

Southern Windsor County, Vermont

Regional Park-and-Ride Needs Assessment



July 2010

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1.0 Introduction

Park and ride facilities are an integral component of the transportation system in southern Windsor County, as they support both ridesharing as an alternative to single-occupant vehicle travel and public transportation service by providing convenient park-and-ride options. This report is an update of the *Regional Park and Ride Site Assessment* developed by the Southern Windsor County Regional Planning Commission (SWCRPC) in April 1998. The *2010 Regional Park-and-Ride Needs Assessment* is funded by Energy Efficient and Conservation Block Grants (EECBG) as noted on page two.

1.1 Purpose

The purpose of this needs assessment as part of our regional energy program is to:

- Create planning policies and recommendations for future transportation investments that promote the reduction of green house gas emissions and vehicle miles traveled;
- Promote and support ridesharing, transit and other more energy-efficient modes of transportation; and,
- Identify which existing park-and-ride facilities need expansion, and where new facilities might be located.

1.2 State & Regional Plans

The Vermont Agency of Transportation's (VTrans) Long Range Transportation Business Plan, adopted in March 2009, supports park and ride facilities. Specific benefits the agency recognizes regarding park and ride facilities include:

“reducing traffic congestion and decreasing the use of fossil fuels while minimizing air pollution emissions, providing connectivity between Park-and-Ride Facilities and inter-regional public transit routes and saving valuable urban land for more aesthetically appealing and productive uses.”¹

According to a statewide survey conducted by VTrans, 22% of those surveyed used park and ride lots in 2006 as opposed to just 16% in 2000, suggesting that these facilities are increasingly in demand. Park-and-ride lot occupancy surveys conducted by the SWCRPC also show significant demand for lots along I-91 in the area.

¹ Vermont Long Range Transportation Business Plan (VTrans, March 2009)
<http://www.aot.state.vt.us/planning/Documents/Planning/LRTBPfinalMarch2009.pdf>

In addition, park and ride lots are promoted in the *2009 Southern Windsor County Regional Plan*, including the following key goals, policies and recommendations:

- To reduce demand for fossil fuels by promoting public transportation, ride-share programs and other programs that lessens the dependence on single occupancy vehicles (SOV). (Energy Goal #2, Volume 1)
- Promote alternative transportation practices that promote energy efficiency such as: expanding existing park-n-ride commuter parking lots, bicycle paths to lessen the dependency on single occupancy travel. (Energy Policy #4, Volume 1)
- Promote the expansion of park-and-ride facilities and public transit to lessen the number of single occupant vehicles. (Alternative Modes of Transportation Goal #7, Volume 2)
- Encourage improvements to the Exit 7 park-and-ride facility to increase capacity. (Alternative Modes of Transportation Policy #16, Volume 2)
- Continue to support the upgrading of park-and-ride facilities at Exits 8 and 9. (Alternative Modes of Transportation Policy #17, Volume 2)
- Provide linkages between the various travel modes such as bicycles, automobiles and buses. (Alternative Modes of Transportation Recommendation #12, Volume 2)

2.0 Existing Park-and-Ride Facilities

This section includes a profile of existing facilities (see Table 1) as well as a capacity and needs assessment for each park-and-ride lot (see Table 2).

Table 1 - Facility Profile

Town	Location	Jurisdiction	Existing # of Spaces	Lighting	Shelter	Bike Rack	Telephone	Served by Public Transit
Weathersfield	VT 131, west of I-91 Exit 8	State	65	Y	Y	N	N	Y - CRT
Springfield	VT 11/US 5, east of I-91 Exit 7	State	45	N	N	N	N	Y - CRT
Hartland	US 5, southeast of I-91 Exit 9	State	38	Y	N	N	N	Y - CRT
Ludlow	VT 103/100, at Fire Station	Municipal	18	Y	Y	N	N	Y - CRT

Three park-and-ride lots currently exist in the southern Windsor County region: Weathersfield (I-91 Exit 8), Springfield (I-91 Exit 7), and Ludlow (VT 100/103 next to the Ludlow Fire Department). An additional fourth facility, located outside of the region in Hartland, serves Windsor near the I-91 Exit 9 exit/entrance ramp. The three facilities along I-91 are owned by VTrans and the Ludlow facility is municipally owned.

Table 2 - Facility Assessment

Town	Location	Existing # of Spaces	Adequate Bus Circulation	1st Quarter 2010	VT Residents	Assessment
Weathersfield	VT 131, west of I-91 Exit 8	65	No	59	51%	Needs modest improvement
Springfield	VT 11/US 5, east of I-91 Exit 7	45	No	36	67%	Needs improvement
Hartland	US 5, southeast of I-91 Exit 9	38	No	29	86%	Needs improvement
Ludlow	VT 103/100, at Fire Station	18	No	N/A	N/A	Satisfactory

The SWCRPC conducted monthly occupancy surveys for all State-owned facilities. Average usage is summarized above for the first quarter of 2010 (January 2010 through March 2010). Usage was significantly higher a couple years ago, suggesting that demand will increase again as gas prices increase in the future.

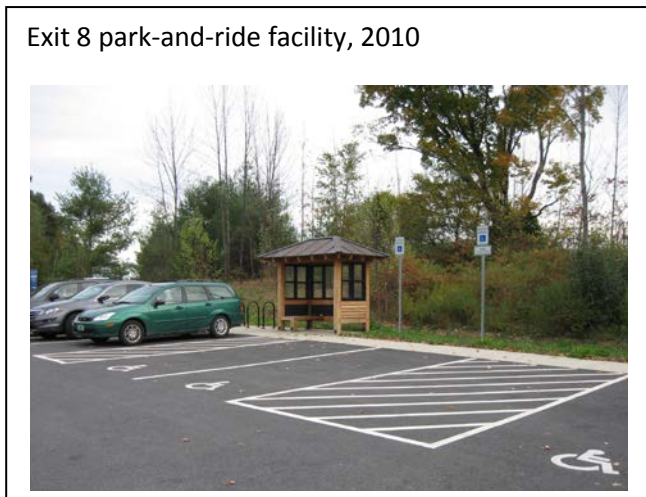
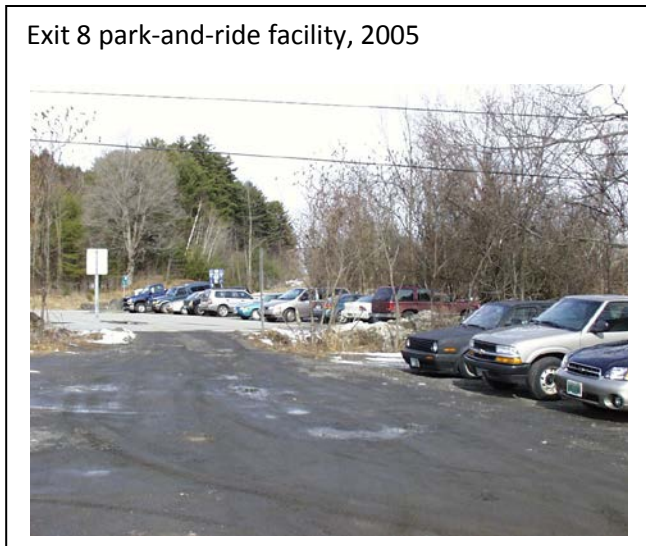
2.1 Weathersfield, Exit 8

This park and ride facility, located on State-owned land near the I-91 Exit 8 interchange, was reconstructed by the Vermont Agency of Transportation in 2009 (Project #CMG PARK(17)S). The lot now contains 65 paved parking spaces, including several handicapped spaces. Two sidewalks exist for the function of pedestrian circulation within the lot, a bus shelter is located at this facility, and the lot is well-lighted for security purposes. While this lot was recently expanded, it is often near capacity, as it not only serves Vermont commuters, but those from nearby Claremont, NH, as well. This lot is served by the Connecticut River Transit Upper Valley commuter service to Lebanon/Hanover.

VTrans owns additional land that could be used for future expansion or bus circulation improvements. Portions of this State-owned land are currently used by the Ascutney Volunteer Fire Station and as an easement for an adjacent private landowner.

Observations for this facility include:

- It is a heavily used facility that supports both public transportation



services and ridesharing;

- Contributes to reducing energy/SOV use;
- The lot is often more than 90% full. The average usage was 63 vehicles in 2008.
- Nearly half of the users live in NH;
- There is no NH park-and-ride facility in adjacent towns: Charlestown, Claremont, Cornish, Plainfield;
- There is no bicycle parking/bike rack; and,
- Buses must turn around (multi-point turn) in a wider area at the lot entrance.

2.2 Springfield, Exit 7

The Springfield park-and-ride facility is located near the Exit 7 interchange, accessible by US Route 5 South. The original Exit 7 park-and-ride lot was located at the VTrans maintenance garage. It was relocated in 2009 across US Route 5 on VTrans right-of-way on the former Texaco gas station lot. The lot is unimproved, unpaved, and provides space for approximately 45 vehicles. This lot currently has no amenities and has minimal lighting consisting of one streetlight.

Exit 7 park-and-ride facility, 2010



It is served by the Connecticut River Transit Upper Valley commuter service to Lebanon/Hanover as well as Route #57, the Bellows Falls - Rutland Commuter service. The lot is located adjacent to the Toonerville Bike Trail, thereby providing a convenient multi-modal location for bicyclists coming from Springfield. An access to the Black River also exists on the lot.

The VTrans FY 2011 budget includes funding for improvements to this park & ride facility, with right-of-way acquisition in FY 2011 and construction in FY 2014 (Project #CMG PARK(32)).

Observations for this facility include:

- This lot could be used as a highly-visible pilot project for low impact development techniques, such as permeable pavement or stormwater bio-retention areas;
- Bus circulation in this lot is very difficult;
- Lighting is minimal, which discourages usage by lessening visibility and safety;
- There is no bicycle parking/bike rack and direct access to the Toonerville Trail could be improved; and,
- There is no bus shelter.

2.3 Windsor-Hartland, Exit 9

This park and ride facility is located along US Route 5 just south of the I-91 Interchange. This lot provides parking for approximately 38 vehicles with three distinct surface types, ranging from asphalt (of varying conditions) to dirt. The portion of the lot adjacent to US Route 5 is paved and in good condition, containing 18 marked parking spaces, two of which are for handicapped access. In 2005, VTrans purchased land and expanded the lot in order to provide additional parking for vehicles that were parking along the shoulder of US Route 5. The formal, paved lot transitions to a temporary expansion area of unmarked asphalt-shavings surface that needs repair, as it contains large potholes. The back portion of the lot consists of an uneven dirt surface for approximately 6 vehicles and is used on a regular basis despite often being muddy.

Exit 9 park-and-ride facility, 2010



This lot is served by the Connecticut River Transit Upper Valley Commuter north to Lebanon/Hanover and south to Springfield.

The Vermont Agency of Transportation (VTrans) FY 2011 budget includes funding to reconstruct and expand this facility, including land acquisition and providing amenities (Project #CMG PARK(25)).

Observations for this facility include:

- This lot is often close to its designed capacity and would be nearly full if the temporary unpaved portion did not exist.
- The lot surface is generally in poor condition, with a portion of the paved area containing large potholes, and the unpaved, temporary area uneven and muddy at times.
- There is no suitable turn-around area for buses
- There is a lack of amenities, such as sidewalks, bike rack, additional lighting, and a bus shelter.

2.4 Ludlow

The municipal Ludlow park & ride facility was originally an informal lot that was converted into an official park and ride lot. It is situated on the north end of the Ludlow firehouse along Route 103. The lot contains 17 parking spaces and one handicapped space, for a total of 18 spaces.

Additionally, a bus shelter with seating is located on the north end of the site, and a single overhead light is the sole source of illumination. This facility is served by the Connecticut River Transit (CRT) Route # 57, the Bellows Falls-Rutland Commuter service. While this lot is small in comparison to the other existing facilities, it is also greatly underutilized.

Observations for this facility include:

- This facility is currently underutilized; and,
- Marketing and/or use of the lot for the CRT/Marble Valley Regional Transit District could greatly increase visibility/usage of the facility.

3.0 Implementation of the 1998 Regional Park and Ride Site Assessment

3.1 Priority Improvements in 1998 Assessment

The 1998 assessment identified the following list of new park-and-ride lot locations:

1. Springfield, I-91 Exit 7
2. Ludlow, VT Route 103
3. Weathersfield, VT Routes 106/131
4. Reading, VT Routes 44/106
5. Springfield, Downtown
6. Cavendish, VT Route 131
7. Chester, VT Routes 11/103
8. Chester, VT Route 11/Weston-Andover Road

It also included the following recommendations:

1. Weathersfield Exit 8 park-and-ride lot improvements;
2. Begin development of highest priority new sites; and,
3. Develop a capital improvement program for Hartland Exit 9 park-and-ride lot.

3.2 Summary of Implementation

All recommendations have been addressed since 1998.

The Weathersfield/Ascutney Park & Ride Lot, located near the I-91 Exit 8 interchange, which existed at the time of the 1998 Assessment, had become heavily utilized – at times beyond its designed capacity – and expansion and improvements were needed. The lot was enlarged to approximately 65 spaces during the spring and summer of 2009, and a shelter, sidewalks and lighting were incorporated into the improved facility.

The Springfield I-91 Exit 7 Park & Ride Lot: This lot was initially developed by VTrans on the site of the state highway garage at the intersection of U.S. Route 5 and VT Route 11. The

facility proved inadequate due to insufficient parking capacity and interference with maintenance operations, and was relocated to property across the street in January 2009.

The Ludlow VT Route 103 Park-and-Ride Lot was initially an informal lot which was officially redeveloped through the Municipal Park-and-Ride Grant program administered by VTrans. It is the only municipally owned and operated facility in southern Windsor County.

Improvements to the Hartland Exit 9 park-and-ride lot are programmed into VTrans FY 2011 Capital Budget (see Section 2.3).

4.0 Potential New Park-and-Ride Facilities

Potential new park-and-ride lot locations were identified based on high volume roadways, proximity to settlement areas, public transportation services, available undeveloped land and other factors. Locations were further evaluated based on input from the southern Windsor County Transportation Advisory Committee. This section describes the process used to identify general locations for potential new facilities.

4.1 Evaluation Criteria

The initial identification of potential new park and ride lots was based on 10 criteria (see Table 3). These criteria are similar to those utilized in the 1998 assessment except for a few modifications. The *Potential Use* criterion was eliminated for being too ambiguous. It was replaced with *Traffic Volume*. Several other criteria were added: *Transit Proximity* and *Settlement Proximity*.

Table 3 - Evaluation Criteria

Present Ownership: Public 2pts, Private 1pt.	Visibility: Good: 3pts, Fair: 2pts, Poor: 1pt.
Vehicle Capacity: >10: 3pts, 5-10: 2pts, <5: 1pt.	Topography: Flat: 2pts, Sloped: 1pt.
Existing Surface Type: Paved: 2pts, Unpaved: 1pt.	Safety: Good: 3pts, Fair: 2pts, Poor: 1pt.
Existing Use: Used informally now: 2pts, potential: 1pt.	Transit Proximity: on fixed route: 3pts, within 1/4mi fixed route: 2pts, not on transit route: 1pt
Traffic Volume (AADT): 1000-3000: 1pt, 3001-6000: 2pts, >6000: 3pts.	Settlement Proximity: within village center: 3pts, walk/bike distance: 2pts, rural area: 1pt

4.2 New Evaluation Criteria

Traffic volume was evaluated based the most current Annual Average Daily Traffic (AADT) figures for the generalized areas from VTrans Traffic Research Section². Data were selected for traffic count locations to be representative and as close as possible to the generalized location for the potential new facilities.

Existing public transportation routes in these areas include the Connecticut River Transit (CRT) Route #57 Bellows Falls – Rutland Commuter, which passes through North Springfield and Gassetts; the CRT #1 Springfield in-town bus service which serves North Springfield and could potentially be expanded to serve a new park and ride lot in that area; and the CRT #60 seasonal Bellows Falls – Okemo route, which passes through Gassetts. While no CRT service is currently available in Proctorsville, Ludlow Municipal Transit and Okemo Mountain Shuttle provide service. Furthermore, a park and ride lot in the vicinity of the Route 103/131 intersection would render carpooling more viable. CRT staff provided input during the development of this needs assessment.

Potential new park-and-ride lot locations were also identified based on convenience to settlement areas or along major commuting corridors.

4.3 New Potential Facilities

An initial list of potential locations was developed based on the 1998 site assessment, Regional Plan, input from CRT and other initial efforts. These locations included:

- Downer’s Corners (Town of Weathersfield), VT Routes 106/131;
- Gassetts (Town of Chester), VT Routes 10/103;
- North Springfield (Town of Springfield), VT Routes 10/106;
- Proctorsville (Town of Cavendish), VT Routes 103/131; and,
- Reading, VT Routes 44/106.

A field survey was conducted to locate feasible sites in the proximity of the above general locations. No currently used, informal park-and-ride sites were identified. Four undeveloped, potential sites were identified in North Springfield, one in Gassetts, two in Proctorsville, three in Reading, and one in Weathersfield. These sites were identified for general evaluation purposes only. There is no funding to acquire any new sites at this time. These properties would need to be acquired and developed if determined to be viable, therefore the specific locations were not included in this report.

The Southern Windsor County Transportation Advisory Committee met on April 28, 2010 to evaluate and prioritize potential sites based on the above criteria and local knowledge. Table 4 presents the prioritized locations.

² <http://www.aot.state.vt.us/Planning/Documents/TrafResearch/Publications/pub.htm>

Table 4 - Potential New Sites

Town	Location	Potential Sites	Evaluation	Rank
Proctorsville	Intersection of VT 103 & VT 131	Undeveloped land in the vicinity	22	1
North Springfield	Intersection of VT 106 & VT 10	Undeveloped lots in the vicinity; two for sale	21	2
Gassetts	Intersection of VT 106 & VT 103	Some open land; Limited options	20	3
Weathersfield	Intersection of VT 106 & VT 131	One identified potential site	15	4
Reading	Intersection of VT 106 & VT 44	Couple potential small sites	14	5

5.0 Benefits of Park-and-Ride Facilities

Park-and-ride facilities promote energy efficiency and conservation by providing an alternative to single-occupant vehicle travel, reduction in VMT and encouraging carpooling and public transportation.

Benefits can include the following:

- Reduction in single-occupant vehicle travel;
- Congestion mitigation;
- Increase in ridesharing/carpooling;
- Increase in public transportation ridership;
- Lower demand for parking in destinations/employment areas;
- Reduced energy consumption; and,
- Reduced motor vehicle emissions.

Quantifying the environmental benefits of park-and-ride facilities is difficult as there are many variables and data limitations. However, the following summary was compiled to estimate the significant benefit of these facilities for the average user. The typical user of the three park-and-ride lots along I-91 lives along the Connecticut River valley and commutes to the Upper Valley (i.e. Dartmouth Hitchcock Medical Center (DHMC), VA Hospital, Dartmouth College or other employers in the Lebanon, NH area).

Table 5 summarizes lot usage, based upon monthly facility occupancy surveys and an interview with Connecticut River Transit staff. It appears that most users of the park-and-ride facilities do so in order to ride Connecticut River Transit’s commuter service to the Upper Valley. The lot users not taking the bus are likely to be sharing a ride with one or more persons.

Facility	Average Daily Vehicles Parked	Average Daily Bus Riders
Springfield Exit 7	36	30
Weathersfield Exit 8	59	41
Hartland Exit 9	29	22

Estimated savings for each bus rider boarding at each facility is summarized in Table 6 below. These calculations are based on assumptions including miles from each facility to DHMC, 22³ mile per gallon vehicles and \$2.74⁴ per gallon fuel cost. A few online calculators were used for this analysis as indicated in the footnotes. Savings for ridesharing would be similar.

Table 6 – Estimated Savings for Each Bus Rider

Facility	Fewer miles driven per week	Gallons of fuel saved each week	Fuel cost saved each week	Pounds of CO2 saved each year³	Annual commuting costs saved⁴
Springfield Exit 7	370	16.8	\$46	17,100	\$1,395
Weathersfield Exit 8	270	12.3	\$34	12,500	\$1,018
Hartland Exit 9	180	8.2	\$22	8,300	\$678

6.0 Recommendations

The following recommendations are based on the above analysis and public input, including comments from Connecticut River Transit and the southern Windsor County Transportation Advisory Committee.

6.1 General Recommendations

1. Prioritize improvements to existing lots over the construction of new lots.
2. Make improvements to the existing park-and-ride lots in the following priority order:
 - (1) Hartland Exit 9;
 - (2) Springfield Exit 7;
 - (3) Weathersfield Exit 8;
 - (4) Ludlow VT 103.
3. Coordinate with CRT, town officials and VTrans regarding identifying sites for potential new lots.

6.2 Hartland Exit 9

1. Improve by expanding, paving & providing amenities (lighting, shelter).
2. Provide adequate bus circulation.
3. Provide bicycle parking.

³ Source: <http://www.10percentchallenge.org/>

⁴ Source: <http://www.connectingcommuters.org/about/commute-calculator>

6.3 Springfield Exit 7

1. Make improvements by acquiring land, paving the lot & providing amenities (lighting, shelter).
2. Provide adequate bus circulation.
3. Provide bicycle parking.
4. Provide connection to Toonerville Trail.

6.4 Weathersfield Exit 8

1. Modestly expand lot capacity; the lot is about 80% full after the recent expansion, and it was over capacity during peak oil prices.
2. Provide adequate bus circulation.

6.5 Ludlow VT 103

1. Improve visibility of the lot.
2. Improve marketing of new transit services & use of this lot.