## Mount Ascutney Regional Commission

# REGIONAL PLAN

## VOLUME 2: TRANSPORTATION

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This document and associated maps can also be found online at https://www.marcvt.org/2026-regional-plan.html.

# 1. Introduction

This Plan represents *Volume 2 of the Mount Ascutney Regional Plan* (also known as the Regional Transportation Plan, RTP) serves as the transportation element pursuant to 24 V.S.A., Chapter 117 §4348a(a)(4). It also represents a long-range transportation plan to guide transportation decision-making in support of the Region's Transportation Planning Initiative pursuant to 19 V.S.A., Chapter 1 §10l. It documents a vision for transportation and serves as the basis for determining future transportation investments that are important for the Region. The Plan outlines specific steps that can be taken to improve the regional transportation network and provide for future transportation needs. The Plan addresses all modes of travel to provide for an equitable, safe, convenient, economic and energy efficient transportation system that respects the integrity of the natural environment and promotes a mutually supportive, balanced and integrated multi-modal network [24 V.S.A. §4302(c)(4)].

The RTP is intended to be used for the following purposes:

1. To serve as the transportation element of the Regional Plan;
2. To provide information on existing transportation systems in the Region;
3. To express the Region's transportation planning concerns and priorities at the State and local levels;
4. To guide public investment in transportation infrastructure;
5. To be consistent with state planning goals (24 V.S.A., Chapter 117 §4302);
6. To implement the Transportation Planning Initiative and fulfill the duties of regional planning commissions in accordance with 19 V.S.A., Chapter 1 §10l(b); and,
7. To serve as a basis for evaluating transportation programs and projects that impact the Region.

This document is intended to guide the Mount Ascutney Regional Commission (MARC), formerly Southern Windsor County Regional Planning Commission, in evaluating public and private actions affecting the Region's transportation system and to serve as the foundation for the RPC's annual transportation work program. In 1992, the RPC entered a partnership with the Vermont Agency of Transportation (VTrans), entitled the Transportation Planning Initiative (TPI). TPI seeks to decentralize transportation planning and encourage participation at the local level in setting transportation investment priorities. This Plan was developed based on the TPI process, and to conform to the general intent of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) and subsequent reauthorizations, including Moving Ahead for Progress in the 21st Century (MAP-21) and Infrastructure Investment and Jobs Act (IIJA).

The RTP is generally updated at least every five years to reflect the changing conditions of the transportation system and the changing demands of the Region.

**Mount Ascutney Regional Commission Transportation Advisory Committee:** The RPC established the Mount Ascutney Regional Commission Transportation Advisory Committee (TAC) to advise the RPC on regional transportation issues. Representation on the TAC consists of one representative from each community, an ex-officio representative of the Agency of Transportation and provision for four "at-large" members. The primary mission of the TAC is to develop and update the RTP and guide investments in the transportation network, as approved by the RPC board.

**Plan Adoption Process:** The RTP was first developed and adopted by the RPC in 1995 and updated previously in 2005, 2009, 2014, (amended 2018), and 2022. It was updated again and adopted in 2026 by a vote of the RPC following public hearings and a recommendation by the TAC.

**Required Plan Elements:** This Plan was adopted as the transportation element of the Mount Ascutney Regional Plan pursuant to 24 V.S.A. §§4348 and 4348(a), including the following elements:

1. Inventory of existing, multi-modal transportation facilities are shown or summarized on the maps, tables and figures, and are described in the text found throughout the text of this document, including Appendices and supporting plans that are adopted by reference.
2. Prospective transportation facilities:
    a. A primary goal of this Plan is to prioritize maintenance of the existing transportation system over the construction of new network capacity, since the Region is not experiencing significant growth. An exception is to be made for new or improved bicycle and pedestrian and transit facilities in areas identified through regional and local planning efforts. New roads or new roadway capacity is generally not needed – except where strategically needed to address economic development goals or reduce congestion at key locations discussed in this Plan, *VT Route 103 Corridor Management Plan* and ski corridor planning efforts.
3. Recommendations to meet future needs are primarily addressed in two categories in this Plan:
    a. VTrans and the TAC collaborate to propose and score potential future projects annually through the VTrans Project Selection and Project Prioritization Process (VPSP2). The scores are approved by the RPC Board and the projects prioritized by VTrans. The most recent board-approved list is available on our website,[1] and is updated annually. The costs and methods of financing are addressed under VTrans most recent annual Transportation Program.
    b. Additional recommended needs are also identified in this Plan, but they are at such a stage in the project development process that they warrant further analysis at this time.

**Public Participation Process:** The RPC sought public participation in the 2026 update of the Regional Plan. As a mid-cycle update, the 2026 update is informed in part by outreach conducted for the 2022 Plan. In addition, the following groups and individuals participated in development or review of sections or all of the 2026 update to the Regional Transportation Plan:

- Mount Ascutney Regional Commission Transportation Advisory Committee (TAC)
- Springfield Airport Commission
- Southeast Vermont Transit
- Vermont Agency of Transportation – Main Office and District Maintenance Offices

Outreach methods included:

- Being on the agenda for discussion at scheduled meetings of groups
- Soliciting input from individuals and groups in person, by phone or by email (e.g. Transit Provider)
- Draft documents posted for public review on MARC website (www.marcvt.org)

[1] https://marcvt.org/priority-transportation-projects/

- Public Hearings

# Chapter 1. GOALS AND POLICIES

The following are the major goals and policies related to transportation for the Mount Ascutney Regional Commission. All terms are explained more fully within the remaining text of the Regional Transportation Plan.

**GOALS:** Broad statements of what the Region ultimately wants to achieve.

**POLICIES:** Agreed-upon courses of action to achieve the goals. Policies contain the standards that guide the organization's development review and project development procedures.

**RECOMMENDATIONS/NEEDS:** Specific projects or work program activities that are identified to implement the stated goals and policies.

## *A. Goals*

The Mount Ascutney regional transportation system will:

1. Prioritize maintenance of the existing roadway network over the construction of new roadway network capacity.
2. Support a diverse economy and high quality of life for all residents.
3. Provide for the safe, secure, convenient, economic, and energy efficient movement of people, goods and services.
4. Meet the mobility needs of all residents.
5. Offer diverse travel choices throughout the Region with an integrated multi-modal transportation system that encourages travel by modes other than single-occupant vehicles.
6. Strive to provide transportation infrastructures that are resilient in the face of a changing climate, and that efficiently and safely handle traffic during natural hazard events and other emergency situations.
7. Respect the integrity of the natural environment, as well as historic, scenic and cultural resources.
8. Provide infrastructure to support traditional settlement patterns of compact villages and downtowns separated by rural countryside.
9. Implement a transportation planning process that is responsive to local, regional and state needs, and engages the public in the decision-making process, especially those historically underserved or negatively impacted by transportation planning and investment.

10. Promote a funding strategy that seeks to maximize the use of all available resources to ensure adequate funding to address the Region's and towns' priority needs of the existing and future transportation system.

11. Promote sound land use planning that minimizes the need to expand the existing highway infrastructure, maximizes transportation system efficiency and safety, and promotes multi-modal and energy efficient travel.

12. Strive to achieve a transportation system free from fatalities and serious injuries.

## *B. Policies*

1. New state highway capacity shall not be constructed except as needed to improve safety, address capacity problems identified in this Plan or as warranted, or to facilitate local or regional economic development strategies.

2. Existing rights-of-way, including but not limited to class 4 roads and legal trails, should be kept for future use.

3. An asset management approach is encouraged to determine transportation funding priorities in preference to a "worst first" approach.

4. Safety for all modes shall be a priority criterion for the regional and state project development and prioritization processes.

5. Furthering equity in the transportation system and transportation services shall be a priority criterion for the regional and state project development and prioritization process.

6. The transportation system shall support local and regional economic development plans and strategies, as described in the most current Comprehensive Economic Development Strategy, North Springfield Truck Study, Route 103 Corridor Study and other relevant documents.

7. Incorporate "context sensitive design" principles in all aspects of transportation planning and project development activities to improve stewardship of environmental, cultural, historic and scenic resources.

8. Preservation of covered bridges and other historic structures shall be prioritized over replacement to maintain our Region's history.

9. *Vermont State Design Standards* (to be updated as the Vermont Multimodal Roadway Guidance) as further refined or clarified in the future land use category transportation descriptions shall apply to all projects and development proposals.

10. Roadway design speeds shall conform to future land use transportation standards to be consistent with the desired and appropriate speed of travel in all locations, and consistent with promoting traffic calming in villages and in residential neighborhoods.

11. New transportation construction, reconstruction or replacement projects shall be built according to standards that account for changing weather patterns and more severe flooding events:
    a) The current *Vermont Town Highway Codes and Standards* shall be the minimum standard for achieving basic resiliency; however, additional measures, such as the strategies recommended in the Transportation Resiliency Planning Tool, may be required due to site conditions and damage history.
    b) Relocation or abandonment of roads and bridges may be preferable in order to mitigate risk of future flooding hazards.
    c) Projects shall be designed to conform with phase 2 stream geomorphic assessments and recommended river corridor protections where applicable.
    d) Incorporation of nature-based solutions and natural engineering practices into projects to protect transportation infrastructure are encouraged where appropriate.

12. Maintenance of the existing transportation system shall minimize water pollution, in accordance with the current *Vermont Town Highway Codes and Standards*, State stormwater rules, the Municipal Roads General Permit, and other best management practices.

13. All non-exempt projects shall seek to incorporate complete streets principals in accordance with the future land use category transportation requirement descriptions.

14. All projects that require Section 1111 (Access and Work within the Right-of-Way) permits shall meet VTrans *B-71 Standards for Residential and Commercial Drives* and the category design standards in the *Access Management Program Guidelines*. (Where these standards differ, the more restrictive shall apply.)

15. MARC shall coordinate with VTrans and municipalities on all applicable Section 1111 application reviews to promote consistency with local land use permit application procedures or conditions.

16. All developments shall meet sound access management principles to prevent or minimize strip commercial development and improve safety, including:
    a) One access per lot; explore all alternatives before creating new sole access.
    b) Commercial and industrial uses shall incorporate shared accesses, frontage roads, shared parking to avoid or mitigate strip development patterns. Right-of-way for future connections shall be required for future connections where compatible adjacent land uses or allowable uses under local zoning bylaws exist or are possible.
    c) Safe and clear site circulation.
    d) Provide continuity and safety of pedestrian access and circulation.
    e) Adequate loading and unloading areas shall be provided, minimizing conflicts with other motor vehicles.
    f) Building orientation and location of parking to the building shall be as specified under the future land use transportation category descriptions.
    g) Minimize conflicts/Adequate throat length shall be provided.

17. Substantial improvements (i.e. an investment of more than 50% of a building's market value) to existing non-residential structures in strip commercial areas shall make site improvements to meet the above standards.

18. Development shall conform to Regional future land use categories and the corresponding transportation standards.

19. Developments shall evaluate and mitigate transportation impacts in accordance with the *Regional Traffic Impact Study Guidelines* and *Ski Corridor Management Plan,* including, but not limited to, evaluating existing conditions, cumulative impacts, analysis of impacts along the broader highway corridor, and mitigation required for negative impacts. Transportation demand management mitigation options are preferred over expanding highway capacity.

20. Developments located outside of villages and downtowns and involving either the creation of 20 or more lots, and/or with 50 or more employees must provide mitigation, when warranted, that supports non-single occupant vehicle travel (i.e. contributions for transit services, or other TDM strategies per the *Regional Traffic Impact Study Guidelines*).

21. Developments along the ski corridor shall address existing ski country corridor plans in accordance with the *Regional Traffic Impact Study Guidelines*.

22. The transportation system shall promote energy efficiency and driving less through the following initiatives:
    a) Invest in and publicize bicycling and walking facilities (sidewalks, multi-use paths, crosswalks, bus stops, bike lanes, bike parking, widened shoulders, ebike charging) within villages and downtowns, and along routes that connect neighborhoods, commercial growth centers, and other destinations.
    b) Continue investment in public transportation and rideshare programs to reduce the region's dependency on single-occupancy vehicle trips.
    c) Support investments in park and ride lot improvements.
    d) Support transportation facility design enhancements that better accommodate bicycling, walking and transit services on the region's existing roads and bridges.
    e) Require large-scale private land use development to invest in transportation infrastructure and services that promote electric vehicles, bicycling, walking and transit or provide the necessary right-of-way to allow public investment in those facilities.
    f) Support the continued expansion of the Region's electric vehicle charging network, especially within villages and downtowns and in proximity to neighborhoods and commercial and employment centers without the construction of new parking areas.

23. All park and ride lot projects shall provide adequate bus circulation.

24. Promote a robust public transportation system for the Region by promoting or supporting:

    a) Funding to support public transportation strategic planning;
    b) Sustainable funding for all services that meet or exceed State performance standards as well as for those services that are necessary to provide adequate mobility for all residents, including, low-income individuals, elders, persons with disabilities, and other transit-dependent individuals;
    c) The continuation of existing transportation service to Boston Logan Airport and establishing new transportation service that connects to other airports (Manchester, Bradley, Burlington and Albany).

d) Increased capital funding to continue the shift to more fuel-efficient or electric transit buses.

25. Prioritize bicycle and pedestrian projects that:
    a) Further the bicycle and pedestrian implementation strategies in this and the Active Transportation Plan;
    b) Improve mobility for populations without reliable access to a personal vehicle;
    c) Bring facilities into compliance with ADA Accessibility Guidelines (ADAAG);
    d) Make connections between neighborhoods and destinations, such as schools, employment centers, recreation facilities and villages;
    e) Further the creation of Complete Streets.

26. Improve railroad facilities and services for moving people and goods, including:
    a) Maximize the use of rail for freight shipments to improve efficiency and reduce truck traffic.
    b) Promote and preserve commercial and industrial freight rail access.
    c) Maximize the use of the intermodal facilities that serve the Region (e.g. Bellows Falls).
    d) Invest in continued railroad track and bridge upgrades to improve speeds and weight capacities along the GMRR and NECR.
    e) Improve multimodal and transit connections to passenger rail service.
    f) Improve passenger rail facilities.

27. Improve aviation facilities and services for moving people and goods, including:
    a. Support investments to the Hartness State Airport that enhance and expand use of this facility.
    b. Support efforts by VTrans, the Springfield Airport Commission, and the Towns of Weathersfield and Springfield to improve the utilization of Hartness State Airport.

28. VTrans and the MARC shall prioritize safety improvement projects that address identified priority locations In the MARC Safety Action Plan.
29. Achieve the goal of zero traffic deaths and serious injuries by 2040 in accordance with Vision Zero and as articulated in the MARC Vision Zero Resolution adopted in 2024.

30. Remove unnecessary streetlights and support LED retrofits for all existing streetlights in the Region.

31. Interstate interchange areas are subject to the following standards:
    a) Retail services shall be limited to visitor/traveler services only. All other retail and commercial services shall be directed to downtowns and compact villages.
    b) New development shall not degrade the interchange function.
    c) All new developments should use interior roads to limit the number of curb cuts on roads.
    d) New and modified development shall not be carried out as “strip development.”
    e) Proposed developments adjacent to the interchanges should preserve the aesthetic nature and open space that typifies Vermont as discussed in both the MARC’s *Interstate Exits of the Region: Study and Policies* and the *Vermont Interstate Interchange Planning and Development Design Guidelines*.

f) The Quechee Test will be used to determine if any project in the interchange areas will result in undue adverse impacts to the aesthetics.
    1) Will the proposed project be in harmony with its surroundings or, in other words, whether it will "fit" the context within which it will be located? This evaluation is based on the following factors:
        i. Nature of the project's surroundings;
        ii. Compatibility of the project's design with those surroundings;
        iii. Suitability for the project's context of the colors and materials selected for the project;
        iv. Locations from which the project can be viewed; and
        v. Potential impact of the project on open space.
    2) If the project has adverse effect based on the above, then the following criteria will be used to determine if those adverse effects are undue:
        i. Does the Project violate a clear, written community standard intended to preserve the aesthetics or scenic beauty of the area?
        ii. Does the Project offend the sensibilities of the average person? Is it offensive or shocking because it is out of character with its surroundings or significantly diminishes the scenic qualities of the area?
        iii. Has the Applicant failed to take generally available mitigating steps which a reasonable person would take to improve the harmony of the Project with its surroundings?

32. MARC supports the principles of the Scenic Byway Program.

33. Encourage municipalities to evaluate current parking and plan for future needs, including related to expansion of the public EV charging network.

# Chapter 2. REGIONAL TRENDS AND ISSUES

This chapter highlights notable trends and relevant considerations that impact the regional transportation network. Chapter 2 is organized into three distinct sections:

**2.1 REGIONAL TRENDS;**
**2.2 CERTAIN FEDERAL & STATE LEGISLATION; AND,**
**2.3 A TRANSPORTATION NETWORK TO SUPPORT THE FUTURE LAND USE PLAN.**

## *A. Regional Trends*

Chapter 2 of the Regional Plan (Volume 1) consists of a profile of the Region. See that section for a more detailed description of this Region. This section is intended as a short summary of the key transportation-related themes that emerged from an assessment of recent trends based on data analysis and stakeholder input. Data on COVID-19-related migration Into the region Is limited.

**Rural with Small Villages:** The Mount Ascutney Region is largely rural with only 8.4% of the region's land area considered 'developed'[2]. Traditional downtown and village centers are surrounded by a mostly rural countryside. This area has not experienced significant levels of growth in the last decade; however, recent development activity has largely been small in scale and located in rural areas. These recent trends are contrary to the future land use aspirations as expressed in Volume 1 of the Regional Plan, which calls for growth to locate in and around the traditional centers. With the exception of downtown Windsor and Springfield, the Region has low population densities and is very auto-dependent for daily travel needs. Distances between home, work and other destinations limits travel by public transit, bicycle, or walking. This situation limits affordable transportation options for independent travel by children, low-income households, the elderly, and persons with disabilities, as well as initiatives to reduce single-occupant vehicle travel.

**Aging Population:** The Mount Ascutney Region is comprised of ten towns with a total population of just under 25,000 year-round residents. The Region is aging, and on average is older than the rest of Vermont. According to the 2020 Census, 25.1% of residents are over 65 years of age; compared to 19.4% statewide. See the MARC Regional Plan Chapter 2: Regional Profile for more demographic information on the Region.

Public transportation options for older adults and persons with disabilities are therefore critically important to provide adequate access to services and maintain a good quality of life. This is a challenge in such a rural area, but necessary to support successful aging-in-place.

**Trucking is Key for Local Employment:** Manufacturing, trade, construction, warehousing and natural resource extraction operations are regionally important economic sectors that rely heavily on trucking. VT Routes 11 and 103 provide important freight connections as one of the few routes over

[2] 2024 Base Land Cover Dataset from Vermont Center for Geographic Information https://geodata.vermont.gov/pages/land-cover

the Green Mountains in southern Vermont in addition to US Route 4 and Vermont Route 9. Other important truck routes in the region include Vermont Routes 131, 44A, 106, and US Route 5. Rail freight only serves some of the Region -- and excludes key areas such asthe North Springfield Industrial Park. -- leaving trucking as the only option to in large portions of the Region. The Region is predominantly served by two-lane roadways with constraints in many locations that pose challenges to safe, efficient truck travel.

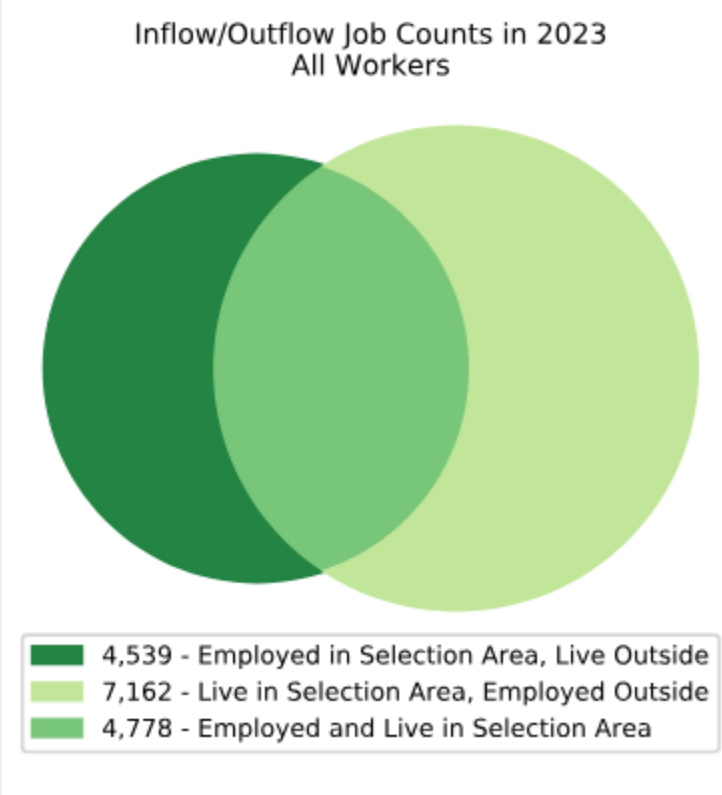
**Tourism And Outdoor Recreation:** Tourism and outdoor recreation are important parts of the regional economy The region's transportation system should support tourism and recreation by providing clear navigational and Informational signage, incorporating diverse transit options, and considering the scenic value of roads, paths, and trails.

Seasonal traffic peaks (e.g. Sunday afternoons during the winter ski season) may cause traffic to exceed the region's transportation capacity, and ought to be considered. Since the late 1990s, the MARC has been working with partners on the Ski Corridor Traffic Management Study, to mitigate traffic impacts from large developments at Killington and Okemo Mountain in this Region. For more information, please refer to the various Ski Corridor Study documents that have been produced over the years.

**Commuting Patterns:** Historically, the Mount Ascutney regionwas a manufacturing center. While manufacturing remains important, its Impact on regional employement began to decline in the 1970s. According to the 2023 ACS 5-year survey, most (60%) of the workers residing in the region are employed outside the region, commuting to places such as Lebanon, Hanover, Claremont, Rutland and White River Junction. The remaining 39% of the region's workers live and work within the region and roughly the same number of people commute into the region for work from outside.

Many of the top commuting destinations for the region's workers are either within the region or located nearby. This is reflected in the distribution of commute distances, with a bare majority (51%) commuting 10 miles or less, 75% commuting less than 25 miles, and the remaining 25% commuting 25 miles or more.

The proportion of workers living and working in the region (39%) has remained unchanged when compared to 2020, but the distribution of commute distances has changed noticeably. A greater proportion of the region's workers are commuting shorter distances with 51% of workers commuting 10 minutes or less in 2023 compared to 39% in 2020. Similarly, 25% commute 25 miles or more in 2023, which is a 5% drop from the 30% in 2020.




**Telecommuting:** Telecommuting has remained popular since spiking in 2020. While data on its effects on the region is sparse, it may affect the region by reducing commute miles, as seen in the discussion of commuting patterns above, or allowing more residents to live in the region full time.

**Healthy Communities:** Access to safe and reliable transportation is vital to a person's and community's overall health. Transportation is necessary to access healthcare, healthy food, and recreational opportunities. Transportation itself, in the form of active transportation (e.g. walking or biking), can contribute greatly to a healthy lifestyle. For more on the nexus of health and transportation, see the Health Chapter of this Plan.

**Travel for Goods and Services:** The larger towns in the Region have supermarkets, pharmacies, medical facilities and a variety of other goods and services available to residents. However, many residents travel outside of the Region for medical services, shopping or other daily needs. Common destinations include Claremont, Lebanon, Rutland, Keene, and Brattleboro. The rise in popularity of ecommerce reduces the need for individual travel for goods and services but leads to increased volumes of delivery vehicle trips.

**Housing and Transportation Affordability:** The availability of safe and decent affordable housing has long been a priority for this Region. Since 2021, home availability and costs have risen

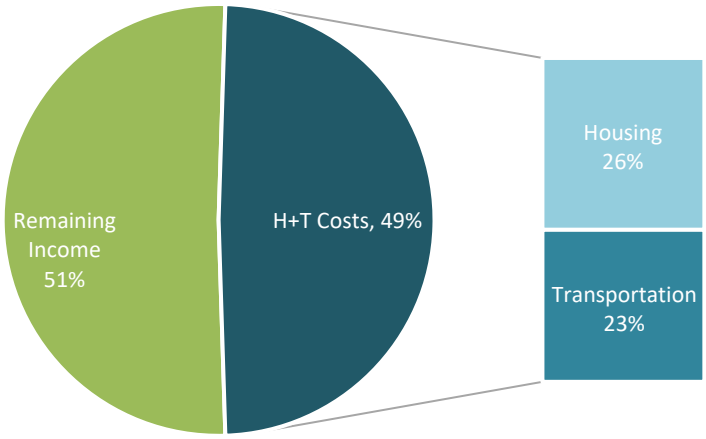
dramatically. Homes located long distances from work, schools and other destinations can add to the affordability burden of a household through increased transportation costs.

New housing in the region has generally been developed at very low densities in rural areas. Rural development often leads to more miles driven, and can greatly Increase a household's cost of transportation. To address transportation costs and energy use, the region needs denser residential and commercial development around community centers to reduce distances traveled; and more cost- and energy- efficient transportation options such as public transportation or electric vehicles.

**Windsor County 2022 Housing + Transportation Costs as % of Income**

Calculated by the Center For Neighborhood Technology.

Housing + Transportation costs over 45% of household income are considered unaffordable. Average county H+T® costs account for 49% of the Windsor County regional typical income ($74,152).




**Aging Infrastructure:** The state highway network in the Region has not changed appreciably since 1970. A substantial number of bridges are approaching the end of their useful life and road surface conditions are frequently changing. Maintaining our roads and bridges in safe and passable condition is essential for the safety of residents and health of the economy of the Region, and is a higher priority than construction of new roads. See the Road Network section below for more on current road surface conditions

**Funding:** Funding levels have generally not allowed the State or towns to keep up with routine preventative maintenance. In the 2018 *Transportation Asset Management Plan*, VTrans reported that "current funding provides approximately 67% of the monetary resources needed to maintain Vermont's transportation system in a state of good repair. In 2018, the gap was approximately $258 million."[3] Increases in Federal funding through the Infrastructure Investments and Jobs Act (IIJA) have been largely offset by concurrent cost increases. Furthermore, state transportation funding has remained relatively stagnant, due in large part to falling gas tax revenues.

[3] Vermont Agency of Transportation, *Transportation Asset Management Plan*, 2018, 22, https://vtrans.vermont.gov/sites/aot/files/planning/documents/2018%20Final%20VTrans%20TAMP.pdf

Local property taxes are the primary funding source for municipal transportation maintenance. Towns often tend to level-fund their local road budgets to prevent increases to local property taxes. In general, local funding levels are not enough to keep up with needs for routine maintenance and infrastructure improvements. This has also led to staffing challenges for town highway departments. Town governments rely on grants and other funding mechanisms to help address their transportation needs.

Efforts by VTrans, such as the Project Initiation and Innovation Team (PIIT) and Accelerated Bridge Program, are helping to address bridge needs more efficiently and effectively. Towns are taking greater interest in developing capital improvement plans to strategically address local road and bridge needs. While these improvements help, there simply is not enough money to address all the needs, which highlights the need for an asset management or similar approach to target the expenditure of limited funds where they will have the greatest impact.

**Technological Advances:** New technologies and methods presenting new opportunities and planning challenges. The proliferation of mobile devices has eased navigation but has also made distracted driving a serious safety issue.[4] Electric bicycles have the potential to drastically expand both the range of bicycle trips and the number of bicyclists but both roadway and bicycle and pedestrian infrastructure and regulations will likely have to account for the presence of e-bikes and their riders. Like e-bikes, electric vehicles could significantly reduce the climate impacts of the transportation system. Yet, EVs require an entirely new approach to trip planning and refueling. Planning for electric vehicle charging often touches on a wide range of related issues including economic development, parking, and housing.

**Roadway Safety:** In 2026, the MARC completed a Safety Action Plan[5] funded through the FHWA Safe Streets and Roads for All Program. As part of the planning process, the MARC and all 10 of its member towns have adopted Vision Zero resolutions, committing to zero roadway fatalities and serious injuries by 2040.

MARC and consultant staff presented to all 10 towns' Selectboards and the Regional Emergency Management Committee and distributed a public survey to gather feedback on roadway safety issues in the Region. The Safety Action Plan takes the feedback received through public engagement and uses that to inform an analysis of three years of crash data.[6] This analysis led to the identification of primary and secondary, but still important, Focus Areas. Primary Focus Areas for the MARC region are: lane departure, turning movement safety, and pedestrian and bicycle safety. These focus areas in turn informed the identification and prioritization of corridors and intersections for the implementation of safety projects and strategies.

[4] For more on distracted driving and highway safety, see the 2022-2026 Vermont Strategic Highway Safety Plan at https://vtrans.vermont.gov/sites/aot/files/highway/documents/Vermont_SHSP_2022-2026-Final.pdf
[5] The Plan is available on the Transportation Projects and Studies page of the MARC website: https://www.marcvt.org/transportation-projects-and-studies.html.
[6] The MARC Crash Dashboard was created as part of this analysis showing crashes in the region from 2014 to 2023. The dashboard is available here: https://www.arcgis.com/apps/dashboards/a84bb7d85c244159ae7b906139d551fc

The full lists of priority corridors, intersections, and safety strategies can be found in Appendix B: Safety Action Plan Priorities and Strategies.

## *B. Certain Federal & State Legislation and Policy*

The purpose of this section is to summarize how certain federal and state transportation legislation and initiatives influence the transportation decision making for the Region.

**Safety & Security:** A primary objective of this Plan is to plan, design, build and maintain a transportation system that maximizes the safety of the traveling public. Annually, the MARC works with VTrans and partners to improve safety through a variety of programs, including the Highway Safety Improvement Program (HSIP), High Risk Rural Roads (HRRR) program, Road Safety Audit Reports (RSAR), and other efforts, such as regional safety forums. In 2025, MARC adopted a Safety Action Plan funded by and in alignment with the Infrastructure Investment and Jobs Act (IIJA) Safe Streets and Roads for All program. The Plan identifies priority actions to improve safety for all road users of the state and local road networks in the Mount Ascutney region. Security is also an important consideration for transportation planning, especially with consideration to airports, public transit and freight shipments.

**Climate Change and Environmental Stewardship:** Transportation represents the single largest source of greenhouse gas emissions in Vermont.[7] The 2016 and 2022 State *Comprehensive Energy Plans* and the 2025 *Climate Action Plan* set ambitious greenhouse gas reduction goals, particularly in the transportation sector, to meet the requirements of the Global Warming Solutions Act. One of the most effective methods for reducing transportation greenhouse gas emissions is a reduction in vehicle miles traveled through increased use of transit, biking and walking over single occupancy vehicles. In a rural region, however, single occupancy vehicles will likely remain a significant part of the transportation system. For this reason, electrification across personal transportation, freight, and transit will need to be central to meeting the State's and region's climate goals. MARC has been and will continue to partner with VTrans, ACCD, municipalities, and other local partners on planning for EV charging infrastructure. For more on MARC's specific greenhouse gas reduction goals and pathways, see the *Regional Energy Plan*.

A State Planning Goal involves providing a transportation system that respects the integrity of the natural environment[8]. In addition, The National Environmental Policy Act (NEPA), National Historic Preservation Act (NHPA), and Vermont Historic Preservation Act (22 V.S.A. §14) require that federally and state funded projects be reviewed for potential impacts to natural and historic resources. As such, all transportation-related projects will be evaluated to improve water quality, reduce greenhouse gas emissions, and to avoid or mitigate negative impacts on sensitive ecological and cultural resources, including:

- Wetlands and vernal pools;
- Concentrated black bear feeding habitat (mast stands);
- Rare, threatened, and endangered species habitat;

[7] https://eanvt.org/wp-content/uploads/2025/10/Final_EAN-APR-2025.pdf
[8] 24 V.S.A. § 4302(4)

- Significant natural communities; forest blocks and habitat connectors; riparian areas and surface waters;
- Prime agricultural soils;
- Slopes greater than 25%;
- Ledge, talus, and cliff habitat;
- Archaeologically sensitive areas;
- Land in excess of 2,500' in elevation; and
- Habitat as identified by the Vermont Department of Fish and Wildlife as either significant wildlife habitat or necessary wildlife habitat in accordance with 10 V.S.A. § 6086(a)(8)(A).

**Clean Water Act**: The Vermont Clean Water Act (Act 64) of 2015 established the Municipal Roads General Permit (MRGP)[9] to reduce stormwater erosion from municipal roads. The MRGP establishes standards and best management practices for managing stormwater runoff from open drainage gravel and paved roads and from closed stormwater systems that serve municipal roads. Town-maintained roads and closed drainage systems are inventoried once every five year permit cycle to track compliance.

**Resilient Transportation System:** Building resilience and adaptation in Vermont's communities and built environment, including the transportation system, is one of five areas around which the 2025 *Climate Action Plan* is organized. Climate projections indicate more frequent and severe precipitation leading in turn to more frequent and severe flooding from surface runoff and river systems[10]. These changes to the Earth's climate have already had significant impacts to the region's transportation system and will continue to do so. Most of our major and minor roadways closely parallel streams and rivers, many culverts and bridges are sized too small, many of the rivers and streams in this Region are susceptible to fluvial erosion hazards, and many of our buildings and infrastructure are built in these same river valleys

Severe storms and weather events in 2011 (Tropical Storm Irene), 2023, and 2024, caused significant damage to the transportation system statewide. More localized, but often as severe, storms occur even more frequently and can cause significant damage to a region or even a single town. All transportation planning and projects need to be evaluated based on river geomorphology and reasonable efforts taken to mitigate against the likely threat of flooding and erosion hazards. Steps that can be taken to improve resilience, include:

- Use the Transportation Resilience Planning Tool to identify transportation infrastructure at high risk of damage from fluvial processes;
- Use the VTrans Resilience Improvement Plan to assist in prioritizing transportation resilience projects;[11]
- Avoid (or minimize) further encroachment of transportation infrastructure into river corridors (i.e. fluvial erosion hazard areas);

[9] A copy of the MRGP can be found on the Department of Environmental Conservation website. https://dec.vermont.gov/sites/dec/files/wsm/stormwater/docs/PermitinformationMunicipalRoads/sw_FinalMRGP.pdf
[10] See for example the Fifth National Climate Assessment (https://toolkit.climate.gov/NCA5) and the Assessment Reports put out by the Intergovernmental Panel on Climate Change (https://www.ipcc.ch/).
[11] https://arcg.is/1Dajzj

- New road crossings and recreational paths may be allowed in river corridors, but they must not exacerbate flooding and fluvial erosion;
- Build and maintain local roadways consistent with the most recent model local highway codes and standards and the Municipal Roads General Permit;
- Adapt or relocate roadways to be more resilient to flood and erosion damage, and consider strategic disinvestment of transportation infrastructure as appropriate;
- Size bridges and culverts per VTrans Hydraulics Manual and VT ANR Stream Alteration Rules;
- Ensure that adequate storm water provisions are made for new developments in order to avoid or mitigate flood or erosion risk to roadways or other public infrastructure;
- Protect and restore river corridors, floodplains, wetlands, and upland forested areas that function to mitigate flooding and fluvial erosion risks;
- Incorporate natural infrastructure and nature-based solutions into transportation projects to mitigate impacts and improve resilience;
- Develop specific strategies to protect the transportation infrastructure identified to be at risk from flood and fluvial erosion hazards, and to mitigate risks to public safety and critical infrastructure.

The TRPT should be consulted when conducting hazard mitigation, corridor management, project prioritization, or any other transportation or hazard mitigation planning and capital budgeting. The TRPT is "a web-based application that identifies bridges, culverts, and road embankments that are vulnerable to damage from floods, estimates risk based on the vulnerability, and criticality of roadway segments, and identifies potential mitigation measures based on the factors driving the vulnerability." [12] The structures and road segments identified as high risk in the TRPT should be prioritized for mitigation and resilience projects.

**A More Balanced and Integrated Transportation System:** At this point, our transportation system heavily favors travel by automobile, at the expense of other modes that are more energy efficient and better provide mobility for all residents. Establishing a more balanced transportation system will require various changes to land use and transportation patterns and investments including investments in sidewalks, crosswalks, and bicycle infrastructure in community centers; road diets and cycle tracks on roadways especially where they transition from rural areas to community centers or connect to destinations; electric vehicle charging; job growth in community centers; land use patterns and densities that make transit more efficient and cost-effective; and a better jobs/housing location balance.

Legislation and policy meant to make progress towards achieving this balance include the Vermont Complete Streets Law (Act 34), The VTrans On Road Bicycle Plan,[13] and 2025 Vermont Climate Action Plan.[14]

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[12] The TRPT can be found here: https://vtrans.vermont.gov/planning/transportation-resilience#:~:text=The%20Vermont%20Transportation%20Resilience%20Planning,potential%20mitigation%20measures%20based%20on

[13] https://vtrans.vermont.gov/planning/bikeplan.

[14] https://climatechange.vermont.gov/cap-2025

**Equity in Transportation:** Access to transportation means access to employment, healthcare, healthy food, recreation and more. Yet, historic investments in transportation have led to disparities in transportation access across communities. In recognition of both the essential nature of transportation and the inadequacy of past practices to provide safe, high-quality, affordable, and convenient transportation for all Vermonters, the Legislature passed Act 55 in 2021. The Act provides the legislative impetus behind the Transportation Equity Framework, "a tool to help decision makers plan for and prioritize projects, ensure accurate representation in decision making, and enhance the equitable delivery of services."[15]

**Act 181: Modernizing Land Use Review:** Act 181 of 2024 moves Act 250 jurisdiction to a location-based model through a series of interim housing exemptions and long-term land use tier designations. A primary objective of Act 181 is to encourage and facilitate housing development in designated centers and growth areas. See the Land Use Chapter for more on Act 181 and the MARC Region. These changes have implications for the transportation network and how the transportation components of development are reviewed. In some cases, particularly Tier 1A and 1B areas, the responsibility will fall more directly on the local municipality. Examples of transportation considerations of development reviews may include consideration of traffic impacts, transit access, and bicycle and pedestrian accommodations.

## *C. Transportation Network to Support the Future Land Use Plan*

Transportation and land use are inextricably linked, each affecting how the other functions. This section will focus on the interrelationship between land use and transportation, and the role transportation has in facilitating the desired future land use patterns for the Mount Ascutney Region.

Our existing transportation system is heavily focused on travel by automobile. While that is to be expected in a rural area, an overly auto-oriented transportation system is not ideal. To move toward a more sustainable and equitable future, we need a transportation system that increases transportation options and reduces vehicle miles traveled. This can only be done with a corresponding change in land use to focus future growth within existing centers Act 181 is intended to direct development to these centers and a priority of the Act is that centers and surrounding areas include multimodal transportation systems and incorporate complete streets principals.

### Land Use Classifications and Special Use Areas

Desired future land use for the Mount Ascutney Region is described in more detail in Chapter 3 of Volume 1 of the Regional Plan and is discussed in relation to the following land use classifications and special use areas.

[15] https://vtrans.vermont.gov/equity.

**Future Transportation-Land Use Network:** The following section is intended to describe the desired characteristics of the transportation system in relation to the above land use classifications and special use areas. VTrans State Design Standards,[16] the most recently adopted town road and bridge standards, and other applicable standards will apply to all applicable roadway work. The following desired characteristics seek to clarify or modify the above standards to further the future land use chapter, State Planning Goals and the intent of the Complete Streets Law. Flexibility (i.e. "context sensitive design") will be needed in implementing the following desired transportation system characteristics based upon the scale and function of each individual area as well as any constraints, such as right-of-way limitations, historic structures, and flood resilience strategies.

## DOWNTOWN CENTERS

*Springfield and Windsor Main Streets*

| | |
|---|---|
| Generalized Locations | Core areas of Springfield and Windsor. |
| Primary Roadways | "Main Street" sections include state highways and Class 1 sections of VT Route 11, and US Route 5; Functional Classification: varies from Minor Arterial to Major Collector. |
| Traffic Volume of Primary Roadways | - Moderate to High traffic volumes (AADTs of 3,000 to 10,000+).<br>- Can experience commuter peak hour congestion. |
| Desired Future Land Use Characteristics | - Larger traditional settlement areas in the Region that are served by a public water and sewer system. A mix of land uses exist demonstrating smart growth and complete streets and is desired, including residential, commercial, and civic. Multi-story, vertically mixed use buildings typical of a downtown exist and are desired. |

[16] The Standards were in the process of being updated in 2026 and were expected to be released shortly. The updated Standards will be known as the Vermont Multimodal Roadway Guidance.

| | |
|---|---|
| Desired Attributes for "Main Streets" | - Typical urban transportation facilities that accommodate commuters, tourists, industry, commerce, pedestrians, bicyclists, and public transit providers.<br>- Pedestrian-oriented, complete streets, streetscapes are a priority with wide sidewalks, on-street parking, bicycle lanes, bus stops, benches, and street trees. Commercial activities, such as outdoor dining or retail, may extend and integrate into the streetscape so long as remaining facilities continue to meet or exceed ADA requirements. |
| | - Capable of supporting higher traffic volumes.<br>- Support non-motorized travel while providing safe and reliable links to outside markets and resources.<br>- |
| | - Narrow travel lanes to encourage slower driving and improve safety for pedestrians.<br>- Low design speeds (20-25mph). See the VTrans Traffic Safety Toolbox for traffic calming strategies.[17]<br>- Intermodal connections are prioritized (i.e. bicycle parking, bus stops).<br>- Flexible roadway standards in order to maintain historic and cultural integrity.<br>- Prioritize on-street parking, off-street parking located to the rear of buildings.<br>- Pedestrian friendly environment with wide sidewalks, crosswalks, and few curb cuts.<br>- Buildings built close to the sidewalk/street.<br>- Provide bicycle lanes or shared lanes. |
| Access Management | - Access Category 6[18]. Few curb cuts.<br>- Additional curb cuts should not be encouraged.<br>- Lot access from a side street or from rear of property. |
| Other Streets | The above articulates the generalized desirable conditions for the major roads within the future land use areas. Because each community is different, the standards will need to be applied as appropriate for each area. The other streets in these areas should aspire to a lesser degree of these same standards as appropriate for the functional classification of each roadway and the surrounding land area that it serves. |

[17] https://vtrans.vermont.gov/sites/aot/files/Research/20230606%20Toolbox.pdf.
[18] See VTrans Access Management Program Guidelines
https://vtrans.vermont.gov/sites/aot/files/planning/vam/AccManProgGuidelinesRev072205.pdf

## VILLAGE CENTERS

*Felchville and Brownsville*

| | |
|---|---|
| Generalized Locations | Villages of Brownsville, Chester, Ludlow, Perkinsville, Cavendish, Proctorsville, Ascutney, and Felchville. |
| Primary Village Roadways | Major streets are mostly State Highways and include VT Routes 11, 44, 100 106 and 131 and US Route 5; Functional Classification: Minor Arterial to Major Collector * |
| Traffic Volume of Primary Roadways | - Moderate to high traffic volumes (AADTs of 1,000 to 10,000)<br>- Ski traffic congestion conditions along the VT 103 and 100 corridors |
| Desired Future Land Use Characteristics | - Traditional settlement areas of medium sized residential, civic and commercial uses demonstrating smart growth<br>- These areas either have or desire public water or sewer systems. |
| Desired Attributes for Primary Village Roadways | - Typical village transportation facilities that accommodate a mix of users, including cars, trucks, pedestrians, bicyclists, and public transit.<br>- Pedestrian-oriented streetscapes with wide sidewalks, bicycle or shared lanes, bus stops and multimodal facilities. Where sidewalks are not feasible, widened roadway shoulders can accommodate pedestrians and bicyclists. |
| | - Capable of supporting moderate traffic volumes.<br>- Support non-motorized travel while providing safe and reliable links to outside markets and resources.<br>- Maintain or achieve desired village character.<br>- |
| | - Narrow travel lanes to encourage slower driving and improve safety for pedestrians.<br>- Low design speeds (20-30 mph).<br>- Modify roadway standards to maintain historic and cultural integrity.<br>- Prioritize on-street parking, off-street parking located to the rear or side of buildings.<br>- Pedestrian friendly environment with sidewalks in pedestrian-traveled areas.<br>- Widen shoulders for on-street parking and/or bicycle lanes.<br>- Buildings built close to the street with short driveways. |

| | |
|---|---|
| Access Management | - Access Category 6[19]. Some curb cuts<br>- While additional curb cuts are not encouraged, this is a preferred location for road access, unless access from a side street is available. |
| Other Streets | The above articulates the generalized desirable conditions for the major roads within the future land use areas. Because each community is different, the standards will need to be refined as appropriate for each area. The other streets in these areas should aspire to a lesser degree of these same standards as appropriate for the functional classification of each roadway and the surrounding land area that it serves. |

## NEIGHBORHOOD (PLANNED GROWTH AREAS AND VILLAGE AREAS)

*Pleasant Street in Ludlow (Photo by Tom Johnson)*

*and Church Street in Chester*

| | |
|---|---|
| Generalized Locations | Residential mixed use neighborhoods that immediately surround and are within walking distance of centers in Chester, Ludlow, Springfield, West Windsor, and Windsor. |
| Applicable Roadways | Smaller residential streets (public or private); Functional Classifications are mostly Local |
| Traffic volume | - Mostlylow traffic volumes (AADTs below 500).<br>- Truck volumes predominately limited to residential deliveries. |
| Desired Future Land Use Characteristics | - Medium density residential areas surrounding the larger traditional settlement areas.<br>- Limited civic and small-scale commercial uses may be appropriate (primarily on busier Class 2 and 3 roads) as long as they are compatible with the area. |
| Desired Attributes for Small | - Quiet residential streets that allow access to properties and nearby centers by car, foot and bicycle.<br>- Allows for easy walking access to school bus and/or public transportation services. |

[19] See VTrans Access Management Program Guidelines
https://vtrans.vermont.gov/sites/aot/files/planning/vam/AccManProgGuidelinesRev072205.pdf

| | |
|---|---|
| Residential Streets | - Sidewalks are often provided.<br>- Pedestrians and bicycles frequently share the roadway. |
| | - Narrow travel lanes to encourage slower driving and improve safety for pedestrians.<br>- Low design speeds (20-25mph).<br>- Interconnected street network, avoiding cul-de-sacs.<br>- Buildings set close to the street with short driveways and small front yards.<br>- Streetscape to include street trees and sidewalks to create a pleasant pedestrian environment.<br>- New roads (public or private) to be built to adopted town road standards.<br>- New developments to provide logical connections to the street and sidewalk networks and designed to allow transit access if desired. |
| Access Management | - Subject to local access permits or subdivision/zoning review.<br>- Primary function of local residential street is for access to properties / many curb cuts. |
| Other Streets | The above articulates the generalized desirable conditions for small residential streets within this future land use area. Because each community is different, the standards will need to be refined as appropriate for each area. The other streets in these areas should aspire to a lesser or greater degree of these same standards as appropriate for the functional classification of each roadway and the surrounding land area that it serves. For example, busy Class 2 roadways will need to incorporate aspects of the Village Center primary road attributes. |

## RURAL COUNTRYSIDE (Rural-General, Rural-Agriculture and Forestry, and Rural-Conservation)

*VT-131 and South Reading Road in Cavendish*

Rural-Conservation, Rural-Agricultural and Forestry, and Rural-General Future Land Use Areas are combined here because the desired transportation characteristics are similar.

| | Paved / Major Roads | Unpaved / Minor Roads |
|---|---|---|
| Generalized Locations | Rural countryside areas that surround the settlement areas. This is the majority of the Region where there is no discernible concentration of development. Land is in large lots, conserved, actively worked for resource-dependent uses, or low-density residential use. | |
| Applicable Roadways | - State and Town Highways.<br>- Functional classifications of Collector or Local. | - Mostly local unpaved roads (Class 3 town highways or private development roads).<br>- Local or no functional classifications. |
| Traffic Volume | - Moderately high traffic volumes (AADTs above 3,000 on state highways)<br>- High to moderate truck volumes. | - Very low traffic volumes (AADTs often below 500)<br>- Low truck volumes. |
| Desired Future Land Use Characteristics | - Rural working landscape (i.e. farms, forestry, earth extraction), low- to very-low density residential uses, conserved or resource areas which should be protected.<br>- Generally no governmental or institutional uses in these areas. | |
| Desired Attributes of Applicable Roadways | - Maintain rural, scenic two-lane roads.<br>Generally modestly widened shoulders can accommodate bicyclists and pedestrian activity and agricultural vehicles. | |
| | - Capable of supporting higher traffic volumes/facilitating mobility.<br>- Minimize impacts on natural resources.<br>- Accommodate working landscape activities. | - Minimize impacts on natural resources.<br>- Accommodate working landscape activities. |
| | - Variable design speeds (40-50 mph).<br>- Widened shoulders for cyclists.<br>- Maintain rural character.<br>- Avoid steep new roads and driveways over 12% average grade.<br>- Avoid long new roads or driveways. | - Moderate design speeds (35mph / unposted speed limit).<br>- Minimum width for safety and to allow two cars to pass at low speeds.<br>- Avoid long, dead-end roads and bridges that serve only a few houses.<br>- Maintain rural character.<br>- Shared roadway for motor vehicles, horses, bicyclists and pedestrians.<br>- New roads (public or private) to be built to adopted town road standards.<br>- Avoid steep new roads and driveways over 12% average grade.<br>- Avoid long new roads or driveways. |
| Access Management | - Access Category 3 & 4 along state highways; local roads subject to town access permits.<br>- Curb cuts minimized to prioritize mobility along the state highways. | - Subject to town access permits.<br>- Subject to A-76 & B-71 Standards.<br>- Curb cuts are appropriate to provide safe access to adjacent properties. |

| | Paved / Major Roads | Unpaved / Minor Roads |
|---|---|---|
| Other Streets | The above articulates the generalized desirable conditions for certain roads within this future land use area. Because each community is different, the standards will need to be refined as appropriate for each area. | |

## RESOURCE-BASED RECREATION AREAS

*East Lake Road and the Okemo Mountain Ski Trails in Ludlow*

| | |
|---|---|
| Generalized Locations | Okemo Mountain Resort in Ludlow, the former Ascutney Mountain Resort in Brownsville and the Lakes Region in Ludlow. Resorts are an important economic sector |
| Applicable Roadways | - VT Routes 44, 100 and 103<br>- Class 2 or 3 municipal highways<br>- Private roads |
| Traffic volume | - Variable traffic volumes.<br>- Seasonal peak traffic during winter ski season, fall foliage or summer lake season. |
| Desired Future Land Use Characteristics | - Outdoor recreation facilities and ski resorts with related recreation-related commercial uses. |
| Desired Attributes of Transportation Facilities | - Roadways to be shared by automobiles, public transit services, pedestrians and bicyclists.<br>- Wayfinding for visitors is an important consideration.<br>- Sidewalks may be warranted within the resort base lodge areas and connecting to resort residential facilities.<br>- Provide pedestrian, bicyclist, and/or transit connections to nearby Centers. |
| | - Capable of supporting seasonally high traffic volumes<br>- Mitigation for traffic congestion on affected state highway corridors as warranted. Ski Corridor Management Plan applies to Okemo and Killington ski areas.<br>- Support public transit services and non-motorized travel.<br>- . |

| | |
|---|---|
| | - Mostly lower design speeds (20-30mph).<br>- New roads (public or private) to be built to adopted town road and bridge standards.<br>- Avoid steep new roads and driveways over 12% average grade.<br>- Avoid long new roads or driveways. |
| Access Management | - Mostly subject to municipal access permits or subdivision review.<br>- Curb cuts are generally suitable for low volume, low speed local roads.<br>- Subject to B-71 Standards. |

## ENTERPRISE

| | |
|---|---|
| Generalized Locations | Dean Industrial Park in Ludlow, North Springfield Industrial Park, Artisan's Park and other enterprise sites shown on the Future Land Use Map |
| Roadways | - Mostly paved local roads (Class 2 or 3) with access off state highways.<br>- Variety of functional classifications. |
| Traffic volume | - Moderate traffic volumes.<br>- High volume of trucks. |
| Desired Future Land Use Characteristics | - Locations where larger scale or higher impact industrial and related commercial uses are encouraged to provide local jobs and increase the tax base.<br>- Generally served by municipal water and sewer. |
| Desired Attributes of Transportation Facilities | - Providing adequate access for cars and trucks is the primary consideration.<br>- Provide adequate wayfinding information for freight, deliveries and visitors.<br>- Improve access for public transportation services. |
| Access Management | - Mostly subject to local access permits.<br>- Subject to A-76 and B-71 Standards.<br>- Intersections and curb cuts to accommodate large trucks. |
| Special Considerations | - Minimize negative impacts on adjacent non-industrial land uses.<br>- Integrated roadway networks, signage and wayfinding. |
| Desired Road Characteristics | - Take advantage of rail freight, where available. Growth is encouraged but providing adequate access for cars and trucks between sites and the major transportation network is a primary concern. Take steps to minimize impacts or provide alternative access where primary access passes through residential areas. |

## TRANSITION/INFILL AREAS

| | |
|---|---|
| Generalized Locations | - Locations outside of traditional centers that have been developed for commercial and light industrial uses, primarily since the 1960s. |
| Roadways | - State highways and occasionally Class 2 town highways |
| Traffic volume | - Moderate to high traffic volumes (AADTs of approximately 2,500 - 10,000) |

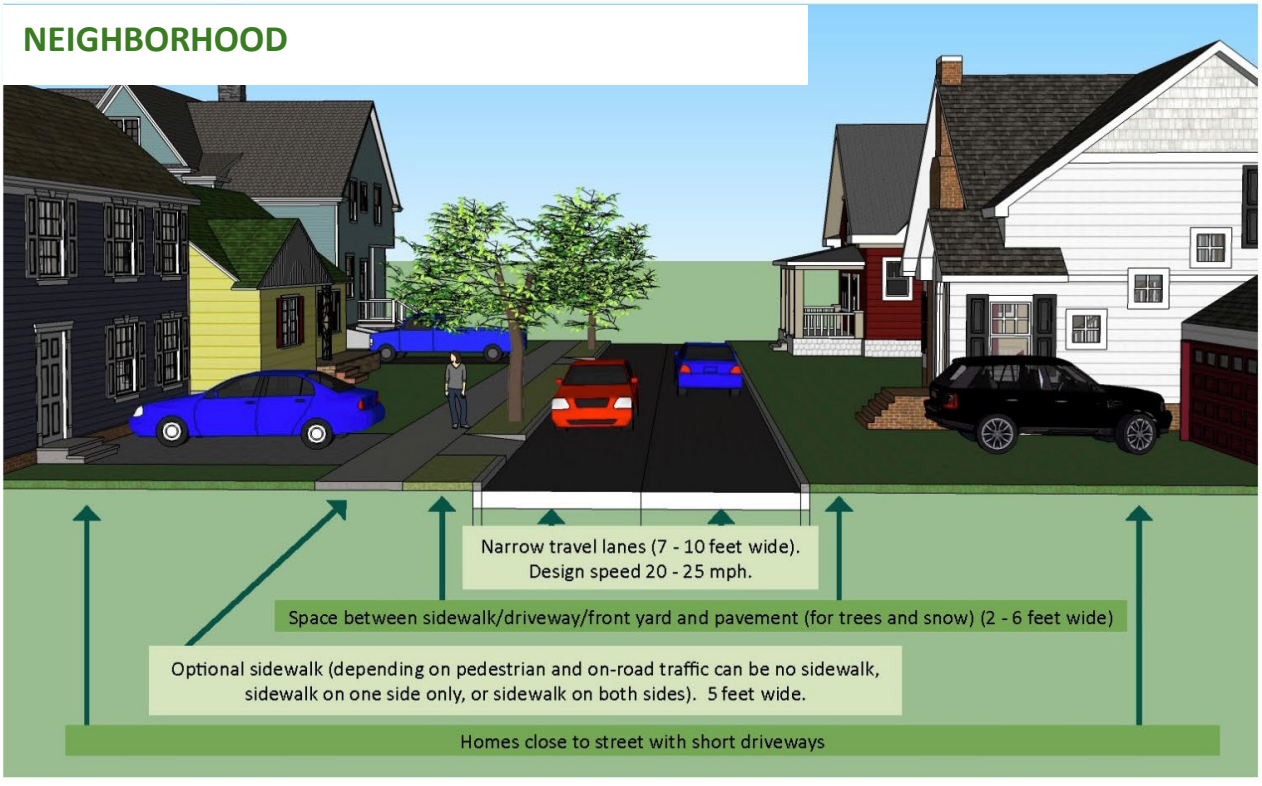
| | |
|---|---|
| Desired Future Land Use Characteristics | - Gateways into centers<br>- Serve important economic function distinguished from, and complimentary to, the function of the centers.<br>- Redevelopment and infill of previously developed sites is preferred, including infill residential development. New linear development is discouraged. |
| Desired Attributes of Transportation Facilities | - Multi-modal facilities that support and encourage all forms of transportation including bicyclists, pedestrians, transit riders, and drivers.<br>- Encourage transformation of these areas from single-use, car-dominated development into attractive, mixed-use, multimodal development. |
| Access Management | - Subject to A-76 & B-71 Standards.<br>- Coordinated accesses, shared parking and/or frontage roads must be considered. |
| Special Considerations | - Mitigate or avoid issues associated with sprawl – such as poor access management, excessive signage, lot frontages dominated by pavement, lack of sidewalks, and low-quality, generic, single-purpose buildings – through appropriate site planning, design, and redevelopment. |
| Desired Road Characteristics | - Multimodal streetscapes that accommodate all modes safely with wide sidewalks, bicycle lanes, bus stops.<br>- Create attractive gateways to the region's centers |

## ROAD CROSS SECTIONS

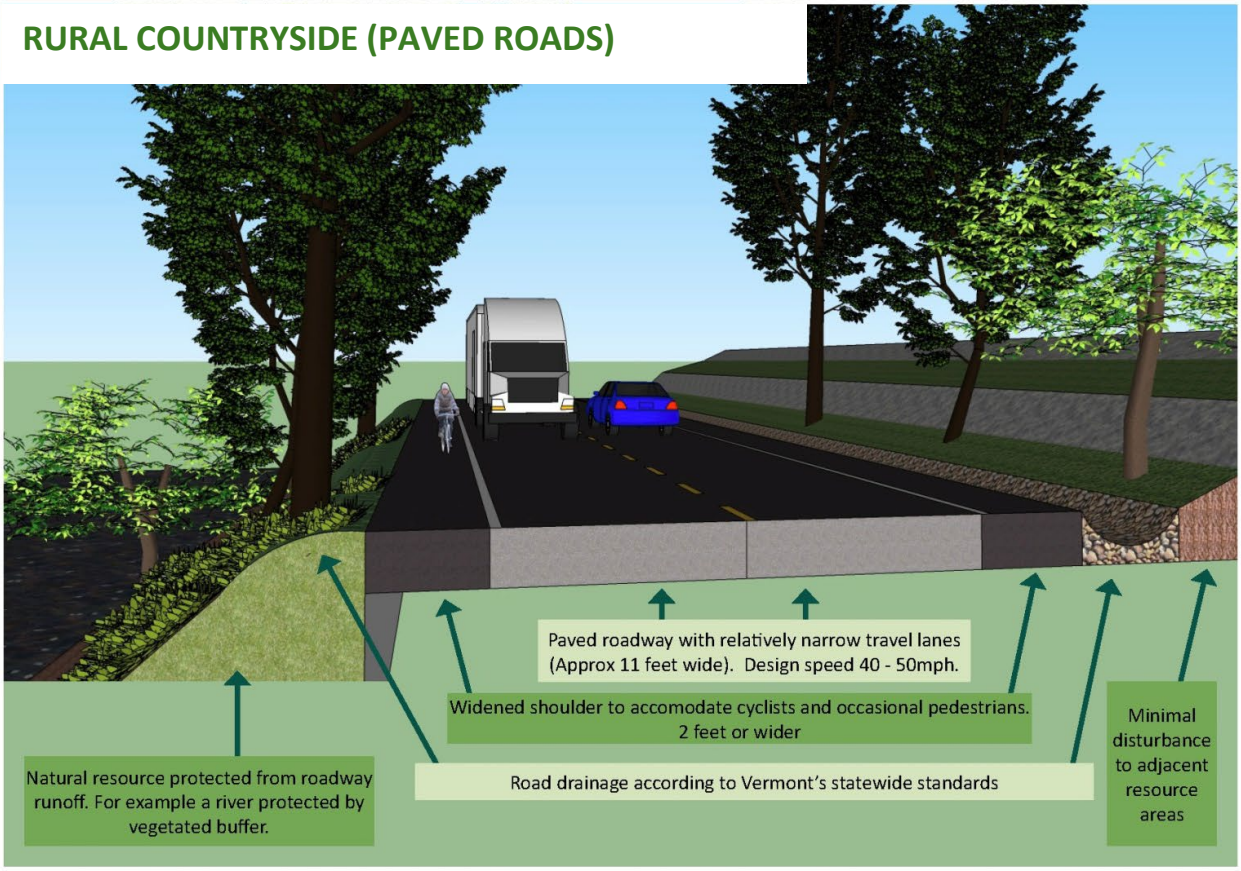
The following cross sections are provided only to illustrate the concepts described in this section. Application of these concepts will differ based on the unique conditions for each road and location, and the functional purpose of the roadway.

## CENTERS

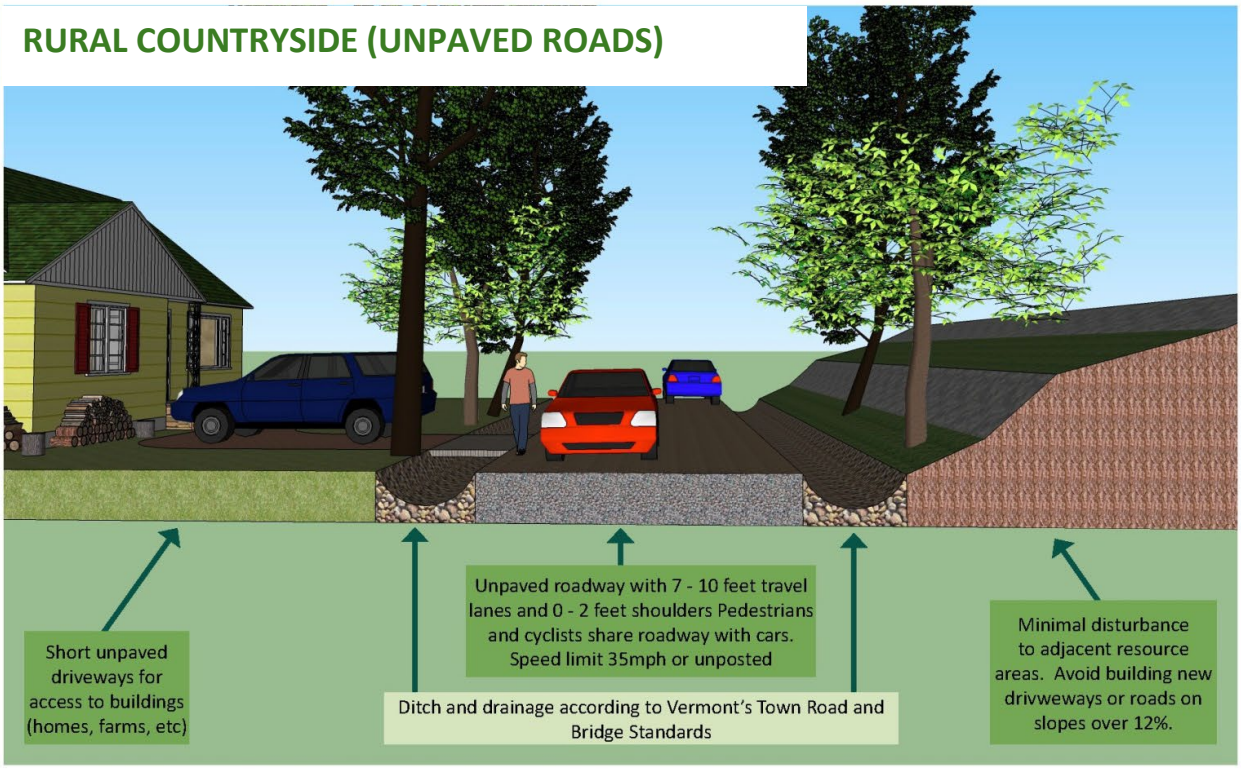
## NEIGHBORHOOD



## RURAL COUNTRYSIDE (PAVED ROADS)




## RURAL COUNTRYSIDE (UNPAVED ROADS)



# Chapter 3. TRANSPORTATION NETWORKS AND MODES

While the roadway system is the primary transportation infrastructure in the Region, other modes and networks are vitally important for the economy and for the mobility of residents and travelers. A primary goal of the RTP is to encourage a multimodal network that is consistent with the State Planning Goals in 24 V.S.A. §4302 and strives to meet the mobility needs of all residents and businesses.

## *D. 3.1. Road Network*

Roadways form the backbone of the Region's transportation system, carrying personal and commercial vehicles and many of the Region's bicyclists. There are approximately 800 public road miles in the region. The most heavily traveled portions of the road network are Interstate 91 followed by the State and Federal Highways (US 5, VT 10, VT 11, VT 44, VT 100, VT 103, VT 106, and VT 131; see Map T4: Average Daily Traffic Volumes).

Travelers on the Vermont road network as a whole experience some of the least congestion and most reliable travel times in the nation.[20] This broadly holds true for the Mount Ascutney Region as well on both high and low volume roads; however, seasonal congestion is an issue along the VT-103/VT-100N ski corridor and daily congestion is an issue along VT-11 in downtown Springfield during the morning and evening commutes and during school drop off and pickup . Therefore, broadly speaking, capacity exists along the Region's road network to support future development, but development at the Okemo and Killington ski areas should continue to be evaluated closely for its regional impacts. In addition, traffic impacts of proposed future developments should be evaluated according to Appendix A: Transportation Impact Study Guidelines.

Intersections of particular concern for congestion are listed here and can be found on Map T4: Average Daily Traffic Volumes.

VT 103:

- VT-103, Jackson Gore, Buttermilk Falls Rd. intersection in Ludlow
- VT-103, Okemo Mountain Rd in Ludlow
- VT-103, Depot St in Ludlow
- VT-103, VT-11 in Chester

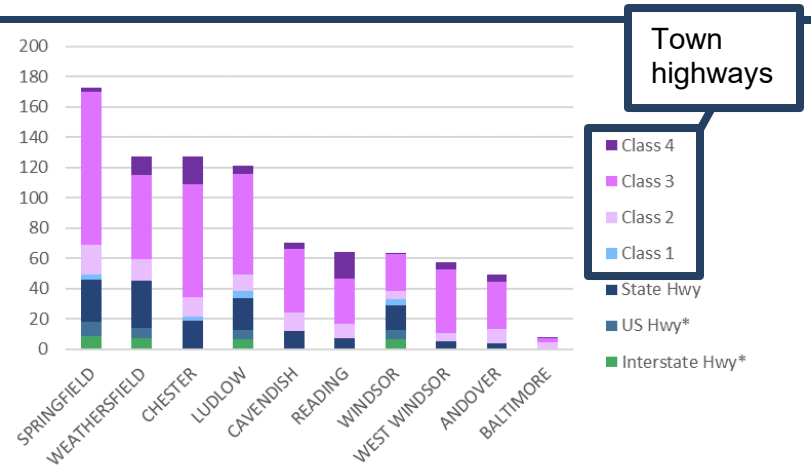
VT 11:

- VT-11 (Clinton Street), Main St, Mineral St, South St in Springfield
- VT-11 (Main St), Summer St, Park St
- VT -11 (Valley St)
- VT-11/106 (McDonald's intersection)

[20] https://infrastructurereportcard.org/wp-content/uploads/2016/10/Report-2023-VT-IRC-FINAL-WEB.pdf

**VT Town Highway Classifications:**[21]

Class 1: The extension of a state highway route and carry a State highway route number.
Class 2: Carry larger than normal amounts of traffic. and connect neighboring towns.
Class 3: All other town highways maintained for year-round use.
Class 4: All other town highways without regular maintenance except certain erosion controls.




*Source:VTrans 2019*

While Interstate 91, and the state and federal highways in the region are important travel corridors, the vast majority of roadway miles, approximately 77%, are local roads owned and maintained by the Region's towns. This is in line with the rest of the state where VTrans owns and operates 20% of the state's public roads and towns maintain the remaining 80%.[22]

While the Region's road network has not appreciably changed in the last decade, notable State improvements are currently in progress or upcoming:

- Deck repair of I-91 Bridge 29-4 in Weathersfield
- Full bridge replacement of Bridge 62 in Chester with a new bridge off alignment with removal of Bridges 62 and 72 and construction of the associated driveways

This Plan strives to implement "Complete Streets" principles, which involves consideration of accommodations for all users in the planning, design, construction and maintenance of all roadways. The principle underlying the Complete Streets concept is that streets should safely accommodate all transportation system users, regardless of age, ability, or what mode of transportation they prefer – walking, biking, driving, or use of transit. Making a street "complete" could involve a variety of activities,

[21] 19 V.S.A. § 302
[22] https://infrastructurereportcard.org/wp-content/uploads/2016/10/Report-2023-VT-IRC-FINAL-WEB.pdf

including widening shoulders in rural areas, installing/ maintaining sidewalks and crosswalks, creating multi-use paths and improving intersection geometry and facilities. Several factors go into determining what Complete Streets improvements would best suit a given roadway including traffic volumes, traffic speeds, available right of way, and the surrounding land use context. In many cases, high construction and maintenance costs as well as site constraints prevent the inclusion of Complete Streets improvements in routine maintenance projects. Projects with a broader scope, such as full-depth reclamations and structures replacements, on the other hand, often present opportunities to implement Complete Streets improvements.

For a list of specific road network needs see Section 4.5.2 Outstanding Transportation Needs.

**Road Network Conditions:** The condition of the road network has wide ranging implications for all users. A well-maintained network provides a safer and more comfortable travel experience for motorists, pedestrians, bicyclists and others alike.

Road surface condition data is collected for Interstate 91 annually along with the entire National Highway System. In addition, Vermont state highway surface condition data is collected every other year and after every paving project. Of the approximately 192 miles of roadway surface analyzed in the region, 89% was found to be in good or fair condition and the remaining 11% to be in poor or very poor condition. Flamstead Road in Chester and Craigue Hill Road in Springfield were among the routes in the worst condition within the Mount Ascutney Region of those assessed by the State (See Pavement Surface Condition Map). Recently completed paving projects are not yet reflected on the pavement conditions map below because the data is yet to be updated.

**Multiple Users of the Roadway Network:** The Region's roadway network is used by a variety of users, including trucks, passenger cars, public transit buses, bicyclists, pedestrians and other users. Making the roadway accessible and safe to all users is an important step to achieving equity in the transportation system. Those without access to a vehicle of their own still require access to employment, services, and other destinations and often the roadway network is the only means available to reach them. Travel lane and shoulder widths vary significantly across the Region as do traffic speeds, traffic volumes (see Map T-4) and number of trucks, all of which greatly influence the safety of each road for all user groups.

VTrans has scored state highways for bicycle level of comfort using the Bicycle Level of Traffic Stress (BLTS) method. Scores estimate how comfortable a typical bicyclist may feel riding near motor vehicle traffic on a given road segment based on roadway features such as shoulder width, traffic volume (AADT), speed limit, number of lanes, and land use patterns.[23] VTrans has also mapped which state highways are priority bicycle corridors.[24] Bicycle and pedestrian and traffic calming improvements along state highways in the Region should be targeted at priority corridors with a low bicycle level of comfort. Examples of such locations in the Region include US-5 north of Windsor's downtown, VT-131 between

[23] https://arcg.is/0KLCeb0

[24] https://vtrans.vermont.gov/sites/aot/files/planning/bikeplan/VTrans_Bicycle_Corridor_Priority_LargeMap_201603_Final.pdf

Cavendish and Ludlow, and VT-11 between downtown Springfield and the northern terminus of the Toonerville Trail.

Recreational and commuting bicyclists use local and state roads for travel, and the increasing availability and popularity of electric bicycles (ebikes) is likely to lead to higher numbers of bicyclists using the roadway network in the coming years.

## *E. Park and Ride Facilities*

Park and ride facilities are an integral component of the transportation system in the Mount Ascutney Region as they support both ridesharing as an alternative to single-occupant vehicle travel and public transportation services by providing convenient park-and-ride options. The Commission periodically assesses existing and future park and ride facilities that serve the Region. There are currently two state park and ride lots within the Region, with a third nearby in Hartland, and two municipal lots in Ludlow and Weathersfield.

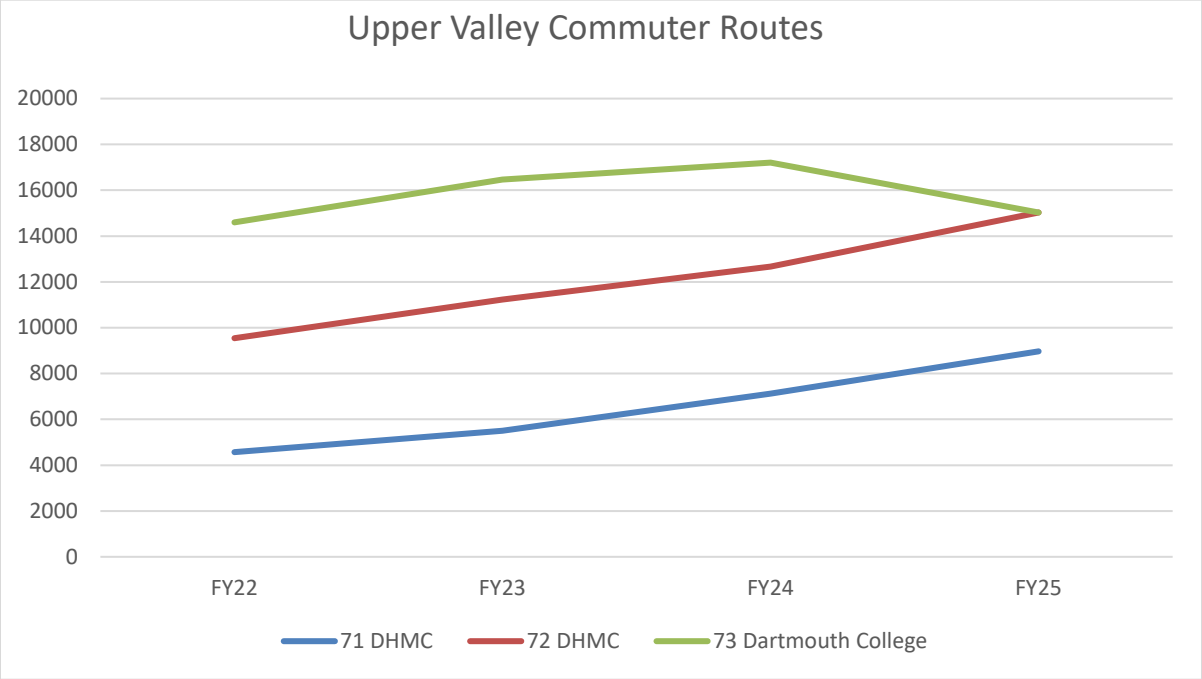
For a list of specific park and ride needs see Section 4.5.2 Outstanding Transportation Needs.

## *F. Public Transportation Network*

As shown in the Regional Profile Chapter, the Region is expecting to have an increasing percentage of its population as "transit dependent" in the future – particularly as the percentage of the population over 65 increases. Given the rural character of the Region, it can be challenging to provide public transportation that will meet the needs of all transit dependent populations in a cost- and time-efficient manner. Traditional urban models of depending on fixed-route buses to meet needs do not work – thus the public transportation network includes a wider range of options in the Region.

*MOOver bus*

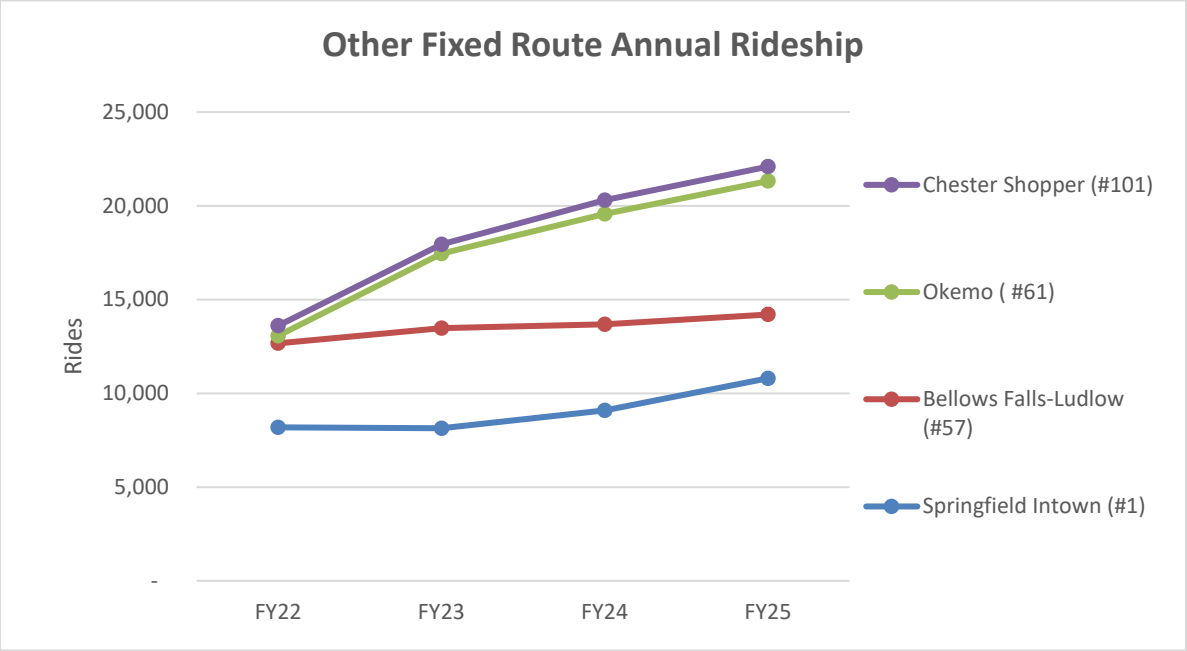
Southeast Vermont Transit (SEVT), known as the MOOver, is the designated transit provider within the Region and connecting it to the Upper Valley and destinations to the south and west. SEVT provides deviated fixed route, fixed-route commuter, microtransit, older adults and persons with disabilities, ADA, and Medicaid services**.** On deviated fixed-routes, buses stop at particular locations at particular times, with an ability to deviate from the fixed route by 1/4 mile if requested by a rider in advance. The two current commuter routes run from the I-91 park and ride lots at Exits 6, 7, 8 and 9 to the Upper Valley and its major employers.. Ridership numbers from SEVT show that approximately 14,000 trips were made by public transit from July 2022 through June 2025 (see chart below). [25]



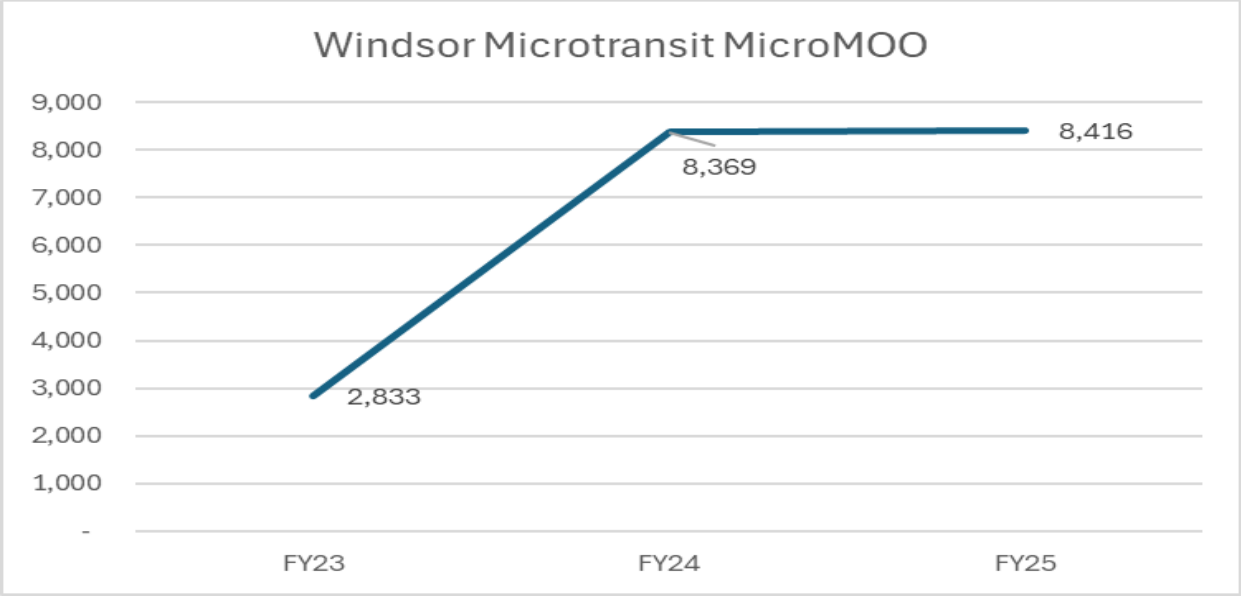

** Route 73 was combined Into Route 72 In FY25

SEVT operated an in-town service in Springfield through fiscal year 25, whichh changed to microtransit in fiscal year 26. SEVT also operates connecting service between Bellows Falls, Springfield and Ludlow year-round and between Bellows Falls, Springfield, Chester and Ludlow/Okemo in the winter months. Realtime bus tracking and text message notifications are available for these routes through the Transit smartphone app. SEVT and Okemo Mountain Resort coordinate to provide shuttle services within the resort area and between the resort, Ludlow, and Proctorsville Villages during the winter season, with SEVT operating the 61 Route serving the village of Ludlow and Okemo Base Lodge area.

[25] All ridership data provided by SEVT.

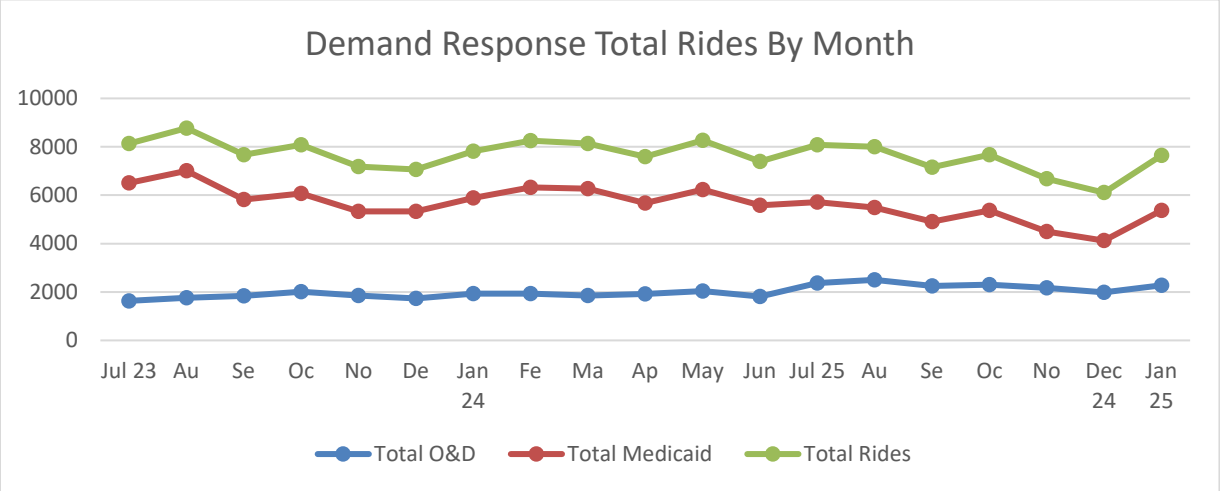



SEVT operates microtransit services in Windsor and Springfield. Microtransit services operate within a zone or service area rather than along set routes. Trips are scheduled or hailed by individual riders, and trips can begin or end anywhere with the service area.. The Springfield service began in November 2025 so ridership data is not yet available.




In addition to SEVT's services, there is a seasonal connection to Rutland from Ludlow via Marble Valley Transit that runs from Thanksgiving to the end of March. Ludlow Municipal Transit operated within Ludlow until the closure of the High School in 2020. A feasibility study was completed in Ludlow in 2021 that recommends a supplemental transit service during Friday and Saturday nights and holidays during the ski season.

SEVT also provides demand response service for Medicaid clients and older adults and people with disabilities for the Region. These services transport people from their homes to medical appointments and are provided by a combination of SEVT buses, volunteer drivers (in own cars), and subcontractor services. The Older Adults and Persons with Disabilities (O&D) program also provides transportation to Adult Day centers, congregate meal sites, group shopping trips and personal care trips. The O&D Program is managed by a committee made up of SEVT, the RPCs, Adult Day Centers, Senior Solutions, the Bellows Falls Senior Center and other human service providers.




Several community groups also help fill in gaps in the transportation network. Volunteers in Action in Windsor, for example, offers prescription pick-ups and deliveries as well as rides to meet daily needs, including rides to non-urgent medical appointments. SEVT has compiled a list of transportation options in Southern Windsor and Windham Counties on the MOOver website[26].

The Mount Ascutney Region is currently not served directly by intercity bus service, although it is close to the hubs of White River Junction and Bellows Falls (for Greyhound) and Lebanon, NH (for Dartmouth Coach).

Carpools, vanpools and ridesharing are other options available for those wishing to minimize the number of trips or miles they travel alone in their vehicle. Car and vanpools can also provide reliable transportation to and from work for those without regular access to a personal vehicle. These arrangements can be set up informally amongst personal networks or through Go Vermont and can be coordinated with employers [27]. Limited transportation for employment purposes is also available through the Recovery and Jobs Access Program, which is delivered by SEVT in the region. The program is intended to provide transportation for interviews, job training, and initial employment to help overcome barriers to employment due to limited transportation access. As the name suggests, the Program also provides transportation to recovery centers and programs.

[26] https://www.moover.com/wp-content/uploads/2021/04/Ride-Guide.pdf
[27] Go Vermont (www.connectingcommuters.org/)

The Region currently has very limited service from taxi **providers or ride hailing services** to fill any additional gaps in transportation options. Therefore, any loss of taxi service in the Region has a profound impact on the ability of those without regular access to a vehicle to meet their transportation needsIn 2022 when Springfield's only taxi service shut down, leaving many individuals and service providers scrambling to find transportation to medical appointments, grocery stores, and other vital destinations. The Region also does not have any rental car services. The closest are in Claremont, NH, White River Junction, VT and Lebanon, NH.

## Public Transportation Needs

1. Continue to monitor public transportation needs and carry out studies to assess needs for new, expanded, reduced or modified services and schedules regularly. Consider mobility solutions beyond traditional fixed routes to include microtransit, automated vehicles, and other transit innovations.
2. Support adequate bus circulation in all facilities designed to accommodate public transit, including Park and Ride lots.
3. Continue to support provision and improvement of demand-response services for older adults and persons with disabilities.
4. Where possible, to reduce the need for demand-response services, encourage the coordination of existing fixed-route deviated fixed route, and microtransit public transportation schedules with medical and non-medical service providers, to reduce the need for more expensive demand-response services.
5. Consider public transportation as an option to mitigate traffic impacts in major development proposals.
6. Improve coordination with transit providers in the early stages of project planning and development review to ensure accesses, parking lots, canopies, and other planned project elements can accommodate access for transit vehicles. This is particularly important for health and other human services and larger commercial and residential developments that depend on or benefit from transit service.
7. Improve public awareness of public transportation options within the Region through informational and outreach efforts. These might include accessible signage and service maps, webpages, and mobile applications.
8. Develop a plan for public transportation services within the Region which includes references to private transportation services that fill in gaps in transportation needs. Keep the A to B Mobility Study updated as an initial step.
9. Continue to assist Southeast Vermont Transit to evaluate existing routes and make improvements where needed.
10. Support the efforts of the Springfield Area Working Communities Challenge (WCC) to meet the transportation needs of the Region's employers and workforce.

11. Support the adoption of electric transit vehicles to provide public transportation where feasible.

## *G. Bicycling and the Bicycle Network*

Bicycling is primarily a recreational activity in the Mount Ascutney Region, though some residents bicycle to work and essential services.

Recreational cycling is an important economic driver in the region. There are several annual bicycling events around Mount Ascutney and the Okemo area Is popular for bicycle tours. The Region's many gravel roads are a draw for recreational bicyclist with their scenic views and relatively calm traffic. In 2019, the Mount Ascutney Regional Commission developed a bicycle route guide[28] to encourage residents and visitors to explore the region by bicycle. The guide provides both maps and narrative descriptions of 19 cycling routes along gravel and paved roads.

There Is little dedicated bicycle Infrastructure In the region -- requiring bicyclists to share the road with vehicles. VTrans continues to make an effort to widen shoulders along priority bicycle routes as identified in the State's 2021 *Bicycle and Pedestrian Strategic Plan* but these Increase construction cost and are not feasible In all areas. However, wider shoulders are more common on higher speed routes and can encourage higher traffic speeds making routes less attractive or unsafe for cyclists.

Other relatively low-cost solutions, such as bollard-protected cycle tracks along roads, remove bicycles from traffic and can Increase comfort and safety for cyclists more than simply widening shoulders. Multi-use are generally the most desirable form of bicycle and pedestrian infrastructure. These paths support bicycle tourism tourism and are generally more comfortable for riders

Dedicated bicycle infrastructure in the region is limited to the Toonerville Trail in Springfield, a very short path connecting the Fairgrounds in Windsor to a residential side street, and an on-road bicycle lane between the Tonnervile trail and downtown Springfield.

Efforts are underway to extend the Toonerville trail and construction on a segment connecting to the Edgar May Recreation Center should begin soon. Planning efforts have evaluated additional multi-use paths in Ludlow and North Springfield but high projected costs have largely stalled efforts to move

[28] The guide is made available through the dedicated website: https://ridewindsorcountyvt.weebly.com/

forward to design and construction. Additional bike lanes and bike parking facilities should be considered in the region, especially where dense development limits trip lengths.

### Bicycle Needs

1. Support state and local efforts to harmonize bicycle and pedestrian infrastructure projects with other transportation projects such as roadway, bridge, and paving projects.
2. Encourage the addition of dedicated bicycle facilities, such as cycle tracks, to roadways on priority state, regional, and local bike routes particularly where off road facilities are not feasible.
3. Assist towns to apply for and manage state and federal funding to plan and build bicycle facilities.
4. Promote the safe use of bicycles, including ebikes, as an alternative to single occupancy vehicles.
5. Implement the *2020 Active Transportation Plan.*
6. Support municipalities in the maintenance of their sidewalk networks to maintain a state of good repair and ADA compliance through inventories and capital planning assistance.

## *H. Pedestrians and the Pedestrian Network*

Sidewalks and pedestrian paths greatly enhance walkability and town connectedness. Connections which connect logical pedestrian destinations such as schools, downtowns, and neighborhoods should be prioritized  Sidewalks should be constructed alongside other pedestrian and cyclist friendly road elements, such as greenery, road diets, curb extensions, and traffic calming measures. Sidewalks must be maintained to stay in compliance with the Americans with Disabilities Act standards Street trees, lighting, benches, frontage zones (e.g. sidewalk cafés or sandwich board signs), and other amenities further enhance the network for walking as well as providing important place-making and economic development functions.

There are pedestrian commuters in every town in the region except Andover and Baltimore (which have no village centers or downtowns). Since 2007, MARC has been conducting annual bicyclist and pedestrian counts on Ludlow, Springfield and Windsor Main Streets, and on Springfield's Toonerville Trail. The counts show a steady usage of pedestrian facilities (sidewalks and multi-use paths) in most seasons.

| Town | Location | Facility Type | Approx. Mileage | % Network Rated as Poor | Recent Study or Inventory |
|---|---|---|---|---|---|
| Springfield | Downtown and some residential areas | Sidewalk | 20 miles | 23% | Sidewalk Inventory 2013 |
| Springfield | North Springfield | Sidewalk | 2 miles | 13% | Sidewalk Inventory 2013 |
| Springfield | Toonerville Trail | Multi-Use Path | 3 miles | | |
| Windsor | Downtown and some residential areas | Sidewalk | 6.6 miles | 3% | Sidewalk Inventory 2021 |
| Windsor | Fairgrounds to Fairview/Enright Ave | Bike Path | Less than 0.1 miles | | |
| Ludlow | Village and some residential areas | Sidewalk | 4.5 miles | 3% | Sidewalk Inventory 2021 |
| West Windsor | Brownsville village | Sidewalk | 0.5 miles | 0% | Sidewalk Inventory 2013 |
| Chester | Chester and Chester Depot | Sidewalk | 4.1 miles | 80% | Sidewalk Inventory 2025 |
| Cavendish | Proctorsville village | Sidewalk | 0.6 miles | | Sidewalk Inventory 2011 |
| Cavendish | Cavendish village | Sidewalk | 1.6 miles | | Sidewalk Inventory 2011 |

## Pedestrian Needs

1. Develop municipal ADA transition plans to bring public sidewalks and other facilities up to current Americans with Disabilities Act of 1990 (ADA) Accessibility Guidelines.

2. Enhance sidewalks and crosswalks to better promote pedestrian safety and comfort and support state planning goals, including Complete Streets.

3. Make logical sidewalk and multi-use path network expansions to make connections between destinations.

4. Expand road shoulders for pedestrians in smaller village centers or higher pedestrian usage areas where sidewalks are not feasible.

# *I. Rail Network*

*Rail in Windsor.*

Rail service is comprised of both passenger rail and freight services. Each is respectively discussed below. All passenger rail services In Vermont are hosted on freight rail tracks.

Vermont's rail network is highly Interconnected to rail networks of surrounding states and provinces. Rail projects and schedules must be carefully coordinated with stakeholders across the Northeast and Canada.

## Passenger Rail:

Amtrak passenger service currently passes through the Region twice daily along the New England Central Railroad (NECR) tracks. The "Vermonter," with service between St. Albans, VT and Washington D.C., currently stops in Windsor, as well as in nearby White River Junction, Bellows Falls, and Claremont, NH (see Regional Transportation System Map). This daytime service, which replaced the Montrealer in 1995, is popular with business travelers, college students, and tourists. Given the single round trip schedule, the train is not particularly conducive to commuting. The track has had significant upgrades in recent years which have improved travel speeds between New York City and the Region. Efforts are currently underway to restore Vermonter service to Montreal. The State of Vermont currently subsidizes the Vermonter to maintain services in this portion of the State.

Amtrak recently completed ADA and other improvements to the platform at the Windsor station, but additional needs remain including a passenger shelter, signage, and EV charging. In 2024 there were 1,684 boardings from the station.[29]

[29] https://www.amtrak.com/content/dam/projects/dotcom/english/public/documents/corporate/statefactsheets/VERMONT24.pdf
For a discussion of statewide Amtrak ridership trends, see the 2025 Vermont Rail Plan: https://vtrans.vermont.gov/sites/aot/files/rail/documents/Vermont%20Rail%20Plan%20to%20FRA%202025-07-20.pdf

The Green Mountain Railroad provides tourist-oriented passenger services on the "Green Mountain Flyer" leaving from Chester, VT to Bellows Falls and Rutland. These special scenic excursion services are available from early summer through the fall. There is interest in establishing more regular passenger service between Chester and Rutland. If implemented this service would likely be achieved through a combination of rail and transit[30]. The Green Mountain Railroad also hopes to relocate the Ludlow station to a more accessible location and resume service to Ludlow.

The Chester Village Center Master Plan recommends expanding the use of the historic station to provide more visitor services such as a museum, visitor Information, and public restrooms. The area around the Depot also presents challenges, particularly to pedestrians, due to intersection and roadway geometry. Improvements are needed to the Depot and surrounding area to accommodate all users of the transportation network and provide a more welcoming northern entrance to the Village Center.

**Freight Rail:** Freight rail is an important mode for shipping commodities and can offer greater economies of scale than trucking for certain commodities. Freight carriers are trying to diversify from their traditional dependence in Vermont on lumber, with top commodities today including petroleum and coal products, nonmetallic minerals, and food products.[31] There is opportunity to expand the use of rail for such freight that is not time-sensitive for delivery (i.e. not "Just-In-Time" delivery that is used for things like food and stocking most retail stores) - such as Liquefied Petroleum Gas (LPG), sand, gravel, talc, limestone slurry, livestock feed, and logs and lumber. Rail has the advantage over other modes with heavy shipments – with weight limits of up to 286,000 pounds far above the limit of 99,000 on most interstate highways.

The Mount Ascutney Region is served by two railroads – New England Central Railroad (NECR) and Green Mountain Railroad (GMR). The Green Mountain Railroad (GMR) became affiliated with the Vermont Rail System in 1997 and provides freight service through a lease agreement with the State of Vermont. Its service area lies between North Clarendon, VT and Cold River, NH with stops in Chester and Ludlow. The Green Mountain Railroad links with the New England Central Railroad in Bellows Falls and VT Railway in Rutland. The New England Central Railroad (NECR) is a higher speed line than the GMR, and provides access north towards White River Junction VT, south towards Springfield MA, and beyond. Recent improvements to the clearance of the Bellows Falls tunnel increased the freight capacity of both the NECR and GMR lines. Vermont Railway was recently granted NECR trackage rights from Bellows Falls to White River Junction, which should make a big difference in the timing of freight movements to and from the region.

Freight rail service is available in Windsor's downtown industrial area and is preferred to local industrial trucking activity. Chester Depot is an existing transfer point on the GMR. Increased use of the GMR and the NECR tracks for both freight and passenger service has the potential to alleviate some of the traffic, truck and safety issues on US Route 5 and VT Route 103.

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[30] See the 2025 Vermont State Rail Plan table of Tier 3 Initiatives.
https://vtrans.vermont.gov/sites/aot/files/rail/documents/2025%20Vermont%20Rail%20Plan.pdf.
[31] 2025 VT State Rail Plan, Appendix D .
https://vtrans.vermont.gov/sites/aot/files/rail/documents/2025%20Vermont%20Rail%20Plan%20Appendices.pdf.

## Rail Needs

The following are potential needs and upcoming projects concerning the rail network:

1. Support the location of businesses that could use freight rail transportation near existing rail lines and transfer points where possible.

2. Preserve existing freight rail accesses and promote the economic development potential of parcels with existing access. Ensure zoning continues to allow for uses that would benefit from freight rail access where it currently exists.

3. Support improvements to the tracks and service to allow for higher speeds (e.g. Knowledge Corridor[32] and New England Intercity Rail Initiative[33]).

4. Coordinate with local and state entities to promote the benefits of Amtrak and dedicated tourist passenger rail service.

5. Support efforts to continue to improve the Windsor Amtrak platform including the addition of a passenger shelter, informational and wayfinding signage, EV charging, intermodal connections, and other amenities.

6. Implement the recommendations of the Chester Village Center Master Plan to expand the services available at the Chester Depot and improve the bicycle and pedestrian experience In and around the Depot.

# *J. Air Network*

Air service is important for business and personal travel as well as for emergency responders, medical services and air cargo. There Is only one airport directly In the region -- making easy access to the larger commercial airports is an important consideration of this Plan. Maximizing the use of the Hartness State Airport is a primary objective for this Region.

Commercial Flights are available at large airports including Manchester-Boston Regional (NH), Bradley International (CT), Boston Logan International (MA), and Burlington International (VT). These airports provide service for domestic and international flights. In addition, Lebanon Municipal Airport and Rutland-Southern Vermont Regional Airport provide limited commuter service within New England and the Northeast, as well as general aviation.

[34] 2021 Vermont Airport System Plan https://vtrans.vermont.gov/sites/aot/files/aviation/VASP_FINAL_2021-08-18.pdf
[34] 2021 Vermont Airport System Plan https://vtrans.vermont.gov/sites/aot/files/aviation/VASP_FINAL_2021-08-18.pdf

**Hartness State Airport**: Hartness State Airport is in Springfield and Weathersfield and is the oldest airport In Vermont. . The airport is owned by the State of Vermont and has two runways, one of which is the second longest in Vermont (5,501ft.VTrans contracts out fixed-base operator services for this airport, including aircraft maintenance, storage, fuel, charters, and flight instruction. Hartness is also a center for glider activity. 19, single engine aircraft and 8 gliders aircraft were based at Hartness in 2021.[34]Hartness State Airport also serves important functions for hospitals, National Guard, and Civil Air Patrol (CAP) operations. It is also important for economic development.

According to an Economic Impact Assessment conducted by VTrans as part of the 2021 Vermont Airport System Plan (VASP), the overall economic impact of the Hartness State Airport was estimated to be over $1.5 million and 14 jobs.[35] Hartness State Airport is underutilized, but the State of Vermont has several plans to improve utilization of Hartness alongside other Vermont airports.

[34] 2021 Vermont Airport System Plan https://vtrans.vermont.gov/sites/aot/files/aviation/VASP_FINAL_2021-08-18.pdf
[35] https://vtrans.vermont.gov/sites/aot/files/aviation/VASP-ECONOMIC-IMPACT-ASSESSMENT_FINAL_2021-08-18.pdf

# Chapter 4. IMPLEMENTATION

The purpose of this chapter is to articulate how the MARC intends to implement this *Regional Transportation Plan*. Chapter 11 of *Volume 1 of the Regional Plan* identifies plan implementation measures. This chapter of *Volume 2 of the Regional Plan* is intended to supplement *Volume 1* with respect to implementation measures specific to transportation-related requirements as specified below:

1. Statutory requirements for the elements of a regional plan under 24 V.S.A. §4348a specify that the transportation element shall include a description of "present and prospective transportation and circulation facilities" and "recommendations to meet future needs for such facilities, with indications of priorities of need, costs, and method of financing".

2. 24 V.S.A. §4348a also requires that the plan include "[a] program for the implementation of the regional plan's objectives, including a recommended investment strategy for regional facilities and services".

To address the above requirements, this document is intended to serve as both a policy document as well as a planning guide for future transportation system investments. The goals and policies listed in Chapter 1 (*Volume 2*) are primarily intended to guide future investments in the transportation system and shape how subsequent land use development affects the safety, functionality and efficiency of the transportation network. The needs listed throughout Chapter 3 identify and future needs that will need additional planning and scoping before implementation can occur. Some of the identified needs will also serve as the basis for the MARC's annual work programs, as we work to implement these projects over time.

MARC intends to implement *Volume 2 of the Regional Plan* in the following ways. For the purposes of this document, implementation measures are discussed in four broad categories.

## *A. Public Participation & Coordination*

As discussed in the introduction section of *Volume 2*, public participation was a critically important aspect of developing this document, especially with respect to developing policy statements, and identifying and prioritizing transportation needs. Similarly, the successful implementation of this document will require significant levels of additional public participation and coordination. All reasonable efforts will be made to maintain a clear, transparent implementation process that seeks meaningful levels of public involvement during the entire subsequent implementation processes. This will be accomplished through a variety of means including, but not limited to, the programs and strategies highlighted in this section. All public involvement shall be accomplished in accordance with VTrans' Transportation Equity Framework and Vermont's Environmental Justice Law (Act 154 of 2022).

**Transportation Advisory Committee:** MARC has a Transportation Advisory Committee (TAC) that advises on regional transportation issues with representatives from each community in the Mount Ascutney region, an ex-officio representative from VTrans and up to four "at-large" members. Part of their work includes an annual project prioritization project with VTrans to prioritize their work across

the state. More information about the TAC's meetings, agendas and work can be found on their webpage at https://www.marcvt.org/transportation-advisory-committee-tac.html.

**Coordination Efforts Between Different Partners:** Over the years, the MARC has become a vital connection between a variety of partners involved in or who would be affected by changes to transportation in the region. The MARC enables coordination between federal, state and local governments, the general public and other interested parties. Coordination with these partners is important for planning as well as implementation of transportation-related projects and programs.

The MARC participates in or coordinates with a variety of transportation-related committees and groups that meet regularly including, but not limited to:

- Vermont Transportation Planning Initiative (TPI)
- Mount Ascutney Region Transportation Advisory Committee (TAC)
- Orange and Windsor Counties Town Road Foremen
- Springfield Airport Commission
- Mt Ascutney Hospital Prevention Partnership
- Southern Windsor and Windham County Older Adults and Persons with Disabilities (O&D) Committee
- The Vermont Transportation Efficiency Network (VTEN)
- The Upper Valley Transportation Management Association
- The Springfield Area Working Communities Challenge

Other typical partners with which the MARC coordinates on transportation-related issues include:

- Vermont Agency of Transportation
- Southeast Vermont Transit
- Chambers of Commerce
- Town Selectboards, Planning Commissions, Village Trustees, and other Boards and Committees
- Town Managers
- Town Clerks
- Town Zoning Administrators
- Emergency Services Personnel – particularly Police and Fire
- Springfield Regional Development Corporation

For more information about the partners and particular coordination efforts of the MARC, see the most recent *Transportation Planning Initiative (TPI) Work Plan*.

**Communication Methods:** To improve public access to information related to the implementation of this Plan, the MARC uses a variety of media and communication methods to disseminate information:

- MARC webpage https://marcvt.org/
- MARC facebook page https://www.facebook.com/MountAscutneyRC
- MARC newsletter https://www.marcvt.org/marc-newsletters.html
- MARC YouTube page https://www.youtube.com/channel/UCB-6iFpfJWkTbFVu3mS93aw
- Town listservs, newsletters, blogs and websites
- Email lists of interested parties

- Newspaper advertisements and press releases
- Paper copies of all reports and plans are available upon request
- Local public access television

As technology continues to improve and popular social media changes, the above means of communication will need to be altered to utilize the most effective and easily accessible formats for residents of this Region.

**Title VI Plan:** In 2024, the MARC updated its Title VI Plan which outlines how the RPC plans to address the requirements of Title VI of the Civil Rights Act of 1964, the Civil Rights Restoration Act of 1987 and related Federal and State statutes[36]. A key element for addressing Title VI at the planning phase is having an effective public involvement process. That process must be proactive and provide complete information, timely public notice, full public access to key decisions and an opportunity for early and continuing involvement. A public involvement process should also include a process for seeking out and considering the needs of those who are traditionally ignored or underserved (e.g. by existing transportation systems). The *Title VI Plan* outlines as a system of procedures and mechanisms to assure nondiscrimination in all of the MARC's programs, activities and services, whether Federally-funded or not[37].

## *B. Annual Work Program*

A significant amount of the transportation work done by the MARC is carried out through participation in Vermont's Transportation Planning Initiative (TPI) which represents a formal collaboration between the Vermont Agency of Transportation (AOT) and the eleven Vermont Regional Planning Commissions. Each federal fiscal year (Oct – Sept) an RPC Transportation Work Program is established, which details the work that will be carried out in the Mount Ascutney Region under this initiative. This work program seeks to implement both programmed projects and needs as identified in the Regional Transportation Plan. It also includes special projects and other activities needed to implement this Plan, such as corridor studies, modal plans, regional safety forums, and other transportation planning activities. The most current Transportation Work Program is available online at https://www.marcvt.org/transportation.html.

Additional funding may be necessary to conduct planning efforts identified in this Plan such as robust, meaningful modal plans or corridor studies.

[36] Title VI of the Civil Rights Act of 1964, the Civil Rights Restoration Act of 1987, and related Federal and State statutes and regulations, prohibits discrimination and provides that no person in the United States shall, on the grounds of race, color, national origin, gender, age, low income status, or mental or physical disability be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance.
[37] For more information see MARC's Title VI and Civil Rights webpage https://marcvt.org/title-vi-and-civil-rights/

## *C. Targeted Transportation Investments*

Recommendations to meet future needs can generally be classified into two major types: programmed projects and identified future needs. Programmed projects have construction funding included in the State Transportation Program and are included in the STIP, as discussed in Section 4.3.1. Identified needs represent a list of regional transportation needed investment, but that at this time do not have implementation money identified (see Section 4.3.2). Some of these needs may be easily addressed through regular roadway maintenance activities. Some other needs may be able to be addressed through local funding or through smaller grant programs, such as Better Backroads, Town Highway Structures, or the Class 2 Town Highway Programs. Other needs may require significant funding for future implementation. There is clearly not enough money in the State Transportation Program to address all of these needs. Implementation of these needs will happen only as future funding allows. These needs will be evaluated on a regular basis, at least every eight years, as both transportation infrastructure and funding conditions change.

**Programmed Projects:** Programmed projects include transportation investments that are included in VTrans Annual Capital Programs. MARC and the TAC partner with VTrans to evaluate and prioritize potential projects together with town highway departments and other town officials. Past and most recent MARC annual project prioritization lists are posted online at https://www.marcvt.org/project-prioritization.html.

**Ongoing Evaluation and Coordination Concerning Programmed Projects:** Each year, the VTrans Capital Program is approved by the State Legislature and posted online at https://vtrans.vermont.gov/about/capital-programs. In addition, the Statewide Transportation Improvement Program (STIP) is developed by VTrans. The STIP lists how VTrans intends to spend funding from the Federal Highway Administration and the Federal Transit Administration over the next four year period. MARC staff review both funding documents to evaluate the status of programmed projects. Where questions arise, the MARC will coordinate with town, state and federal levels regarding the status of these programmed projects. Staff also assist VTrans with outreach for annual STIP hearings, attend the hearings, and provide comments to the STIP coordinator.

**Identified Future Needs:** A list of needs and potential projects were identified with the assistance of a variety of regional stakeholders – as listed in the Introduction of this Plan. In general, the identified regional needs and potential projects are summarized as described below:

- Topics include, but are not limited to, safety improvements, hazard mitigation, pedestrian and cyclist-related improvements, byways, traffic flow and access management, transit and park & ride.
- Short range and long range needs. While some needs may be met in the next few years as they are incorporated into routine maintenance and small transportation projects, many projects may not be completed for many years, if at all. However, it is useful to get a comprehensive idea of the major needs across the region so needs can be prioritized as funding and opportunities become available.
    - High – Within next five years. Project either relatively easy fix or can be addressed in a capital project that is already programmed.
    - Medium – Within next five to fifteen years.

    - Low – Most likely will not be addressed for at least another fifteen years, unless circumstances change.
- The primary entity who would be responsible for the project or to address the potential need is identified. Note: Distinction is made between efforts of the central VTrans Highway and Intermodal Divisions ("State") and the VTrans Maintenance District Offices ("District") due to different personnel and funding mechanisms.

Potential project costs and funding sources are not identified for most projects, as detailed scoping or project cost estimates are not available. It is intended that this list of needs and priorities be used to inform the annual transportation work program of MARC and that where possible MARC will assist Towns and VTrans to seek funding and opportunities to address these needs.

Examples of funding and opportunities that may be relevant for implementation include:

- Highway Safety Improvement Program (HSIP) –Implementation of low cost safety improvements to town roads in Vermont.
- Better Back Roads grants – awarded annually to address transportation issues related to water quality issues.
- Municipal Park and Ride grants
- Transportation Alternatives Program grants – awarded annually using federally defined eligibility through VTrans.
- Vermont Bicycle and Pedestrian Program grants – awarded annually by VTrans for Bicycling and Pedestrian projects.
- Hazard Mitigation Assistance Grant Programs grants.
- Town Highway Structures and Class 2 Highway grants.

Paving and maintenance projects through VTrans may be able to address minor needs without significantly increasing scope (and cost) of a programmed project.

## *D. Development Review*

The MARC takes an active role in reviewing development proposals (e.g. permit applications for Section 1111, Act 250, Section 248) to ensure that projects are in conformance with this document and do not result in undue impacts on the transportation system or public investments in the transportation system. Such projects are evaluated based on the goals and policies listed in Chapter 1 (*Volume 2* ), regional *Traffic Impact Study Guidelines*, existing permit findings and conditions, and consistency with other planning documents (e.g. *VT 103 Corridor Management Plan*, *North Springfield Truck Study*, *Ski Corridor Traffic Management Plan*, etc.). See Chapter 11 of *Volume 1* of the *Regional Plan* for more information on development review and substantial regional impact determinations.

## *E. Needs and Priorities*

This section contains a list of recently completed and programmed projects and a list of outstanding needs as identified by MARC staff, the TAC, and town boards and officials including road foremen. For a periodically updated map of the Region's transportation needs, see the Region's Transportation Needs[38] web map.

First, the following are some needs/ considerations which would apply to the broader roadway network across the entire region

1. Add higher hand rails to all bridges. These rails are useful for pedestrian safety and allow for easier maintenance.
2. Where possible add sidewalks or widen shoulders on bridges.
3. Support transportation-related projects of the Connecticut River Byway (US Route 5, and parts of VT Routes 11, 44A and 44).
4. Support transportation-related projects of the Scenic Route 100 Byway (VT Route 100, and part of VT Route 103).
5. Support efforts to implement the VT-131 Scenic Highway Corridor Management Plan.
6. Ensure projects and developments in the vicinity of Interstate interchanges comply with the policies set forth in this Plan around development type, access management, and aesthetics.
7. Implement the *Ski Corridor Management Plan*. Develop a corridor management plan to update and replace the Ski Corridor Management Plan.
8. Improve access management on River St (VT-106) in Springfield per local zoning provisions.
9. Implement the recommendations of the MARC *Safety Action Plan*.
10. Implement the recommendations of the *Active Transportation Plan*.

[38] https://marcvt.maps.arcgis.com/apps/webappviewer/index.html?id=3a64eda63ea44e98bde6425e52d69291

# Appendix A. Recently Completed Projects:

What follows is a list of projects from previous versions of the Regional Transportation Plan that have been completed as of June 2022.

| ID | Short Description |
|---|---|
| 8 | US-5 ~ Improve condition of Exit 9 Park & Ride Lot ~ Hartland |
| 9 | VT-11 ~ Improve Exit 7 Park & Ride Lot ~ Springfield |
| 12 | Repave VT-131 ~ Cavendish |
| 13 | VT-131 from Upper Falls Road to Whitesville ~ Cavendish & Weathersfield ~ Widen shoulders, improve sight distances and improve drainage where possible |
| 14 | VT-131 ~ Cavendish ~ Improve drainage around Chubb Hill Ledges |
| 19 | Repave Class 1 town highway ~ Chester |
| 20 | Repave Class 1 town highway ~ Springfield |
| 21 | Repave Class 1 town highway ~ Windsor |
| 22 | Reconstruct Maple St ~ Weathersfield |
| 23 | Upgrade Railroad Crossing ~ Ludlow |
| 25 | Replace Bridge 1 ~ Cavendish |
| 26 | Repair/ Replace Bridge 58 ~ Cavendish |
| 27 | Replace Bridge 25 (Walker Bridge) ~ Ludlow |
| 34 | Replace deck on Bridge 4 ~ West Windsor |
| 35 | Replace deck on Bridge 7 ~ West Windsor |
| 36 | Replace I-91 Bridges N&S ~ Windsor |
| 42 | Repair/ Replace Bridge 28 ~ Reading |
| 67 | VT-131 west of Cavendish village ~ Potential hazard mitigation site |
| 82 | VT-131 in Cavendish village ~ Cavendish ~ Improve drainage |
| 105 | VT-103 & VT-100N ~ Ludlow ~ Improve safety at high crash intersection |
| 106 | VT-103N and Buttermilk Falls Rd and Jackson Gore entrance ~ Ludlow ~ Improve intersection geometry to improve safety |
| 116 | VT-131 & VT-106 in Downers ~ Weathersfield ~ Improve intersection safety |
| 137 | Airport Rd ~ Weathersfield ~ Improve paving |
| 140 | Repair/Replace Bridge 13 (Massey Rd) ~ Springfield |

# Appendix B. Outstanding Transportation Needs:

What follows is first a list of all specific identified regional transportation needs. A description of how this list was compiled can be found in Chapter 4.3.2.

| ID | Short Description | Type | More Information | Priority | Responsibility | Known or Estimated Cost |
|---|---|---|---|---|---|---|
| 40 | Repair/ Replace Bridge 17 ~ Ludlow | Bridge | Pleasant St Extension Bridge. Pre-Candidate Town Highway Bridge Project. | Medium | Town | High |
| 43 | Repair/ Replace Bridge 56 ~ North Springfield | Bridge | Main St (North Springfield) bridge between Fairbanks Road and VT-10. Pre-Candidate Town Highway Bridge Project. SB. | High | Town | High |
| 44 | Repair/ Replace Bridge 62 (McDs) ~ Springfield | Bridge | McDs bridge on VT-11 (Chester Road) between River St and Middle School. Candidate Town Highway Bridge Project. SB. | High | Town | High |
| 45 | Repair/ Replace Bridge 79 ~ Springfield | Bridge | Park St Bridge between VT-11 (Main St) and Mineral St. Pre-Candidate Town Highway Bridge project. SB. | High | Town | High |
| 46 | Repair/ Replace Bridge 63 ~ Weathersfield | Bridge | Ascutney Basin Road Bridge near VT-106. Pre-Candidate Town Highway Bridge project. | Low | Town | High |
| 47 | Repair/ Replace Bridge 24 ~ Windsor | Bridge | Brook Road, east of Estey Lane. Pre-Candidate Town Highway Bridge program. | Low | Town | High |
| 49 | VT-131 & VT-103 in Proctorsville ~ Cavendish ~ Potential new Park & Ride lot location | Transit and Park & Ride | Identified in 2012 SWC Park and Ride Needs Assessment. TAC. {Low responsibility} | Low | Town | Low |

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|---|---|---|---|---|---|---|
| 50 | VT-106 & VT-10 in North Springfield ~ Springfield ~ Potential new Park & Ride lot location | Transit and Park & Ride | Identified in 2012 SWC Park and Ride Needs Assessment. | Low | Town | Low |
| 51 | US-5 ~ Windsor ~ Improve public transit access | Transit and Park & Ride | Improve public transit options to major employment centers from Windsor. SB. | High | Town | Medium |
| 68 | Hartland-Brownsville Rd near Coon Club Road ~ West Windsor ~ Hazard mitigation needed | Roadway | Hazard mitigation needed near intersection with Coon Club Road. RF. | High | Town | Medium |
| 69 | VT-103 and Commonwealth Ave ~ Ludlow ~ Hazard mitigation needed | Roadway | Need hazard mitigation work done. SB, RF. | Medium | Town | High |
| 70 | VT-103 in Stone Village ~ Chester ~ Mitigate truck traffic issues | Roadway | Heavy truck volumes along VT-11 and VT-103 have wear and tear on roads and there is concern for the impacts on the historic Stone Village. SB. | Low | State, RPC, Town | High |
| 71 | VT-11 & VT-103 ~ Chester ~ Improve traffic flow during peak times and improve road geometry | Roadway | Chester triangle (Maple St/ South Main St/ Depot St). Ski traffic congestion, hard for trucks to make the corner. Explore improvements as identified in 2008 VT 103 Corridor Management Plan, including improving the geometry for trucks. Identified High Crash location in 2006-2010 data from VTrans. 1999 State Truck Network study. TAC, SB. | Medium | State, RPC, Town | High |
| 72 | VT-103 ~ Ludlow ~ Manage and mitigate traffic congestion during peak travel | Roadway | Experiences congestion caused by peak hour tourist travel. Identified in VT-103 Corridor Management Plan 2009. | High | State, RPC, Town | Medium |

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| 73 | VT-131 in Amsden ~ Weathersfield ~ Improve roadway safety | Roadway | "Deadman's Corner". Tight corner. Issues start from Cerassimo and end at VT-106. Identified High Crash Location in 2006-2010 data from VTrans. Would be a big project to address. TAC, SB. | Low | State | High |
| 74 | VT-131 & VT-103 in Proctorsville ~ Cavendish ~ Study intersection and improve safety | Roadway | Study to find improvement. Railroad tracks distracting. Too much happening at once. Issues with traffic flow. Identified High Crash Intersection in 2006-2010 data from VTrans. TAC. Town Plan. | Low | State | Low |
| 77 | VT-100N from VT-103 to Plymouth townline ~ Ludlow ~ Widen shoulders and improve sight distances to improve safety | Roadway | Through the Lakes District. Improve safety for motorists and bicyclists. Identified in 2006 Bicycling and Pedestrian Plan. TAC, RF, SB. Geographic and lake constraints would make it hard to do. | Low | State | Medium |
| 78 | Grafton Road ~ Chester ~ Address issues of roadway and stream bank stabilization | Roadway | Roadway significantly damaged in Irene - roadway is falling into the stream and needs rip rap/ stream stabilization. Hazard mitigation. Close to stream. Town continues to work to address issues. TAC, SB. Clay soils make work in the area hard. Need to armor banks over time. | Medium | Town | Medium |
| 79 | VT-106 & VT-10 in North Springfield ~ Springfield ~ Improve intersection safety | Roadway | Improve access management especially at gas station - which would mean waiting for an access management permit to be triggered. TAC. | Low | State | Medium |
| 81 | VT-131 & Upper Falls Rd ~ Weathersfield ~ Improve intersection layout | Roadway | Wide and confusing intersection near covered bridge. TAC. District to talk with town about altering the pull-off (which is town-owned) which makes the intersection too wide. | Low | State, Town | Low |

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| 84 | VT-44 & US-5 ~ Windsor ~ Improve intersection safety | Roadway | Union/Bridge/Main St. Identified High Crash Location in 2006-2010 data from VTrans. TAC. | Low | Town | High |
| 85 | VT-10 and Baltimore Rd ~ Springfield ~ Improve intersection safety | Roadway | Improve safety. Change speed limit and add intersection warning signs? High speeds through the area - especially as come around the corner from VT-106/ River St. Baltimore SB. | Low | State, Town | Low |
| 86 | VT-44 around Windsor/ West Windsor townline ~ West Windsor & Windsor ~ Widen shoulders to improve safety | Roadway | Identified High Crash Location in 2003-2007 data from VTrans. Road surface pitches considerably. Already removed some trees to make it better. Quite a few bikes and walkers. Narrow roadway. TAC. Could address in future paving project. | Medium | State | High |
| 87 | VT-44 near Coaching Lane ~ West Windsor ~ Install crossing for pedestrians and bicyclists | Roadway | Improve safety for recreational users crossing the road - including horse riders and mountain bicyclists. State has approved a crossing. Should be completed in 2013. TAC, RF. District assisted with engineering to re-do the intersection but cannot help with construction. Cannot have crosswalk since in a 50mph zone. | Medium | Town | Medium |
| 88 | VT-44 & VT-44A ~ Windsor ~ Improve Safety | Roadway | Limited sight distances at intersection. TAC. Would need to acquire property at intersection. [State responsibility, but town assistance to purchase property would get it moving] | Medium | State | High |
| 89 | VT-11 at Clinton/Main/South St ~ Springfield ~ Improve intersection geometry to improve safety | Roadway | Confusing junction with 5 incoming road sections. Identified High Crash Location in 2006-2010 data from VTrans. TAC, SB. Study replacement with a roundabout or other improvements per the 2016 Main Street Master Plan. | Low | Town | High |

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| 90 | VT-11 (River St) ~ Springfield ~ Address access management issues to improve safety | Roadway | Identified High Crash Location in 2006-2010 data from VTrans. Gas station access management issues. New activity at 100 River St (which includes Springfield Health Center) contributes to increased activity/ conflicts. Implement parking and bike/ped improvements in Main Street Master Plan TAC, SB. | Low | Town | Medium |
| 91 | VT-11 (Chester Rd) near Plaza ~ Springfield ~ Improve intersection safety at high crash location | Roadway | Identified High Crash Location in 2006-2010 data from VTrans. TAC. Study traffic controls and reexamine intersection configuration. | Low | Town | High |
| 92 | VT-11 (Chester Rd) near Riverside School ~ Springfield ~ Improve intersection safety | Roadway | Identified High Crash Location in 2006-2010 data from VTrans. TAC. Springfield Selectboard is considering doing something here. | High | Town | Medium |
| 94 | VT-103S around Peck Rd ~ Chester ~ Add advanced warning signs for intersections to improve safety | Roadway | Add intersection warning signs? High speeds in the area. Identified High Crash Location in 2003-2007 data from VTrans, but not in 2006-2010 data. . TAC, RF, SB. | High | State | Low |
| 99 | US-5 and VT-44A ~ Weathersfield ~ Improve intersection geometry to improve safety | Roadway | Improve geometry (to right angle) - for 44A to US-5 southbound. TAC. | Medium | State | Medium |
| 100 | VT-44 & Union St/ Ascutney St ~ Windsor ~ Improve sight distances at intersection | Roadway | Improve intersection. Bad sight distances. Yields and stops confusing. TAC. | Low | Town | Medium |

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| 101 | VT-44 near Shattuck Hill Rd ~ West Windsor ~ Remove ledge to improve road safety | Roadway | Near Shattuck Hill Road. Remove ledge - very close to roadway. TAC. | Low | State | Medium |
| 102 | VT-44 near Shattuck Hill Rd ~ West Windsor ~ Improve sight distances | Roadway | Just west of Shattuck Hill Road. Improve sight distances, maybe by raising the height of the road. Talc plant land is likely to become recreation land (including ATVs) around 2019/2020 once it has been rehabilitated. TAC. District says not likely to happen. | Low | State | Medium |
| 103 | VT-100S & VT-103 ~ Ludlow ~ Improve intersection geometry and traffic flow | Roadway | High Crash Location 2006-2010. Issues during ski traffic season. Improve road markings and signage? Closed on ski days& traffic control near Shaws. Need to make intersection more obvious, including signage. | Medium | Town | Medium |
| 104 | VT-103 between village and VT-100N ~ Ludlow ~ Improve roadway safety | Roadway | Several accidents. Tendency for speeding at heading out of town. TAC. Blinking speed limit sign has helped. | Low | State | Medium |
| 107 | VT-100N at Rod and Gun Club Road ~ Ludlow ~ Improve Safety | Roadway | Poor sight distances pulling out of Rod and Gun Club Road. TAC. Would need to cut away at bank. | Low | State | Medium |
| 108 | Improve industrial site access in North Springfield ~ Springfield | Roadway | Implement North Springfield Truck Study 2008. | High | Town | Medium |
| 109 | VT-103 & VT-10 ~ Chester ~ Improve intersection | Roadway | Need to improve safety at intersection, particularly with the high speeds on VT-103. Remove median? Add a feeder lane to get out of 10 safely? Reduce speed limit? | Low | State | Medium |

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| | configuration and safety | | TAC. Should have been addressed in last VT-103 paving project. Would need to remove island. | | | |
| 111 | VT-11 (Chester Rd) ~ Springfield ~ Improve roadway safety | Roadway | Chester Road near Fairground Heights Road. Lots of crashes. Wide. Several businesses. TAC. | Low | Town | Medium |
| 112 | VT-11 (Clinton Street) ~ Springfield ~ Improve safety and access management | Roadway | Springfield (Clinton St). Identified High Crash Location in 2006-2010 data from VTrans. Access management issues? Several crashes. Good sight distances. TAC, SB. | Low | Town | Medium |
| 113 | Exit ramp from I-91 southbound to VT-11 westbound ~ Springfield ~ Improve geometry as feeds into VT-11 to improve safety | Roadway | Will be addressed as part of SPRINGFIELD IM 091-1(83) | Medium | State | |
| 114 | Exit ramp from I-91 northbound to VT-11 westbound and eastbound ~ Springfield ~ Improve signage or priorities to improve safety | Roadway | Will be addressed as part of SPRINGFIELD IM 091-1(83) | Medium | State | |
| 115 | VT-106 & Maple St/ Quarry St in Perkinsville ~ Weathersfield ~ Improve sight distances at interection/ add | Roadway | Several crashes and near misses. Cars, pedestrians, cyclists. Might help if narrow road abit. TAC, RF, SB. District will look at it. | Medium | State | Low |

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| | advanced warnings on VT-106 | | | | | |
| 117 | VT-106 & Felchville Gulf Road ~ Reading ~ Improve sight distances to improve intersection safety | Roadway | Improve visibility. Remove berm and trees? Hard to see southbound from Knapp Brook Road (continuation of Felchville Gulf Rd in Cavendish). TAC, SB. District will look at it. | Medium | State | Medium |
| 118 | VT-103 and Depot St ~ Cavendish ~ Improve intersection geometry to improve safety | Roadway | Improve intersection. Currently two roads join into one just before the intersection. Improve safety for Depot St side which has issues of speeding. Improve traffic flow and reduce truck traffic on Depot St. TAC. Town Plan. More police patrolling on VT-103 is helping. Repaving slip lane and making it a T-intersection would help, but would have to wait until the next VT-103 repaving project. | Medium | Town | High |
| 119 | US-5 and Putnam Road ~ Springfield ~ Improve safety | Roadway | Remove this access to US-5? Make a dead end road. This is a problem area. Very steep. TAC, SB. | Medium | Town | Medium |
| 121 | Weston-Andover Rd ~ Andover ~ Address speeding issues | Roadway | Issue with speeding on Weston-Andover Road. Help town address through traffic calming, enforcement and other techniques. SB. | Low | Town | Low |
| 123 | VT-131 ~ Weathersfield ~ Address safety issues at steep curve | Roadway | Steep curve with crashes there often. Add more signage or banking. Identified High Crash Location in 2006-2010 data from VTrans. SB. | Low | State | Low |
| 126 | VT 11 & US-5S ~ Springfield ~ Improve intersection | Roadway | Next to P&R lot. Dangerous intersection that needs improvement. SB. | Medium | State | Medium |

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| | configuration to improve safety | | | | | |
| 128 | VT-131 & Weathersfield Center Rd ~ Weathersfield ~ Improve sight distances at intersection | Roadway | Bad sight distances and high speeds. SB. Not much to do. | Low | State | Medium |
| 129 | VT-103 (Depot St) at railroad crossing ~ Chester ~ Improve pavement conditions | Roadway | Pavement and railroad crossing is in very poor condition near the Depot. Improve the crossings and approaches during future paving project. SB. District is aware of issue - on District List. | Medium | District | Medium |
| 130 | VT-11 (Pleasant St) at railroad crossing ~ Chester ~ Improve pavement conditions | Roadway | Railroad crossing in poor condition. District is aware of issue - on District List. | Medium | District | Medium |
| 131 | VT-44 & Johnson Rd ~ West Windsor ~ Improve sight distances | Roadway | Bad sight distances to the west. Maybe addressed in 2013? RF. | Medium | State, Town | Low |
| 132 | VT-44 near Cherry St and Mill Pond ~ Windsor ~ Improve sight distances and reduce pedestrian crossing issues to improve safety | Roadway | Bad sight distances and pedestrian issues. RF. RRFBs installed at crossing in 2026 to improve pedestrian crossing safety. | Low | Town | Low |
| 133 | State St & Ascutney St ~ Windsor ~ Improve intersection safety | Roadway | Need to improve safety. Next to school and on route to Mt Ascutney Hospital. RF. | Low | Town | Medium |

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| 134 | US-5 in Windsor downtown ~ Windsor ~ Improve access to Industrial area | Roadway | Improve access to industrial area - particularly for trucks. SB. | Low | Town | Medium |
| 136 | US-5S ~ Windsor ~ Improve safety on curve | Roadway | Near house 869 on curve, which includes a mini-layby. Several accidents, including a serious one in 2012/2013. Police chief. Operations review? | Low | State | Medium |
| 141 | Repair/Replace Culvert (Mineral/Grove St) ~ Springfield | Roadway | | Medium | Town | High |
| 143 | Repair/Replace Bridge 5 (Weston-Andover Rd) ~ Andover | Bridge | | High | State/Town | High |
| 144 | Repair/Replace Bridge 7 (Weston-Andover Rd) ~ Andover | Bridge | | High | State/Town | High |
| 145 | Repair/Replace Bridge 6 (East Hill Rd) ~ Andover | Bridge | | High | State/Town | High |
| 146 | Add guardrails to bridges and large culverts on Brownsville-Hartland Rd ~ West Windsor | Roadway | | Low | Town | Medium |
| 148 | Add guardrails to Reservoir Road ~ Weathersfield ~ to improve safety | Roadway | | Medium | Town | Medium |

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| 149 | Repair/Replace Bridge 6 (VT-44) ~ West Windsor | Bridge | | Medium | State | High |
| 150 | Raise VT-44 at intersection with Esty Ln to address drainage issues | Roadway | | Low | State | High |
| 151 | VT-11 (River St/ Main St) & Park St ~ Springfield ~ Reconfigure intersection to improve safety | Roadway | | Medium | Town | High |
| 152 | VT-103 & VT-131 ~ Cavendish ~ Reconfigure intersection to improve safety | Roadway | | Medium | State | High |
| 153 | Investigate the feasibility of a multimodal transportation hub in Ludlow | Transit and Park & Ride | | Low | Town/Railroad | High |
| 154 | Implement the recommendations of the Active Transportation Plan | Bicycle and Pedestrian | Projects to improve bicycle and pedestrian conditions are listed in the 202 Active Transportation Plan | Various | Various | Various |

# Appendix C. ABBREVIATIONS AND GLOSSARY

## Abbreviations

| | |
|---|---|
| AADT | Annual Average Daily Travel |
| ABC | Accelerated Bridge Construction |
| ACS | American Community Survey |
| ADA | Americans with Disabilities Act of 1990 |
| ADAAGADA Accessibility Guidelines | |
| ADT | Average Daily Travel |
| ANR | Agency of Natural Resources |
| BBR | Better Back Roads (funding source for some bridge & culvert inventories) |
| CMAQ | Congestion Mitigation and Air Quality Improvement |
| CMP | Corridor Management Plan |
| CRT | Connecticut River Transit (operates "The Current") |
| CTPP | Census Transportation Planning Package |
| DHV | Design Hour Volume |
| E&D | Elderly and Persons with Disabilities (also sometimes referred to as PTAC) |
| FEH | Fluvial Erosion Hazard area (now known as River Corridors) |
| FHWA | Federal Highway Administration |
| FTA | Federal Transit Administration |
| GIS | Geographic Information Systems |
| GPS | Global Positioning System |
| HMGP | Hazard Mitigation Grant Program |
| HRRR | High Risk Rural Roads (connected to HRRR and HSIP) |
| HSIP | Highway Safety Improvement Program (connected to HRRR and RSAR) |
| ITE | Institute of Transportation Engineers |
| LEHD-OTM | Longitudinal Employment Household Dynamics On-The-Map |
| MAP-21 | Moving Ahead for Progress in the 21st Century |
| MARC | Mount Ascutney Regional Commission (previously SWCRPC) |
| MFI | Median Family Income |
| MUTCD | Manual of Uniform Traffic Control Devices |
| NHTS | National Household Travel Survey |
| P&R | Park and Ride (also sometimes PNR) |
| Region | Mount Ascutney Region |
| RPC | Mount Ascutney Regional Commission |
| RSAR | Road Safety Audit Review (connected to HRRR and HSIP) |
| RSMS | Road Surface Management System (software for road inventories) |
| RTP | Regional Transportation Plan |
| SHSP | Strategic Highway Safety Plan |
| SOV | Single Occupancy Vehicle |
| SR2S | Safe Routes To School (sometimes SRTS) |

| | |
|---|---|
| STRAHNET | Strategic Highway Network |
| STRACNET | Strategic Rail Corridor Network |
| SWCRPC | Southern Windsor County Regional Planning Commission |
| SWCTAC | Southern Windsor County Transportation Advisory Commission |
| TAC | Transportation Advisory Committee |
| TAP | Transportation Alternatives Program (formerly Transportation Enhancements) |
| TDM | Transportation Demand Management |
| TEAC | Transportation Enhancements Advisory Committee |
| TOD | Transit Oriented Development |
| TPI | Transportation Planning Initiative |
| UVTMA | Upper Valley Transportation Management Association |
| VBC | Vermont Byways Council |
| VLR | Vermont Local Roads |
| VHSA | Vermont Highway Safety Alliance |
| VMT | Vehicle Miles Travelled |
| VOBCIT | Vermont Online Bridge and Culvert Inventory Tool |
| VSA | Vermont Statutes Annotated |
| VTrans | VT Agency of Transportation (or VAOT) (sometimes referred to as DOT) |
| WTG | Way To Go Commuter Challenge week |

Other abbreviations for publications:

- Orange Book – VTrans Handbook for Local Officials (includes info on different VTrans funding programs, standards, technical assistance)
- Red Book – Continuous Traffic Counter Grouping Study and Regression Analysis Report

## Glossary

**Average Annual Wage –** The average wage paid per year per employee within a given geographic area.

**Average Daily Trip (ADT)** –An indicator of traffic volume. Measured by counting the number of vehicles that pass a certain point. Daily totals are averaged for a given period, usually one year. Often reported as AADT-annual average daily traffic. AADT is corrected for seasonal variations.

**Bicycle Facilities –** A general term denoting improvements and provisions made to accommodate or encourage bicycling and walking, including parking facilities, maps, bikeways, walkways, sidewalks, and shared roadways not specifically designated for bicycle use.

**Bikeway –** Any road, path, or way which in some manner is specifically designated as being open to bicycle travel, regardless of whether such facilities are shared with other modes of transportation or for exclusive use of bicyclists.

**Context Sensitive Design –** Design considerations that are based upon FHWA's Context Sensitive Solutions approach that seeks to provide flexibility in all phases of the transportation project development process in order to preserve and enhance scenic, aesthetic, historic, community, and

environmental resources, while improving or maintaining safety, mobility, and infrastructure conditions. Flexibility in design (i.e. reducing roadway standards) in order to preserve community character is essential in Vermont as many state arterial and collector highways serve as Main Streets where they pass through village centers. For more information, see: *Flexibility in Highway Design* (FHWA, 1997) and http://contextsensitivesolutions.org/.

**Design Hour Volume (DHV) –** DHV is the traffic volume for the design hour, which is typically the 30th highest hour of the year. DHV is the figure used as the basis for traffic analyses for traffic impact studies and determining solutions for highway capacity problems,

**Double Stack Containers –** A type of rail transport that involves stacking trailers two high on top of one another while attached to a rail car.

**Fixed Route –** Bus or rail service which follows an established route with scheduled stops.

**General Aviation Services –** All aircraft, not including military and commercial airlines.

**Goods Movement –** The transporting of consumer products that people use.

**Human Service Agencies –** Those agencies which provide social services.

**Infrastructure –** The underlying foundation or basic framework of a system.

**Intermodal –** Providing seamless connections for travelers and shippers between different modes of transport.

**Level of Service –** A measure of how traffic-free or traffic-congested a road segment or intersection is. Levels range from A (complete maneuverability) to F (gridlock).

**Median Family Income (MFI) –** The midpoint in the range of incomes – as many families earn above this point as below.

**Median –** The midpoint in a range of values.

**Mobility Limited –** Difficulty related to transportation based on inability to leave home without assistance because of mental or physical limitations.

**Multimodal –** Using more than one mode of transportation.

**National Highway System –** A federal highway funding initiative intended to insure that all areas of the country are served by highways meeting minimum design, construction, and performance standards.

**Paratransit Service –** A sub-category of public transportation which provides service to the mobility-impaired on a regular basis. Para-transit services include demand-responsive transportation services such as shared-ride taxi.

**Public Transportation –** Transit systems such as bus, rail, air, and taxi used to convey the general public.

**Road Classification –** A system for grouping roads into categories according to specified criteria. Useful in inventorying, describing, and discussing roads.

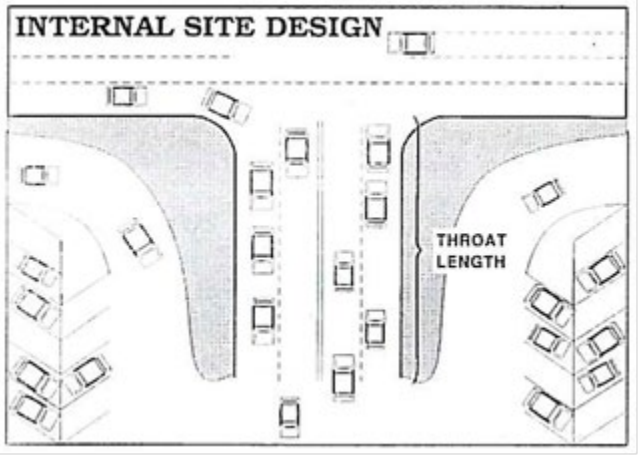
**Seasonal Unit –** Vacation housing units used or intended for use only during certain seasons, for weekends, or for other occasional use throughout the year; includes time-shares or shared-ownership units.

**Single Occupancy Vehicle (SOV) –** Private vehicle conveying one person.

**Strip Commercial Development –** Commercial or retail uses, usually one-story high and one-store deep, that front on a major street and are auto-oriented, usually with large parking lots in front of the building and large signs that can be read by fast-moving cars along the major road. State planning law discourages strip development along major highways, meaning that intensive developments, including retail, commercial and intensive residential development, are ideally suited to locations within community centers and are not suitable along rural highway corridors.

**Sufficiency Rating –** An evaluation of the adequacy of a bridge or road to perform its required functions, based on structural, safety, and service conditions.

**Throat Length –** Throat length is an access management term for providing safe access to a development site. Traffic circulation within a commercial site (i.e. access, parking lot) needs to provide safe and clear traffic circulation, including the provision of adequate storage space for vehicles entering and exiting the site, while minimizing traffic conflicts. The image below illustrates throat length.




Source: *Model Land Development and Subdivision Regulations That Support Access Management* (Center for Urban Transportation Research, University of South Florida)

**Traffic Calming –** A series of techniques used to control traffic and reduce travel speeds that seeks to maximize mobility, while creating more livable surroundings by reducing the undesirable side effects of mobility.[39]

**Transportation Disadvantaged –** Persons who, for reasons of health, age, lack of private vehicle, and/or low income may have a transportation need.

**Vehicle-Miles Traveled (VMT's) –** Also known as Total Vehicle-Miles. An indicator of automobile usage over a given time period (usually on an annual basis). Equal to the total number of miles traveled by all vehicles. Estimated using surveys and traffic counts.

**Warrants –** Warrants refer to traffic engineering criteria used to determine if certain roadway improvements are required, such as approach [traffic] volumes and percentage right turns in advancing volumes. If the applicable warrants are met, then certain roadway improvements are needed (e.g. turning lanes, traffic signals, pedestrian crossing, etc.).

[39] Institute of Transportation Engineers (ITE). Traffic Calming Definition. Accessed 3/19/2013 at www.ite.org/traffic/index.asp. Traffic Calming: State of the Practice. August 1999. Prepared for the Federal Highway Administration (FHWA) by Institute of Transportation Engineers (ITE)/ Reid Ewing. Available online at www.ite.org/traffic/tcstate.asp

# Appendix D. MAJOR REFERENCES

All photographs, maps and illustrations by Mount Ascutney Regional Commission, unless otherwise noted.

**MARC Plans, Studies and Data (available at http://marcvt.org)**

- MARC Regional Plan. Volume 1 of 2.
- SWCRPC Regional Active Transportation Plan. Approved by the TAC February 25, 2020.
- SWCRPC Interstate Exits of the Region: Study and Policies. March 10, 2004 (Available upon request)
- VT 103 Corridor Management Plan: Chester and Rockingham, VT. Prepared for Windham Regional Commission and SWCRPC by Resource Systems Group, Inc and Front Porch Community Planning & Design. September 2009.
- North Springfield Truck Study, Prepared for SWCRPC, Town of Springfield, Springfield Regional Development Corporation (SRDC) and VTrans by Resource Systems Group, Inc. August 2008.
- Ski Corridor Management Plan and Ski Country Model – See Appendix B for more information about the various components of the plan and model

**Other major plans and studies referenced:**

- Inventory and Management Plan for the Route 131 Scenic Highway. Prepared by the Town of Cavendish and Southern Windsor County Regional Planning Commission for VTrans at the request of the Vermont Transportation Board. June 25, 1998
- Vermont Public Service Department. Vermont Comprehensive Energy Plan 2011. http://publicservice.vermont.gov/publications/energy_plan/2011_plan
- Guidelines for the Design of Stream/ Road Crossing for the Passage of Aquatic Organisms in Vermont. March 2009. Developed by the Vermont Department of Fish and Wildlife in collaboration with the Vermont Department of Environmental Conservation and VTrans. http://www.vtfishandwildlife.com/library/Reports_and_Documents/Aquatic%20Organism%20Passage%20at%20Stream%20Crossings/_Guidelines%20for%20the%20Design%20of%20Stream_Road%20Crossings%20for%20Passage%20of%20Aquatic%20Organisms%20in%20Vermont.pdf

**Vermont Statutes**

- http://www.leg.state.vt.us/statutesMain.cfm

# Appendix E. MAPS

Maps for the transportation plan can be found at www.marcvt.org/2026-regional-plan.html

T-1 - MARC Road Classifications
T-2 - Public Transit
T-3 - Pavement Condition
T-4 - Average Daily Traffic Volume
T-5 - Scenic Roads
T-6 Recently Completed Capital Program Projects
T-7 Safety Action Plan Outreach Survey
T-8 Rail Lines in the MARC Region
T-9 MARC Active Transportation Infrastructure