

# **SNHPC FY 2021-2045 Metropolitan Transportation Plan**

## *Regional Travel Demand Model and Transportation Improvement Projects*

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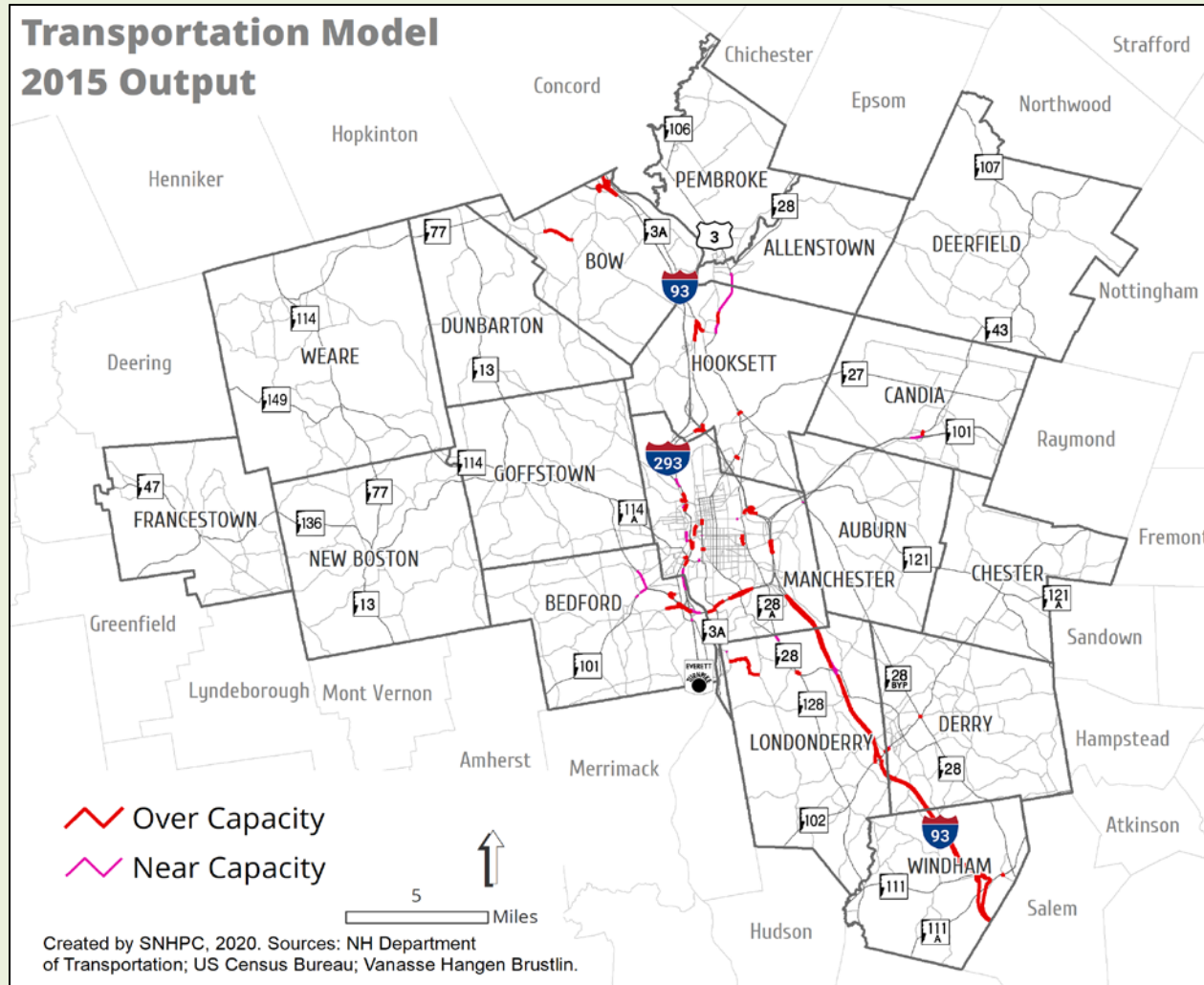
# Update of the Regional Travel Demand Model

- SNHPC staff coordinated with VHB to update the Regional Travel Demand Model as part of the Metropolitan Transportation Plan update.
- The SNHPC model has been updated to 2015 base year and 2045 horizon year.
- **The towns of Allenstown, Bow, Dunbarton, and Pembroke have been added to the model.**
- Demographic data projections have been updated at the Traffic Analysis Zone Level for population, households, employment, and school enrollment.



# 2015 Base Year Model Results

## Transportation Model 2015 Output



- The model results underscore existing capacity issues on key arterial roads including:

- I-93
- I-293
- NH Route 101
- U.S. Route 3
- NH Route 28



# Identification of Transportation Improvement Projects

- The heart of the Metropolitan Transportation Plan is the identification of improvement projects needed for the SNHPC's regional transportation network between FY 2021 and FY 2045.
- The program of projects identified in the Metropolitan Transportation Plan is **fiscally constrained** against the transportation revenues expected to be available in the region.
- Projects include all surface transportation modes, including road/bridge, freight, transit, bicycle and pedestrian.
  - *Projects affecting the airport are not considered to be surface transportation and are not part of the scope of the SNHPC Metropolitan Transportation Plan.*



# Identification of Transportation Improvement Projects

- The source for all projects identified in **FY 2021-2030** is the New Hampshire Ten-Year Transportation Improvement Plan.
- The sources for the projects identified for **FY 2031-2045** in the Metropolitan Transportation plan include:
  - SNHPC Base Year Travel Demand Model Results
  - Regionally-Identified Projects (CMP, ITS Architecture, etc.)
  - Local Master Plan Project Priorities
  - Local and Regional Corridor Studies
  - Previous TAP/CMAQ/BUILD/TYP Applications
  - Statewide Plans (e.g. Statewide Strategic Transit Assessment)
  - Other Special Plans/Studies (e.g. TOD, Road Safety Audits)



# Identification of Transportation Improvement Projects

There are more than 125 projects in the draft Metropolitan Transportation Plan.

**This presentation is not intended to walk through the details of every project, but rather to cover some of the highlights.**



# Metropolitan Transportation Plan Projects – FY 2021-2030

<b>Bedford</b>	Rehabilitation or Replacement of Bridge #090/065 Carrying NH Route 101 Over Pulpit Brook
<b>Bedford</b>	U.S. Route 3 Widening from Hawthorne Drive North to Manchester Airport Access Road
<b>Bedford</b>	Rehabilitate 90" Structural Plate Pipe Under NH Route 101/Boynton Street
<b>Bedford-Goffstown</b>	Corridor Study of NH Route 114 from NH Route 101 in Bedford to Henry Bridge Road in Goffstown
<b>Bow</b>	NH Route 3A Corridor Safety Improvements
<b>Candia</b>	Safety and Operational Improvements on NH Route 27/NH Route 43/Raymond Road
<b>Chester</b>	NH Route 102/NH Route 121 Intersection Safety Improvements
<b>Deerfield</b>	NH Route 107 Over Freese's Pond - Replace Bridge #137/116
<b>Derry-Londonderry</b>	I-93 Exit 4A - Preliminary Design, Final Design, ROW, and Construction of New Interchange and Connecting Roadway
<b>District 5</b>	Resurfacing Various Tier2, 3, and 4 Roadways in NHDOT District 5
<b>Hooksett</b>	Reconstruction and Widening of U.S. Route 3 from NH Route 27/Whitehall Road/Martin's Ferry Road to West Alice Ave./Alice Ave.
<b>Londonderry</b>	Safety and Operational Improvements at the Intersection of NH Route 28/NH Route 128



# Metropolitan Transportation Plan Projects – FY 2021-2030

	<b>Londonderry</b>	Operational and Capacity Improvements at the Intersection of NH Route 28/Stonehenge Road
→	<b>Londonderry</b>	Construct a 1 Mile Multi-use Path Along the Side of Harvey Road, Webster Road, and Grenier Field Road
	<b>Manchester</b>	Bridge Rehabilitation - Salmon Street WB Over RD, BMRR, and Merrimack River (Bridge #106/072)
	<b>Manchester</b>	Bridge Rehabilitation - Salmon Street EB Over RD, BMRR, and Merrimack River and Adjacent Ramp "E" (Bridge #107/072 and Bridge #107/071)
	<b>Manchester</b>	Construct Multi-use Path Along Baker St, Brown Ave, Dubisz St, and Sundial Ave.
	<b>Manchester</b>	Rehabilitate Red List Bridge Carrying Huse Road Over I-293 and NH Route 101
→	<b>Manchester</b>	Operational Improvements at the I-293 Exit 1 Interchange
→	<b>Manchester</b>	Implement an Adaptive Signal Control System on Granite Street and Upgrade South Willow Street Signal Performance
→	<b>Manchester</b>	Construct ADA Compliant Pedestrian and Bicycle Trail Along Perimeter Rd, South Willow St, and Harvey Rd.
→	<b>Manchester</b>	Construct a NB Right Turn Lane and Modify Lane Utilization at South Willow St/Weston Rd Intersection
→	<b>Manchester</b>	Construct a Roundabout at Entrance of Derryfield School at River Rd/Bicentennial Rd Intersection
	<b>New Boston</b>	Culvert Replacement for Red List Bridge Carrying NH Route 13 Over Cochrane Brook (Bridge #122/120)





# Metropolitan Transportation Plan Projects – FY 2021-2030

<b>Salem to Manchester</b>	Final Design and ROW for I-93 Salem to Manchester Corridor Post September 4, 2014
<b>Salem to Manchester</b>	I-93 Exit 5 Interchange Reconstruction - Debt Service for Project 14633F
<b>Salem to Manchester</b>	Exit 3 Area, Project Initiated to Track GARVEE Bond Debt Service Attributable to the 13933N Project
<b>Salem to Manchester</b>	I-93 Exit 3 Area- NB ML Connections, NB Ramps, and NH 111 Relocation - Debt Service Project for 13933H
<b>Weare</b>	Address Bridge Carrying NH 77 Over Canal 2 Choate Brook in the Town of Weare
<b>Wilton-Bedford</b>	Traffic and Safety Improvements Consistent with the Intent of the 2002 Corridor Study
<b>Windham</b>	Intersection Improvements, Roulston Road and NH Route 28
<b>Bedford-Merrimack</b>	Improvement to Bedford Main Line Toll Plaza to Institute All Electronic Tolling
<b>Central Turnpike</b>	Turnpike Drainage Rehabilitation Along the F.E. Everett Turnpike
<b>Central Turnpike</b>	Paving on the F.E. Everett Turnpike
<b>Manchester</b>	Preliminary Engineering and ROW for Reconstruction of the F.E. Everett Turnpike at Exits 6 and 7
<b>Manchester</b>	Reconstruction and Widening of F.E. Everett Turnpike Exit 6 in Manchester
<b>Manchester</b>	Reconstruction of F.E. Everett Turnpike Exit 7 in Manchester
<b>Nashua-Merrimack-Bedford</b>	F.E. Everett Turnpike Widening of 2-Lane Sections from Exit 8 in Nashua to I-293 in Bedford.



# Metropolitan Transportation Plan Projects – FY 2031-2045

→	<b>Auburn</b>	Construction of Multi-use Path Along NH Route 121 from Eaton Hill Road to Shore Drive
	<b>Auburn</b>	Construction of Noise Barrier on NH Route 101 Eastbound between MP 61.6 and 62.0
→	<b>Bedford</b>	Supplemental Construction Funding for U.S. Route 3 Widening from Hawthorne Drive to Manchester Airport Access Road
→	<b>Bedford</b>	Construction of Noise Barrier on NH Route 101 Eastbound between MP 53.2 and 53.8
	<b>Bedford</b>	Construct Left Turn Lanes and Add Signals on NH Route 101 Between Joppa Hill Road and Elk Drive Consistent with the Intent of the NH Route 101 Corridor Study
	<b>Bedford</b>	Construct Bicycle/Pedestrian Bridge across NH Route 101 at the Intersection of Bell Hill Road/Nashua Road/NH Route 101
→	<b>Bedford</b>	Widening of NH Route 101 from Wallace Road to the Amherst Town Line
	<b>Bedford</b>	Construct a 10' Multi-use Path Along NH Route 101 from Wayside Drive to the Amherst Town Line
	<b>Bedford</b>	Engineering Study of Grade Separated Design Alternatives at the Intersection of NH Route 101/NH Route 114/Boynton Street
→	<b>Bedford</b>	Implement Adaptive Signal Control or Signal Performance Measures on U.S. Route 3 (River Road)
	<b>Bedford</b>	Construct a Bicycle Lane on U.S. Route 3 in the Town of Bedford from the Merrimack Town Line to the Manchester City Line
	<b>Bedford</b>	Construct a Bicycle Lane on New Boston Road from NH Route 114 to the New Boston Town Line



# Metropolitan Transportation Plan Projects – FY 2031-2045

	<b>Candia</b>	Construction of Park-and-Ride Facility at NH Route 101 Exit 3
→	<b>Candia</b>	Construct Sidewalks and Improve Drainage Along NH Route 27 and NH Route 43 in the Candia Four Corners Village Area
	<b>Candia</b>	Intersection Improvements at NH Route 27/Healey Road/South Road
→	<b>Chester</b>	Intersection Safety Improvements at NH Route 102/North Pond Road
	<b>Chester</b>	Intersection Improvements at NH Route 102/Webster Lane
	<b>Chester</b>	Intersection Improvements at NH Route 121/Pulpit Rock Road
→	<b>Deerfield</b>	Roundabout Conversion at Intersection of NH Route 107, Church Street, and Candia Road
	<b>Deerfield</b>	Traffic Calming and Bicycle/Pedestrian Improvements on NH Route 107 in Deerfield Town Center
	<b>Deerfield</b>	Intersection Improvements at NH Route 107/NH Route 43
	<b>Deerfield</b>	Intersection Improvements at NH Route 43/South Road
	<b>Deerfield</b>	Pavement Rehabilitation on NH Route 43 from NH Route 107 to the Candia Town Line
	<b>Deerfield</b>	Pavement Rehabilitation on NH Route 107 from NH Route 43 to the Epsom Town Line
→	<b>Derry</b>	Extension of Derry Rail Trail from Madden Road to Londonderry Town Line
	<b>Derry</b>	Intersection Safety Improvements at NH Route 28/Lawrence Road/South Range Road
	<b>Derry</b>	Shoulder and Drainage Improvements on NH Route 28 in the Town of Derry
	<b>Derry</b>	Implement Adaptive Signal Control or Signal Performance Measures on NH Route 28 (Crystal Ave)



# Metropolitan Transportation Plan Projects – FY 2031-2045

<b>Derry</b>	Engineering Study of the Intersection of NH Route 102/NH Route 28B in Derry to Identify Potential Operational Improvements
<b>Francestown</b>	Pavement Rehabilitation on NH Route 136 from NH Route 47 to the Greenfield Town Line
<b>Francestown</b>	Pavement Rehabilitation on NH Route 136 from NH Route 47 to the New Boston Town Line
<b>Francestown</b>	Traffic Calming and Pedestrian Improvements in Francestown Village Center
<b>Goffstown</b>	Operational and Capacity Improvements on NH Route 114 from Goffstown/Bedford Town Line to Henry Bridge Road
<b>Goffstown</b>	Completion of the Goffstown Rail Trail from the Piscataquog River to the Manchester City Line
<b>Goffstown</b>	Construction of Sidewalk Improvements on South Mast Street, Church Street, Warren Avenue, Eden Street, Daniel Plummer Road, and St. Anselm Drive.
<b>Hooksett</b>	Engineering Study of NH Route 3A from Hackett Hill Road to Main Street
<b>Hooksett</b>	Construction of Noise Barrier on I-93 Southbound between MP 8.2 and 8.6
<b>Hooksett</b>	Widening of U.S. Route 3/NH Route 28 from Legends Drive to Hunt Street in Hooksett
<b>Hooksett</b>	Implement Adaptive Signal Control or Signal Performance Measures on U.S. Route 3 (Hooksett Rd)
<b>Hooksett</b>	Completion of the Hooksett Riverwalk Trail
<b>Hooksett</b>	Construct a Bicycle Lane on NH Route 3A from Main Street to the Manchester City Line
<b>Hooksett</b>	Intersection Improvements at NH Route 28A/Alice Avenue and NH Route 28A/Zapora Drive



# Metropolitan Transportation Plan Projects – FY 2031-2045

→	<b>Londonderry</b>	Supplemental Funding for Safety and Operational Improvements at the Intersection of NH Route 28/NH Route 128
→	<b>Londonderry</b>	Increase Capacity on NH Route 28 from Symmes Drive/Vista Ridge Drive to the Intersection of NH Route 128.
	<b>Londonderry</b>	Expand Capacity of NH Route 102 from I-93 Exit 4 to NH Route 128
	<b>Londonderry</b>	Construction of 4,300 LF of Sidewalk along Pillsbury Road from Ash Street to Gilcreast Road
	<b>Londonderry</b>	Construction of Phase 7 of the Londonderry Rail Trail from NH Route 28 to the Derry Town Line
→	<b>Manchester</b>	Engineering Study of Second Street and I-293 Corridor from Exit 5 to NH Route 101
→	<b>Manchester</b>	Improvements to the Intersections of Hooksett Road/Campbell Street and Hamel Drive/Campbell Street
→	<b>Manchester</b>	Operational and Capacity Improvements on Wellington Road/I-93 Exit 8 Interchange
	<b>Manchester</b>	Construction of Noise Barrier on NH Route 101 Westbound between MP 0.4 and 0.9
	<b>Manchester</b>	Construction of Noise Barrier on I-93 Northbound between MP 22.1 and 22.9
	<b>Manchester</b>	Construction of Noise Barriers on I-93 Southbound between MP 107.0 and 107.8, 108.4 and 108.8, and 108.9 and 109.7.
	<b>Manchester</b>	Construction of Noise Barrier on F.E. Everett Turnpike Southbound between MP 18.9 and 19.2
→	<b>Manchester</b>	Reconstruction of the I-293 Exit 4 Interchange
→	<b>Manchester</b>	Expansion of the I-293 Mainline to Three Lanes in Each Direction from Exit 5 to the NH Route 101 Interchange



# Metropolitan Transportation Plan Projects – FY 2031-2045

	<b>Manchester</b>	Implement Adaptive Signal Control or Signal Performance Measures on U.S. Route 3 (Second Street, Elm Street, and Hooksett Road)
	<b>Manchester</b>	Implement Adaptive Signal Control or Signal Performance Measures on NH Route 28 (Beech and Maple Street)
→	<b>Manchester</b>	Convert the Queen City Avenue/Cilley Road/South Willow Street Interchange to a Dual Roundabout System
→	<b>Manchester</b>	Convert the Former Manchester-Lawrence RR Corridor into a Vehicular Roadway with Multi-Use Path from South Commercial St. to Queen City Ave.
→	<b>Manchester</b>	Construct Pedestrian Bridge at the Intersection of Granite and Commercial Street
→	<b>Manchester</b>	Establish a New North-South Roadway from South Commercial Street to Sundial Avenue as Proposed in the Manchester Transit-Oriented Development Plan
→	<b>Manchester</b>	Construct Multimodal Transportation Center in Downtown Manchester as Identified in the Manchester Transit-Oriented Development Plan
	<b>Manchester</b>	Engineering Study of to Identify Design Alternatives to Improve Operations at the Intersection of U.S. Route 3/NH Route 28/Webster Street
	<b>Manchester</b>	Construction of a Multi-use Path Connecting Sundial Avenue to the South Manchester Rail Trail
	<b>Manchester</b>	Construction of Second Street Bicycle/Pedestrian Improvements as Proposed in the 2015 Second Street Corridor Study
	<b>Manchester</b>	Expansion of the Manchester Riverwalk from the Piscataquoq Trail to North Commercial Street
→	<b>Manchester-Auburn-Candia</b>	ITS Improvements on NH Route 101 East of I-93, Including Dynamic Message signs, Closed Circuit Cameras, Roadway Detectors, and Wireless Communication Improvements.



# Metropolitan Transportation Plan Projects – FY 2031-2045

	<b>New Boston</b>	Construct Village Center Improvements as Envisioned in New Boston Context Sensitive Solutions Analysis
	<b>New Boston</b>	Pavement Rehabilitation on NH Route 136 from NH Route 13 to Francestown Town Line
➔	<b>New Boston</b>	Shoulder and Drainage Improvements on NH Route 13 from New Boston Village Center to the Goffstown Town Line
➔	<b>New Boston-Goffstown</b>	Construct Connection Between the New Boston Rail Trail and the Goffstown Rail Trail
	<b>Region</b>	Rehabilitation and/or Replacement of Non-Federal Aid Eligible Municipal Bridges in the SNHPC Region via the NHDOT State Aid Bridge Program
➔	<b>Weare</b>	Pavement Rehabilitation on NH Route 77 from NH Route 114 to the Dunbarton Town Line
	<b>Weare</b>	Traffic Calming and Pedestrian Improvements in Weare Village Center
	<b>Weare-Goffstown</b>	Engineering Study of NH Route 114 from Weare Village Center to Goffstown Village Center
➔	<b>Windham</b>	Expansion of NH Route 111 to a 4-lane Divided Road Between Wall St. and Hardwood Rd. and Constructing 2-lane Roundabouts at Four Intersections.
	<b>Windham</b>	Construction of the Windham Greenway Trail from North Lowell Road to Old Mill Road





# Metropolitan Transportation Plan Projects – Transit

<b>Boston-Manchester</b>	Boston Express - Operating Expenses for F.E. Everett Turnpike Commuter Service
<b>Boston-Manchester</b>	Boston Express - Operating Expenses for I-93 Commuter Service
<b>Nashua-Manchester-Concord</b>	Design, Environmental Review, and Financial Plan for Commuter Rail Extension from Mass. to New Hampshire
<b>Region</b>	MTA/CART Operating, ADA, Capital Preventative Maintenance, and Planning Activities Utilizing FTA Section 5307 Funding
<b>Region</b>	Transit Services for Seniors and Individuals with Disabilities in CART Service Area Utilizing FTA Section 5310 Funding
<b>Region</b>	Capital Vehicle and Equipment for CART Service Area Utilizing Section 5339 Funding
<b>Region</b>	Transit Services for Seniors and Individuals with Disabilities in Greater Manchester and Greater Derry-Salem Area as Determined by the Region 8/9 Coordinating Council for Community Transportation
<b>Region</b>	Regional Mobility Management Services in the Greater Manchester and Greater Derry-Salem Area
<b>Region</b>	Capital Vehicle and Equipment for MTA Supported by NHDOT Section 5339 Program Allocation for Small Urban Providers
<b>Region</b>	Operating, Capital Preventative Maintenance, and Planning Activities for the Implementation of Transit Services Recommended in the SNHPC CMP and NHDOT SSTA Utilizing FTA Section 5307 Funding





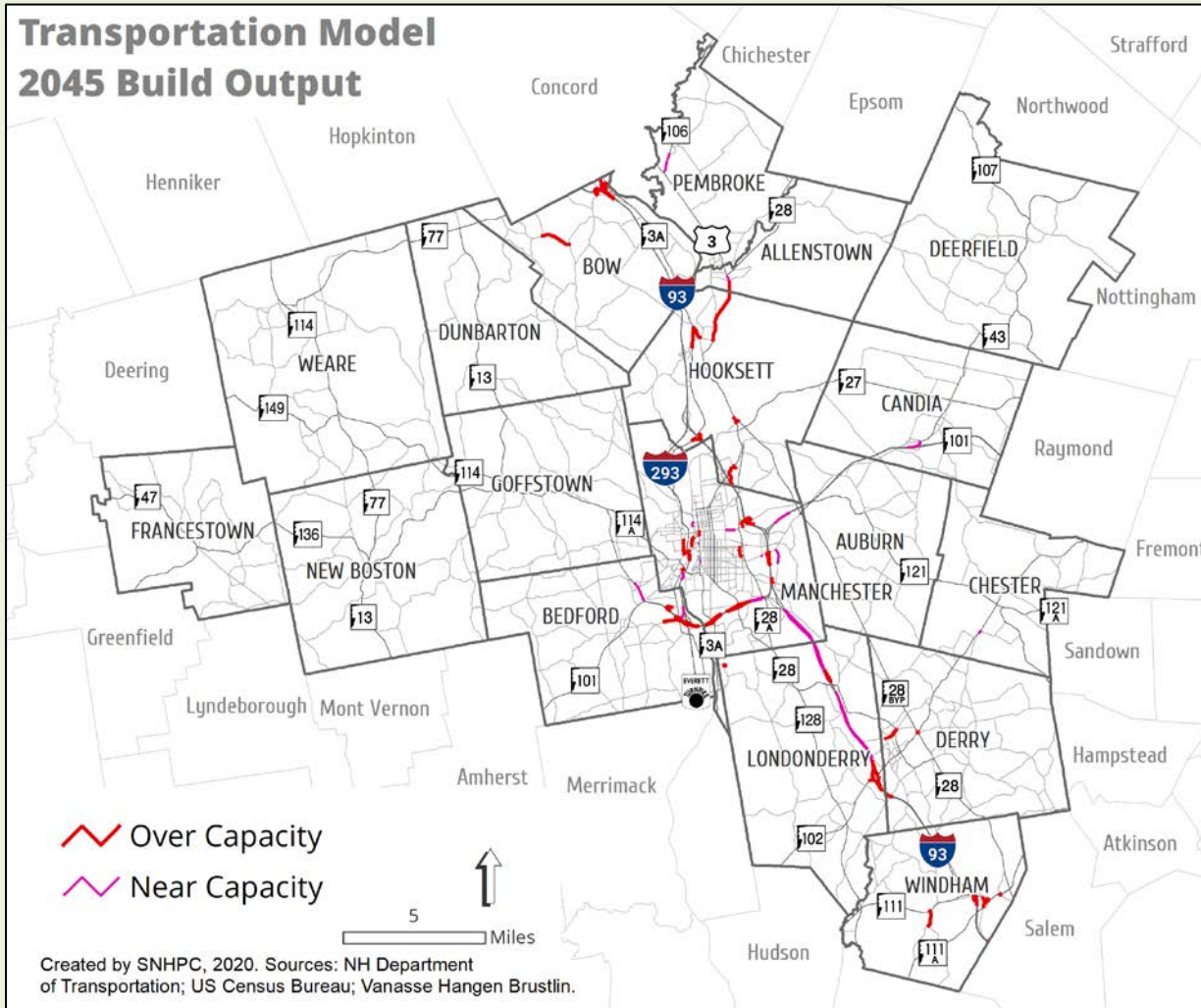
# Transportation Improvement Projects – Fiscal Constraint

- The draft MTP will present detailed fiscal constraint analyses for both infrastructure and transit projects.
  - Revenues to support infrastructure (e.g. Highway, Bridge, Pedestrian/Bicycle) projects in the SNHPC region are expected to total **\$1.53 Billion** between FY 2021-2045.
  - Revenues to support transit projects in the SNHPC are expected to total **\$204 Million** between FY 2021-2045..
- The draft MTP is fully programmed in accordance with anticipated revenues and is fiscally constrained for each year of the plan.



# 2045 Build Model Results

## Transportation Model 2045 Build Output



- The 2045 Build Model shows that the SNHPC's program of projects would improve conditions throughout the network.
- Areas of continued concern include:
  - I-293 south of NH Route 101
  - I-93 Exit 4
  - U.S. Route 3 in Hooksett



# Questions?