



U.S. Department
of Transportation

Transportation Management Area Planning Certification Review

Federal Highway
Administration

Federal Transit
Administration

Nashua Regional Planning Commission

Nashua, NH-MA Transportation Management Area (TMA)

DRAFT Report

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DR. [REDACTED]



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1.0 Executive Summary

The federal agencies find that the Nashua UZA/TMA metropolitan planning process is substantially compliant with Federal requirements, and per 23 CFR 450.336(b), certify that the process meets the requirements of applicable provisions of Federal law and 23 CFR Subpart C – Metropolitan Transportation and Planning and Programming, subject to the following Corrective Actions:

Performance-Based Planning & Programming:

By December 31st, 2020 the MPO shall:

- Develop specific written provisions for the FHWA performance measure for on-road mobile source emissions, per 23 CFR 450.314(h); and
- Establish a 4-year performance target for the total emissions reduction of carbon monoxide, per 23 CFR 450.306(d), 23 CFR 490.105(f), and 23 CFR 490 Subpart H;
- Phase-in the performance measure and target into the MTP and TIP the first instance those documents are amended or updated, per 23 CFR 450.340.

Environmental Mitigation:

For the next MTP update, NRPC staff must broaden the list of agencies that were consulted with (beyond NHDES air quality staff) in the development of the MTP's discussion of types of potential environmental mitigation activities for the Plan's transportation improvements, and potential areas to carry out these activities, consistent with requirements listed under 23 CFR 450.324(g). FHWA and FTA encourage the MPO to accomplish this via presenting this documentation to both the NHDOT's Natural and Cultural Resource Agency Coordination Meetings for their input, and follow-up with adjustments that may be warranted as an outcome of this consultation.

Financial Planning:

1) For the next MTP update, the "Financial Analysis" section of the MTP must include FHWA and FTA program funding broken-out by current funding program category pursuant to 23 CFR 450.324 (f)(11)(ii), as well as a table cooperatively developed by NRPC and the Nashua Transit Service (NTS) depicting the region's public transportation O&M needs pursuant to 23 CFR 450.324(f)(11)(i).

2) For the next STIP and TIP Update, within the STIP and TIP, total project costs need to be reflected to include funding before and after the current STIP/TIP timeframe, pursuant to 23 CFR 450.218(i)(2) for the STIP and 23 CFR 450.326(g)(2) for the TIP.

MPO Structure and Agreements:

By December 31, 2020, the Nashua MPO must coordinate with the other MPOs that serve the Nashua, NH-MA UZA, along with other required parties, to develop and execute a written



agreement that meets the requirements of 23 CFR 450.314(e), including portions in Massachusetts.

There are further findings, recommendations and commendations provided throughout this report, and they are summarized in Section 4.0 Summary of Corrective Actions, Recommendations and Commendations.



2.0 Background

Pursuant to 23 U.S.C. 134(k) and 49 U.S.C. 5303(k), the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) must jointly certify the metropolitan transportation planning in Transportation Management Areas (TMAs) at least every four years. A TMA is an urbanized area, as defined by the U.S. Census Bureau, with a population of over 200,000. After the 2010 Census, the Secretary of Transportation designated 183 TMAs – 179 urbanized areas over 200,000 in population plus four urbanized areas that received special designation. In general, the reviews consist of three primary activities: a site visit, a review of planning products (in advance of and during the site visit), and preparation of a Certification Review Report that summarizes the review and offers findings. The reviews focus on compliance with Federal law and regulations, challenges, successes, and experiences of the cooperative relationship between the MPO(s), the State DOT(s), and transit operator(s) in the conduct of the metropolitan transportation planning process. Joint FTA/FHWA Certification Review guidelines provide agency field reviewers with latitude and flexibility to tailor the review to reflect regional issues and needs. Consequently, the scope and depth of the Certification Review reports will vary significantly.

The Metropolitan Planning Organization (MPO) designated to implement the metropolitan planning process for the Nashua Urbanized Area (UZA) is the Nashua Regional Planning Commission (NRPC). This most recent FHWA/FTA TMA Certification Review for the Nashua UZA, including the on-site review meeting conducted on October 23 and 24, 2019 was the second such review for the TMA, as the Nashua UZA was newly designated as a TMA with the 2010 Census. In August 2019, NRPC staff provided the federal agencies with documentation in response to Recommendations and Corrective Actions from the June 2016 Final Report that was issued following the TMA's first review of November 4, 2015. This information was helpful to the federal agency review team, as well as other documents provided by the MPO in advance of the on-site meeting.

Consistent with requirements listed under 23 CFR 450.336(b)(4), on the evening of Wednesday, October 23, 2019, a public meeting was held at NRPC offices, as a component of this review to consider public input received in arriving at the FHWA/FTA Certification action. The federal agencies also established an "e-mailbox" address for gathering public input for the review, and the public meeting was noticed by the MPO via their standard procedures, including the MPO's group e-mail list.

No input was received from the e-mailbox, and two members of the public attended the public meeting. FHWA and FTA started the public meeting with a presentation providing some background information on TMA Certification Review requirements, and the purpose of the public meeting. During the public meeting, attendees generally expressed satisfaction with the MPO's service to the region. For more information, please see Appendix A: Public Meeting Comment Summary.



3.0 Program Review

3.1 MPO Structure and Agreements

Regulatory Basis

23 U.S.C. 134(d) and 23 CFR 450.314(a) state the MPO, the State, and the public transportation operator shall cooperatively determine their mutual responsibilities in carrying out the metropolitan transportation planning process. These responsibilities shall be clearly identified in written agreements among the MPO, the State, and the public transportation operator serving the MPA.

23 CFR 450.314(c)-(h) also require written agreements to address various circumstances including air quality nonattainment or maintenance areas, urbanized areas served by multiple MPOs and/or states, and agreements associated with implementing performance based planning and programming.

Current Status

The Nashua MPO uses three key committees as part of its decision-making process. The MPO's policy board is the Nashua Regional Planning Commission (NRPC) which meets quarterly. NRPC's municipal membership (currently 33 members) is governed by state law and, to meet the requirements of being an MPO, is expanded to include representatives of the New Hampshire Department of Transportation (NHDOT), the New Hampshire Department of Environmental Services (NHDES), FHWA, FTA, and the Nashua Transit System (NTS). The Executive Committee, which includes the NRPC officers and six at-large NRPC Commissioners, meets monthly and is empowered to act for the policy board. Additionally, the Transportation Technical Advisory Committee (TTAC) meets 8 to 10 times per year and provides recommendations to the Executive Committee and Policy Board. The TTAC includes one staff representative from each member community plus representatives of NHDOT, NHDES, FHWA, FTA, and NTS.

Following the onsite meeting for this review, NRPC staff raised some questions to the Review Team regarding the compliance of the region's current MPO structure and alternative options. In the coming months, the NRPC is anticipating making some changes to how MPO business is handled, and documenting this via an update to their Prospectus, which was last updated in January 2012, prior to the Nashua UZA being designated as a TMA.

The Nashua MPO's planning area includes 13 communities and approximately 210,000 residents. The census-designated Nashua urbanized area (UZA), however, extends beyond the Nashua MPO region, and portions of the UZA are also served by the Southern New Hampshire Planning Commission MPO, the Northern Middlesex MPO and the Montachusett MPO (both in Massachusetts). Additionally, a portion of the Boston UZA is within Nashua's planning area.



The Nashua MPO is a signatory to a master memorandum of understanding (MOU), along with NHDOT, regional transit providers, and the other MPOs in New Hampshire. This master MOU contains more than a dozen sub-agreements which are intended to meet the requirements of 23 CFR 450.314 for all portions of the state. Additionally, the MPO signed the 2018 Boston, MA-NH-RI UZA agreement.

For the most part, the master MOU and its sub-agreements address the agreements required by regulation. However, while the 2018 Boston UZA agreement meets 23 CFR 450.314(e) and (f), and a sub-agreement under the master MOU addresses those requirements for the Nashua UZA within New Hampshire, there is currently no written agreement in place that addresses those requirements for the full Nashua UZA, including the portions in Massachusetts.

Additionally, during the review, the Review Team clarified how the PM3 measures pertain to the Nashua region; consequently, it appears that language currently in one of the sub-agreements pertaining to FHWA's PM3 performance measures needs to be revised. (See Section 3.15 Performance Based Planning and Programming for a full discussion of this topic.) While not required until 2021, the MPO should also consider incorporating appropriate written provisions for data sharing, target setting, performance reporting, and so forth related to the Public Transportation Agency Safety Plan rule (PTASP).

Findings

Corrective Action:

The Nashua MPO must coordinate with the other MPOs that serve the Nashua, NH-MA UZA, along with other required parties, to develop and execute a written agreement that meets the requirements of 23 CFR 450.314(e), including portions in Massachusetts.

Recommendations:

The Nashua MPO should update its agreements as necessary to address the PTASP rule in a timely manner.

Also, while the current MPO structure does satisfy federal requirements, the federal agencies encourage NRPC staff to ensure all membership policies are thoroughly documented by way of the planned update to the MPO Prospectus.

Schedule for Process Improvement:

The corrective action identified above should be completed by December 31, 2020.

Proposed FHWA/FTA Technical Assistance:

FHWA and FTA remain available to provide technical assistance to the Nashua MPO and its staff as it contemplates any restructuring or changes to how it conducts MPO business.

3.2 Unified Planning Work Program



Regulatory Basis

23 CFR 450.308 sets the requirement that planning activities performed under Titles 23 and 49 U.S.C. be documented in a Unified Planning Work Program (UPWP). The MPO, in cooperation with the State and public transportation operator, shall develop a UPWP that includes a discussion of the planning priorities facing the MPA and the work proposed for the next one- or two-year period by major activity and task in sufficient detail to indicate the agency that will perform the work, the schedule for completing the work, the resulting products, the proposed funding, and sources of funds.

Current Status:

The MPO's current 2020-2021 UPWP follows the NHDOT's established template, and the MPO runs the UPWP through their TTAC and Executive Committee for review and approval. In New Hampshire, the UPWP is a two-year document established on a state fiscal year (July 1 to June 30th) cycle. For the current MPO UPWPs, FHWA and FTA provided approval on June 26, 2019, noting that the federal agencies also found NHDOT's current method for distribution of metropolitan planning funds consistent with requirements of 23 CFR 420.109. NRPC staff report that the population weighted distribution of metropolitan planning funds among New Hampshire's MPOs is fair and works well. In New Hampshire, FHWA and FTA planning funds are administered by FHWA as a consolidated planning grant.

FHWA and FTA provided brief comment on NRPC's draft 2020-2021 UPWP to the MPO and NHDOT on March 22, 2019 that was considered in the development of the final document. The agencies also jointly developed New Hampshire-specific Planning Emphasis Areas or "PEAs" to help guide development of all the NH MPO 2020-2021 UPWPs. For the current UPWPs, these PEAs were issued to the MPOs and NHDOT on October 15, 2018. At the Certification Review, the MPO highlighted that completing their MTP update was an important task in the current UPWP, and that a separate freight work element was a new feature.

Findings

Recommendations:

The MPO has reported that a detail of work elements that were not completed is provided in their UPWP Closeout Report to NHDOT and has offered to provide a copy of these reports to the federal agencies. FHWA and FTA remind NRPC staff and NHDOT that the MPO annual report must be submitted to the federal agencies.

The Review Team recommends that NRPC revise their UPWP's funding table by work category (found on page 48 in the current document) to clarify use of toll credits, and to also break out or footnote what portion of the consolidated grant funds originate from FHWA versus FTA – for informational purposes. NHDOT provides this information to the MPO early in the contract development process. The table should also include HUD or other funds that may be supporting UPWP documented activities.



The Review Team recommends that NHDOT consider the development of a UPWP guidance document for their MPO (and rural RPC) subrecipients of metropolitan and statewide planning funds. This has been discussed previously, and deserves re-consideration. Such guidance documentation could either incorporate or reference Federal 2 CFR 200 requirements as well as FHWA's Project Funds Management Guide for State Grants. A UPWP guide could also include timelines and templates for draft and final UPWP document submission, required reporting, and billing/invoicing documentation.

3.3 Metropolitan Transportation Plan

Regulatory Basis

23 U.S.C. 134(c), (h) & (i) and 23 CFR 450.324 set forth requirements for the development and content of the Metropolitan Transportation Plan (MTP). Among the requirements are that the MTP address at least a 20-year planning horizon and that it includes both long and short-range strategies that lead to the development of an integrated and multi-modal system to facilitate the safe and efficient movement of people and goods in addressing current and future transportation demand.

The MTP is required to provide a continuing, cooperative, and comprehensive multimodal transportation planning process. The plan needs to consider all applicable issues related to the transportation systems development, land use, employment, economic development, natural environment, and housing and community development.

23 CFR 450.324(c) requires the MPO to review and update the MTP at least every four years in air quality nonattainment and maintenance areas and at least every 5 years in attainment areas to reflect current and forecasted transportation, population, land use, employment, congestion, and economic conditions and trends.

Under 23 CFR 450.324(f), the MTP is required, at a minimum, to consider the following:

- Projected transportation demand
- Existing and proposed transportation facilities
- Operational and management strategies
- Congestion management process
- Capital investment and strategies to preserve transportation infrastructure and provide for multimodal capacity
- Design concept and design scope descriptions of proposed transportation facilities
- Potential environmental mitigation activities
- Pedestrian walkway and bicycle transportation facilities
- Transportation and transit enhancements
- A financial plan



Current Status

MPO staff conduct a major MTP update every 4 years. Minor updates to maintain consistent project listings are done with each TIP amendment (typically quarterly). The MPO also conducts a more comprehensive 2-year update of the MTP, concurrent with New Hampshire's Ten Year Plan(TYP)/STIP update cycle, incorporating their response to TMA Certification Review findings as necessary. NRPC works toward using the MTP to feed projects to New Hampshire's TYP on a 2-year cycle. Financial Plan documentation is updated with major changes.

The Nashua MPO completed a major update of the MTP in December 2018. Comments received from FHWA were incorporated into the final version, including the addition of a new discussion on environmental mitigation. The current 2019-2045 MTP incorporates performance measure targets for safety, travel time reliability, infrastructure and transit assets. Project impacts such as crash reduction factors and changes to volume-capacity ratios are estimated where they can be quantified. A section on Congestion Management Process (CMP) monitoring also summarizes results of major corridor speed studies in the region.

The MPO's MTP is structured around four major goals that were originally developed in 2012, through public outreach and coordination with advisory committees. These goals are: Mobility and Accessibility; Quality of Life, System Sustainability; and Implementation. More recently, MPO staff also cited a greater emphasis on safety and system preservation in the region. NRPC's process to develop the current MTP (2019-2045) emphasized community outreach, and focused on a careful review of some larger-scale legacy projects that had not advanced due to their prohibitive costs and other factors. MPO staff worked directly with member communities to conduct this re-evaluation of legacy projects, citing good conversations had regarding the Nashua-Hudson Circumferential Highway and State Route 101 projects for example, and good financial constraint outcomes. For example, the Nashua-Hudson Circumferential Highway over the Merrimack River project was modified in the MTP to be listed as an illustrative project, as it was determined to be unconstrained given anticipated financial resources up to the MTP horizon year of 2045. A survey was also conducted to gain public input, and was considered very effective, receiving approximately 570 responses. The survey was conducted exclusively online utilizing community Facebook pages and other electronic platforms.

Existing and Proposed Transportation Facilities

Existing

The description of the major existing facilities provides the reader with comprehensive information, including the Traffic Volumes and Trends Volume-to-Capacity table and tables showing the extent of congestion (Congestion Reports) for numerous facilities, beginning on page 52, of the Plan, as reviewed. With v/c measures provided, the Plan flowed into discussion of congestion. Freight is discussed, noting that the State Freight Plan was under development when the MTP was being completed. Other modes of transportation discussed include bicycle and pedestrian, and incorporated data from, and referred the reader to, the 2015 NRPC Regional



Pedestrian and Bicycle Plan. The regional transit and paratransit system is discussed, rounding out the conversation of existing transportation facilities, as well as providing additional information of desired system expansion.

Proposed

Using the travel demand model (discussed in Section 3.12), forecasted transportation demand was conducted. The Plan's discussion identified improvement types that would enhance over-all transportation within the region, that could be made to the system. It includes maintaining existing streets and highways, extending passenger rail service, providing transit to other communities, additional bicycle lanes and paths, and more. In a survey conducted online, the public was asked to select their most important priorities and improvement types and were also asked to rank them. In addition to this ranking, the survey also asked respondents to prioritize additional funding sources to financially support the improvements they would like to see. Most respondents supported raising the State Gasoline Tax, to develop additional transportation revenue. Additionally, the survey asked respondents to rate the importance of the major projects from the 2014-2040 MTP.

The MTP goes on to identify proposed projects, which are the result of public input through the survey and a public project solicitation process which occurs leading into the update of the MTP. The NRPC MTP has a comprehensive description of projects being considered for implementation, and the MPO utilizes an inclusive process that allows regionally important projects to be considered for incorporation into the State's TYP, following analysis on scope and cost, as well as how each project measures against project selection criteria.

Operational and Management Strategies

The NRPC's MTP has a brief discussion of operations and maintenance of the transportation system. Most of the discussion centers around the funding sources available to advance maintenance and operations, however there does not seem to be discussion dedicated to explaining what strategies are planned to address the operation and maintenance of the network. The financial table provided on page 141 of the Plan, as reviewed, showed O&M costs and needs, but again, no detail was provided behind the financial data provided. As the reader reads through the individual projects described in the Transportation Projects and Programs section of the MTP, some projects address operational improvements and others are focused on maintenance of the system.

Capital investment and strategies to preserve transportation infrastructure and provide for multimodal capacity

The MTP does consider capital investments and strategies to preserve transportation infrastructure, and provide multimodal capacity through its consideration of projects that would benefit regional travel, from a financially constrained perspective. The variety of projects being considered include roadway/highway, rail and transit, and bike and pedestrian modes. The Plan considers these modes and provides strategies that address multiple modes.



The MTP analyzes the benefits that projects under consideration will have on regional congestion and operations within the transportation network. The MTP also recognizes maintenance needs that will allow the regional network to continue to serve all users. The MTP's long planning horizon, together with the MPO's close coordination with NHDOT, provide long and short term transportation asset management through the determination of the network's condition. Using performance metrics and analyzing network conditions, the MPO, through its MTP identifies improvements that can be programmed on the TIP in a financially constrained environment.

Design Concept and Design Scope Descriptions of Proposed Transportation Facilities

The MTP includes a section called Ten Year Plan Projects. In this section, projects are differentiated by types of improvements, which include Bridge Projects Intersection Improvements, Corridor and Sub Area Circulation Improvements, and more. These improvement types describe individual projects and provide good descriptions of the location where the improvement is proposed to take place, as well as information that gives the reader a good understanding of what the improvement is proposed to be. Maps, and sometimes reproduced photographs, are included and help the reader visualize the conditions in need of improvement or what the improvement is envisioned to be. Corridor improvements, like the Hudson Boulevard project provides traffic volumes and v/c ratios for no-build and build scenarios. Similarly, the MTP's section called Nashua MPO Recommended Fiscally Constrained Projects, which includes projects programmed for 2029-2045, provides the same level of detail.

Pedestrian walkway and bicycle transportation facilities

The MTP discusses a desire to shift from automobile travel to other modes. The Plan identifies how many households, of the 13 MPO member communities, are within ½ mile of the town center, in each city/town. More than 20% of households in Milford, Nashua, Wilton, and Mont Vernon are within ½ mile of their town centers which supports the Plan's assertion that there are many very pedestrian and bicycle friendly areas throughout the region, and provides support for expansion of non-motorized infrastructure development.

The MTP provides an extensive discussion of existing infrastructure, and discusses national trends that show New Hampshire positioned in the lower two thirds of the nation for frequency of commuters reporting their usual mode being either bicycle or walking. The Plan also discusses that there is a lack of bicycle and pedestrian count data. More robust data collection is needed before the MPO can direct meaningful funding to bike-pedestrian projects, and automatic count machines have been purchased by regional planning commissions around New Hampshire that will provide more data that may support building additional infrastructure.

This section of the Plan provides a basis for understanding what information exists, and what information is needed to support developing more bicycle and pedestrian infrastructure in the region. It also tells the reader that the NRPC is making efforts to develop additional count data, affirming the MPO's interest in providing additional bike-pedestrian facilities.



Findings

Recommendations:

NRPC is encouraged to re-visit the four goals of the MTP again with the next major 4-year update if not sooner. A more robust process to develop a refreshed set of goals might elevate safety and system preservation as goals, consistent with the discussion that occurred during the Review.

The MPO is encouraged to revisit the discussion of operation and maintenance of the regional transportation network to describe in more detail how the MTP considers O&M needs in the region to determine what the proper balance of resources is for operations and maintenance of the system versus capacity and other system improvements.

Various MTP data tables provide good information, but would be enhanced with better use of mapping or other visualization tools.

3.4 Multimodal/Transit Planning

Regulatory Basis

49 U.S.C. 5303 and 23 U.S.C. 134 require the transportation planning process in metropolitan areas to consider all modes of travel in the development of their plans and programs. Federal regulations cited in 23 CFR 450.314 state that the MPO in cooperation with the State and operators of publicly owned transit services shall be responsible for carrying out the transportation planning process.

Current Status

The primary transit provider is Nashua Transit System (NTS) and is the only fixed route public transportation provider in the region. NTS currently operates ten permanent fixed transit routes within Nashua and has a fleet of ten buses, three trolleys, and nine paratransit vans. The NTS bus fleet includes eight Compressed Natural Gas (CNG) vehicles and two recently procured hybrid-electric buses. NTS offers paratransit services to Nashua residents with disabilities through its City Lift service. The service is provided to seniors 65 years and older and riders with certified disabilities. City Lift service is offered on the same schedule as fixed route service within the city and provides limited services to the neighboring towns of Merrimack and Hudson. NTS also contracts with the local university and community college through its UPASS program and allows students to ride for free. The MPO maintains a close working relationship with NTS. The MPO collaborates by promoting City services, and staff provide technical support with developing maps and promotional materials for NTS.

The Boston Express is the Region's primary intercity provider and operates a facility in Nashua at the Exit 8 park-and-ride facility. Other intercity providers that serve the region include



Concord Coach and Greyhound Bus Lines. The Manchester Transit Authority (MTA) operates a Nashua Express service six days a week to the Nashua Mall and connects with NTS services at the Nashua Transit Center. The Lowell Regional Transit Authority (LRTA) also connects the region at Ayotte's Market in Hudson, NH. During the Review, NRPC staff acknowledged that coordination with some of the intercity providers has been difficult, and the MPO thought participation in the planning process and sharing of data between agencies could be improved.

The NRPC is also the lead agency for the Nashua Regional Coordinating Council (RCC) which was initiated in 2008. The role of the RCC is to provide coordinated transportation services to individuals in need of community transportation which include the elderly, lower-income and individuals with disabilities. The RCC supports the Souhegan Valley Transportation Collaborative (SVTC) through FTA section 5310 formula funding and contracts demand response service with NTS. The SVTC dial-a-ride demand response bus service is available to the towns of Amherst, Hollis, Milford, Mont Vernon and Wilton. The RCC is currently in the process of updating its Locally Coordinated Plan and it is expected to be adopted in the Spring of 2020.

Since the last certification review, there have been significant changes in the region's multimodal and transit planning. NTS undertook a transit planning study that is in the final stages of development and is expected to be complete by the end of 2019. The transit expansion study originated from the NTS 10-year comprehensive plan. NTS is also wrapping-up its first year of a pilot expansion service to the Amherst, NH Walmart. The pilot service is supported by CMAQ funds and offers service on Tuesday, Thursday, and Saturday. Expansion is a priority for the region, however, there are challenges to support service outside of the City limits and securing funding to expand service is difficult.

In June 2018, VeoRide introduced a dockless bikeshare system that can be unlocked via a smartphone application in the City of Nashua. The introduction of bikeshare and e-scooters has raised awareness of the need for more pedestrian and bicycle-friendly infrastructure in the region. NRPC has a Regional Pedestrian Bicycle Plan that was updated in 2015, and the MPO recognizes the need for improving bicycle and pedestrian facilities. Currently, the MPO implements an extensive pedestrian and bike count system to monitor traffic and identify patterns throughout the region.

In the Spring of 2018, the MPO conducted an on-board survey of NTS riders on all fixed route runs. The purpose of the survey was to obtain rider demographics, travel characteristics, and identify the public's desire for service expansion. The survey resulted in over 500 responses which is expected to encompass at least 70% of NTS riders. Surveys were available in both English and Spanish versions. The results of the survey identified desired destinations within the communities of Merrimack, Hudson and Milford. The most desired service extension included shopping plazas in Amherst and Hudson. The MPO is excited for the potential of commuter rail to come to the region via New Hampshire's proposed Capitol Corridor rail service. The NHDOT is currently in the process of hiring a consultant to determine the feasibility of expanding commuter rail into New Hampshire. The MPO has been in frequent coordination with NHDOT concerning the project and currently serves on the Nashua Rail Transit Committee.



Findings

Commendation:

The MPO is commended for their outreach and coordination with NTS. NRPC staff regularly participate in NTS meetings and assist with the development of maps and brochures to illustrate NTS services. Additionally, the MPO has played a major role in identifying rider characteristics and determining transit needs by conducting on-board passenger surveys.

Recommendations:

The Review Team recommends that the MPO reach out to intercity providers to improve participation in the transportation planning process. Federal transportation planning law explicitly identifies intercity operators as interested parties in the transportation planning process. The MPO is encouraged to pursue cooperative relationships with all providers of transportation in the region and incorporate any comments for proposed plans as appropriate.

3.5 Transportation Improvement Program/Project Selection Process

Regulatory Basis

23 U.S.C. 134(c), (h) & (j) set forth requirements for the MPO to cooperatively develop a Transportation Improvement Program (TIP). Under 23 CFR 450.326, the TIP must meet the following requirements:

- Must cover at least a four-year horizon and be updated at least every four years.
- Surface transportation projects funded under Title 23 U.S.C. or Title 49 U.S.C., except as noted in the regulations, are required to be included in the TIP.
- List project description, cost, funding source, and identification of the agency responsible for carrying out each project.
- Projects need to be consistent with the adopted MTP.
- Must be fiscally constrained.
- The MPO must provide all interested parties with a reasonable opportunity to comment on the proposed TIP.

Current Status

New Hampshire's MPO TIP development and project selection process remains driven by New Hampshire's Ten Year Plan (TYP) and STIP processes. The MPO has no major complaints regarding the cooperative process between the MPO and NHDOT in the development of their current 2019-2022 TIP. For the TYP, from which the MPOs in New Hampshire update their 4-year TIPs on a two-year update cycle, programming shares for each MPO (and for the rural RPCs) are determined based on population and roadway mileage, for the outer two years of new project programming. FHWA recently commended NHDOT in review of the new Draft 2021-



2030 TYP for incorporating both the MPO and rural RPC project priorities for 2029 and 2030 as submitted, without modification.

The TYP cooperative process continues to include shared State/MPO and rural RPC project information and ranking criteria, shared use of project ranking tools and processes, and a new NHDOT project estimate review process for newly-recommended MPO and rural RPC projects. This new estimate review process should help facilitate the early establishment of more accurate planning-level project costs, to be carried forward into MPO MTPs, TIPs and the STIP. The most recent TYP project selection round used the same evaluation criteria as the prior round, with the MPO scoring subcommittee made up of representatives from communities that did not have a project submitted. The MPO noted that for the next TYP round of project selection, they would prefer to see their project selection criteria more focused on their regional constituents' priorities versus the current emphasis on consistent statewide criteria.

NRPC also reports that NHDOT has recognized the MPO's project selection authority for STBG >200,000 suballocated funds as detailed in the current MOU Master Agreement, and exercised in the most recent TYP programming and project selection process. MPO staff considered establishing a separate Nashua TMA Committee for the programming of TMA suballocated funds. Such Committee would have included NRPC and SNHPC staff as well as all the Nashua TMA communities from NRPC and SNHPC also, as the Nashua TMA extends to the SNHPC MPO communities of Auburn, Derry, Londonderry and Windham. However, both MPOs decided that this would add an unnecessary and unwieldy layer of organizational structure, and that the involvement of those SNHPC communities located in the Nashua TMA project selection process is adequately addressed via existing processes and related provisions within the MOU Master Agreement. Each MPO operates under the MOU Master Agreement provisions, which define coordination efforts for data collection, and the development of planning assumptions and performance measures. However, the programming of Nashua TMA suballocated funds is done by each MPO independently. Both MPOs report that this approach has been successful.

Regarding TAP suballocations, the MPO participated in a recent round of statewide TAP project selection that worked out to the MPO's satisfaction, however NRPC staff stated that the MPO may want to assert more local programming authority in future rounds. With the recent round, NRPC's second-ranked project priority was selected for funding instead of their number one ranked project, but in the end, the region was satisfied with the funding of either project.

Regarding the current and ongoing statewide CMAQ project selection process, NRPC, as well as other MPOs, had expressed concern about the State of New Hampshire's recent decision to invest the New Hampshire Executive Council with full project-selection authority for programming New Hampshire's CMAQ funds, without benefit of input from the established statewide CMAQ Committee. In previous project selection rounds, the statewide CMAQ Committee, including representatives from the MPOs and/or rural RPCs, NHDOT, NHDES and



others, were assigned this task. However, since there is enough funding available to support all current eligible project submissions, this concern has diminished for the current round.

At the previous TMA Certification Review, the MPO reported that there had been disagreements over how to apportion FTA funds between NTS and the Lowell Regional Transit Authority (LRTA), which operates service in the small portion of the Nashua UZA that spills over the Massachusetts border. The MPO now reports that since the execution of an MOU between NTS, LRTA and CART in 2015 to provide a distribution of FY 2015 funds to designated recipients, there have been annual meetings to negotiate funding category splits, and that this has proved to be an effective process. NRPC says that the agencies have shown willingness to swap apportionments between FTA 5307, 5310 and 5339 funding categories, based on the specific capital needs of recipients.

Findings

Commendation:

The map of programmed projects in the TIP appendix is well done and helpful in providing useful information.

3.6 Financial Planning

Regulatory Basis

The metropolitan planning statutes state that the long-range transportation plan and TIP (23 U.S.C. 134 (j)(2)(B)) must include a financial plan that "indicates resources from public and private sources that are reasonably expected to be available to carry out the program". Additionally, the STIP may include a similar financial plan (23 U.S.C. 135 (g)(5)(F)). The purpose of the financial plan is to demonstrate fiscal constraint. These requirements are implemented in our transportation planning regulations for the metropolitan long-range transportation plan, TIP, and STIP. These regulations provide, in essence, that a long-range transportation plan and TIP can include only projects for which funding "can reasonably be expected to be available" [23 CFR 450.322(f)(10) (metropolitan long-range transportation plan), 23 CFR 450.324(h) (TIP), and 23 CFR 450.216(m)(STIP)]. In addition, the regulations provide that projects in air quality nonattainment and maintenance areas can be included in the first two years of the TIP and STIP only if funds are "available or committed" [23 CFR 450.324(h) and 23 CFR 450.216(m)]. Finally, the Clean Air Act's transportation conformity regulations specify that a conformity determination can only be made on a fiscally constrained long-range transportation plan and TIP [40 CFR 93.108].

Current Status

The MTP contains a "Fiscal Analysis" section (Pages 138-141). The tables "Fiscal Constraint for Nashua MTP Recommended Projects" (Page 138) and "Federal and State Resources for



Nashua MPA Operations and Maintenance Needs” (Page 141) are broken into three time-based components (projects in the FFY 2019-2022 TIP, the remaining six years of the NHDOT Ten-Year Plan, and the outer 17 years). The table “Fiscal Constraint for Nashua MTP Recommended Projects (Page 138) is broken-out by several categories (“Statewide FHWA \$,” “NRPC MPA Share,” “NRPC MPO Projects,” “NRPC Share of Statewide Projects,” and “Total NRPC MPO Projects”). For most FHWA-funded projects, toll revenue credits are used as a “soft match,” but the financial plan “lumps” together FHWA funding and toll revenue credits. Another complicating factor is that CMAQ- and Transportation Alternatives Program (TAP)-funded projects rely on “hard cash” non-local matches.

The Financial Plan of the MTP is found under the Financial Analysis section. The MTP provides a table entitled “Fiscal Constraint Analysis for Nashua MTP Recommended Projects”. The table is broken out into three main sections: the first four years addressing the TIP programming years, the following six years, which round out the Ten Year Plan (TYP) years, and the remaining 17 years, to 2045, the MTP’s horizon year. The NRPC’s MTP exceeds the required 20-year horizon, however, years 2041 to 2045, show no costs associated with planned projects.

Text describes funding at the regional level is arrived at, beginning from the State’s apportionment, but the Fiscal Constraint Analysis table does not compare annual programming costs to anticipated revenues, making a determination of financial constraint difficult. The table does note that federal funding is used, but the particular source of that funding is not specified. As required by 23 CFR.324(11)(iv), inflation rates have been used for both cost estimates and revenues reasonably expected to be available.

The Financial Constraint Analysis table shows a positive fiscal year balance each year, throughout the time horizon covered by the MTP. This indicates that not all available funding is planned to be used on eligible projects. The MTP specifically says: “The fiscal constraint table produced for this MTP indicates that the cost MPO projects and the MPO share of statewide projects is less than the theoretical allocation for the 2019-2022 TIP period by \$19.4 Million.” There is also under-programming in the TIP by \$8.1 Million (2019), \$6.6 Million (2020), \$1.1 Million (2021), and \$3.6 Million (2022), resulting in a cumulative \$19.4 Million under available funding, which is considerable.

A table is also included entitled “Federal and State Resources for Nashua MPO Operations and Maintenance Needs.” Under this heading the MTP documents that for federal funds, NHDOT receives revenues from various federal agencies on a reimbursable basis to carry out federal aid eligible infrastructure improvements and construction projects. The text further describes that approximately \$32 million in federal funds was utilized in FY 2018 to balance the operating budget instead of being used for construction programs.

NRPC’s FFY 2019-2022 TIP was adopted on February 20, 2019 and NHDOT’s FFY 2019-2022 STIP was adopted on October 29, 2019. In many cases, toll revenue credits are used by NHDOT as a “soft match” for Federally-funded projects. The amount of toll credits available for the non-Federal match should be tracked in a table. The table could be shown in the financial summary sections of the TIP and STIP to demonstrate the current amount available (e.g., toll credits



available, toll credits earned, toll credits used, and toll credit balance) and the amounts used (www.fhwa.dot.gov/ipd/finance/tools_programs/federal_aid/matching_strategies/toll_credits.aspx). The list of programmed projects in NRPC's FFY 2019-2022 TIP includes a "Funding Sources" column. Among the noted funding sources include "Toll Credit" and "Other." Since there is no direct reference to non-Federal matches, it is not readily apparent what role (if any) the "Toll Credit" sources constitute the non-Federal match and the "Other" column provides no description of the specific funding source(s).

Additionally, NRPC's FFY 2019-2022 TIP contains a "Financial Analysis" section (Pages 21-24), as well as a comprehensive set of funding tables in "Appendix B" showing NHDOT STIP FHWA/FTA funding sources (by funding program) and non-Federal funding sources for each of the TIP years, including an "inflation" column. The "NHDOT Fiscal Constraint Summary" tables in "Appendix B" include a "State Resource and Local/Other (Available)" columns. However, it is not clear what those funds represent, because they are not shown for every FHWA/FTA funding program. Moreover, the financial plan does not show prorated allocations of the various FTA funding programs.

Moreover, New Hampshire currently receives National Highway Performance Program (NHPP), Surface Transportation Block Grant (STBG), Highway Safety Improvement Program (HSIP), Railway Highway Crossing, CMAQ, National Highway Freight Program, Transportation Alternatives (TA) Set-Aside, and Federal Lands Access Program funds. However, the TIP and STIP documents still refer to outdated funding programs and codes (i.e., the Surface Transportation Program (STP) and Forest Highway Program no longer exist; STBG and Federal Lands Access Program are now the current funding programs). Please refer to "A Guide to Federal-Aid Programs and Projects" (www.fhwa.dot.gov/federalaid/projects.cfm) for current funding program descriptions.

Finally, there was a question posed during the site visit about whether total project costs need to be included within the TIP and STIP showing funding for any project phases outside the current TIP/STIP timeframe. The Federal Review Team confirmed that requirement, which is referenced under 23 CFR 450.218(i)(2) for the STIP and 23 CFR 450.326(g)(2) for the TIP.

While the approach for developing the "Fiscal Analysis" section of the 2045 Nashua Region Metropolitan Transportation Plan is generally sound, there are some concerns with both tables:

- The current Federal funding programs names should be used in the TIP and STIP. For example, FHWA funding in both tables is shown as lump sums by year (i.e., not broken-out by any funding program categories);
- There is no mention of any FTA program funding;
- There is no non-Federal match or toll revenue credit substitution shown for any of the Federal funding; and
- A table depicting the region's public transportation operations and maintenance (O&M) needs was not included.

Review of the FFY 2019-2022 TIP generated the following observations:



- The TIP documentation should better “tell the story” in how toll revenue credits play a role in financing transportation projects.
- Total project costs need to include funding before and after the current STIP/TIP timeframe, pursuant to 23 CFR 450.218(i)(2) for the STIP and 23 CFR 450.326(g)(2) for the TIP.
- The TIP financial plan should show allocations for each of the FTA funding programs.
- Within the list of programmed projects, the TIP still refers to the Surface Transportation Program (STP) as a Federal funding source.

Findings

Corrective Actions:

The “Financial Analysis” section of the MTP must include FHWA and FTA program funding broken-out by current funding program category pursuant to 23 CFR 450.324 (f)(11)(ii), as well as a table cooperatively developed by NRPC and the Nashua Transit Service (NTS) depicting the region’s public transportation O&M needs pursuant to 23 CFR 450.324(f)(11)(i).

Within the STIP and TIP, total project costs need to be reflected to include funding before and after the current STIP/TIP timeframe, pursuant to 23 CFR 450.218(i)(2) for the STIP and 23 CFR 450.326(g)(2) for the TIP.

Schedule for Process Improvements:

The Corrective Actions identified above should be completed by the next 2-year update of each document.

Proposed FHWA/FTA Technical Assistance:

FHWA and FTA remain available to provide technical assistance to the Nashua MPO and its staff as it addresses these Corrective Actions.

Recommendations:

The MTP and TIP documentation should address how toll revenue credits play a role in financing transportation projects currently, and describe toll credit assumptions of availability over the life of the MTP and TIP to continue to provide the non-Federal match.

The TIP documentation should include a table demonstrating the amount of toll revenue credits available and used and the amount credit used as the share for each project to better “tell the story” in how toll revenue credits play a role in financing transportation projects.

The TIP financial plan should show allocations for each of the FTA funding programs.

For future versions of the TIP, the references to funding programs within the list of programmed projects need to be changed to reflect the Surface Transportation Block Grant (STBG) Program and other current funding programs.



The MPO is encouraged to review the apparent under-programming of projects relative to available revenues in the MTP (as well as the TIP), particularly in the 2041 to 2045 timeframe where the Plan shows no costs associated with planned projects.

3.7 Annual List of Obligated Projects

Regulatory Basis

23 U.S.C. 134(j)(7) and 23 CFR 450.334 requires that the State, the MPO, and public transportation operators cooperatively develop a listing of projects for which Federal funds under 23 U.S.C. or 49 U.S. C. Chapter 53 have been obligated in the previous year. The listing must include all federally funded projects authorized or revised to increase obligations in the preceding program year and, at a minimum, the following for each project:

- The amount of funds requested in the TIP
- Federal funding obligated during the preceding year
- Federal funding remaining and available for subsequent years
- Sufficient description to identify the project
- Identification of the agencies responsible for carrying out the project

Current Status

MPO staff provided the Review Team a copy of the latest annual list of obligated projects (FY 2018) during the preparations for the onsite meeting. The listing included required elements and also featured a map displaying the projects included in the listing. However, during the desk review, the Review Team noted that the latest listing that was available on the NRPC website was for FY 2017. This issue was discussed during the onsite meeting. MPO staff explained that the FY 2018 listing may have been inadvertently removed or bumped from the website, and they reposted the FY 2018 document within a few hours.

Findings

Recommendation:

The annual list of obligated projects must be published within 90 days of the end of the program year and should remain available at least until the following year's list is posted. Staff should ensure there is a process in place to confirm that the latest MPO documents are posted and remain available online until they are replaced by a subsequent update.

3.8 Public Participation/Outreach



Regulatory Basis

Sections 134(i)(5), 134(j)(1)(B) of Title 23 and Section 5303(i)(5) and 5303(j)(1)(B) of Title 49, require a Metropolitan Planning Organization (MPO) to provide adequate opportunity for the public to participate in and comment on the products and planning processes of the MPO. The requirements for public involvement are detailed in 23 CFR 450.316(a) and (b), which require the MPO to develop and use a documented participation plan that includes explicit procedures and strategies to include the public and other interested parties in the transportation planning process.

Specific requirements include giving adequate and timely notice of opportunities to participate in or comment on transportation issues and processes, employing visualization techniques to describe metropolitan transportation plans and TIPs, making public information readily available in electronically accessible formats and means such as the world wide web, holding public meetings at convenient and accessible locations and times, demonstrating explicit consideration and response to public input, and a periodically reviewing of the effectiveness of the participation plan.

Current Status

The MPO's transportation planning process includes sufficient public involvement measures to meet the regulatory requirements outlined in 23 CFR 450.316. The MPO's recent Public Involvement Process (PIP) update was adopted June 19, 2019, and documents the MPO's process for public engagement, and how the MPO tracks and responds to comments received. The PIP contains a development schedule that indicates the document will be updated every four years. The PIP defines comment periods and approaches for different levels of updates and revisions to various MPO documents. The MPO reports that based on recommendations from FHWA, the new PIP seeks to more proactively seek the input of EJ populations. FHWA provided a review of the new PIP on June 21, 2019, noting that it appeared to be a much more substantial document than its January 2012 predecessor that was reviewed at the MPO's first TMA Certification Review, and that it responded to the various recommendations documented in the report from that Review. The updates include procedures that explain how the MPO documents, evaluates and responds to public comment. The updated PIP includes a program schedule and outlines the phases of the public involvement process, a description of the procedure, and the accumulative timeline to complete the evaluation.

The new PIP includes comprehensive information on outreach strategies, including social media, as well as strategies to reach underrepresented populations in the region. The PIP also documents how the MPO evaluates their public involvement efforts, and includes a schedule for maintenance and development of the PIP.

The PIP incorporates a variety of public involvement strategies to solicit public comment. These strategies include but are not limited to public meetings, informational brochures/newsletter, public workshops, video and media outlets, websites and social media, surveys, planned neighborhood meetings, and coordination with community organizations. The NRPC has also



included measures to more proactively seek input from environmental justice populations. This included adding income-restricted housing developments to its mailing list. The approach is used to notify underrepresented populations to be engaged in the public participation process. A list of income-restricted housing developments is attached to the document's appendices. NRPC describes translation services available for individuals with limited English proficiency. The PIP advises individuals requesting translation services to contact nonprofit organizations offering those services or use available translation technology. The MPO tracks translation requests to determine the demand for service and identify additional resources as needed. NRPC has also recently distributed translated questionnaires for regional surveys.

NRPC uses many media platforms for outreach strategies including Facebook, Twitter, YouTube, and newsletters via Constant Contact. NRPC recently discontinued public notices in the newspaper. The MPO acknowledges that the most effective means of communication is through social media and online surveys. During the site visit, there was a question regarding how the MPO should handle comments received through social media. NRPC recently acquired PublicInput.com, a community engagement software for government agencies. NRPC anticipates using the software as a tool for surveying the public and virtually hosting public meetings. The program also supports a robust language capacity for translation and can be linked to a variety of social media outlets.

NRPC reports that staff continue to engage the public in local settings, e.g. workshops conducted in Milford, Merrimack and Hudson for the Transit Service Extension Feasibility Study. An on-board survey was also conducted which afforded the opportunity for riders on every NTS route to provide comments and information needed for future route planning.

NRPC staff report that they typically get more input via social media outreach efforts, and a greater reach compared to more traditional methods, and that these efforts are also more measurable to evaluate. The MPO noted that social media and online surveys were instrumental in soliciting public input for the 2018 MTP Update. In addition to using official local municipality Facebook pages for example, they also work with "unofficial" local pages.

One major change incorporated in the PIP update was to add a low-income housing mailing list. The MPO is considering designation of a staff member to be a point person for interacting with these populations, citing the benefits of personal contacts. NRPC staff report that the MTP update in 2018 included subjective impacts of projects on EJ populations, and that the PIP now provides a better strategy for identifying and targeting EJ populations. NRPC would like to incorporate more statistically-based impact analyses by comparing travel time skims from the travel model for No-Build and Build scenarios in TAZs with substantial EJ populations.

Findings

Commendation:

The federal review team commends NRPC on their engagement to include the public in the transportation planning process. NRPC incorporates an extensive list of strategies to engage



individuals with transportation issues. NRPC also coordinates with many of the region's public agencies and community organizations to reach a variety of stakeholders.

Recommendations:

The Review Team recommends NRPC make translation resources/services accessible to individuals with language barriers. The MPO is responsible for ensuring the translation of documents is available throughout the metropolitan transportation planning process and should not place the burden of doing so on the individuals in need of translation services. NRPC should initiate steps to provide accessible materials requested by individuals with interest in the planning process.

FHWA and FTA recommend that NRPC establish a social media policy that makes it clear to the public how comments received will be interpreted as official comment. NRPC is encouraged to identify in their PIP how comments will be incorporated from social media in the planning process, and then act accordingly. Such policy should consider the region's low-income, minority and LEP populations to ensure that no groups are excluded.

If the MPO has decided not to deploy traditional newspaper notices for public meetings, it should consider alternative methods to notify individuals that may have limited internet access. While acknowledging the MPO's determination that social media and online surveys provide the most effective means of communication in terms of cost efficiency and number of people reached, the federal agencies still encourage the MPO to approach their public participation and outreach responsibilities with a diverse set of tools, including piggybacking on community events at schools, religious institutions, etc.

3.9 Civil Rights (Title VI, EJ, LEP, ADA)

Regulatory Basis

Title VI of the Civil Rights Act of 1964, prohibits discrimination based upon race, color, and national origin. Specifically, 42 U.S.C. 2000d states that "No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance." In addition to Title VI, there are other Nondiscrimination statutes that afford legal protection. These statutes include the following: Section 162 (a) of the Federal-Aid Highway Act of 1973 (23 U.S.C. 324), Age Discrimination Act of 1975, and Section 504 of the Rehabilitation Act of 1973/Americans with Disabilities Act (ADA) of 1990. ADA specifies that programs and activities funded with Federal dollars are prohibited from discrimination based on disability.

Executive Order #12898 (Environmental Justice) directs federal agencies to develop strategies to address disproportionately high and adverse human health or environmental effects of their programs on minority and low-income populations. In compliance with this Executive Order,



USDOT and FHWA issued orders to establish policies and procedures for addressing environmental justice in minority and low-income populations. The planning regulations, at 23 CFR 450.316(a)(1)(vii), require that the needs of those “traditionally underserved” by existing transportation systems, such as low-income and/or minority households, be sought out and considered.

Executive Order # 13166 (Limited-English-Proficiency) requires agencies to ensure that limited English proficiency persons can meaningfully access the services provided consistent with and without unduly burdening the fundamental mission of each federal agency.

Current Status

The MPO has a designated Title VI Coordinator and has received no Title VI complaints since the last certification review. NRPC staff articulated the MPO’s methods for determining demographics of their region based on data collection from the US Census Bureau. They intend to continue to conduct further outreach to low-income and minority communities that are traditionally underserved.

The MPO is committed to identifying and preventing any discriminatory policies in providing their services to the region as a sub-recipient of federal funding. MPO staff are currently updating their Title VI complaint process consistent with previous guidance provided by FHWA, and will notify the NHDOT Title VI Coordinator of any complaints. Under Section 3.8, the federal agencies have noted that The MPO is responsible for ensuring the translation of documents is available throughout the metropolitan transportation planning process and should not place the burden of doing so on the individuals in need of translation services.

NRPC included documentation of subjective impacts of projects on EJ populations in their MTP update of 2018. The MPO would like to incorporate a more data-based impact analysis in future iterations of their MTP via comparing travel time skims from the travel model for No-Build and Build scenarios in select TAZs where low-income and minority populations are prevalent.

The NRPC MPO is aware of NHDOT’s ADA Transition Plan. As the MPO has less than fifty employees, NRPC is not required to have their own ADA transition plan. The MPO is aware that any complaints received should be forwarded to NHDOT’s Office of Federal Compliance (OFC) for investigation, and during the review meeting, the federal agencies also informed NRPC staff that they should also ensure that NHDOT and FHWA/FTA receive all Letters of Finding, after NHDOT’s investigation is completed.

Findings

Recommendations:

The federal agencies encourage the MPO to complete the updating of their Title VI complaint process consistent with previous FHWA guidance, and in coordination with NHDOT’s OFC. NRPC staff should coordinate with NHDOT’s OFC regarding how frequently they need to review and update their Title VI Program documentation.



At the Review, a question was raised regarding Title VI and EJ plans, reports and policies, and whether they should be consolidated, or kept separate. FHWA and FTA direct partner agencies, including State DOTs and MPOs to keep their Title VI plans, reports, and policies separate from the same for EJ, as the scope of Title VI is limited to race, color and/or national origin.

NRPC is encouraged to implement their proposed TAZ-based analysis of travel times with the next MTP update. This would provide a more data-based framework for the Plan's EJ impact analysis.

The MPO should continue to enhance outreach efforts to traditionally underserved populations in the region, including low-income and/or minority households, consistent with Executive Order 12898 and 23 CFR 450.316(a)(1)(vii).

The federal agencies recommend that the MPO conduct a LEP Four Factor Analysis to ensure meaningful access to their programs and activities by LEP persons in the region. The starting point is an individualized assessment that balances the following four factors:

1. The number or proportion of LEP persons eligible to be served or likely to be encountered by the program or grantee;
2. The frequency with which LEP individuals come in contact with the program;
3. The nature and importance of the program, activity, or service provided by the program to people's lives; and
4. The resources available to the grantee/recipient or agency, and costs.

More information can be found at FHWA's LEP Four Factor Analysis webpage:
https://www.fhwa.dot.gov/civilrights/programs/title_vi/lep_fourfactor.cfm

3.10 Freight Planning

Regulatory Basis

The MAP-21 established in 23 U.S.C. 167 a policy to improve the condition and performance of the national freight network and achieve goals related to economic competitiveness and efficiency; congestion; productivity; safety, security, and resilience of freight movement; infrastructure condition; use of advanced technology; performance, innovation, competition, and accountability, while reducing environmental impacts.

In addition, 23 U.S.C. 134 and 23 CFR 450.306 specifically identify the need to address freight movement as part of the metropolitan transportation planning process.



Current Status

NRPC's current 2019-2045 MTP includes a Freight Movement chapter that identifies the MPO's goals relating to freight planning in the region as follows:

- Develop a regional database of truck volumes on roadways, trip generation from major activity centers and travel patterns.
- Work with other MPOs, including those in Massachusetts, to conduct coordinated data collection and freight planning tasks.
- Continue to work with NHDOT on the planning needs for the National Freight System and assist in the collection of data and analysis of data to support that system.
- Provide technical assistance to NHDOT for the maintenance and update of the State Freight Plan.

The MTP describes NRPC's effort to retain AECOM Technical Services, Inc. to research regional and statewide conditions and to develop a set of recommendations for best practices in freight planning for the region. A review of existing plans and studies for the NRPC region and the State of New Hampshire shows that there is a lack of freight transportation data and information for the NRPC region. Based on the existing conditions, review of best practices, and goals of national multimodal freight policies, the following recommendations were provided by AECOM for the Nashua Region:

1. Establish a regional freight advisory committee consisting of public and private stakeholders.
2. Identify key trading partners, shippers/receivers, distributors, transportation service providers (trucking companies) etc.
3. Organize regional freight forums with public sector planning and economic development officials and private sector stakeholders, including several of the State's major shippers and receivers, motor carriers and railroads to discuss economic development opportunities, freight needs and deficiencies and potential improvement strategies as well as to learn about new and emerging issues.
4. Conduct an inventory of freight transportation system and infrastructure, including:
 - a. Major truck routes and truck utilization data
 - b. Active and abandoned freight railroads
 - c. Conditions of truck routes and freight railroads
 - d. Bridge capacity
 - e. Capacity and vertical clearance of freight railroads
 - f. At-grade railroad crossings
5. Identify intermodal connectors, which are short roadway segments that connect rail terminal facilities to the NHS.
6. Identify the types of services such as bulk services, intermodal services, and carload services offered by freight railroads.



7. Identify intermodal terminals in or near the region where goods are transferred from one mode to another.
8. Conduct a goods movement study for the region to:
 - a. Understand the types of commodities that are being moved inside, outside and through the region
 - b. Identify transportation modes used to move these commodities
 - c. Identify origins and destinations of freight in the region
9. Explore Intelligent Transportation Systems (ITS) to improve safety, efficiency and reliability of freight transportation and advanced technologies for truck productivity.

Additionally, the *2012 NH State Rail Plan* has identified several recommendations that are related to the freight railroads in the NRPC region. It is recommended that the NRPC region work with public agencies and private stakeholders to address or implement these recommendations:

1. Work with the State of Massachusetts to raise the weight limits on MBTA-owned lines in Massachusetts that serve New Hampshire (the New Hampshire Main Line from North Chelmsford to Nashua),
2. Identify and plan for freight distribution centers along rail lines,
3. Support grant funding for improving the primary and secondary branch line segments of the Pam Am Railways New Hampshire Main Line (from Nashua to Concord). Limited train speeds on this line due to current track conditions have resulted in reduced services to the Nashua, Manchester and Concord areas. Additionally, this improvement would also support the viability of an intermodal container site in the Nashua/Manchester area,
4. Initiate a program to provide financial support in partnership with shippers/railroads for infrastructure improvements that increase rail access,
5. Continue policy of acquiring abandoned rail lines with potential for future use, and
6. Ensure that state-owned abandoned rail rights-of-way are available for future railroad use

Freight planning is a separate task in the NRPC's UPWP now, and MPO staff attended a May 2019 FHWA-facilitated Freight Workshop for Small/Medium MPOs in New Hampshire, resulting in an Action Plan developed by staff to enhance freight planning activities. NRPC staff also provided input into the ongoing process of designating statewide critical freight corridors in New Hampshire. NRPC's MTP describes the MPO process that culminated in their developing a list of critical corridors in the region to include NH 101 from Wilton Road in Milford to NH 31 in Wilton, and identifying NH 101A as the region's highest priority corridor.

The MPO's efforts in the current work program will be primarily to develop their data through vehicle classification counts, truck generation studies and potential surveys of major truck generating businesses. For the long-term, the MPO would like to work on developing their truck modeling/forecasting capability. NRPC staff report that FHWA's FAF tool has been of limited



use as it provides commodity flow data versus more specific truck data and counts, however, during the Review meeting, Bill Kuttner of the Boston Region MPO staff shared his efforts to build a truck model that would include southern New Hampshire. He described using toll reports from the New Hampshire Toll Authority for developing truck data, and using it to help develop the Massachusetts statewide model.

Findings

Commendation:

NRPC and NHDOT are recognized for developing a new stand-alone freight focused work element in the UPWP, thus elevating the consideration and promotion of more efficient goods movement in the metropolitan planning process and associated products including the MTP and TIP.

Recommendations:

NRPC should consider their freight-related MTP goals, AECOM recommendations for best practices, and Action Plan items developed from the FHWA-Facilitated Freight Workshop to further elevate their freight planning activities.

NRPC could consider similar efforts as the Boston Region MPO to develop their freight modeling capacity using New Hampshire Toll Authority reports for O/D data that could be built on with truck traffic counts, including at major arterial intersections.

NHDOT is encouraged to continue efforts to formally designate New Hampshire's Critical Urban Freight Corridors (CUFCs) and Critical Rural Freight Corridors (CRFCs) via further study as needed with consultation from New Hampshire's Statewide Freight Advisory Committee.

3.11 Environmental Mitigation

Regulatory Basis

23 U.S.C. 134(i)(2)(D) 23 CFR 450.324(f)(10) requires environmental mitigation be set forth in connection with the MTP. The MTP is required to include a discussion of types of potential environmental mitigation activities for the transportation improvements and potential areas to carry out these activities, including activities that may have the greatest potential to restore and maintain the environmental functions affected by the plan. The MPO shall develop the discussion in consultation with applicable Federal, State, and Tribal land management, wildlife, and regulatory agencies. The MPO may establish reasonable timeframes for performing this consultation.

Current Status



The MTP includes a chapter named Environmental Concerns of Projects & Mitigation Strategies. This section documents eight environmental resource areas of interest, discussing a range of potential environmental issues that could be associated with MTP projects in the region, and some that may be programmed in the TIP. The eight resource areas are: Air Quality, Archeological/Cultural Resources, Prime Farmland, Species of Special Concern, Wetlands, Riparian Habitats, Noise and Floodplains.

The Plan identifies four specific projects for their associated environmental impacts, documenting these impacts for the eight resource areas listed above, and noting that these projects were identified as having associated environmental effects that are worthy of discussing in detail: NH 101A Widening, NH 101 Improvements, Hudson Boulevard and FEE Turnpike widening. A preliminary analysis of environmental effects and mitigation measures is provided for these projects. As these projects advance, impacts and mitigation efforts will be more closely considered. The MPO reports that this documentation was developed in consultation with NHDES through the MPO's TTAC.

Findings

Commendation:

The Nashua MPO is commended for providing thoughtful and concise discussion to the reader concerning environmental resources in the region that might be impacted from project development, and narrowing that focus to identifying a small number of projects having the highest likelihood of impacting those resources.

Corrective Action:

NRPC staff must broaden the list of agencies that were consulted with (beyond NHDES air quality staff) in the development of the MTP's discussion of types of potential environmental mitigation activities for the Plan's transportation improvements, and potential areas to carry out these activities, consistent with requirements listed under 23 CFR 450.324(g). FHWA and FTA encourage the MPO to accomplish this via presenting this documentation to both the NHDOT's Natural and Cultural Resource Agency Coordination Meetings for their input, and follow-up with adjustments that may be warranted as an outcome of this consultation.

Schedule for Process Improvement:

Next update of MTP

Proposed FHWA/FTA Technical Assistance:

FHWA and FTA remain available to provide technical assistance to the Nashua MPO and its staff as it addresses these Corrective Actions.

3.12 Travel Demand Model/Forecasting



Regulatory Basis

23 CFR 450.324(f)(1) requires that the Metropolitan Transportation Plan include the projected transportation demand of persons and goods in the Metropolitan Planning Area over the period of the transportation plan. Travel demand forecasting models are used in the planning process to identify deficiencies in future year transportation systems and evaluate the impacts of alternative transportation investments. In air quality non-attainment and maintenance areas, they are also used to estimate regional vehicle activity for use in mobile source emission models that support air quality conformity determinations.

Current Status

The Nashua TMA includes an estimated population of 207,000 in 2015, and the MPO serves large portions of the Nashua Urbanized Area (UZA) as well as a small fringe area of the Boston UZA. As expected, auto travel is the predominant mode of transportation. Other travel options include fixed-route bus service within the City of Nashua and commuter express bus service to and from Boston. Although there are no interstates within the NRPC region, an extensive state highway arterial system provides convenient access to regional activity centers and surrounding areas. The FE Everett Turnpike covers the entire north-south extent of eastern portions of the MPO region, which presents another technical challenge in forecasting future travel.

NRPC staff report that their model base year data inputs were updated to 2015 last year. Other model improvements that the MPO cites include a new two-tiered volume-delay function for limited access highways and at-grade roads. Volume-delay functions work with free flow speeds and capacities to produce congested networks, so the MPO notes that there have been updates of the latter two inputs as well. NRPC staff now calibrates assignment speeds at two levels: free flow travel times are compared with uncongested (generally late night) travel times from probe data, resulting in modifications to free flow speeds. Likewise, congested speeds are compared to probe data for peak periods and adjustments are made to capacities to match the observed congested speeds. The MPO states that a peak period or hour model would improve assignment results by providing peak directionality to travel flows, which would require developing data on the temporal distribution of trips by purpose, further noting that this could be obtained by way of a new household travel survey and a considerable calibration effort as well. Per discussion at the Certification review meeting, NRPC has not conducted a regional household travel survey during the past 20 years.

In reviewing transit ridership forecasting documents, the federal agencies found that NRPC staff has adopted an off-modeling direct estimation approach in forecasting transit linked ridership, given that transit mode share is very low, under 1%. This approach is consistent with the principal of the FTA Simplified Trips-on-Project Software (STOPs) approach and has improved ridership forecasting accuracy. In addition, the federal agencies learned that NRPC staff has provided project-level traffic forecasting technical service to NHDOT and many municipalities. The solid staff modeling capability is evident in reviewing these transit and highway project-level forecasting documents.



In reviewing NRPC traffic model documents, the federal review team found insufficient traffic modeling technical documentation, which prevented the review team from effectively evaluating auto and truck travel demand forecasting methods. There is no basic methodology report to explain or document regional model planning assumptions; data sources and parameters used in developing and calibrating the traffic model; model validations that meet generally acceptable industry standards; and model sensitivities to projects/policies presented in the long-range transportation plan.

The lack of readily available written technical documents increases risk factors for potential legal challenges, and increase difficulties in establishing forecasting credibility and communicating forecasting results. In addition, this written technical documentation is necessary to permit future modelers to perform forecasting and modeling improvement activities continuously, without interruption.

Typical traffic model technical documentation would cover, but not be limited to, the following:

- A modeling framework, such as traditional 3 or 4-step trip base modeling procedures;
- Other common model components, such as external model, truck model or special trip generators;
- Procedures or parameters used for each of the modeling components;
- Primary and secondary data sources used to calibrate and validate models;
- Modeling zone and network systems; treatment of signalized intersections or turn penalties;
- Descriptions of planning assumptions such as land use patterns, socio-economic data, congestions patterns, time of day peaking characteristics, etc.;
- Discussions of forecasting sensitivities to toll road improvements and changes in toll rates, as the turnpike is one of the region's major north-south roadway systems;
- Model validations that typically include the following:
 - Volume and speed validations,
 - Root Mean Square Error (RMSE) by volume groups, by functional classes, and by area types,
 - Systematic or geographic bias checks,
 - District to District flows including any applications of K-factors or Origin-Destination Matrix (ODM) Estimation methods,
 - Screenline/cutline validations, and
 - Sensitivity tests resulting from changes in input assumptions

Findings

Commendations:

NRPC's staff is commended for leading the effort to establish New Hampshire's Model Users' Group (MUG) in 2018. The MUG provides a forum for sharing information and expertise across MPOs, via discussion of modeling issues, coordination in developing methodologies and comparing model outputs, and generally elevating the state of the practice for metropolitan travel

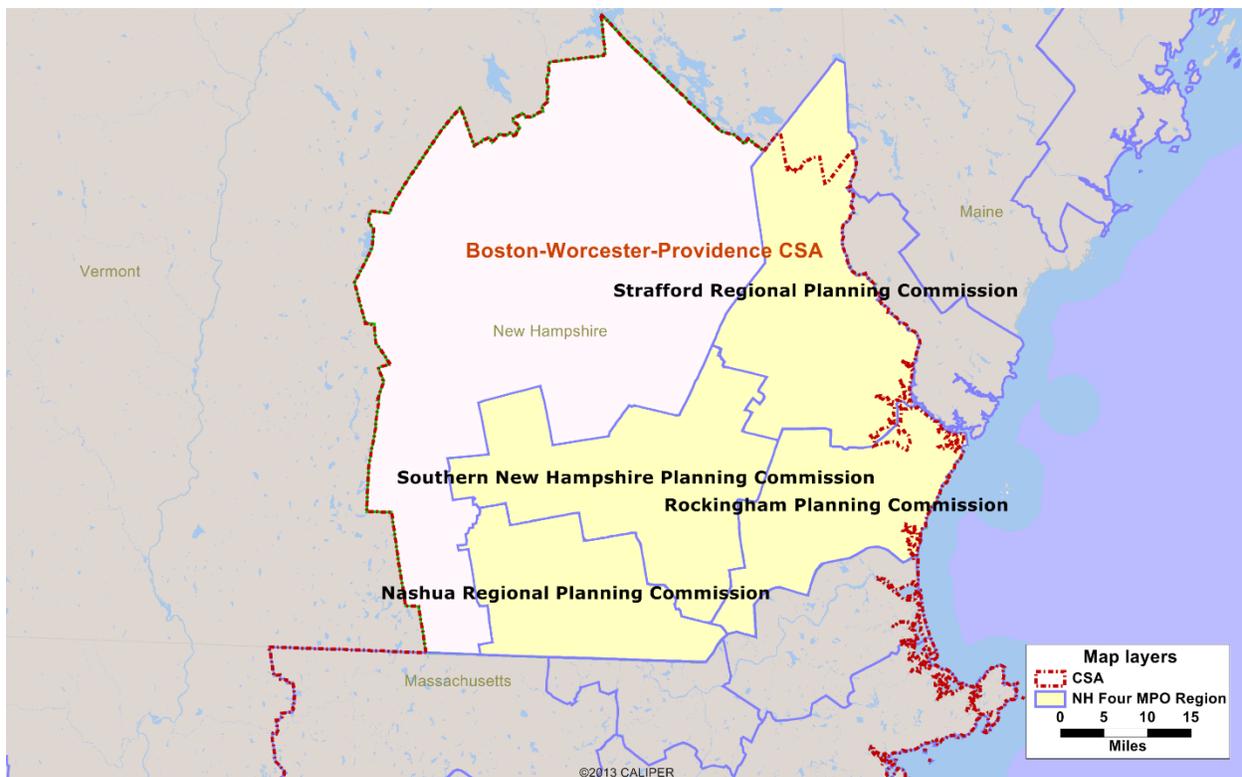


demand modeling in New Hampshire. The MUG has recently served as a venue for discussions involving all four of New Hampshire's MPOs related to the potential for development of a shared household travel survey, and/or a shared and integrated travel demand model.

Recommendations:

The Review Team recommends that the MPO compile and develop a basic modeling technical document that would allow the federal agencies to perform further evaluations of the NRPC model. Weak or poorly documented forecasting methods are particularly susceptible to legal challenges for federal actions including FHWA Record of Decisions (RODs) under the NEPA process.

The Review Team recommends that a new regional household travel survey be conducted. Given that most large urbanized geographies occur in the southern and seacoast New Hampshire regions of the state, and with limited funding resources, this survey may be jointly conducted in the four New Hampshire MPO regions, or expanded to the New Hampshire portion of the Combined Statistical Area (CSA) of Boston-Worcester-Providence. The CSA region is desirable since it is a separate zone for the FHWA Freight Analysis Framework (FAF) tool, and it takes into consideration a 20-year planning horizon for a larger area than New Hampshire's current 4 MPO regions. There is a small northern portion of the Strafford MPO that is not included in the Boston-Worcester-Providence CSA that should also be included in this household travel survey, per the map below.





3.13 Congestion Management Process

Regulatory Basis

23 U.S.C. 134(k)(3) and 23 CFR 450.322 set forth requirements for the congestion management process (CMP) in TMAs. The CMP is a systematic approach for managing congestion through a process that provides for a safe and effective integrated management and operation of the multimodal transportation system. TMAs designated as non-attainment for ozone must also provide an analysis of the need for additional capacity for a proposed improvement over travel demand reduction, and operational management strategies.

Current Status

The MPO documented its congestion management process (CMP) in September 2010 and carries out the process through periodic, corridor-based congestion management reports and ongoing activities integrated with the UPWP, TIP and metropolitan transportation plan. The Federal Review Team examined the MPO's CMP through the 8-step framework in the FHWA CMP Guidebook from April 2011:

1. Develop regional objectives for congestion management

The MPO has four regional objectives for congestion management:

- A robust data collection process: Develop and annually update travel time data and traffic volumes for each of the corridors included in the CMP for at least one peak period;
- Coordinated data collection: Integrate CMP data collection efforts with the efforts of NHDOT and other MPOs by 2015;
- Comprehensive analysis, monitoring and reporting: Produce biennial CMP report that details data collection and analysis efforts, performance of CMP corridors and the details of any projects for all modes; and
- Implement congestion mitigation recommendations: Integrate the CMP into the project development and prioritization process of the MPO for the 2012 LRTP and TIP updates.

2. Define CMP network

The CMP network covers the 13 communities that comprise the MPO region in Southern New Hampshire. The CMP network includes Interstate highways, the turnpike system, other principal arterials, and transit services and facilities.

3. Develop multimodal performance measures

4. The MPO monitors multimodal performance using the 22 specific performance measures organized around five difference performance areas: capacity utilization measures; measures of recurring delay; measures of non-recurring delay; individual mobility measures; and area mobility measures.



5. Collect data / monitor system performance

The MPO annually programs funding in the UPWP to collect data and monitor system performance. The MPO uses permanent traffic counters, annual volume and classification counts, travel time studies, transit data, and other travel data. The MPO periodically publishes congestion management reports for the major corridors to monitor performance indicators for actual and expected travel times in the AM and PM peak periods, travel time ratios, and travel time data from the National Performance Management Research Data Set (NPMRDS).

6. Analyze congestion problems and needs

The MPO uses the CMP and corridor-based congestion management reports to identify congested roadway segments, intersections, and transit services and the causes of congestion, including physical bottlenecks, traffic incidents, work zones, weather, traffic control devices, special events, and fluctuations in normal traffic. The MPO uses the following definitions of congestion:

Facility Type	Definition of Congestion
Roadway segments	<ul style="list-style-type: none">• Links with a Level of Service of E or F (Freeways)• Links with a Level of Service of E or F (Non-freeways)• Segments with travel times 1.5 times (or greater) than the free-flow travel time• Segments with high crash frequencies during peak periods that are greater than the regional average
Intersections	<ul style="list-style-type: none">• Overall composite LOS of E or F• Intersections with crash frequencies during peak periods that are greater than the regional average
Transit	<ul style="list-style-type: none">• Trips with 80% or more bus capacity utilized• Transit travel times 1.5 times (or greater) than free-flow transit travel time

7. Identify and assess CMP strategies

The MPO uses the CMP and corridor-based congestion management reports to identify and recommend potential congestion management strategies for the region and specific facilities. The CMP identifies a wide range of potential strategies, including highway, transit and bicycle and pedestrian projects; travel demand management; ITS and transportation system management; access management; land development; and parking management. However, the full range of strategies do not seem to be utilized. The Review Team found that the MPO had not identified any proposals for use of strategies for TDM, land use, or parking management in the 14 corridor-based congestion management reports.



8. Program and implement CMP strategies

The MPO's TIP includes implementation schedules, implementation responsibilities, and funding sources for the congestion management strategies that the MPO has decided to implement.

9. Evaluate strategy effectiveness

The MPO uses the CMP performance measures and corridor-based congestion management reports to evaluate the effectiveness of the congestion management strategies. The CMP document from September 2010 says the MPO will update the CMP every 4 years and produce performance reports biennially, but the MPO has not updated the CMP or produced any biennial performance reports. During the TMA Certification Review, the MPO communicated its plans to update the CMP by June 2020.

Findings

Recommendations:

The MPO should use the 2020 CMP update as an opportunity to clarify the cycles for corridor-based congestion management reports, biennial performance reports, and 4-year updates to establish clear expectations for MPO members, partners, and stakeholders.

The MPO should use the 2020 CMP update as an opportunity to revisit the congestion management strategies in the CMP Toolbox and the applicability of those strategies in the region (e.g. TDM, land use, and parking management).

The MPO should integrate safety data, performance measures, and targets into the corridor-based congestion management reports to help assess potential congestion management strategies for non-recurring congestion.

3.14 Intelligent Transportation Systems/Regional ITS Architecture

Regulatory Basis

The FHWA Final Rule and FTA Policy on Intelligent Transportation Systems (ITS) Architecture and Standards, issued on January 8, 2001 and codified under 23 CFR Part 940 ITS Architecture and Standards, requires that all ITS projects funded by the Highway Trust Fund and the Mass Transit Account conform to the national ITS architecture, as well as to U.S. DOT-adopted ITS standards. 23 CFR 940 states that:

- At the issuance date (January 8, 2001) of the Final Rule/Policy, regions and MPOs implementing ITS projects that have not advanced to final design by April 8, 2005, must have a regional ITS architecture in place. All other regions and MPOs not currently implementing ITS projects must develop a regional ITS architecture within



- four years from the date their first ITS project advances to final design.
- All ITS projects funded by the Highway Trust Fund (including the Mass Transit Account), whether they are stand-alone projects or combined with non-ITS projects, must be consistent with the provisions laid out in 23 CFR 940.
- Major ITS projects should move forward based on a project-level architecture that clearly reflects consistency with the national ITS architecture.
- All projects shall be developed using a systems engineering process.
- Projects must use U.S. DOT-adopted ITS standards as appropriate.
- Compliance with the regional ITS architecture will be in accordance with U.S. DOT oversight and Federal-aid procedures, similar to non-ITS projects.

Current Status

NRPC's current ITS efforts and program objectives are set forth in their "Intelligent Transportation System (ITS) Road Map (DRAFT)", prepared in June 2017. NRPC's ITS Architecture was initially first set forth in 2006, and is expected to be updated in 2020. This will be the first update since inception.

NRPC's ITS Road Map is comprised of the following key elements: identification of existing ITS Plans in New Hampshire and the Nashua Region; examples of ITS projects in New Hampshire and the United States; identification of current and possible/future ITS projects in the Nashua Region; and identification of several ITS project recommendations, pertaining to traffic signals, Dynamic Travel Time information, and Regional Traffic Operations Centers.

Findings

Commendation:

Despite not having a dedicated ITS/Traffic Operations staff member, NRPC has made good use of a consultant agreement to develop an ITS Road Map that adequately addresses high level and project specific ITS applications on both a statewide and regional level.

Recommendations:

FHWA and FTA recommend that NRPC continue to update any major ITS plans every two years. This would be consistent with other major planning efforts, such as the update to NHDOT's Ten Year Plan, which is statutorily required to be updated every two years.

Recognizing that there will not be an ITS component to every project in its respective Region in the STIP and LRTP, and that certain higher-level applications will need to be addressed by NHDOT on a statewide basis, NRPC is encouraged to continue to seek out opportunities for ITS implementation on the network and intersection level, where most appropriate, and where they have a greater possibility of influencing stakeholders in meeting ITS needs. Specifically, both the US 3 and NH 101A corridors, as well as the Milford Oval, have been identified as areas that could benefit from ITS applications. Said applications could take the form of Automated Traffic



Signal Performance Measures (ATSPM), and wayfinding, respectively, as a way of alleviating congestion. Additionally, NRPC has identified at least two specific applications for implementation of an Intersection Conflict Warning System (ICWS), which could be utilized to reduce crashes or address other safety deficiencies, such as poor sight distance or instances where the priority for vehicular right-of-way may not be clear to motorists.

Coordination with NHDOT is essential. Over the last several years, the Bureau of Transportation Systems, Management & Operations (TSMO) has striven to include an ITS Checklist at the inception of Project Development process. Said checklist identifies specific ITS needs within a proposed project, and ensures that they are included and accounted for from a planning and funding perspective.

3.15 Performance Based Planning and Programming

Regulatory Basis

23 U.S.C. 150(b) identifies the following national goals for the focus of the Federal-aid highway program: Safety, Infrastructure Condition, Congestion Reduction, System Reliability, Freight Movement and Economic Vitality, Environmental Sustainability, and Reduced Project Delivery Delays. Under 23 U.S.C. 134(h)(2), the metropolitan planning process shall provide for the establishment and use of a performance-based approach to transportation decision-making to support the national goals, including the establishment of performance targets.

23 CFR 450.306(d) states that each MPO shall establish performance targets to support the national goals and track progress towards the attainment of critical outcomes. Each MPO shall coordinate with the relevant State to ensure consistency, to the maximum extent practicable, and establish performance targets not later than 180 days after the State or provider of public transportation establishes its performance targets. The selection of performance targets that address performance measures described in 49 U.S.C. 5326(c) and 49 U.S.C. 5329(d) shall be coordinated to the maximum extent practicable, with public transportation providers to ensure consistency with the performance targets that public transportation providers establish under 49 U.S.C. 5326(c) and 49 U.S.C. 5329(d). Additionally, each MPO shall integrate the goals, objectives, performance measures, and targets from other performance-based plans and programs integrated into the metropolitan transportation planning process.

23 CFR 450.314(h) states that the MPO, the State, and the public transportation operator shall jointly develop specific written provisions PBPP, which can either be documented as part of the metropolitan planning agreements or in some other means.

23 CFR 450.324(f) states that MTPs shall include descriptions of the performance measures and performance targets used in assessing the performance of the transportation system, a system performance report evaluating the condition and performance of the transportation system with



respect to the performance targets, and progress achieved in meeting the performance targets in comparison with system performance recorded in previous reports.

23 CFR 450.326(d) states that the TIP shall include, to the maximum extent practicable, a description of the anticipated effect of the programmed investments with respect to the performance targets established in the MTP, the anticipated future performance target achievement of the programmed investments, and a written narrative linking investment priorities to those performance targets and how the other PBPP documents are being implemented to develop the program of projects.

23 CFR 450.340 states that MPOs have two years from the effective dates of the planning and performance measures rule to comply with the requirements.

Current Status

The MPO, NTS, and NHDOT are working together to coordinate and carry out a performance-based multimodal transportation planning process consistent with the FHWA-FTA joint rule on statewide, nonmetropolitan, and metropolitan transportation planning.

- **Developing jointly agreed upon specific written provisions**

In September 2019, NHDOT finalized a Memorandum of Understanding (MOU) with New Hampshire's MPOs and public transportation providers to clearly identify the roles and responsibilities for cooperatively carrying out transportation planning and programming in a comprehensive and continuous manner. The MOU includes sub-agreements to outline roles and responsibilities for urbanized areas, transit planning (including transit asset management), and performance management. The performance measure sub-agreements cover the FHWA performance measures for highway safety, pavement condition, bridge condition, travel time reliability, freight reliability, and traffic congestion. The MPO signed the MOU on July 12, 2019, NTS signed on July 29, 2019, and NHDOT signed on August 29, 2019.

- **Coordinating and establishing performance targets**

New Hampshire's performance-based planning working group, Partnering for Performance NH, helps coordinate performance management activities among NHDOT, the MPOs, and public transportation providers for the FHWA and FTA performance measures, targets, and other associated requirements. The working group has met monthly since 2016 and helps explain performance management concepts to partner agencies, elected officials, the public, and other stakeholders.

For the FHWA performance measures, the MPO discussed its target options with the TTAC after receiving and reviewing NHDOT's targets, and ultimately decided to:

- Support the NHDOT targets for bridge condition, travel time reliability, and the



- first performance period for highway safety, and
- Develop its own targets for pavement condition and the second performance period for highway safety.

The MPO was not required to establish targets for the following FHWA performance measures because the metropolitan planning area does not contain any segments of the Interstate System:

- Percentage of pavements of the Interstate System in good condition,
- Percentage of pavements of the Interstate System in poor condition,
- Percent of the person-miles traveled on the Interstate that are reliable, and
- Truck Travel Time Reliability (TTTR) Index.

To date, the MPO has not established a target for the FHWA performance measure for on-road mobile source emissions. Since Nashua is a maintenance area for the Environmental Protection Agency's National Ambient Air Quality Standard for carbon monoxide, the MPO is responsible for establishing a target for total emissions reduction.

For the FTA performance measures, the MPO adopted the NTS targets for transit asset management at its October 2018 meeting. Transit agencies are not required to have safety targets until July 2020, and MPOs will be required to have transit safety targets 180 days later.

- **Evaluating past condition and performance, documenting targets, and reporting progress**

The MPO documented the FHWA and FTA performance measures and targets in the 2019-2045 Metropolitan Transportation Plan. The Plan includes baseline data and targets for the FHWA performance measures for highway safety, pavement condition, bridge condition, and travel time reliability, and the FTA performance measures for transit asset management.

- **Linking investment priorities to targets and describing anticipated future target achievement**

The MPO also documented the FHWA and FTA performance measures and targets in the Federal Fiscal Year (FFY) 2019-2022 Transportation Improvement Program (TIP). The TIP includes baseline data and targets for the FHWA performance measures for highway safety, pavement condition, bridge condition, travel time reliability, and freight reliability and the FTA performance measures for transit asset management.

The MPO used its Project Evaluation Criteria to develop the TIP, program projects, and link investment priorities to the performance targets. The TIP also includes a table summarizing the performance measures applicable to each programmed project or group of projects.



- **Integrating performance-based plans and processes**

The MPO’s approach to integrating the goals, objectives, performance measures, and targets from other performance-based plan and processes into the metropolitan transportation planning process is evolving as those plans (e.g. the Transportation Asset Management Plan and the Transit Asset Management Plan) are being developed and implemented, and it is expected that the integration will continue to be strengthened.

Findings

Corrective Action:

By December 31st, 2020 the MPO shall:

- Develop specific written provisions for the FHWA performance measure for on-road mobile source emissions, per 23 CFR 450.314(h); and
- Establish a 4-year performance target for the total emissions reduction of carbon monoxide, per 23 CFR 450.306(d), 23 CFR 490.105(f), and 23 CFR 490 Subpart H;
- The MPO shall also phase-in the performance measure and target into the metropolitan transportation plan and TIP the first instance those documents are amended or updated, per 23 CFR 450.340.

Schedule for Process Improvements:

The Corrective Actions identified above should be completed by December 31, 2020.

Proposed FHWA/FTA Technical Assistance:

FHWA and FTA remain available to provide technical assistance to the Nashua MPO and its staff as it addresses these Corrective Actions.

Recommendations:

The Review Team recommends the MPO use the terminology “system performance report” for the performance management discussion in the next MTP to clearly demonstrate compliance with 23 CFR 450.324(f)(4) and avoid any potential confusion among partner agencies and stakeholders moving forward

The TIP performance narrative could be enhanced by describing the anticipated effect of the TIP toward achieving the performance targets (e.g. will the TIP help achieve the targets or are additional resources needed to achieve the targets?).

3.16 Emerging Technologies



Regulatory Basis

Currently, there are no Federal regulations in the transportation planning process that mandate consideration of connected and automated vehicles (CAVs) or transportation network companies (TNC) that provide ridesharing services. However, in recent years, there has been an increased focus towards understanding and researching how CAVs and TNCs will impact transportation. A FHWA Press Release (FHWA-08-18) issued on June 7, 2018 quoted, Acting FHWA Administrator Brandye Hendrickson, stating, “cutting-edge technologies, like automated vehicles, have the potential to dramatically change the nation’s use of highways. Without hampering innovation in our federal role, we need to fully understand such advances, so we can inform our state and local transportation partners and anticipate needs.” U.S. DOT has partnered with stakeholders, launched national meetings, conducted research, and published documents to facilitate this new era of transportation, ensuring that our country remains a leader in automation. U.S. DOT has published several documents to provide guidance to help states and locals prepare for planning for CAVs. Other technological advances are impacting transit, micromobility options, and vehicle types. FHWA and FTA continue to encourage states, locals, and MPOs to engage in preparing for the advent of this new technology, as they serve an important role in planning for how these changes in transportation patterns impact our communities and transportation network.

Current Status

Connected and autonomous vehicles (CAV) and Transportation Network Company (TNC) services are emerging topics for the Nashua region. The NRPC’s last annual forum focused on emerging technologies and there was much interest in CAVs. The region does have TNC providers such as Uber and Lyft. During the Review, MPO staff noted that the City of Nashua initially resisted the presence of TNCs in the region, but is now adapting to the rideshare concept and is more comfortable with these services. Given this recent development with TNCs and CAVs, the integration of these practices has been slow to be incorporated into the region’s planning process. Microtransit was mentioned as an alternative to extending fixed route service in regions like Nashua.

The City of Nashua is currently using pay and display meters at several public parking facilities. The meters have the capability to be programmed by time of day. NRPC staff are interested in pursuing technologies that could facilitate shared parking and make the best use of space around the City of Nashua. The MPO is also concerned with designing highway facilities that would be compatible with emerging technologies. One consideration is to implement future roadways with conduits to support electric charging technologies. The region has taken steps to integrate electric vehicles (EV) into the fleet of public transportation. NTS recently was selected to receive competitive FTA section 5339(c) funding to replace two diesel vehicles with two hybrid-electric buses. The vehicles were put into NTS service as of October 2019. Overall, the incorporation of EVs has been low compared to other regions in the country. NRPC has been interested in



coordinating with neighboring MPOs for an EV project on the NH 101 corridor, but the initiative did not have sufficient support to move forward.

The City of Nashua hosts a dockless bikeshare system and more recently e-scooters have come to the region. The City of Nashua initially banned scooters from their sidewalks, but recently the ban was repealed due to limited storage space. The bikeshare provider, VeoRide, has shared limited GPS data and identified that approximately 50% of bikeshare riders are using the service for commuting to work. NRPC does have capacity to utilize a cloud-based system and infrared technology to gather pedestrian and bicycle counts. The NRPC also has a complete streets advisory committee and is in the process of developing a guidebook that would inform communities about design guidelines.

Findings

Recommendation:

FHWA and FTA recommend NRPC consider CAVs and TNCs in the region's metropolitan planning process and long-range planning activities. The MPO should explore opportunities to integrate emerging technologies into future planning and coordination activities with its many stakeholders.



4.0 Summary of Corrective Actions, Recommendations and Commendations

CORRECTIVE ACTIONS:

Performance-Based Planning & Programming: By December 31, 2020, the MPO shall:

- Develop specific written provisions for the FHWA performance measure for on-road mobile source emissions, per 23 CFR 450.314(h); and
- Establish a 4-year performance target for the total emissions reduction of carbon monoxide, per 23 CFR 450.306(d), 23 CFR 490.105(f), and 23 CFR 490 Subpart H;
- Phase-in the performance measure and target into the metropolitan transportation plan and TIP the first instance those documents are amended or updated, per 23 CFR 450.340.

Environmental Mitigation: With the next MTP update, NRPC staff must broaden the list of agencies that were consulted with (beyond NHDES air quality staff) in the development of the MTP's discussion of types of potential environmental mitigation activities for the Plan's transportation improvements, and potential areas to carry out these activities, consistent with requirements listed under 23 CFR 450.324(f)(10). FHWA and FTA encourage the MPO to accomplish this via presenting this documentation to both the NHDOT's Natural and Cultural Resource Agency Coordination Meetings for their input, and follow-up with adjustments that may be warranted as an outcome of this consultation.

Financial Planning: With the next MTP update, the "Financial Analysis" section of the MTP must include FHWA and FTA program funding broken-out by current funding program category pursuant to 23 CFR 450.324 (f)(11)(ii), as well as a table cooperatively developed by NRPC and the Nashua Transit Service (NTS) depicting the region's public transportation O&M needs pursuant to 23 CFR 450.324(f)(11)(i). With the next TIP and STIP Update, total project costs need to be reflected to include funding before and after the current STIP/TIP timeframe, pursuant to 23 CFR 450.218(i)(2) for the STIP and 23 CFR 450.326(g)(2) for the TIP.

MPO Structure and Agreements: By December 31, 2020, the Nashua MPO must coordinate with the other MPOs that serve the Nashua, NH-MA UZA, along with other required parties, to develop and execute a written agreement that meets the requirements of 23 CFR 450.314(e), including portions in Massachusetts.

RECOMMENDATIONS:

MPO Structure and Organization: The MPO should update its agreements as necessary to address the PTASP rule in a timely manner.

The MPO is encouraged to ensure all membership policies are thoroughly documented by way of the planned update to the MPO Prospectus.



UPWP: FHWA and FTA remind NRPC staff that the MPO is required to submit mid-cycle and final reporting to the federal agencies. NRPC should revise their UPWP's funding table by work category to clarify use of toll credits, and to also break out or footnote what portion of the consolidated grant funds originate from FHWA versus FTA. The table should also include HUD or other funds that may be supporting UPWP documented activities. NHDOT should consider the development of a UPWP guidance document for their MPO (and rural RPC) sub-recipients of metropolitan and statewide planning funds.

MTP: NRPC is encouraged to re-visit the four goals of the MTP again with the next major 4-year update if not sooner, to align with more emphasis on system preservation as discussed. The MPO should revisit the discussion of operation and maintenance of the regional transportation network to describe in more detail how the MTP considers O&M needs in the region for determining what the proper balance of resources is for operations and maintenance of the system versus capacity and other system improvements. Various MTP data tables provide good information, but would be enhanced with better use of mapping or other visualization tools.

Multimodal Planning: The MPO is encouraged to enhance outreach to intercity transit providers to improve participation in the transportation planning process. NRPC should pursue cooperative relationships with all providers of transportation in the region and incorporate any comments for proposed plans as appropriate.

Financial Planning: Financial plan documentation in the MTP and TIP should address how toll revenue credits play a role in financing transportation projects currently, and describe toll credit assumptions of availability over the life of the MTP and TIP to continue to provide the non-Federal match. TIP documentation should include a table demonstrating the amount of toll revenue credits available and used and the amount of credit used as the share for each project to better "tell the story" of how toll revenue credits play a role in financing transportation projects. The TIP financial plan should show allocations for each of the FTA funding programs. References to funding programs need to be changed to reflect current information – e.g., STP should be STBG. The MPO is encouraged to review the apparent under-programming of projects relative to available revenues in the current MTP (as well as the TIP), particularly in the 2041 to 2045 timeframe where the MTP shows no costs associated with planned projects.

Annual Listing of Obligated Projects: This must continue to be published within 90 days of the end of the program year and should remain available at least until the following year's list is posted. Staff should ensure there is a process in place to confirm that the latest MPO documents are posted and remain available online until they are replaced by a subsequent update.

Public Participation: The MPO should ensure that translation resources/services are accessible to individuals with language barriers. FHWA and FTA encourage the MPO to establish a social media policy that makes it clear to the public how comments received will be interpreted as official comment. FHWA and FTA recommend that NRPC establish a social media policy that makes it clear to the public how comments received will be interpreted as official comment, and considers the region's low-income, minority and LEP populations to ensure no groups are



excluded. If the MPO has decided not to deploy traditional newspaper notices for public meetings, it should consider alternative methods to notify individuals that may have limited internet access. The federal agencies encourage the MPO to approach their public participation and outreach responsibilities with a diverse set of tools, including piggybacking on community events at schools, religious institutions, etc.

Civil Rights and Title VI: The MPO is encouraged to complete the updating of their Title VI complaint process consistent with previous FHWA guidance, and in coordination with NHDOT's OFC. The federal agencies direct partners including State DOTs and MPOs to keep their Title VI plans, reports, and policies separate from the same for EJ, as the scope of Title VI is limited to race, color and/or national origin. NRPC is encouraged to implement their proposed TAZ-based analysis of travel times with the next MTP update. The MPO is encouraged to continue to enhance outreach efforts to traditionally underserved populations in the region, including low-income and/or minority households, consistent with Executive Order 12898 and 23 CFR 450.316(a)(1)(vii). The federal agencies recommend that the MPO conduct a LEP Four Factor Analysis to ensure meaningful access to their programs and activities by LEP persons in the region.

Freight Planning: The MPO is encouraged to consider their freight-related MTP goals, AECOM recommendations, and Action Plan items developed from the recent Freight Workshop to further elevate their freight planning activities. NRPC should consider similar efforts as the Boston Region MPO to develop their freight modeling capacity. NHDOT is encouraged to continue efforts to formally designate New Hampshire's Critical Urban Freight Corridors (CUFCs) and Critical Rural Freight Corridors (CRFCs) via further study as needed in consultation with New Hampshire's Statewide Freight Advisory Committee and MPO and rural RPC planning partners.

Travel Model: FHWA and FTA recommend that the MPO compile and develop a basic modeling technical document. The federal agencies recommend that a new regional household travel survey be conducted. Given that most large urbanized geographies occur in the southern and seacoast New Hampshire regions of the state, and with limited funding resources, this survey may be jointly conducted in the four New Hampshire MPO regions, or expanded to the New Hampshire portion of the Combined Statistical Area (CSA) of Boston-Worcester-Providence. There is a small northern portion of the Strafford MPO that is not included in the Boston-Worcester-Providence CSA that should also be included in this household travel survey.

CMP: The MPO is encouraged to use the 2020 CMP update as an opportunity to clarify the cycles for corridor-based congestion management reports, biennial performance reports, and 4-year updates to establish clear expectations for MPO members, partners, and stakeholders. NRPC should revisit the congestion management strategies in the CMP Toolbox and the applicability of those strategies in the region. The federal agencies also recommend that the MPO integrate safety data, performance measures, and targets into the corridor-based congestion management reports, to help assess potential congestion management strategies for non-recurring congestion.



ITS Regional Architecture: The federal agencies recommend that the MPO continue to update the architecture every two years as needed. The MPO is encouraged to seek out opportunities for ITS implementation on the network and intersection level, where most appropriate, and where they have a greater possibility of influencing stakeholders in meeting ITS needs. Coordination with NHDOT is essential, and the MPO should consider implementing an ITS Checklist at the inception of the project development process. Said checklist could identify specific ITS needs within a proposed project, and ensure that they are included and accounted for from a planning and funding perspective.

Performance Based Planning and Programming: NRPC should use the terminology “system performance report” for the performance management discussion in the next MTP to clearly demonstrate compliance with 23 CFR 450.324(f)(4) and avoid any potential confusion among partner agencies and stakeholders moving forward. The TIP performance narrative could be enhanced by describing the anticipated effect of the TIP toward achieving the performance targets (e.g. will the TIP help achieve the targets or are additional resources needed to achieve the targets?).

Emerging Technologies: The MPO should consider CAVs and TNCs in the region’s planning process and long-range planning activities and should continue to explore opportunities to integrate emerging technologies into future planning and coordination activities with its many stakeholders.

COMMENDATIONS:

Multimodal Planning: The MPO is commended for their outreach and coordination with NTS. NRPC staff regularly participate in NTS meetings and assist with the development of maps and brochures to illustrate NTS services. Additionally, the MPO has played a major role in identifying rider characteristics and determining transit needs by conducting on-board passenger surveys.

TIP: The map of programmed projects in the TIP Appendix is well done and helpful in providing useful information.

Public Participation: The federal review team commends NRPC on their engagement to include the public in the transportation planning process. NRPC incorporates an extensive list of strategies to engage individuals with transportation issues. NRPC also coordinates with many of the region’s public agencies and community organizations to reach a variety of stakeholders.

Freight Planning: NRPC and NHDOT are recognized for developing a new stand-alone freight focused work element in the UPWP, thus elevating the consideration and promotion of more efficient goods movement in the metropolitan planning process and associated products including the MTP and TIP.

Environmental Mitigation: The Nashua MPO is commended for providing thoughtful and concise discussion to the reader concerning environmental resources in the region that might be



impacted from project development, and narrowing that focus to identifying a small number of projects having the highest likelihood of impacting those resources.

Travel Model: NRPC's staff is commended for leading the effort to establish New Hampshire's Model Users' Group (MUG) in 2018. The MUG provides a forum for sharing information and expertise across MPOs, via discussion of modeling issues, coordination in developing methodologies and comparing model outputs, and generally elevating the state of the practice for metropolitan travel demand modeling in New Hampshire. The MUG has recently served as a venue for discussions involving all four of New Hampshire's MPOs related to the potential for development of a shared household travel survey, and/or a shared and integrated travel demand model.

ITS Regional Architecture: Despite not having a dedicated ITS/Traffic Operations staff member, NRPC has made good use of a consultant agreement to develop an ITS Road Map that addresses high level and project specific ITS applications on both a statewide and regional level.



APPENDIX A – Public Meeting Comment Summary

FHWA and FTA provided a brief presentation to open the meeting. An overview of the federally required metropolitan planning process was given as well as an explanation of the requirements for the TMA certification review. The floor was then opened to participants for comments on the region's planning process.

A question was asked about electric vehicles, and what is NHDOT doing to support charging stations. There was discussion that charging stations are more available around Nashua, and that the F.E. Everett Turnpike is considered "EV-ready", with a current project also considering CAV technology. An attendee noted that the New Hampshire legislature is in the process of updating laws and regulations as needed to accommodate driverless vehicles.

A comment was made that noted satisfaction over the last 3 Ten-Year Plan cycles, as there has been very little difference between projects selected by the MPO, and what the official project list looks like when the Plan is finalized.

Some comments expressed support for an Exit 36 southbound exit, and for the MPO's continuing assistance to keep the Capitol Corridor rail project moving forward.

Younger people's interest in transit versus automobile ownership was noted, citing some NRPC research showing this generational change in preferences. Another comment suggested that companies are having a difficult time attracting employees due to a lack of intercity transit options in the region, especially rail service. One attendee referenced a local private company's partnership to provide transit services, indicating that transit availability can positively influence hiring practices. A suggestion that NTS provide Wifi on their busses to enhance ridership was offered, noting that this benefit is often made available to riders of other intercity busses and trains.

Another commenter suggested that older residents need to be educated about new trends in transportation and how they can be beneficial, and that public transportation should be a top priority.

A commenter noted that NRPC had posted a video on transportation challenges to the MPO's YouTube channel that was very informative.

The challenge to try to stay ahead of pavement deterioration, capacity and safety needs was highlighted by one commenter, noting the need to select projects that provide for a state of good repair, and that the lack of stable funding sources was an important ongoing challenge for the region as well as New Hampshire.

The NRPC newsletter was praised as a good method of sharing information with constituents and communities in the region, and the MPO and planning process was characterized as equitable regarding larger versus smaller communities in the region. It was noted that NRPC staff have



provided services and conducted studies in more rural areas of the region as well as the larger communities.

The importance of bus service to low-income populations was noted, and projects to run NTS service to Hampton Beach in the summer and New Hampshire's Downeaster Amtrak service were both complimented.

There was discussion about online shopping and how this has transformed transportation. An example of a local apartment development in Nashua was referenced, where the Planning Board required designated delivery vehicle parking capacity.

A commenter suggested that a tourist train for skiers to ski areas from Nashua would be welcomed, citing the Downeaster service again as a great success.



APPENDIX B – List of Attendees

October 23-24, 2019

Jay Minkarah – NRPC
Gregg Lantos – NRPC
Matt Waitkins – NRPC
Sara Siskavich – NRPC
Ryan Friedman – NRPC
John Goodman – NRPC
Nate Miller – SNHPC
J.B. Mack – SWRPC
Justin Howard – NMCOG
Bill Kuttner – Boston MPO, CTPS
Camille Pattison – NTS
Julie Chizmas – City of Nashua
William Rose – NHDOT
Jay Ankenbrock – NHDOT
Lucy St. John – NHDOT
Leah Sirmin – FTA
Brandon Burns – FTA
Larry Anderson – FHWA
Corbin Davis - FHWA
Jody McCullough - FHWA
Supin Yoder – FHWA
Wanda Hughley Culbertson – FHWA
Robert Bollinger – FHWA
Leigh Levine – FHWA





Report prepared by:

*Federal Highway Administration
New Hampshire Division Office
53 Pleasant Street
Concord, NH 03301
603-228-0417*

*Federal Transit Administration
Region 1 Office
55 Broadway, 9th Floor
Cambridge, MA 02142
617-494-2055*