	Fiscal Year	Federal	State	Other	Total
PE	2021	\$100,000	\$0	\$0	\$100,000
PE	2022	\$50,000	\$0	\$0	\$50,000
PE	2023	\$200,000	\$0	\$0	\$200,000
PE	2024	\$100,000	\$0	\$0	\$100,000
ROW	2021	\$25,000	\$0	\$0	\$25,000
ROW	2022	\$25,000	\$0	\$0	\$25,000
ROW	2023	\$25,000	\$0	\$0	\$25,000
ROW	2024	\$25,000	\$0	\$0	\$25,000
CON	2021	\$4,195,000	\$380,000	\$0	\$4,575,000
CON	2022	\$4,620,000	\$380,000	\$0	\$5,000,000
CON	2023	\$7,505,000	\$395,000	\$0	\$7,900,000
CON	2024	\$7,600,000	\$400,000	\$0	\$8,000,000

Funding Sources

FHWA

Hwy Infrastructure
National Highway Performance
STBG-5 to 200K
STBG-Non Urban Areas Under 5K
STBG-State Flexible

NHDOT

General Fund
Toll Credit

PROGRAM BRDG-T3/4-M&P

Towns: Statewide
Road: Tier 3-4 Bridges
Scope: Maintenance and preservation of tier 3 & 4 bridges.
Acronyms:

Proposed Funding

Phase	Fiscal Year	Federal	State	Other	Total
PE	2021	\$100,000	\$0	\$0	\$100,000
PE	2022	\$100,000	\$0	\$0	\$100,000
PE	2023	\$50,000	\$0	\$0	\$50,000
PE	2024	\$50,000	\$0	\$0	\$50,000
ROW	2021	\$10,000	\$0	\$0	\$10,000
ROW	2022	\$10,000	\$0	\$0	\$10,000
ROW	2023	\$10,000	\$0	\$0	\$10,000
ROW	2024	\$10,000	\$0	\$0	\$10,000
CON	2021	\$3,230,000	\$170,000	\$0	\$3,400,000
CON	2022	\$1,890,000	\$170,000	\$0	\$2,060,000
CON	2023	\$3,230,000	\$170,000	\$0	\$3,400,000
CON	2024	\$2,325,000	\$175,000	\$0	\$2,500,000

Funding Sources

FHWA

National Highway Performance
STBG-5 to 200K
STBG-Non Urban Areas Under 5K
STBG-State Flexible

NHDOT

General Fund
Toll Credit

PROGRAM CMAQ-FTA

Towns: Statewide
Road: Various
Scope: Funds transferred from CMAQ to FTA.
Acronyms: CMAQ: Congestion Mitigation Air Quality Improvement Program
FTA: Federal Transit Administration

Proposed Funding

Phase	Fiscal Year	Federal	State	Other	Total
OTHER	2021	\$2,200,000		\$0	\$2,200,000
OTHER	2022	\$2,200,000		\$0	\$2,200,000
OTHER	2023	\$2,200,000		\$0	\$2,200,000
OTHER	2024	\$2,200,000		\$0	\$2,200,000

Funding Sources

FHWA

Congestion Mitigation and Air Quality Program

NHDOT

Toll Credit

PROGRAM CORRST

Towns: Statewide
Road: Various
Scope: Corridor Studies Statewide
Acronyms:

Proposed Funding

Phase	Fiscal Year	Federal	State	Other	Total
OTHER	2021	\$700,000		\$0	\$700,000
OTHER	2022	\$700,000		\$0	\$700,000
OTHER	2023	\$700,000		\$0	\$700,000
OTHER	2024	\$700,000		\$0	\$700,000

Funding Sources

FHWA

Congestion Mitigation and Air Quality Program

NHDOT

Toll Credit

PROGRAM CRDR

Towns: Statewide

Road: Various

Scope: CULVERT REPLACEMENT/REHABILITATION & DRAINAGE REPAIRS (Annual Project)

Acronyms:

Proposed Funding

Phase	Fiscal Year	Federal	State	Other	Total
PE	2021	\$700,000	\$0	\$0	\$700,000
PE	2022	\$400,000	\$0	\$0	\$400,000
PE	2023	\$100,000	\$0	\$0	\$100,000
PE	2024	\$100,000	\$0	\$0	\$100,000
ROW	2021	\$27,500	\$0	\$0	\$27,500
ROW	2022	\$51,700	\$0	\$0	\$51,700
ROW	2023	\$25,000	\$0	\$0	\$25,000
ROW	2024	\$25,000	\$0	\$0	\$25,000
CON	2021	\$1,437,500	\$0	\$0	\$1,437,500
CON	2022	\$1,430,000	\$0	\$0	\$1,430,000
CON	2023	\$1,683,300	\$0	\$0	\$1,683,300
CON	2024	\$1,300,000	\$0	\$0	\$1,300,000
OTHER	2021	\$5,000	\$0	\$0	\$5,000
OTHER	2022	\$5,000	\$0	\$0	\$5,000
OTHER	2023	\$5,000	\$0	\$0	\$5,000
OTHER	2024	\$5,000	\$0	\$0	\$5,000

Funding Sources

FHWA

National Highway Performance

STBG-Off System Bridge

STBG-State Flexible

NHDOT

Toll Credit

PROGRAM FTA5307

Towns: ATKINSON, EAST KINGSTON, HAMPSTEAD, HAMPTON, KINGSTON, LONDONDERRY, PLAISTOW, SALEM, WINDHAM

Road: Boston Urbanized Area (UZA)

Scope: Boston Urbanized Area (UZA) FTA Section 5307 apportioned funds for NHDOT transit projects.

Acronyms:

Proposed Funding

Phase	Fiscal Year	Federal	State	Other	Total
OTHER	2021	\$7,789,000		\$0	\$7,789,000
OTHER	2022	\$5,404,962		\$0	\$5,404,962
OTHER	2023	\$3,022,085		\$0	\$3,022,085
OTHER	2024	\$3,082,526		\$0	\$3,082,526

Funding Sources

FTA

FTA 5307 Capital and Operating Program

NHDOT

Toll Credit

PROGRAM FTA5310

Towns: Statewide

Road: Various

Scope: Capital, Mobility Mgmt, and Operating for Seniors & Individuals w/ Disabilities - FTA 5310 Program

Acronyms:

Proposed Funding

Phase	Fiscal Year	Federal	State	Other	Total
OTHER	2021	\$2,382,080		\$0	\$2,977,600
OTHER	2022	\$2,420,277		\$0	\$3,025,346
OTHER	2023	\$1,987,030		\$0	\$2,483,787
OTHER	2024	\$2,026,770		\$0	\$2,533,462

Funding Sources

FHWA

STBG-State Flexible

FTA

FTA 5310 Capital Program

OTHER

Other

PROGRAM FTA5339

Towns: Statewide

Road: Various

Scope: Capital bus and bus facilities - FTA 5339 Program for statewide public transportation

Acronyms:

Proposed Funding

Phase	Fiscal Year	Federal	State	Other	Total
OTHER	2021	\$5,385,657		\$0	\$6,732,071
OTHER	2022	\$5,471,364		\$0	\$6,839,206
OTHER	2023	\$4,458,509		\$0	\$5,573,137
OTHER	2024	\$4,547,679		\$0	\$5,684,599

Funding Sources

FTA

FTA 5339 Bus and Bus Facilities

NHDOT

State of New Hampshire

OTHER

Other

State of New Hampshire

PROGRAM GRR

Towns: Statewide

Road: Various

Scope: GUARDRAIL REPLACEMENT [Federal Aid Guardrail Improvement Program] (Annual Project)

Acronyms:

Proposed Funding

Phase	Fiscal Year	Federal	State	Other	Total	
PE	2021	\$150,000		\$0	\$0	<i>\$150,000</i>
PE	2022	\$150,000		\$0	\$0	<i>\$150,000</i>
PE	2023	\$150,000		\$0	\$0	<i>\$150,000</i>
PE	2024	\$150,000		\$0	\$0	<i>\$150,000</i>
ROW	2021	\$5,000		\$0	\$0	<i>\$5,000</i>
ROW	2022	\$5,000		\$0	\$0	<i>\$5,000</i>
ROW	2023	\$5,000		\$0	\$0	<i>\$5,000</i>
ROW	2024	\$5,000		\$0	\$0	<i>\$5,000</i>
CON	2021	\$1,880,000		\$0	\$0	<i>\$1,880,000</i>
CON	2022	\$1,880,000		\$0	\$0	<i>\$1,880,000</i>
CON	2023	\$1,880,000		\$0	\$0	<i>\$1,880,000</i>
CON	2024	\$1,880,000		\$0	\$0	<i>\$1,880,000</i>

Funding Sources

FHWA

National Highway Performance

STBG-State Flexible

NHDOT

Toll Credit

PROGRAM HSIP

Towns: Statewide
Road: Various
Scope: HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP)
Acronyms:

Proposed Funding

Phase	Fiscal Year	Federal	State	Other	Total	
PE	2021	\$1,200,000		\$0	\$0	<i>\$1,200,000</i>
PE	2022	\$500,000		\$0	\$0	<i>\$500,000</i>
PE	2023	\$500,000		\$0	\$0	<i>\$500,000</i>
PE	2024	\$500,000		\$0	\$0	<i>\$500,000</i>
ROW	2021	\$230,000		\$0	\$0	<i>\$230,000</i>
ROW	2022	\$150,000		\$0	\$0	<i>\$150,000</i>
ROW	2023	\$150,000		\$0	\$0	<i>\$150,000</i>
ROW	2024	\$150,000		\$0	\$0	<i>\$150,000</i>
CON	2021	\$6,471,232		\$0	\$0	<i>\$6,471,232</i>
CON	2022	\$7,859,081		\$0	\$0	<i>\$7,859,081</i>
CON	2023	\$9,059,081		\$0	\$0	<i>\$9,059,081</i>
CON	2024	\$9,059,081		\$0	\$0	<i>\$9,059,081</i>
OTHER	2021	\$1,330,000		\$0	\$0	<i>\$1,330,000</i>
OTHER	2022	\$200,000		\$0	\$0	<i>\$200,000</i>
OTHER	2023	\$200,000		\$0	\$0	<i>\$200,000</i>
OTHER	2024	\$200,000		\$0	\$0	<i>\$200,000</i>

Funding Sources

FHWA

Highway Safety Improvement Program (HSIP)

STBG-State Flexible

NHDOT

Toll Credit

PROGRAM LTAP

Towns: Statewide

Road: Local Techonolgy Assistance Program

Scope: Local Techonolgy Assistance Program (LTAP) administered by the Technology Transfer Center @ UNH

Acronyms:

Proposed Funding

Phase	Fiscal Year	Federal	State	Other	Total	
SPR	2021	\$150,000		\$0	\$0	<i>\$150,000</i>
SPR	2022	\$150,000		\$0	\$0	<i>\$150,000</i>
SPR	2023	\$150,000		\$0	\$0	<i>\$150,000</i>
SPR	2024	\$150,000		\$0	\$0	<i>\$150,000</i>

Funding Sources

FHWA

Local Tech Assistance Program

PROGRAM MOBRR

Towns: Statewide

Road: Various

Scope: MUNICIPAL OWNED BRIDGE REHABILITATION & REPLACEMENT PROJECTS (MOBRR PROGRAM)

Acronyms:

Proposed Funding

Phase	Fiscal Year	Federal	State	Other	Total
PE	2021	\$160,000	\$0	\$40,000	<i>\$200,000</i>
PE	2022	\$80,000	\$0	\$20,000	<i>\$100,000</i>
PE	2023	\$80,000	\$0	\$20,000	<i>\$100,000</i>
PE	2024	\$80,000	\$0	\$20,000	<i>\$100,000</i>
ROW	2021	\$20,000	\$0	\$5,000	<i>\$25,000</i>
ROW	2022	\$44,000	\$0	\$11,000	<i>\$55,000</i>
ROW	2023	\$20,000	\$0	\$5,000	<i>\$25,000</i>
ROW	2024	\$20,000	\$0	\$5,000	<i>\$25,000</i>
CON	2021	\$3,520,000	\$0	\$880,000	<i>\$4,400,000</i>
CON	2022	\$3,576,000	\$0	\$894,000	<i>\$4,470,000</i>
CON	2023	\$3,600,000	\$0	\$900,000	<i>\$4,500,000</i>
CON	2024	\$3,600,000	\$0	\$900,000	<i>\$4,500,000</i>

Funding Sources

FHWA

Bridge Off System

STBG-State Flexible

OTHER

Other

PROGRAM NSTI

Towns: DURHAM

Road: National Summer Transportation Institute

Scope: Programmatic project as a Cooperative Project Agreement (CPA) with the University of New Hampshire.

Acronyms:

Proposed Funding

Phase	Fiscal Year	Federal	State	Other	Total
OTHER	2021	\$50,000		\$0	<i>\$50,000</i>
OTHER	2022	\$50,000		\$0	<i>\$50,000</i>
OTHER	2023	\$50,000		\$0	<i>\$50,000</i>
OTHER	2024	\$50,000		\$0	<i>\$50,000</i>

Funding Sources

FHWA

NSTI National Summer Transportation Institute

PROGRAM PAVE-T1-RESURF

Towns: Statewide
Road: Tier 1 Highways
Scope: Resurface Tier 1 Highways
Acronyms:

Proposed Funding

Phase	Fiscal Year	Federal	State	Other	Total
PE	2021	\$300,000	\$0	\$0	<i>\$300,000</i>
PE	2022	\$300,000	\$0	\$0	<i>\$300,000</i>
PE	2023	\$300,000	\$0	\$0	<i>\$300,000</i>
PE	2024	\$300,000	\$0	\$0	<i>\$300,000</i>
CON	2021	\$12,250,000	\$0	\$0	<i>\$12,250,000</i>
CON	2022	\$12,250,000	\$0	\$0	<i>\$12,250,000</i>
CON	2023	\$12,250,000	\$0	\$0	<i>\$12,250,000</i>
CON	2024	\$12,250,000	\$0	\$0	<i>\$12,250,000</i>

Funding Sources

FHWA

National Highway Performance
STBG-State Flexible

NHDOT

Toll Credit

PROGRAM PAVE-T2-RESURF

Towns: Statewide
Road: Tier 2 Highways
Scope: Resurfacing Tier 2 Roadways
Acronyms:

Proposed Funding

Phase	Fiscal Year	Federal	State	Other	Total
PE	2021	\$800,000	\$0	\$0	\$800,000
PE	2022	\$800,000	\$0	\$0	\$800,000
PE	2023	\$300,000	\$0	\$0	\$300,000
PE	2024	\$300,000	\$0	\$0	\$300,000
ROW	2021	\$25,000	\$0	\$0	\$25,000
ROW	2022	\$25,000	\$0	\$0	\$25,000
ROW	2023	\$25,000	\$0	\$0	\$25,000
ROW	2024	\$25,000	\$0	\$0	\$25,000
CON	2021	\$23,120,000	\$6,000,000	\$0	\$29,120,000
CON	2022	\$2,200,000	\$6,000,000	\$0	\$8,200,000
CON	2023	\$8,000,000	\$6,000,000	\$0	\$14,000,000
CON	2024	\$14,400,000	\$6,000,000	\$0	\$20,400,000

Funding Sources

FHWA

National Highway Performance

STBG-State Flexible

NHDOT

Betterment

Toll Credit

PROGRAM PVMRK

Towns: Statewide
Road: Various
Scope: Statewide Pavement Marking Annual Project
Acronyms:

Proposed Funding

Phase	Fiscal Year	Federal	State	Other	Total
PE	2021	\$5,000	\$0	\$0	\$5,000
PE	2022	\$5,000	\$0	\$0	\$5,000
PE	2023	\$5,000	\$0	\$0	\$5,000
PE	2024	\$5,000	\$0	\$0	\$5,000
CON	2021	\$3,095,000	\$0	\$0	\$3,095,000
CON	2022	\$3,095,000	\$0	\$0	\$3,095,000
CON	2023	\$3,095,000	\$0	\$0	\$3,095,000
CON	2024	\$3,095,000	\$0	\$0	\$3,095,000

Funding Sources

FHWA

National Highway Performance
STBG-State Flexible

NHDOT

Toll Credit

PROGRAM RCTRL

Towns: Statewide
Road: Various
Scope: RECREATIONAL TRAILS FUND ACT- PROJECTS SELECTED ANNUALLY
Acronyms:

Proposed Funding

Phase	Fiscal Year	Federal	State	Other	Total
OTHER	2021	\$1,250,000		\$0	<i>\$1,562,500</i>
OTHER	2022	\$1,250,000		\$0	<i>\$1,562,500</i>
OTHER	2023	\$1,250,000		\$0	<i>\$1,562,500</i>
OTHER	2024	\$1,250,000		\$0	<i>\$1,562,500</i>

Funding Sources

FHWA

Recreational Trails

NHDOT

Betterment

Non Participating

Toll Credit

OTHER

DNCR

PROGRAM RRRCS

Towns: Statewide

Road: Statewide Railroad Crossings

Scope: RECONSTRUCTION OF CROSSINGS, SIGNALS, & RELATED WORK (Annual Project)

Acronyms:

Proposed Funding

Phase	Fiscal Year	Federal	State	Other	Total
PE	2021	\$303,156	\$0	\$0	\$303,156
PE	2022	\$250,000	\$0	\$0	\$250,000
PE	2023	\$250,000	\$0	\$0	\$250,000
PE	2024	\$250,000	\$0	\$0	\$250,000
ROW	2021	\$5,000	\$0	\$0	\$5,000
ROW	2022	\$5,000	\$0	\$0	\$5,000
ROW	2024	\$5,000	\$0	\$0	\$5,000
CON	2021	\$1,548,384	\$0	\$0	\$1,548,384
CON	2022	\$925,000	\$0	\$0	\$925,000
CON	2023	\$925,000	\$0	\$0	\$925,000
CON	2024	\$925,000	\$0	\$0	\$925,000
OTHER	2021	\$5,000	\$0	\$0	\$5,000
OTHER	2022	\$5,000	\$0	\$0	\$5,000
OTHER	2023	\$5,000	\$0	\$0	\$5,000
OTHER	2024	\$5,000	\$0	\$0	\$5,000

Funding Sources

FHWA

Highway Safety Improvement Program (HSIP)

RL - Rail Highway

NHDOT

Toll Credit

PROGRAM STIC

Towns: Statewide
Road: Varies
Scope: STIC Incentives
Acronyms:

Proposed Funding

Phase	Fiscal Year	Federal	State	Other	Total
OTHER	2021	\$100,000	\$25,000	\$0	<i>\$125,000</i>
OTHER	2022	\$100,000	\$25,000	\$0	<i>\$125,000</i>
OTHER	2023	\$100,000	\$25,000	\$0	<i>\$125,000</i>
OTHER	2024	\$100,000	\$25,000	\$0	<i>\$125,000</i>

Funding Sources

FHWA

STIC Funding

NHDOT

NHDOT Operating Budget

PROGRAM TA

Towns: Statewide
Road: Various
Scope: TRANSPORTATION ALTERNATIVES PROGRAM (TAP)
Acronyms:

Proposed Funding

Phase	Fiscal Year	Federal	State	Other	Total
PE	2021	\$244,760	\$0	\$61,190	\$305,950
PE	2022	\$172,000	\$0	\$43,000	\$215,000
PE	2023	\$252,760	\$0	\$63,190	\$315,950
PE	2024	\$172,760	\$0	\$43,190	\$215,950
ROW	2021	\$110,120	\$0	\$27,530	\$137,650
ROW	2022	\$102,120	\$0	\$25,530	\$127,650
ROW	2023	\$102,120	\$0	\$25,530	\$127,650
ROW	2024	\$102,120	\$0	\$25,530	\$127,650
CON	2021	\$2,198,720	\$0	\$549,680	\$2,748,400
CON	2022	\$2,279,480	\$0	\$569,870	\$2,849,350
CON	2023	\$2,198,720	\$0	\$549,680	\$2,748,400
CON	2024	\$2,278,720	\$0	\$569,680	\$2,848,400

Funding Sources

FHWA

TAP - Transportation Alternatives

NHDOT

Toll Credit

OTHER

Other

PROGRAM TSMO

Towns: Statewide

Road: Transportation Systems Management and Operations

Scope: Statewide Transportation Systems Management and Operations, ITS Technologies, Traveler Info

Acronyms:

Proposed Funding

Phase	Fiscal Year	Federal	State	Other	Total
OTHER	2021	\$350,000		\$0	<i>\$350,000</i>
OTHER	2022	\$350,000		\$0	<i>\$350,000</i>
OTHER	2023	\$350,000		\$0	<i>\$350,000</i>
OTHER	2024	\$350,000		\$0	<i>\$350,000</i>

Funding Sources

FHWA

National Highway Performance

STBG-State Flexible

NHDOT

Toll Credit

PROGRAM USSS

Towns: Statewide
Road: Various
Scope: Project to update signing on state system
Acronyms:

Proposed Funding

Phase	Fiscal Year	Federal	State	Other	Total	
PE	2021	\$30,000		\$0	\$0	<i>\$30,000</i>
PE	2022	\$30,000		\$0	\$0	<i>\$30,000</i>
PE	2023	\$30,000		\$0	\$0	<i>\$30,000</i>
PE	2024	\$30,000		\$0	\$0	<i>\$30,000</i>
CON	2021	\$500,000		\$0	\$0	<i>\$500,000</i>
CON	2022	\$500,000		\$0	\$0	<i>\$500,000</i>
CON	2023	\$500,000		\$0	\$0	<i>\$500,000</i>
CON	2024	\$500,000		\$0	\$0	<i>\$500,000</i>

Funding Sources

FHWA

National Highway Performance
STBG-State Flexible

NHDOT

Toll Credit

ROCHESTER 14350

Towns: ROCHESTER
Road: NH 202A (WALNUT STREET)
Scope: INTERSECTION IMPROVEMENTS TO IMPROVE SAFETY THROUGH STRAFFORD SQ, NORTH MAIN, & WASHINGTON ST

Acronyms:

Proposed Funding

Phase	Fiscal Year	Federal	State	Other	Total
PE	2021	\$800	\$0	\$200	\$1,000
ROW	2021	\$800	\$0	\$200	\$1,000
CON	2021	\$1,360,000	\$0	\$3,128,153	\$4,488,153

Funding Sources

FHWA

STBG-Areas Less Than 200K

STBG-Hazard Elimination

STBG-State Flexible

NHDOT

Non Participating

OTHER

Towns

Rochester 40647

Towns: Rochester
Road: NH125 (Columbus Ave) and Lowell St
Scope: Intersection Safety Improvements at this 5 way intersection
Acronyms:

Rochester 40647

Towns: Rochester
Road: NH125 (Columbus Ave) and Lowell St
Scope: Intersection Safety Improvements at this 5 way intersection
Acronyms:

Proposed Funding

Phase	Fiscal Year	Federal	State	Other	Total
PE	2023	\$180,928	\$0	\$0	\$180,928

Funding Sources

FHWA

STBG-5 to 200K

NHDOT

Toll Credit

Rochester 40647

Towns: Rochester
Road: NH125 (Columbus Ave) and Lowell St
Scope: Intersection Safety Improvements at this 5 way intersection
Acronyms:

Rochester 40647

Towns: Rochester
Road: NH125 (Columbus Ave) and Lowell St
Scope: Intersection Safety Improvements at this 5 way intersection
Acronyms:

Proposed Funding

Phase	Fiscal Year	Federal	State	Other	Total
PE	2023	\$180,928	\$0	\$0	\$180,928

Funding Sources

FHWA

STBG-5 to 200K

NHDOT

Toll Credit

Rollinsford - Dover 42578

Towns: Rollinsford, Dover

Road: Oak St

Scope: Address Red List bridge (069/046) carrying Oak Street over PAR between Rollinsford and Dover

Acronyms:

Proposed Funding

Phase	Fiscal Year	Federal	State	Other	Total	
PE	2023	\$116,246		\$0	\$0	\$116,246
PE	2024	\$179,251		\$0	\$0	\$179,251

Funding Sources

FHWA

STBG-State Flexible

NHDOT

Toll Credit

SOMERSWORTH 40646

Towns: SOMERSWORTH

Road: NH 9 (High Street), Blackwater Rd, Indigo Hill Rd

Scope: Intersection safety improvements; NH Route 9, Blackwater Road, Indigo Hill Road

Acronyms:

Proposed Funding

Phase	Fiscal Year	Federal	State	Other	Total	
PE	2022	\$110,000		\$0	\$0	<i>\$110,000</i>
PE	2023	\$339,240		\$0	\$0	<i>\$339,240</i>
ROW	2023	\$106,295		\$0	\$26,574	<i>\$132,869</i>

Funding Sources

FHWA

National Highway Performance

STBG-5 to 200K

STBG-State Flexible

NHDOT

Toll Credit

OTHER

Towns

SOMERSWORTH 41741

Towns: SOMERSWORTH
Road: Hight Street / Route 108
Scope: Signal optimization on High Street / Route 108 corridor
Acronyms:

Proposed Funding

Phase	Fiscal Year	Federal	State	Other	Total	
PE	2021	\$25,680		\$0	\$6,420	\$32,100
ROW	2021	\$12,000		\$0	\$3,000	\$15,000
CON	2021	\$482,800		\$0	\$120,700	\$603,500

Funding Sources

FHWA

Congestion Mitigation and Air Quality Program

OTHER

Towns

STATEWIDE 41756

Towns: Statewide
Road: Various
Scope: Evaluate 61+ traffic control signals and develop&implement signal timings to improve traffic flow
Acronyms:

Proposed Funding

Phase	Fiscal Year	Federal	State	Other	Total	
OTHER	2021	\$165,000		\$0	\$0	\$165,000
OTHER	2022	\$169,620		\$0	\$0	\$169,620

Funding Sources

FHWA

Congestion Mitigation and Air Quality Program

NHDOT

Toll Credit

STATEWIDE 42878

Towns: Undetermined

Road: Various

Scope: Upgrades to 10 locations statewide that may include flashing yellow arrow& optimized signal timing.

Acronyms:

Proposed Funding

Phase	Fiscal Year	Federal	State	Other	Total
PE	2022	\$67,848		\$0	\$67,848
CON	2022	\$497,552		\$0	\$497,552

Funding Sources

FHWA

Congestion Mitigation and Air Quality Program

NHDOT

Toll Credit

STATEWIDE TIER 2 (S) 43289

Towns: BARRINGTON, HAMPTON, HOOKSETT, MILTON, NORTHWOOD, PETERBOROUGH, RINDGE, ROCHESTER, WAKEFIELD

Road: Various

Scope: Resurfacing of various Tier 2 roadways

Acronyms:

Proposed Funding

Phase	Fiscal Year	Federal	State	Other	Total
PE	2021	\$0	\$15,025	\$0	\$15,025
CON	2021	\$5,060,000	\$0	\$0	\$5,060,000

Funding Sources

FHWA

STBG-State Flexible

NHDOT

Betterment

Non Par DOT

Toll Credit

Barrington		Projects programmed in the Statewide Ten Year Plan (years 2025-2030)						
Project_#	Road	Scope_Location	Construction Year	Preliminary Engineering	ROW	Construction	Total	
41410	Old Canaan Road over Spruce Brook	Bridge Replacement-Old Canaan Road over Spruce Brook-Br. #052/059	2026	\$ 114,002	\$ 4,731	\$ 506,252	\$ 624,985	
41415	US Route 4	Rehab or Replacement of red list bridge carrying US 4 over Oyster River in the Town of Barrington	2026	\$ 200,000	\$ -	\$ -	\$ 200,000	
Dover		Projects programmed in the Statewide Ten Year Plan (years 2025-2030)						
Project_#	Road	Scope_Location	Construction Year	Preliminary Engineering	ROW	Construction	Total	
42626	Chestnut Street	Pedestrian and accessibility improvements.	2030	\$ 31,181	\$ -	\$ 230,658	\$ 261,839	
42824	NH 16 (Spaulding Turnpike)	Bridge Rehabilitation Spaulding Turnpike (NH 16) over NH 108	2026	\$ 50,000	\$ -	\$ 3,000,000	\$ 3,050,000	
Durham		Projects programmed in the Statewide Ten Year Plan (years 2025-2030)						
Project_#	Road	Scope_Location	Construction Year	Preliminary Engineering	ROW	Construction	Total	
41432	Bennett Road	Address the Red List bridge carrying Bennett Road over PAR in the Town of Durham (093/080)	2028	\$ 523,323	\$ 68,597	\$ 1,028,961	\$ 1,620,881	
Madbury		Projects programmed in the Statewide Ten Year Plan (years 2025-2030)						
Project_#	Road	Scope_Location	Construction Year	Preliminary Engineering	ROW	Construction	Total	
41462	Freshet Road over Johnson Creek	Bridge Replacement-Fedshet Road over Johnson Creek-Br. #160/086	2026	\$ 94,627	\$ 9,463	\$ 457,356	\$ 561,446	
41596	Madbury Rd	Planning study to identify potential Intersection safety improvements to the NH 155/Madbury Road/To	2027	\$ 500,000	\$ -	\$ -	\$ 500,000	
Northwood		Projects programmed in the Statewide Ten Year Plan (years 2025-2030)						
Project_#	Road	Scope_Location	Construction Year	Preliminary Engineering	ROW	Construction	Total	
42628	School St/US 4/US 202	Intersection Improvements	2030	\$ 266,916	\$ 33,364	\$ 724,926	\$ 1,025,206	
Regional		Projects programmed in the Statewide Ten Year Plan (years 2025-2030)						
Project_#	Municipalities	Scope_Location	Construction Year	Preliminary Engineering	ROW	Construction	Total	
29604	DOVER - SOMERSWORTH - ROCHESTER	NH Rte 108 - Complete Streets consistent with improvements under U-3 alternative	2024	\$ -	\$ -	\$ 7,653,471	\$ 7,653,471	
41433	DOVER, NH - SOUTH BERWICK, MAINE	Address Red List bridge carrying Gulf Road over Salmon Falls River between Dover and South Berwick	2028	\$ 613,230	\$ -	\$ 3,273,967	\$ 3,887,197	
41595	NORTHWOOD-NOTTINGHAM	Intersection safety improvements to the US 4/NH 152 intersection	2028	\$ 400,000	\$ 100,000	\$ 2,717,500	\$ 3,217,500	
42578	ROLLINSFORD - DOVER	Address Red List bridge (069/046) carrying Oak Street over PAR between Rollinsford and Dover	2027	\$ -	\$ -	\$ 2,000,000	\$ 2,000,000	

Rochester		Projects programmed in the Statewide Ten Year Plan (years 2025-2030)						
Project_#	Road	Scope_Location	Construction Year	Preliminary Engineering	ROW	Construction	Total	
42625	Charles St/NH125/Old Dover Rd	Intersection Improvements-Reassessment of turning lane alignment&vehicle access. Update sidewalk.	2026	\$ 354,063	\$ 31,181	\$ 2,636,096	\$ 3,021,340	

Somersworth		Projects programmed in the Statewide Ten Year Plan (years 2025-2030)						
Project_#	Road	Scope_Location	Construction Year	Preliminary Engineering	ROW	Construction	Total	
40646	NH 9 (High Street), Blackwater Rd, Indigo Hill Rd	Intersection safety improvements; NH Route 9, Blackwater Road, Indigo Hill Road	2025	\$ -	\$ -	\$ 2,048,436	\$ 2,048,436	
42627	High Street & West High Strret	Pedestrian improvements to connect schools to the downtown.	2030	\$ 140,936	\$ -	\$ 1,340,455	\$ 1,481,391	

Barrington								
Long range projects to be developed for future funding								
Project_#	Road	Scope_Location	Construction Year	Preliminary Engineering	ROW	Construction	Total	
L01001	NH125 and NH9 intersection	Install 5 foot wide concrete sidewalks along westbound side of NH9: approximately 2,750 linear feet from Christmas Lane to Barrington Middle School. Includes ADA accessible crossings for all four legs of NH125/NH9 Intersection.	2035	\$ 91,433	included	\$ 609,555	\$ 761,944	
L01002	NH125 and NH9 intersection	Replace Signalized intersection with roundabout	2042	\$ 500,000	\$ 300,000	\$ 2,500,000	\$ 3,620,000	
L01006	Province Rd & NH125	Intersection Signalization	2045					Vision Project
L01007	Route 126 over the Isinglass, 1 mile north of 202	Bridge rehab- resurfacing and widening shoulders. Exempt from Air Quality (no new capacity necessary)	2045					Vision Project
L01008	NH9	Shoulder widening for bicycle safety. Aproximately 1.4 miles of NH9	2036	\$ 208,327	\$ 208,327	\$ 1,041,635	\$ 1,591,618	

Brookfield								
Long range projects to be developed for future funding								
Project_#	Road	Scope_Location	Construction Year	Preliminary Engineering	ROW	Construction	Total	
L02001	Moose Mountain Road over Hanson Brook	Bridge rehab	2040					Vision Project
L02002	Lyford Road & Route 109 Governor Wentworth Highway	Intersection realignment and sight distance improvements	2033	\$ 60,000	\$ 45,000	\$ 400,000	\$ 556,200	

Dover								
Long range projects to be developed for future funding								
Project_#	Road	Scope_Location	Construction Year	Preliminary Engineering	ROW	Construction	Total	
L03002	Columbus Avenue & NH 9	Add a left only (eastbound), increase width of the breakdown lane approaching Columbus Road (westbound), and enhance sight distance.	2044					Vision Project
L03003	Chestnut/Third St at Dover Trans Center	Roundabout at Third street that incorporates pedestrian access and safety improvements	2045					Vision Project
L03004	Sixth Street over Blackwater Brook	Bridge Rebuild- resurfacing and widening shoulders. Exempt from Air Quality (no new capacity necessary)	2039					Vision Project
L03005	Route 16B (Old Dover/Rochester Rd)	5.8 Miles of Old Dover/Rochester Rd from NH125 (Columbus Ave in Rochester) to Long Hill Rd in Dover. Shoulder expansion and improvements to increase bicycle safety.	2034					Vision Project
L03006	NH 108 over Bellamy River	Multi-lane roundabouts at Mill St and Back river Rd (at each end of the bridge).	2044	\$ 1,200,000	\$ 750,000	\$ 6,000,000	\$ 8,718,000	
L03007	Piscataqua Road (Dover to Route 4)	2.1 miles of Piscataqua Rd From Back River Rd ("Y" intersection with Drew Rd) to US4. Widen Shoulders & Paint in designated bike lanes.	2037					Vision Project
L03008	101/150 Indian Brook Drive Bridge over Spaulding TPK	Bridge widening and lane reconfiguration. Possible alternatives could include contra flow to address peak hour capacity needs. Exit 10 would also likely resolve this issue.	2038					Vision Project
L03009	Finch Lane to Mill St	Approx. 4,500 ft non-paved pedestrian path from Finch Lane. May require elevated boardwalk through tidal wetlands (approx. 1,200 feet) and bank stabilization.	2045					Vision Project
L03010	NH9	Shoulder widening for bicycle safety. Aproximately 2.4 miles of NH9	2038	\$ 357,132	\$ 267,849	\$ 1,785,659	\$ 2,639,204	

Durham								
Long range projects to be developed for future funding								
Project_#	Road	Scope_Location	Construction Year	Preliminary Engineering	ROW	Construction	Total	
L04001	Main St/NH 155A/Mast Road Intersection	Intersection safety improvements. Signal or roundabout are potential alternatives	2037	\$ 105,000	\$ 75,000	\$ 700,000	\$ 969,600	
L04001A	Main St/NH 155A/Mast Road Intersection	Install traffic signal	2032	\$ 52,500	\$ 37,500	\$ 350,000	\$ 484,800	
L04002	Route 4 (East of NH108)	600 ft in either direction from Wagon Hill Farm entrance	2032					Vision Project

L04003	NH108/Canney Rd	North of Canney Rd on NH108 . Install mid-block crossing with pedestrian-actived rectangular rapid flashing beacon with advaced warning lights. Install ADA level-landings at crossing.	2031	\$	7,847	\$	3,338	\$	52,310	\$	70,190
L04004	Madbury Road (from Garrison Ave to US4)	Madbury Rd from Woodman Rd to US4. Install sidewalks where don't currently exist. Pedestrian crossing refuge islands and other traffic calming. Coordinate with utilities upgrades.	2041								Vision Project
L04005	Main Street/Garrison Ave Intersection	100 ft diameter from intersection centroid. Bicycle and pedestrian safety improvements.	2031								Vision Project
L04006	Main St/Pettee Brook Lane/Quad Way	100 ft diameter from intersection centroid. Bicycle and pedestrian safety improvements.	2036								Vision Project
L04007	UNH Wildcat Transit	N/A - ongoing CMAQ project for bus replacement	2033								Vision Project
L04008	Durham Point Road/Bay Rd over Crommet Creek	Bridge rehab/rebuild to ensure structural safety and compatability with sea level rise and storm surge	2043	\$	800,000	\$	500,000	\$	4,000,000	\$	5,812,000
L04009	Route 108/Main Street	Long-term project Needs to be developed	2033								Vision Project
L04010	Main Street bridge over PanAm/Amtrak line	Needs to be developed	2034								Vision Project
L04011	North Underpass	Needs to be developed	2039								Vision Project
L04012	Downtown Loop	Needs to be developed	2042								Vision Project

Farmington

Long range projects to be developed for future funding

Project_#	Road	Scope_Location	Construction Year	Preliminary Engineering	ROW	Construction	Total
L05001	Route 75, 153 Downtown corridor	New sidewalks in three separate sections that will expand the connected sidewalk network: appx 1500 ft along Elm St westbound between Main St and Lone Star Ave; appx 1500 feet along Main St southbound (NH153) between Paulson Rd and public safety building; and appx 910 feet along Main St northbound between Lincoln St and Webster St.	2039	\$	148,068 included	\$	987,122 \$ 1,233,902
L05002	Route 11 & Spring Street	Intersection realignment; add left only turn lane on Route 11 East approaching the intersection; improve median island at the intersection and provide lighting.	2034	\$	67,500	\$	45,000 \$ 450,000 \$ 620,100
L05003	Downtown	Overall study of downtown traffic and ped safety, parking and access, utilities improvements	2033				Vision Project
L05004	Route 11 & River Road	Intersection Improvements to provide Left Only turn lane onto River Road or possible extension of the center turn lane to provide a safe area for tuning vehicles. Additional lighting near intersections may also improve conditions	2041				Vision Project
L05005	Route 11 & Trotting Park Road	Needs to be developed	2043				Vision Project
L05006	Route 11 & Trotting Park Road / Ridge Road	Needs to be developed	2042				Vision Project
L05007	Route 11 & Central Street & Flagstone Ave	Needs to be developed	2042				Vision Project
L05008	Route 11 & High Street	Needs to be developed	2032				Vision Project
L05009	Central St (NH75) & Main St (NH153)	Install shared lane markings (Sharows) on Downtown main streets: Central St from Cocheco bridge to Main St; Main St from Cocheco Bridge to Bay Rd (by park)	2031	\$	4,153 NA	\$	27,688 \$ 32,616

Lee

Long range projects to be developed for future funding

Project_#	Road	Scope_Location	Construction Year	Preliminary Engineering	ROW	Construction	Total
L06001	Route 125, Kelsey Road	Install left-turn lane	2040				Vision Project
L06002	Route 125, George Bennett Road	Intersection realignment and improved grade on the approach of George Bennett Road. Possible future signal (Route 125 Corridor Study)	2041				Vision Project

L06003	George Bennett Road, Lee Hook Road, Route 155, Lee Hill Road	convert to roundabout. 140 ft diameter from intersection centroid. Compare to roundabout east at Main St/North Dr in Durham	2036	\$	105,000	\$	75,000	\$	700,000	\$	969,600
L06004	087/084 Cartland Road over Little River	Bridge Replacement.	2041								Vision Project
L06005	Route 155 (Wadleigh Falls Road) & Route 152 (North River Road)	Intersection realignment to improve traffic safety	2032	\$	52,500	\$	37,500	\$	350,000	\$	484,800
L06006	Route 125 / Pinkham Road	Intersection realignment, designated turning lanes (Route 125 Corridor & Land Use Study)	2040								Vision Project
L06007	NH152	Shoulder widening on 3 miles of NH152 from NH155 to NKT border	2037	\$	446,415	\$	446,415	\$	2,232,074	\$	3,410,609

Madbury											
Long range projects to be developed for future funding											
Project_#	Road	Scope_Location	Construction Year		Preliminary Engineering	ROW	Construction	Total			
L07001	Route 9 & French Cross/Old Stage Rd	Remove additional pavement and entry to Old Stage Rd. Replace with right-turn decel lane for NH9 EB traffic onto Old Stage Rd.	2031	\$	37,500	\$	30,000	\$	250,000	\$	349,500
L07002	Route 108 and Freshet Road	Remove excess pavement,	2033	\$	60,000	\$	45,000	\$	400,000	\$	556,200
L07003	NH9	Shoulder widening for bicycle safety. Aproximately 2 miles of NH9	2039	\$	297,610	\$	297,610	\$	1,488,049	\$	2,273,739

Middleton											
Long range projects to be developed for future funding											
Project_#	Road	Scope_Location	Construction Year		Preliminary Engineering	ROW	Construction	Total			
L08001	Wakefield Road/Kings Hwy & Route 153	Scope to be developed. Intersection is adjacent to the Deprizio Mill and Middleton Building Supply. Regular truck traffic. Need safety improvements needed to address freight traffic safety.	2036								Vision Project
L08002	Route 153 & Route 125/16B (Wakefield TL)	Scope to be developed. Need to study crash data to assess specific safety hazards. Use safety analysis software to generate alternatives, and determine ideal response.	2042								Vision Project
L08003	Sunrise Lake area	Scope to be developed. Investment into establishing a community trail network	2041								Vision Project
L08004	New Durham Road & Silver St.	Scope to be developed. Intersection safety and alignment	2042								Vision Project

Milton											
Long range projects to be developed for future funding											
Project_#	Road	Scope_Location	Construction Year		Preliminary Engineering	ROW	Construction	Total			
L09001	Dawson Street and Silver Street	Construct 2,770 linear feet of sidewalk to enhance pedestrian connectivity between the town center, school, and other community church. 1,320 feet of sidewalk on Dawson St; 1,450 feet of sidewalk on Silver St. Close heavily scewed part of northern triangle intersection of Dawson St and NH125. (scope elements and cost estimate are based on engineering report from Underwood Engineers Inc.)	2034	\$	60,000	\$	48,000	\$	400,000	\$	559,200
L09002	Exit 17 on Route 16	Construct a 30-50 space park and ride (with space for future expansion) with utilities for future transit and other user amenities (restrooms). Electric vehicle charging stations.	2038	\$	105,000	\$	91,500	\$	700,000	\$	986,100
L09003	Southern access point to Dawson Street on Route 125	Identify the community preferred intersections and limit access on unnecessary intersections to reduce collision potential	2042								Vision Project
L09004	124/116 Spaulding TPK over Jones Access Road	Rebuild to increase underpass clearance.	2043								Vision Project

L09005	NH125 (White Mtn Hwy) through town center: Dawson St to Depot Pond Rd	Install shared lane markings (Sharows) along NH125 (White Mtn Hwy) through town center from Dawson St to Depot Pond Rd	2038	NA	NA	\$ 15,000	\$ 16,920
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New Durham		Long range projects to be developed for future funding						
Project_#	Road	Scope_Location	Construction Year	Preliminary Engineering	ROW	Construction	Total	
L10001	Town Hall on Main Street	950 feet from the fire station to the elementary school. Construct sidewalks near town center connecting government buildings and school	2031	\$ 45,000	\$ 37,500	\$ 300,000	\$ 420,900	
L10002	Route 11 & Davis Crossing Road	Intersection Safety Improvements, add designated turning lanes to decrease incidence of rear collisions	2033	\$ 60,000	\$ 45,000	\$ 400,000	\$ 556,200	
L10003	Route 11 & Tash Road	Intersection Realignment to make approaches perpendicular to Route 11, add center turn lanes	2035	\$ 75,000	\$ 60,000	\$ 500,000	\$ 699,000	
L10004	Route 11 & Berry Road / Depot Road	Intersection Realignment to make approaches perpendicular to Route 11. Close one entrance to the roadside facility (3 total access points to this establishment in 300 FT)	2039			Vision Project		
L10005	Powder Mill Fish Hatchery	Pedestrian Safety Improvements, Bike lanes, crosswalks	2036			Vision Project		
L10006	Route 11 & Quaker Road / Valley Road	Intersection Safety Improvements, add designated turning lanes to decrease incidence of rear collisions	2044			Vision Project		
L10007	Park and Ride on Route 11	Construct a 30-50 space park and ride (with space for future expansion) with utilities for future transit and other user amenities (restrooms). Locate on Route 11. Potential site near Johnson's seafood.	2038	\$ 105,000	\$ 91,500	\$ 700,000	\$ 986,100	

Newmarket		Long range projects to be developed for future funding						
Project_#	Road	Scope_Location	Construction Year	Preliminary Engineering	ROW	Construction	Total	
L11001	Intersection of NH108/NH152	Traffic safety, pedestrian access, and economic impacts study on NH 108/NH 152 intersection	2043			Vision Project		
L11002	Gerry Ave, S Main St, and Exeter St (triangle)	Close eastbound lane of NH152 between Gerry Ave and NH108. Redirect traffic onto Gerry Ave. Install 550 feet of curbed sidewalk in closed EB lane.	2032			Vision Project		
L11003	098/079 Grant Road over the Piscassic River	Bridge Rebuild/Rehab. Increase Shoulder width to provide safer conditions for Bike/Ped Functionally Obsolete. Narrow shoulder on the bridge, commuter route, and on a primary route to access the Newmarket Schools (1/2 mile).	2034			Vision Project		
L11004	The intersection of Ash Swamp and Route 152	Intersection realignment & safety improvements	2031	\$ 52,500	\$ 37,500	\$ 350,000	\$ 484,800	
L11005	Beech St Extension	New passenger rail station. There is a current parking lot with a small vacant building that could be converted to a rail stop along the Downeaster line.	2045			Vision Project		
L11006	Route 108	Upgrade rail crossing and improve alignment to improve safety	2044			Vision Project		
L11007	Rockingham Branch Rail Line Improvements	Rail Line Improvements to bring rail up to national freight standards and restore rail on the state owned rail ROW to Pease Tradeport	2043			Vision Project		
L11008	New Road over the Rockingham Branch	Bridge Rebuild. Increase bridge elevation over the rail to allow for double stacking freight.	2045			Vision Project		
L11009	Rockingham Recreational Trail	Clear vegetation for new gravel parking lot expansion	2037			Vision Project		
L11010	NH108	Shoulder widening on NH108 from Ash Swamp Rd to New Rd (.37 miles)	2035	\$ 41,429	\$ 27,619	\$ 276,191	\$ 380,591	
L11011	NH152	Shoulder widening on 2.5 miles of NH152 from LEE border to Gerry Ave	2041	\$ 372,012	\$ 186,006	\$ 1,860,062	\$ 2,656,168	

Northwood		Long range projects to be developed for future funding						
Project_#	Road	Scope_Location	Construction Year	Preliminary Engineering	ROW	Construction	Total	
L12001	095/113 Bridge on Bow Lake Road over Sherburn Brook	Bridge Rehab/Rebuild	2044			Vision Project		

L12002	Route 107/ Main St./ Old Pittsfield Road	Realign/move NH107 in a line from the current School St / Main St intersection to a point approx. 150' north of the current NH107 / High St intersection; see attached image. Existing roads would revert to town maintained with signage. High St would revert	2043						Vision Project
L12003	Route 4	Capacity expansion to build a center turn lane.	2045						Vision Project

Nottingham Long range projects to be developed for future funding

Project_#	Road	Scope_Location	Construction Year	Preliminary Engineering	ROW	Construction	Total
L13001	141/127 NH 152 over North River	Bridge Rebuild	2033				Vision Project
L13002	108/020 NH 156 over Pawtuckaway River	Future Bridge widening during rehab/reconstruction to create wider shoulders.	2036				Vision Project
L13003	NH 152 & NH 156 intersection	Change the intersection to 90 degrees	2032	\$ 60,000	\$ 30,000	\$ 400,000	\$ 541,200

Regional Long range projects to be developed for future funding

Project_#	Road	Scope_Location	Construction Year	Preliminary Engineering	ROW	Construction	Total
R01001	Boston-Portland Rail Line	Entire Pan Am line in NH. Upgrade bridges and other crossings to accept double-stack freight.	2043				Vision Project
R01002	Boston-Portland Rail Line	upgrade all bridges along line to enable double-stack freight cars	2041				Vision Project
R01003	COAST	Construct an Administration, Operations, and Maintenance Facility along with a Vehicle Storage Building	2044	\$ 2,850,000	NA	\$ 9,782,500	\$ 12,632,500
R01004	Regional	Transit signal prioritization on all signals along COAST & Wildcat routes in Dover	2036	\$ 90,000	NA	\$ 600,000	\$ 766,800
R01005	Boston-Portland Rail Line	Upgrade rails on siding between Rollinsford and Dover	2037	\$ 241,000	NA	\$ 1,205,000	\$ 1,600,240

Rochester Long range projects to be developed for future funding

Project_#	Road	Scope_Location	Construction Year	Preliminary Engineering	ROW	Construction	Total
L14001	Route 11 (Farmington Rd) & Nashoba Drive	Install traffic signal at Nashoba Dr with pedestrian crossing and safety improvements. Approx. 2,500 feet of new extension of Market Place Blvd behind Northgate Apartments and Rochester Toyota.	2041	\$ 400,000	\$ 300,000	\$ 2,000,000	\$ 2,700,000
L14002	Route 11 (Farmington Rd)	Widen 3,200 feet of NH11 to a four-lane configuration from beginning of existing three lane section north of the Spaulding Turnpike off/on ramp, to the Rochester Toyota entrance (appx. 390 feet south of Crane Drive).	2042	\$ 500,000	\$ 300,000	\$ 2,500,000	\$ 3,620,000
L14003	Salmon Falls Road 1	Pedestrian and bicycle accessibility and safety improvements. Build two miles of sidewalk between Portland St and Whitehall Rd. From Whitehall Rd to the Somersworth T/L (2.5 Miles), widen shoulders and improve signage and lane markings to improve safety for cyclists and pedestrians.	2031				Vision Project
L14004	Salmon Falls Road 2	Pedestrian and bicycle accessibility and safety improvements. From Whitehall Rd to the Somersworth T/L (2.5 Miles), widen shoulders and improve signage and lane markings to improve safety for cyclists and pedestrians.	2043				Vision Project
L14005	149/113 NH 125 over Cochecho River	Bridge Rehab and widening.	2044				Vision Project
L14006	Old Dover Rd	Old Dover Rd between NH 125 and Tebbetts Rd: Some shoulder widening, painting, and intersection improvements including the delineation of walkways and/or bike lanes.	2039				Vision Project
L14007	US Route 202	5,200 feet of US202 from Salmon Falls Rd to Main St in East Rochester center. New sidewalk where it doesn't exist and upgrades where it does, streetscaping, bike lanes, traffic calming.	2041				Vision Project
L14008	Milton Road/Route 125	Realignment of Salmon Falls Rd with NH125 (Milton Rd). Signal upgrades. Improve bicycle level of service.	2035	\$ 75,000	\$ 40,000	\$ 500,000	\$ 679,000

L14009	North Main St (NH 202A)	Aprox 900 ft of North Main St from intersection of NH202A and North Main St to Cocheco River bridge. Improve the segment with bicycle, pedestrian, and streetscape enhancements. Improve visibility and safety and mid-block crossings. Improve alignment and traffic flow at intersection of Pine St, River St, and Cove St with North Main St.	2040	\$	300,000	\$	-	\$	1,500,000	\$	1,992,000
L14010	North Main St, Chestnut Hill Rd	Fesibility study: Construction of a new bridge over the Cocheco from Chestnut Hill Rd to St. James Terrace and a new connector road to North Main Street.	2034	NA		NA		\$	500,000	\$	564,000
L14011	176/133 Tebbetts Road over Spaulding TPK	Vision	2043								Vision Project
L14012	NH125 and NH202	Consolidate ramp configuration and convert to traffic circle	2040								Vision Project

Rollinsford											
Long range projects to be developed for future funding											
Project_#	Road	Scope_Location	Construction Year	Preliminary Engineering	ROW	Construction	Total				

Somersworth											
Long range projects to be developed for future funding											
Project_#	Road	Scope_Location	Construction Year	Preliminary Engineering	ROW	Construction	Total				
L16001	West High St/Maple St/Sunset Drive	Relocate pedestrian crosswalks across High St to west of Maple and east of Sunset. One pedestrian refuge median island with plantings on each approach of High St. Eliminate excess pavement in Maple/High St corner. Replace with planted median island.	2032	\$	60,000	\$	30,000	\$	400,000	\$	541,200
L16002	Main St (from High St to River St)	3,400 ft of Main St from High St to River St. Complete Streets improvements for bicycles, pedestrains, parking, and downtown storefront streetscaping. Model after Concord Main St TIGER grant?	2036								Vision Project
L16003	Salmon Falls Rd bridge over Salmon Falls River (Maine border)	Deck replacement. City has paid local share, need to learn project status with NHDOT	2038								Vision Project
L16005	NH236/West High St	Shoulder widening on 2.5 miles of NH236 between NH108 and High St	2039	\$	372,012	\$	186,006	\$	1,860,062	\$	2,656,168

Strafford											
Long range projects to be developed for future funding											
Project_#	Road	Scope_Location	Construction Year	Preliminary Engineering	ROW	Construction	Total				

Wakefield											
Long range projects to be developed for future funding											
Project_#	Road	Scope_Location	Construction Year	Preliminary Engineering	ROW	Construction	Total				
L18001	Route 109 through the downtown	Bicycle and pedestrian improvements	2044								Vision Project
L18002	186/118 Canal Road over Great East Lake Outlet	Bridge Rehab/Rebuild	2033								Vision Project
L18003	Route 153	Traffic calming/safety improvements/restriping	2034								Vision Project
L18005	104/042 NH 16 over NHNCRR	Lower rail bed or increase bridge clearance in a future bridge rebuild	2043								Vision Project
L18006	NH153	Shoulder widening along NH153 from NH16 (Union) to Witchtrot/Meadow St	2040	\$	595,220	\$	297,610	\$	2,976,099	\$	4,249,869