

V. Alternative Modes of Transportation

While the roadway system is the primary transportation infrastructure in the Region, other modes of transportation are vitally important for the economy and for the mobility of residents and travelers. A goal of the RTP is to encourage a fully multimodal network, providing reasonable travel and freight choices in this Region. This section details the current conditions and issues of these other modes of transportation.

A. Rail Service

Rail service, as discussed in this section, is comprised of both passenger rail and freight services. Each is respectively discussed below.

In 2006, VTTrans completed an update of its Rail Policy Plan which evaluated the overall operating structure and financial arrangements of rail services operating in the State, and presents policies which address the present, near-term and long-range needs of Vermont's railroad industry. The policies encompass the protection and maintenance, of the State's existing railroad assets and the responsibilities of both the public and private sectors as the Vermont rail system is expanded. The plan addresses the issues and associated policies of both passenger and freight.

In this Region, considerable interest has been focused on the possible expansion of both passenger and freight rail service provided by Green Mountain Railroad (GMR), which runs between Bellows Falls and Rutland. A few railroad bridge replacement projects on the GMR line are included in the Capital Program (FY 2009) and the Statewide Transportation Improvement Program (FFY 2009-2012).

1. Passenger Rail Service

The State of Vermont has had a longstanding interest in trying to link Vermont by rail with other larger cities in New England and points beyond. Given the small population of the State, extra efforts will need to be made to increase the level of service for passenger rail services. Within Vermont, VTTrans should consider the potential of tourist train services. Expansion of passenger and freight rail service will be constrained until better maintenance and improvement programs are initiated for the rail infrastructure.

a. Amtrak

Amtrak passenger service currently passes through the Region twice daily along the New England Central Railroad tracks. The "Vermont," 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 geared more to the needs of tourists rather than business travelers. The State of Vermont currently subsidizes the Vermont to maintain services in this portion of the State. The uncertainty of long-term Amtrak funding may lead to further cuts in passenger rail service.

Amtrak also serves Vermont on the western side of the State with the “Ethan Allen Express,” which provides service from New York City to Rutland, via New York State. The Ethan Allen has a shorter travel time to New York and has provided competition for Vermonter ridership.

Ridership on both the Vermonter and Ethan Allen trains declined significantly between 2000 and 2006 based on a number of factors, including a reduction in the number of trains and increases in competitive airline travel. However, in 2007 ridership increased nearly 17% and revenues increased nearly 14% for the Vermonter. There were over 107,000 riders on both lines in 2007.

A “Knowledge Corridor” planning project is now underway, administered by the Pioneer Valley Regional Planning Commission in Massachusetts. The study is intended to explore the feasibility of increasing the speed of existing passenger rail service between New Haven, Connecticut and Springfield, Massachusetts, with continued service to White River Junction. As part of this study, reestablishing Amtrak service on the Connecticut River Line in Massachusetts is being considered. With track upgrades, this would greatly enhance the current service and reduce travel times.

b. Green Mountain Flyer

The Green Mountain railroad provides tourist-oriented passenger service on the “Green Mountain Flyer” between Bellows Falls and Chester, VT. This special scenic excursion service is available from early summer through the fall with expanded service to Ludlow during fall foliage season.

Okemo Mountain Resort, with assistance from the State and the RPC, contracted with Rail Trac Associates to complete a Passenger Rail Study on the GMR line completed in 1999. The study included survey results and an engineering study to determine the feasibility of expanding passenger service on the GMR line. The survey consisted of skiers, travel agents, ski clubs and other recreational groups, and commuters in the greater New York City area. The skier survey showed that, of the 699 respondents, 73% would use train service if available. Of the 227 commuters surveyed in the New York City area, 64% said they would consider using a ski train. Travel agencies interviewed were generally in favor of the ski trains; ski clubs indicated they would be interested if the packages were attractive and the schedule was accommodating.

The engineering portion of the Passenger Rail Study indicated that extensive track improvements would have to be made in order to accommodate Amtrak trains at higher speeds (55mph). The study concluded that such improvements are feasible, but are very costly.

2. Freight Rail Service

Without freight rail service there would be no passenger rail service. Freight rail is an important mode for shipping commodities, and can offer greater economies of scale than

trucking for certain commodities.

a. New England Central Railroad

New England Central (NEC), a subsidiary of RailAmerica, operates the most heavily utilized rail line in the State, composed of three subdivisions. These are: the Palmer subdivision, extending from Palmer, MA to Windsor, VT; the Roxbury subdivision, from Windsor to St. Albans, VT; and the Winooski subdivision, from Essex Jct. to Burlington, VT. Two of these subdivisions, the Palmer and the Roxbury, directly impact the Region. Unlike the GMR, the NEC is a higher speed line.

Recent improvements to the clearance of the Bellows Falls tunnel increased the freight capacity of both the NEC and GMR lines.

b. Green Mountain Railroad

The Green Mountain Railroad (GMR) became affiliated with the Vermont Rail System in 1997. GMR 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 primary regional user of freight service on GMR is Luzenac America, Inc., located in Ludlow. According to the Vermont State Rail and Policy Plan, portions of the rail line are identified for improvement in the near future to accommodate the demand for heavier weight carloads.

3. Transportation Implications

The Vermont Statewide Freight Study completed in 2001 concluded that while opportunities for expanded use of the GMR line for freight hauling are limited, there are some specific initiatives to focus on. Cavendish has a limited amount of land near the GMR near the intersection of Routes 103 and 131. Chester has portions of its industrial section that could allow for rail-oriented industrial development along the GMR line. Ludlow's Municipal Development Plan calls for the development of a rail site in its Dean Industrial Park.

The State freight study shows that there is limited opportunity for shipment by rail. With the current emphasis on "Just-on-time delivery" for certain commodities, railroads are limited to freight whose delivery is not time-sensitive. But there is opportunity to expand the use of rail for such freight as Liquefied Petroleum Gas (LPG), sand, gravel, which are very seldom carried by the GMR, and commodities that are a large portion of its freight, such as, talc from Luzenac, limestone slurry from OMYA, livestock feed, and logs and lumber, that are not time-sensitive for delivery. Two industries that would most likely use the line more are the LPG and logging industries. To a lesser extent there is an opportunity for the shipment of sand and gravel to and from the Rutland area. To facilitate this expansion, infrastructure would need to be developed along the line to encourage this type of use. The study agreed that upgrading the line to Federal Railroad Authority Class 2 or Class 3 standards would serve to entice more use of the line for freight hauling, although the increase in speeds as a result of the upgrades would benefit passenger service the most.

“Time-sensitive” goods are most often shipped by truck, which can more precisely schedule delivery. Overhead traffic (i.e. freight that does not originate or terminate in Vermont) makes up the majority of the carload traffic on the GMR. In 1998 overhead traffic consisted of 5,688 carloads, which was 64% of the carload traffic on the GMR, up from 1,882, which was 53% in 1996. Expansion of overhead traffic, in particular automobile carloads and double-stack carloads, is limited, not only by the condition of the track, but also by the tunnel at Bellows Falls, which is too small for these carloads. Recent upgrades to the Bellows Falls tunnel on the NEC line allow for automobile carloads and double-stack carloads, which will help to expand freight rail service.

The Town of Windsor, which is on the NEC, has passenger service with the Amtrak “Vermonter.” Freight rail service is available in Windsor’s downtown industrial area, and is a preferred alternative to local industrial trucking activity in the downtown.

Increased use of the GMR and the NEC tracks for both freight and passenger service has the potential to alleviate some of the traffic and safety problems on US Route 5 and VT Route 103.

B. Air Service

The Region is currently served by numerous commercial and general aviation airports. All but one airport is located outside of this Region. The large commercial airports are located in Manchester, NH; Hartford, CT; Boston, MA; and Burlington, VT. These airports provide service for domestic and international flights. In addition, Lebanon Municipal Airport and Rutland State Airport provide general aviation and limited commuter service within New England and the Northeast. For general aviation, the Region is served by Hartness State Airport in Springfield and Claremont Airport in Claremont, NH. See **Table 5.1** below for a summary of these airports.

1. Hartness State Airport

Hartness State Airport, located in Springfield and owned by the Vermont Agency of Transportation, has two runways. Hartness State Airport is the oldest in Vermont. According to the Vermont Airport System and Policy Plan, the airport is a fixed-base operation for general aviation service and has the second longest runway in the State, after Burlington (VTrans, 2007).

Federal Aviation Administration (FAA) funding generally pays for 90 percent of aviation projects. Vermont state policy is to use State funds to match FAA grants at state airports. FAA funding is provided through user taxes which are saved in a trust fund (VTrans, 2007).

At Hartness, Crown Point Aviation provides fixed based operator services, including aircraft maintenance, storage, fuel, charters, and flight instruction. It is one of only a few businesses offering flying lessons and aircraft rentals in the State. Hartness is a center for glider activity, with Celtic Air providing powered tows for gliders (VTrans, 2003).

In 2003 VTrans completed an analysis of the economic impact of airports and published the Economic Impact of Vermont’s Public-Use Airports. According to that study, Hartness is

estimated to have over \$1.2 million in economic impact in terms of business sales and public sector expenditures. Several local businesses, including Hancor and area machine tool parts companies, use the airport for company business. It is also used by Vermont Fish and Game Department, State Police, National Guard, Civil Air patrol (CAP) and by local hospitals for medical helicopter refueling. According to the study, the airport is also used for private aircraft services by a number of second home owners. The airport is also used for tourist related activities.

Airport	Type	Ownership	Runway Length	Est. Annual Commercial Enplanements	Est. Annual Tons of Cargo	Est. General Operations (Annual)
Claremont	GA	City of Claremont, NH	3,100' 1,600'	N/A	N/A	10,000
Hartness State	GA	State of Vermont	5,498' 3,000'	N/A	N/A	16,500
Lebanon Municipal	GA/CO	City of Lebanon, NH	5,496' 5,200'	N/A	N/A	47,000
Rutland State	GA/CO	State of Vermont	5,000' 3,170'	5,400	550	24,540
Burlington International	GA/CO	City of Burlington	8,320' 3,611'	525,000	9,000	129,945
Manchester	GA/CO	City of Manchester, NH	9,247' 6,850'	1,380,000	90,500	25,000

Sources: VTrans, NHDOT, UVLSRPC, SWCRPC

Notes: GA = General Aviation; CO = Commercial Aviation; All runways have asphalt surface unless otherwise noted.

2. Transportation Implications

All airports are important to maintain since building new air facilities is difficult and expensive. Hartness, Claremont and Lebanon airports provide important functions for general aviation, hospitals, National Guard and CAP operations, and are significant for economic development. Tourism is an important market for these airports. Hartness Airport is in close proximity to ski areas, golf courses and many other tourist destinations and/or special resources. Hartness State Airport is underutilized. Improvements, such as marketing and airplane-to-bus connections, might benefit tourism use of Hartness.

Burlington and Manchester airports are important to residents of this Region for domestic and limited international flights. The airports in Boston and Hartford, CT are important for domestic and international flights. Improved public transit connections to these airports may improve local access to these facilities.

C. Public Transportation

The primary functions of public transportation are to provide mobility for people with limited access to transportation, to offer transportation choice as part of a multi-modal

system, and to interconnect bus, rail and air transportation systems. Public transportation can provide an important community service to commuters, the elderly, the physically disabled, school-aged children, and those who do not have access to an automobile. It also serves an important economic development function by providing access to quality jobs, shopping and other services. The types of service include: fixed-route bus service and demand-responsive service (door-to-door phone-in service), such as Medicaid and human services-related transportation. Volunteers also play an important but less visible role in meeting unmet transportation needs.

1. State Transit Planning

As required by legislation passed in 1998, VTrans adopted a Public Transportation Policy Plan in 2007, an update to the first Plan adopted in 2000. In addition, a Public Transit Advisory Council (PTAC) was formed to implement the plan and other public transit issues. The three primary policies in the Public Transportation Policy Plan are:

- 1) The existing public transportation system in Vermont should be preserved and enhanced, provided that specific routes and services are well used by the traveling public.
- 2) Continuous performance monitoring by VTrans and the boards of directors of the transit providers will ensure that the maximum value is realized from available resources.
- 3) Additional public transportation funds should be used for services that support and promote the four goals stated in the 24 V.S.A., Chapter 126, §5083.

2. Regional Transit Planning

In 2001, the RPC, the Windham Regional Commission (WRC), and Town and Village Transportation Services (Town and Village Bus) surveyed travel practices and needs and published a Short Range Transit Plan for southern Windsor and Windham Counties. Recommendations from the 2001 Short Range Plan include the following:

- Increase public knowledge of public transit;
- Work with neighboring providers and RPCs to improve and expand the level of service for commuters to work and to vital services;
- Maximize efficiency and effectiveness of existing routes;
- Increase the number of people using public transit for the purpose of getting to work; and
- Promote better coordination between fixed route service and other forms of transportation.

Although Town and Village Bus ceased operations in 2003, Connecticut River Transit (CRT) was subsequently established in November 2003 to operate in the same geographic area in 2004. CRT will be discussed in further detail below.

In support of efficient public transportation, Milligan & Company, a transportation consulting firm, is developing a five-year Short Range Public Transportation Plan in 2008 specifically for CRT. The plan will identify areas of capital expenditures and list recommendations for service expansion.

As part of the RTP, the RPC conducted an analysis of 2000 Census data to estimate the potential need for transit services. The results indicate that approximately half the regional population exhibit transit dependent traits. See Chapter 2 for more details.

3. Existing Transit Services

A number of agencies are involved with providing public transit services in this Region, including senior centers, adult day care centers, hospitals and the Council on Aging for Southeastern Vermont. Intercity/interstate service is provided by Greyhound Lines. CRT offers service in southern Windsor and Windham Counties, including local service in Springfield. CRT also provides commuter services between Springfield and Brattleboro, Springfield and Dartmouth Hitchcock Medical Center (Lebanon, NH), and seasonal commuter service connecting Bellows Falls and Springfield to Okemo Mountain Resort in Ludlow. Starting in the fall of 2008, CRT is offering commuter service connecting Bellows Falls, Springfield, Ludlow and Rutland, in partnership with Marble Valley Regional Transit District (Marble), which provides bus service to the greater Rutland area. CRT also provides dial-a-ride services throughout the Region. Okemo Mountain Resort provides seasonal shuttle bus service for the ski resort within the town of Ludlow and surrounding areas. The Ludlow Municipal Transit System provides local service in the Ludlow area and brings students to the Black River High School in Springfield.

a. Greyhound Lines

Vermont Transit now operates as Greyhound Lines. Greyhound has a regional terminal in White River Junction. Many of Vermont Transit's previous services have been discontinued. Greyhound currently stops in five locations in Vermont, including White River Junction, Bellows Falls, Brattleboro, Burlington and Montpelier. . From the White River Junction terminal, non-stop and direct connections can be made to major cities throughout the USA and Canada.

b. Connecticut River Transit

CRT's mission is to meet the travel needs of area residents with flexible public transit routes, demand response, volunteer and carpool transportation services throughout 26 towns that are convenient, reliable and cost-effective. In its fifth year of operation, CRT has 31 employees, 23 transit vehicles, and an operating budget of \$2.9 million for FY 2008. CRT receives revenues from towns, institutions, human service agencies, businesses, Medicaid and rider donations. CRT leverages this revenue to match federal and state transit grants through VTrans for general public, elderly and disabled transportation and medical transportation.

CRT is headquartered in Springfield, but is building a new facility in Bellows Falls in close proximity to I-91, Exit 6. CRT currently offers two in-town routes in Bellows Falls and Springfield, four commuter routes, and dial-a-ride service, including regularly scheduled shopping trips for residents of Chester and Windsor. CRT

ridership has grown rapidly with 58,481 rides provided in 2004, its first year of operation, and 189,718 in 2008.

Current services include:

Commuter/Access to Jobs – CRT currently operates four routes for long-distance access to jobs. These services benefit commuters looking for travel options and to reduce commuting costs. It also helps lower-income commuters access jobs outside of the towns in which they reside. Services provide connections between Springfield and the “Upper Valley,” Springfield to Brattleboro, Bellows Falls to Ludlow (seasonally), and Bellows Falls to Rutland via Springfield and Ludlow. The “Upper Valley” includes White River Junction in Vermont, and Hanover and Lebanon in New Hampshire.

In-Town Services – In this Region, CRT offers local in-town service in Springfield.

Medical/Human Service-Related Services – CRT partners with human service agencies to provide a variety of curbside and door-to-door transportation services, which are described in more detail later in this Chapter. These services are primarily designed to serve the transportation needs of the elderly and persons with disabilities, for medical appointments and programs, and personal daily needs, such as shopping, appointments and access to social activities.

CRT is currently developing a Short Range Public Transportation Plan and revising its marketing strategy.

c. Ludlow Municipal Transit System

Ludlow provides a free public transit system serving the needs of town residents and visitors. Buses run on weekdays along six routes, each serving a different section of town with connections to the Springfield High School and various shopping centers. All of the routes operate on weekdays from approximately 6:45 am to 3:30 pm.

d. Okemo Mountain Shuttle

A private seasonal transportation service is operated by the Okemo Mountain Resort. The Okemo Mountain Shuttle is provided primarily for resort patrons and guests in order to mitigate ski traffic, but is also available to the public. Service is available during the ski season (December through March) on weekends and holiday periods. This system has four main routes. One serves the internal shuttle needs among the various condominium developments and the base lodge. The remaining three routes each make between 14 and 17 loops through town daily, connecting the base lodge with various inns, hotels and motels in and around Ludlow and Cavendish. All routes operate from approximately from 7:00 am to 6:30 pm.

e. Demand-Response Transit Services

Several human service agencies contract with CRT to provide on-demand transit services for medical appointments and various other personal needs. Volunteers in Action (ViA) in Windsor, provides a large number of rides to area elderly and disabled with the intent to keep people connected to their communities. Chester

Cares offers demand-response service for shopping, medical, personal and social trips where public transit is unable to meet the need. RSVP of Windsor County coordinates with CRT, who now provides trips for their clientele.

A major funding source for Human Service Providers (HSP) transportation is the Federal Elderly and Persons with Disabilities program (formerly “Section 5310”) which provides funding for purchase of service, provision of service, and for capital improvements (mostly lift-equipped vans). HSP transportation focuses primarily on providing transportation services for seniors, low-income residents who have no access to private transportation, and persons with disabilities.

The RPC is responsible for gathering stakeholders (transit providers and human service agencies) together to determine needs and available service. It facilitates the development of a single application for Elderly and Persons with Disabilities funds that includes all service agencies of Windham County, southern Windsor County, and through Deerfield Valley Transit Authority and CRT.

f. Taxi Services

Taxi services provide important on-demand transportation services that often compliment services provided by human service agencies and public transit providers. Only a small number of taxi companies serve this Region. A listing of taxi cab companies serving the Region and descriptions of their service areas is found in **Table 5.2**.

Table 5.2 Taxi Cab Companies in the Region	
Companies	Service Area
City Cab and Limo	Claremont, NH
Days In Town Taxi	Springfield, VT
Plaza Cab	Springfield, VT
P & P's Twin State Taxi	Upper Valley
Upper Valley Taxi	Upper Valley

Source: Yellow Pages, 2008

As suggested in Chapter 2 of this Plan, people exhibiting transit dependent traits could benefit from expanded taxi service since they are limited financially or physically from maintaining and operating a vehicle.

g. Connections Between Providers

Transit providers are working to coordinate services to provide connections offering greater geographic access for riders. Services for CRT, Okemo and Ludlow are reasonably coordinated, allowing for some connections between different bus systems, but improved coordination would benefit riders. Connections in Brattleboro are possible between CRT and Deerfield Valley Transit Authority (DVTA), with DVTA’s route between Brattleboro and Wilmington. CRT riders can also connect in Brattleboro with the Beeline, which is operated by the municipality. CRT and Marble Valley Regional Transit District are providing fully-coordinated service between Bellows Falls and Rutland, with a transfer in Ludlow. Connections

can be made between CRT and Advance Transit at major service centers, including downtown Hanover, NH and Dartmouth Hitchcock Medical Center, in Lebanon, NH. Bi-state coordination is also important to address existing commuter workflows in the Connecticut River valley area, including connections to Claremont and Keene, as well as more services to the Upper Valley. The RPC will continue to explore ways to increase coordination and improve service connections, including identifying specific connections on route timetables and posting that information on transit providers' websites, along with links to the connecting schedules of the other providers.

D. Bicycle and Pedestrian Facilities

Over the past three decades, national bicycle and pedestrian activity has increased significantly. However, these popular leisure time pursuits, featuring health as well as recreational benefits, have yet to be fully utilized as a practical mode of transportation. With the advent of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) and subsequent reauthorizations (TEA-21 and proposed SAFETEA), the emphasis has been placed on achieving a balanced intermodal transportation system that addresses alternative forms of transportation. One means of advancing this goal is the provision of bicycle and pedestrian facilities. The term bicycle and pedestrian facilities is used as a general term that denotes improvements and provisions made to accommodate or encourage bicycling and walking, including parking facilities, maps, bikeways and walkways, sidewalks, and shared roadways not specifically designated for bike or pedestrian use.

Many communities are examining bicycle and pedestrian facilities as a means of linking activity centers and creating a pedestrian-friendly environment, particularly in downtown and village centers. These efforts are often combined with a larger program to address issues such as parking, traffic congestion, economic development and the preservation of community character. Regulatory issues and public perception of these facilities has slowed or stopped the progress of a few projects in this Region.

The 2000 Census indicated that approximately 4.89% (599) of the Region's working population traveled by bicycle or walked to work, a slight increase since 1990 (4.4%). In comparison, nationally, bike and pedestrian commuters comprised 3.3% of the commuting population, a decrease since 1990 (4.3%).

1. Regional Bicycling and Walking Plan

In 2006, the RPC completed an update of the 1997 Regional Bicycling and Walking Plan (BWP). The BWP provides an inventory of the Region's popular bike touring routes and makes recommendations for addressing bicycle and pedestrian needs in the Region. It is the general policy of the RPC that bicycle and pedestrian needs should be considered in all transportation projects. The BWP provides a prioritized list of road and bridge improvements at twelve sites within the Region, which will improve bicycle and pedestrian conditions in the Region. The BWP references the Pedestrian and Bicycle Facility Planning and Design Manual (VTrans 2002) as design guidance for the Region.

2. Bicycling

Bicycling is one of the most energy efficient modes of transportation, but is limited in distance of travel for most cyclists. National statistics indicate that the average length of a typical bicycle trip is two miles. Bicycling can be combined with intermodal connections to transit buses with bike racks to increase travel distances. Alternative modes of travel, including bicycling, can be expected to increase as gas prices continue to remain high and/or increase.

Bicycle facilities designed for transportation, recreation or combined uses can provide a viable alternative to single-occupant vehicle travel. Well-designed facilities provide safe bicycle access and improve travel choices. In addition, they can encourage improved physical and emotional health, empower children with independent travel, and contribute to mitigating traffic congestion seasonally. These benefits also serve to making the Region more attractive for living, working and shopping.

a. Bicycle Facilities

Currently existing or planned bicycle facilities in the Region include:

- The Toonerville Trail is a shared-use path in Springfield along the Black River southeast of the downtown, and opened in the fall of 2000. VT Route 11 in the Town of Springfield is appropriately striped and signed as an on-road facility. The Toonerville path and the VT Route 11 on-road facility provide bicycle connections through downtown Springfield east to the Connecticut River.

The Town of Springfield was awarded 2008 Transportation Enhancement Program funding to design an extension of the existing Toonerville Trail, connecting to Bridge Street and the Southern Vermont Recreation Center. The Town anticipates beginning this design process in 2009, and will seek funds for construction within the next few years.

- The Calvin Coolidge Bicycle and Recreation Greenway is planned to run between the Black River and VT Route 103, from the Ludlow-Cavendish Town line to Black River Junior/Senior High School. Cavendish is also planning a shared-use path connecting the village of Proctorsville to the Calvin Coolidge Greenway. The intent of the two projects is to provide a safe bicycling alternative to VT Route 103 and to connect several recreational facilities to the villages.

The remainder of the regional bicycle network consists of the roads network on which bicyclists and motorized vehicles must coexist. These roads are seldom designed to accommodate bicycle traffic. Often the available road shoulder is narrow, resulting in the potential for increased conflict between motorized vehicles and bicycles. In addition, shoulder widths are frequently inconsistent due to abrupt changes in overall pavement width for bridge abutments, guard rails, and railroad crossings. Other obstacles such as certain types of drainage grates and roadside

debris create hazards for cyclists. These features force bicyclists into the traffic stream and increase the possibility of accidents.

Recreational bicyclists, including those participating in tour groups with outfits such as Bike Vermont, Vermont Bicycle Tours, and Backroads Bicycles, use all the major roadway corridors in the Region, including VT Routes 103, 106, 11, and 131. The bike tour groups are viewed by some residents as unwelcome obstacles on the Region's roadways. Others point out that bicycle tour groups provide a significant economic benefit to many area businesses, especially the five inns in southern Windsor County that provide them with accommodations.

b. Transportation Implications

A combination of factors limits bicycle use in the Region, including safety concerns such as the width and condition of the available shoulder; the speed and volume of traffic; steep terrain; weather conditions; distance to employment; availability of adequate bike storage facilities when the destination is reached; and public support and motorist tolerance of bikes on the roadways. Together these factors often create a difficult obstacle to even the most stalwart bicyclist. However, bicycling is popular on the Toonerville Trail and along many of the state highways in this Region. Small networks of in-town bicycle facilities would benefit communities by connecting residential areas with commercial and civic destinations.

3. Pedestrian Facilities

Pedestrian facilities encourage walking for transportation and recreational use, as well as benefit economic development in downtowns and villages. Safe and well-maintained pedestrian facilities also serve to support public transit operations. Walking is the most popular recreational activity with over 71 million or 28% of all Americans engaged in walking as a form of recreation. As part of the public debate on different aspects of transportation issues, the Surface Transportation Policy project conducted a study to measure American's attitudes towards walking. That survey found that Americans would like to walk more than they are currently, but they are held back by poorly designed communities that encourage speeding, and dangerous intersections whose design is inconvenient for walking. The recommendations in Chapter 3 for concentrating future growth in downtowns and village centers would help to address this issue. Other notable findings include:

- Over 50% of Americans say that their communities lack shops and restaurants within walking distance;
- About 30% see changing to less motor vehicle-necessary communities as the answer to traffic problems; and
- The survey found public support for better walking in communities, and specific policies such as designing streets for slower traffic speeds, using more federal dollars to make walking safer and creating walking-friendly routes to school for children.

Pedestrian facilities are vitally important for those who don't drive, especially children and the elderly. Based on anecdotal information, children are often inhibited from walking

because of legitimate parental concern over their safety on the roads. Providing safe pedestrian access to places frequented by the elderly and children can provide improved mobility and independence for non-drivers.

Pedestrian facilities are well suited for areas of concentrated development, such as Regional and Town Centers, connecting residential areas to businesses, civic buildings, schools and recreation areas. Additionally, in some locations parking constraints can make walking from place to place more appealing than returning to a vehicle and repeatedly seeking parking spaces. Encouraging walking in these areas can help to reduce vehicle turning movements and parking maneuvers. Unfortunately many people hesitate to walk for transportation due to the distances between origins and destinations, as well as for fear of the existing road conditions.

Recent land use developments that exhibit isolated and dispersed patterns discourage pedestrian travel. Auto-oriented, sprawl-type development also limits pedestrian access. Land use regulations that encourage compact and mixed use development encourage walking and other alternative modes of travel. Site designs can also encourage pedestrian access and incrementally contribute to a more efficient multi-modal transportation network.

a. Existing Pedestrian Facilities

Pedestrian facilities range from a dirt path through the woods to a paved shared-use path. In many parts of the Region, roadway shoulders provide pedestrian access, which are generally best suited for rural areas. The Toonerville shared-use path provides access for bicycles, in-line skaters, walkers and others. Sidewalks and trails are the most prevalent types of pedestrian facilities in this Region. Each is outlined below.

To varying degrees, communities throughout the Region maintain some form of sidewalk system. The complexity of local sidewalk systems is a function of the size, distribution and density of residential neighborhoods and employment centers. Communities with the largest network of sidewalks and crosswalks include Springfield (35 miles), Chester (4.4 miles), Ludlow (approx. 18 miles), and Windsor (approx. 18 miles). Regionally, towns are struggling to integrate existing noncontiguous segments of sidewalk, retrofit curb ramps to comply with the Americans with Disabilities Act, and overcome fiscal constraints to construct new sidewalks and maintain existing facilities.

Cavendish completed a “Town Green” project in Proctorsville that was funded under the Transportation Enhancements program. The Town also received funding in 1999 to upgrade and expand sidewalks in Proctorsville to provide improved access to the Green and to the Cavendish Elementary School.

Cavendish created a Bicycle and Pedestrian Master Plan to secure funding to upgrade sidewalks in the village of Cavendish. Contract plans were finalized in 2004, and the project is anticipated to go out to bid following the completion of right-of-way related work in 2008.

Weathersfield conducted a planning study to determine pedestrian related safety improvements along VT Route 106 in Perkinsville. In 2008, Weathersfield completed the Exit 8 Interstate Interchange Master Plan which calls for revitalization of the commercial strip development area along VT Route 131, including the provisions of pedestrian facilities and improving the safety of elementary and middle school students that walk along US Route 5 and VT Routes 12/131.

In 2008, Windsor completed construction of the Windsor Welcome Center (WWC) near the train depot. The WWC is a multi-modal visitors' center celebrating the intrinsic values of the Connecticut River. Windsor will also be constructing streetscape improvements and a riverwalk in the area surrounding the Armory Square Apartments at the intersection of US Route 5 (Main Street), Bridge Street and VT Route 44 (Union Street).

Though very successful in the past in securing funds to study and design pedestrian facilities in southern Windsor County villages, the RPC has discovered that new facilities can come under increased scrutiny by local residents opposed to either the cost, the maintenance responsibility, or the perceived impact to "historic" village settings. Future planning for sidewalks and related pedestrian upgrades will be closely reviewed in terms of public perception and support before advancing design and construction plans.

b. Transportation Implications

Pedestrians, similar to cyclists, often share the road with automobile traffic. Whether pathways are shared or separate from the travel lane, obstacles to pedestrian travel exist. Obstacles include: safety concerns; the distance to destinations (0.6 miles is the average distance for walking commuters); the physical condition and type of pedestrian facility; the desirability and aesthetic qualities of the route; and the continuity/connectivity of the route between origin and destination. The ideal scenario for encouraging walking is to provide a separate designated pathway that provides the user with a safe, accessible alternative to motorized vehicles.

4. Safe Routes to School

"Safe Routes to School" is a Federal initiative to getting children to walk or bike to school safely. Evidence suggests that children are becoming increasingly more reliant on motorized transportation to school. This stems from dispersed land use patterns, regional school systems requiring extensive transportation for expanded geographic service areas, parental safety concerns, traffic conditions, lack of sidewalk facilities and/or crossing guards, and bus safety. Many schools are now faced with increasing traffic congestion and parking problems. Safe Routes to School is a growing initiative developed to address some of these issues, and to improve the health of children. Windsor received a grant in 2006-2008 to support walking and bicycling initiatives at the State Street School. Windsor also received over \$200,000 in Safe Routes to School Infrastructure funds to improve pedestrian safety in the area surrounding the State Street School (K-6).

5. Trails

An extensive network of hiking, horseback-riding, snowmobiling, cross country skiing, and other multi-purpose trails exists within the Region. The traditional use of multi-purpose trails is for recreation, although these trails also exhibit limited potential to serve a transportation function. The network consists of informal, loosely defined trails, usually traversing private land and often with one specific authorized user group, and formal, well identified trails on federal, state, and town public lands. The multi-purpose trail network is maintained by a number of organizations including the Vermont Department of Forests Parks and Recreation; the US Army Corps of Engineers (Corps); the Ascutney Trails Association; the Vermont Association of Snow Travelers (VAST); and local communities.

Vermont law allows people to hunt, fish and walk on private property without permission unless the land is legally posted. However, getting permission is generally recommended and permission is required for most motorized vehicle activities. According to *Public Recreation on Private Land: A Landowner's Guide* (VT Department of Forests, Parks and Recreation), an agreement between a recreational organization and landowners to develop or maintain trails on private lands helps ensure the work is done to landowner satisfaction. For example, VAST maintains approximately 5,000 miles of trails, 80 percent of which are on private lands and require landowner permission for snowmobiling access.

In many cases, the locations of many trails are not widely known beyond the local populace.

Trails on public lands include Class 4 Town Highways and Legal Trails as well as specific trails such as Paradise Park Trail in Windsor, and the Weathersfield, Windsor, and Brownsville Trails on Mt. Ascutney. The Corps has also developed a trail system on land managed by it next to the North Springfield Lake. Class 4 Town Highways are typically closed to vehicular traffic in the winter, although many are used for snowmobiling. Legal trails consist of public rights-of-way which, not being highways, the town has no responsibility to maintain.

E. Regional Issues

1. Intermodal Connections

Intermodalism provides seamless connections for travelers and shippers between different modes of transport. Bellows Falls is the site of a planned intermodal center, where passenger rail and bus connections will be facilitated in one central location. Three existing park-and-ride lots facilitate connections between transit buses and passenger cars and potentially also bicycles and pedestrians. The four park-and-ride lots in the area, including Springfield, Weathersfield, Ludlow and Hartland, support transit and carpooling activities. New freight connections between rail and trucking modes would benefit the distribution of certain commodities and should be explored further.

2. Tourism Travel Choices

Tourism is an important economic activity for this Region. Most tourism related travel in this Region today relies on personal automobiles. However, the potential to encourage airplane-to-bus or train-to-bus access to Okemo and Mt. Ascutney ski areas, for example, may prove to be effective. Maximizing such intermodal connections not only would provide

travel choices for visitors to this Region, but also would serve to mitigate traffic impacts on the highway infrastructure and communities.

A Ski Corridor Traffic Management Study was developed for the RPC together with Rutland Regional Planning Commission, Two Rivers-Ottawaquechee Regional Commission and VTTrans, to study ski resort (Okemo and Killington) related traffic along the I-91, VT Route 103, US Routes 5 and 4 corridors. This study noted that the local public transit systems in Ludlow have been effective in increasing ridership. This study identified transit bus service connections between ski resorts and intermodal centers as strategy. It did not specifically analyze the feasibility of airplane-to-bus or train-to-bus access to Okemo or Mt. Ascutney. Future studies should consider the viability of such services.

3. Park-and-Ride Facilities

Park-and-ride lots are effective in reducing single-occupant vehicle use when they are located along routes that are used by commuters where they have access to transit or ridesharing. According to past studies, ridesharing and the use of park-and-ride lots is most likely to be utilized when park-and-ride facilities are located close to where commuters live, commuters are traveling longer distances and the potential financial savings are greater. Therefore, external commuting patterns (those trips with work destinations outside the Region) are given the greatest weight in determining locations for effective park-and-ride facilities. In addition, park-and-ride lots, when combined with quality transit services, are heavily used compared to lots not served by transit.

The most common external commutes in this Region begin in Windsor, Springfield or Weathersfield. Approximately two-thirds of the outbound trips in the Region had the following destinations (in descending order): Lebanon, NH; Claremont, NH; Hartford, VT; Woodstock, VT; Rockingham, VT; Hanover, NH; and Brattleboro, VT. Since Hartford, Lebanon and Hanover are clustered together and comprise the Upper Valley employment center, this presents the most likely targeted area for investment in increased park-and-ride capacity and commuter transit services.

The RPC conducts regular surveys of the users of the Ascutney Park-and-Ride lot. The majority of the park-and-ride users arrive alone and leave with one other person. Sixty-one percent of respondents were bound for the Upper Valley area and just fewer than 44 percent began their trip from Weathersfield.

There are three (3) existing State-owned Park-and-Ride sites in the Region:

- (1) Exit 7, Springfield – This lot was initially developed by the VTTrans District Maintenance Office at the state garage site at the intersection of US Route 5 South and VT Route 11. It was typically at or beyond capacity, causing some users to park in undesignated areas, which created problems for maintenance operations. In January 2009, VTTrans relocated this lot to the former Texaco gas station property across US Route 5. CRT's Upper Valley commuter service stops at this location;

- (2) Exit 8, Ascutney – This lot is used on a daily basis and is often filled beyond its present capacity as defined by the existing paved area and needs expansion, which is planned for 2009. RPC surveys of this lot have indicated that over half of the cars parked in the lot are NH residents. (See Regional Transportation System Map); and
- (3) Exit 9, Windsor/Hartland – Improvements have been made to this lot by VTTrans, including signs, lighting, landscaping and pavement marking. This lot is also used on a daily basis and is often close to capacity. VTTrans has plans to expand this lot to add more parking capacity.

These three lots are very important to the Region for access to employment opportunities. A recent survey conducted by Upper Valley Rideshare suggests that park-and-ride lots served by public transit are the heaviest used facilities. All existing park-and-ride lots are served by CRT for commuter services to the Upper Valley area. The CRT commuter route from Springfield to Hanover, NH stops at the park-and-ride lots at Exits 7, 8 and 9, with all lots close to or over capacity. Greater bi-state coordination is needed to address the lot capacity limitations and the growing Upper Valley commuting activity in the Connecticut River valley.

Under the State’s Municipal Park-and-Ride Demonstration Grant Program, a fourth park-and-ride lot was developed in Ludlow in 2004. This lot, located on VT Route 103 adjacent to the fire station, is owned and maintained by the Town of Ludlow. It is paved with approximately 20 parking spaces. It is currently lightly used. However, use will likely increase as it will serve the new public transportation service to Rutland.

4. Ridesharing and Carpooling

Ridesharing is a simple, low cost and effective Transportation Demand Management (TDM) technique to reduce single-occupant automobile use, improve access to jobs for certain people, as well as to contribute towards mitigating congestion and improving air quality. Not only is ridesharing an efficient way to move people, it also can save commuters money. According to the American Automobile Association, the average American commuter spent nearly \$630 a month in 2001 to own and operate a vehicle. A family could save all or a portion of that money by reducing their need for owning and operating more than one vehicle or by reducing their vehicle use.

Projected traffic increases will likely result in deteriorating road conditions and needed investment in new highway infrastructure unless alternatives are not implemented. Ridesharing can contribute toward a more efficient regional transportation system, thus reducing the potential costs for maintaining and/or expanding this system.

Two rideshare programs serve this Region, including Upper Valley Rideshare and Vermont Rideshare. Upper Valley Rideshare offers a “guaranteed ride home” program might help to encourage increased carpooling activity.

5. Transportation Demand Management

As the number of cars and the miles traveled on the Region's roads continue to increase, air quality, bridge and roadway infrastructure, and quality of life are threatened. Rather than increase capacity to meet rising demand, Transportation Demand Management (TDM) seeks to address the demand side of transportation. TDM programs are designed to maximize the people-moving capability of the transportation system or decreasing the need to travel by automobile. Typical TDM alternatives include car and van pools, public and private bus and shuttle systems, and bicycling or walking.

TDM programs can also include "alternative work hours," such as compressed work weeks and flexible work schedules to allow commuters to shift their work start and end times to less congested times of the day. Another TDM strategy is telecommuting, which allows employees to work one or more days at home, thereby reducing trips to their primary work location. Other strategies include the use of incentives by the employer to encourage the use of these alternative modes, and marketing to remind employees of alternative commuting modes and to remove psychological impediments to their use.

TDM programs should be developed within an overall structure of land use planning. Towns should encourage planned unit developments, planned residential developments or other cluster development within or abutting village centers or other designated growth areas, which allow convenient pedestrian or cyclist access to shopping, services and work for its residents. Such developments would be more efficient for public transit to serve, resulting in not only achieving TDM objectives, but good conservation practices as well.

ALTERNATIVE MODES OF TRANSPORTATION GOALS

1. Promote alternative forms of transportation to lessen dependency on the automobile.
2. Increase the role of rail in the Region's and the State's economic development and multimodal transportation system.
3. Promote the use of air service as an alternative to over-the-road service for the movement of people and goods.
4. Encourage the most effective and efficient use of air service at the Hartness State Airport.
5. Maintain and preserve existing infrastructures and right-of-way for all alternative modes of transportation, including airports, rail corridors and multi-use paths.
6. Develop an intermodal transportation system that serves the transportation needs of the Region's residents in a manner that is compatible with characteristics of the natural, economic, and social resources.
7. Promote the expansion of park-and-ride facilities and public transit to lessen the number of single occupant vehicles.

ALTERNATIVE MODES OF TRANSPORTATION POLICIES

1. Promote the use of rail service as an alternative to over-the-road service for the movement of people and goods.
2. Support efforts to upgrade and improve the rail infrastructure of the Green Mountain Railroad, including tunnel and bridge overhead clearances.
3. Work with member towns to preserve existing rail infrastructure such as rail lines and spur track linkages to the larger rail network.
4. Encourage cooperative marketing and route scheduling between Amtrak and area resorts to increase ridership on Amtrak trains.
5. Encourage towns and operators to improve services available at passenger rail stations, including connections to other forms of transportation.
6. Foster public and private sector interest and participation in planning for full use and enhancement of services for pilots and their aircraft at Hartness Airport.
7. Support efforts to continually study, upgrade, and improve the infrastructure at Hartness Airport.
8. Encourage the use of landing fees and airport lease revenues to support the financial operations of state airports and to establish a baseline for airport activity.
9. Encourage towns to develop or expand public transportation services, rideshare, vanpool and carpool facilities, and programs among the business community.
10. Continue to develop a local, regional, and inter-regional transit system.
11. Encourage increased coordination among all the public transportation providers in the Region and neighboring Regions, for a “seamless” public transportation system.
12. Adopt the Regional Bicycling and Walking Plan as part of the Regional Transportation Plan.
13. Promote transportation in village centers, downtowns, and growth centers which feature bicycle, pedestrian, and other forms of non-motorized forms transportation.
14. Through the development review process, ensure new development incorporates pedestrian and bicycle circulation in site plans.
15. Support the use of rail and intermodal connections to rail as economic alternatives for the movement of goods. Consider the potential for tourist-related passenger rail service.
16. Encourage improvements to the Exit 7 park-and-ride facility to increase capacity.

17. Continue to support the upgrading of park-and-ride facilities at Exits 8 and 9.

ALTERNATIVE MODES OF TRANSPORTATION RECOMMENDATIONS

1. Develop a multi-modal transportation improvement program that is consistent with the goals and objectives of this plan.
2. Encourage local zoning that promotes the use of rail for industrial development in accordance with recommendations of the 1999 Freight study.
3. Advance the Goals and Policies outlined in the 2001 Vermont Rail Capital Investment Policy.
4. Work with Hartness Airport and the local economic development entities to increase the use of the airport.
5. Work with the abutting towns of Springfield and Weathersfield to recognize Hartness Airport in their town plans and zoning regulations.
6. Continue to work with Connecticut River Transit and participating agencies that use transportation funding dedicated for the elderly and persons with disabilities (formerly Section 5310 Program).
7. Include public transit infrastructure concerns in any transportation infrastructure projects in the Region.
8. Work with interested towns to investigate the feasibility of developing bicycle and pedestrian facilities.
9. Implement recommendations contained in the Regional Bicycling and Walking Plan.
10. Work with large traffic generators along the VT Route 103 corridor and other state highways to implement TDM options.
11. Ensure member towns give consideration to the TDM alternative, when increased road capacity is being considered.
12. Provide linkages between the various travel modes such as bicycles, automobiles and buses.
13. Expand existing service and funding to meet baseline mobility needs to ensure all residents have a similar access to transit.
14. Fund “New Starts” under a separate process: Create an incubator program which encourages systems to be innovative and creative in their approaches.