Community Transportation Needs Assessment Report: Upper Valley, VT and NH

Community-Driven Transportation Plans for the Northeast

Executive Summary

The broad analysis of community feedback we received during our audit can be summarized as 1) a desire for increased mobility options and 2) a demand for more resilient and affordable transportation infrastructure. To the first point, many community members are currently leveraging a variety of ways of getting around from regular transit usage to informal car sharing networks to extensive bike and pedestrian commutes. Community testimony makes it clear that no singular investment or strategy will fully address the transportation needs of Upper Valley communities, which navigate divergent rural and urban contexts.

To the second point, extreme weather events, disinvestment in public infrastructure, stagnant demographic growth, and inflationary pressures from external processes (such as healthcare and construction) are straining municipal services and public works budgets, contributing to a deterioration of physical infrastructure.

This analysis is germane to the electrification of the transportation sector because it can help identify high priority action items and inform plans for successfully implementing projects that both meet the transportation needs of the community and account for the embedded challenges of transportation and infrastructure service delivery.

This report identifies high priority action items for two key community areas of the Upper Valley of Vermont and New Hampshire: the "core" towns of Lebanon and Hanover in New Hampshire and Hartford and Norwich in Vermont, and the communities in Sullivan County in New Hampshire and their adjacent counterparts in Vermont, namely Windsor. The corridor connecting these two population areas also includes several rural towns that must be considered when identifying high-priority action items for alternative fuel vehicle (AFV) adoption and the broader use of electrification as a transportation fuel source.

High Priority Action Items Identified

Through our team's engagement and analysis of the Upper Valley's existing context we have identified three high priority action items in the three geographic focus areas of our work.

<u>Sullivan County High Priority Action Items</u>

1. AFV charging infrastructure investment
2. AFV car sharing services incorporated into existing mobility management structure

3. Grid expansion/investment to reduce energy burden

Upper Valley Core Towns High Priority Action Items

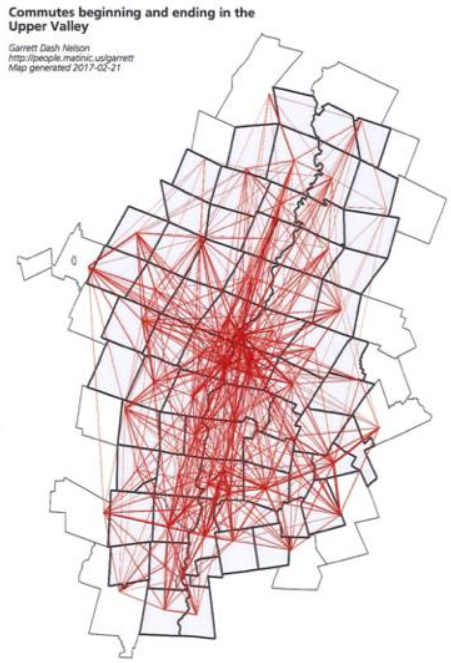
1. Continue to support conversion to alternative fuel buses as part of transit operations
2. Integrate electric micromobility (e.g., e-bikes) into transportation system as on ramp to further personal AFV adoption
3. Support workforce development opportunities for AFV maintenance technicians

Rural Corridor Towns (Routes 120 and 4/4A) High Priority Action Items

1. Work with energy committees to incorporate "clean transportation" plans and strategies to anticipate AFV adoption along commuter routes
2. Utilize "shared services" strategies when electrifying municipal fleets (e.g., public safety and public works vehicle) to augment costs and ease municipal tax burden
3. Provide technical support to businesses interested in adding AFV charging infrastructure and/or site additional infrastructure on existing park-and-ride lots

Project Background

The Upper Valley is a geographic, cultural, and social region consisting of a loose collection of self-identified towns along the Connecticut River in Vermont and New Hampshire. Below is a map of the "Commuter Shed" of the Upper Valley conducted by Dartmouth University researchers in 2019. It represents trips collected by residents that self-identified their commutes and shows a network transportation system with several nodes – the largest of which centers around the "core" towns of Lebanon and Hanover in New Hampshire and Hartford and Norwich in Vermont.



The Upper Valley is not a political entity in and of itself but instead includes a collection of overlapping jurisdictions including dozens of municipalities, four counties, three regional planning commissions and two states. As a result, regional coordination and interjurisdictional support and cooperation are critical to the success of the overall region. At a demographic and population level, there is a designated census area - the Lebanon-Claremont, NH-VT Micro Area- with a 2020 population estimate of 221,190, the second largest such micropolitan region in the country.

Summary of Engagement

For this transportation needs assessment, the project team administered a survey across the Upper Valley and conducted several listening sessions in our target communities as well as online. Here is a summary of that data:

- 107 total listening session participants across 7 events
- 43 survey responses
- 7 presentations to key informant community groups to gather and disseminate information including to:
    - Sustainable Hanover
    - Lebanon Energy Advisory Committee
    - Districts #1 and #4 of the NH Statewide Mobility Management Regional Coordinating Council
    - Upper Valley e-bike Lending Library
    - UVLSRPC Transportation Advisory Council
    - Upper Valley Transportation Management Association

The following summarizes the structure of engagement activities, the process by which information was collected, and presents emerging trends that will be explored in more detail later in the report:

1. Listening Sessions

   Listening sessions were structured around identifying participants "transportation stories," including questions on how they get around, what transportation options they use, where they travel, and how they feel about their trips. We would then discuss barriers they faced and consider potential solutions. Finally, participants shared their perspectives on "clean transportation" and electrification as a fuel source for personal vehicles, transit, and other mobility options. location/event space, findings from the discussions.
2. Surveys

   Surveys were administered both online and in person and included similar questions to those covered in the listening sessions. However, they also provided structured response options, such as mode of travel (car, transit, bike, etc.) and purpose of travel (work, school, healthcare, etc.) Key trends from the surveys include:
   - Most respondents use a variety of transportation options.
   - Respondents are making multiple trips a week (8 on average).
   - Many respondents experience significant transportation costs in both time and money.
   - The average trip duration is over 30 minutes.
   - More than half the respondents reported that transportation is a significant financial burden for their family.
3. Community Forums

   Throughout the assessment process, the project team engaged key community informants by presenting information and gathering feedback. Initial topics and questions were presented during the development of the surveys and listening session guides, and community groups informed the themes and structure of how the information was collected. These key informant community groups, as identified above, will be important partners in subsequent phases of this project, and we will continue to disseminate information from this assessment to these partners.

Main Barriers Identified

The following barriers were consistently referenced and are summarized as they relate to key challenges in adopting clean transportation solutions and implementing high-priority projects.

Financial and Knowledge Barriers to AFV Adoption

The cost of purchasing and maintaining an AFV was a major concern for many respondents. High upfront costs, home charging installation expenses, and potential increases in monthly electric bills were frequently cited as deterrents. Additionally, many participants lacked information about available incentives and the long-term cost savings of AFVs, contributing to hesitation.

Beyond financial concerns, respondents also expressed uncertainty about AFV maintenance and reliability. Many were unfamiliar with battery lifespan, charging logistics, and the availability of mechanics trained to service AFVs, making them less inclined to consider adoption.

Reliance on Personal Vehicles and Limited Mobility Options

Due to the rural nature of the region, many respondents rely on personal vehicles for daily transportation. Those without access to a car often depend on rides from family and friends or resort to walking or biking long distances. One participant even reported having to call an ambulance for routine medical appointments.

At the same time, many respondents emphasized the lack of viable transportation alternatives, citing:

- Limited public transit options and infrequent service
- Inadequate pedestrian and bike infrastructure (missing sidewalks, bike lanes, and safe crosswalks)
- Difficulty accessing essential services such as grocery stores, hospitals, and pharmacies
- Rural isolation and lack of connectivity between communities

Charging Infrastructure and Accessibility Challenges

Even among those open to AFV adoption, charging access was a major barrier. Many respondents lacked home charging capabilities, particularly those living in multi-unit buildings or rental properties. Public charging stations were also seen as inaccessible or too sparsely distributed, making long-distance travel impractical.

Solutions Identified

The transition to clean transportation in the region requires a multi-faceted approach that addresses both AFV adoption challenges and broader mobility concerns. Key strategies include expanding AFV education, increasing financial assistance programs, enhancing public charging infrastructure, and improving alternative transportation options.

Proposed Solutions

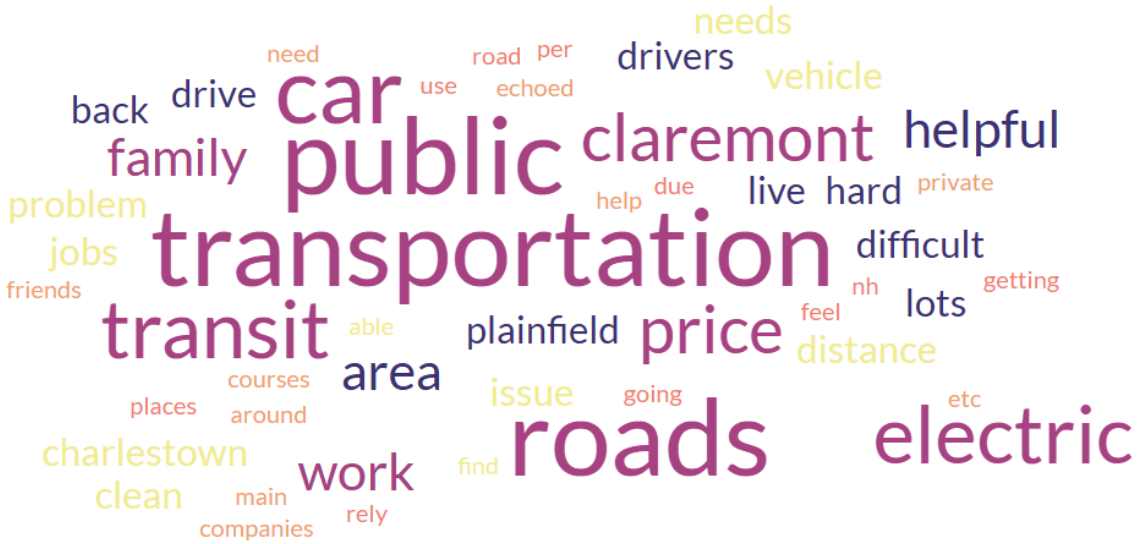
- **Expand AFV and transit education**: Offer bike to e-bike conversion workshops and public transit riding courses to increase awareness and accessibility.
- **Enhance public charging infrastructure**: Install more public AFV charging stations to reduce range anxiety and increase convenience.
- **Improve road safety**: Increased signage for pedestrians and invest in winter road management to ensure year-round accessibility.
- **Strengthen public transit:** Invest in infrastructure improvements, increase service frequency, and reduce costs to make public transit a more viable alternative.
- **Support shared mobility options:** Expand carpooling and rideshare services to improve transportation access.
- **Leverage existing community services:** Partner with volunteer driver programs and other local initiatives to help combat rural isolation.

Acknowledgment and Disclaimer

This material is based upon work supported by the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy (EERE) Vehicle Technologies Office (VTO) under the Award Number DE-EE0010617.

Appendix: Community Forum Feedback

Wordcloud based on notes from the Newport Listening Session that took place on 10-8-2024. Claremont is the city next to Newport and has more shopping options than Newport.



Wordcloud based on notes from the Charlestown Listening Session that took place on August 29th, 2024. Claremont is also next to Charlestown and contains many of the region's shopping centers.