

DRAFT for Public Review
(January 12, 2015)

UVLSRPC Regional Plan 2014

Chapter 3

Transportation

TABLE OF CONTENTS

| | | |
|------------|--|-------------|
| 3.1 | INTRODUCTION..... | 3-3 |
| 3.2 | REGIONAL TRANSPORTATION SCORECARD..... | 3-4 |
| 3.3 | HIGHWAYS AND BRIDGES IN THE REGION | 3-5 |
| | Vision..... | 3-5 |
| | Existing Conditions..... | 3-5 |
| | Performance Measures..... | 3-7 |
| | Improvement Needs | 3-8 |
| | Implementation Strategies..... | 3-9 |
| 3.3 | HIGHWAY SAFETY IN THE REGION | 3-10 |
| | Vision..... | 3-10 |
| | Existing Conditions..... | 3-10 |
| | Performance Measures..... | 3-11 |
| | Improvement Needs | 3-12 |
| | Implementation Strategies..... | 3-13 |
| 3.4 | PUBLIC TRANSPORTATION IN THE REGION..... | 3-14 |
| | Vision..... | 3-14 |
| | Existing Conditions..... | 3-14 |
| | Performance Measures..... | 3-16 |
| | Improvement Needs | 3-17 |
| | Implementation Strategies..... | 3-18 |
| 3.5 | BICYCLE AND PEDESTRIAN TRANSPORTATION IN THE REGION | 3-20 |
| | Vision..... | 3-20 |
| | Existing Conditions..... | 3-20 |
| | Performance Measures..... | 3-22 |
| | Improvement Needs | 3-23 |
| | Implementation Strategies..... | 3-24 |
| 3.6 | RAIL TRANSPORTATION IN THE REGION..... | 3-26 |
| | Vision..... | 3-26 |
| | Existing Conditions..... | 3-26 |
| | Performance Measures..... | 3-28 |
| | Improvement Needs | 3-29 |

| | |
|---|-------------|
| Implementation Strategies | 3-29 |
| 3.7 AIR TRANSPORTATION IN THE REGION | 3-31 |
| Vision..... | 3-31 |
| Existing Conditions..... | 3-31 |
| Performance Measures | 3-32 |
| Improvement Needs | 3-33 |
| Implementation Strategies | 3-34 |
| 3.8 TRANSPORTATION DEMAND MANAGEMENT IN THE REGION | 3-35 |
| Vision..... | 3-35 |
| Existing Conditions..... | 3-35 |
| Performance Measures | 3-37 |
| Improvement Needs | 3-38 |
| Implementation Strategies | 3-39 |
| 3.9 HUMAN SERVICE & VOLUNTEER TRANSPORTATION IN THE REGION | 3-40 |
| Vision..... | 3-40 |
| Existing Conditions..... | 3-40 |
| Performance Measures | 3-42 |
| Improvement Needs | 3-43 |
| Implementation Strategies | 3-43 |

3.1 INTRODUCTION

The Regional Transportation Plan presents a bold vision for the future of all facets of the region's transportation system based on extensive input from the general public, municipal officials, employers, and partner agencies in the 27 communities of the Upper Valley Lake Sunapee Region.

What does this transportation vision look like?

- A region with no structurally-deficient bridges and all roads maintained in good or fair pavement condition.
- A region where no motorist, motorcyclist, bicyclist, or pedestrian is fatally injured while traveling.
- A region where all residents, businesses, and visitors can access viable, efficient, and affordable transportation options.
- A region where every elderly and disabled resident can access medical appointments and other essential services.
- A region where there are safe bicycling routes to our village and city centers, and safe walking routes within our village and city centers.
- A region where both passenger and freight rail transportation enhance the movement of goods and people from our communities to the major metropolitan areas of Boston, New York City, and Montreal.
- A region with robust general aviation opportunities and viable passenger air travel connections to airports in Boston and New York City.
- A region where businesses, municipalities, and state agencies work together to reduce the prevalence of single-occupant vehicle travel, and realize the health and environmental benefits of active transportation.

This vision will not happen overnight. In fact, it will take many years of hard work. It will require political will and new partnerships between all levels of government, the business community, advocacy groups, regional institutions, and of course, the general public.

The plan presents short, medium, and long-term improvement needs and strategies for how to implement those improvements. But, perhaps most importantly, the plan establishes a series of performance measures for the region to track its progress towards the vision over time.

The plan will serve as a policy document for the UVLSRPC Transportation Advisory Committee (TAC), and will inform the TAC's criteria for prioritizing projects for inclusion in New Hampshire's Ten-Year Transportation Improvement Plan. Adoption of this plan also means that the Commission will commit its staff and available program resources toward achieving the region's transportation vision and implementing the plan's recommendations.

Each section of the plan addresses a specific facet of the region's transportation system with five key elements. The first element outlines the vision for that component of the transportation system. The second element provides an overview of existing conditions and trends. The third element presents the performance measures that will be used to track progress towards the vision. The fourth element details the short, medium, and long-term improvement needs. Lastly, the fifth element presents strategies for implementing the needed improvement.

3.2 REGIONAL TRANSPORTATION SCORECARD

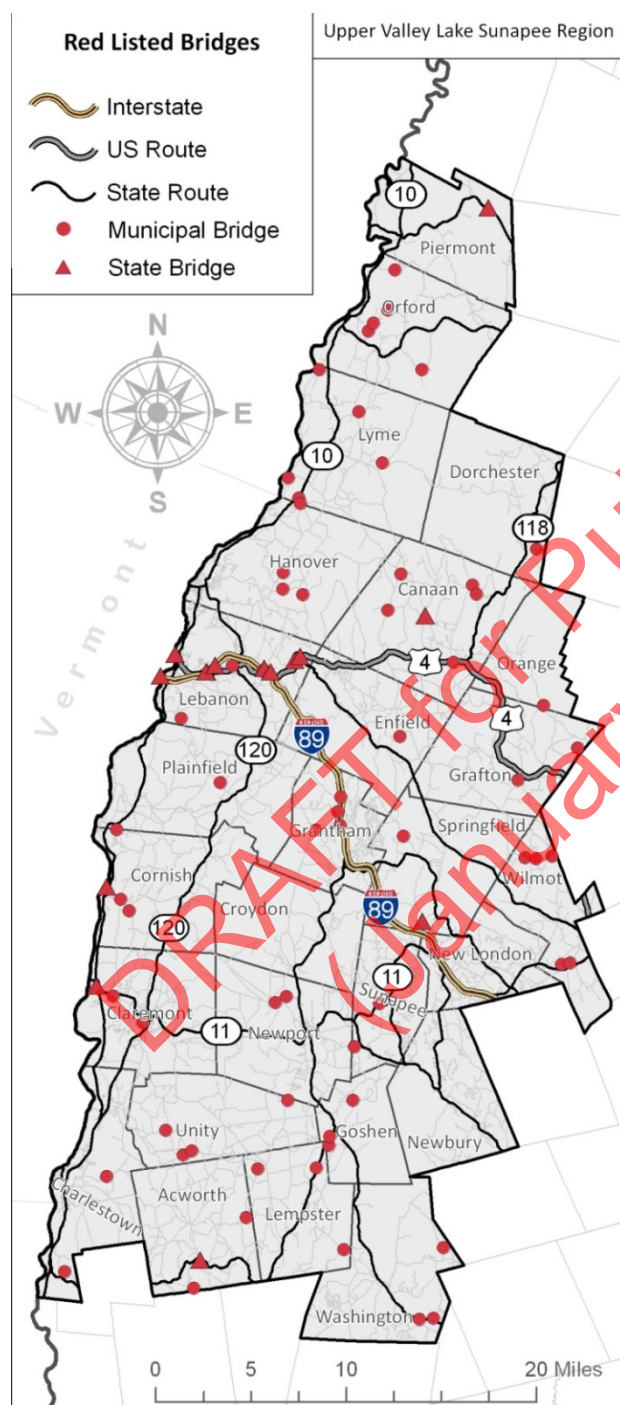
| Goal | Measure | Units | Statewide (2012) | UVLSRPC Region (2012) | UVLSRPC Region (2030 Target) |
|-----------------|---|--------------------------------------|---|--|---|
| Asset Condition | State Highway in Good Condition | Miles | 828 (19% of State Network) | 81 (18% of Regional Network) | 105 Miles (23% of Regional Network) |
| | State Highway in Fair Condition | Miles | 1,867 (44% of State Network) | 165 (36% of Regional Network) | 215 Miles (47% of Regional Network) |
| | State Highway in Poor Condition | Miles | 1,565 (37% of State Network) | 207 (46% of Regional Network) | 133 Miles (30% of Regional Network) |
| | Red Listed Bridges (State-owned) | Number | 140 (7% of State-owned Bridges) | 16 (6% of State-owned Bridges in Region) | 11 (4% of State-owned Bridges in Region) |
| | Red Listed Bridges (Municipally-owned) | Number | 349 (21% of Municipal Bridges in State) | 64 (23% of Municipal Bridges in Region) | 45 (16% of Municipal Bridges in Region) |
| | Rail Lines Capable of Speeds of 40 MPH | Miles | 104 | 23.3 | 23.3 |
| | Airport Runway Condition | FAA Runway Condition | Good (4.11) | Good (4.10) | Good (4.25) |
| | Remaining Useful Life of Public Transit Fleet | Vehicle Life Remaining | 43.8% | 37.8% | 50% |
| Mode Share | Commute to Work (Driving Alone) | % of Commuters | 81.3% | 75.7% | 70% |
| | Commute to Work (Carpool) | % of Commuters | 8.2% | 9.4% | 11% |
| | Commute to Work (Public Transportation) | % of Commuters | 0.8% | 1.1% | 2.0% |
| | Commute to Work (Motorcycle) | % of Commuters | 0.2% | 0.3% | 0.3% |
| | Commute to Work (Bicycle) | % of Commuters | 0.3% | 0.4% | 1.0% |
| | Commute to Work (Walking) | % of Commuters | 3.1% | 6.1% | 7% |
| | Commute to Work (Telecommute) | % of Commuters | 5.4% | 5.4% | 7% |
| | Commute to Work (Other) | % of Commuters | 0.7% | 1.7% | 1.7% |
| Mobility | Congestion/Operational Level of Service on Key Corridors | Level of Service | C (0.68 Volume/Capacity Ratio) | A (0.26 Volume/Capacity Ratio) | A (0.26 Volume/Capacity Ratio) |
| | Local Transit Ridership (Fixed-Route) | # of Rides Provided | N/A | 601,024 | 1,000,000 |
| | ADA Transit Ridership | # of Riders Provided | N/A | 10,192 | 13,250 |
| | Elderly/Disabled Transportation Ridership | # of Rides Provided | 234,500 | 47,548 | 61,800 |
| | Volunteer Driver Program Ridership | # of Rides Provided | 38,052 | 5,255 | 6,800 |
| | Percentage of Population With Access to Public Transportation | Percent of Population | 26.1% | 30.5% | 40% |
| | Intercity Transit Ridership | # of Riders | N/A | 215,000 (Approx.) | N/A |
| | Passenger Rail Ridership | # of Boardings and Alightings | 199,645 | 17,069 | 22,315 |
| | Passenger Air Ridership | # of Enplanements and Deplanements | 2,607,103 | 19,990 | 27,076 |
| | Bicycle Level of Service | Level of Service | N/A | D (3.57) | C (3.00) |
| | Pedestrian Level of Service | Level of Service | N/A | D (4.12) | C (3.50) |
| | Freight Movement (total freight shipped by all modes) | Tons | 65,640,138 | N/A | N/A |
| Safety | Highway Fatalities | # of Fatalities (5-Year Moving Avg.) | 114 | 6 | 4 |

3.3 HIGHWAYS AND BRIDGES IN THE REGION

Vision

Improve all structurally-deficient bridges and maintain all roads in the UVLSRPC Region at good or fair condition.

Existing Conditions



Red Listed Bridges in the UVLSRPC Region

The New Hampshire Department of Transportation inspects all bridges in the state, whether municipally-owned or state-owned. In total, there are currently 80 Red List bridges in the UVLSRPC Region. Of the 80 bridges, 16 are state-owned and 64 are municipally-owned.

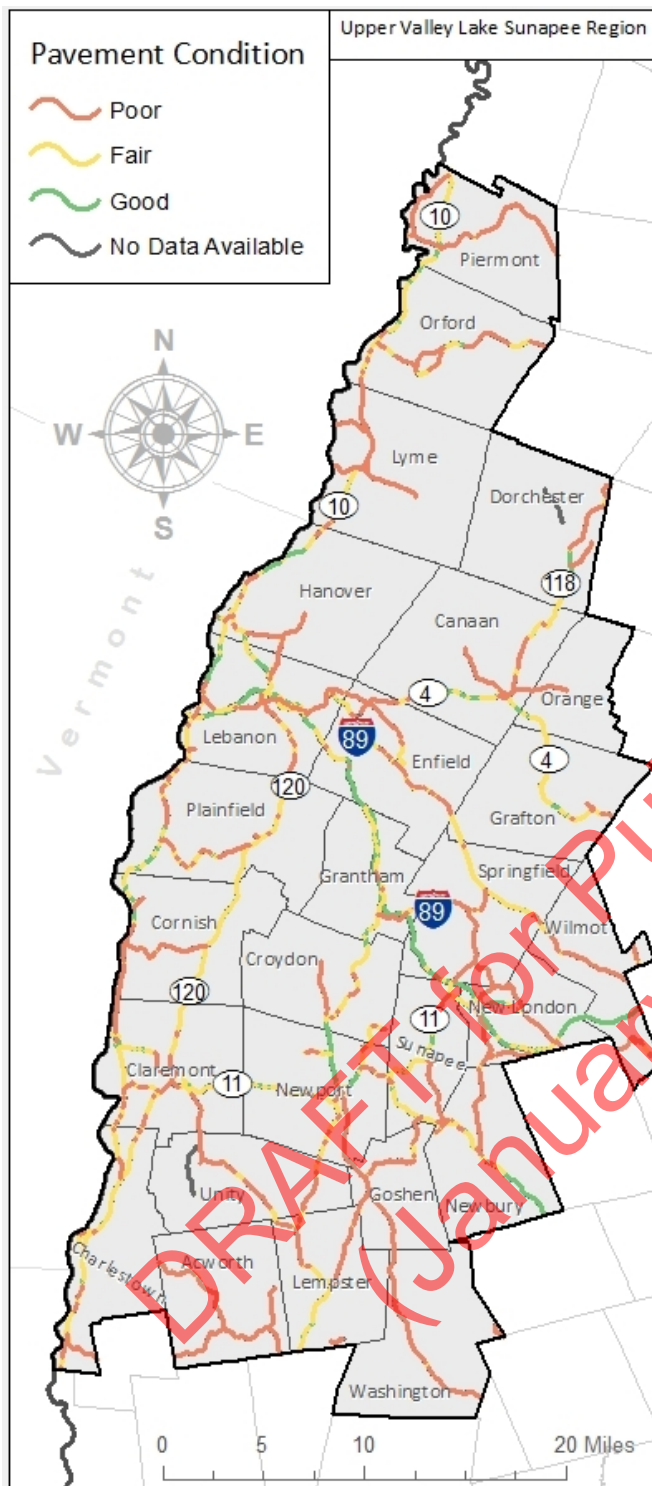
Bridges have three structural components:

- Substructure- The portion of the bridge that supports the superstructure and distributes bridge loads to below-ground bridge footings.
- Superstructure- The portion of the bridge that supports the deck and connects substructure components.
- Deck- The portion of the bridge that carries traffic.

The New Hampshire Department of Transportation inspects each structural element of a bridge and assigns structural sufficiency ratings ranging from "Excellent" to "Imminent Failure." If a bridge is found to be structurally-deficient, it is placed on the state's "Red List" of bridges that need to be repaired or replaced. Due to known deficiencies, red listed bridges are subject to interim inspections, potential weight restrictions, and in serious cases, closure.

What does this map show?

This map displays 2012 New Hampshire Department of Transportation bridge condition data for state and municipally-owned bridges in the Upper Valley Lake Sunapee Region.



Pavement Condition in the UVLSRPC Region

The New Hampshire Department of Transportation has evaluated state-maintained highways throughout New Hampshire to support its Pavement Management System. Pavement condition is determined by evaluating the following indices:

- The Ride Comfort Index (RCI), which represents what motorists feel as they drive down a road. The RCI is determined through measurement of an axle's vertical acceleration averaged between the two rear tires. *The RCI is the primary indicator used to measure, report, and monitor pavement condition in New Hampshire;*
- The Surface Distress Index (SDI), which is an inventory of road surface cracking; and
- The Rut Rate Index (RRI), which measures the frequency distribution of rut depths.

Currently, 18% of state-owned highways in the UVLSRPC Region are in good pavement condition, 36% are in fair condition, and 46% are in poor condition.

What does this map show?

This map displays 2012 Ride Comfort Index (RCI) data for state-maintained highways in the Upper Valley Lake Sunapee Region. The RCI is reported on a scale of 0 to 5, with 5 representing the best pavement condition.

A segment of roadway with a RCI greater than 3.5 is considered to have "Good" pavement condition. A segment of roadway with a RCI between 2.5 and 3.5 is considered to have "Fair" pavement condition, and a segment of roadway with a RCI less than 2.5 is considered to have "Poor" pavement condition.

Performance Measures

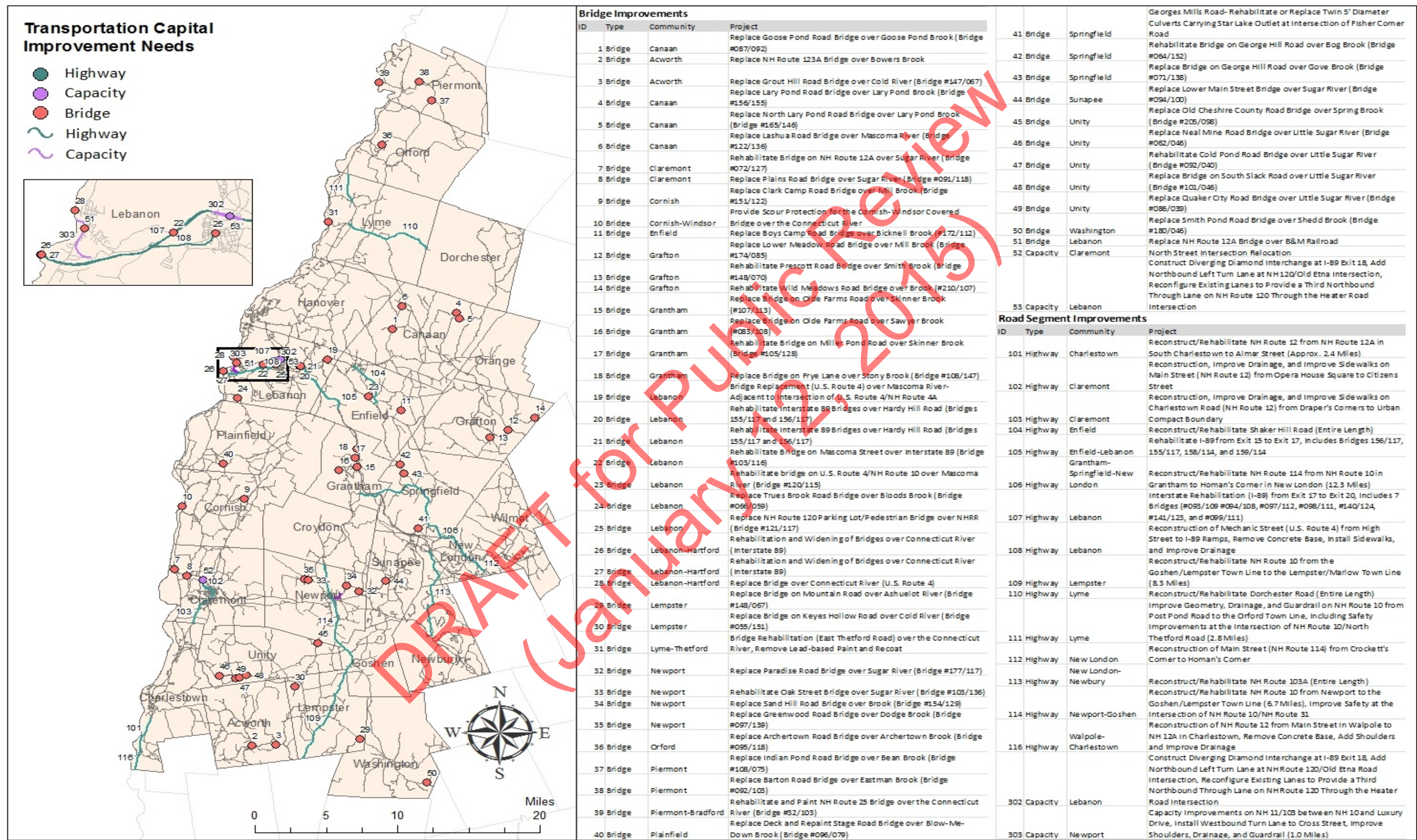
Highway and bridge condition in the UVLSRPC Region shall be measured by the number of state and municipally-owned red listed bridges, and mileage of state highway condition in poor, fair, and good pavement condition.

Performance Targets

- Reduce the number of red listed bridges (both state-owned and municipally-owned) in the UVLSRPC Region by 30% by 2030.
- Increase the number of road miles in the UVLSRPC Region in both good and fair pavement condition by 30% by 2030.

| Performance Measures | UVLSRPC Region (2012) | UVLSRPC Region (2030 Target) | Statewide (2012) | Statewide (2030 Target) |
|--|-----------------------|------------------------------|-------------------|-------------------------|
| Red Listed Bridges (State-owned) | 16 (6%) | 11 (4%) | 140 (7%) | N/A |
| Red Listed Bridges (Municipally-owned) | 64 (23%) | 45 (16%) | 349 (21%) | N/A |
| State Highway in Good Condition | 81 Miles (18%) | 105 Miles (23%) | 828 Miles (19%) | N/A |
| State Highway in Fair Condition | 165 Miles (36%) | 215 Miles (47%) | 1,867 Miles (44%) | N/A |
| State Highway in Poor Condition | 207 Miles (46%) | 133 Miles (30%) | 1,565 Miles (37%) | N/A |

Improvement Needs



Implementation Strategies

Improving the condition of the region's highways and bridges is almost entirely dependent on funding. For many years, New Hampshire's transportation funding has met only a fraction of infrastructure maintenance needs. Due to deferred maintenance, more bridges have become structurally-deficient and more roads require full-depth reconstruction.

In their July 2010 Long Range Transportation Plan, the New Hampshire Department addressed these issues in detail. The NHDOT presented four distinct funding issues and a series of options for addressing each issue.

Issue #1: Revenue Levels are Inadequate to Meet Needs

- Consider increasing the rates or fees of existing revenue streams (e.g. gas tax, vehicle title fees, or vehicle excise taxes).
- Reduce or eliminate diversions of current revenue streams from direct delivery of transportation facilities or services.
- Fund projects on the Turnpike system exclusively with Turnpike dollars.

Issue #2: Funding Streams must be Reliable, Sustainable, and Diverse

- Indexing the gas tax, tolls, and/or fares to the Consumer Price Index or to a construction cost index.
- Fixing gas taxes as a percentage of gasoline prices so they rise or fall with the price of gas.
- Enhancing local and statewide utilization of creative funding approaches including Tax Increment Finance (TIF), impact fees, and local vehicle registration options fees.

Issue #3: Funding Flexibility Needs to be Improved

- Consider alternatives to adequately fund public transportation operations.
- Seek revision of the restriction of Turnpike tolls to spending on Turnpike related expenditures.

Issue #4: Considering Pricing Policies to Raise Revenue

- Examining strategies such as parking fees, transit fare decreases, peak period toll increases, and fine increases as a means of extending roadway life by managing transportation demand.

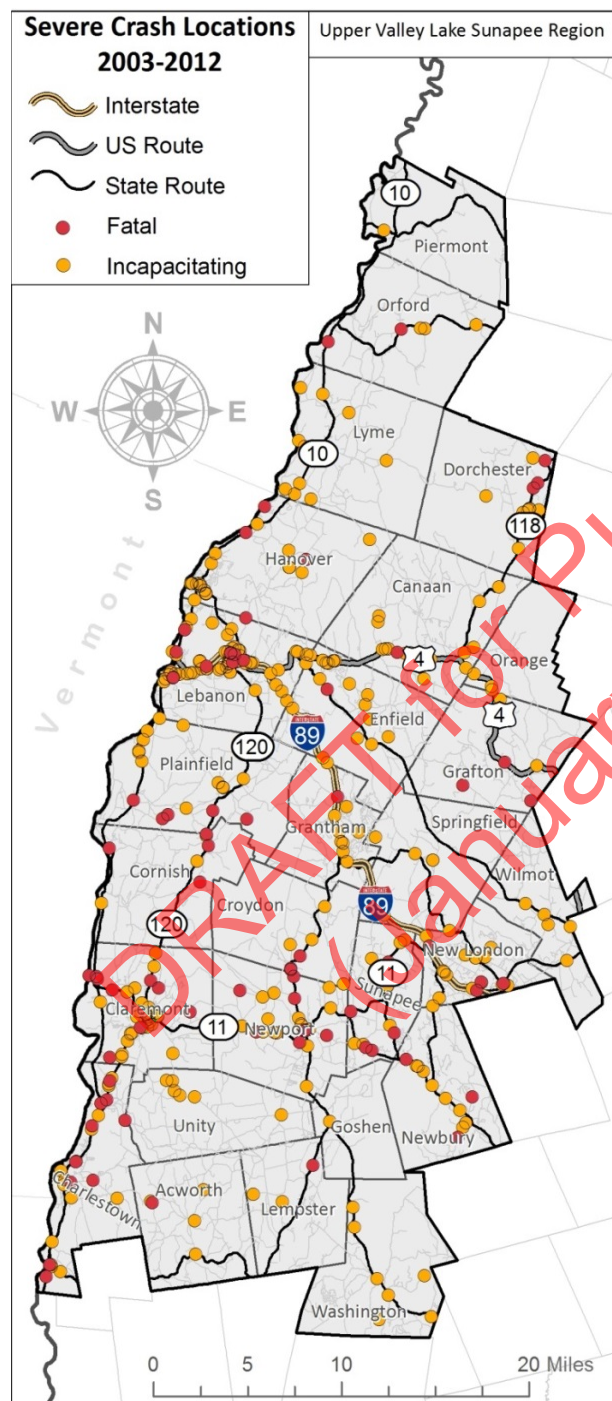
| Strategies |
|---|
| <ul style="list-style-type: none">• Advocate at the state, local, and federal level for adequate and consistent funding sources for highway and bridge maintenance activities. |
| <ul style="list-style-type: none">• Support an expansion of the NHDOT State Aid Bridge Program. |
| <ul style="list-style-type: none">• Support an expansion of the NHDOT Betterment Program for pavement maintenance efforts administered by NHDOT Maintenance District offices. |
| <ul style="list-style-type: none">• Assist communities in the region in developing Road Surface Management Systems (RSMS). |
| <ul style="list-style-type: none">• Place a higher priority on red list bridge replacement and/or rehabilitation projects during the Ten-Year Transportation Improvement Plan project prioritization process. |
| <ul style="list-style-type: none">• Develop a corridor study for Interstate 89 to determine improvement priorities and concurrence between development and roadway capacity. |
| <ul style="list-style-type: none">• Assist communities in the UVLSRPC Region in developing local Capital Improvement Programs that comprehensively address local highway and bridge infrastructure needs. |

3.3 HIGHWAY SAFETY IN THE REGION

Vision

Eliminate highway fatalities and improve safety for all roadway users in the UVLSRPC Region per the "Toward Zero Deaths" vision detailed in New Hampshire's Strategic Highway Safety Plan.

Existing Conditions



Highway Safety in the UVLSRPC Region

For the ten-year period between 2003 and 2012, there were 92 fatal crashes in the UVLSRPC region. Run-off-road crashes accounted for more than 50% of fatalities in the region, and nearly 40% of fatal crashes in the region involved alcohol.

The UVLSRPC Region has an elevated number of bicycle fatalities. Recent bicycle fatalities in Croydon and Newbury have spurred the formation of an advocacy group called the NH PASS (Pass All cyclists Slowly and Safely) Coalition to raise public awareness of NH RSA 265:143-a, which requires that motorists pass cyclists with a minimum of three feet of separation. UVLSRPC staff has worked with NHDOT and the Town of Newport to install signage to advise drivers of this law.

In recent years, infrastructure improvements, public education campaigns, and increased law enforcement have contributed to a statewide decline in fatal crashes across New Hampshire. The NHDOT along with other public and private stakeholders, including UVLSRPC, have formed a statewide partnership called the New Hampshire Driving Toward Zero Coalition. The Coalition's goal is to eliminate all highway fatalities in the state of New Hampshire, starting with a 50% reduction by the year 2030.

What does this map show?

This map displays NHDOT fatal and incapacitating injury crash location data for the UVLSRPC Region for the most recent available ten-year period (2003-2012).

Performance Measures

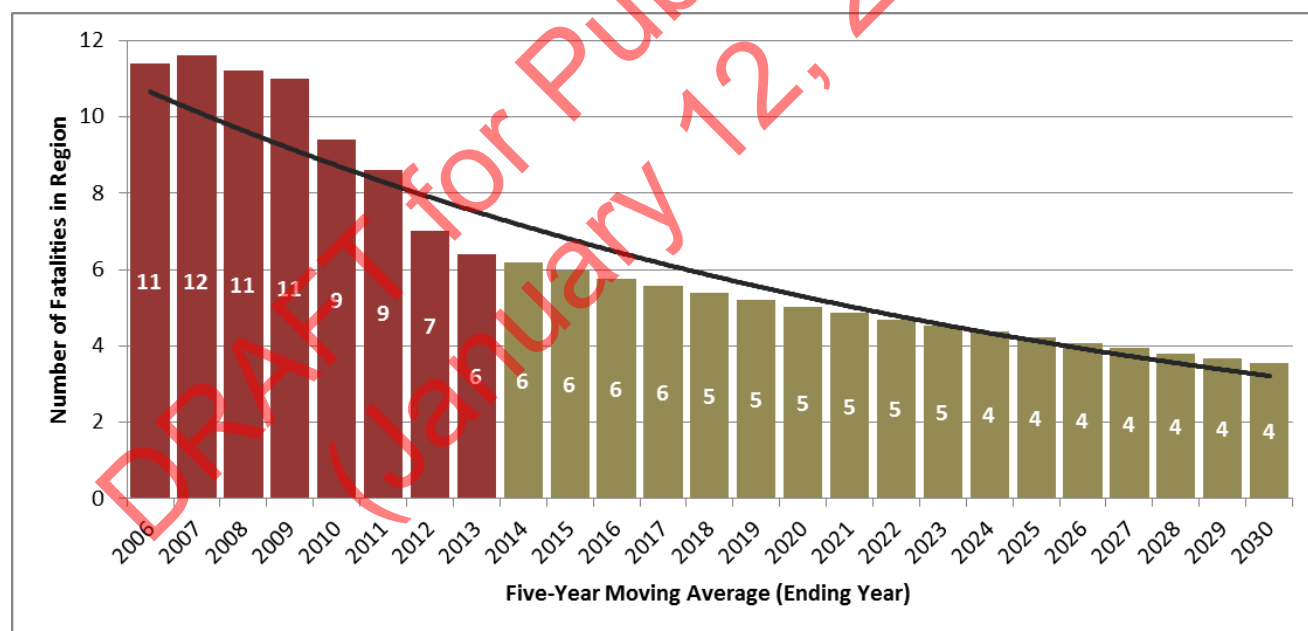
Highway safety performance in the UVLSRPC Region shall be measured by the five (5) year moving average of fatalities in the region. This is also the performance measure used in the New Hampshire Department of Transportation's Balanced Scorecard, which allows for comparison of the state's performance with the Region's performance.

Performance Target

- Reduce the number of fatalities in the UVLSRPC Region for all roadway users by 50% by the year 2030.

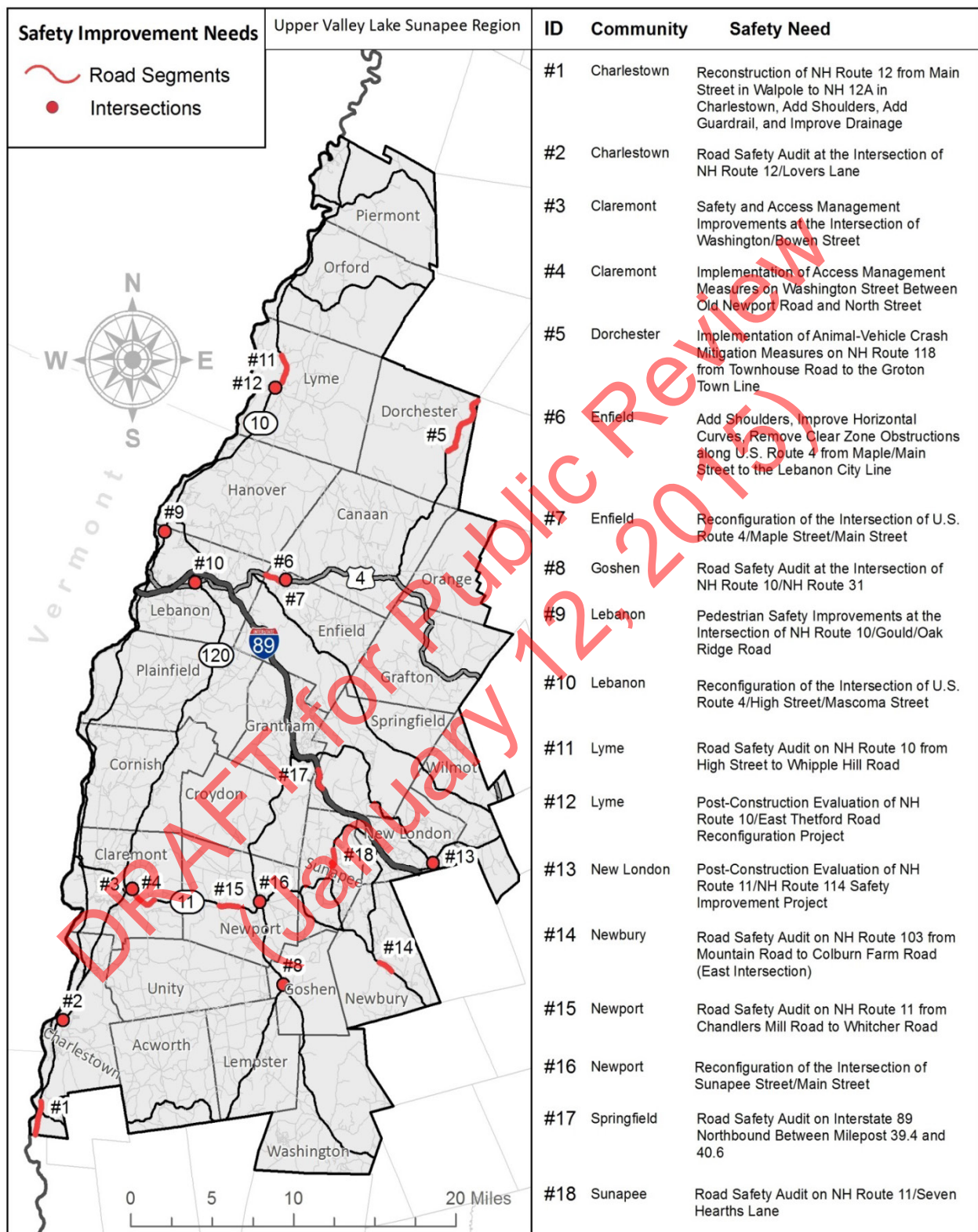
| Performance Measure | UVLSRPC Region (2012) | UVLSRPC Region (2030 Target) | Statewide (2012) | Statewide (2030 Target) |
|--|-----------------------|------------------------------|------------------|-------------------------|
| Highway Fatalities (5-Year Moving Average) | 6 | 4 | 114 | 63 |

Figure 3.3.1- Performance Target for Highway Safety in the UVLSRPC Region



Improvement Needs

Map 3.3.2 – Safety Improvement Needs in the UVLSRPC Region



Note: Safety improvement needs shown above are listed in alphabetical order by community.

Implementation Strategies

Improving the safety of all roadway users requires both infrastructure and behavioral changes. Under MAP-21, New Hampshire receives approximately \$9.5 Million per year of federal Highway Safety Improvement Program (HSIP) funding. HSIP funding is used to make safety improvements for both site-specific (i.e. individual locations with fatal and severe crash histories) and systemic (i.e. proactive statewide improvements related to guardrail, curve delineation, or other purpose) projects across New Hampshire.

HSIP funding has recently been utilized to make safety improvements at the intersection of NH Route 10/East Thetford Road in Lyme and the intersection of NH Route 11/NH Route 114 in New London. Many of the safety improvement needs identified in Map 3.3.2 will be eligible for HSIP funding based on crash history. In cases where safety issues require a large-scale reconstruction, those projects will be evaluated and prioritized during the biennial Ten-Year Transportation Improvement Plan process.

Beyond infrastructure issues, there are significant driver behavior issues affecting transportation safety in the region. These behavioral issues, including speeding, impaired driving, distracted driving, teen driving, and seat belt usage are not unique to the region. The same issues are prevalent across the state and the country. New Hampshire's Strategic Highway Safety Plan presents a series of strategies for addressing these behavioral issues. UVLSRPC staff serves on the NH Driving Toward Zero Coalition, a public-private partnership which oversees the development of the Strategic Highway Safety Plan. UVLSRPC should actively participate in current and future educational campaigns developed by the NH Driving Toward Zero Coalition related to speeding, impaired driving, distracted driving, and seat belt usage.

| Strategies |
|--|
| <ul style="list-style-type: none">• Coordinate Road Safety Audits (RSA) at all locations in the UVLSRPC Region that appear on the statewide "Five Percent" Report of high crash locations developed by the NHDOT. |
| <ul style="list-style-type: none">• Collaborate with state and local partners to ensure that locations with completed RSAs have safety improvements implemented with Highway Safety Improvement Program funding. |
| <ul style="list-style-type: none">• Continue assisting municipalities with the implementation of the NH PASS (Pass All bicyclists Slowly and Safely) safety campaign to promote awareness of NH RSA 265:143-a. |
| <ul style="list-style-type: none">• Continue UVLSRPC participation on the NHDOT Highway Safety Improvement Program Committee and NH Driving Toward Zero Deaths Coalition. |
| <ul style="list-style-type: none">• Oppose discretionary transfers of New Hampshire's Highway Safety Improvement Program funding. |
| <ul style="list-style-type: none">• Support local and statewide campaigns to educate the public about the risks and consequences of impaired driving, and the benefits of wearing seat belts |
| <ul style="list-style-type: none">• Coordinate with NHDOT to develop a statewide training program to ensure that the unique needs of older drivers are considered in the planning, design, construction, and maintenance of the state's highway network. |
| <ul style="list-style-type: none">• Analyze key regional corridors for run-off-road crashes and evaluate the potential to install shoulder and centerline rumble strips on those roads. |
| <ul style="list-style-type: none">• Collect additional speed data as part of the region's traffic data collection program to inform local and statewide speed enforcement efforts. |

3.4 PUBLIC TRANSPORTATION IN THE REGION

Vision

All residents, businesses, and visitors in the UVLSRPC Region can access viable, efficient, and affordable transportation options.

Existing Conditions

Figure 3.4.1- Advance Transit Ridership (2000-2012)

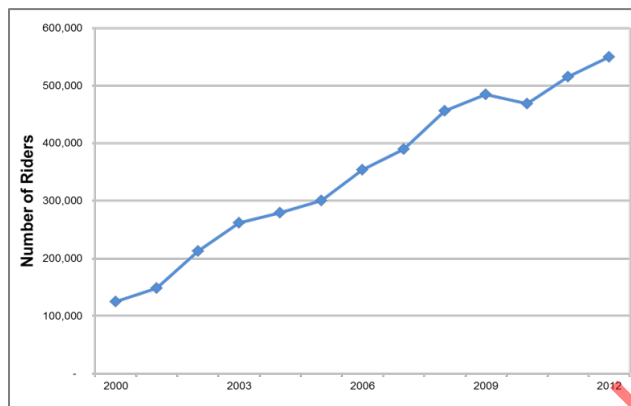
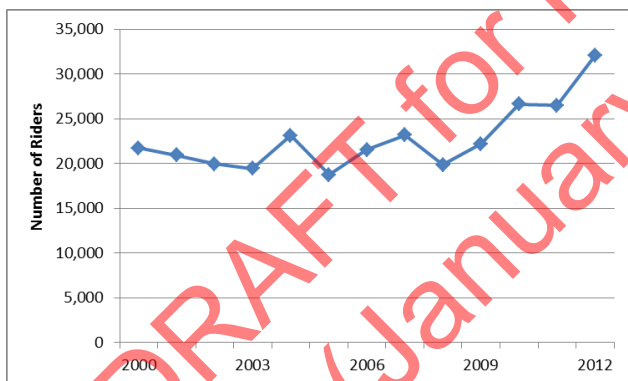


Figure 3.4.2- CATS Ridership (2000-2012)



Public Transit Ridership in the UVLSRPC Region

The UVLSRPC Region is directly served by two local public transportation providers:

- Advance Transit, which provides free-fare, fixed-route public transportation services in Lebanon, Hanover, Enfield, and Canaan, New Hampshire as well as in Hartford and Norwich, Vermont. Advance Transit also provides shuttle transportation services in downtown Hanover and at Dartmouth-Hitchcock Medical Center.
- Community Alliance Transportation Services (CATS), which provides public transportation services in Claremont, Newport, and Charlestown, New Hampshire.

Stagecoach Transportation Services and Connecticut River Transit also provide fixed-route public transportation services connecting Vermont communities to large employers and shopping destinations in the UVLSRPC Region. Public transportation providers in the UVLSRPC region set a new all-time high in fixed-route ridership in 2012, providing (combined) over 600,000 rides. Over the past 10 years, much of the region's transit ridership growth has been driven by three factors:

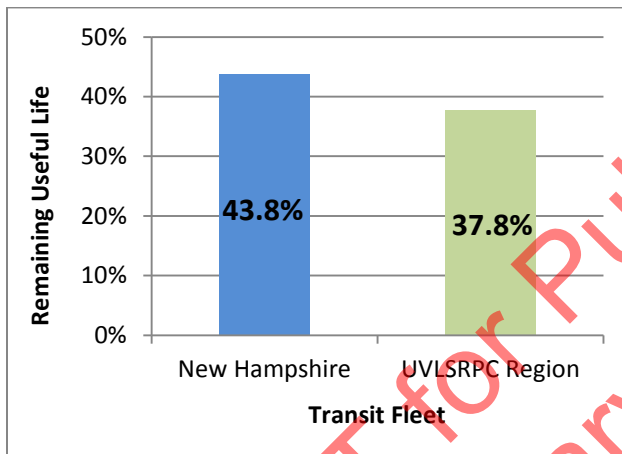
- A transition to free-fare services by Advance Transit;
- Increased frequency on principal transit routes, including Advance Transit's Red Route;
- The extension of services to additional communities in the region, notably CATS' expansion to the Town of Charlestown.

As a result of these factors, total transit ridership in the UVLSRPC Region exceeds that of many urban areas in New Hampshire.



An Advance Transit bus stops for passengers along the Blue Route in the Town of Enfield.

Figure 3.4- Remaining Useful Life of Transit Fleet



Since 2011, Advance Transit has acquired three Gillig diesel electric hybrid buses (above). These buses are the newest additions to the region's transit fleet, and the first hybrid buses in the region.

Transit Fleet Condition in the UVLSRPC Region

The New Hampshire Department of Transportation evaluates the condition of the state's transit fleet by analyzing the age of active transit buses. The Federal Transit Administration (FTA) has established "useful life" thresholds for transit buses shown in the table below:

| Category | Length | Seats | Life |
|------------------------|-----------|-------|----------|
| Large, Heavy-duty Bus | 35-60 Ft. | 27-40 | 12 Years |
| Small, Heavy-duty Bus | 30 Ft. | 26-35 | 10 Years |
| Medium-duty Bus | 30 Ft. | 22-30 | 7 Years |
| Light-duty Bus | 25-35 Ft. | 16-25 | 5 Years |
| Cutaways/Modified Vans | 16-28 Ft. | 10-22 | 4 Years |

Measuring the average remaining useful life of a transit fleet allows for the evaluation of fleet condition over time. Newer buses improve the quality of transit service by reducing maintenance costs, enhancing rider amenities, improving fuel efficiency, and reducing emissions. FTA regulations require that buses reach the end of their useful life before they may be replaced. Thus, the remaining useful life of the region's transit fleet will fluctuate over time depending on bus acquisition cycles and the availability of transit capital funding.

In the UVLSRPC Region, there are a series of pressing transit fleet needs. By the end of 2014, five of the eight buses operated by Community Alliance Transportation Services (CATS) will reach the end of their useful life. Similarly, in 2016, 19 of Advance Transit's 31 buses will reach the end of their useful life. This total includes 11 medium duty buses (purchased in 2009) and 8 large heavy-duty buses (purchased in 2004).

Performance Measures

Public transportation performance in the UVLSRPC Region shall be measured by three key indicators: operational performance; state of good repair of the region's transit fleet; and the region's access to transit options.

Operational performance shall be measured by the total number of annual riders on the region's fixed route public transportation network. This measure differs slightly from the NHDOT Balanced Scorecard, because the Balanced Scorecard counts shuttle ridership for both Advance Transit and the Wildcat Transit service operated by the University of New Hampshire. The UVLSRPC's performance measure focuses solely on fixed-route transit ridership.

The state of good repair of the region's transit assets shall be measured by the remaining useful life of the region's transit fleet according to FTA useful life thresholds. Access to transit options will be measured by the percentage of the region's population with access to multimodal transportation (i.e. living a quarter-mile or less from a transit route, park-and-ride facility, or passenger rail station).

Performance Targets

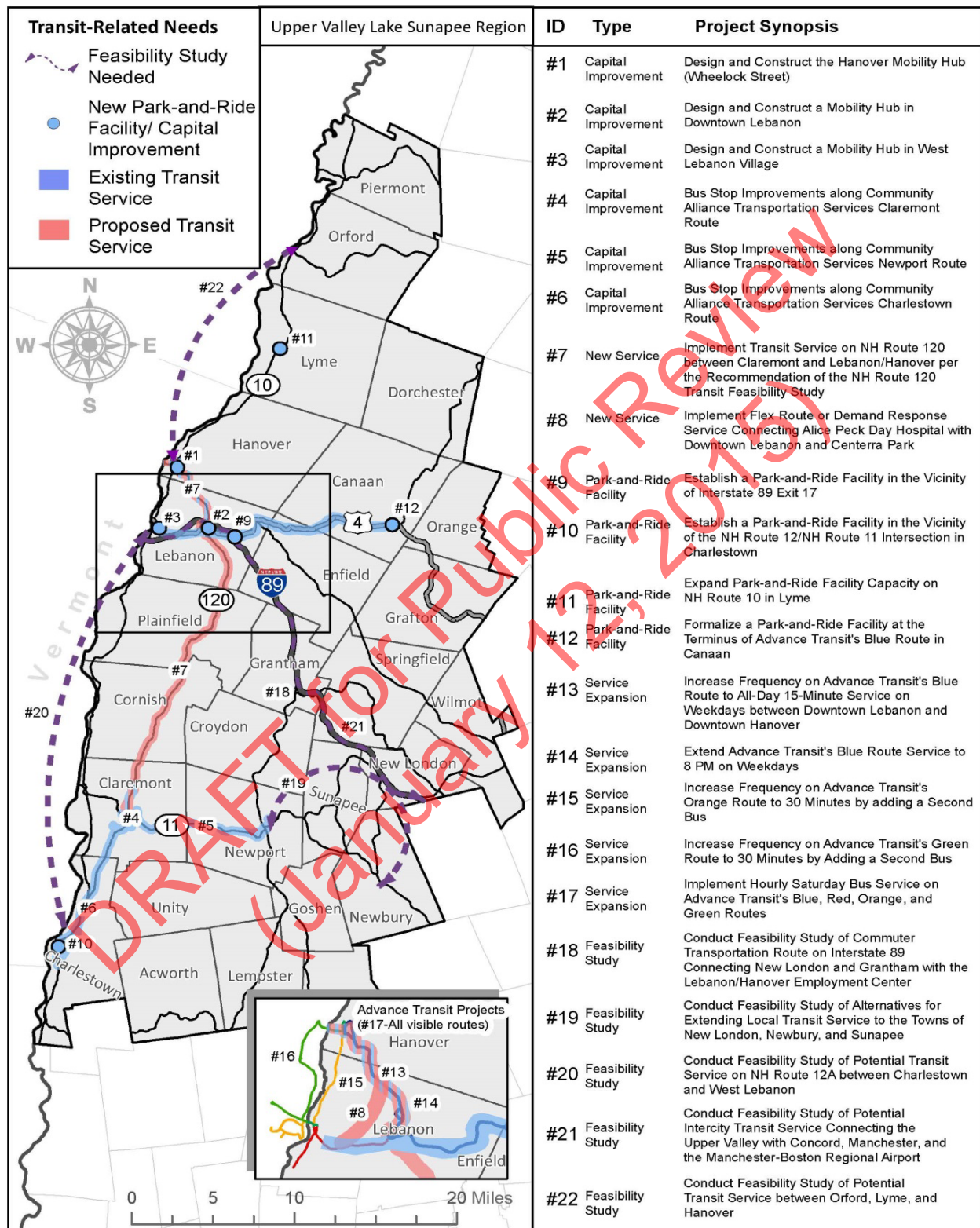
- Reach 1,000,000 annual fixed-route public transportation riders in the region by 2030.
- Increase the remaining useful life of the region's public transportation fleet to 50% by 2030.
- Increase the percentage of the region's population with access to multimodal transportation to 40% by 2030.

| Performance Measure | UVLSRPC Region (2012) | UVLSRPC Region (2030 Target) | Statewide (2012) | Statewide (2030 Target) |
|---|-----------------------|------------------------------|------------------|-------------------------|
| Local Transit Ridership (Fixed-Route) | 601,024 | 1,000,000 | N/A | N/A |
| Remaining Useful Life of Transit Fleet | 37.8% | 50% | 43.8% | N/A |
| Percentage of Population With Access to Multimodal Transportation | 30.5% | 40% | 26.1% | N/A |
| Intercity Transit Ridership | 215,000 (Approx.) | N/A | N/A | N/A |

Intercity transportation services in the UVLSRPC region are privately operated as for-profit businesses, and comprehensive historical ridership data is maintained exclusively by those companies. While it is important to track the performance of intercity transportation in a regional context, this plan does not set a performance target.

Improvement Needs

Figure 3.4.3 – Transit Improvement Needs in the UVLSRPC Region



Implementation Strategies

While Figure 3.4.3 presents many public transportation improvement needs, the region's top public transportation priority remains maintaining the public transportation services we have. New Hampshire's transit funding structure faces many of the same challenges as the state's infrastructure funding structure. As a result, revenues to support transit operations are inadequate to meet the region's needs, and the funding sources that exist are not diverse or sustainable.

Notwithstanding limitations on federal funding and the lack of state funding to support transit operations, the Upper Valley Lake Sunapee Region is regarded as a model for rural public transportation funding. The region's largest employers, Dartmouth-Hitchcock Medical Center and Dartmouth College, contribute to the operation of Advance Transit's service. The six communities in Advance Transit's service area also contribute to the operation of Advance Transit's service, resulting in a unique and successful public-private funding partnership. Advance Transit has also developed a

philanthropy program called the "Keep it Free Fund", which accepts charitable donations to keep the service free-fare.

As new transit service is developed linking the cities of Claremont and Lebanon, UVLSRPC will work cooperatively with Community Alliance Transportation Services to build a similar public-private funding partnership.

On the capital side of public transportation, the long-standing needs for park-and-ride facility development (and expansion) remain difficult to fund. In other parts of the state, park-and-ride facilities are funded by the federal Congestion Mitigation and Air Quality (CMAQ) Program. This funding has historically supported projects in the southern part of the state, in areas that were not in attainment of federal air quality thresholds. Thus, park-and-ride facility development in the Upper Valley Lake Sunapee Region was funded by one-time allocations of NHDOT Betterment Program funding. It will be difficult to achieve the park-and-ride facility improvements outlined in Map 3.2 without statewide eligibility of CMAQ funding or a dedicated funding program for statewide park-and-ride facility development.

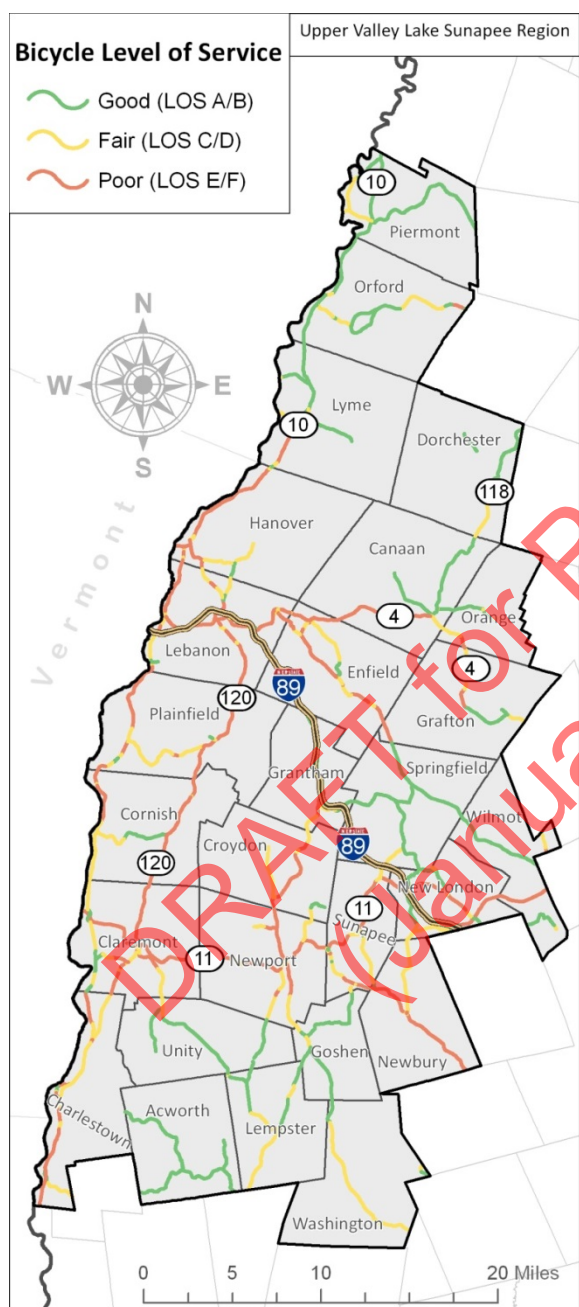
| Strategies |
|--|
| <ul style="list-style-type: none"> • Advocate at the state, local, and federal level for adequate and consistent funding sources for transit operations and capital costs. |
| <ul style="list-style-type: none"> • Continue to serve on the Advance Transit Board of Directors and Planning and Operations Committee. |
| <ul style="list-style-type: none"> • Continue to serve on the CATS Advisory Committee. |
| <ul style="list-style-type: none"> • Provide technical assistance to Advance Transit and CATS in developing applications for FTA Section 5311 capital and operating funding. |
| <ul style="list-style-type: none"> • Assist Advance Transit and CATS in applying for FTA Section 5304 funding to update their five-year transit development plans. |
| <ul style="list-style-type: none"> • Assist Advance Transit and CATS in updating their air quality impact analyses biennially. |
| <ul style="list-style-type: none"> • Apply for and administer transit feasibility studies using FTA Section 5304 planning funds to study new services along the Interstate 89 Corridor, NH Route 12A Corridor, and in the Lake Sunapee communities of Sunapee, New London, and Newbury. |
| <ul style="list-style-type: none"> • Advocate for statewide eligibility of Congestion Mitigation and Air Quality (CMAQ) funding in New Hampshire. |
| <ul style="list-style-type: none"> • Advocate for the creation of a dedicated, competitive funding program for statewide park-and-ride facility development and expansion. |
| <ul style="list-style-type: none"> • Support the continued development of philanthropic programs to benefit Advance Transit and CATS. |
| <ul style="list-style-type: none"> • Pursue federal and state grants to improve the energy efficiency and reduce greenhouse gas emissions of the region's transit fleet. |
| <ul style="list-style-type: none"> • Encourage counties and municipalities to budget for matching funds to leverage available federal public transportation grant funding. |
| <ul style="list-style-type: none"> • Coordinate with communities to ensure that local zoning ordinances encourage compact, mixed-use, pedestrian-oriented development with local growth centers planned in the context of available public transportation services. |

3.5 BICYCLE AND PEDESTRIAN TRANSPORTATION IN THE REGION

Vision

A safe bicycle transportation network connects all the communities in the region and every community center can be accessed by a safe and appropriate pedestrian transportation network.

Existing Conditions



Bicycle Travel in the UVLSRPC Region

To analyze bicycle travel on the region's road network, the Commission conducted a Bicycle Level of Service analysis for all state and urban compact roads in the region.

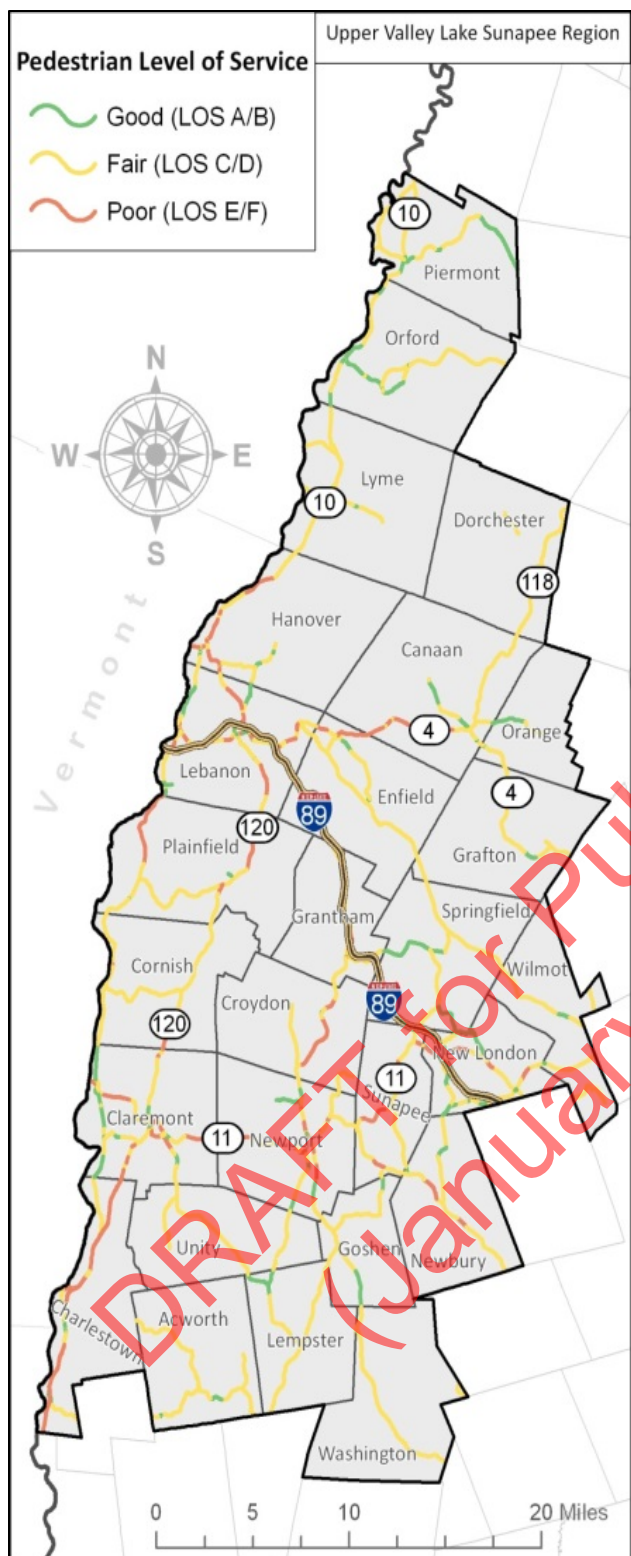
Bicycle Level of Service is a quantitative measure of a roadway's suitability for bicycle traffic. Whereas a roadway's Operational Level of Service is a measure of traveler delay, the Bicycle Level of Service quantifies a cyclist's perceived safety traveling on a roadway.

The National Cooperative Highway Research Program (NCHRP Report 616) has published a methodology for conducting Bicycle Level of Service analysis. The analysis involves a mathematical model that considers vehicle speed, proportion of heavy vehicles, pavement condition, lane width, on-street parking, shoulder width, and traffic volume.

The NCHRP methodology is only used for on-road facilities, not trails or other multi-use off-road paths.

What does this map show?

This map displays Bicycle Level of Service information for state highways in the UVLSRPC region according to the methodology presented in National Cooperative Highway Research Report 616. Level of Service is represented as a letter score, with A and B representing good bicycling conditions, C and D representing fair bicycling conditions, and E and F representing poor bicycling conditions.



Pedestrian Travel in the UVLSRPC Region

To analyze pedestrian travel on the region's road network, the Commission conducted a Pedestrian Level of Service analysis for all state and urban compact roads in the region.

Pedestrian Level of Service is a quantitative measure of a roadway's suitability for pedestrian traffic. Whereas a roadway's Operational Level of Service is a measure of traveler delay, the Pedestrian Level of Service quantifies a pedestrian's perceived safety while walking.

The National Cooperative Highway Research Program (NCHRP Report 616) has published a methodology for conducting Pedestrian Level of Service analysis. The analysis involves a mathematical model that considers traffic volume, shoulder width, on-street parking, sidewalk presence, sidewalk width, and vehicle speed.

The NCHRP methodology is only used for on-road facilities, not trails or other multi-use off-road paths.

What does this map show?

This map displays Pedestrian Level of Service information for state highways in the UVLSRPC region according to the methodology presented in National Cooperative Highway Research Report 616. Level of Service is represented as a letter score, with A and B representing good walking conditions, C and D representing fair walking conditions, and E and F representing poor walking conditions.

Performance Measures

Bicycle and pedestrian transportation performance in the region shall be measured by Bicycle Level of Service (BLOS) and Pedestrian Level of Service (PLOS) respectively. The NHDOT Balanced Scorecard does not currently include any performance measurements related to bicycle and pedestrian transportation. As a result, there is no comparable statewide data to compare the regions performance against.

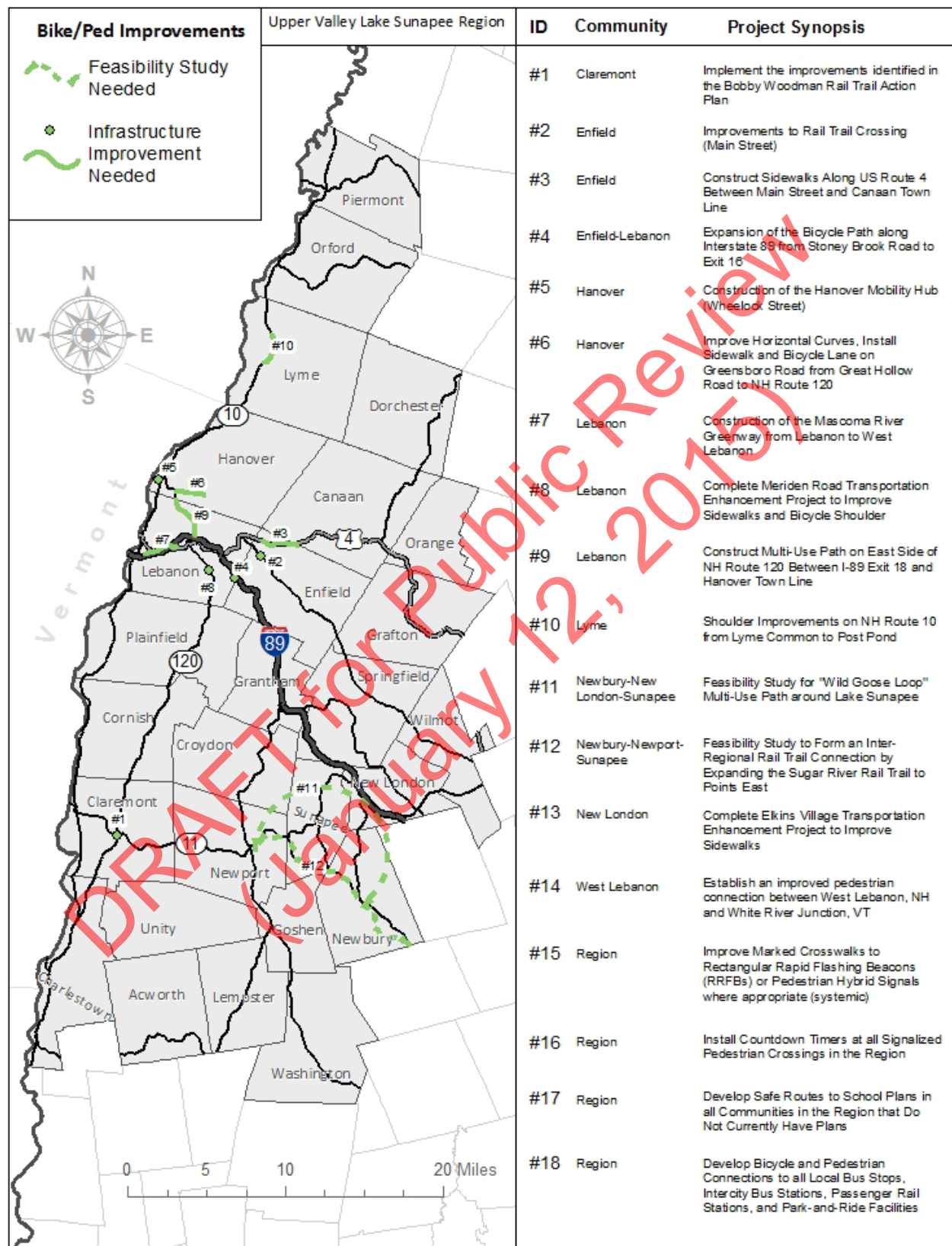
Performance Targets

- Improve the region's average Bicycle Level of Service to C (3.00) by 2030.
- Improve the region's average Pedestrian Level of Service to C (3.50) by 2030.

| Performance Measure | UVLSRPC Region (2012) | UVLSRPC Region (2030 Target) | Statewide (2012) | Statewide (2030 Target) |
|-----------------------------|-----------------------|------------------------------|------------------|-------------------------|
| Bicycle Level of Service | D (3.57) | C (3.00) | N/A | N/A |
| Pedestrian Level of Service | D (4.12) | C (3.50) | N/A | N/A |

Improvement Needs

Figure 3.5.1 – Bicycle/Pedestrian Improvement Needs in the UVLSRPC Region



Implementation Strategies

State and federal funding sources for local bicycle and pedestrian transportation are very limited. Former standalone funding programs including the Transportation Enhancement Program (TE), Recreational Trails Program (RTP), and Safe Routes to School Program (SRTS) have been consolidated into a single program called the Transportation Alternatives Program (TAP).

At current funding levels, the State of New Hampshire receives approximately \$7.5 million in Transportation Alternatives Program funding each biennium. Of that \$7.5 million, approximately one-third of it is set aside for Recreational Trail projects administered by the NH Department of Resources and Economic Development. Another portion of the funding is set aside, per federal formula guidelines, to be used exclusively within the Nashua Region. After those set asides, each of the nine regions of the state will likely see one TAP-funded bicycle or pedestrian infrastructure improvement project every two years. Thus the TAP program, while very popular amongst communities, will remain ultra-competitive and an unreliable source of funding for local projects.

Bicycle and pedestrian improvement projects are also potentially eligible for federal Highway Safety Improvement Program

funding, provided that the project location has a history of fatal or severe injury crashes involving bicyclists or pedestrians. Road Safety Audits should be conducted at all locations within the region that have had a fatality involving a bicyclist or pedestrian as a precursor to potential Highway Safety Improvement Program funding.

While the federal Congestion Mitigation and Air Quality Program (CMAQ) can potentially fund bicycle and pedestrian improvement projects, communities in the UVLSRPC region are not currently eligible for that funding because the region remains in attainment of federally-established air quality thresholds.

In the future, developing and improving the region's bicycle and pedestrian transportation infrastructure network will require strong local funding commitments. Projects that are funded through local public-private partnerships will have a higher probability for success. Two recent examples of successful public-private partnerships in the region include the Mascoma River Greenway in Lebanon and the new Riverwalk pedestrian bridge in Sunapee (which was entirely funded through private donations). Additionally, local Planning Boards should ensure through the site plan and/or subdivision review process that developers construct appropriate bicycle and pedestrian infrastructure to connect their developments to the state or local network.

| Strategies |
|---|
| <ul style="list-style-type: none"> Develop and adopt a regional Complete Streets Policy, and provide technical assistance to communities in the region developing local Complete Streets policies. |
| <ul style="list-style-type: none"> Continue to provide technical assistance to communities in bicycle and pedestrian project planning and implementation. |
| <ul style="list-style-type: none"> Assist communities in conducting Road Safety Audits at all locations within the region that have had a fatality involving a bicyclist or pedestrian. |
| <ul style="list-style-type: none"> Establish a regional bicycle/pedestrian counting program to evaluate existing infrastructure usage and future needs. |
| <ul style="list-style-type: none"> Coordinate with municipalities and state agencies to acquire right-of-way during reconstruction projects to accommodate future bicycle and pedestrian transportation infrastructure needs. |
| <ul style="list-style-type: none"> Coordinate with NHDOT and municipalities to ensure that new developments construct appropriate bicycle and pedestrian infrastructure and integrate that infrastructure into the state or local network. |
| <ul style="list-style-type: none"> Encourage the NHDOT to allow multiple uses on rail corridors where appropriate (e.g. rail with trail). |
| <ul style="list-style-type: none"> Coordinate with NHDOT to evaluate narrowing travel lane widths during resurfacing projects to improve shoulders and/or bicycle lanes. |

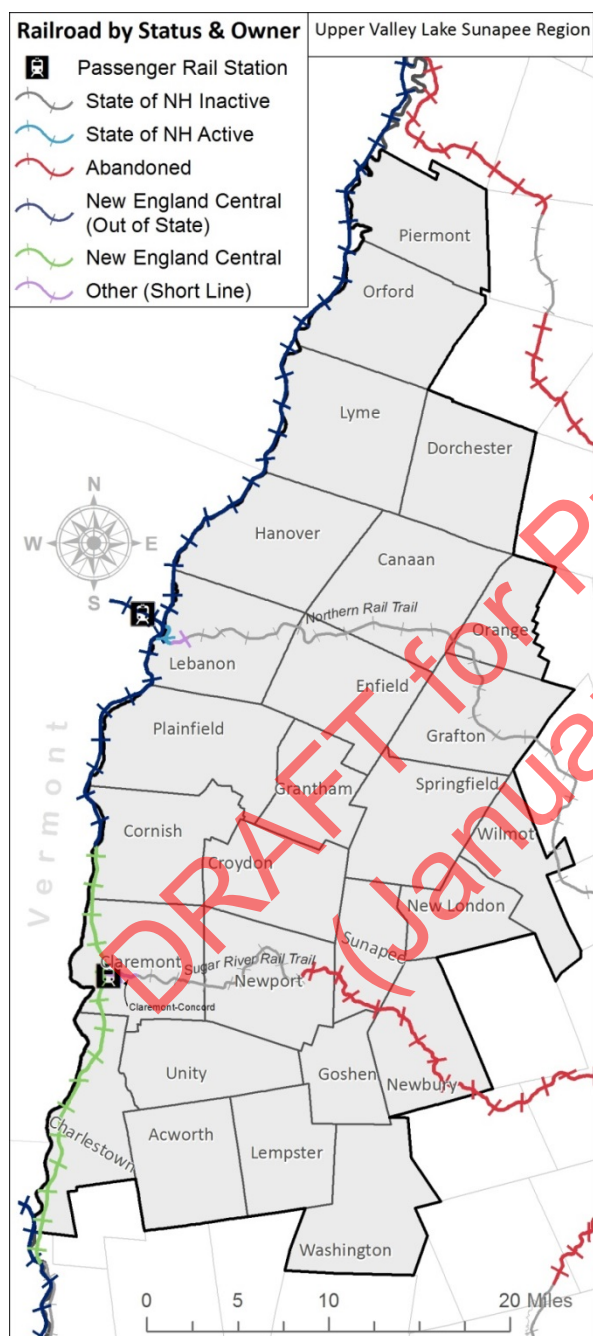
DRAFT for Public Review
(January 12, 2015)

3.6 RAIL TRANSPORTATION IN THE REGION

Vision

The region's two largest employment and population centers (Lebanon and Claremont) have viable, efficient freight and passenger rail access to major markets in the eastern United States and Canada.

Existing Conditions



Railroad Condition in the UVLSRPC Region

In New Hampshire, active railroads are classified according to a framework developed by the Federal Railroad Administration (FRA). The New Hampshire Department of Transportation measures the overall condition of railroads in the state by evaluating the number of miles of FRA Class 3 track.

| FRA Class | Freight Speed | Passenger Speed |
|-----------|---------------|-----------------|
| 1 | 10 mph | 15 mph |
| 2 | 25 mph | 30 mph |
| 3 | 40 mph | 60 mph |
| 4 | 60 mph | 80 mph |
| 5 | 80 mph | 90 mph |
| 6 | 110 mph | 110 mph |
| 7 | 125 mph | 125 mph |
| 8 | 160 mph | 160 mph |
| 9 | 200 mph | 200 mph |

In the UVLSRPC region, only the New England Central Railroad (NECRR) meets FRA Class 3 standards. The NECRR runs along the Connecticut River from the Vermont/Quebec border to New London, CT. The NECRR enters the region in Cornish and continues south along the Connecticut River through Claremont and Charlestown before crossing back into Vermont at the Town of Walpole.

The Claremont Concord Railroad (CCRR) operates five miles of short-line railroad that branch from the New England Central Railroad in Claremont (two miles) and West Lebanon (three miles).

Much of the former Northern and Sugar River railroads are currently inactive, owned by the State of New Hampshire, and used as Rail Trail facilities (known as the Sugar River Rail Trail and the Northern Rail Trail).

Passenger Rail Ridership in the UVLSRPC Region

The region's only passenger rail service is Amtrak's Vermonter, which has daily round-trip service between Saint Albans, Vermont and Washington, DC. The Amtrak Vermonter serves the UVLSRPC Region via stops in White River Junction, Vermont and Claremont, New Hampshire.

Between 2003 and 2006, ridership declined significantly on the Vermonter service, due to the elimination of a motorcoach service connecting Saint Albans, Vermont with Montreal, Quebec. However, ridership began to rebound in 2006, and climbed steadily until 2010. In 2011, the New England Central Railroad constructed a \$70 million project to increase train speeds along the corridor. While this construction had a short-term impact on Vermonter ridership, sections of the New England Central Railroad between Vernon, Vermont and White River Junction, Vermont are now built to FRA Class 4 standards, and can accommodate passenger rail speeds up to 79 MPH.

The Massachusetts Department of Transportation is also constructing a series of rail improvements, known as the Knowledge Corridor, which would relocate the Vermonter service from the New England Central Railroad to the Pan Am Railroad between East Northfield and Springfield, Massachusetts. The MassDOT estimates that this project will reduce travel times on the Vermonter by 25 minutes, improve on-time performance, and increase ridership.

Amtrak's Vermonter service relies on funding support provided by the State of Vermont. The State of New Hampshire does not currently contribute to the operation of the Vermonter service. Under this funding structure, there is no guarantee that the Vermonter will continue to provide direct service to the City of Claremont. Thus, it will be important to advocate locally and regionally for a state-level contribution to Amtrak's Vermonter operation to help ensure continued service to the City of Claremont and the Upper Valley Lake Sunapee Region.

Figure 3.6.1- Passenger Rail Ridership (Claremont, NH and White River Junction, VT Stations)



Note: Passenger rail ridership in 2011 and 2012 was affected by the construction of track improvements and the impacts of Tropical Storm Irene.

Performance Measures

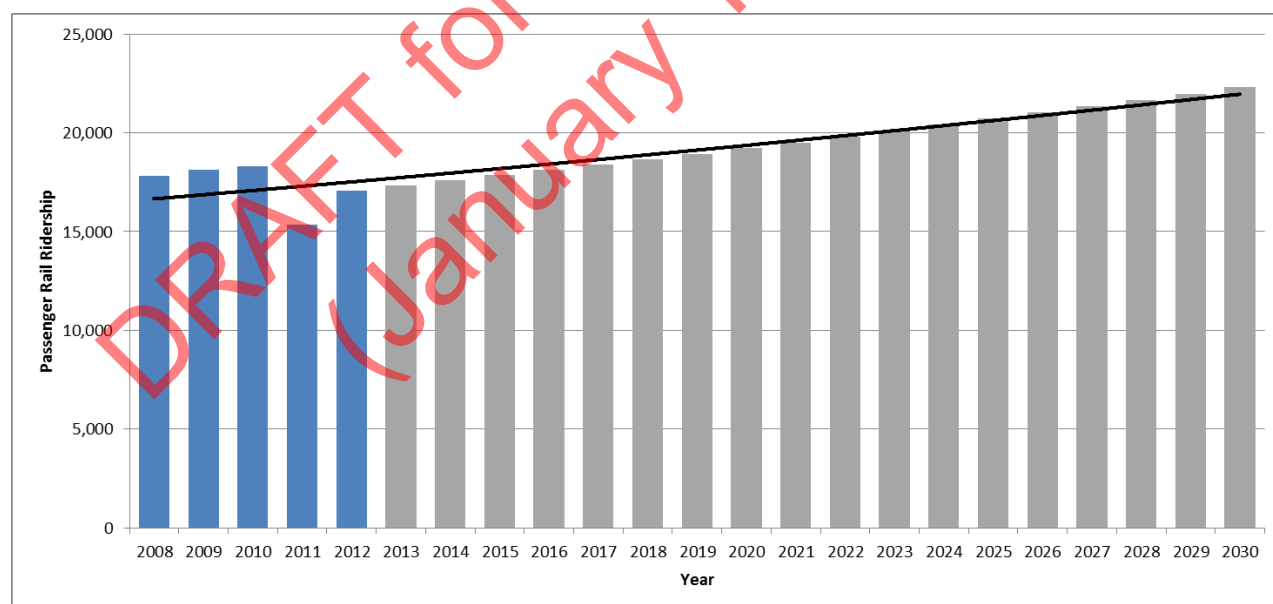
Rail transportation performance in the region shall be measured by passenger rail ridership and the number of miles of rail lines capable of speeds of 40 MPH. Both of these measures are consistent with the NHDOT's Balanced Scorecard. The region's calculation of passenger rail ridership will include the combined boardings and alightings from both the Claremont, New Hampshire and White River Junction, Vermont stations.

Performance Targets

- Increase passenger rail ridership in the region by 1.5% annually, surpassing 22,000 boardings/alightings per year by 2030.
- Maintain the current mileage of railroad in the region capable of speeds of 40 MPH.

| Performance Measure | UVLSRPC Region (2012) | UVLSRPC Region (2030 Target) | Statewide (2012) | Statewide (2030 Target) |
|--|-----------------------|------------------------------|------------------|-------------------------|
| Passenger Rail Ridership | 17,069 | 22,315 | 199,645 | N/A |
| Rail Lines Capable of Speeds of 40 MPH | 23.3 | 23.3 | 104 | N/A |

Figure 3.6.2- Passenger Rail Ridership Performance Target in the UVLSRPC Region



Improvement Needs

| Needs |
|---|
| <ul style="list-style-type: none">• Coordinate with the City of Claremont to plan and implement station improvements, parking improvements, and multi-modal connections at the Claremont Junction passenger rail station. |
| <ul style="list-style-type: none">• Coordinate with the City of Claremont, City of Lebanon, and short-line rail owners to improve the condition of short-line railroads in the region. |
| <ul style="list-style-type: none">• Coordinate with the NHDOT and applicable railroad operators to ensure that aging railroad bridges are rehabilitated and maintained in a state of good repair. |
| <ul style="list-style-type: none">• Support the City of Lebanon's initiative to redevelop the former Westboro Rail Yard to strengthen pedestrian and bicycle connections between West Lebanon and the White River Junction, Vermont Amtrak station. |
| <ul style="list-style-type: none">• Support safety improvements and/or grade separations for at-grade rail crossings within the UVLSRPC Region. |

Implementation Strategies

Projects benefitting the region's rail system are generally developed at the state and federal level. Given the UVLSRPC region's limited rail infrastructure, the most significant effort to improve rail service in the region is the "Boston Montreal High Speed Rail" project.

In 2003, the states of New Hampshire, Vermont, and Massachusetts partnered on the development of a Feasibility Study to evaluate a potential high-speed rail service connecting Boston and Montreal. The alignment evaluated in the study would have utilized the former Northern Railroad line (currently used as the Northern Rail Trail) through downtown Lebanon. However, due to the cost of rebuilding rail infrastructure on the former Northern Railroad, and lack of political support in the State of New Hampshire, this alignment was not considered further.

In 2013, the states of Massachusetts and Vermont (in partnership with the Province of Quebec), began the Northern New England Intercity Rail Initiative (NNEIRI). As part of the NNEIRI, a feasibility study is being developed to evaluate a potential higher-speed rail connection between Boston and Montreal using existing infrastructure. The proposed alignment would begin in Boston, travel west to Springfield, travel north to White River Junction, and then northwest across the United States/Canada border to Montreal.

In the UVLSRPC region, the proposed NNEIRI alignment would utilize the New England Central Railroad, and travel through Cornish, Claremont, and Charlestown. However, the existing Amtrak Vermonter stop in the City of Claremont is not currently proposed to be a stop if the NNEIRI service is implemented. Thus, it will be important advocate locally and regionally for a stop in the City of Claremont during the Northern New England Intercity Rail Initiative feasibility study process.

| Strategies |
|--|
| <ul style="list-style-type: none"> • Continue UVLSRPC participation on the NH Rail Transit Authority. |
| <ul style="list-style-type: none"> • Continue to serve on the Stakeholders Group for the Northern New England Intercity Rail Initiative Process. |
| <ul style="list-style-type: none"> • Support the infrastructure improvements identified during the Northern New England Intercity Rail Initiative to facilitate higher-speed rail service on the New England Central Railroad line. |
| <ul style="list-style-type: none"> • Advocate for a stop in the City of Claremont during the Northern New England Intercity Rail Initiative feasibility study process. |
| <ul style="list-style-type: none"> • Advocate for a state-level contribution to Amtrak's Vermonter operation to help ensure continued service to the City of Claremont and the Upper Valley Lake Sunapee Region. |
| <ul style="list-style-type: none"> • Coordinate with NHDOT and municipalities to ensure that rail rights-of-way are available for future railroad use. |
| <ul style="list-style-type: none"> • Coordinate with the NHDOT to improve the safety of at-grade rail crossings within the UVLSRPC Region. |

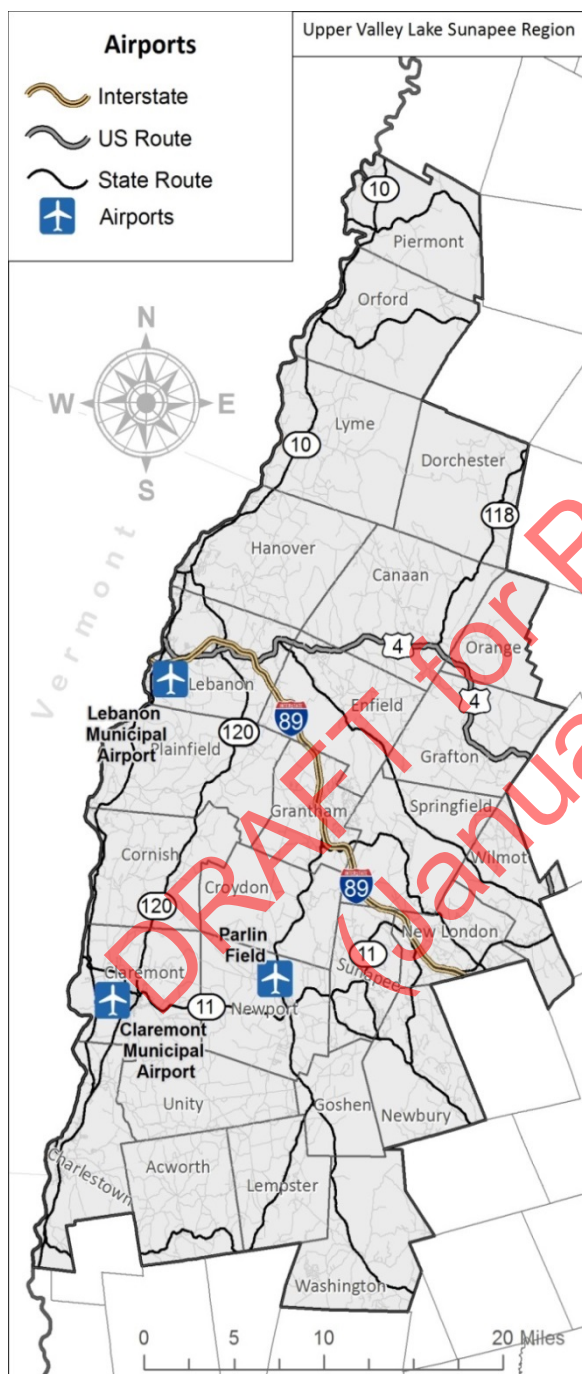
DRAFT for Public Review
(January 12, 2015)

3.7 AIR TRANSPORTATION IN THE REGION

Vision

The region will have strong, viable passenger air connections to major airports in the eastern United States and Canada, and convenient access to general aviation opportunities.

Existing Conditions



Air Transportation in the Region

The Lebanon Municipal Airport is the region's only commercial airport. Along with its commercial air service partner Cape Air, the Lebanon Municipal Airport is part of the Federal Aviation Administration's Essential Air Service (EAS) Program. The EAS Program subsidizes commuter airlines in approximately 163 rural communities around the country to ensure that rural areas maintain a connection with the national air transportation system.

Cape Air provides approximately four flights per day from Lebanon to Boston, and three flights per day to the Westchester County (NY) airport. From the Westchester County airport, Cape Air provides ground transportation to midtown Manhattan. Cape Air flies Cessna 402, nine-seat aircrafts to both destinations.

According to NHDOT, passenger air traffic has declined in New Hampshire since 2005 due to "system wide capacity reductions." Total ridership at the Manchester-Boston Regional Airport (the State's largest commercial airport) declined from more than 4,000,000 in 2005 to under 3,000,000 in 2012. The state's third commercial airport, the Portsmouth International Airport at Pease, lost its only airline (Skybus) in 2008, and has not yet secured a new airline to serve the airport.

However, since the low point of the Great Recession in 2009, total passenger air ridership at the Lebanon Municipal Airport has increased steadily. In 2012, total enplanements and deplanements at the Lebanon Municipal Airport were 19,990. The region is well-served for non-commercial aviation needs, as all three of the region's airports (Lebanon Municipal Airport, Claremont Municipal Airport, and Parlin Field in Newport) provide general aviation services.



The Lebanon Municipal Airport's two runways (Runway 07/25 and Runway 18/36), as seen from above.

Figure 3.7.1- Airport Runway Condition

| Airport | Runway | Surface | Area | Rating |
|-----------|--------|---------|------------|----------|
| Lebanon | 07/25 | Asphalt | 5496 x 100 | Good (4) |
| Lebanon | 18/36 | Asphalt | 5200 x 100 | Good (4) |
| Claremont | 11/29 | Asphalt | 3098 x 100 | Good (4) |
| Newport | 12/30 | Turf | 2140 x 80 | Good (4) |
| Newport | 18/36 | Asphalt | 3448 x 50 | Exc. (5) |

Performance Measures

Air transportation performance in the UVLSRPC Region shall be measured by the number of annual enplanements and deplanements at the Lebanon Municipal Airport, and the condition of runways at the region's three airports.

These are also the performance measure used in the New Hampshire Department of Transportation's Balanced Scorecard, which will allow for comparison of the state's performance with the Region's performance.

Runway Condition in the Region

The New Hampshire Department of Transportation and Federal Aviation Administration evaluate the runway surface condition at all public-use airports in the state in accordance with Federal Aviation Administration (FAA) rating standards ranging from "Excellent (5)" to "Failed (1)."

To compute the overall average condition for the region, each runway is weighted using the runway's condition rating and total square footage.

There are three airports in the UVLSRPC Region, with a total of five runways:

- Lebanon Municipal Airport (Lebanon)- Commercial and General Aviation.
- Claremont Municipal Airport (Claremont)- General Aviation.
- Parlin Field (Newport)- General Aviation.

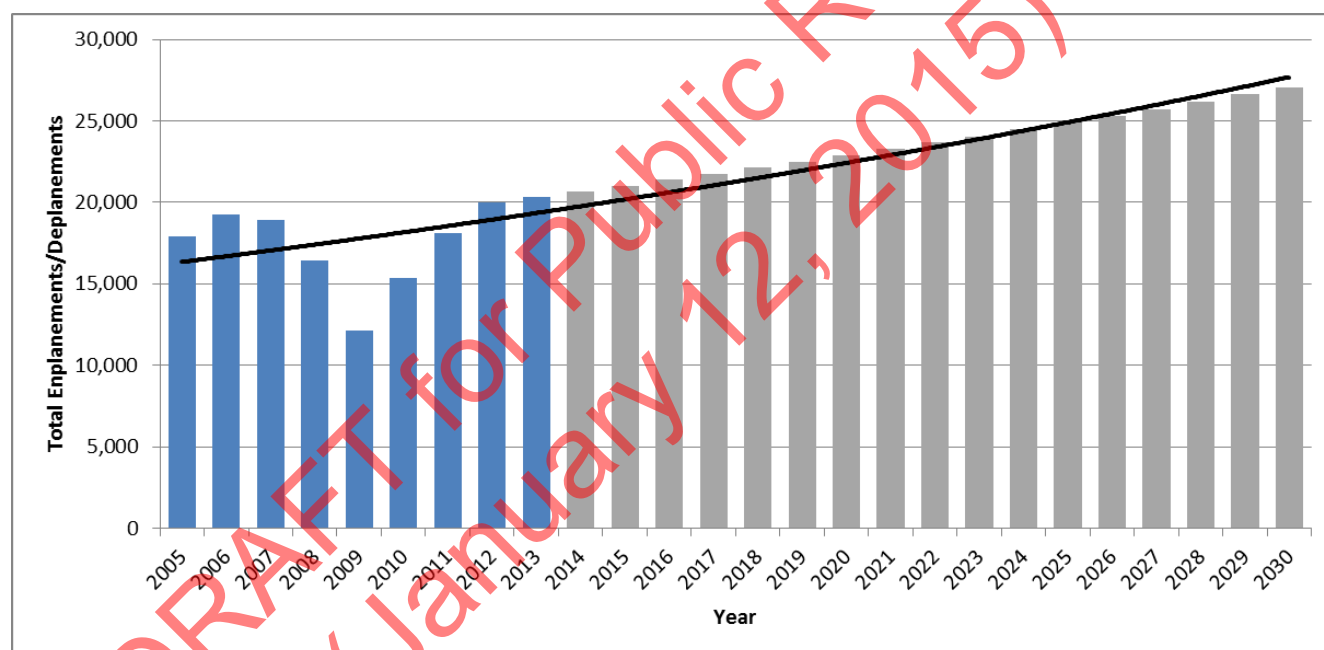
The current runway condition in the UVLSRPC region is summarized in Figure 3.7.1.

Performance Targets

- Increase the number of total annual enplanements and deplanements at the Lebanon Municipal Airport by 1.7% per year, surpassing 27,000 by 2030.
- Increase the average FAA airport runway condition rating in the region to Good (4.25) by 2030.

| <i>Performance Measure</i> | UVLSRPC Region (2012) | UVLSRPC Region (2030 Target) | Statewide (2012) | Statewide (2030 Target) |
|----------------------------|--------------------------------------|---|-----------------------------|------------------------------------|
| Passenger Air Ridership | 19,990 | 27,076 | 2,607,103 | N/A |
| Airport Runway Condition | Good (4.10) | Good (4.25) | Good (4.11) | N/A |

Figure 3.7.2- Performance Target for Passenger Air Ridership in the UVLSRPC Region



Improvement Needs

| Needs |
|--|
| • Complete runway, taxiway, and apron improvements at the Lebanon Municipal Airport. |
| • Remove obstructions at the Lebanon Municipal Airport. |
| • Complete runway and apron improvements at the Claremont Municipal Airport. |
| • Rehabilitate hangars at the Claremont Municipal Airport |
| • Remove obstructions at the Claremont Municipal Airport. |
| • Develop an updated Master Plan for the Claremont Municipal Airport. |
| • Acquire and install a Visual Guide Slope Indicator (VGSI) at Parlin Field. |

| |
|--|
| <ul style="list-style-type: none"> • Construct an equipment storage building at Parlin Field. |
| <ul style="list-style-type: none"> • Design and construct a parallel taxiway at Parlin Field. |
| <ul style="list-style-type: none"> • Design and construct infield drainage improvements at Parlin Field. |
| <ul style="list-style-type: none"> • Acquire and install an Automated Weather Observation System at Parlin Field. |

Implementation Strategies

The region is reliant on Federal Aviation Administration (FAA) Essential Air Service subsidies to maintain passenger air service connections to Boston and Montreal. Beyond the capital improvement needs identified above, local and regional marketing efforts to increase passenger air enplanements/deplanements at the Lebanon Municipal Airport will be critical to maintain Essential Air Service status.

| Strategies |
|--|
| <ul style="list-style-type: none"> • Support the "Fly Lebanon" marketing partnership between the City of Lebanon and the Greater Lebanon Area Chamber of Commerce. |
| <ul style="list-style-type: none"> • Support the development of a marketing program for general aviation services at the Claremont Municipal Airport. |
| <ul style="list-style-type: none"> • Engage in the Master Planning efforts for the Lebanon Municipal Airport, Claremont Municipal Airport, and Parlin Field. |
| <ul style="list-style-type: none"> • Support the continuation of FAA Essential Air Service funding for passenger service linking Lebanon to Boston and New York City. |

3.8 TRANSPORTATION DEMAND MANAGEMENT IN THE REGION

Vision

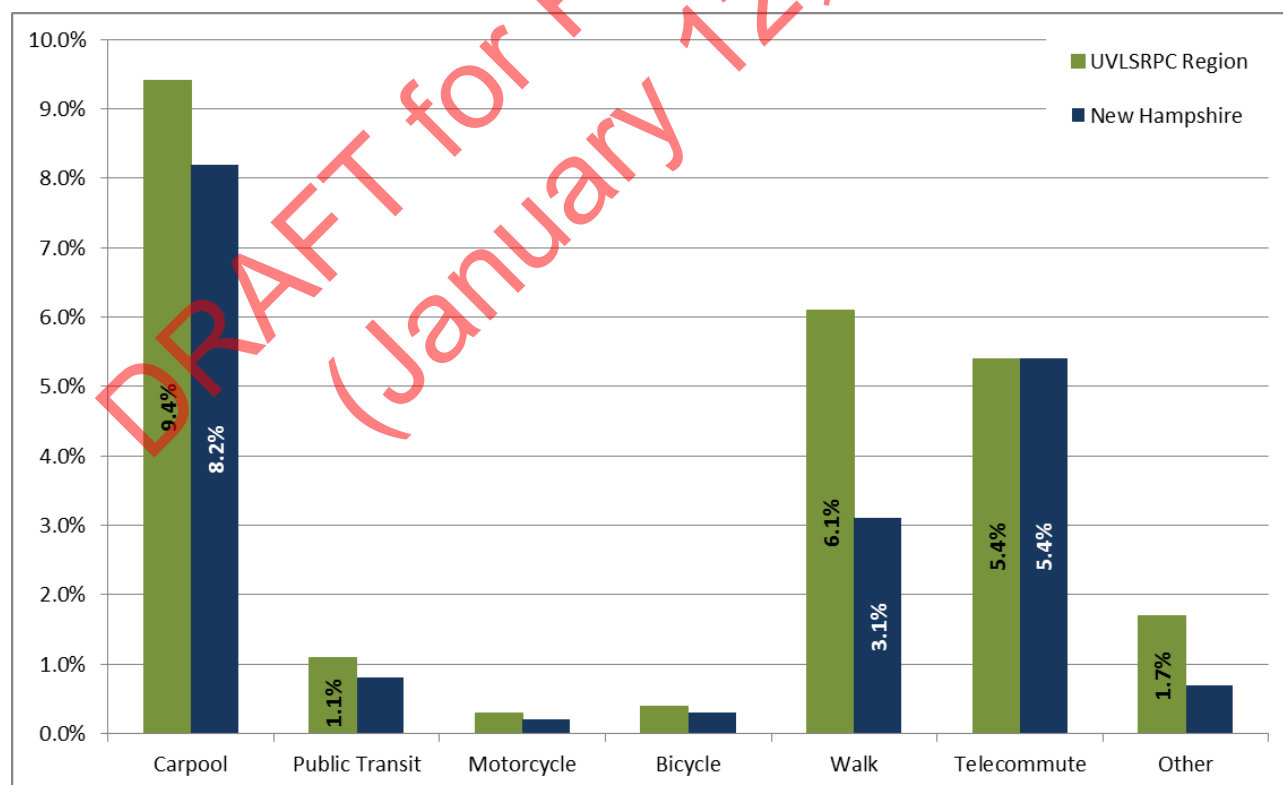
All residents, businesses, and visitors in the UVLSRPC Region can access viable, efficient, and affordable alternatives to single occupant vehicle travel.

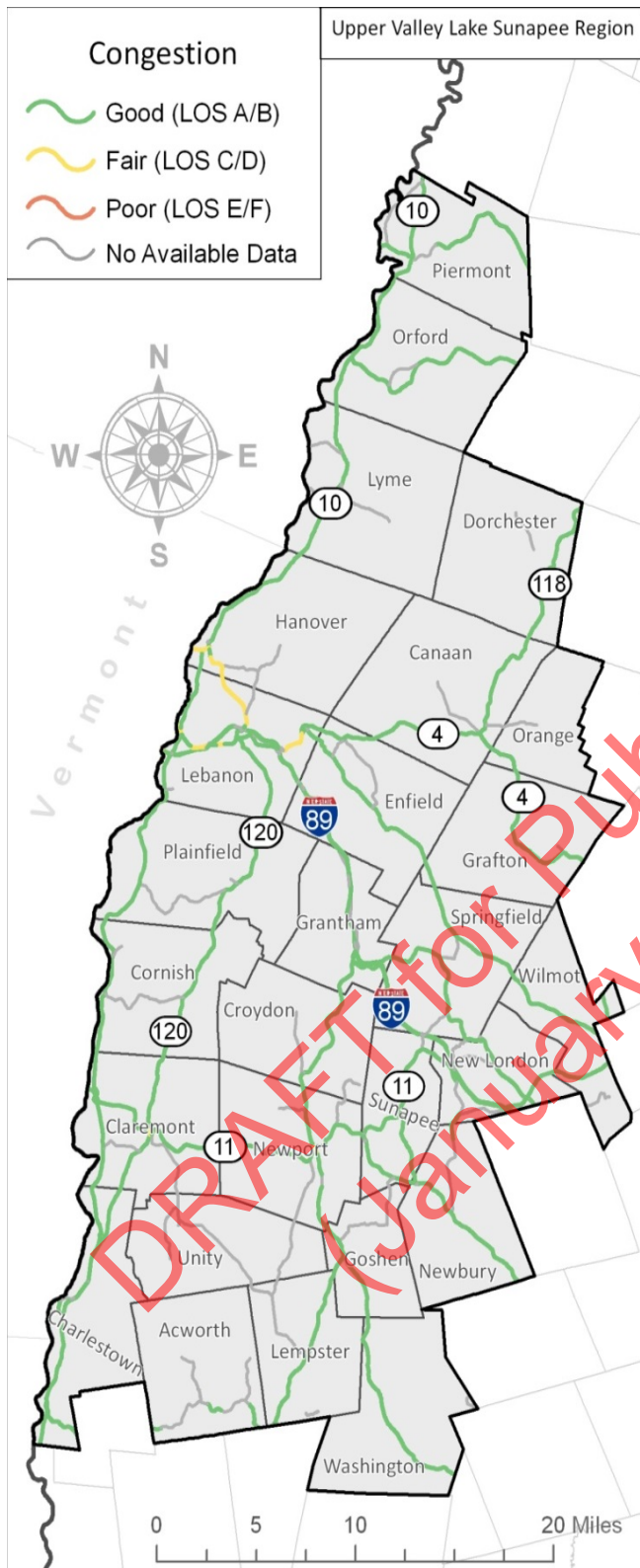
Existing Conditions

Travel demand management initiatives in the UVLSRPC Region have been historically focused on reducing single occupant vehicle traffic by increasing the mode share of carpooling, using public transportation, walking, bicycling, and telecommuting.

The UVLSRPC wrote the 1977 Transit Development Plan that led to the formation of Advance Transit in 1981, created the Upper Valley Rideshare Program in the 1990s, and has participated on the Upper Valley Transportation Management Association since its inception more than ten years ago. As Figure 3.9 shows, these efforts have paid dividends. The region's single occupant commuting rate is currently 75.7% compared to the statewide rate of 81.3%, and the region's mode share for carpooling, public transportation, walking, and bicycling are all significantly higher than the state average.

Figure 3.8.1- Travel Mode Share in the UVLSRPC Region (2012)





Congestion in the UVLSRPC Region

To analyze congestion on the region's road network, the Commission evaluated Volume/Capacity ratio data (Operational Level of Service) for all state and urban compact roads in the region.

Volume/Capacity ratios are typically represented by a measure called Operational Level of Service (LOS). Operational LOS is represented as a "grade" of A to F using the following criteria:

| LOS | V/C Ratio | Description |
|-----|-----------|---------------------|
| A | 0.00-0.30 | No Congestion |
| B | 0.31-0.50 | No Congestion |
| C | 0.51-0.70 | Moderate Congestion |
| D | 0.71-0.90 | Moderate Congestion |
| E | 0.91-1.00 | Congestion |
| F | >1.00 | Congestion |

Overall, the region has few areas of congestion. However, as the data shows, the following roads do experience significant peak hour delays:

- Interstate 89 Exit 18 and the NH Route 120 Corridor between Lebanon and Hanover;
- Main Street in Hanover;
- NH Route 10A (West Wheelock Street) between Main Street in Hanover and the Vermont State Line.

Also, notably, since the completion of construction on the NH Route 12A/I-89 Exit 20 capacity improvements in West Lebanon, Operational Level of Service on the NH Route 12A Corridor has improved substantially and the data no longer indicates a significant congestion concern.

Performance Measures

Transportation demand management performance in the UVLSRPC region shall be measured by: 1) Mode share for single-occupant commuting, carpooling, public transportation utilization, motorcycling, biking, walking, and telecommuting; and 2) Operational Level of Service on key regional corridors.

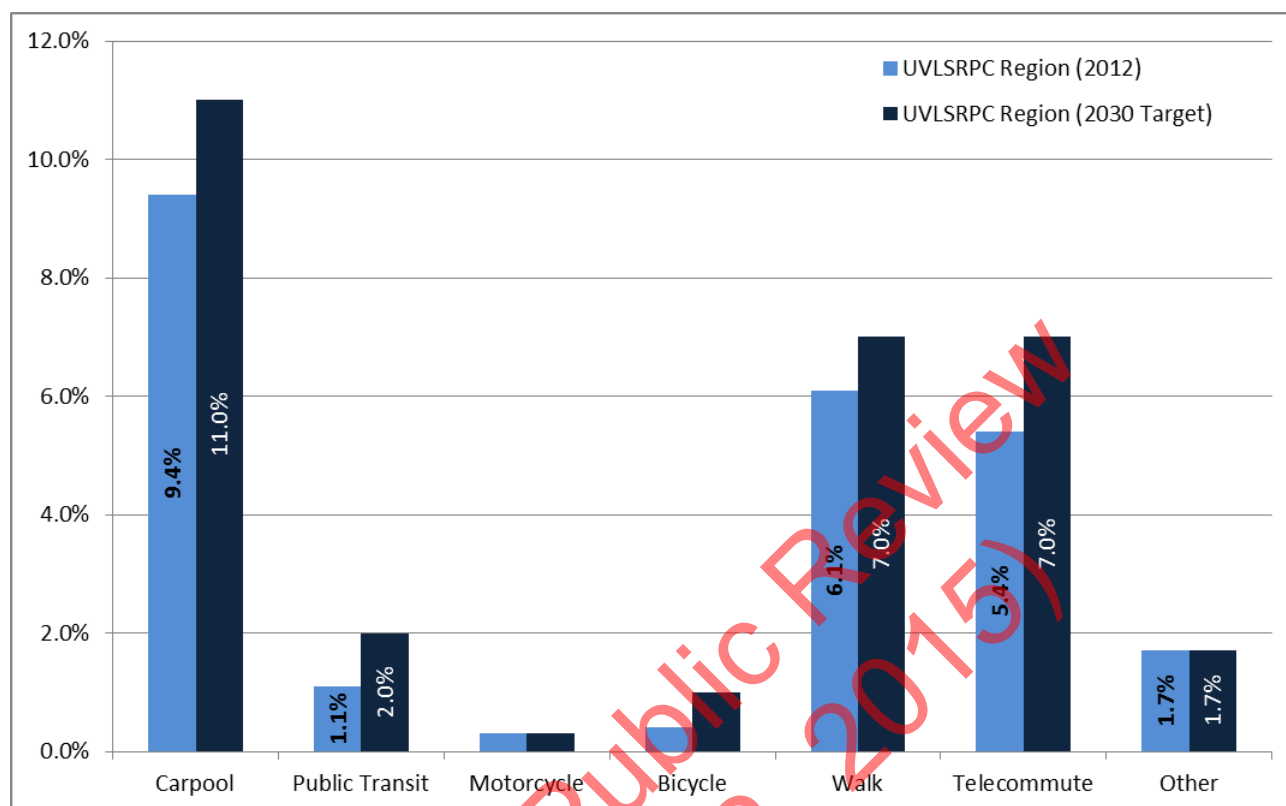
Mode share is not a performance measure in the NHDOT Balanced Scorecard. However, statewide mode share data is available for comparative purposes. Operational Level of Service on key corridors is a measure included in the NHDOT Balanced Scorecard. Whereas the statewide measure is based on five key corridors (I-93, FE Everett Turnpike, NH 101, I-95, and the Spaulding Turnpike), the regional Operational Level of Service reported below focuses on the four most heavily traveled commuter corridors in the region: Interstate 89, U.S. Route 4, NH Route 120, and NH Route 11.

Performance Targets

- Reduce the regional single-occupant commuting rate to 70% by 2030 by increasing the mode share for carpooling (11%), public transportation (2%), bicycling (1%), walking (7%), and telecommuting (7%).
- Maintain Operational Level of Service on key regional corridors at current volume/capacity levels through 2030.

| Performance Measure | UVLSRPC Region (2012) | UVLSRPC Region (2030 Target) | Statewide (2012) | Statewide (2030 Target) |
|--|--------------------------------|--------------------------------|--------------------------------|-------------------------|
| Commute to Work (Driving Alone) | 75.7% | 70% | 81.3% | N/A |
| Commute to Work (Carpool) | 9.4% | 11% | 8.2% | N/A |
| Commute to Work (Public Transportation) | 1.1% | 2.0% | 0.8% | N/A |
| Commute to Work (Motorcycle) | 0.3% | 0.3% | 0.2% | N/A |
| Commute to Work (Bicycle) | 0.4% | 1.0% | 0.3% | N/A |
| Commute to Work (Walking) | 6.1% | 7% | 3.1% | N/A |
| Commute to Work (Telecommute) | 5.4% | 7% | 5.4% | N/A |
| Commute to Work (Other) | 1.7% | 1.7% | 0.7% | N/A |
| Congestion/Operational Level of Service on Key Corridors | A (0.26 Volume/Capacity Ratio) | A (0.26 Volume/Capacity Ratio) | C (0.68 Volume/Capacity Ratio) | N/A |

Figure 3.8.2- Performance Targets for Travel Mode Share in the UVLSRPC Region



Improvement Needs

| Needs | |
|-------|---|
| • | Implement the statewide Commute Green New Hampshire framework for transportation demand management. |
| • | Continue the Upper Valley Rideshare Program and development of an online regional ridesharing portal that connects with municipal and institutional programs. |
| • | Implement a transit signal priority system across Advance Transit's service area. |
| • | Expand of broadband infrastructure across the region to support telecommuting as outlined in the UVLSRPC Regional Broadband Plan. |
| • | Ensure that other sections of this plan are implemented including, but not limited to: 1) Development of new park-and-ride facilities; 2) Bicycle/pedestrian infrastructure improvements. |

Implementation Strategies

Many organizations have taken initiative in developing services and programs that promote transportation demand management, including the UVLSRPC, Advance Transit, Upper Valley Transportation Management Association, and several employers. These programs seek to reduce single-occupant vehicle travel in four different ways:

- Improving Alternative Transportation Modes;
- Providing Incentives and Disincentives to Encourage Alternative Transportation Use;
- Promoting Alternative Work Arrangements;
- Promoting Land Use and Development Strategies that Complement Transportation Demand Management.

| Strategies |
|---|
| <ul style="list-style-type: none">• Continue UVLSRPC participation in the Upper Valley Transportation Management Association. |
| <ul style="list-style-type: none">• Support the development of employer-based (e.g. financial incentives and preferred parking spaces), retail-based (e.g. discounts at local stores/restaurants), and community-based (e.g. free parking for carpoolers) incentives to carpooling. |
| <ul style="list-style-type: none">• Support the development of a marketing/outreach program targeted to small and medium-sized employers relaying the employer-related benefits of carpooling. |
| <ul style="list-style-type: none">• Support the development of a marketing/outreach program targeted toward commuters in the Upper Valley Lake Sunapee region relaying the commuter-related benefits of carpooling. |
| <ul style="list-style-type: none">• Encourage the development of local land use ordinances that facilitate compact, mixed-use, pedestrian-oriented, and handicap-accessible communities. |

3.9 HUMAN SERVICE & VOLUNTEER TRANSPORTATION IN THE REGION

Vision

All residents with special needs and mobility challenges will have access to safe, reliable, and affordable transportation options that allow them to remain independent, active, and involved in the life of our communities.

Existing Conditions

Advance Transit – ACCESS AT

Advance Transit is a fare-free transportation system serving the City of Lebanon and the Towns of Hanover, Enfield, and Canaan, NH and Hartford and Norwich, VT. It provides free complementary paratransit service as required by the Americans with Disabilities Act (ADA) through a program called ACCESS AT. ACCESS AT offers curb-to-curb service to persons with disabilities that prevent them from using Advance Transit's fixed-route service. Eligibility is determined by the criteria in the Americans with Disabilities Act. To be eligible for the service, an application, in-person interview, and possibly, a functional assessment must be completed. The ACCESS AT service is provided to any area within $\frac{3}{4}$ mile of any of Advance Transit's fixed-route service network, except a commuter segment of the Blue Route. Recently, the downtown Hanover shuttle has been expanded to provide route deviation service to any person within $\frac{1}{2}$ mile of the route. In 2012, ACCESS AT provided 10,192 ADA paratransit rides throughout its system.

Grafton County Senior Citizens Council

The Grafton County Senior Citizens Council (GCSCC) is an organization that works throughout Grafton County to ensure that senior citizens "receive services that help them remain independent in their own homes for as long as possible." The GCSCC manages eight program centers throughout the county, and four program centers in Southern Grafton County: Upper Valley (Lebanon), Mascoma (Canaan), Orford, and Bristol. In addition, some Southern Grafton County residents may receive services from GCSCC's Haverhill or Plymouth program centers.

The Grafton County Senior Citizens Council provides door-to-door transportation to medical appointments, shopping

centers, senior centers, and other human services. In 2012, the GCSCC provided 43,693 rides to 1,087 passengers. Of those rides, 41,965 were on agency mini-buses and 1,728 in private vehicles, driven through a network of mostly volunteer drivers.



Grafton County Senior Citizens Council provides transportation to Senior Citizens in in Lebanon.

In many rural communities in southern Grafton County, the GCSCC is the only available transportation service. Thus, GCSCC services have become a vital link between rural communities in southern Grafton County and the service centers of Lebanon and Hanover. Because GCSCC is the only service provider for southern Grafton County's rural communities, they have experienced demand not only from senior citizens, but low-income households throughout Grafton County and northern Sullivan County as well. In response, GCSCC has adapted its service to provide trips to anyone in need to the extent that resources allow. The organization's ability to provide additional services is, however, constrained by available financial resources.

Community Alliance Transportation Services

Community Alliance of Human Services Transportation (CATS) based in Newport, NH operates bus services for communities in Sullivan County. Deviated route service is provided in Charlestown, Claremont, and Newport. Buses operate between 6:25 a.m. and 5:00 p.m., Monday through Friday (except holidays), and the three communities are linked through a system of transfer points along the routes.

All schedules allow for deviation up to $\frac{1}{4}$ of one mile. Patrons within the $\frac{1}{4}$ mile service area may call to schedule a pick up. Approximately one-half of CATS' ridership is estimated to be general public, the other half are social service agency clientele.

Kearsarge Valley Council on Aging

The Kearsarge Valley Council on Aging (COA Chapin Senior Center) serves the residents in Andover, Danbury, Grantham, Newbury, New London, Springfield, Sunapee, Sutton and Wilmot. In addition to over 27 seasonal programs and services, COA partners with area organizations for the use of some larger facilities to accommodate events and activities. The transportation program's volunteer driver corps drive an average of 60,000 miles annually to assist eligible seniors in the communities it serves.

Human Service Transportation

Beyond the services described above, there are few transportation options available to residents of the region. This is common for a rural area. Many social service agencies do not provide transportation. Their focus is on a range of other primary services. Human service providers cite transportation as one of the most prominent limitations among clients. The reasons vary but include: financial (i.e. cannot afford to purchase or maintain a private vehicle) and disability (i.e. not able to operate a private vehicle due to one or more physical limitations or age related disability).

When transportation services are available through specific programs, the resulting system is complex. Different providers are frequently needed to address specific needs. For example, the Veterans Administration could provide a veteran with transportation to one of the Administration's hospitals for medical needs; however, the same person would need to seek other means of transportation for shopping and recreational trips.

The ServiceLink (Aging and Disability Resource Center – ADRS) has provided people with a means of navigating through this complex network of human service transportation providers by directing people to the existing human service or transportation resources that best meets their individual needs. There is a ServiceLink Resource Center in southern Grafton County at the Center for Elder Services in Lebanon, NH.

Volunteer Driver Services

A door-to-door volunteer driver service was established in July 2010 to serve individuals of all ages throughout Sullivan County. It has also expanded services to seniors over age 60 and individuals of all ages with a disability. The program is administered by Community Alliance Transportation Services.

Paratransit bus services are available to those who cannot be accommodated in private autos. Services provided to seniors and individuals with a disability are funded through a Purchase of Service Agreement under the Federal Transit Administration (FTA) Section 5310 program. During FY 2012, CATS volunteer drivers provided more than 2,300 one-way trips. The most popular destination was Dartmouth-Hitchcock Medical Center and Fresenius Medical Care, a dialysis center in Lebanon, NH.

As successful as the region's volunteer programs have been to date, it is important to note that although volunteers are an important part of the overall transportation system, they cannot be relied upon to alleviate all heavy or complex travel demands in the region. The current volunteer driver pool is comprised of many individuals who are at or beyond retirement age. The region's pool of volunteer drivers is aging and may become unable to continue their community service.

Performance Measures

Human service and volunteer transportation performance in the UVLSRPC region shall be measured in three ways: 1) ADA Transit Ridership; 2) Elderly/Disabled Transportation Ridership; and 3) Volunteer Program Ridership.

Currently, none of these measures are included in the NHDOT Balanced Scorecard. However, statewide data is available for comparative purposes.

| Performance Measure | UVLSRPC Region (2012) | UVLSRPC Region (2030 Target) | Statewide (2012) | Statewide (2030 Target) |
|---|------------------------------|-------------------------------------|-------------------------|--------------------------------|
| ADA Transit Ridership | 10,192 | 13,250 | N/A | N/A |
| Elderly/Disabled Transportation Ridership | 47,548 | 61,800 | N/A | N/A |
| Volunteer Driver Program Ridership | 5,255 | 6,800 | 38,052 | N/A |

Improvement Needs

| Needs |
|---|
| <ul style="list-style-type: none">• Maintain existing elderly and disabled transportation services at the Mascoma Senior Center in Canaan and the Upper Valley Senior Center in Lebanon, and procure replacement buses as necessary. |
| <ul style="list-style-type: none">• Enhance the capacity of Transport Central, an emerging transportation program based in Plymouth, New Hampshire, to increase volunteer driver services in the Town of Dorchester. |
| <ul style="list-style-type: none">• Implement a deviated route transit service ("Flex Route") linking Alice Peck Day Hospital, downtown Lebanon, and Centerra Park. |
| <ul style="list-style-type: none">• Install Global Positioning Systems (GPS) and/or Automatic Vehicle Locating (AVL) systems to assist providers in optimizing route timing and scheduling. |
| <ul style="list-style-type: none">• Update the Community Alliance Transportation Services Five-year Transit Development Plan. |
| <ul style="list-style-type: none">• Acquire a supplementary paratransit bus to provide non-emergency medical transportation shuttle services between Sullivan County communities and Valley Regional Hospital, New London Hospital, and Dartmouth Hitchcock Medical Center. |

Implementation Strategies

The Southern Grafton County and Sullivan County Public Transit and Human Service Transportation Coordination Plans describe, in detail, the region's identified implementation strategies. Those plans can be found on the UVLSRPC website at www.uvlsrpc.org.

| Strategies |
|---|
| <ul style="list-style-type: none">• Continue to support the Grafton/Coos County Regional Coordinating Council and the Sullivan County Regional Coordinating Council to cooperatively develop local service designs, implement coordination policies, and provide feedback to the Statewide Coordinating Council relative to state and federal policies. |
| <ul style="list-style-type: none">• Work with the New Hampshire State Coordinating Council for Community Transportation to improve insurance options for volunteer drivers. |
| <ul style="list-style-type: none">• Develop a coordinated regional marketing campaign to raise public awareness of human service and volunteer transportation options, and reduce confusion amongst the public about existing services. |
| <ul style="list-style-type: none">• Explore opportunities to increase shared dispatch capacity between Advance Transit and GCSCC, including a web based trip reservations system at multiple locations. |
| <ul style="list-style-type: none">• Explore joint vehicle procurement and delivery between Advance Transit and GCSCC. |
| <ul style="list-style-type: none">• Explore joint maintenance agreements between Advance Transit and other service providers in Southern Grafton County. Advance Transit has maintenance tools, equipment, personnel, and expertise in-house. Smaller providers may be able to maximize existing resources by using Advance Transit's maintenance facility and personnel on an at cost basis. |
| <ul style="list-style-type: none">• Conduct a regional Health Impact Analysis to determine the health-related impacts of expanding public transportation in the UVLSRPC region. |
| <ul style="list-style-type: none">• Coordinate with municipalities to ensure that the spectrum of long-term-care support services, including accessible transportation that will help the population age-in-place is considered in local Master Plans. |