KFH GROUP, INC.

VERMONT STATEWIDE INTERCITY BUS STUDY UPDATE

Final Report

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Prepared for the:

State of Vermont
Agency of Transportation

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Executive Summary

During the development of the 2012, VTrans Public Transit Policy Plan (PTPP) the issue of the decline in Vermont's intercity bus service was considered. Intercity bus service is defined as fixed-route, fixed-schedule bus service open to the general public, which is typically operated with over-the-road coaches with the capability of carrying baggage or package express. The availability of intercity bus service in Vermont has declined from service at 50 stops in 1998 to six today—with two of those vulnerable to discontinuation. At the same time, there is a Federal Transit Administration (FTA) program to assist rural intercity bus service, the Section 5311(f) program. Each state is required to determine if it has unmet rural intercity bus needs, and if so program 15% of its Section 5311 (Formula Grants for Rural Areas) funding allocation or rural intercity bus service. Any service subsidized with Section 5311(f) funding must make meaningful connections to the national intercity bus network. Funding can be used for operating assistance, capital, planning, and marketing of rural intercity bus services.

The federal transportation reauthorization legislation passed in 2005 of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) added a new requirement calling for a consultation process before a state could certify that there are no unmet rural intercity needs. As part of the PTPP, Vermont conducted a consultation process that included an inventory of existing services; a demographic analysis of needs for intercity bus service; and an outreach effort that included a survey of providers, regional planning agencies, and a statewide meeting. The PTPP included a white paper, "Intercity Bus Needs Assessment and Policy Options", that documented this process, identified potential needs for replacement service, and suggested additional analysis.

This study, the Vermont Statewide Intercity Bus Study Update, documents that additional analysis. It includes a needs analysis focusing on availability of connections to key out-of-state destinations, an analysis of the role of regional transit services as intercity feeder services, consideration of potential changes to regional transit services to address intercity connections, and potential new rural intercity service options. The

potential new services were prioritized based on their projected ridership and revenue, likely operating costs, and ability to address identified gaps in the network. Additional analysis and planning for these priority routes was included in Chapter 6, which considered issues in state policy, program design and implementation, budget, and schedule.

Key Program Recommendations Include*:*

- ***Acknowledgement of Unmet Rural Intercity Needs***: In the past VTrans has certified that there are no unmet rural intercity bus needs. Based on the analysis in this study and the consultation process, it is recommended that Vermont not certify that there are no unmet needs, and begin plan implementation using the Section 5311(f) set-aside of Vermont's overall Section 5311 apportionment, or an FTA-approved equivalent (for example Congestion Mitigation and Air Quality Improvement or other federal funds that can be transferred to Section 5311).

- ***Implementation as a Grant Program***: The program will be run as a separate, new grant program using a grant solicitation, rather than as a contract procurement using a Request for Proposals (RFP).

- ***Additional Staff Resources***: An additional .5 FTE (Full-Time Equivalent) is recommended to provide capacity in the Transit Section to administer the program.

- ***Performance Standards and Compliance***: Performance standards for this program will be developed in three areas:

  - Quantitative Performance Measures: Standards for farebox recovery and subsidy cost per passenger trip are recommended to ensure that services are provided in a cost-effective manner.
  - Federal and State Compliance: Contract operators will be required to meet all Federal and State program requirements.
  - Service Quality: In addition, it is recommended that VTrans develop and include standards for service quality.

- ***Separate Application***: Although a grant program, it will have its own unique application that will specify the services to be funded.

- ***Source of Non-Federal Operating Match***: Vermont will use the provisions of the latest federal transportation authorizing legislation (MAP-21) which allow

the value of the operating cost of unsubsidized connecting intercity bus service to be used to provide the local match for operating grants. The grant application will address the requirements for use of this mileage match.

- ***Open Solicitation***: The grant solicitation will be open to all carriers or operators—public, private non-profit, private for-profit, in-state, or out-of-state.

- ***Use of Fully-Allocated Operating Costs***: For equity in comparing cost estimates, all applicants, both public and private, will be asked to use fully allocated costs.

- ***Qualifications of Applicants*:** In addition to the general qualifications required of all applicants for FTA funding, applicants desiring to provide service under this program will have to meet some additional qualifications:

  - Grant applicants must have Federal Motor Carrier Safety Administration (FMCSA) certification.
  - Grant applicants must obtain a letter from Greyhound (or any other carrier that can provide the value of their unsubsidized service as match) in support of their application.
  - Grant applicants must be (or become) members of the NBTA (National Bus Traffic Association) and participate in interline ticketing with the nationwide intercity bus network.
  - Grant applicants must specify the schedules and routes they intend to operate, and specify the schedules and routes of the unsubsidized connecting service that will provide the value of their in-kind match.
  - Grant applicants must have a terminal lease for providing transportation into applicable intercity bus terminals. They must also have agency agreements with agency stops other than bus terminals.

- ***Vehicle Capital***: The initial solicitation should require providers to use their own bus equipment, which must be appropriate to the provision of intercity service. Capital funding for equipment to be used on successful routes may be provided in future years, but because of funding limitations and timing, the initial round of service implementation will not include capital funding for vehicles. In future grant applications, vehicle capital should also be included as an eligible expense.

- ***Vehicle Branding***: Whether provided by the operator or through capital grants, vehicles to be used in the funded services will need to be marked or

identified to inform users that they are part of the statewide network. In addition, Vermont should use logos or common branding on the buses to identify the services and support marketing efforts.

- ***Marketing*:** VTrans will need to fund the development and implementation of marketing efforts in support of the new routes, including changes to the VTrans website, GoVermont, development of a trip planner, and other marketing and promotional activities.

- ***Stops and Agencies***: Applicants will be expected to identify the stops on their proposed routes, including arrangements for agencies or stations.

- ***Trailblazer Signage*:** VTrans should initiate a trailblazer signage program to inform the public how to find intercity bus stops, both on the subsidized and on unsubsidized services.

- ***Capital Funding for Non-Vehicle Needs***: The Vermont program should also make eligible capital funding for any computers or equipment needed for interline ticketing, communications equipment, other signage, and accessibility modifications to stops or facilities, and other passenger amenities.

- ***Planning***: Recommended elements of the planning process include:

  - The annual consultation process
  - The Statewide Intercity Bus Plan update—at least every four years, which may be included in the Public Transit Policy Plan update
  - Data and support for the traveler information system
  - Development of a marketing plan

IMPLEMENTATION TIMELINE FOR VERMONT RURAL INTERCITY BUS PROGRAM

In total 11 routes were developed to address the identified needs and gaps in the network. In order to prioritize the potential routes; a methodology was developed based on a comparison of rankings of four factors:

- ***Existing Level of Service***: Ranked from one to four, with a ranking of four to indicate no existing regional or intercity service, and a rank of one to indicate that there is an existing daily direct bus service.

- ***Estimated Ridership*:** The projected ridership of each service option is ranked, with high ridership receiving a higher score.

- ***Subsidy Required*:** In this case the subsidy per boarding performance measure is ranked, with a low subsidy per passenger receiving a higher ranking.

- ***Trips Made Feasible*:** In this ranking, each of the proposed services was evaluated to see how well it addressed the service gaps identified in Chapter 3. Services that addressed more of the gaps were ranked higher.

Several rankings were compiled, each applying a different weighting scheme to these factors. Based on the prioritization, the high priority corridors included:

- Burlington-Middlebury-Rutland-Albany,
- Albany-Bennington-Brattleboro-Keene (NH)-Nashua (NH)-Manchester (NH),
- Rutland-White River Junction,
- Brattleboro-Springfield (MA) or White River Junction-Springfield,
- St. Albans to Burlington (could be addressed by re-establishing a stop in St. Albans on existing Greyhound services).

Newport and St. Johnsbury to White River Junction had a low rank due to low projected demand and high costs for daily service. A lower frequency service, or an on-demand service, was recommended as a way to address the lack of options for connectivity from this part of the State.

The study recommends that VTrans conduct a single (annual) solicitation process in which applicants can apply to provide one, some, or all of the priority services. This also has advantages in terms of marketing and other activities, which can include all of the recommended first round services:

- White River Junction-Springfield (MA)—Continuation of existing funded service
- St. Albans—Reestablish a stop on existing unfunded service
- Rutland—White River Junction—New service

A suggested second round of services includes:

- Burlington—Middlebury—Rutland—Manchester—Bennington—Albany (NY)—New Service
- Newport—St. Johnsbury—White River Junction—New service

In a third round another route should be added:

- Albany (NY)—Bennington—Brattleboro—Keene (NH)—Nashua (NH)—Manchester (NH)/Boston (MA)

A proposed implementation schedule for the first year calls for issuing the solicitation by March 1, 2013, with a goal of having new services in operation in September 2013.

BUDGET AND FUNDING

Given this timeline and the available funding the program will require operators to provide vehicles. For the phased implementation outlined above, and assuming that the operators (included in the operating costs) will provide the vehicles, a five-year projected budget is presented in Table 6-13. It shows an annual program cost of approximately $500,000 once the program is fully implemented (fifth year) based on the assumed costs and revenues for each route. This is approximately the amount of Vermont's 15% 5311(f) intercity allocation.

If the costs are higher or revenues lower; it may be that the phasing will need to be shifted to spread the implementation over a longer period. Services will be monitored based on the performance measures identified above, and adjustments will be made if performance, compliance, or service quality standards are not met.

Chapter 1

Background and Policy Context

POLICY CONTEXT

Since 1998 when the last Statewide Intercity Bus Study was conducted, intercity bus service availability in Vermont has changed considerably, as has the federal program that could be used to provide assistance.[1] Intercity bus services are particularly important to the mobility of Vermonters since a greater proportion of intercity riders are youth, elders, and persons with low income. Despite their importance, intercity bus services have declined significantly in Vermont over the past few years. Only limited service remains, and there are frequency of service issues. Currently there are only six daily round trips along I-89 linking Burlington with Boston, and only four of them include stops in Montpelier, and White River Junction; two daily round-trips from Burlington to New York City with no other Vermont stops; one daily round trip along I-91 serving White River Junction, Bellows Falls and Brattleboro; and two weekday round trips from Bennington to Albany.

The FTA does support rural intercity services through the Section 5311(f) program, which sets aside a portion of the rural transit subsidies for such services, and states are obligated to spend at least 15% of their Section 5311 apportionment for intercity bus transportation unless they certify that needs are being met. The Vermont Agency of Transportation (VTrans) has been certifying and using this funding for other rural transit needs. In 2003-4 VTrans did become involved in intercity bus services by purchasing a bus for Vermont Transit (at that time an autonomous subsidiary of Greyhound Lines); but, due to service cuts that eliminated the rural services the bus was intended to support, the state recovered its interest in the bus from Greyhound. VTrans has been more inclined to support regional services (scheduled to serve

[1] Intercity bus service was hard hit by the decline in travel after 9/11. A recent American Bus Association study shows that beginning in 2004, patronage began to increase again and is close to pre 9/11 levels. However, as with the airlines, the impact of 9/11 caused restructuring for scheduled intercity carriers like Greyhound.

commuter work trips) linking towns/village centers such as Montpelier, St. Albans, and Middlebury with Burlington and, recently, Brattleboro. Commuter services are not eligible for funding under the Section 5311(f) program.

Regional Connectivity, Transit, Rail Passenger Service, and Intercity Bus

The State's role in passenger rail and commuter rail has been the subject of much debate, with the State continuing to support Amtrak operation of service on two routes. In H.527 of the 2007 session, the Vermont legislature directed VTrans to "examine the feasibility of making public transportation in Vermont seamless, efficient, and user-friendly, with usable connections among in-state and out-of-state points". In this process, the agency shall develop a single overall method of marketing Amtrak, in coordination with all other public transit services.

A Study Regarding the Regional Connectivity of Vermont's Public Transportation System addressed the options for changing the rail passenger support, intercity bus, coordinating services with regional transit, and marketing a coordinated system. Since then, the State's budget problems have provided more focus on the costs of the rail passenger program, and the study did not include intercity bus recommendations.

One recommendation of the 2007 PTPP and recent studies on connectivity was to provide easily accessible and reliable information about routes and services. Accordingly, the State implemented a new initiative called, "Go Vermont". The Go Vermont Program (rideshare and ride match) was upgraded from a manual system to a web-based system in 2010. As a result, each month there are now 1,000 matches versus the previous 30-40 per month. Resources have been freed up for outreach, marketing, and education. YouTube, television, and radio ads and loco-motion educational programs are being conducted. Vermont also has 49 park-and-ride lots (27 State-owned and 22 municipally owned) located throughout the State, making it easier to carpool or vanpool. For more information see the legislative report, *A Study Regarding the Regional Connectivity of Vermont's Public Transportation System January 2008* that can be found at **http://www.aot.state.vt.us/ops/PublicTransit/documents/AOT-OPS-PT_Section45.pdf**.

Overall Vermont Public Transit Policy in Vermont as It Relates to Intercity Bus

The 2000 PTPP and 2007 PTPP Update both recommended a series of related policies to guide the VTrans public transit program. Overall, it is Vermont Public Transit Policy to:

- Preserve and enhance existing public transit services that are well used by the traveling public.

- Monitor the performance of transit services by VTrans and the boards of the transit providers to ensure the maximum value from available resources.
- Use any additional public transit funds to support and promote the four goals in 24 V.S.A Chapter 126, S.5083:

    - Provide basic mobility for transit-dependent persons to critical services,
    - Provide transit services to jobs,
    - Mitigate congestion, and
    - Support economic development

Intercity bus services would address these goals by providing a means for long-distance trips by persons who do not have a vehicle available (or one considered reliable enough for a long trip) or cannot drive themselves, which would fall under basic mobility. Data on intercity bus rider characteristics and trip purposes suggests that a substantial percentage of intercity bus riders are transit dependent, at least for that type of trip.

In the past the largest percentage of intercity bus trips were made for the purpose of visiting family and friends, attending school or military service, and for personal business (such as job-hunting, etc.) rather than employer-paid business travel or daily commuting to work. Given the limited frequency of existing services (and the lack of congestion in Vermont), it is unlikely that intercity bus service would mitigate congestion. However, if the unspoken subtext of that goal is to reduce greenhouse gas emissions, it should be noted that regular-route, scheduled intercity bus service is the most energy efficient passenger travel mode, and so intercity bus service does address other state goals concerning energy and the environment.

The goal of supporting economic development is likely addressed in a peripheral way by intercity bus service, in that maintaining access by intercity bus can allow students or seasonal employees without autos to reach campuses or seasonal resorts. These potential users are a critical part of supporting the education industry and tourism. In addition, the availability of intercity bus service can support policies for aging in place by allowing seniors to remain in their homes in rural and small town locations rather than having to move to be near adult children or medical services.

Intercity Bus and Regional Connectivity Policy

The current State policy addressing intercity bus transportation and regional connectivity calls for the State to improve the connectivity between public and private carriers to serve the intercity bus and commuter markets and to provide easy access to information about those services. It is State policy to support the intercity bus network in Vermont, for both intra-state and inter-state travel, by providing attractive and accessible features at convenient locations along major travel corridors (e.g., park and

ride lots) and to funding connections to Amtrak services and commercial aviation when feasible. Projects and service improvements to enhance regional connectivity receive greater consideration for funding in the New Service program, which funds new services with federal Congestion Mitigation and Air Quality (CMAQ) funding. State policy limits funding for intercity bus carriers to capital and operating assistance for routes that have not demonstrated economic viability, though in fact the State is not providing any such assistance at this time.

Potential Funding Source: Section 5311(f) Rural Intercity Bus Assistance Program

The likely source of funding (and program requirements) if Vermont were to provide assistance to intercity bus carriers would be the FTA Section 5311(f) program. As described above, this program allows states to subsidize rural intercity bus needs using their Section 5311 formula grant funds. The state must use at least 15% of its annual apportionment to support intercity bus service, unless the Governor certifies, after consultation with affected intercity bus providers, that the needs of the state are adequately met. The recent changes in the program have added the requirement for a consultation process that includes participation from the intercity carriers and other stakeholders to be conducted by the state prior to certification; and the option of using the existing unsubsidized intercity bus service as in-kind match for operating assistance.

This update to the 1998 intercity bus study will serve to document the current state of the intercity bus service in Vermont, changes in that network over the last decade, the relationship of that network to potential need based on demographics and the location of potential intercity bus destinations, the identification of gaps in the network, potential strategies that could address such gaps, prioritization, and the likely costs and potential funding requirements. It is intended to serve as the basis for a policy and program to identify and address rural intercity bus service needs. Chapter 2 presents an overview of the current services that can be considered as intercity or feeders to intercity services. Chapter 3 addresses needs in terms of demographic analysis, public input and a service analysis. Chapter 4 presents the results of a consultation process. Chapter 5 presents an analysis of strategies to address needs and Chapter 6 presents recommended policies and a program of projects.

Chapter 2

Inventory of Existing Intercity Passenger Services

INTERCITY BUS

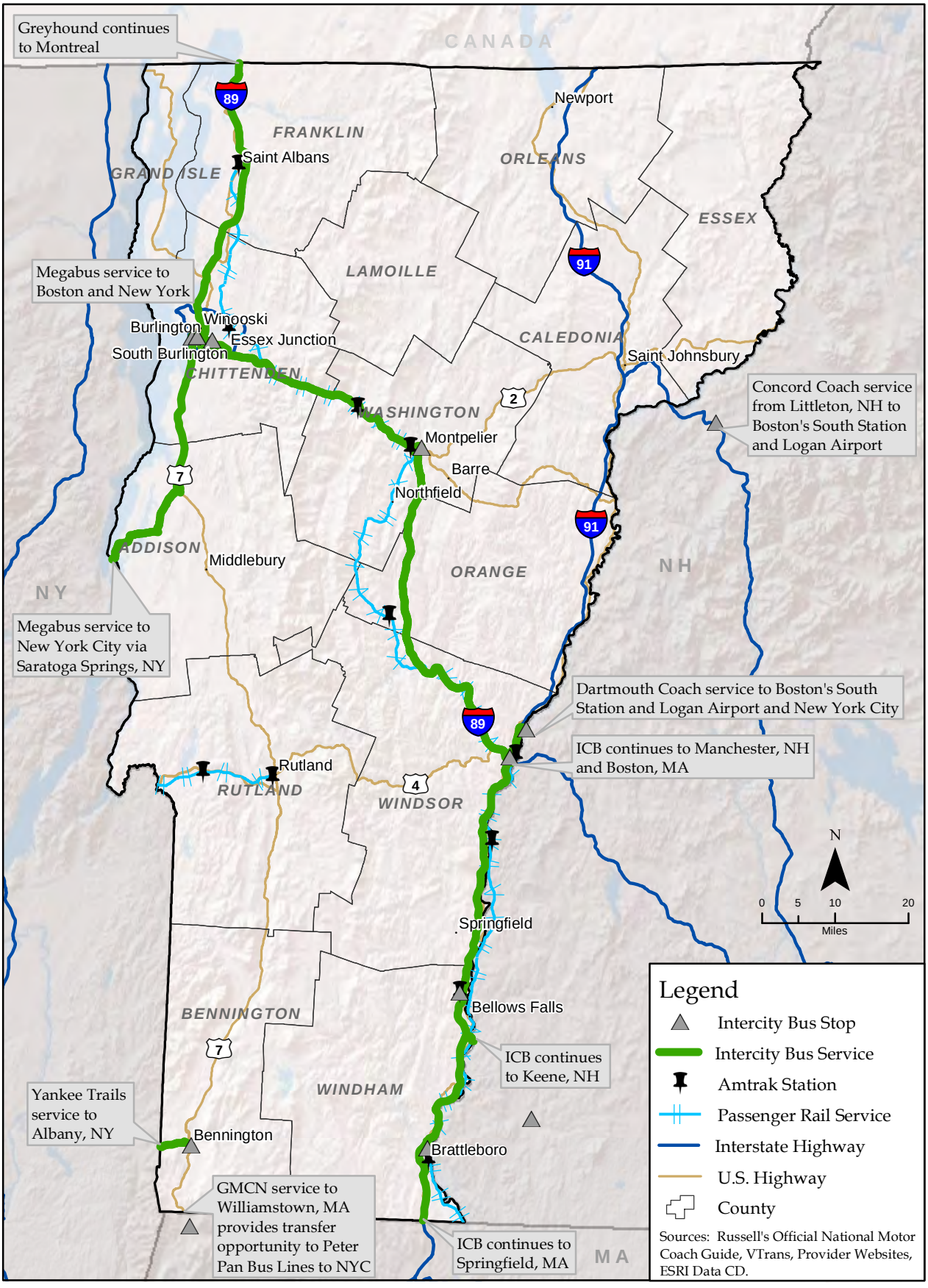
Intercity bus service is fixed-route, fixed-schedule bus service open to the general public, generally operated with over-the-road coaches with the capability of carrying baggage or package express. Scheduled intercity bus service provided from points within Vermont is currently provided by three carriers, Greyhound Lines, Megabus and Yankee Trails, but there is also scheduled intercity bus service provided to points just outside the state that is potentially usable by Vermont residents. These include services provided by Peter Pan Bus Lines, Dartmouth Coach, and Concord Coach. Figure 2-1 presents a map of these routes. All of these firms, including those serving Vermont directly (Greyhound Lines, Megabus, and Yankee Trails) are private, for-profit entities. Except for operating assistance provided to Greyhound for the White River Junction to Springfield (Massachusetts) service, all operating and capital costs of the Vermont services are paid from the farebox. In 2003-2004 VTrans provided Vermont Transit with Federal Section 5309 capital for an accessible over-the-road-bus (OTRB), ostensibly in return for continued service on rural routes, however, the service was discontinued. Vermont Transit, which was a wholly-owned subsidiary of Greyhound Lines, has been completely merged into Greyhound, and the route coverage substantially reduced with the national restructuring of Greyhound routes. In 2005-2006, the rural services ended and Greyhound purchased the remaining state/federal interest in the OTRB. Since that time there has been no funding provided for rural intercity bus service, though it should be noted that annual applications are sent to the identified intercity carriers. Also, in-state commuter bus services are operated by various transit providers in the State and serve some travel needs between towns.

Intercity Bus Firms Serving Places in Vermont

Greyhound Lines

The Greyhound Lines service in Vermont is provided on two routes. On the Montreal to Boston route, Greyhound has Vermont stops in Burlington, Montpelier, and

Figure 2-1: Existing Intercity Bus Service in Vermont



White River Junction. There are four round-trips per day on this corridor, which is operated seven days per week. Exhibit 2-1 presents a schedule for this route, and Table 2-1 provides the stop locations (in Vermont). The Burlington stop is now located at the Burlington International Airport (BTV), which is served by all trips, but the earliest bus of the day (both directions) also stops in downtown, and the mid-day schedules (one each way) also make a stop at the University of Vermont campus. In Burlington, all trips have a 15-minute layover at the airport, and in White River Junction, the buses make an initial stop at the White River Junction depot, travel to Hanover, NH, and then return to the White River depot before continuing. In Boston, two of the inbound trips make stops at Logan Airport (but not any northbound trips). Three of the schedules in each direction make a stop at the Manchester, NH Airport. To use Greyhound services between Burlington and New York, it is necessary to transfer either in Boston or in Montreal.

Exhibit 2-1

BOSTON - BURLINGTON - MONTREAL
TABLE 62

Carrier	SCHEDULE NUMBER		3534	3538	3586	3540	3542
	1-16-13						
	FREQUENCY						
GL	**Montreal, PQ**	LV	23:30	08:15	10:45		15:45
	St. Jean, PQ						
	Burnington UVM			10:45			18:15
	Burlington, VT (*Airport)*	AR	02:00	11:00	13:15		18:30
	Burlington, VT (*Airport)*	LV	02:15	11:30	13:45		18:45
	Burnington UVM				14:00		
	Burlington, VT *(Downtown)*		02:25				
	Montpelier, VT		03:10	12:15	14:45		19:30
	White River Jct., VT	AR	04:05	13:10	15:40		20:25
	Hanover, NH					19:45	
	White River Jct., VT	AR				20:00	
	White River Jct., VT	LV	04:20	13:45	16:15		20:45
	Hanover, NH		04:35	14:00			
	Concord, NH			15:10			
	Manchester, NH			15:40			22:10
	Manchester Arpt, NH		06:05	15:55	17:45		
	Boston Logan Arpt, MA						
	Boston, MA	AR	07:05	16:55	18:45		23:10
GL	Boston Logan Arpt, MA	D	07:25		D 19:05		

BOSTON - BURLINGTON - MONTREAL
TABLE 62

Carrier	SCHEDULE NUMBER		3541	3531	3533	3587
	1-16-13					
	FREQUENCY					
GL	Boston Logan Arpt, MA	LV				
	Boston, MA	LV	23:50	07:00	10:00	13:30
	Boston Logan Arpt, MA					
	Manchester Arpt, NH		00:55		11:05	14:30
	Manchester NH			08:05		14:45
	Concord, NH					15:15
	Hanover, NH				D 12:30	D 16:25
	White River Jct., VT	AR	02:05	09:20	B 12:40	B 16:35
	Hanover, NH					
	White River Jct., VT	LV	02:20	09:50	13:10	17:00
	Montpelier, VT		03:15	10:45	14:05	17:55
	Burlington, VT *(Downtown)*		04:00			
	Burlington UVM	AR		11:30		18:40
	Burlington, VT *(Airport)*	AR	04:10	11:45	14:50	18:55
	Burlington, VT *(Airport)*	LV	04:15	12:00	15:05	19:00
	St. Jean, PQ				17:20	
GL	**Montreal, PQ**	AR	06:45	14:30	17:35	21:30

The other Greyhound route operates a single daily round-trip from White River Junction to Springfield, MA. The schedule for this route is presented in Exhibit 2-2. It has additional Vermont stops at Vermont at Bellows Falls and Brattleboro (also shown in Table 2-1). The southbound bus serving this corridor leaves White River Junction well after the arrival of the bus from Burlington, but the northbound arrives in time to allow a rider to connect to either Burlington- or Boston-bound buses with minimal delay. New York can also be accessed on this route once a day with a layover/transfer in Springfield, MA. In early 2012, Greyhound announced plans to discontinue this route, but Vtrans has provided funding to continue service for a year.

Exhibit 2-2

SPRINGFIELD - WHITE RIVER JCT
TABLE 67

Carrier	SCHEDULE NUMBER				2010
	1-16-13				NYD WRJ
	FREQUENCY				
GL	**Springfield, MA**	ET	LV		9:40
	Northampton, MA				10:05
	Greenfield, MA				10:35
	Brattleboro, VT				11:05
	Keene, NH				11:35
	Bellows Falls, VT				12:10
	White River Jct., VT		AR		12:50
	White River Jct., VT		LV		
GL	**Hanover, NH**	ET	AR		

WHITE RIVER JCT - SPRINGFIELD
TABLE 67

Carrier	SCHEDULE NUMBER				2033
	1-16-13				WRJ NYD
	FREQUENCY				
GL	**Burlington, VT**	ET	LV		
	Montpelier, VT				
	Hanover, NH		LV		
	White River Jct., VT		AR		
	White River Jct., VT		LV		8:25
	Bellows Falls, VT		AR		9:05
	Bellows Falls, VT		LV		9:10
	Keene, NH				9:45
	Brattleboro, VT				10:15
	Brattleboro, VT				10:15
	Greenfield, MA				10:50
	Northampton, MA				11:20
GL	**Springfield, MA**	ET	AR		11:45

Table 2-1: Points in Vermont Served by Greyhound – 2013

Towns Served	Location
Bellows Falls	54 Depot Street Bellows Falls, Vermont 05101
Brattleboro	Shell Gas Station 429 Canal Street Brattleboro, Vermont 05302
Burlington	Burlington Airport 1200 Airport Drive #1 Burlington, Vermont 05401
Burlington UVM	UVM Campus
Burlington Winooski Main	Burlington Downtown 219 S. Winooski Ave. Burlington Winooski Main Vermont 05401
Montpelier	Bafitos 23 Main Street Montpelier, Vermont 05602
White River Junction	Summit Dist-Greyhound Station 44 Sykes Mountain Ave. White River Jct., Vermont 05001

Megabus/Coach USA

Megabus is a brand used by Coach USA (and its partners), the U.S. subsidiary of the Stagecoach Group of Scotland. Megabus service is characterized by having limited stop service between larger cities and towns with significant student populations, with a limited number of seats available on each schedule at nominal fares, which are usually sold well in advance. All users must have a reservation and pre-pay for their ticket, and all ticket sales take place on the internet. Megabus does not interline with other carriers, and does not offer through tickets beyond a particular route even on its own services (i.e. to take Megabus from Burlington to Washington, D.C. would require two separate reservations and two tickets, with no connecting schedules listed or guaranteed). There are no Megabus stations or agencies, passengers wait at specified curbside locations, often near transit facilities or campus locations. The buses are equipped with Wi-Fi and electric plug-ins to allow users on-board internet access.

In Vermont Megabus initiated service by offering daily non-stop round-trips between Boston (South Station) and Burlington (the Davis Center at the University of Vermont, 590 Main Street, Third Floor Circle). Additional service has since been added on two routes: one between Burlington and New York City, with an intermediate stop

in Saratoga Springs, New York (at a park and ride lot), and a second from Burlington to New York City via Amherst, Massachusetts and Hartford, Connecticut. There are no Vermont service points other than Burlington. Megabus does not publish timetables showing all services—but only departures with available seats—but as of January 2013 it appears that the Burlington-New York services consist of one trip per day on each route, and that the Boston service is two round-trips per day. The Vermont Megabus services are actually operated on behalf of Megabus by DATTCO, a family-owned bus company based in New Britain, Connecticut.

Yankee Trails

Vermont's only other remaining scheduled intercity bus service is provided by Yankee Trails, which offers two round-trips per day from Bennington to Albany, New York. This service is provided Monday to Friday only, as can be seen on the following page in Exhibit 2-3. The Yankee Trails scheduled service is not interlined with Greyhound, so a Vermont resident cannot buy a bus ticket in Bennington for travel beyond the Albany terminus. Yankee Trails offers only separate cash fares. The fare from Bennington to Albany is $4.00. As a result of the lack of an interline agreement with Greyhound, the stop in Albany is on the street in front of the Greyhound terminal. Also, Greyhound's website and telephone information service does not have information on the Yankee Trails service.

Services in Adjoining States

Many Vermont residents are also able to make intercity bus connections in relatively close proximity to their communities by traveling to intercity bus stops in adjacent states. Vermonters in the GMCN service area can take Peter Pan Bus Lines from Williamstown, MA to New York City (two round trips per day). Dartmouth Coach operates between Hanover/Lebanon, New Hampshire, and both South Station (connections to MBTA, Amtrak and numerous other bus lines) and Logan International Airport in Boston (with a stop at the park and ride lot in New London, NH) with eight round trips per day. Dartmouth Coach also operates between Hanover/Lebanon, NH, and New York City with frequencies varying by the day of the week. This service operates express, with no stops, and utilizes the curb in front of the Yale Club (near Grand Central Station) as its New York City terminal. Concord Coach of New Hampshire owns Dartmouth Coach, and Concord Coach also operates a daily service between Littleton, New Hampshire and Boston, with numerous stops. Vermonters living in the St. Johnsbury area can use this service to reach New Hampshire points and Boston.

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HOOSICK FALLS LINE RUN SCHEDULE

Hoosick Falls/Bennington, VT Line Run Schedule
PLEASE NOTE: OPERATING MONDAY-FRIDAY ONLY
(Does NOT run on Saturday, Sunday OR State Holidays)
MAIN POINTS OF DEPARTURE
Bennington, VT: School Street & Route 9 (Northwest Corner of Intersection)
Hoosick Falls: Woods Memorial Park in front of the Police Station
Troy Terminal: Corner of Third & Ferry Street
Albany Terminal: Greyhound Bus Terminal, Corner of Dallius & Hamilton
(NOT inside Greyhound Bus Terminal)

Click HERE for prices.
(times/prices as of September 7, 2010)

Departure Time	Leaving From
6:45am	Hoosick Falls
7:00am	Potter Hill
7:02am	Boyntonville
7:05am	Pittstown
7:15am	Raymertown
7:20am	Haynerville
7:25am	Center Brunswick
7:30am	Sycaway
7:40am	Troy Terminal
7:45am	Watervliet
7:50am	Menands
8:05am	Albany-State Plaza
8:10am	Albany Greyhound
9:10am	Albany Greyhound
9:20am	Menands
9:25am	Watervliet
9:30am	Troy Terminal
9:35am	Sycaway
9:40am	Center Brunswick
9:45am	Haynersville
9:50am	Raymertown
9:55am	Pittstown
10:00am	Boyntonville
10:05am	Potter Hill
10:10am	Hoosick Falls
10:40am	Hoosick
10:45am	Old Bennington
10:50am	Bennington, VT
11:05am	Bennington, VT
11:10am	Old Bennington
11:20am	Hoosick
11:30am	Hoosick Falls
11:45am	Potter Hill
11:50am	Boyntonville
11:55am	Pittstown
12:00pm	Raymertown
12:05pm	Haynerville
12:10pm	Center Brunswick
12:15pm	Sycaway
12:25pm	Troy Terminal
12:30pm	Watervliet
12:35pm	Menands
12:50pm	Albany Greyhound

Departure Time	Leaving From
5:15pm	Albany Greyhound
5:25pm	Albany State Plaza
5:35pm	Menands
5:40pm	Watervliet
5:50pm	Troy Terminal
6:00pm	Sycaway
6:05pm	Center Brunswick
6:15pm	Haynersville
6:20pm	Raymertown
6:25pm	Pittstown
6:30pm	Boyntonville
6:35pm	Potter Hill
6:40pm	Hoosick Falls
6:55pm	Hoosick
7:15pm	Old Bennington
7:20pm	Bennington, VT
7:25pm	Bennington, VT
7:27pm	Old Bennington
7:40pm	Hoosick
7:50pm	Hoosick Falls
8:00pm	Potter Hill
8:05pm	Boyntonville
8:10pm	Pittstown
8:15pm	Raymertown
8:20pm	Haynersville
8:25pm	Center Brunswick
8:30pm	Sycaway
8:40pm	Troy Terminal
8:45pm	Watervliet
8:50pm	Menands
9:05pm	Albany Greyhound

Top

Prices

Line Run	Bennington	Hoosick	Hoosick Falls	Potter Hill	Boyntonville	Pittstown	Raymertown	Haynerville	Center Brunswick	Sycaway
Bennington	-	$0.75	$1.10	$1.50	$1.50	$2.50	$2.50	$2.50	$2.85	$2.85
Hoosick	$0.75	-	$0.75	$1.10	$1.10	$1.50	$1.50	$1.50	$2.50	$2.50
Hoosick Falls	$1.10	$0.75	-	$0.75	$1.10	$1.50	$1.50	$1.50	$2.50	$2.50
Potter Hill	$1.50	$1.10	$0.75	-	$0.75	$1.10	$1.10	$1.10	$1.50	$1.50
Boyntonville	$1.50	$1.10	$1.10	$0.75	-	$0.75	$1.10	$1.10	$1.50	$1.50
Pittstown	$2.50	$1.50	$1.50	$1.10	$0.75	-	$0.75	$0.75	$1.10	$1.10
Raymertown	$2.50	$1.50	$1.50	$1.10	$1.10	$0.75	-	$0.75	$1.10	$1.10
Haynerville	$2.50	$1.50	$1.50	$1.10	$1.10	$0.75	$0.75	-	$0.75	$1.10
Center Brunswick	$2.85	$2.50	$2.50	$1.50	$1.50	$1.10	$1.10	$0.75	-	$0.75
Sycaway	$2.85	$2.50	$2.50	$1.50	$1.50	$1.10	$1.10	$1.10	$0.75	-
Troy	$2.85	$2.50	$2.50	$1.50	$1.50	$1.10	$1.10	$1.10	$0.75	-
Watervliet	$4.00	$2.85	$2.85	$2.50	$2.50	$1.50	$1.50	$1.50	$1.10	$1.10
Menands	$4.00	$2.85	$2.85	$2.50	$2.50	$1.50	$1.50	$1.50	$1.10	$1.10
Albany	$4.00	$2.85	$2.85	$2.50	$2.50	$1.50	$1.50	$1.50	$1.10	$1.10

Table 2-2: Comparison of 1996 and 2011 Vermont Intercity Bus and Rail Service Points

Service Point	Full Bus Agency (1)	Amtrak Service	1996 Timetable Number (3)	1996 Frequency (Daily Service, Each Way)	2011 Timetable Number (3)	2011 Frequency (Daily Service, Each Way)
Arlington			1986	3 Scheduled plus (4) 1 Discharge Only		None
Ascutney	Yes		1995	7 Scheduled		None
Barnet			1997	1 Scheduled plus 1 Discharge Only		None
Barton	Yes		1997	2 Scheduled		None
Bellows Falls	Yes	Yes	1990	4 Scheduled		None
			1995	8 Scheduled	67	2 Scheduled
			Amtrak-Rail	2 Scheduled		2 Scheduled
			Amtrak-Bus	1 Receive only, 1 Discharge Only		None
Bennington	Yes		1986	6 Scheduled	Yankee Tr.	2 Scheduled
			Bonanza-2042	6 Scheduled		None
Bradford			1997	2 Scheduled		None
Brandon	Yes		1986	6 Scheduled		None
		Yes	Amtrak-Bus	2 Scheduled		None
Brattleboro	Yes	Yes	1990	4 Scheduled		None
			1995	9 Scheduled	67	2 Scheduled
			Amtrak-Rail	2 Scheduled		2 Scheduled
			Amtrak-Bus	1 Receive only, 1 Discharge Only		None
Bridgewater			2001	2 Flagstops (5)		None
Burlington	Yes		1986	6 Scheduled		None
			1987	10 Scheduled	62	8 Scheduled
		Yes	Amtrak-Bus	2 Scheduled		None
Burlington-Essex Junctio		Yes	Amtrak	2 Scheduled		2 Scheduled
Charlotte			1986	6 Flag stops		None
Cuttingsville			1990	4 Flag stops		None
Danby			1986	6 Highway Stops (6)		None
East Dorset			1986	6 Highway Stops		None
East Wallingford			1990	4 Highway Stops		None
Equinox House			1986	3 Flag stops plus 1 Discharge Only		None
Fairlee	Yes		1997	2 Scheduled		None
Long Trail Lodge			2001	2 Flag stops		None
Ludlow	Yes		1990	4 Scheduled		None
Lyndonville	Yes		1997	2 Scheduled		None
Manchester	Yes		1986	6 Scheduled		None
Middlebury	Yes		1986	6 Scheduled		None
		Yes	Amtrak-Bus	2 Scheduled		None
Middlebury College			1986	3 Discharge Only		None
Montpelier	Yes	Yes	1987	9 Scheduled	62	8 Scheduled
New Haven Junction			1986	6 Flag Stops		None
Newport	Yes		1997	2 Scheduled		None
North Clarendon			1986	6 Highway Stops		None
			1990	4 Highway Stops		None
Orleans			1997	1 Highway Stop		None
Proctorsville			1990	4 Highway Stops		None
Quechee			2001	2 Flag Stops		None
Randolph		Yes	Amtrak	2 Scheduled Stops		2 Scheduled
Randolph Center	Yes		1987	3 Scheduled Stops		None
Rutland	Yes	Yes	1986	6 Scheduled Stops		None
			1987	7 Scheduled Stops		None
Rutland (continued)			2001	4 Scheduled Stops		None
			Amtrak	2 Scheduled Stops		2 Scheduled
		Yes	Amtrak-Bus	2 Scheduled		None
Shelburne			1986	1 Scheduled plus 5 Flag Stops		None
Sherburne	Yes(2)		2001	4 Scheduled Stops		None
South Shaftsbury			1986	1 Scheduled, 1 Flag, 1 Discharge Only		None
South Wallingford			1986	6 flag stops		None
St. Alban's		Yes	Amtrak	2 Scheduled		None
Springfield	Yes		1990	4 Scheduled		None
St. Johnsbury	Yes		1997	2 Scheduled		None

Table 2-2: Comparison of 1996 and 2011 Vermont Intercity Bus and Rail Service Points

Service Point	Full Bus Agency (1)	Amtrak Service	1996 Timetable Number (3)	1996 Frequency (Daily Service, Each Way)	2011 Timetable Number (3)	2011 Frequency (Daily Service, Each Way)
St. Michael's College			1986	2 Scheduled (Discharge-Sundays)		None
Taftsville			2001	2-flagstops		None
Trinity College			1986	2 Scheduled (Discharge-Sundays)		None
Vergennes	Yes		1986	5 Scheduled, 1 Flag Stop		None
		Yes	Amtrak-Bus	2 Scheduled		None
University of Vermont			1986	2 Scheduled (Discharge-Sundays)		2 Scheduled
Wallingford	Yes		1986	5 Scheduled, 1 Flag Stop		None
Waterbury	Yes		1987	4 Scheduled, 2 Discharge Only		None
Waterbury-Stowe		Yes	Amtrak	2 Scheduled		2 Scheduled
Wells River	Yes		1997	2 Scheduled		None
West Bridgewater			2001	2 Flag Stops		None
White River Junction	Yes		1987	12 Scheduled	62	8 Scheduled
			1995	10 Scheduled	67	2 Scheduled
			2001	4 Scheduled		None
			1997	2 Scheduled		None
			Amtrak-Rail	2 Scheduled		2 Scheduled
			Amtrak-Bus	1 Receive Only, 1 Discharge Only		None
Windsor-Mt. Ascutney		Yes	Amtrak	2 Scheduled		2 Scheduled
Woodstock	Yes		2001	4 Scheduled		None

(1) Full service bus agency sells passenger tickets and accepts bus package express.
(2) Handles tickets only.
(3) Timetable numbers from Russell's Guide.
(4) Scheduled service is defined as being shown in the timetable as stopping at a particular time to discharge and receive passengers.
(5) At flagstops buses will stop only on signal to pick up or dropoff passengers.
(6) At a highway stop - buses do not go into town or to an agency to pick up or dropoff passengers.

IMPACTS OF THE LOSS OF RURAL INTERCITY BUS SERVICE

It should be noted that there are now only six places in Vermont with intercity bus service, which is a substantial decline from the 55 points with service identified in the 1998 *Vermont Statewide Intercity Bus Study.* Exhibit 2-4 depicts the intercity bus and rail network available to Vermont at the time of the previous study. Table 2-2 lists the points that have lost intercity bus service since that study.

Greyhound Lines purchased Vermont Transit in 1975, and the firm became a fully-owned subsidiary of Greyhound Lines[1]. However, its management remained independent, and the firm operated as a separate company, with its own cost structure, maintenance facilities, employees, and agents. Vermont Transit had lower operating costs than the parent firm, and this fact enabled the firm to continue operating many lightly-used rural/small town routes. Despite this, in September 2005 the national restructuring of Greyhound services resulted in the discontinuation of all Vermont Transit service in the Route 7 corridor; the Route 103 corridor from Rutland through Ludlow and Springfield; and the Newport to White River Junction route. Subsequently, in 2008 the remaining daily round-trip between Rutland and White River Junction was discontinued, leaving Rutland with no intercity bus service.

The loss of the Newport-White River Junction service was not surprising, because it carried few riders, had no through ridership, and incurred costs (driver lodgings, etc.) resulting from overnighting a bus in Newport. However, the loss of the Route 7 corridor on the western side of the state, particularly service from Burlington to Albany via Rutland and Bennington, was more significant. The frequency had been two round-trips per day, there were connections in Rutland to White River Junction (connecting to buses to Boston and New York) and to Bellows Falls/Brattleboro (and on to Boston) with connecting service to New York. All of these connections disappeared

[1] In 2008, following the purchase of Greyhound by First Group of the United Kingdom, Vermont Transit (along with Carolina Coach and Texas, New Mexico, & Oklahoma Stage Lines) was consolidated into Greyhound.

Exhibit 2-4

INTERCITY BUS NETWORK IN VERMONT AS OF DECEMBER 1996

with the restructuring, and currently Middlebury, Rutland, Manchester, Springfield, and Newport have no intercity bus connection.

To some extent, these connections have been replaced with other services, including state-supported Amtrak services on two routes, and significantly increased availability of regional connections provided by the public transit operators. These alternatives are discussed below. Other types of providers such as Middlebury Transit have arisen to provide a different type of intercity transportation, offering advance-reservation ground transportation service (at higher fares than typical intercity bus fares) to airports and train stations. However, for most of Vermont there has been a significant reduction in intercity bus services—in terms of coverage, frequency, and connectivity.

INTERCITY PASSENGER RAIL

Although there are differences in the user and trip characteristics of intercity bus and rail, rail passenger service also provides a surface, non-auto transit mode which may be considered to address many of the same travel needs. The map in Figure 2-1 also presents the routes of the two Amtrak lines that currently serve Vermont. The *Ethan Allen Express* provides daily service, one roundtrip a day, from New York, NY to Rutland, VT by way of Albany, NY. This train service also stops in Castleton, VT, and motor coach connections are available to Killington and Okemo ski resorts during the ski season. The *Vermonter* provides a single daily service from Washington, D.C. to St. Albans, VT, offering connections to Baltimore, Philadelphia, and New York. One southbound and one northbound trip are provided each day. The other stops within Vermont include Essex Junction, Waterbury, Montpelier, Randolph, White River Junction, Windsor, Bellows Falls, and Brattleboro. Both train services are financed primarily through funding from VTrans.

REGIONAL TRANSIT CONNECTIONS

Since the 2007 PTPP, there has been a growth of regional commuter services for both year-round and seasonal workers. Commuter routes that extend beyond the traditional areas service by each of the operators and seasonal connections currently include:

- Addison County Transit Resources (ACTR) extends into Chittenden and Rutland Counties with commuter services. Rutland to Middlebury is operated jointly with Marble Valley Regional Transit District (MVRTD) (partially as a replacement for town-to-town service and access formerly

provided by the Vermont Transit route that was discontinued in the Western Corridor), and Middlebury to Burlington is operated jointly with Chittenden County Transportation Authority (CCTA).

- MVRTD offers regional services from Rutland into Middlebury, Manchester, Bellows Falls, Ludlow, and Fair Haven. It also has a seasonal route to Killington, primarily for workers.

- Connecticut River Transit (CRT) has a number of commuter routes that connect to other transit systems: the Rockingham – Lebanon route (connecting to AT and Stagecoach Transportation Services (STSI)) and the Bellows Falls- Brattleboro (connecting with Deerfield Valley Transit Association DVTA)). The system also has a seasonal service to Okemo Mountain Resort and connects to Amtrak in Bellow Falls (Upper Valley Commuter Route).

- DVTA extends beyond its service area to Brattleboro and has a seasonal route to Mt. Snow.

- Green Mountain Community Network (GMCN)/GMX connects to MVRTD to cover the Route 7 corridor from Bennington to Rutland, and for out-of state travel it links to Peter Pan Bus Lines in Williamstown, Massachusetts (service to New York).

- Rural Community Transportation (RCT) has service on Route 2 from St. Johnsbury to Montpelier where a passenger could connect to Amtrak or Greyhound. This is operated in conjunction with Green Mountain Transit Agency (GMTA).

- STSI operates two commuter routes along the I-89 and I-91 corridors into the employment centers of White River Junction and Lebanon and Hanover, NH.

- CCTA operates the LINK Express commuter services between Burlington, Waterbury, and Montpelier to the east, Middlebury to the south, and to adjacent counties.

- Advance Transit (AT) provides commuter service to Enfield and Canaan, New Hampshire. Through the Upper Valley Transportation Management Association (UVTMA), AT coordinates with Stagecoach Transit Services and CRT in Vermont and Community Transportation Services in New Hampshire to provide information on public transit and promote connections between

transit systems in the region. AT also promotes intermodal transportation with connections to Amtrak, Greyhound, and Dartmouth Coach.

For the most part these services have been established under the State's New Starts program, using Congestion Mitigation and Air Quality Improvement Program (CMAQ) funding which provides operating assistance for three years. In general, these services have been designed based on identification of significant long-distance commuter patterns, focusing on attracting "choice" riders who may have a private vehicle option. Ridership on most of the services has grown rapidly (one, the route from White River Junction to St. Johnsbury was discontinued due to poor performance), and led to calls for increased park and ride lot capacity.

Some of these services (and other local transit routes as well) can be used as practical connections with less than two-hour wait times to and from intercity bus services. However, even if a number of transit systems connect to the remaining intercity bus (and rail) service, it is not clear that they are a substitute for the intercity bus services that once existed. The Section 45 study on Regional Connectivity looked at intra-state connections in terms of both possibility and "practicality". The definition of practical public transit trip was that it would take no longer then two times as long as it would be to drive, and require no more than two transfers among vehicles. It found that route connections exist among most of the State's populated towns and cities (with the exception of the Northeast Kingdom) but that the set of practical connections was limited. The area of the state most disconnected from the intra-state transit fixed-route network is the Northeast Kingdom. In addition, it found that a trip from Burlington to Bennington is possible, but is not very practical requiring three transfers and most of a day. Since then a Route 2, St. Johnsbury to Montpelier, service has been instituted, which also allows for travel between St. Johnsbury and Burlington via connections with CCTA/GMTA LINK Express. Chapters 3 and 4 provide a more detailed analysis of the degree to which regional transit services can be considered as intercity service having a meaningful connection to the national intercity bus network.

CONCLUSIONS

It should be noted that there are significant differences in the trip purposes and potential destinations between the regional commuter services and the intercity services. Intercity services in Vermont, both passenger rail and intercity bus, have long been routed and scheduled to pick up passengers in Vermont towns and cities and transport them to major destinations outside the State. Even the 1998 Vermont intercity bus study noted that most of the services then existing were designed mainly to provide for departures toward Albany, New York City, and Boston in the morning, with return trips arriving late in the day (continuing on to Montreal in some cases). The ability of a resident of Bennington or Brattleboro (or even Rutland) to travel north to Montpelier or

Burlington and return the same day was very limited if it existed at all. More recently, the advent of Megabus service has focused solely on the trip from Vermont to points outside the state, with service originating only in the state's largest population center.

Needs for intrastate trips have largely been addressed by the transit providers within their service regions, and more recently the regional commuters have addressed this for trip lengths that could be served effectively on schedules allowing for a day in the destination city (there are still some gaps in meeting this need, such as the inability to make a day trip from Rutland to Burlington and back on the regional services). Intercity trips are typically taken for family or social reasons, rather than as business trips or work commutes, and the riders are generally infrequent users. However, the riders value the ability to make these trips, as can be seen in the fact that most intercity services are able to charge fares that cover the full cost of the trip.

Given the losses of intercity bus service, how much of Vermont has intercity access? The recently released U.S. DOT study "The U.S. Rural Population and Scheduled Intercity Transportation in 2010: a Five-Year Decline in Transportation Access" measured access by looking at the population within a 25-mile radius of a small or non-hub commercial service airport, bus station, ferry terminal, or rail station; or within a 75-mile radius of a medium- or large-hub airport. It found that the percentage of Vermont's rural (non-urbanized) population with access to intercity bus service declined from 99.8% in 2005 to 78.8% in 2010 (largely as a result of the Greyhound/Vermont Transit restructuring). Vermont's two daily Amtrak trains to New York City provide access to 83.6% of the rural population, according to the same study. The rural areas of Vermont that have access only to intercity bus (but not rail or air service) include only 6.5% of the rural population, meaning that there is significant overlap of the current bus service origin areas with those of intercity rail and air. Additional intercity bus route coverage in rural areas would be needed to reach the populations not already served.

The importance of documenting the loss of access is related to the federal funding programs that provide for intercity bus service assistance in rural areas, as can be seen in Chapter 4.

Chapter 3

Analysis of Intercity Bus Service Needs

This chapter examines the need for intercity bus services in four different ways. It examines the demographic and economic characteristics of the population to identify the locations that have a concentration of potential need for public transit services, either because of the characteristics of the population, the overall size of the population, or the density of the population. A second aspect of the needs analysis focuses on the potential destinations for intercity trips. They may have a need for intercity bus service because a major activity attracts persons from distant locations. These places may have colleges and universities, military bases, major regional medical facilities, and state or federal correctional facilities (both for visitors and release of inmates). The areas of high potential need (trip origins) and potential destinations are then compared to the existing network to identify potential gaps in service. A third element in the needs analysis is an examination of the ability of Vermonters to make intercity bus trips to major out-of-state destinations without excessive numbers of transfers or excessive travel time. Finally, a fourth element in this needs analysis has been provided by public input.

DEMOGRAPHIC ANALYSIS OF INTERCITY BUS NEEDS

This analysis identifies the location of population segments that tend to be more dependent on intercity bus services, and compares these areas to the existing intercity bus network to determine gaps where service might be expanded or new services implemented. It is very similar to the analysis for public transit generally, except that it also includes the 18 to 24 year old population segment that forms a major portion of intercity bus ridership. At that age many persons are traveling to and from higher educational institutions or military bases; they are more likely to be traveling alone and to not have a vehicle available, both factors that increase bus usage. After reviewing transit-dependent populations individually, a combined analysis of the density of these populations indicates areas that may have higher potential needs for intercity bus service. The methodology for the demographic analysis is described below.

Methodology

The demographic analysis examined five potentially transit-dependent population segments:

- ***Older Adults*** – Persons age 65 and above. This group may include those who either choose not to drive any longer, have previously relied on a spouse for mobility, or because of factors associated with age can no longer drive;

- ***Persons with Disabilities*** – Persons age 16 and over who have a disability lasting six months or more that makes leaving the home alone for simple trips such as shopping and medical visits difficult for them;

- ***Low-Income Residents*** – Persons living below the poverty level who may not have the economic means to either purchase or maintain a personal vehicle; and

- ***Autoless Households*** – Number of households without an automobile. One, if not the most, significant factor in determining transit needs is the lack of an available automobile for members of a household to use.

- ***Young Adults*** - Persons 18 to 24 years of age. This group may include persons who do not a vehicle available for the trip, cannot have a vehicle at the destination, or have chosen not to use private vehicles.

The most recent data available for these population segments were collected from 2010 Nielson Claritas data, where available, or 2000 Census data.[1] The data was collected at the Census Block Group level to provide more geographic detail regarding potential transit needs across the State. The 2000 Census data was also adjusted by the statewide population increase from 2000 to 2010 to better approximate the current demographic distribution.

The first step in the analysis was using GIS ArcMap to map the densities of these individual population segments, in persons per square mile. The densities of potentially transit-dependent populations are a good indicator of the type of transit service that may be most feasible in an area. For example, fixed-route transit service is often prioritized for areas that contain higher densities of potentially transit-dependent persons, while demand response service is more feasible for low or moderate density areas. In addition, current intercity bus services including those provided to Vermont locations by Greyhound Lines, megabus and Yankee Trails; and nearby opportunities

[1] The data for persons with disabilities and low-income residents were not available with the 2010 Nielson Claritas dataset, so 2000 Census data was used.

for connections in New Hampshire and Massachusetts were included in the demographic maps.

The second step of the demographic assessment involved a combined analysis, where the data for the five population segments above were summarized by Census Block Group. Each Block Group was ranked, relative to the other Block Groups across the State, by potential need for intercity bus service (i.e., a Block Group with greater densities of older adults, persons with disabilities, low-income residents, autoless households, and young adults ranked higher than another Block Group with smaller densities of these populations). Analyzing the densities of these population segments helped identify service gaps and the types of transit service that may be most appropriate for those areas.[2]

The summary density rankings for transit-dependent persons, per Block Group, were divided into natural breaks representing ranges of high, moderate, and low relative need. The results for the individual analyses of the potentially transit-dependent population segments and the combined analysis are described below.

It should be noted that this methodology focused mainly on the likely ridership for "traditional" intercity bus services, persons with higher transportation need characteristics who are also likely to need local public transit. Potential "choice" riders of intercity bus service are not captured through this demographic analysis because quantifying such demand is difficult, and public input is often a more feasible approach for collecting and analyzing data about choice markets. Young adults may be the exception, in representing both potentially transit-dependent riders and choice riders, because this age group constitutes a large portion of riders that choose to use "curbside" intercity bus services, described in more detail in Chapter 5.

Potentially Transit-Dependent Populations

Burlington is the State's only urbanized area and has the highest population densities including numbers of transit-dependent persons per square mile. Since this demographic analysis focused on densities of potential intercity bus riders, the results repeatedly highlighted that Burlington and surrounding communities, including Colchester, Winooski, Essex Junction, and South Burlington, have high needs for intercity bus service. Burlington also has the highest level of intercity bus service in the

[2] The numbers of people in each category are not added together in each Block Group because the categories are not mutually exclusive. For example, an older adult could also have an income below the poverty level and/or have no automobile available to them for personal use. It should also be noted that "autoless households" refer to occupied housing units and not persons.

State at eight roundtrips daily.[3] The descriptions per transit-dependent population below then focus on other towns outside of Greater Burlington that may have high relative need for intercity bus service. Whether intercity service should connect these towns to Burlington or to each other will be determined through additional analysis of public input and potential ridership estimates for route concepts, provided through a rural intercity bus demand model.

Older Adults

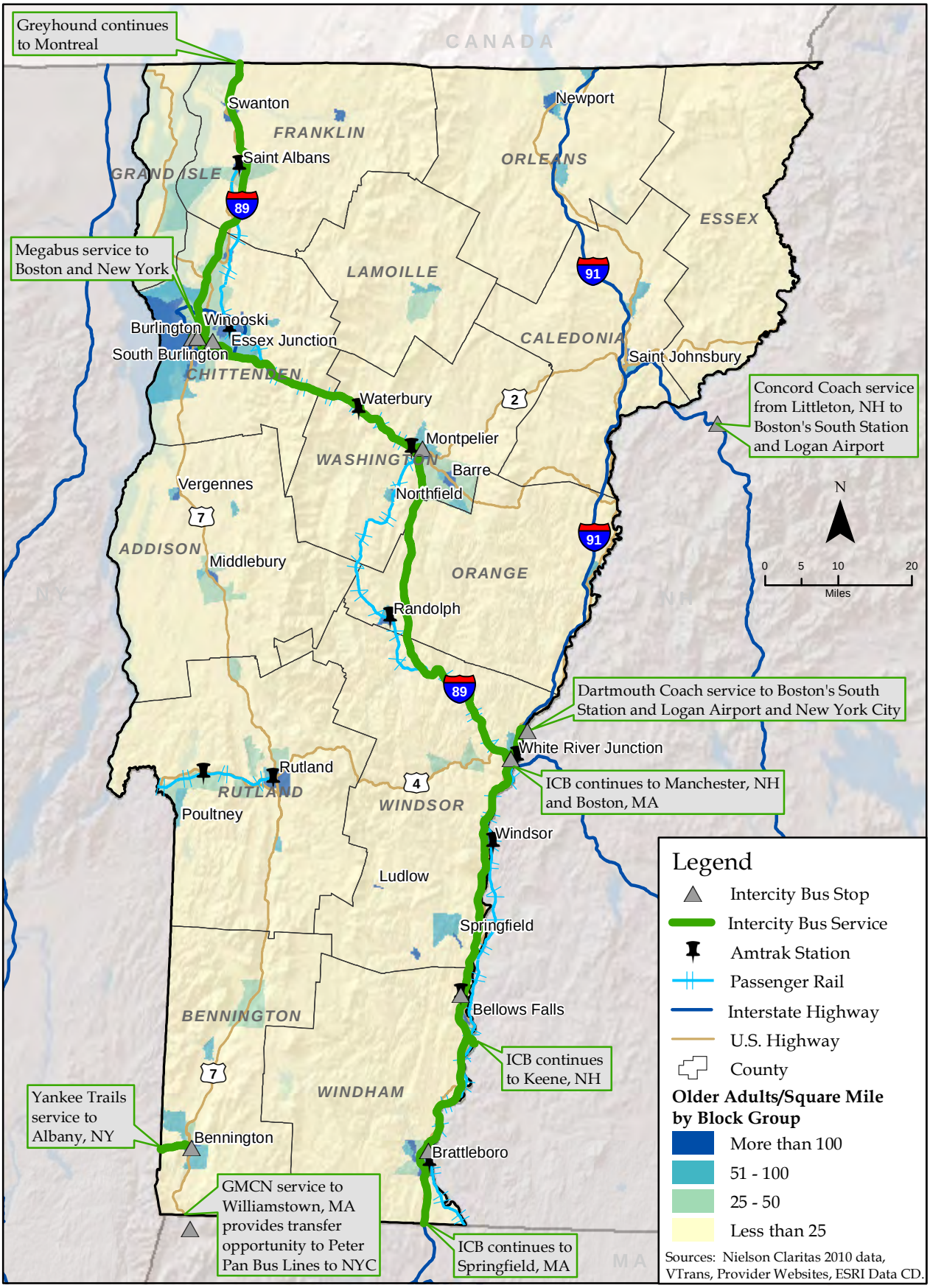
Age is considered a potential indicator of the need for public transit services. As seniors grow older, many eventually lose their ability to drive. Public transit becomes an essential element in maintaining their quality of life and avoiding relocation to an assisted living facility or a nursing home. Figure 3-1 shows the number of older adults, age 65 and above, per square mile by Block Group according to the 2010 Nielson Claritas data. The areas with the highest concentrations of seniors include St. Albans, Barre-Montpelier, St. Johnsbury, Rutland, Bellows Falls, Brattleboro, and Bennington. St. Albans, St. Johnsbury, and Rutland lie outside the existing intercity bus network, and Barre residents need to drive or take the local GMTA bus about seven miles to access the Greyhound stop in Montpelier.

Additional towns with relatively high densities of older adults include Swanton, Enosburg Falls, Newport, Waterbury, Northfield, Vergennes, Middlebury, Randolph, White River Junction, Windsor, Ludlow, and Springfield. Only White River Junction is served by current intercity bus service and Amtrak, while Waterbury, Randolph, and White River Junction are also Amtrak stops. The other towns may be candidates for new stops on existing intercity bus routes or for stops on new routes.

Intercity service is important for older adults who travel for medical services, shopping, and visiting friends and family. Public transit services between Chittenden County and the rest of the State are primarily limited to weekday commuter routes, typically requiring very early morning or late afternoon (peak commuter) trips. Furthermore, some trips require multiple connections. New intercity bus connections, especially rural intercity service that serves smaller towns between the larger urban areas, provide an important transportation option for seniors.

[3] Four roundtrips are provided by Greyhound, while four roundtrips are provided by megabus with service to Boston and New York. (Source: megabus Website, **http://us.megabus.com/**)

Figure 3-1: Older Adults (Age 65 and Above) Population Density



Persons with Disabilities

Transit accessibility offers more enriched lives for people with disabilities who require accessible transportation for various trip purposes, from employment and medical treatment to shopping and social activities. Public transit including intercity bus service is an important option for individuals with disabilities, especially where they do not have the ability to drive themselves or lack access to a personal vehicle. Local economies also benefit from the availability of an expanded workforce and increased access to businesses and retail centers. Figure 3-2 highlights concentrations of people with disabilities throughout Vermont. To create this map, data from the 2000 Census were adjusted using the percent increase of the total statewide population between 2000 and 2010 according to Nielson Claritas data.

The concentrations of persons with disabilities correspond to the State's larger urban areas. The highest densities are found in St. Albans, Barre, Rutland, Bellows Falls, Brattleboro, and Bennington. Additional towns with relatively high need based on densities of persons with disabilities include Swanton, Newport, St. Johnsbury, Montpelier, White River Junction, Ludlow, and Springfield. Swanton, St. Albans, and Springfield lie along existing intercity bus routes, but are not currently served. St. Johnsbury is about 23 miles away from the intercity bus stop in Littleton, NH, while Newport and Ludlow have neither intercity bus nor passenger rail service.

Low-Income Residents

Figure 3-3 considers an additional potential indicator for transit use – individuals living below the poverty line. Transportation costs put a tremendous strain on low-income household budgets. According to the Surface Transportation Policy Project's 2003 report, *Transportation Costs and the American Dream*, the poorest 20% of American households spend about 40% of their take-home pay on transportation.[4] For many low-income households, owning and maintaining a vehicle is necessary for travel to their workplace. Intercity bus could provide a more affordable transportation option for long-distance commutes, social visits, and shopping, especially where residents in rural areas need to access shopping and services only available in nearby urban areas. Figure 3-3 shows the number of individuals living below the poverty level per square mile in Vermont. To create this map, data from the 2000 Census were adjusted using the percent increase of the total statewide population between 2000 and 2010 according to Nielson Claritas data.

[4] The Surface Transportation Policy Project is a nationwide coalition of planners, community development organizations, and advocacy groups, which seeks to improve the national transportation system and promote safer communities.

Figure 3-2: Persons with Disabilities (Age 16 and Above) Population Density

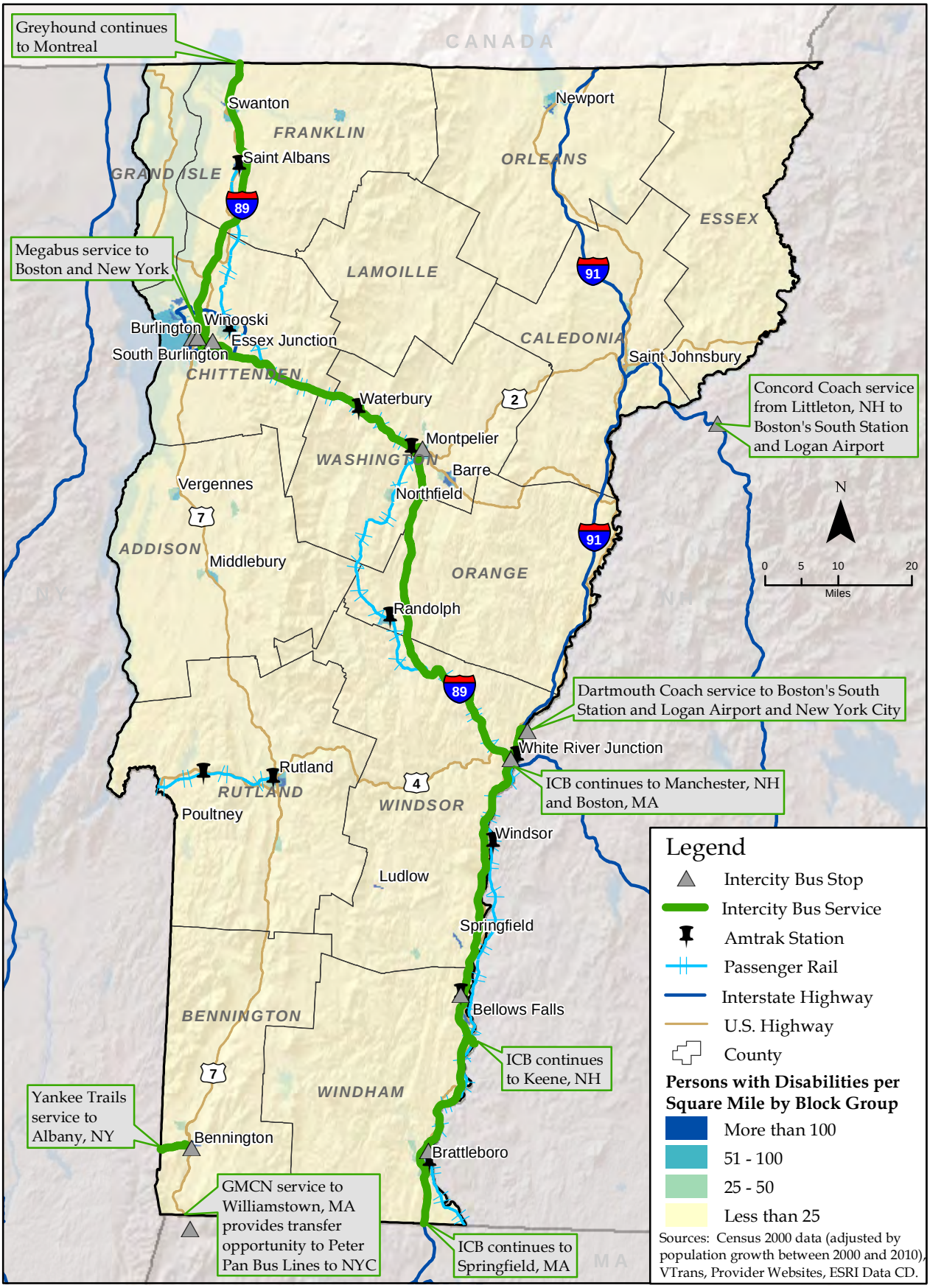
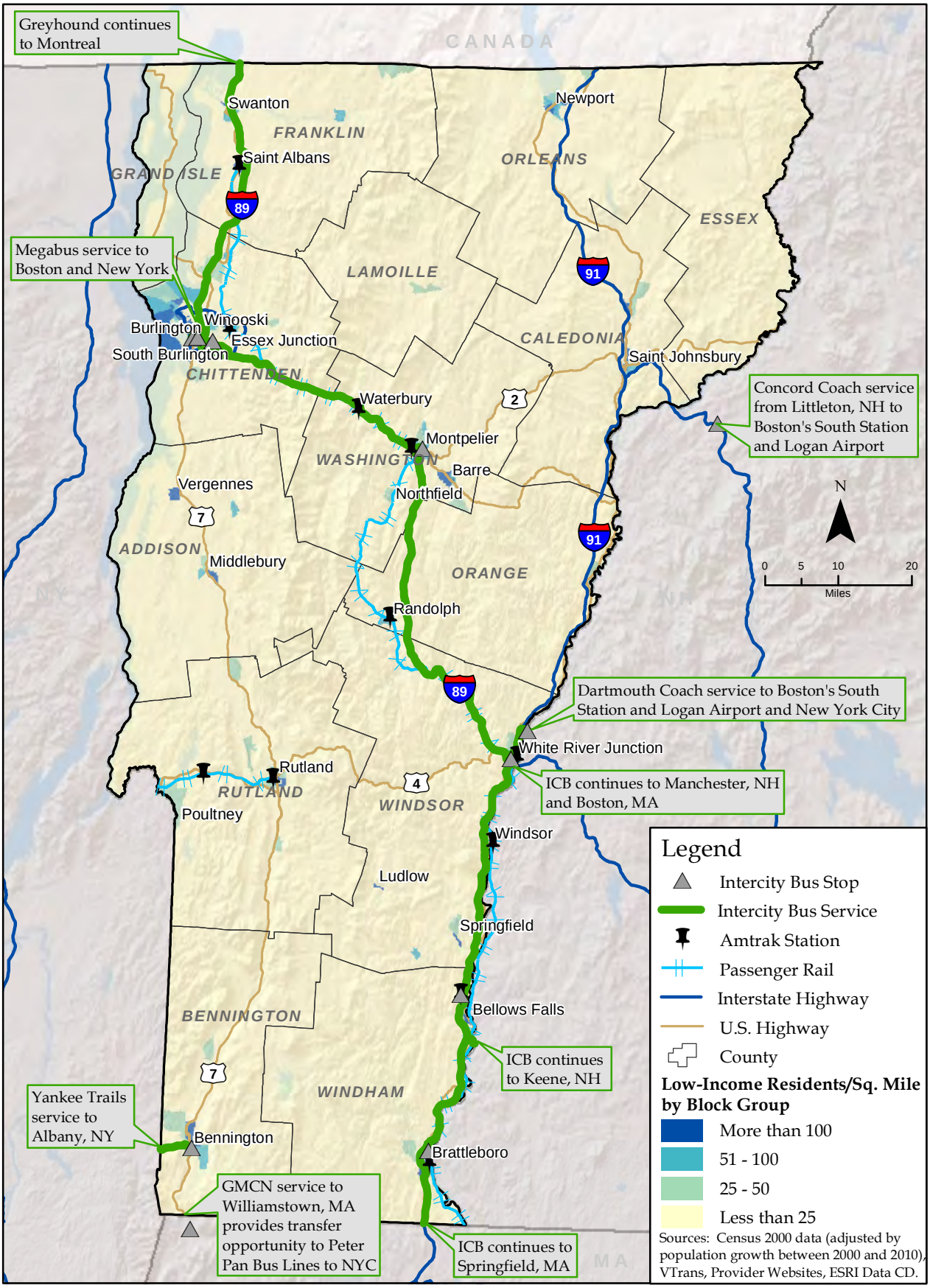


Figure 3-3: Persons Living Below the Poverty Level Population Density



The highest concentrations of low-income residents are found in Barre, Rutland, Brattleboro, and Bennington, while St. Albans, St. Johnsbury, Montpelier, and Bellows Falls have the next highest densities. Of these higher need towns, St. Johnsbury, St. Albans, and Rutland currently have no intercity bus service, though St. Johnsbury residents are indirectly served by Concord Coach in Littleton, NH and the latter two towns are served by Amtrak. Barre is not directly served by intercity bus, but is located about seven miles from the Greyhound stop in Montpelier and local transit service is available to meet some Greyhound trips. Additional towns with relatively high densities of persons living below the poverty level include Swanton, Newport, Lyndon, Waterbury, Vergennes, Middlebury, White River Junction, Windsor, Ludlow, and Springfield. None of these towns, except for White River Junction, are served by the existing intercity bus network.

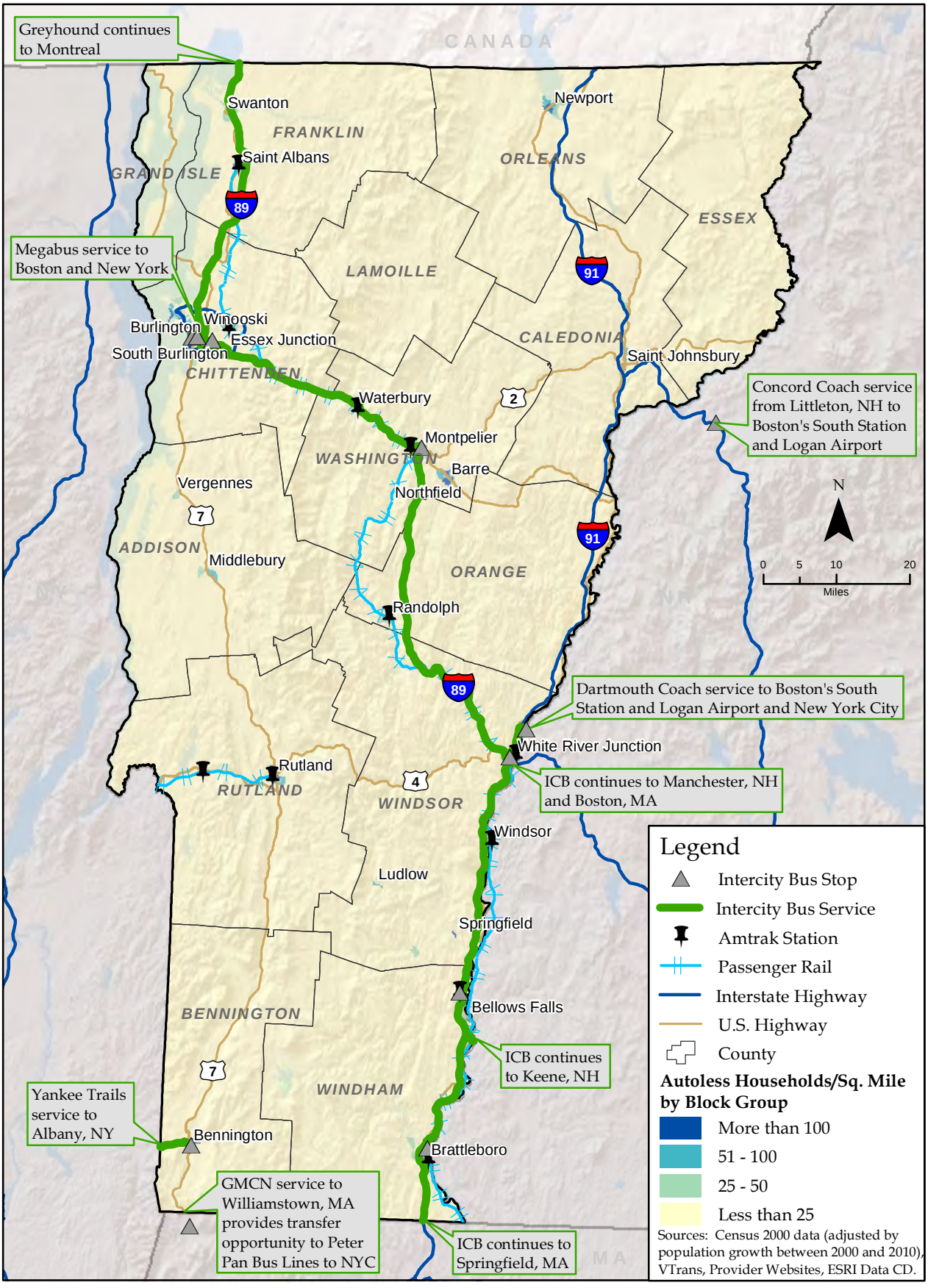
Autoless Households

The lack of a vehicle is a significant economic issue when households are not autoless by choice and public transit is unavailable. Vermont's major employment areas are regional in nature, and inter-town travel is required for many residents to reach employment sites. Members of autoless households also depend on transportation alternatives to access daily activities including medical services, educational opportunities, shopping, and social functions. Intercity bus can provide an important alternative to connect the urban areas in Vermont and to connect rural communities to the services and opportunities that may only be available in urban areas.

The number of autoless household per square mile is detailed in Figure 3-4. **(**Note that this part of the analysis considers households without cars, rather than individuals.) Outside of Burlington, Barre and Brattleboro have the highest densities of autoless households, followed by St. Johnsbury, Montpelier, Rutland, Bellows Falls, and Bennington. St. Johnsbury is the primary high need area that has neither intercity bus nor passenger rail service. (Barre is indirectly served by both modes in Montpelier.) The towns with high concentrations of autoless households have local transit service, which is important for residents looking to access intercity bus service. Local transit schedules and service hours should complement intercity bus trips to help Vermonters, especially those without access to a personal vehicle, travel the "first mile" or "last mile" of their trips.

Additional towns that have significant densities of autoless households include White River Junction, Newport, and Springfield. The latter two are not served by existing intercity bus service; Newport is particularly isolated from the intercity bus and passenger rail networks, while Springfield is located along a current Greyhound route.

Figure 3-4: Density of Autoless Households



Young Adults

Persons ages 18 to 24 constitute a notable portion of the intercity bus market. This group may include persons who do not have a vehicle available for the trip, cannot have a vehicle at the destination, or have chosen not to use private vehicles. This analysis examined the density of young adults across the State, shown in Figure 3-5 and found that (outside of Burlington) Rutland, Colchester, Bellows Falls, and Brattleboro have the highest densities of young adults. The latter two towns are currently served by one daily roundtrip between White River Junction and Springfield, MA. Colchester and Rutland do not have any intercity bus service, though Rutland is served by a daily roundtrip on Amtrak's Ethan Allen Express rail service to Albany and New York City.

Additional towns that have at least 100 young adults per square mile include Swanton, Saint Albans, Newport, Saint Johnsbury, Barre-Montpelier, Vergennes, Middlebury, Poultney, White River Junction, Windsor, Ludlow, Springfield, and Bennington. Many of these towns may have a density of young adults due to colleges, universities, or vocational schools; or nearby ski areas, such as Okemo Mountain near Ludlow and Ascutney Mountain near Windsor. These potential intercity bus destinations are discussed further below.

Combined Density Ranking of Transit-Dependent Populations

Figure 3-6 shows the relative levels of need for intercity bus service, by Block Group, based on the density of transit-dependent populations. 10- and 25-mile market areas were shown around the existing intercity bus stops to determine high need areas that currently have limited access to intercity bus services. The 10-mile buffer captured potential riders who have reasonably good and feasible access to the service, whether by local transit service, catching a ride with a friend or relative, or taking a taxi. The 25-mile buffer captured potential riders who have more limited access to intercity bus service, especially residents that live farther than 25 miles away. This analysis highlighted areas that have high concentrations of transit-dependent persons and are located more than ten miles from existing intercity bus stops.[5] The lists below include high need areas with populations of at least 2,500; these are unserved areas with rural intercity bus need that should be considered for potential service under the Section 5311(f) program.

[5] Note that some high need areas in the map appear to lie within the 25-mile buffers, but the driving distance to the nearest intercity bus is actually farther. The analysis lists estimates of the actual driving distances, many of which were farther than they appear on the map.

Figure 3-5: Young Adults (Ages 18-24) Population Density

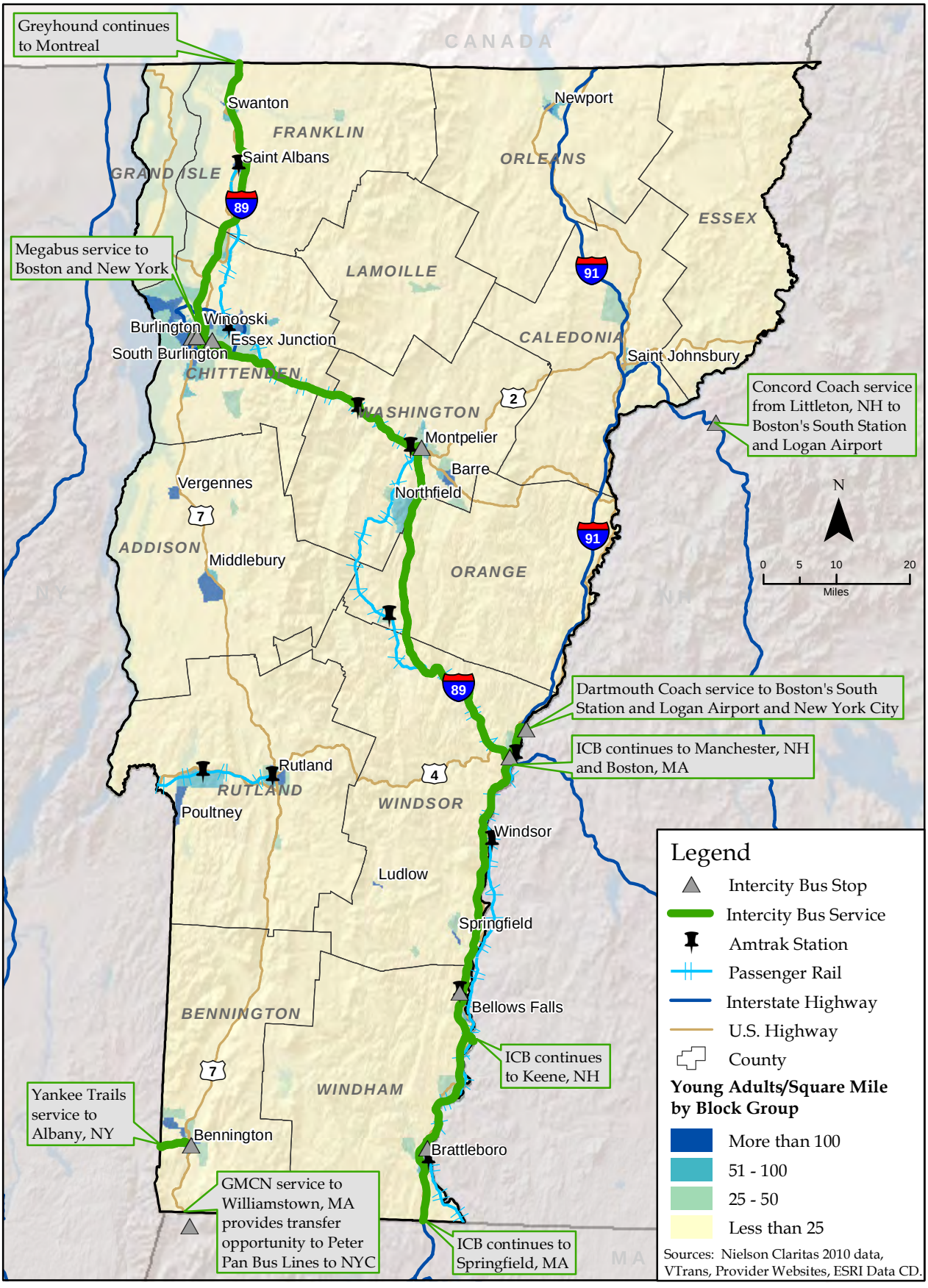
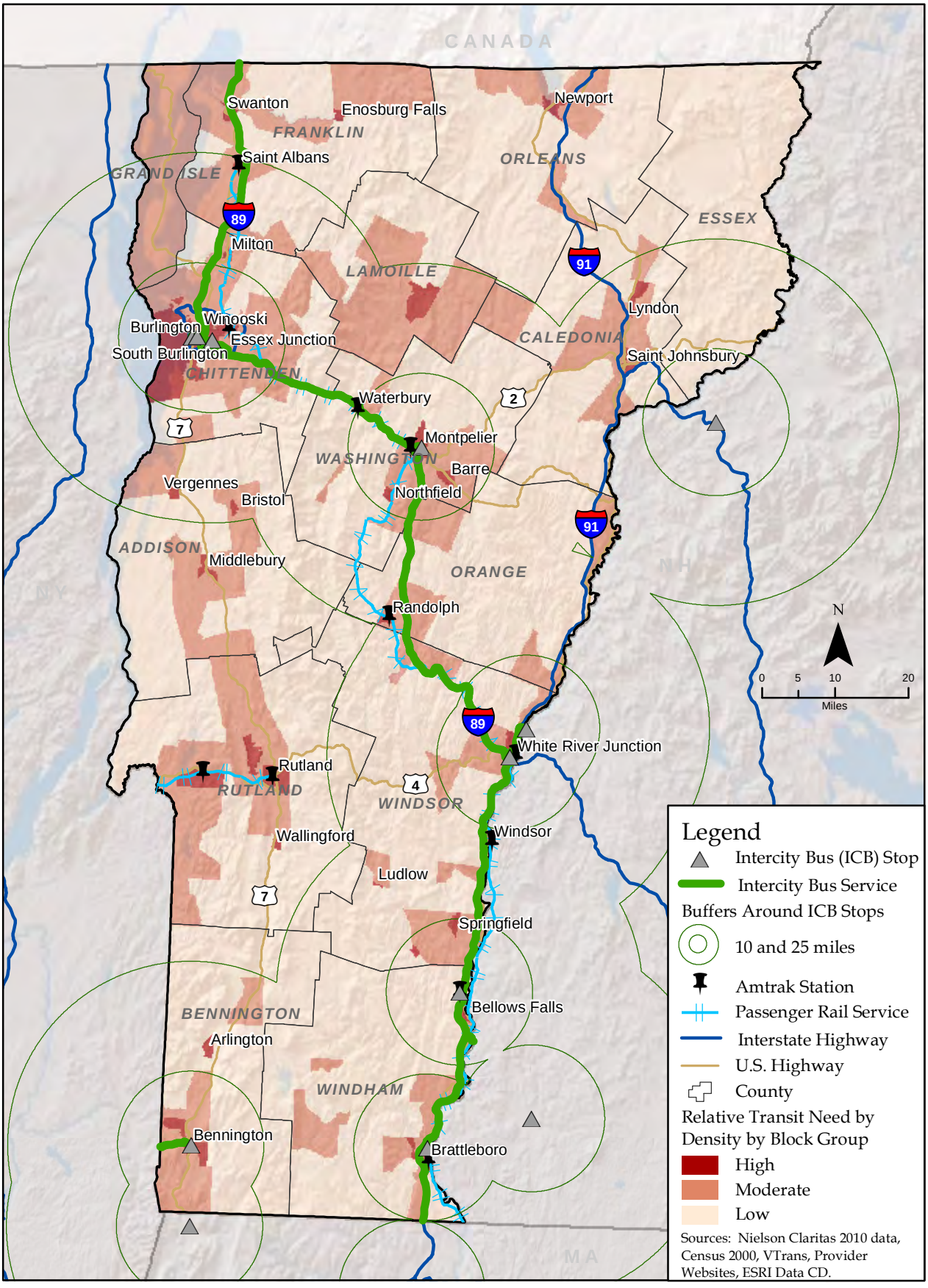


Figure 3-6: Combined Density Ranking of Transit-Dependent Populations



The following towns have block groups with "High" concentrations of transit-dependent persons and are located more than 25 miles from an existing intercity bus stop: (The towns in bold ranked higher in potential needs.

- **Swanton** – about 38 miles away from the Burlington stop
- **Newport** – about 65 miles away from the Montpelier stop
- **Rutland** – approximately 45 miles away from the White River Junction stop, 50 miles from the Bellows Falls stop, and 55 miles from the Bennington stop
- **Morristown** – approximately 30 miles to the Montpelier stop and 40 miles to the Burlington stop
- **Lyndon** – about 30 miles to the Littleton, NH stop and 44 miles away from the Montpelier stop
- **Bristol** – about 28 miles away from the Burlington stop
- **Middlebury** – about 36 miles away from the Burlington stop
- **Randolph** – about 27 miles to the Montpelier stop and 35 miles to the White River Junction stop
- **Castleton** – about 60 miles from the White River Junction stop and 65 miles from the Bennington stop

Due to the greater distances that these high need areas are located from the current intercity bus network, these towns may be good candidates for entirely new routes, with the exception of Randolph, which lies several miles off Greyhound's service in the I-89 corridor.

Located more than ten miles, but less than 25 miles away from an existing stop, the towns below also have "High" concentrations of transit-dependent persons and are good candidates for new or expanded intercity service because they lack local transit service that can regularly connect their residents to the intercity bus network: (The towns in bold ranked higher in potential needs.)

- **St. Albans** – nearly 25 miles away from the Burlington stop
- **St. Johnsbury** – about 23 miles away from the Littleton, NH stop or about 40 miles away from the Montpelier stop
- **Windsor** – about 14 miles away from the White River Junction stop
- **Vergennes** – about 25 miles away from the Burlington stop
- **Springfield** – about 14 miles to the Bellows Falls stop

While many of these towns have some level of local transit service, most are commuter routes that operate during peak periods and/or weekdays only, or riders need to transfer between two or more local transit routes to get to the intercity bus stop. A high number of transfers makes travel by transit less convenient and attractive, so

these towns could be candidates for more direct service by a new or expanded intercity route.

Additional towns were also identified as high need based on the combined density ranking, but had populations less than 2,500 and may be less feasible as intercity bus stops: (Again, the towns in bold ranked higher in potential needs.)

- **Ludlow** – about 26 miles away from the Bellows Falls stop and about 40 miles away from the White River Junction stop
- **Enosburg Falls** – about 50 miles away from the Burlington stop
- **Wallingford** – about 45 miles away from the Bennington stop and 57 miles from the White River Junction stop
- **Waterbury** – about 10 miles away from the Montpelier stop and 25 miles away from the Burlington stop
- **Milton** – about 18 miles away from the Burlington stop
- **Arlington** – about 15 miles away from the Bennington stop

Major Destinations for Intercity Bus Service

Whereas the demographic analysis described above highlighted potential origin areas for intercity bus riders, major destinations in Vermont were also analyzed to determine potential "end" points that are common for intercity bus trips. Described further below, these destinations included colleges and universities, major medical centers, correctional facilities, ski resorts, and major intermodal connections at airports and rail stations. Military bases are another common trip generator for intercity bus services, but none are located in Vermont. This analysis also mapped the major destinations overlaid with existing intercity bus services and the 25-mile buffer around current stops to determine major destinations that may have limited access to the existing intercity bus network.

Educational Facilities

As discussed previously, a major segment of the intercity bus market is young adults, persons 18 to 24 years old. To some extent the ability of college students to use intercity bus services to make trips to and from home is a function of the location of their homes and the degree to which bus service comes close to home. Figure 3-7 indicates the locations of all two-year colleges and technical schools, four-year colleges and universities, and independent schools in Vermont in relation to the existing intercity bus network and the 10 mile- and 25 mile- service areas. Table 3-1 lists all these educational facilities, their locations, and student enrollment including undergraduate and graduate students, where available.

Figure 3-7: Intercity Bus Destinations - Educational Facilities

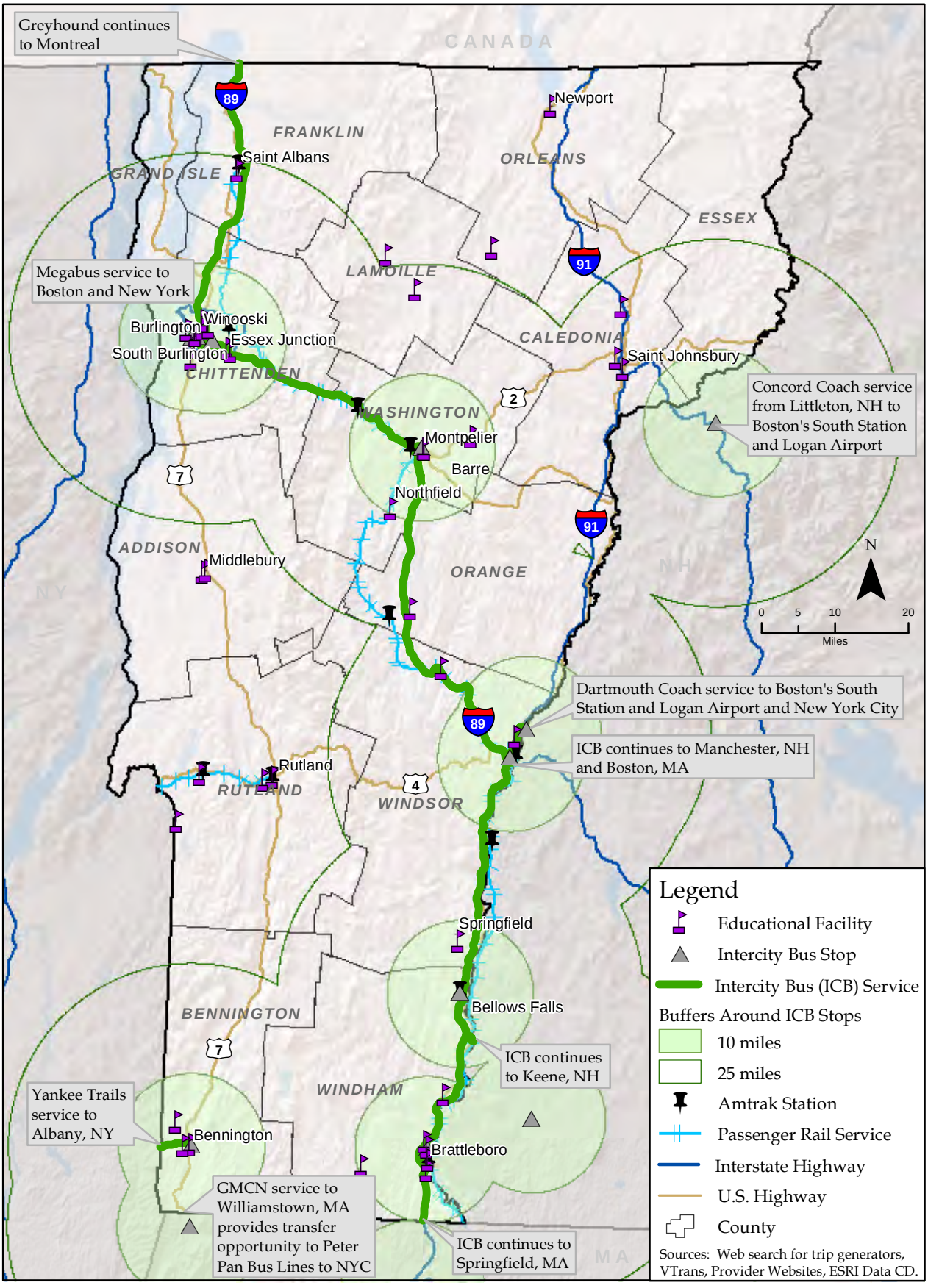


Table 3-1: Educational Facilities

Name	Address	Town/City	Zip Code	Enrollment
Bennington College	1 College Dr	Bennington	05201	811
Burlington College	351 North Ave	Burlington	05401	200
Castleton State College	86 Seminary St	Castleton	05735	2,215
Champlain College	163 S Willard St	Burlington	05401	2,000
College of St. Joseph in Vermont	71 Clement Rd	Rutland	05701	425
Goddard College	123 Pitkin Rd	Plainfield	05667	246
Green Mountain College	1 Brennan Circle	Poultney	05764	820
Johnson State College	337 College Hill Rd	Johnson	05656	2,000
Lyndon State College	1001 College Rd	Lyndonville	05851	1,436
Marlboro College	2582 South Rd	Marlboro	05344	330
Middlebury College	14 Old Chapel Rd	Middlebury	05753	2,450
Norwich University	158 Harmon Dr	Northfield	05663	3,300
Saint Michael's College	56 College Pkwy	Colchester	05446	2,700
School for International Training Graduate Institute	1 Kipling Rd	Brattleboro	05301	42
Southern Vermont College	982 Mansion Dr	Bennington	05201	500
University of Vermont	85 S Prospect St	Burlington	05405	13,568
Community College of Vermont - Bennington	324 Main St	Bennington	05201	7,000 at all locations and online
Community College of Vermont - Brattleboro	70 Landmark Hill	Brattleboro	05301	
Community College of Vermont - Middlebury	10 Merchants Row	Middlebury	05753	
Community College of Vermont - Montpelier	32 College St	Montpelier	05602	
Community College of Vermont - Morrisville	197 Harrell St	Morrisville	05661	-
Community College of Vermont - Newport	100 Main St	Newport	05855	-
Community College of Vermont - Rutland	24 Evelyn St	Rutland	05701	-
Community College of Vermont - St. Albans	142 S Main St	St. Albans	05478	-
Community College of Vermont - St. Johnsbury	1197 Main St	St. Johnsbury	05819	-
Community College of Vermont -Springfield	307 South St	Springfield	05156	-
Community College of Vermont -Upper Valley	145 Billings Farm Rd	White River Junction	05001	-
Community College of Vermont -Winooski	1 Abenaki Way	Winooski	05404	-
Landmark College	1 River Rd S	Putney	05346	490
New England Culinary Institute	56 College St	Montpelier	05602	500
Sterling College	16 Sterling Dr	Craftsbury Common	05827	125
Vermont College of Fine Arts	36 College St	Montpelier	05602	225
Vermont Law School	164 Chelsea St	South Royalton	05608	601
Vermont Technical College - Williston	201 Lawrence Place	Williston	05495	1340 Total
Vermont Technical College - Randolph Center	124 Admin Dr	Randolph Center	05061	-
Southern New Hampshire Univ. - Vermont Graduate Programs	463 Mountain View Dr	Colchester	05446	n/a
Fletcher Allen Health Care School of Cytotechnology	111 Colchester Ave	Burlington	05401	n/a
O'Briens Aveda Institute	1475 Shelburne Rd	South Burlington	05403	n/a
Springfield College School of Human Services	347 Emerson Falls Rd	St. Johnsbury	05819	n/a
The Salon Professional Academy	400 Cornerstone Dr	Williston	05495	n/a
Union Institute & University - Brattleboro Academic Center	3 University Way	Brattleboro	05301	n/a
Union Institute & University - Psy.D. Program	28 Vernon St	Brattleboro	05302	n/a
Union Institute & University - Montpelier Academic Center	62 Ridge St	Montpelier	05602	n/a

n/a = not available
Source: Consortium of Vermont Colleges Website, http://www.vtcolleges.org/#, and school websites

About half of the educational facilities included in this analysis, mainly the four-year colleges, offer student housing on or around campus. Community colleges and technical schools are generally commuter programs, though Vermont Technical College also offers a four-year undergraduate program with a residential component. Greater Burlington and Brattleboro have concentrations of educational facilities, and higher educational institutions are otherwise distributed throughout the State. The schools around Burlington are relatively well served by existing intercity bus service, especially with the addition of megabus service to Boston and New York (via Amherst and Hartford), and Brattleboro schools are served by one daily roundtrip by Greyhound. Several colleges are located farther than 25 miles from current intercity bus stops: Johnson State College, Middlebury, and Castleton State College each have 2,000 or more students; while Green Mountain College, College of St. Joseph in Vermont, Sterling College, and the Community Colleges of Vermont in Newport, Middlebury, and Rutland are smaller schools. Eight other higher educational facilities were located between 10 and 25 miles from existing stops, but all had enrollments of 1,400 or less: Lyndon State College, Springfield College School of Human Services, Vermont Technical College in Randolph Center, Vermont Law School, Marlboro College, and the Community Colleges of Vermont in St. Albans, Morrisville, and St. Johnsbury.

Major Medical Centers

Although medical trips make up a small percentage of intercity bus trips, the ability to make trips from rural areas and small towns to major medical facilities is often a policy consideration for maintaining bus services. It may be less of a consideration for patient transportation than for family and friends to visit, simply because most intercity services are not frequent enough to permit same-day outpatient visits. In addition, use of intercity bus services to provide regional medical trips requires a ride to and from the bus station at either end of the bus trip, adding to the cost, time, and physical effort required. However, in some states (for example Texas), long-distance medical trips under Medicaid do utilize intercity bus services. Employees at regional medical centers are another potential market for intercity bus services, though intercity bus schedules may not be conducive for commuter use.

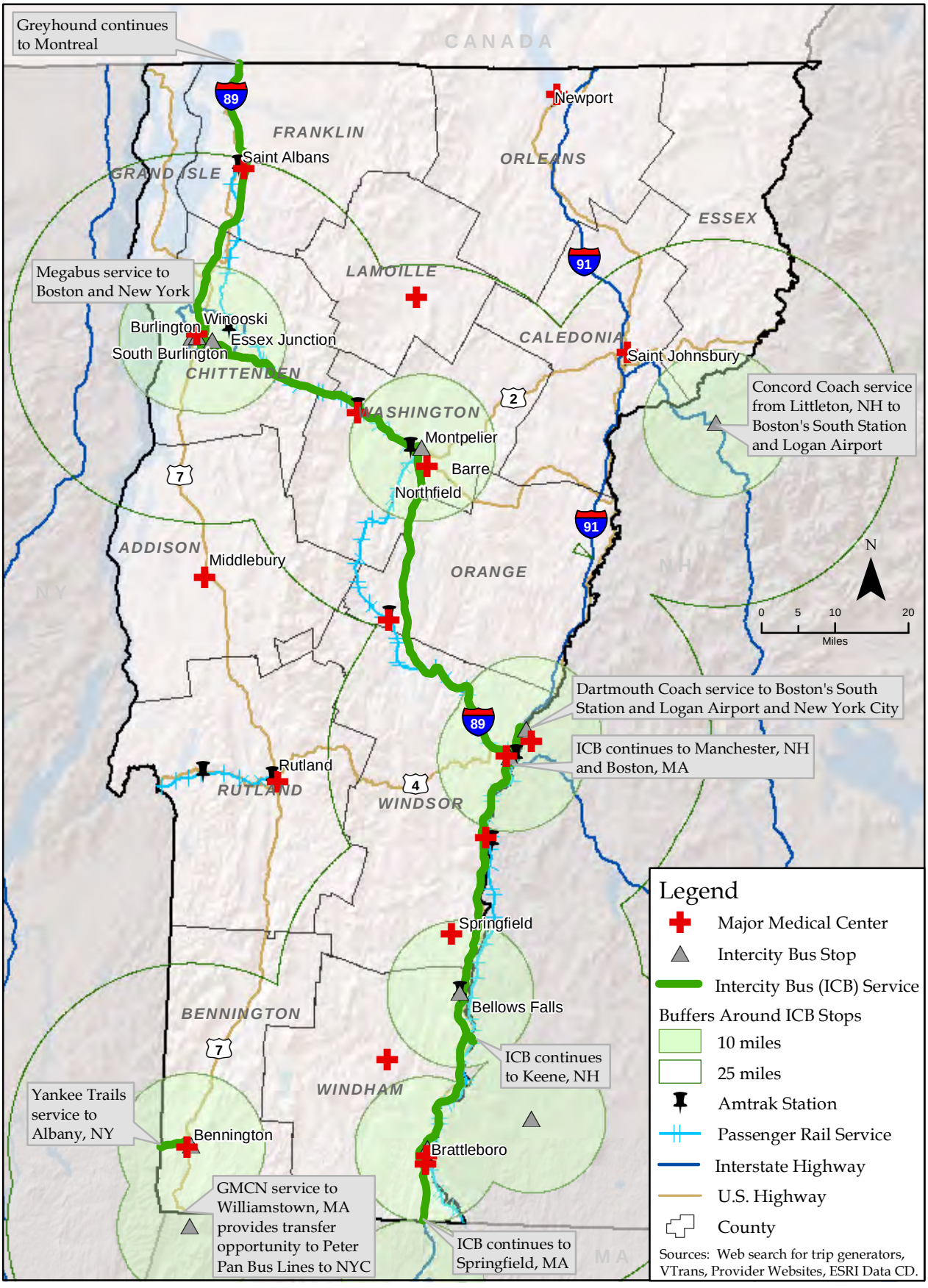
Table 3-2 presents a list of all the hospitals and regional medical centers located in the State, including the number of beds per facility. These facilities are also displayed with the intercity bus network in Figure 3-8. Several medical centers are located along current intercity bus routes, though only seven are reasonably served by intercity bus taking into account that local transit, a ride with someone, or taxis must be used to access the medical center to and from the bus stop. Vermont's largest medical center, Fletcher Allen Health Care in Burlington, is less than a mile from the Megabus stop and three miles from the Greyhound stop at the airport. The Dartmouth-Hitchcock Medical Center is the second largest hospital accessible to Vermonters, located just across the State border in Lebanon, NH. Advance Transit's Orange Route connects riders between

Table 3-2: Major Medical Facilities

Hospital	Address	Town/City	Zip Code	Beds
Brattleboro Memorial Hospital	17 Belmont Ave	Brattleboro	05301	61
Brattleboro Retreat	75 Linden St	Brattleboro	05302	149
Central Vermont Medical Center	130 Fisher Rd	Berlin	05602	122
Copley Hospital	528 Washington Hwy	Morrisonville	05661	43
Dartmouth-Hitchcock Medical Center	1 Medical Center Dr	Lebanon, NH	03745	369
Fletcher Allen Health Care	111 Colchester Ave	Burlington	05401	562
Gifford Medical Center	44 S Main St	Randolph	05060	52
Grace Cottage Hospital	185 Grafton Rd	Townshend	05353	19
Mt. Ascutney Hospital & Health Ctr.	289 County Rd	Windsor	05089	33
North Country Hospital	189 Prouty Dr	Newport	05855	49
Northeastern Vermont Regional Hospital	1315 Hospital Dr	St. Johnsbury	05819	75
Northwestern Medical Center	133 Fairfield St	St. Albans	05478	70
Porter Medical Center	115 Porter Dr	Middlebury	05753	45
Rutland Regional Medical Ctr.	160 Allen St	Rutland	05701	188
Southwestern Vermont Medical Ctr.	100 Hospital Dr E	Bennington	05201	99
Springfield Hospital	25 Ridgewood Rd	Springfield	05156	69
Vermont State Hospital	103 S Main St	Waterbury	05676	53
Veterans Affairs Medical Center	215 N Main St	White River Jct.	05009	60

Sources: Vermont Association of Hospitals and Health Systems, Dartmouth-Hitchcock Medical Center, and U.S. News Health (http://health.usnews.com/best-hospitals/dartmouth-hitchcock-medical-center-6120170/details) Websites.

Figure 3-8: Intercity Bus Destinations - Major Medical Facilities



the Greyhound stop in White River Junction and the hospital, but the local route only operates on weekdays.

Northwestern Medical Center, Vermont State Hospital, Gifford Medical Center, Mt. Ascutney Hospital and Health Center, and Springfield Hospital are located near existing routes but not at stops. Newport, Middlebury, and Rutland have medical centers that are located more than 25 miles from the existing intercity bus network.

Intermodal Transportation Hubs

This category of destinations includes commercial airports and Amtrak stations, where passengers can connect between intercity bus, rail, flights, local public transportation, and/or private transportation options such as taxis. These transportation hubs are shown in Figure 3-9 and listed in Table 3-3**,** along with the locations of park and ride lots. The two commercial airports in Vermont are Burlington International Airport and Rutland Southern Vermont Regional Airport. The Burlington International Airport is currently served by Greyhound, with four round-trips daily; CCTA, providing local transit service to Burlington, South Burlington, and the University of Vermont; and private taxi operators. Rutland Southern Vermont Regional Airport is not served by any intercity bus routes, but passengers can use public transit service provided by Marble Valley Regional Transit District or taxis. Megabus service in Burlington stops at the Davis Center on Main Street, which would allow for a transfer to CCTA services.

Vermont has 11 Amtrak stations: Castleton and Rutland are served by the Ethan Allen Express, while the other stations are served by the Vermonter route. Both State and municipal park and ride lots were included in the map to demonstrate opportunities for intercity bus riders to use park and ride lots, whether on existing or new routes. Existing intercity bus stops promote intermodal connections in that the majority is located near Amtrak stations and park and ride lots and is also served by local transit services. Coordinated schedules between modes and expanded hours of service, for local transit in particular, could greatly improve the convenience and feasibility of using intercity bus service. Rutland and Castleton are the primary Amtrak stops located more than 25 miles from intercity bus service.

Correctional Facilities

The demand for correctional facility trips accounts for a small percentage of intercity bus trips, but the ability to make these trips from rural areas and small towns may be crucial to visiting family members, released inmates, and employees. Table 3-4 is a list of State correctional facilities in Vermont, which are mapped in Figure 3-10. Only three of Vermont's eight correctional facilities are reasonably served by existing

Figure 3-9: Intercity Bus Destinations - Intermodal Transportation Hubs

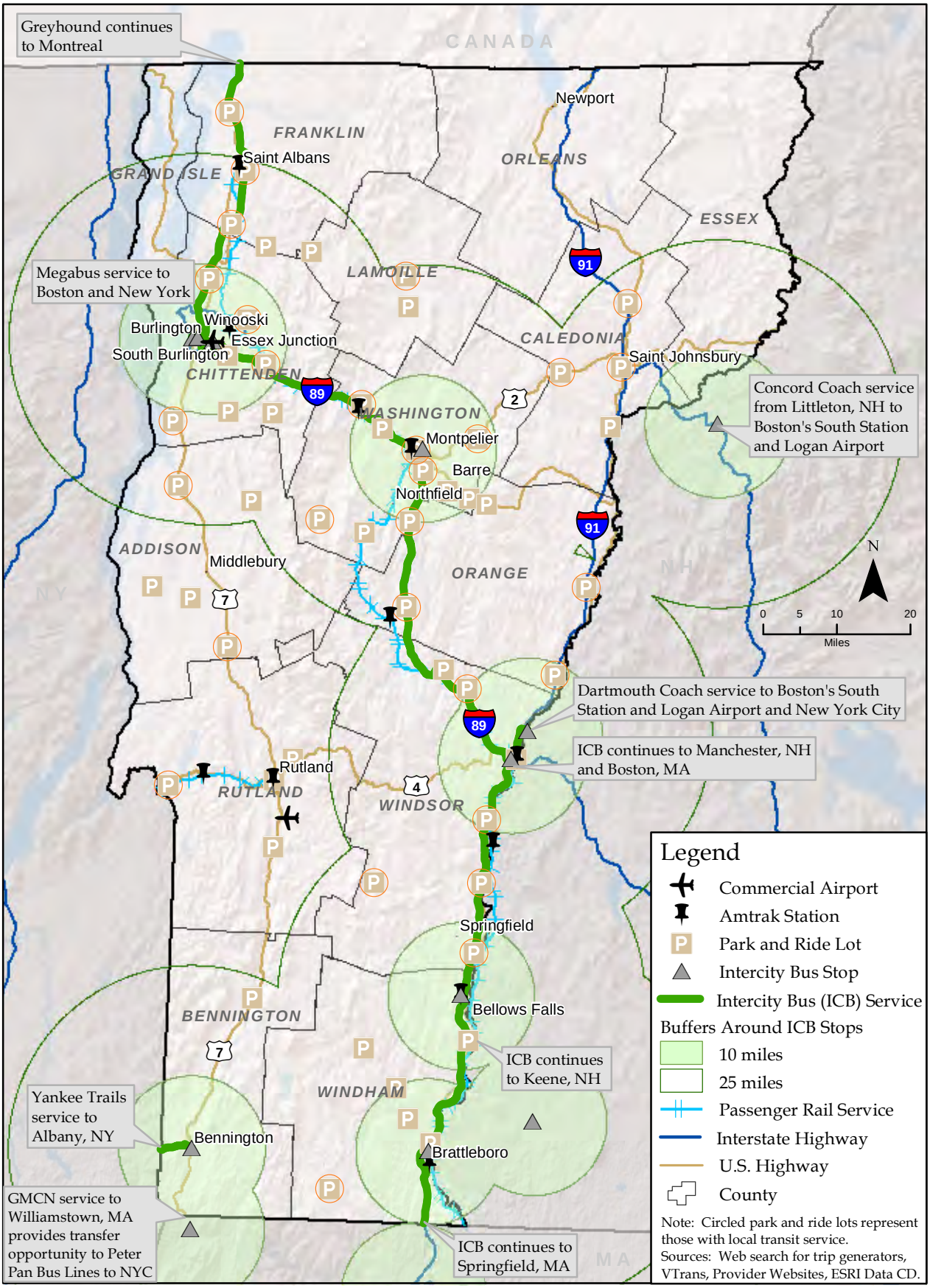


Table 3-3: Intermodal Transportation Hubs

Type	Name	Address	Town/City	Zip Code
Airport	Burlington International Airport	1200 Airport Dr	South Burlington	05403
Airport	Rutland Southern Vermont Regional Airport	1002 Airport Rd	North Clarendon	05759
Amtrak Station	Bellows Falls	54 Depot Sq	Bellows Falls	05101
Amtrak Station	Brattleboro	10 Vernon Rd	Brattleboro	05301
Amtrak Station	Castleton	266 Main St	Castleton	05735
Amtrak Station	Essex Junction	29 Railroad Ave	Essex Junction	05452
Amtrak Station	Montpelier	Junction Rd & Short Rd	Montpelier	05602
Amtrak Station	Randolph	S Main St	Randolph	05060
Amtrak Station	Rutland	25 Evelyn St	Rutland	05701
Amtrak Station	St. Albans	40 Federal St	St. Albans	05001
Amtrak Station	Waterbury	US Hwy 2 & Park Row	Waterbury	05676
Amtrak Station	White River Junction	102 Railroad Row	White River Junction	05478
Amtrak Station	Windsor	26 Depot Ave	Windsor	05089

Source: Airport and Amtrak Websites.

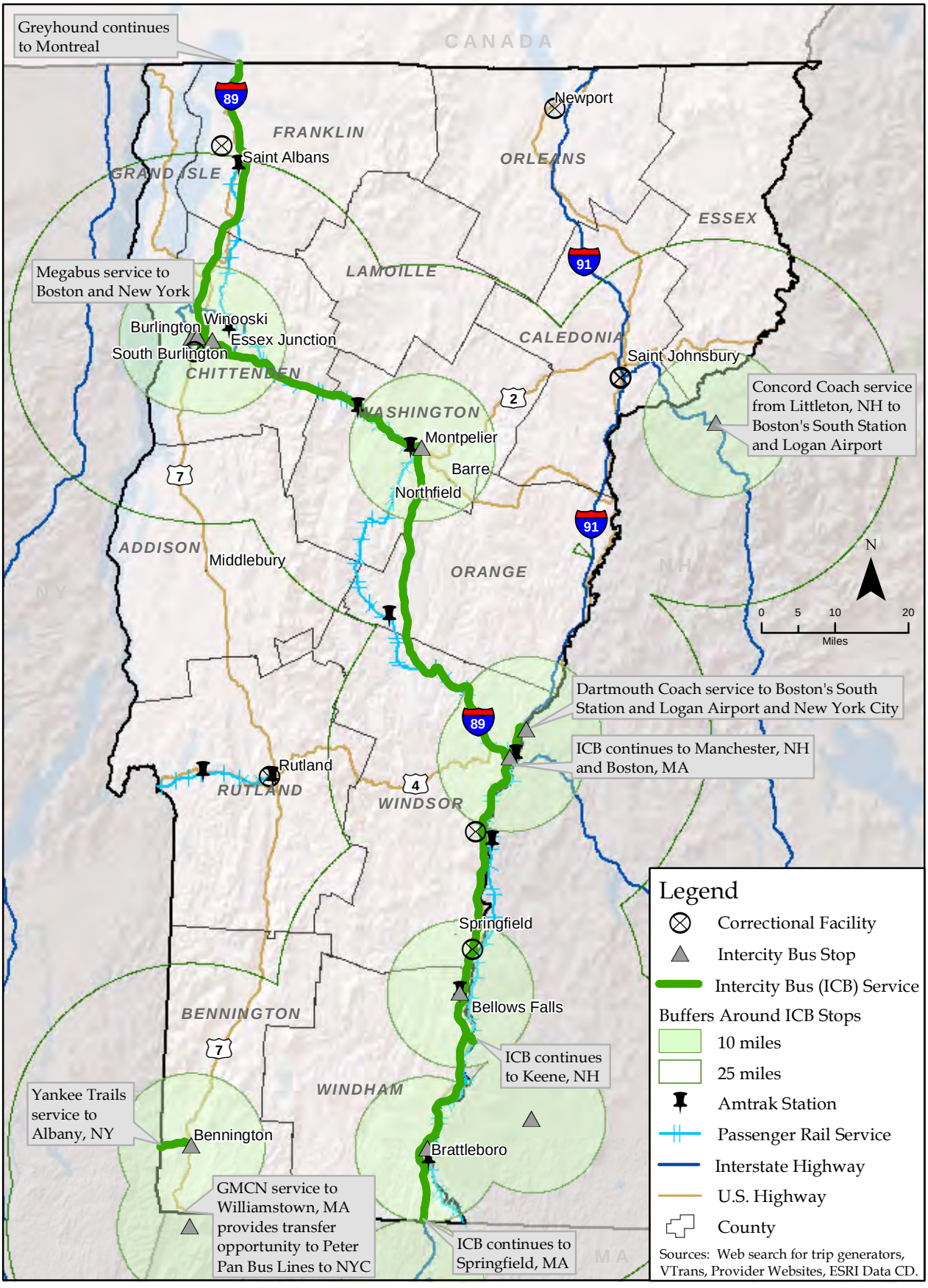
intercity bus services, including the facilities in Windsor and Springfield, which are still more than ten miles away from the nearest stops. The St. Johnsbury facilities are about 20 miles from the Concord Coach stop in Littleton, NH. The correctional facilities in Newport, St. Albans, and Rutland are farther than 25 miles from the existing intercity network, though the latter two are close to Amtrak stations.

Table 3-4: Correctional Facilities

Correctional Facility	Address	Town/City	Zip Code
Chittenden Regional Correctional Facility	7 Farrell St	South Burlington	05403
Marble Valley Regional Correctional Facility	167 State St	Rutland	05701
Northeast Regional Correctional Facility (NERCF) Comp	1270 US Route 5	St. Johnsbury	05819
NERCF Complex - Caledonia Community Work Camp	1266 US Route 5	St. Johnsbury	05819
Northern State Correctional Facility	2559 Glen Rd	Newport	05855
Northern State Correctional Facility	3649 Lower Newton Rd	Swanton	05488
Southeast State Correctional Facility	546 State Farm Rd	Windsor	05089
Southern State Correctional Facility	700 Charlestown Rd	Springfield	05156

Source: Vermont Department of Corrections Website, http://www.doc.state.vt.us/custody-supervision/facilities.

Figure 3-10: Intercity Bus Destinations - Correctional Facilities



Ski Areas and Resorts

Given Vermont's significant ski industry, ski areas and resorts could be popular tourism and employment destinations for intercity bus riders. Shown in Figure 3-11 and listed in Table 3-5, Vermont's ski areas are mostly located within reasonable driving distances (approximately 25 miles) of existing intercity bus stops. However, none are directly served by existing intercity routes, and the current services are only feasible if the riders have transportation options to cover the distance between the intercity stops and the ski areas. Some local transit systems do provide such services, such as the Moover between Brattleboro and Mount Snow and The Current between Bellows Falls and Okemo Mountain. Otherwise, intercity bus riders would need to pay for expensive taxi rides or catch a ride with someone.

While intercity bus provides an affordable option for frugal travelers, most tourists visiting ski resorts will most likely take personal vehicles, especially since ski and snowboard equipment can be unwieldy to travel with. However, it should be noted that some ski shops in New York City operate day trips, using intercity bus-like coaches, to Vermont's ski areas, demonstrating that some tourism demand for intercity services exists. Seasonal workers at the ski areas, who are often young adults traveling on a budget, may be more likely to use intercity bus services to access employment opportunities.

Figure 3-11: Intercity Bus Destinations - Ski Areas and Resorts

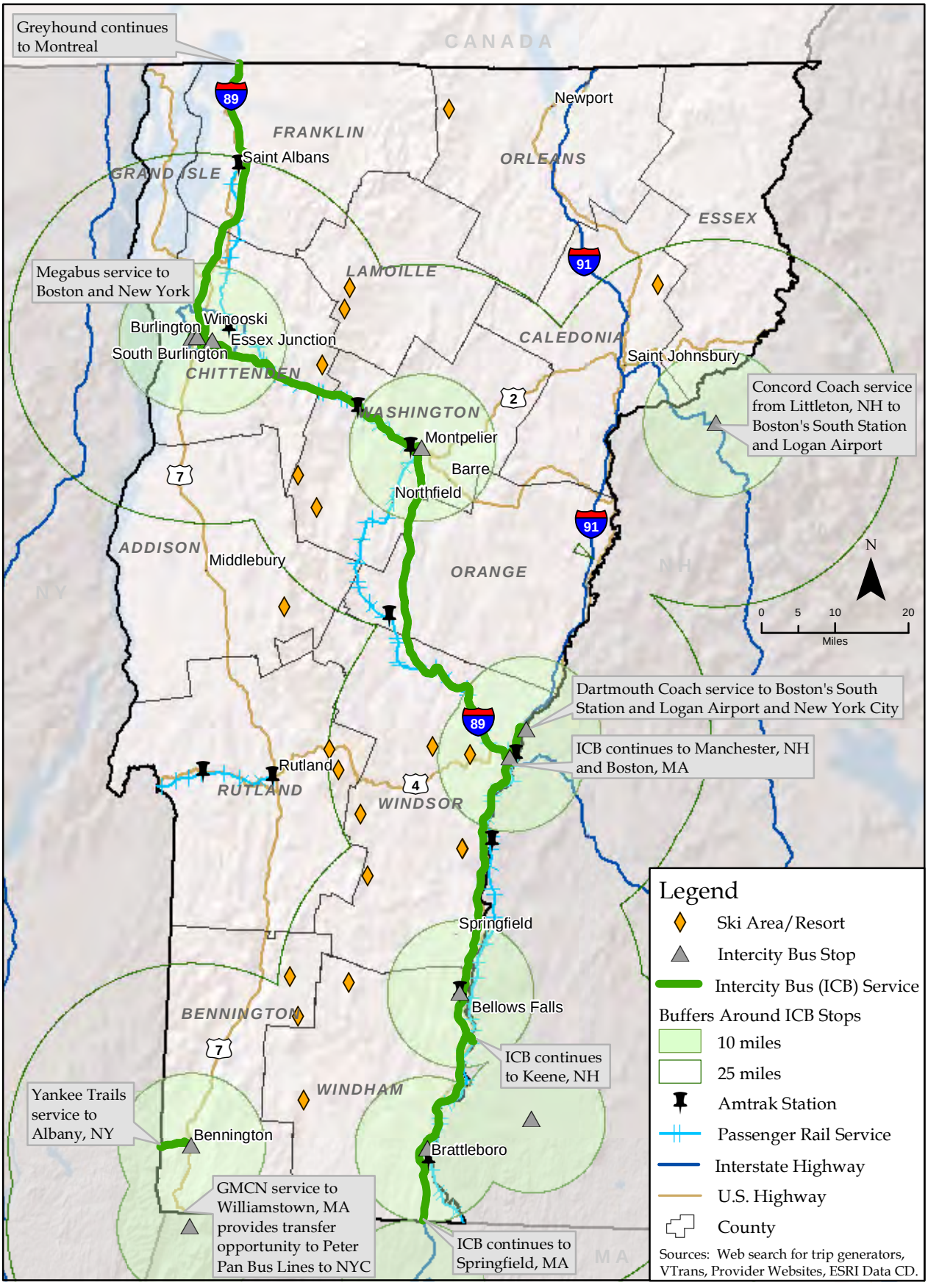


Table 3-5: Ski Areas and Resorts

Ski Area/Resort	Address	Town/City	Zip Code	Estimated Employees*
Ascutney	485 Hotel Rd	Brownsville	05037	320
Bear Creek	Rome Top Rd	Plymouth	05056	n/a
Bolton Valley	4302 Bolton Valley Access Rd	Richmond	05477-7702	200
Bromley Mountain	3984 Vermont Route 11	Peru	05152-9708	50
Burke Mountain	223 Sherburne Lodge Rd	East Burke	05832	n/a
Jay Peak	4850 VT Route 242	North Troy	05859-9404	400
Killington Resort & Pico Mountain	4763 Killington Rd	Killington	05751-9746	80
Mad River Glen	23-61 Mad River Resort Rd	Waitsfield	05673	120
Magic Mountain	495 Magic Mountain Access Rd	Londonderry	05148	n/a
Middlebury College Snow Bowl	6886 Vermont 125	Hancock	05748	n/a
Mount Snow	39 Mount Snow Rd	West Dover	05356	80
Okemo Mountain	77 Okemo Ridge Rd	Ludlow	05149-9692	245
Pico Mountain at Killington	73 Alpine Dr	Killington	05751	n/a
Quechee Lakes	176 Waterman Hill Rd	Hartford	05001	n/a
Smugglers' Notch	4323 VT Route 108 S	Jeffersonville	05464	200
Stowe	5781 Mountain Rd	Stowe	05672	359
Stratton	19 Village Lodge Rd	Stratton	05360	270
Sugarbush	1840 Sugarbush Access Rd	Warren	05674-9747	160
Suicide Six (The Woodstock Inn & Resort)	14 The Green	Woodstock	05091	190

*Employee estimates are based on February 2011 data for individual employers from Dun & Bradstreet. Estimates are based on companies named after the resort or major lodge/inn, so employment is likely underestimated since data for additional establishments (i.e., retail and restaurants) near the ski area is not included.
n/a = not available

Source: SkiReport.com Map of Vermont Ski Areas, http://www.skireport.com/vermont/map, and resort websites.

ANALYSIS OF ACCESS TO KEY DESTINATIONS

This section of the needs analysis presents information about the ability of Vermonters to access places outside of the state using bus, rail, and automobile. This effort builds upon the inventory of intercity passenger transportation services, included in the Intercity Bus Needs Assessment and Policy Options White Paper, by examining the connectivity of these services based on available schedule information. The previous report noted that generally the communities along the I-89 corridor and the I-91 corridor south of White River Junction have access to intercity bus services. However, there are communities along the western edge of the state that are located a distance from these services, and the decline in frequencies generally may have had an additional impact on access to particular destinations even for the points that still have intercity bus access.

In considering intercity access for Vermont residents, there are a number of existing services to include as potentially providing linkages for intercity trips. Megabus has added services from Vermont to Boston and New York, further changing the access picture. Vermont's Amtrak intercity services play a role in providing intercity access, and so should be included in any analysis of intercity access. There is commercial air service operated from one non-urbanized area (Rutland) to Boston under the Essential Air Service program, and it also provides intercity access. Finally, long-distance regional transit services provided by Vermont's public transit operators is available to provide connections to access the remaining service in some cases, and this affects the ability of Vermonters to reach destinations outside the state. The following pages discuss the existing conditions and suggest areas of potential improvement for consideration in the next technical memorandum.

METHODOLOGY FOR ASSESSING CURRENT LINKAGES

The methodology used involved assessing the total travel time, number of transfers, and wait time for likely intercity bus trips from points in Vermont to key destinations outside the state. The list of key destinations was limited to the largest cities in the northeast, and nearby hubs: Boston, Montreal, New York City, Manchester (NH), and Albany (NY). Manchester and Albany are nearby hubs with additional intercity bus services, rail passenger service (in Albany), and regional airports. A list of Vermont trip origin locations was also identified, including all urbanized areas (Burlington), and Urban Clusters with a population greater than 5,000. Bellows Falls was added to the list because it currently has intercity bus service, even though it falls below this threshold.

A trip was planned, where possible, from each Vermont place to each of the common out-of-state destinations. For communities without intercity bus services, this required travel on a long-distance local public transit service provider for travel to a community that does have an intercity bus stop. Trips that originate in these communities were found to require multiple transfers and could only occur during the morning. The planned trips used the best combinations of services provided by various intercity bus carriers, and if an Amtrak connection is available, it was assessed as another alternative mode.

For each city-pair consisting of a Vermont origin and an out-of-state destination pairing, the following information was obtained: wait time, total trip time, number of transfers, location of transfers, auto drive time, and twice the drive time. Table 3-6 presents this information. The trips that were constructed represent the best outbound trip that could be constructed for that city-pair.

In order to evaluate intercity accessibility for these city-pairs, a standard was applied that considers that intercity bus access is lacking if either of the following two conditions apply:

- A trip is feasible (convenient) if it requires less than two transfers. The table identifies these trips by placing a box around the Number of Transfers for that trip.

- Total Trip Time, the total time from origin to destination, can be compared to twice the drive time. In the table, bus travel times less than twice the drive time are denoted by the word "bus" in the mode comparison column; greater than twice the travel time is denoted by "Drive", and comparable times are called "similar" (if twice the drive time and the bus/rail time are within 30 minutes of each other).

FINDINGS

Table 3-6 also presents the results of applying the methodology defined above to the potential intercity trips. Using the conditions above and the results from the trip planning for each of the place pairs, it is apparent that communities located in the interstate corridors mentioned previously currently have access to services that meet the thresholds of acceptable service. In some cases Amtrak was the quickest non-auto mode. The following communities generally have the fewest cases in which intercity access could be considered infeasible based the travel time comparison:

- Bellows Falls (trip to Albany not feasible)

- Bennington (trip to Manchester not feasible)
- Brattleboro (trip to Manchester not feasible)
- Burlington (trip to Albany not feasible)
- Montpelier (trip to Albany not feasible)
- White River Junction (trip to Albany not feasible, rail trip to Boston not feasible)

In general, for these locations the infeasible trips involved going to Albany or Manchester.

Several of the Vermont points that do not currently have direct intercity bus service can be considered to have no feasible intercity access based on travel time, as all or most connections require more than twice the drive time:

- Middlebury (all trips not feasible by bus)
- Milton (all trips not feasible by bus)
- Rutland (all trips not feasible except Amtrak to Albany and New York, and air service to Boston)
- St. Johnsbury (all trips not feasible except to Boston and Manchester)
- St. Albans (all trips not feasible by bus)

Middlebury, Milton, Rutland, St. Johnsbury, and St. Albans do not have convenient direct access to the intercity bus services network. For these communities the planned trips utilized the available long-distance local public transit services between these places and communities that have an intercity bus stop. The long-distance service usually takes the form of commuter type service – a morning (inbound) run and a return (outbound) trip in the afternoon.

Table 3-6: Assessment of Intercity Access from Vermont Places to Key Out-of-State Destinations

Vermont Places	Service Type	Destination (Out-of-State)	No. of Transfers	Wait Time	Total Trip Time	Transfer(s)	Drive Time	Twice Drive Time	Feasibility
Bellows Falls	ICB	Albany, NY	1	40 min	**5 h 20 min**	Springfield, MA	2 h 19 min	**4 h 38 min**	Not Feasible
Bellows Falls	ICB	Boston, MA	1	30 min	**5 h 15 min**	Springfield, MA	2 h 28 min	**4 h 56 min**	Not Feasible
Bellows Falls	ICB	Manchester, NH	1	40 min	**3 h 30 min**	White River Jct.	1 h 40 min	**3 h 20 min**	Not Feasible
Bellows Falls	ICB	Montreal, PQ	1	60 min	**5 h 25 min**[1]	White River Jct.	4 h 1 min	**8 h 2 min**	Feasible
Bellows Falls	ICB	New York City	0	0	**6 h 20 min**	-	4 h	**8 h**	Feasible
Bellows Falls	ICPR	New York City	0	0	**6 h 28 min**	-		**8 h**	Train
Bennington	REG	Albany, NY	0	0	**1 h 40 min**	-	1 h	**2 h**	Feasible
Bennington	REG-ICB	Boston, MA	1	1 h	**6 h 15 min**	Albany, NY	3 h 25 min	**6 h 50 min**	Feasible
Bennington	ICB-ICB	Manchester, NH	2	1 h 30 min	**8 h 40 min**	Albany, NY; Boston, MA	2 h 40 min	**5 h 20 min**	Not Feasible
Bennington	REG-ICB	Montreal, PQ	1	45 min	**7 h 45 min**	Albany, NY	4 h 10 min	**8 h 20 min**	Feasible
Bennington	REG-ICB	New York City	1	40 min	**5 h 10 min**	Albany, NY	3 h 47 min	**7 h 37 min**	Feasible
Brattleboro	ICB	Albany, NY	1	40 min	**4 h 10 min**	Springfield, MA	2 h 10 min	**4 h 20 min**	Feasible
Brattleboro	ICB	Boston, MA	1	30 min	**4 h 5 min**	Springfield, MA	2 h 20 min	**4 h 40 min**	Feasible
Brattleboro	ICB	Manchester, NH	1	40 min	**4 h 20 min**	White River Jct.	1 h 41 min	**3 h 21 min**	Not Feasible
Brattleboro	ICB	Montreal, PQ	1	20 min	**6 h 30 min**	White River Jct.	4 h 20 min	**9 h 40 min**	Feasible
Brattleboro	ICB	New York City	0	0	**5 h 10 min**	-	3 h 36 min	**7 h 12 min**	Feasible
Brattleboro	ICPR	New York City	0	0	**5 h 53 min**	-		**7 h 12 min**	Train
Burlington	ICB	Albany, NY	1	1 h 10 min	**10h**	Boston, MA	3 h 2 min	**6 h 4 min**	Not Feasible
Burlington	ICB	Boston, MA	0		**4 h 30 min**	-	3 h 25 min	**6 h 50 min**	Feasible
Burlington	ICB	Manchester, NH	0	0	**3 h 25 min**	-	2 h 37 min	**5 h 14 min**	Feasible
Burlington	ICB	Montreal, PQ	0	0	**2 h 30 min**	-	1 h 57 min	**3 h 54 min**	Feasible
Burlington	ICB	New York City	0	0	**6 h**	-	5 h 49 min	**11 h 38 min**	Feasible
Burlington	ICPR	New York City	0	0	**9 h 24 min**				Train
Middlebury	REG-L-ICB	Albany, NY	4	3 h 10 min	**14 h 5 min**	Burlington (3) / Boston (1)	2 h 44 min	**5 h 24 min**	Not Feasible
Middlebury	REG-L-ICB	Boston, MA	3	2 h 10 min	**9 h 30 min**	Burlington (3)	3 h 38 min	**7 h 18 min**	Not Feasible
Middlebury	REG-L-ICB	Manchester, NH	3	2 h 10 min	**8 h 15 min**	Burlington (3)	2 h 50 min	**5 h 40 min**	Not Feasible
Middlebury	REG-L-ICB	Montreal, PQ	3	2 h 56 min	**7 h 20 min**	Burlington (3)	2 h 35 min	**5 h 10 min**	Not Feasible
Middlebury	REG-L-ICB	New York City	4	3 h 30 min	**15 h 20 min**	Burlington (3)/Boston (1)	5 h 16 min	**10 h 32 min**	Not Feasible
Milton	REG-L-ICB	Albany, NY	4	3 h 13 min	**13 h 20 min**	Burlington (3) / Boston (1)	3 h 22 min	**6 h 44 min**	Not Feasible
Milton	REG-L-ICB	Boston, MA	3	2 h 13 min	**8 h 45 min**	Burlington (3)	3 h 22 min	**6 h 44 min**	Not Feasible
Milton	REG-L-ICB	Manchester, NH	3	2 h 13 min	**6 h 23 min**	Burlington (3)	2 h 55 min	**5 h 50 min**	Not Feasible

Table 3-6: Assessment of Intercity Access from Vermont Places to Key Out-of-State Destinations

Vermont Places	Service Type	Destination (Out-of-State)	No. of Transfers	Wait Time	Total Trip Time	Transfer(s)	Drive Time	Twice Drive Time	Feasibility
Milton	REG-L-ICB	Montreal, PQ	3	2 h 13 min	**4 h 42 min**	Burlington (3)	1 h 44 min	**3 h 24 min**	Not Feasible
Milton	REG-L-ICB	New York City	4	3 h 33 min	**14 h 35 min**	Burlington (3)/Boston(1)	6 h 13 min	**12 h 26 min**	Not Feasible
Montpelier	ICB	Albany, NY	1	1 h	**9 h 14 min**	Boston, MA	3 h 29 min	**6 h 58 min**	Not Feasible
Montpelier	ICB	Boston, MA	0	0	**4 h 39 min**	-	2 h 52 min	**5 h 44 min**	Feasible
Montpelier	ICB	Manchester, NH	0	0	**3 h 24 min**	-	2 h 4 min	**4 h 8 min**	Feasible
Montpelier	ICB	Montreal, PQ	0	0	**3 h 30 min**	-	2 h 33 min	**5 h 6 min**	Feasible
Montpelier	ICB	New York City	1	1 h 20 min	**10 h 19 min**	Boston, MA	5 h 22 min	**10 h 44 min**	Not Feasible
Rutland	REG-L-ICB	Albany, NY	5	3 h 35 min	**15 h 25 min**	Middlebury (1)/Burlington (3)/Boston(1)	2 h 4 min	**4 h 8 min**	Not Feasible
Rutland	ICPR	Albany, NY	0	0	**2 h 58 min**	-	2 h 4 min	**4 h 8 min**	Train
Rutland	REG-L-ICB	Boston, MA	4	2 h 35 min	**10 h 50 min**	Middlebury (1)/Burlington (3)	3 h 1 min	**6 h 2 min**	Not Feasible
Rutland	Air[2]	Boston, MA	0	0	**50 min**	Non-Stop	3 h 1 min	**6 h 2 min**	Air
Rutland	REG-L-ICB	Manchester, NH	4	2 h 35 min	**9 h 35 min**	Middlebury (1)/Burlington (3)	2 h 13 min	**4 h 26 min**	Not Feasible
Rutland	REG-L-ICB	Montreal, PQ	4	3 h 21 min	**8 h 40 min**	Middlebury (1)/Burlington (3)	3 h 19 min	**6 h 38 min**	Not Feasible
Rutland	REG-L-ICB	New York City	5	3 h 35 min	**16 h 40 min**	Middlebury (1)/ Burlington (3)/ Boston(1)	4 h 51 min	**9 h 42 min**	Not Feasible
Rutland	ICPR	New York City	0	0	**5 h 40 min**	-	4 h 51 min	**9 h 42 min**	Train
St. Johnsbury	REG-ICB	Albany, NY	2	4 h 11 min	**13 h 35 min**	Montpelier (1)/Boston(1)	3 h 57 min	**7 h 54 min**	Not Feasible
St. Johnsbury	REG-ICB	Boston, MA	1	35 min	**5 h 25 min**	Montpelier	2 h 49 min	**5 h 38 min**	Feasible
St. Johnsbury	REG-ICB	Manchester, NH	1	35 min	**4 h 25 min**	Montpelier	2 h 2 min	**4 h 4 min**	Not Feasible
St. Johnsbury	REG-ICB	Montreal, PQ	1	2 h 10 min	**6 h 50 min**	Montpelier	2 h 39 min	**5 h 18 min**	Not Feasible
St. Johnsbury	REG-ICB	New York City	2	4 h 31 min	**14 h 50 min**	Montpelier(1)/Boston(1)	5 h 28 min	**10 h 56 min**	Not Feasible
St. Albans	REG-L-ICB	Albany, NY	4	6 h	**16 h 15 min**	Burlington (3)/Boston (1)	3 h 38 min	**7 h 16 min**	Not Feasible
St. Albans	ICPR	Albany, NY	1	2 h 26 min	**14 h 50 min**	New York	3 h 38 min	**7 h 16 min**	Not Feasible
St. Albans	REG-L-ICB	Boston, MA	3	2 h 20 min	**9 h 10 min**	Burlington (3)	3 h 58 min	**7 h 56 min**	Not Feasible
St. Albans	REG-L-ICB	Manchester, NH	3	3 h 20 min	**7 h 55 min**	Burlington (3)	3 h 10 min	**6 h 20 min**	Not Feasible
St. Albans	REG-L-ICB	Montreal, PQ	3	3 h 6 min	**7h**	Burlington (3)	1 h 37 min	**3 h 14 min**	Not Feasible
St. Albans	REG-L-ICB	New York City	4	3 h 40 min	**15 h**	Burlington (3)/Boston (1)	6 h 29 min	**12 h 58 min**	Not Feasible
St. Albans	ICPR	New York City	0	0	**9 h 54 min**		6 h 29 min	**12 h 58 min**	Not Feasible
White River Jct.	ICB	Albany, NY	1	40 min	**6 h 5 min**	Springfield, MA	2 h 50 min	**5 h 40 min**	Not Feasible
White River Jct.	ICPR	Albany, NY	1	2 h 26 min	**12 h 15 min**	New York City			Not Feasible
White River Jct.	ICB	Boston, MA	0	0	**2 h 30 min**	-	2 h 2 min	**4 h 4 min**	Feasible

Table 3-6: Assessment of Intercity Access from Vermont Places to Key Out-of-State Destinations

Vermont Places	Service Type	Destination (Out-of-State)	No. of Transfers	Wait Time	Total Trip Time	Transfer(s)	Drive Time	Twice Drive Time	Feasibility
White River Jct.	ICPR	Boston, MA	1	54 min	**8 h 32 min**	New Haven, CT			Not Feasible
White River Jct.	ICB	Manchester, NH	0	0	**1 h 55 min**	-	1 h 15 min	**2 h 30 min**	Feasible
White River Jct.	ICB	Montreal, PQ	0	0	**4 h 15 min**	-	3 h 27 min	**6 h 54 min**	Feasible
White River Jct.	ICB	New York City	0	0	**7 h 5 min**	-	4 h 36 min	**9 h 12 min**	Feasible
White River Jct.	ICPR	New York City	0	0	**7 h 19 min**	-			Train

1. Return Trip is overnight, 9h 35 min.
2. Air service between airports in Rutland and Boston sponsored by Essential Air Service Program.

Notes:

ICB: Intercity Bus

ICPR: Intercity Passenger Rail

REG: Regional service (local operator not interlined with ICB)

L: Local (in-town) transit services

For ICB service, not all runs have the same stop in a community. For instance, in Burlington not all of the trips stop at both, downtown and the airport.

For places that have access to ICB and ICPR, a service was identified for each place-destination pairing.

For a trip that starts with a REG, the connecting service that seems most feasible was selected.

For ICPR, trips that did not include the Acela Service were identified.

The composition of these trips is based on service availability. Not all services operate on the same days. For example, the LINK service from Middlebury to Burlington is a commuter service and operates Monday through Friday; thereby eliminating trips that require a LINK connection at other times during the day and not at all on the weekends.

However, as these schedules and the intercity bus service schedules are not necessarily coordinated or share a stop, some trips do require a long wait to transfer to the intercity bus service, or multiple transfers on the local public transit system to bridge the gap between the transit destination and the intercity bus stop. A trip that requires three or more transfers means that a rider will use a long-distance local service to get to the community with the intercity bus service, and then use local transit service to get to the intercity bus stop, finally, making the transfer to the intercity bus. This is the case for residents of the communities along the western side of the state: Middlebury, Rutland, Milton, St. Albans—and to a lesser extent for St. Johnsbury. The table has identified these trips by placing a box around the number of transfers that must be made to complete that trip. For these communities, intercity bus trips are not considered feasible because of the number of transfers, as well as the related excessive travel time (which includes the wait times associated with the many transfers).

ANALYSIS OF DEFICIENCIES

In considering "gaps" in service, it may be helpful to consider in more detail the actual connections that the existing services do or do not make. In each of the following cases there is existing long-distance local service provided by a public transit operator, but the connection between the local services and the intercity service requires a long wait or the services do not have a shared stop thereby requiring an additional transfer. For communities identified as lacking in connectivity, it is essentially a result of the inconvenience from the number of transfers required to make the trip combined with the associated wait times that make the total trip time excessive. Considering each of these communities identified as lacking in access:

- **Middlebury:** Burlington is the nearest hub for intercity service, and there is current transit service connecting the two, operated as the LINK. The commuter service gets into downtown Burlington in the morning. A rider will then board the local service (Route 1 and then transfer to Route 12) to the intercity bus stop at the airport (though a walk to the Megabus stop at the UVM Davis Center Megabus stop may be possible from the Fletcher Allen Health Center LINK stop).

- **Milton**: The existing circumstance is the same as Middlebury – multiple transfers and the morning arrival in Burlington requires a wait before boarding the intercity bus service. The Milton Commuter Service (Route 56) provides service into downtown Burlington; however multiple transfers on the local service are required to get to the intercity bus stop at the airport.

- **Rutland:** This is likely one of the more remote communities in the state – one of the more populous places in the state not near an interstate corridor. There is long-distance local service that connects Rutland to Middlebury. This service allows for a connection to the Middlebury-Burlington service; however, this is simply too many transfers to make this feasible.

- **St. Johnsbury**: There is a long-distance local service (Route 84) that connects St. Johnsbury to Montpelier. This service allows for a direct connection to the intercity bus service in Montpelier. However, intercity bus service from Montpelier requires routing through Boston to get to two places, and this increases the overall trip time. Though there are fewer transfers in trips originating from St. Johnsbury compared to other trips in this group, there are two trips that require two transfers and a significant amount of wait time, rendering the service less convenient. These have been identified in the table.

- **St. Albans**: Like Middlebury, there is commuter service that connects St. Albans to downtown Burlington. Once downtown, a rider will then board the local service (Route 1 and then transfer to Route 12) to the intercity bus stop at the airport.

The next step in this process is more detailed analysis of schedules to determine if there are potential changes to the existing local services that could make these intercity connections feasible, or if development of new additional services would be required to provide intercity access. It might be more cost-effective if minor adjustments in schedule times or routing (to serve the intercity stops directly) could provide this access.—or even if new services could be developed that would provide intercity access while adding capacity or convenience for commuters. These options will be examined Chapter 5.

PUBLIC INPUT ON TRANSIT NEEDS

VTrans highly values public input as part of its planning process, and accordingly held public meetings in February 2011 to obtain input for this PTPP update. Three meetings were held, one through the VIT Worldwide (formerly Vermont Interactive Television) public videoconferencing network and two others in Montpelier and Rockingham. Residents were invited to share their input to help shape the vision for transit in Vermont. Several representatives from the transit systems and regional transportation planners also attended these meetings. The discussion topics included strengths and weaknesses of the existing transit network, the characteristics desired for transit in Vermont, and issues that need to be addressed. VTrans also had an ongoing online process to collect public input for the PTPP, where residents were able to download and email a comment card to provide their feedback and perspectives on the

transit topics mentioned above. The feedback regarding intercity bus needs provided through these public input avenues is described below.

Many residents identified the need for inter-regional connectivity. While transit systems may serve their local areas relatively well, it is difficult to travel between regions and provider service areas. The number of regional transit routes, mainly commuter service, has increased in the last few years but additional improvements could be made to increase access to employment, provide weekend service, and allow riders to make longer distance day trips. A LINK express service between Burlington and Jericho and bus service connecting Burlington and Rutland were specifically requested. The Northeast Kingdom is also isolated and lacks regional connections to other parts of the State, as well as an intra-regional connection between the existing local deviated services in Newport and St. Johnsbury. On a related note, residents also discussed the need for regional transit connections outside the State, such as trips to take workers and shoppers across the New York and New Hampshire borders. More intercity bus service to destinations outside of Vermont, including New Hampshire and New York City, was also discussed as a transit need.

Intermodal connectivity was a popular issue that identified the need to make transit more convenient and accessible by promoting other alternative modes, including walking, bicycling, ridesharing, and car-sharing. These modes could help fill gaps in the existing transit network or facilitate access to transit services, including intercity bus. Providing options for riders to travel the "first mile" to or "last mile" from a transit stop was another identified need. Intercity bus service in Vermont is not very accessible since there are limited stops in Vermont; then local transit services must be extensive to provide the connection between homes and intercity bus stops. Physical facilities, such as intermodal terminals, increased signage, and information on transit schedules were identified as needs to promote connections between modes. Riders also requested additional park and ride lots to facilitate increased transit use. Transit connections to airports, specifically from Montpelier to Burlington International Airport, was another need identified through public input.

Information Gap

While some service "gaps" exist, there is also an information gap for potential riders. A central source of information for travelers is essential to support public transit needed in Vermont – one that is *"seamless, efficient, user friendly with usable connections among in-state and out-of-state points"*. [6] While there have been some strides

[6] In the 2007 session, the Vermont legislature directed VTrans to examine the feasibility of making public transportation in Vermont seamless, efficient, and user-friendly with usable connections among in-state and out-of-state points.

in compiling and sharing information on all transit services in the State as well as mention in marketing materials of connections and possible transfers among routes operated by different systems, without one central information sharing mechanism, it remains difficult to navigate through the information available on the various transit system media and websites. While Go Vermont has a start on matching ridesharing trips, there is currently no "trip planner" function on the Go Vermont site, (similar to Oregon).

SUMMARY

The needs analysis examined both demographic data and major destinations to determine areas with higher potential need for intercity bus service. Newport, Rutland, Middlebury, and Morristown could be considered among the highest priorities for new or expanded intercity service due to their longer distances from current stops, concentrations of transit-dependent persons and destinations, and relatively larger populations. Lyndon also met similar needs thresholds, and a new intercity stop could be established in nearby St. Johnsbury, which has a larger concentration of major destinations. Other towns with high needs and several major destinations, which are about 25 miles or less from existing stops, could be considered for expanded intercity bus service: St. Albans, Randolph, Windsor, and Springfield. These towns are already located along current intercity bus routes, and could potentially be added as new stops. Another alternative would be to increase local or regional transit services to better connect these towns to the intercity bus network.

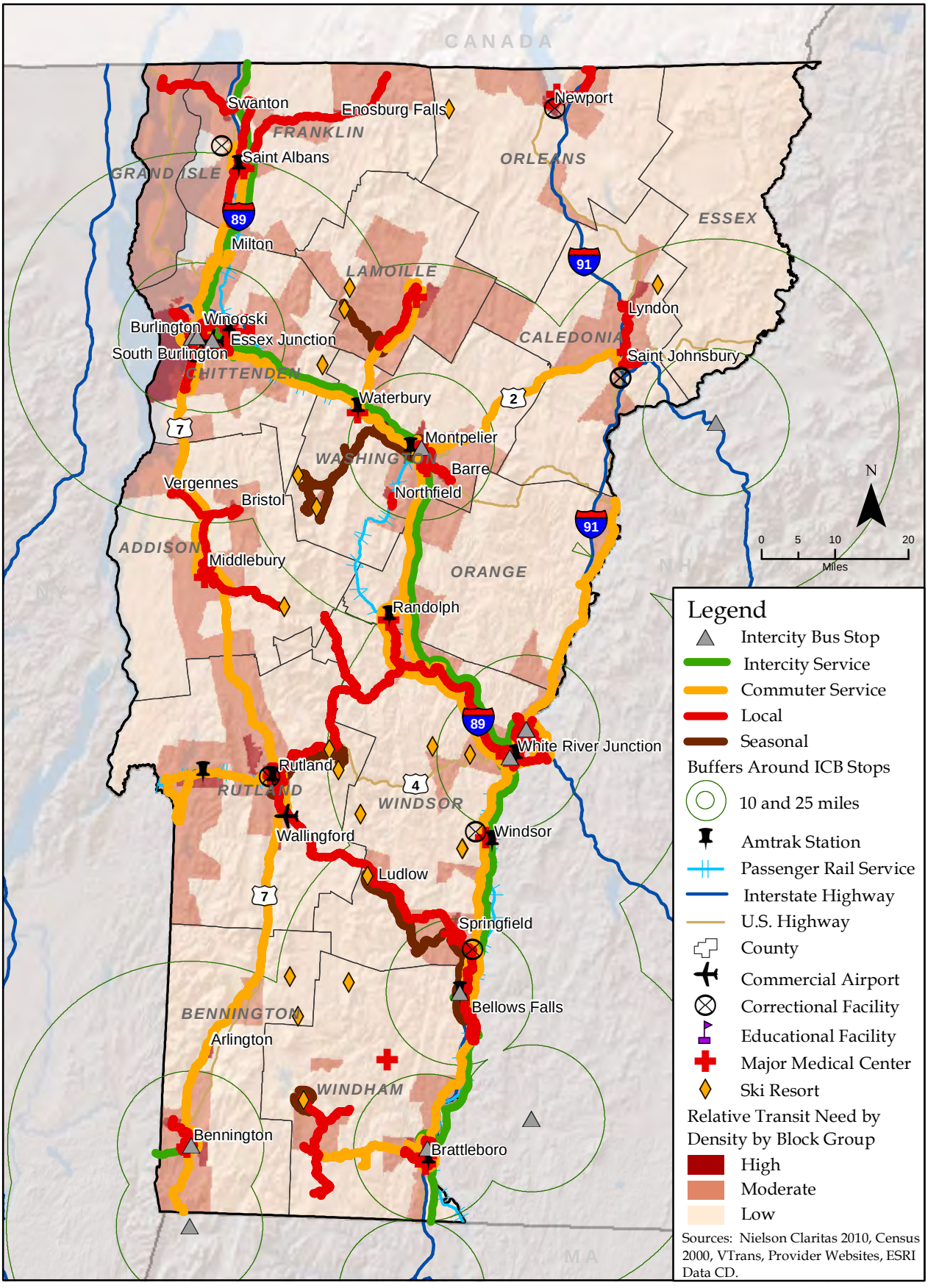
Additional towns that had sufficient population sizes and high densities of transit-dependent persons, but fewer major intercity bus destinations included Swanton, Bristol, Castleton, and Vergennes. These communities could be considered for intermediate stops along new routes, or again, local transit services could be improved to act as feeder routes to the intercity bus network.

Figure 3-12 portrays the combined density ranking results with major destinations and other existing transit services including local, commuter, and seasonal routes. The map indicates that most of the high needs areas identified through this analysis have some form of transit service to connect them to the statewide (fixed- and deviated fixed-route) network, with the exception of Newport, which is quite isolated from the rest of the State. However, many of these local and regional transit services do not operate everyday and their schedules are typically not coordinated with intercity buses to provide feasible connections and promote the use of intercity services. Another consideration for developing new or improved intercity bus routes is whether to serve towns that already have passenger rail service. Intercity bus can provide a more affordable option than Amtrak, and passengers appreciate having multiple transit

options for their trips, but the demand for long-distance transit will need to be assessed to help address this issue.

Additional needs identified through public input included the ability to use transit for regional day trips, both within Vermont and to urban areas across the State border, and more intercity bus service to destinations outside of Vermont, including New Hampshire and New York City.

Figure 3-12: Combined Density Ranking of Transit-Dependent Populations with Major Destinations and Existing Fixed- and Deviated Fixed-Route Transit



Chapter 4

Vermont Rural Intercity Consultation Process

As now required by FTA under the Section 5311(f) certification process, Vermont conducted a consultation process to solicit specific input about the need for rural intercity bus services. This chapter documents that process, which took place during the period from September through November of 2011. It included a survey and a statewide consultation meeting. Public input on this topic collected as part of the overall 2011 Vermont Public Transit Policy Plan process is also presented in this chapter.

CONSULTATION SURVEY

As part of the consultation process, a survey was developed and sent to identified potential providers of intercity bus services, public transit operators in Vermont, and to the transportation planners at regional planning agencies. Twelve completed surveys were received.

Survey Form

A survey form was developed to solicit input on intercity needs, and it asked questions about current services, information and marketing, perceived service needs, areas or groups needing services, other needs (such as facilities, etc.). Three versions of the survey were developed: one for private intercity bus firms, a second for public transit operators, and a third for planning agencies. The main differences were in the wording regarding existing services. A cover letter was developed for each survey form as well. Examples of the letters and blank surveys are included in Appendix A.

Mailing List

A list of potential intercity bus carriers was developed to include firms currently providing scheduled intercity service in Vermont or adjacent states[1], and firms offering

[1] At the time of the survey, Megabus did not provide service to Vermont.

charter or airport limousine-type service in Vermont. Information on potential providers and contact information was obtained from internet searches, Yellow Pages listings, and from membership rosters of the New England Bus Association available on-line. Appendix B presents a list of the intercity providers who were sent survey forms.

SURVEY RESULTS

As noted above 12 surveys were received, six from private carriers, two from planning agencies, and four from transit providers:

- Intercity/Private Carriers:
  - Premier Coach—Randall Charlebois
  - Adirondack Trailways—Anne M. Noonan
  - Student Transportation of Vermont dba Mountain Transit dba Bet-Cha Transit—John Sharrow
  - Peter Pan Bus Lines—Michael Sharff
  - Greyhound Lines—Stephanie Gonterman
  - Middlebury Transit Inc./Burlington Limousine and Car Services/Vermont Chauffeured Transportation—Bill Fuller

- Planning Agencies:
  - Lamoille County Planning Commission—Amanda Holland
  - Bennington County Regional Commission—Mark Anders

- Public Transit Providers:
  - Green Mountain Community Network—Donna Baker
  - CCTA/GMTA—Meredith Birkett
  - Advance Transit—Van Chestnut
  - Rural Community Transportation, Inc.

Survey responses are summarized below by question:

1. Do you operate scheduled intercity bus services in Vermont or adjacent states?

   - Greyhound Lines—Four roundtrips per day between Montreal and Boston, with Vermont stops in Burlington (downtown), Burlington Airport, Montpelier and White River Junction; and one round-trip per day between White River Junction and Springfield, Massachusetts, with Vermont stops in Bellows Falls and Brattleboro.

- Peter Pan—One roundtrip per day between Greenfield, MA and Springfield, MA.
- Yankee Trails—Bennington, VT to Albany, two roundtrips per day.
- Adirondack Trailways—extensive service in New York State, closest routes to Vermont are Montreal-NY via Plattsburgh and Albany (with intermediate stops).

2. Do you operate scheduled long-distance services (from public transit provider survey)?

    - GMCN—Feeder service to Manchester, VT, and to Williamstown, MA; regular unsubsidized private service to Albany Airport, train and bus depots for local college students (using privately funded vehicles)—Thursday and Friday afternoons outbound and Sunday and Monday evenings inbound. Colleges pay the bulk of the costs of these trips. In partnership with DVTA, they plan to submit a CMAQ request for the Bennington to Wilmington route.
    - Advance Transit—commuter service connecting Canaan, Enfield, and Lebanon, NH.
    - RCT—Route 2 Commuter, demand-response, Kingdom Express does charter.
    - CCTA—Montpelier Link, Middlebury Link, St. Albans Link, and US 2 Commuter.

3. Other types of service provided:

    - Student Transportation—school, charter, shuttle.
    - Adirondack Trailways—service to Albany Airport, Amtrak in Utica, Syracuse, and next to Amtrak in Rochester, NY.
    - Premier Coach—Charter, Amtrak replacement bus service when lines closed for track maintenance.
    - Greyhound Lines—charter service.

4. Areas or corridors needing intercity service:

    - Private carriers:

        - Premier Coach—Western Corridor of Vermont, connection to Albany Amtrak.
        - Peter Pan--Springfield, MA to Greenfield, MA to Burlington, VT; (Route 2 in Massachusetts—serving Berkshires, Greenfield, Boston).
        - Adirondack Trailways—Route 7 Corridor Burlington to Albany.

- Student Transportation—Burlington to Albany, Rutland-Boston, White River Junction to Springfield, MA.
- Greyhound Lines—Daily roundtrip service from White River Junction to Albany, New York, with intermediate stops (Vermont locations only) in Bridgewater, Rutland, Danby, Manchester Center, Arlington and Bennington.

- Planning Agencies:

  - Bennington County Regional Commission—Bennington to Albany, Bennington to Boston, Bennington/Manchester to Burlington, Bennington/Manchester to Montpelier.
  - Lamoille County Planning Commission—Route 100 into Lamoille County, connection to Route 15 corridor destinations.

- Transit Providers:

  - Green Mountain Community Network, Inc.—Bennington to Albany (airport, train, bus connections), Manchester to Albany (airport, train, bus connections) Bennington to Williamstown, MA (to intercity bus); Bennington to Brattleboro.
  - Advance Transit—Route 4 Corridor Woodstock to White River Junction/Lebanon/Hanover.
  - RCT—St. Johnsbury to Littleton, NH to connect with Concord Trailways; Newport/St. Johnsbury/Wells River (connect with Stagecoach); Hardwick to Burlington.
  - CCTA/GMTA—Saturday/Sunday St. Albans Link service, Sunday Middlebury Link to connect to Greyhound at Burlington International Airport. Saturday/Sunday Service on the Route 2 commuter between St. Johnsbury and Montpelier.

5. Destinations or Groups Needing More Service:

   - Private Carriers:

     - Premier Coach—New York City, Albany.
     - Peter Pan—no specific market group.
     - Adirondack Trailways—low income people, seniors and students. Also, note many requests for service to/from NY state points to Bennington, Rutland, and Burlington.

- Student Transportation—service to connect current rail and public transportation, coordinating service. Where possible replace local services with intercity service (Burlington to Albany).
- Greyhound Lines—generally identified southwest Vermont as needing more service, connections to intercity networks to provide links to major northeastern cities, provided a sample service concept for White River Junction to Albany via Rutland and Bennington. Connections in White River Junction would allow service to Burlington, Montreal, or Boston; connections in Albany would tie to other GLI services to Montreal, Boston, New York City, and Buffalo; to Adirondack Trailways services to Long Island; and to Peter Pan service to Springfield, Hartford, and Providence. Access to the Albany Airport would be provided.

- Planning Agencies:

  - Bennington County Regional Commission—Commuters traveling from Bennington to Albany, visitors traveling from Albany Amtrak or Albany airport to SW Vermont.
  - Lamoille County Planning Commission—Medical facilities (Morristown), ski resorts (Stowe, Jeffersonville, and colleges (Johnson)).

- Transit Providers:

  - GMCN—college students, seniors, youth, persons with disabilities, employees, persons needing access to urban services (includes veterans affairs). Users would need connectivity at destinations to reach other modes, retail, medical, offices, tourism destinations, colleges, sports venues.
  - Advance Transit—Additional evening service on the Orange Route to allow better connections to Amtrak.
  - RCT—St. Johnsbury to Littleton, NH to connect with Concord Trailways; Newport/St. Johnsbury/Wells River (connect with Stagecoach); Hardwick to Burlington.
  - CCTA/GMTA—Weekend service to Burlington (will be less productive than commuter services).

6. Other Improvement Needs:

   - Middlebury Transit—more public/private cooperation.

- Premier Coach — Uses private providers with subsidies to add service in the western corridor.
- Adirondack Trailways — If new services instituted, would need sales outlets, and marketing to promote new services.
- Greyhound Lines — If operated by Greyhound rural services would require vehicle capital for two small buses. Service would also need marketing and promotion for new services, Greyhound also recommends including any new services under their Greyhound Connect branding, and on their internet site.
- Peter Pan — We need other states to do similar consultation and planning for intercity service.
- RCT — VTrans should fund more service with CMAQ funds to create commuter routes with connections.
- Advance Transit — We are going to do a TDP for Advance Transit, with a focus on increasing frequency on Green and Orange routes, and connections to the Swim Center—, which could service a park and ride lot. A park and ride lot is needed near the I-91/I-89 interchange.
- GMCN — Bennington—We are building a multi-modal center to link intercity and regional services, adding more service to connect to rural areas of the county and to connect to future planned rail passenger services.
- CCTA/GMTA — We will be getting over-the-road coaches for Montpelier Link and other Link routes under an FTA Bus and Bus Facilities Livability Grant.
- Bennington County Regional Commission — Needs include schedules, other information, and marketing—all in one website for current services operated by different entities, including firms like Yankee Trails. It is hard to get information from different sources that may not be known to the potential user.

SUMMARY

To sum up the responses:

- No respondent said there are no unmet intercity needs.

- The Albany-Bennington-Rutland-Middlebury corridor is the most frequently identified service need, including connections to the Albany airport, Amtrak, and intercity bus services.

- Other intercity corridors identified as areas of need include:

    - Albany-Bennington-Rutland-White River Junction (with intermediate stops).
    - Bennington-Wilmington-Brattleboro.
    - Newport to White River Junction.
    - Woodstock to White River Junction (and Lebanon/Hanover New Hampshire).

- A need was identified for weekend service where existing regional commuter services are provided (Middlebury to Burlington, for example), or for transit connections to existing intercity service (St. Johnsbury to Littleton, NH, for example).

- There was some focus on information needs for existing service and connections, and the need to have sales outlets and marketing for any new services.

- The only facility need identified is a park and ride in WRJ at the I-89/I-91 interchange.

- One intercity provider explicitly mentioned a need for bus capital to operate funded expansion services.

CONSULTATION MEETING

In addition to the written survey, all of those surveyed were invited to a meeting held on November 15, 2011 at the VTrans offices in Montpelier, Vermont. Approximately 16 persons attended, in addition to VTrans' staff and consultants. Three private carriers, nine transit operators, and two regional planning agencies were represented, along with a member of the Vermont legislature. A list of the attendees is included as Appendix C.

A presentation covered the Section 5311(f) program, the needs assessment, and the policy options including use of the in-kind match provisions. A copy of this presentation is included as Appendix D. Following the presentation, attendees were invited to ask questions or add their comments regarding the need for additional rural intercity services in Vermont, and the appropriate policy. There was considerable discussion of needs and potential policies.

Decision on Certification of Unmet Intercity Needs Still Open

An initial question was whether or not a decision had already been made by the state regarding certification of "no unmet rural intercity needs" (as required by FTA if the 15 percent set-aside is to be used for other purposes), and if so would the input at the meeting have any impact. VTrans' staff made it clear that no decisions regarding the Section 5311(f) program had been made, and that the state was still examining the needs study and considering options, and it would take into account all input provided. Another question concerned the likely fiscal year of any potential change in state policy regarding intercity bus. VTrans' staff replied that at this point FY14 was the focus of discussion.

In-Kind Match

Other questions concerned the in-kind match provisions and how that could work to reduce or eliminate the need for local or state cash operating match. One clarification is that Greyhound is not the only potential provider of in-kind miles for match—a carrier such as Adirondack Trailways could use its own connecting services as match, as long as they are fixed-route, fixed-schedule intercity services, and they are not already being used as match under another state Section 5311(f) program. There was also some discussion of how to ascertain the true costs of intercity bus service provided by private carriers, which would be needed either to value the in-kind miles correctly, to determine actual net deficits if they receive subsidies, and for performance measures. The consultants stated that Greyhound had provided this data in other states using the in-kind match method.

Determining Unmet Rural Intercity Need Given Existing Regional Transit Connections

A discussion of what constituted unmet intercity need followed. It was noted that many of Vermont's transit operators had implemented services that would allow residents of towns without intercity service to get to towns with service, for example from Middlebury (no intercity service) to Burlington (intercity service available). One questioner asked if Greyhound match miles could be used to support these services. The federal regulations would allow such an arrangement if the services provided "a meaningful connection" to the intercity services, and there would need to be a granting of these miles by the intercity carrier. Typically "a meaningful connection" has meant that the subsidized service needs to operate to the same location as the intercity bus stop, arriving and departing within a two-hour window on either side of the intercity service schedule, seven days per week (or at least five), with the connection included in both regional and intercity carrier public information. Ideally, there would be an interline ticketing arrangement between the operator providing the subsidized service

and the carrier providing the unsubsidized service. It is not clear how many of the transit links provided by the transit operators currently meet these requirements, or what might be needed to enable them to do so.

This led to further discussion of the potential demand for intercity connections as compared to commuter services. Would an additional service in these corridors that offered a meaningful connection carry enough riders by itself to justify the funding? An example again was the Middlebury to Burlington service operated by ACTR. It is commuter service with multiple frequencies into Burlington in the morning, returning in the late afternoon. These buses go to the Cherry Street terminal shared with CCTA, but do not go on to Greyhound's stop at the Burlington Airport. A passenger on the ACTR buses would need to transfer to a CCTA bus going to the airport (and some do). Does this meet the need of Middlebury residents for access to intercity connections? ACTR has not heard requests for any service beyond the commuter service, according to Jim Moulton of ACTR, and in general he feels that intercity needs from Middlebury are met, even though it does not have intercity service.

A general point made about the connections provided by the local transit operators is that the needs assessment should include more detailed analysis of the potential of these services to be considered as meeting intercity needs—do they provide a meaningful connection now, or what changes would need to be made to allow them to be considered as providing a meaningful connection? This is addressed in Chapter Five.

Potential for Cost Savings from Alternative Operational Models

It was suggested that perhaps the remaining rural intercity needs could be met most efficiently by a service model unlike the standard intercity bus service that had been withdrawn—that perhaps the use of small buses instead of over-the-road coaches would reduce subsidy requirements and be more appropriate given the anticipated low levels of demand. Intercity bus operators replied that most of the costs of operating bus services are labor or labor-related, and that it was unlikely that small buses would save very much. Also, intercity bus demand is very peaked, with higher ridership around weekends and holidays, and that any cost savings from operating small buses off-peak could be lost if several buses needed to be used to meet peak demands, which could otherwise be met by a single large bus (with a single driver).

Measures of Need, Demand, and Performance

A related point is that the likely demand for a low frequency intercity service might be very low, and there is a need for some tool or metric to compare spending of funds on such a service to the potential use of the funding on other services—in effect

measuring the opportunity cost of using funds for an intercity route as compared to other transit needs, given that these funds have been used in the past for other rural services. There is a value judgment that must be made regarding the kinds of trips that merit support.

It was suggested that rural intercity services could have performance measures like other transit services in Vermont, with services below a certain level losing funding. Measures used in other states have included farebox recovery and subsidy per passenger. Farebox recovery is most comparable to the profitability test of the private market, as it encompasses fare policy, usage, and operating costs—it could be compared to other transit services. Subsidy per passenger can be used as a cap, with a level set at the cost of alternative services—for example the cost of sending the same passenger by taxi or limousine, or at the level of subsidy per passenger for other intercity modes such as passenger rail. For proposed service estimates of demand, revenue, and cost could be used to develop likely performance, which could be considered in evaluating whether or not a particular service should be funded.

Areas or Corridors with Unmet Rural Intercity Needs

Other participants made the point that although some areas in Vermont have new services that could be seen as replacing intercity service, other areas have not. Rutland, although it has Amtrak service to Albany and New York City, does not have any intercity bus service that could allow connections north to Burlington and Montreal, or east to Boston. Existing connections developed by the transit operators for commuters to Burlington do not allow Rutland passengers to make the round-trip in the same day. Newport has lost its connection to Greyhound and Amtrak services in White River Junction, and there is a need for links from that region, possibly to the Concord Coach services from Littleton, New Hampshire, if not to White River Junction. Another corridor that lacks service, which might be considered as intercity, is Bennington-Wilmington-Brattleboro. A general observation was that there was a need for service to Boston from the western half of the state (south of Burlington).

Conclusions from the Meeting

There was a lot of discussion and many valid points were made. No consensus was reached, and VTrans staff noted again that no decisions had been made, and that all of the comments would be considered as a proposed policy is developed. There was some agreement that more analysis was needed regarding the degree to which existing regional transit services provided adequate access to remaining intercity bus services, and that possibly there was not as much unmet rural intercity need as it would appear by looking at a map of discontinued services.

ADDITIONAL INPUT

As part of the concurrent PTPP, there were several opportunities provided for public input regarding transit needs, and in several cases intercity needs were identified. These included:

- At the Montpelier meeting, a user of the Greyhound Montreal-Boston service (resident of Montpelier) commented on the need to maintain this service, which he used for frequent trips to Montreal. In general he noted that intercity bus supports economic development, by allowing such trips directly from Montpelier, and that having the stop in front of City Hall increased its visibility and made it more accessible (even by bicycle).

- At other public meetings, there was discussion of broader intermodal and intercity needs, including some rural intercity needs:

    - There are difficulties in making connections between different modes (local transit to intercity bus) where stops are not co-located,
    - There is a need for intercity service from the Northeast Kingdom,
    - There is a need for connections between regions within the state, including more commuter services,
    - There is a need for services that allow for day-trips between towns,
    - There is a need for weekend regional services, and
    - There is a need for improved information that would allow a user to put together trips that involve several providers, or allow a potential traveler to share the ride on a particular trip.

- There were also questions about state policy regarding intercity bus, including concerns about initiating new or replacement services if demand is insufficient, the difficulty in re-establishing ridership that has been lost, and concerns that subsidized intercity bus service would not be cost-effective. Data reflecting the ridership on the CMAQ-funded regional routes demonstrates higher levels of usage, and they can be seen as helping to fill intercity bus network gaps. In response it was noted that the private, unsubsidized carriers had set fares and reduced frequency to maximize farebox recovery, and that the demand seen by public operators likely reflects lower fares and higher frequencies that can be provided because the public operators do not have to recover their full costs.

- At the Rutland public meeting there was a clear expression that the state needed to address the loss of mobility resulting from the loss of intercity bus service on the western side of the state. Even though Rutland has Amtrak

service to Albany and New York City, it was felt that former bus riders were left with no options, and that it was still difficult to get to Burlington (with multiple transfers) even with the public transit services. There was strong sentiment that a connection to intercity services in White River Junction was needed (as well as to medical and shopping facilities in nearby New Hampshire). One commenter suggested that Vtrans needed to create a kind of statewide transit authority to provide the regional/intercity services that would replace the kind of network formerly provided by Vermont Transit.

GENERAL CONCLUSIONS

In general, the surveys, meetings, and public outreach process (for the PTPP) resulted in a general expression that there are unmet rural intercity needs, particularly in these corridors (destination points shown in brackets):

- [Albany] – Bennington – Manchester – Rutland – Middlebury - Burlington [Montreal or Boston]
- [Albany] – Bennington – Manchester – Rutland – Bridgewater - White River Junction-[Boston]
- Newport-St. Johnsbury - White River Junction (with intermediate stops) - [Boston or Springfield (MA) - New York City]
- [Albany] – Bennington – Wilmington – Brattleboro - [Springfield (MA) - New York City]

Discussion in the consultation meeting and in the PTPP meetings also included concerns that the demand on some or all of these routes for intercity service could be too low to justify funding, or that existing regional/commuter services provided adequate access to the remaining intercity bus services, or that Amtrak services met some of these needs.

However, of the places in the corridors cited, only Middlebury and Bennington residents have the opportunity to reach a city served by the national intercity bus network without one or more transfers between public transit services, and even then Middlebury residents would need to transfer to local bus (which is fairly frequent) to reach the airport/intercity bus station in Burlington. Although there is Amtrak service from Rutland to Albany and New York City, input suggested that it serves a different market segment than was formerly served by intercity bus, and that both of Vermont's Amtrak services go to New York City, leaving access to Boston limited to the existing

intercity bus service. Some input recommended improvements to information systems to facilitate trips involving multiple transfers between different operators as a means of addressing the limited demand.

Ultimately, it may be that the funding required to provide intercity service in some of these corridors would be too great, given limited ridership. However, Vermont has addressed similar questions for other transit routes by applying benchmark performance measures, and denying or eliminating funding for services that did not have enough ridership. Such an approach would likely be applied to any intercity services receiving funding as well.

Chapter 5

Statewide Service Plan: Routes, Schedules, Costs, and Ridership

This chapter examines the current regional transit services in terms of their ability to meet the definition of intercity bus service, i.e. provide a meaningful connection to the national intercity bus network. Services that do not provide such connections are identified, and a number of concepts are examined as potential ways to modify them to provide better connections to intercity services. Finally, a number of new intercity routes (many of them in corridors abandoned over the past decade) are examined to determine their potential costs, ridership, revenues, and funding requirements. Projected performance of these routes is presented, based on the forecasts for costs and revenues. With this information available, a framework for prioritizing investments in new service is presented.

ROLE OF REGIONAL TRANSIT SERVICES AS INTERCITY BUS FEEDER SERVICES

Chapter 3 identified the connections needed for Vermont residents whose trips originate in the larger towns to make intercity bus trips to key out-of-state destinations. Many places that no longer have direct intercity bus service are linked to the remaining intercity bus services by regional transit services operated by Vermont's public transportation providers. These services were identified in the table included with Chapter 3 as provided by regional providers (REG). The connecting services identified as potentially providing linkages to intercity services include:

- **Bennington**: Green Mountain Community Network: Orange Line from Bennington to Williamstown, MA, for connection to Peter Pan Bus Lines service to Boston (MA). Connects to same location as intercity bus service.

- **Middlebury**: Addison County Transit Resources (ACTR)/Chittenden County Transportation Authority (CCTA) Link Express: Service to Burlington for connections to intercity bus services to Albany (NY), Boston (MA), Manchester (NH), Montreal (PQ, Canada), New York City (NY). Requires use of one or two local transit routes to connect from Link Express stops to intercity bus services.

- **Milton**: CCTA Link Express: Service to Burlington for connections to intercity bus services to Albany (NY), Boston (MA), Manchester (NH), Montreal (PQ, Canada), and New York City (NY). Requires use of one or two local transit routes to connect from Link Express stops to intercity bus services.

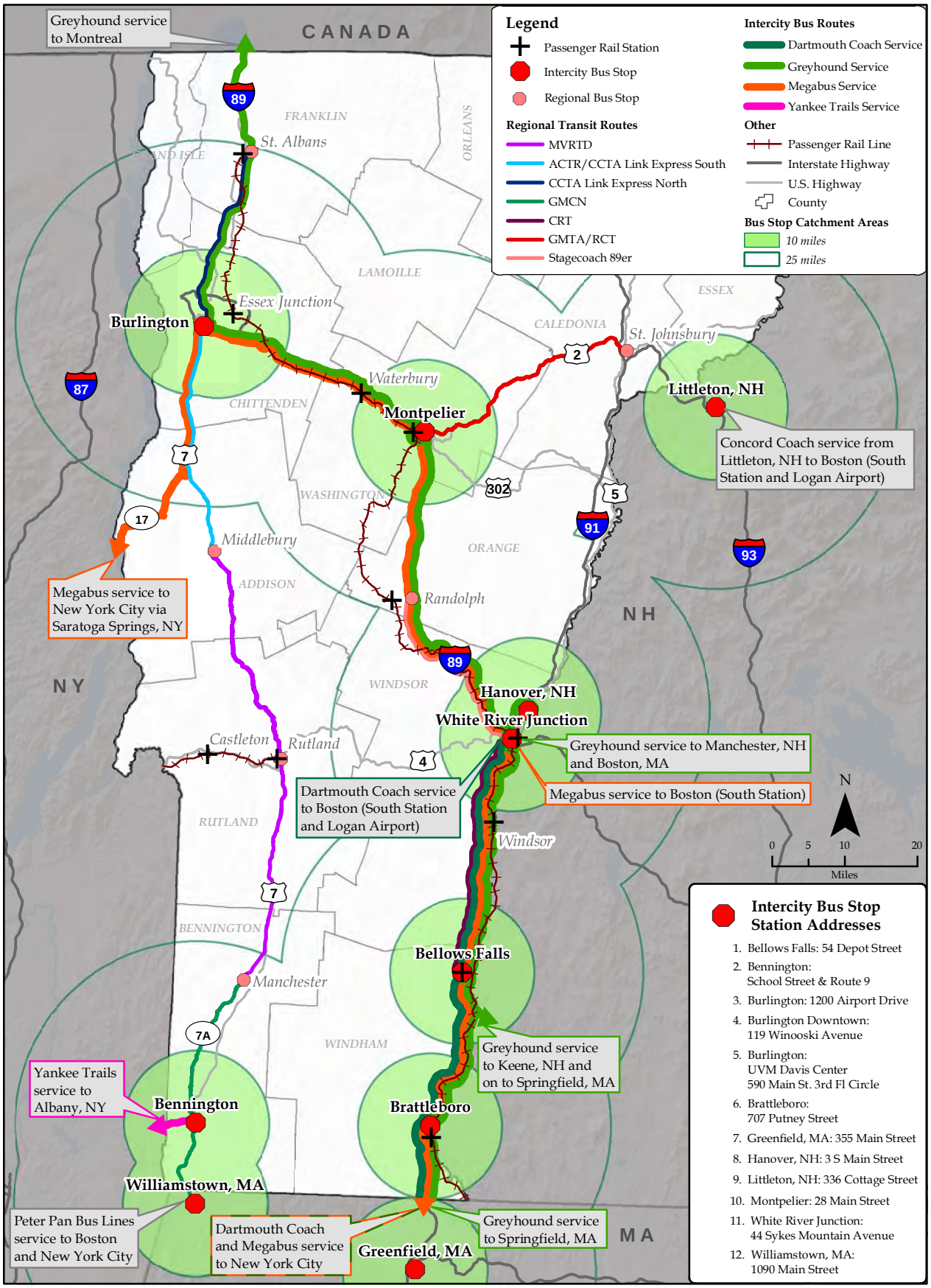
- **Rutland**: Marble Valley Regional Transit District's (MVRTD) Rutland Commuter: Connects to ACTR/CCTA Link Express service to Burlington for connections to intercity bus services to Albany (NY), Boston (MA), Manchester (NH), Montreal (PQ, Canada), and New York City (NY). Requires use of one or two local transit routes to connect from Link Express stops to intercity bus services in Burlington.

- **St. Johnsbury**: Rural Community Transportation (RCT)/Green Mountain Transit Agency (GMTA) Route 2 Commuter services linking St. Johnsbury to Montpelier, where connections can be made to intercity bus services to Boston (MA), Manchester (NH), and Montreal (PQ, Canada).

- **St. Albans**: CCTA Link Express services to Burlington for connections to intercity bus services to Albany (NY), Boston (MA), Manchester (NH), Montreal (PQ, Canada), and New York City (NY). Requires use of one or two local transit routes to connect from Link Express stops to intercity bus services.

Figure 5-1 presents a map of these routes in relation to the intercity network. Chapter 3 presented the travel time and number of transfers that a transit-dependent person with a trip originating in one of these communities would need to make in order to complete an intercity trip to these key out-of-state destinations. This analysis demonstrated that it was technically possible to use these services as part of an intercity bus trip—however, it also clearly made the point that anyone using many of these services would face multiple transfers, use of local buses or taxis, and long waits in order to make an intercity trip—to the extent that many of the trips analyzed were considered "not feasible" due to excessive travel time and/or number of transfers. For the most part these services were developed to serve long-distance commute needs, and therefore they tend to link a single labor market area with a single employment

Figure 5-1: Existing Intercity and Regional Bus Service in Vermont



destination area, and they may or may not directly serve locations with connecting intercity bus services.

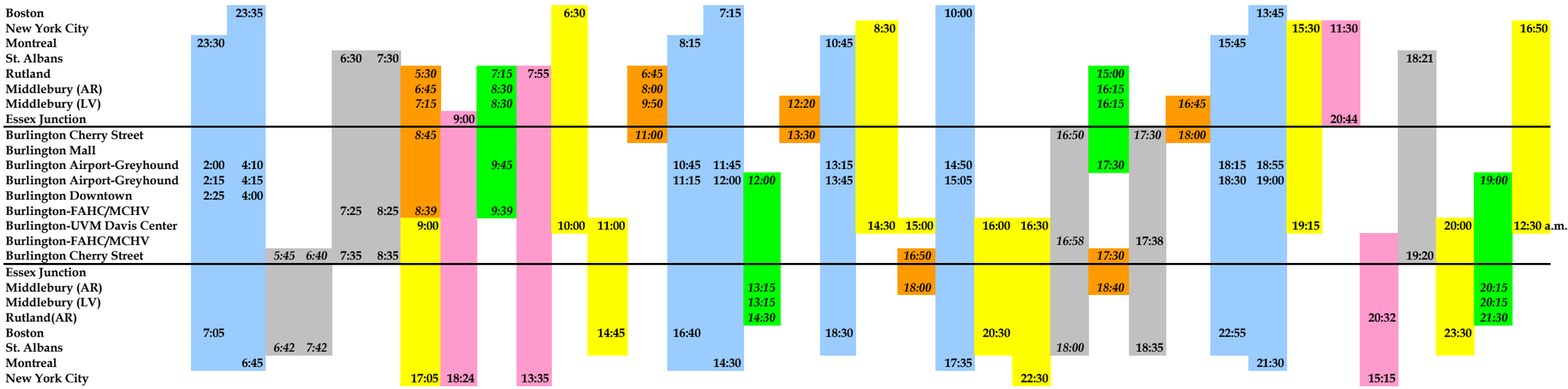
To determine which of these services might be considered as possibly identifiable as "rural intercity services" that might be eligible for Section 5311(f) rural intercity funding, it was necessary to do some additional analysis of routes and schedules to see which of them make a "meaningful connection" with the national intercity bus network. There are two graphic representations of the intercity services and the connecting regional services that are presented in Figure 5-2 (Burlington) and Figure 5-3 **(**White River Junction-Hanover). These were developed to show the out-of-state intercity bus origins or destinations, and the time and location of the stops for the various schedules and operators in these two locations, and to facilitate consideration of the potential meets between the regional services and the intercity operators. The services are color-coded to reflect the operator. Potential additional feeders, discussed below, are also shown in these graphs.

The Federal Transit Administration does not explicitly define that term, but in general the implication is that a meaningful connection occurs when the connecting service drops-off and picks-up passengers in the close physical and temporal proximity to service provided by the "national intercity bus network" (which is also not defined). In other words, it is not a meaningful connection if the feeder service drops passengers on the other side of town from the intercity bus stop, hours before or after the intercity bus is scheduled to arrive or depart. Ideally, a meaningful connection would involve service to the same location served by intercity bus (so no local transit or taxi rides are required), within two hours of the scheduled intercity service, with information about the availability of the potential connection available to users, and with interline ticketing allowing for continued travel on a single ticket. However, setting aside the interline ticketing and information standards, focusing instead just on proximity of connecting service at the same stop and within a two-hour window of intercity departures, the existing regional transit services in Vermont that could be considered as rural intercity routes is more limited:

- GMCN Orange Line connections from Bennington to Peter Pan Bus Lines services in Williamstown: Two daily round trips, Monday to Friday only.

- RCT/GMTA Route 2 Commuter: One trip from St. Johnsbury to Montpelier would allow for a connection to a northbound Greyhound from Boston headed to Montreal (arrives 1:10 before Greyhound at State Street), and one trip from Montpelier might allow passengers coming off the Greyhound at 6:10 p.m. to catch the 6:10 p.m. Route 2 commuter which only goes as far as Old Schoolhouse Commons.

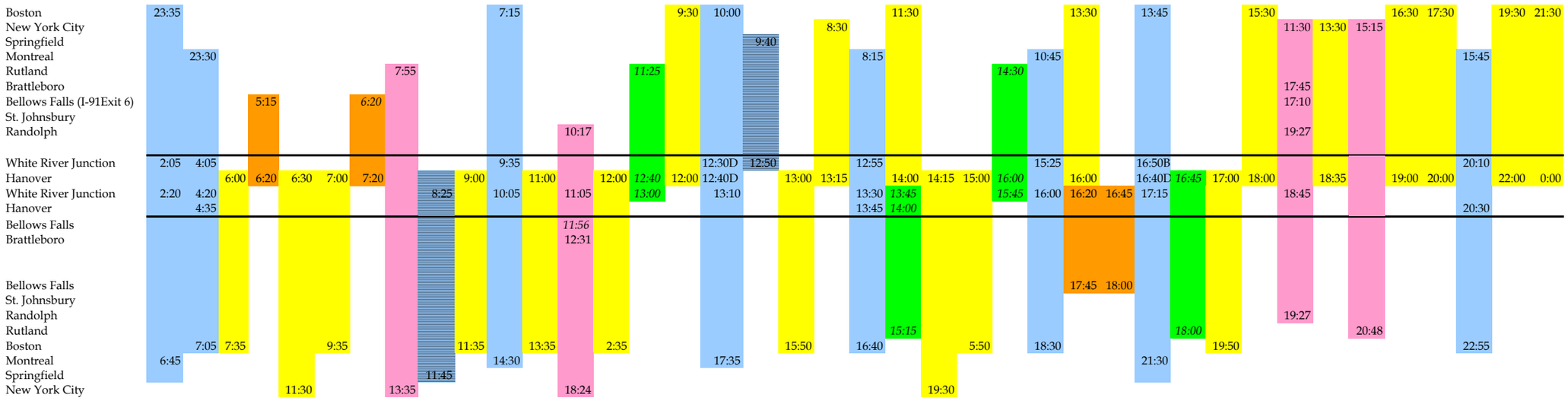
Figure 5-2: Burlington Intercity Connections



ACTR/CCTA Link-Express	: Existing
Greyhound Services	
St. Albans Link Express	Existing non-interlined commuter service. Note outbound a.m. trips end at Collins-Perley Park and Ride, inbound p.m. trips do not serve FAHC
Megabus Services	
Amtrak	
Hypothetical Intercity Feeder	Cost: 15 hours/day times 365 days at $65/hour equals $355,875
	Provides additional late a.m. inbound trip for commuters
	Provides a mid-day return for commuters
	Provides a late return for commuters
	Provides a one-day round-trip from Rutland to Burlington

Notes: No direct transit connection from Cherry Street to Airport, requires change at University Mall
No through buses Rutland to Burlington, change required (with waits) in Middlebury
Possible walk connection from FAHC/MCHV to Royal Tyler Theater (Megabus stop)

Figure 5-3: White River Junction and Hanover Intercity Schedules



Greyhound Services

Greyhound Services Currently Subsidized by Vtrans

Dartmouth Coach Services

Amtrak

Hypothetical Intercity Feeder : Existing CRT Upper Valley Routes 73 and 74 (using existing schedule)

Hypothetical Intercity Feeder : Rutland to WRJ and Hanover (using travel times from former Vermont Transit schedule)

In addition, if Greyhound drops its White River Junction to Springfield service, passengers in the Upper Valley could conceivably use the CRT Routes 73 and 74 from the park and ride lots at Exits 6, 7, 8, and 9 to reach the Hanover Inn in time to connect to outbound Dartmouth Coach services, or to reach the Greyhound stop (currently listed in CRT timetables as "Vermont Transit") in White River Junction. Also, it should be noted that the Stagecoach 89er service from Randolph Village/Bethel Village to Hanover also arrives and departs on schedules that would allow for intercity connections. This service was not included in the previous assessment in Chapter 3 because the origin villages did not meet the population thresholds—but these villages did have Vermont Transit service in the not too distant past. The 89er North Commuter route operates to the Vermont Law School and Randolph from Montpelier in the morning, returning in the afternoon, and the northbound trip requires a connection at the Exit 4 Park and Ride lot to Montpelier, where it would arrive just in time to catch a 6:10 p.m. Greyhound bound for Montreal.

Table 5-1 presents estimates of the proportion of the annual operating costs for these services that provide a meaningful connection to the national intercity bus network, and could therefore be considered as potentially meeting the 15% set-aside of the state's Section 5311 allocation. As can be seen, even when only specific trips or route segments are considered as meeting the requirements for consideration as rural intercity service with a meaningful connection, the total dollar amount comes to an amount similar to the 15% (approximately $400,000) Section 5311(f) set aside. However, further analysis and allocation will be needed to determine how much of these operating budgets is Section 5311 funding, and how much comes from other sources.

All the other local long-distance services fail to qualify as part of the intercity network because they either do not meet the national intercity bus network services at the same location, or within a two-hour window. The reasons for this failure are different for different routes:

- Link commuter services from Middlebury, Milton, and St. Albans: All of these services have multiple stops in Burlington, but the closest they get to an intercity stop location is the Fletcher Allen Health Center which is near the Davis Center on the University of Vermont (UVM) Campus, currently used as the Megabus stop. However, it is not evident that an intercity passenger from out of town would know how to walk between these locations. None of the Link services goes to the Airport, which is the Greyhound stop (except for one downtown stop at 2:25 a.m. southbound and 4:00 a.m. northbound--well outside the Link schedules). This requires use of two CCTA routes, transferring to CCTA at Cherry Street downtown, and again at University Mall.

Table 5-1
Allocation of Vermont Regional Services Costs to
Section 5311(f) Rural Intercity Services

Service	Operating Budget	Daily Round Trips	Intercity Connecting Round Trips	Percent Intercity (1)	Intercity Percent of Cost	
GMCN Orange Line	$122,836	2	2	10%	$ 12,284	(2)
GMTA Route 2 Commuter	$138,829	2.5	0.75	30%	$ 41,649	
RCT Route 2 Commuter	$95,605	2	0	0%	$ -	
CRT Route 73	$77,563	1	1	100%	$ 77,563	
CRT Route 74	$65,961	1	1	100%	$ 65,961	
Stagecoach 89er Service	$253,018	6	6	100%	$ 253,018	
					$ 450,474	

(1) Percentage of the annual service (vehicle trips or bus-miles) that can be considered as intercity based on allowing for a meaningful connection to the national intercity bus network (in terms of proximity of stops and schedules).

(2) Only the Monday through Friday Bennington to Williamstown segment can be considered as an intercity feeder, estimated at 14,000 annual bus miles, or 10%.

- Route 2 Commuter: Schedules other than those listed above do not provide a timely connection to Greyhound schedules in Montpelier.

- GMCN Manchester service: These schedules, though they connect with MVRTD Rutland-Manchester services in Manchester, do not make connections with the Yankee Trails schedules to Albany. Morning arrivals in Bennington occur 2:57 before the first Yankee Trails departure for Albany, and the second arrives 48 minutes after that departure. In the afternoon, there are similar mismatches, though a Manchester originating passenger could make a timely connection to the departing Yankee Trails bus, arriving on GMCN at 6:53 p.m., and leaving at 7:25 p.m. However, the Albany passenger arriving on that bus would need to spend the night in Bennington if they wished to continue on to Manchester. The GMCN services do serve a common point with Yankee Trails, which is a plus—and Yankee Trails services are called out on the GMCN Orange Line timetable information, though there are no times included for Yankee Trails service.

- MVRTD service to Rutland: This service does not actually connect to the intercity bus network at all, but rather to the ACTR/CCTA Middlebury Link Express service to Burlington—which also does not make a connection to the national intercity bus network. The scheduled connections in Middlebury are not well timed to make intercity connections, with a half-hour wait inbound in the morning, and the last Link arriving after the bus to Rutland has left

POTENTIAL CHANGES TO REGIONAL TRANSIT TO ADDRESS INTERCITY CONNECTIONS

Changes in Routes and Schedules

One option to be considered is whether or not many of these needs can be met at minimal cost by modifying the regional transit services in some way to provide the meaningful connection to the national intercity bus network. Among the services that come close to making the connection, but do not, the following changes would be needed:

Modify LINK Express Commuter Services to Improve Connectivity: LINK commuter services from Middlebury, Milton, and St. Albans would need to make an additional stop (or two) to bring passengers to common locations for transferring. A route modification to stop at the UVM Davis Center Third Floor Circle (currently the Megabus stop[1]) would be a fairly minor incremental change, and perhaps the Fletcher Allen stop (FAHC-MCHV) would suffice with some signage. However, to serve the Greyhound stop at the Burlington Airport would require additional time and mileage for all of the LINK commuter routes. The incremental operating cost in miles and hours would be relatively low to do this, in part because only a limited number of trips would be affected. However, the current route of the 7:10 a.m. inbound bus from Middlebury stops first at FAHC-MCHV, so a deviation to serve the airport/Greyhound stop would affect all the inbound riders headed for FAHC-MCHV and downtown with an additional delay, and it does not make sense to add to the travel time for the majority of riders to serve the few likely headed for the Airport. Evening outbound service from Burlington to Middlebury starts at FAHC-MCHV, and it likely could be modified to start at the Airport, then stop at FAHC-MCHV and downtown. A similar situation exists for the St. Albans LINK Expresses, particularly because the last stop is Pine Street, well south of the transfer point, though again an extension of the route past the Pine Street stop to the UVM Davis Center and the Airport could be added on two trips per day. The estimated travel time from Pine and Locust to the Airport is fifteen minutes, and there might be an additional fifteen minutes of deadhead to start or end the trip at the Airport. Therefore, adding a stop at the Airport on two Middlebury trips and two St. Albans trips would require approximately two service hours per weekday, or an annual cost of $50,800 based on $100 per service hour and 254 service days. Also, even that level of service would not serve the peak intercity travel periods, which include Friday evening and Sunday afternoon/evening—because the commuter services are weekday only.

[1] Megabus stops are on –street, with essentially no fixed infrastructure, and so can be (and are) moved with limited notice.

Implement a New CCTA Local Route to Provide Direct Service Between Cherry Street, the Megabus stop, and the Airport: Carrying the same thought about improving connectivity in Burlington to a more comprehensive solution, this alternative would provide a shuttle that would operate between the Downtown Transit Center, the UVM Davis Center at 590 Main Street, and the Burlington International Airport, as shown in Figure 5-4. The following list displays the transit connections available at these destinations:

- **Downtown Transit Center**
  - CCTA: LINK Express to Middlebury, Montpelier, and St. Albans and local service routes

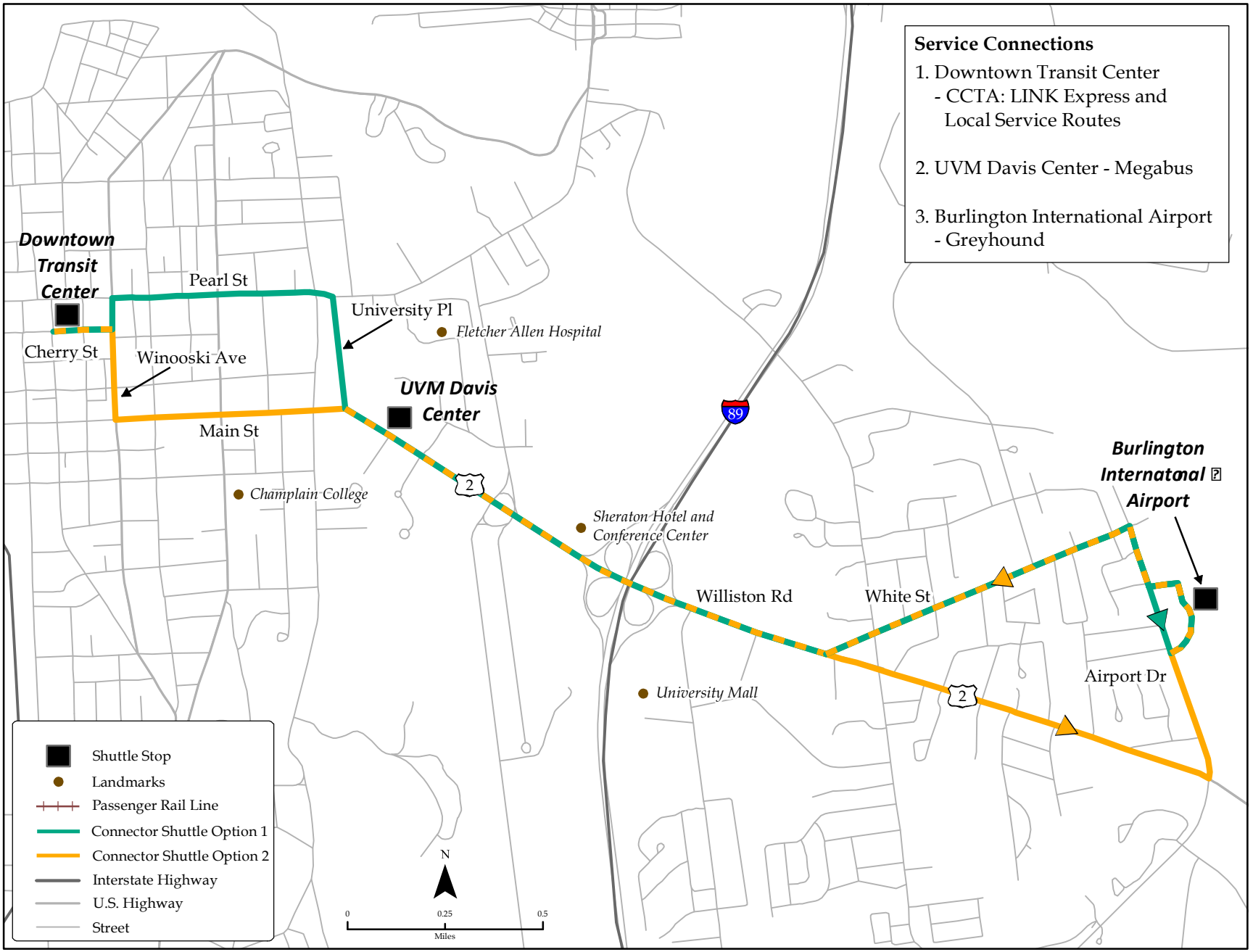
- **UVM Davis Center**
  - Megabus: Service to Amherst, MA, Boston, MA, Hartford, CT, New York City, and Saratoga Springs, NY

- **Burlington International Airport**
  - Greyhound: Service to numerous North American destinations
  - Air service to Chicago, Cleveland, Detroit, Newark, New York, Orlando, Philadelphia, Toronto, and Washington, DC

Currently, a person travelling between the Downtown Transit Center and Burlington International Airport must transfer at the University Mall from CCTA Route 1 to CCTA Route 12. Under the best circumstance, this trip can be made in 23 minutes. More likely, a transfer wait will lead to trip times of nearly 50 minutes. Given the unpredictability of travel times, many potential transit riders will choose alternate modes of transport. The proposed Burlington Connector Shuttle would provide quicker and more reliable service between Burlington's intercity transit hubs. The proposed shuttle would operate with headways of approximately 40 minutes and allow for trip times between the Downtown Transit Center and the Burlington International Airport of about 17 minutes. The proposed shuttle would also serve the Megabus bus stop at the Davis Center on the campus of the University of Vermont.

This stop improves accessibility to and from the airport and Downtown Transit Center for both the University community and others arriving in or departing from Burlington via Megabus. Each of the proposed routes for the Burlington Connector Shuttle has a roundtrip distance of about 7.6 miles. Given an estimated speed of 13.5 miles per hour, the approximate cycle time for a roundtrip is 34 minutes. On Monday through Saturday, headways of 40 minutes between the hours of 6:00 a.m. and 8:00 p.m., allows for 21 total roundtrips per day over a period of 14 hours. On Sundays, 40-minute headways operating between 10:00 a.m. and 8:00 p.m. allows for 15 trips over the 10-hour period. If the service runs 365 days per year, there are 4,902 total annual revenue hours. Operating costs per hour, including overhead, are

Figure 5-4: Route Options for Burlington Connector Shuttle



estimated at $100, based on CCTA FY 11 hourly operating costs of $92.63 inflated 4% per year. This route would have an annual operating cost of approximately $490,200.

Provide Taxi Vouchers to LINK Passengers Wanting to Make Intercity Connections: Given the uncertain demand, on a per passenger basis it is not clear that the cost of route extensions to the LINK services would be less than the cost of providing a taxi trip from Cherry Street to the Airport for any LINK passenger making the connection to the bus (or the airport)—it might well make sense to offer the airport connection with a taxi voucher, and then add bus service extensions if demand makes it cost-effective. In Europe, a number of national railroads offer a ticketing add-on that provides a coupon for a taxi trip for a low fixed-price. A similar arrangement in Burlington might make sense as a way to address the lack of connectivity. The trip could be subsidized by offering the coupon (valued for a trip to the Airport from downtown) for a low additional fee, for example $3.00 – enough to keep passengers from abusing them, but less than a full-fare taxi ride. The coupon would only be good for the intermodal connection trip. Like any taxi voucher program it is likely that there would be administrative issues related to the agreement with the taxi providers for reimbursement, and the need to avoid abuse, so there would also be administrative costs. Both the demand and the administrative costs are difficult to estimate in advance.

Modify MVRTD Middlebury Commuter Connections with the LINK Express: Changes in the schedule of the LINK Express from Burlington to Middlebury would be required to allow a return connection from Burlington to Middlebury in the evening. Currently the MVRTD bus leaves Middlebury on its return to Rutland 5:30 p.m., 30 minutes before the LINK bus arrives from Burlington at 6:00 p.m. Previous discussions about fixing this connection have not led to any changes, largely because of concerns that any schedule changes would negatively affect the commuters, and that any loss of ridership from them would not be made up by a relatively small group of connecting intercity passengers.

Modify Route 2 Commuter schedules: These services could also benefit from some modification to improve the connections. Currently the 6:10 Montpelier to Old Schoolhouse Commons departs just as the Greyhound connection is arriving—passengers intending to make this connection would benefit if the Route 2 schedule did not leave until the Greyhound arrives—in a more perfect world the drivers of both services would be able to communicate regarding any transferring passengers, but without that the alternative is to wait. The other routing change that would be needed to provide the full connection would be for the Route 2 bus to be extended to serve St. Johnsbury, which would require some rescheduling of the morning commuter services (probably adding an additional early departure from St. Johnsbury).

Service Connecting St. Johnsbury with Concord Coach Service in Littleton, New Hampshire: In the past RCT has offered service between St. Johnsbury and Littleton, New Hampshire on the "Kingdom Shopper", an infrequent shopper shuttle linking Island Pond and a number of other origins with the Walmart in Littleton. This service is not daily, and so would not be able to provide regular intercity connections to either of the two daily Concord Coach schedules that provide service to Boston. However, a single daily round-trip from Lyndonville to St. Johnsbury to Littleton could both take passengers to the 12:55 p.m. Concord Coach departure and pick up passengers from the 11:45 a.m. arrival. Seven day per week service, five service hours per day, would cost $105,850 at the estimated hourly RCT cost of $58 per service hour. This would provide intercity connectivity to an area of the state currently lacking any service, and would potentially feed passengers onto a service that New Hampshire is seeking to maintain. Again, the key question is the likely usage and demand for such a connection, particularly if the schedule does not serve any other potential markets such as commuters or shoppers. Schedules designed to service these other markets would require long waits for connecting intercity passengers, given the Concord Coach schedules. If such service is not currently feasible for these larger potential markets, it is not likely that a service geared to the intercity connection only would generate sufficient ridership.

Modify 89er Service into Hanover: 89er Service into Hanover would require an additional stop at the Hanover Inn and possibly at the Greyhound station to provide full connectivity. It was counted above as currently providing connectivity to the intercity network because of the proximity of the Maynard stop to the Hanover Inn, but ideally it would stop at the Hanover Inn.

Another Alternative: Common Facilities at the Hubs

Given that Burlington and White River Junction/Hanover are the locations in the State with the most intercity bus connections, they have been analyzed as potential hubs. However, as can be seen, many of the issues with regard to the increased use of regional services as intercity feeders result from the fact that the various intercity carriers and the regional public transit services do not serve common stops. This suggests that in the longer term it would make sense to develop common intermodal facilities that can service both the intercity carriers and the regional services—as well as the local services. An example of this exists in a current project in Hanover, New Hampshire. The multimodal facility in Hanover is intended to provide a major improvement in the connection point at the Hanover Inn that is currently used by Advance Transit, Dartmouth Coach, and some Greyhound services. Use of this stop by feeder services would allow for connections to a number of intercity services, as well as regional and local transit connections. A facility with a similar purpose would make sense for Burlington, though it would need to be supported by laws requiring all

intercity carriers to serve it, similar to Boston's requirements that limit intercity carrier pick-up and drop-off to South Station.

Improved Information: A Requirement

Improved user information is not an option or alternative, but should be a part of any program or policy response to the identified gaps in intercity connections. The amount of service revealed in Figures 5-2 and 5-3, and the availability of connections to the intercity service suggest that there is more potential service than is generally known and that users could make better use of the available services if the services and the connections to them were known.

Current local transit information does not provide much information about connections to intercity services. Only the GMCN Orange Line timetable really identifies schedule/stop location information for connecting to intercity bus services, and though the CRT Route 73 and 74 timetable does mention a "Vermont Transit" stop, it does not really make it clear that these services could be used to connect with Greyhound or Dartmouth Coach. None of the other local service timetables or internet information reviewed for this analysis makes any mention of the possibility of connecting to intercity bus services.

For persons coming into Vermont from outside the state, none of the intercity bus company information systems provide any mention of local transit connections. Megabus does not typically provide any information about local transit services, though the firm does generally try to pick stop locations that are near local public transit hubs. Greyhound's website will show connecting services that are provided by firms (or agencies) that have an interline agreement with Greyhound allowing through ticketing and shared stops. Currently none of the locally-provided services in Vermont has such an arrangement, but in the future, connecting services could take advantage of this to ensure that inbound passengers know about all the potential destinations in Vermont and how they might be reached.

An information program at a minimum could include:

- Information on the local transit system sites about how to make intercity connections, including local or regional routes serving intercity bus service points. This would include schedules, stop locations for both modes, a link to the intercity carrier, and other information (amenities at the stop, hours, etc.)

- Use of the "Go Vermont" website to provide links to the intercity carriers serving the state, and to local system websites with the information about connections to intercity services. This page could provide a map and other

graphics to help make clear the type of service and the coverage, perhaps with links to local transit and intercity carrier websites for timetables.

- If regional transit services are modified, or if additional new intercity services are developed, these new services could be branded in a common way, with their own web pages on the VTrans website, on "Go Vermont", etc. In Washington State the "Travel Washington" rural intercity feeders share a common page on the Washington State Department of Transportation website, and each have their own website with route and schedule information, real time information about operations problems (if any), connecting services, stops, etc. Each route has its own identity, and different firms under contract operate them, but they share this common identity. Perhaps "Go Vermont" would share the brand with such services.

- Use of interline agreements for new services to ensure that inbound passengers can obtain information about connecting services from the intercity carrier websites.

- Press releases and other information to increase local consciousness of intercity connections. Local news stories about services and stops would help, particularly in cases where there are new or replacement services.

There are other possibilities. The Iowa Department of Transportation provides Section 5311(f) funding to Jefferson Lines, a private intercity carrier, to staff an 800 number that is equipped to provide information to riders about local transit connections to the intercity routes, and to help users put together trips that require multiple modes. This has been in operation for a number of years, but functions as a type of statewide intercity mobility manager. This function could conceivably be broadened to include more than just intercity connections, with a mobility management effort to include information about other specialized and transit services as well. Its institutional home need not be with a private carrier, but could be in some other agency—and it could benefit from other federal funding sources as well.

CONCLUSIONS REGARDING THE POTENTIAL FOR ENHANCED INTERCITY CONNECTIVITY WITH REGIONAL TRANSIT SERVICES

Given the likelihood that persons making intercity connections are likely to be a small market compared to the daily work trip commuters on these services, modifications to these services designed to provide intercity connectivity should be limited to incremental changes that do not involve creating delays for the larger number of non-intercity riders, and that require only low-cost incremental changes. Provision of

information about the available services and ways to connect to them would have a low incremental cost and not affect services. A designated stop in Burlington for LINK Express services that would allow connections to the Megabus stop near FAHC-MCHV, the taxi voucher option, slight route and timetable changes to the 89er in Hanover and the Route 2 Commuter all would make sense if they are feasible operationally. However, the improvement in access is limited because none of these services operate on Sunday, a prime intercity travel day, and because none of the commuter services can be dedicated to making a guaranteed connection with an intercity service. Therefore, passengers on a late bus from Boston or New York would still face the inconvenience that the last bus for Middlebury (or St. Johnsbury, or St Albans) may have already left (on schedule).

POTENTIAL NEW RURAL INTERCITY SERVICES

As can be seen in the above analysis, even taking into account the few current rural regional transit routes that could be considered as providing a meaningful connection to the national intercity bus network; there are still gaps in the service available. As noted in the needs assessment in Chapter 3**,** for the following towns the intercity trips listed[2] can be regarded as "infeasible" because of either excessive travel time or the number of required transfers:

- White River Junction (trip to Albany not feasible, rail trip to Boston not feasible)
- Middlebury (all trips not feasible by bus)
- Milton (all trips not feasible by bus)
- Rutland (all trips not feasible except Amtrak to Albany and New York)
- St. Johnsbury (all trips not feasible except to Boston and Manchester)
- St. Albans (all trips not feasible by bus)

None of these are addressed by the regional services that currently can be considered as providing a meaningful connection to the national network.

In addition, recent developments suggest that the analysis consider gaps that would exist if Greyhound abandons its White River Junction to New York route, which may happen if no action is taken by VTrans:

- Brattleboro (all trips not feasible by bus)

[2] The earlier analysis included Milton in the analysis as a separate Vermont trip origin because it met the population threshold. However, Milton is in close proximity to Burlington, and so it not included further in this analysis as a separate origin location—its residents are assumed to access the intercity network in Burlington.

This suggests that proposed new services should focus on options that would link these places to the intercity network to allow access to the key out-of-state destinations. It is possible that these proposed "new services" could be modifications or expansions of current regional services, or could be operated as new intercity "feeder" services.

In order to address these gaps providing improved linkages to as many of the key destinations as possible, the following routes/services are suggested for analysis in terms of potential ridership and costs:

- **White River Junction to Springfield (MA)** via Bellows Falls and Brattleboro—included because of potential service loss.

- **Rutland to White River Junction**—provides connection to national and regional intercity bus networks for service to Manchester, NH; Boston; and New York City.

- **Rutland to Burlington**—provides intercity connectivity from Rutland and Middlebury to Burlington for linkage to the national intercity bus network for services to Montreal, Boston, and New York City.

- **Albany (NY) to Burlington**—provides intercity connectivity from Bennington, Arlington, Manchester, Rutland and Middlebury to Albany and Burlington for national intercity bus connectivity to New York City (via Albany), to Montreal (via Burlington), to Manchester (NH), and to Boston.

- **Brattleboro to Nashua via Keene (NH)**—provides connectivity to regional commuter services to Boston and Logan Airport.

- **Brattleboro to Springfield (MA)**—a segment of the White River Junction to Springfield route, this could provide connectivity to Springfield and Hartford national intercity bus, rail and air service—as an alternative to the full route.

- **St. Johnsbury to White River Junction**—provides intercity connectivity to bus services to Manchester, NH; Boston; and New York City.

- **Newport to White River Junction** — provides intercity connectivity to bus services to Manchester, NH; Boston; and New York City.

- **St. Albans to Burlington**—provides intercity connectivity to national intercity bus services to New York City, Boston, Manchester (NH), and Montreal.

- **Albany (NY) to Manchester (NH) via Bennington, Brattleboro, Keene (NH)**—would provide intercity bus network connectivity to New York City (at Albany) and to Manchester (NH) and Boston (at Manchester).

- **Albany (NY) to White River Junction via Bennington, Manchester (VT), and Rutland**—would provide connectivity for those places to New York City (at both Albany and White River Junction), to Manchester (NH) and Boston at White River Junction.

These segments are shown in Figure 5-5. As can be seen, a number of these routes are segments of potential longer routes that are also included in the analysis. Also, some of the routes provide for connectivity within Vermont, linking towns with a one-seat ride that currently would require multiple transfers and extensive waits. In general, there are three areas of focus—linking the Route 7 corridor (primarily Rutland and Middlebury) to the national network and to Burlington; linking the I-91 corridor (various segments) to the national network; and east-west linkages across the southern part of the State.

The analysis begins with consideration of potential demand, and then addresses estimated costs, estimated revenue, the potential net deficit, and the relative performance of each route.

Potential Demand

The TCRP 147 rural intercity demand toolkit was used to estimate ridership for these routes. For each route the Toolkit CD was used following the directions on the CD. The population data for the corridor came from the CD, and the one-way route length for each route was obtained by using an internet-mapping program to plot the route with the existing or potential stops. The only other data required is information about whether the route would serve an airport with commercial service, and whether or not the route is or could be operated by a national intercity bus carrier. With the models used in the Toolkit, these differences affect the potential demand, and so they also provide options for consideration in the design of services. Services to Burlington were all assumed to serve an airport, because the Greyhound station is located at the airport. The "non-intercity bus operator" here means a provider that is not interlined the national intercity bus network, so it refers to services operated by local transit agencies that have separate fares, no interline agreements, and are not included in the internet and telephone information systems of national carriers.

Table 5-2 presents the results of this analysis, and Figure 5-6 provides a map depicting the relative demand. As be seen in the table, the regression model generally produced higher predictions of ridership, though in cases in which the proposed service would not be provided by a national intercity bus operator and would not serve an

Figure 5-5: Potential New Regional Bus Routes in Vermont

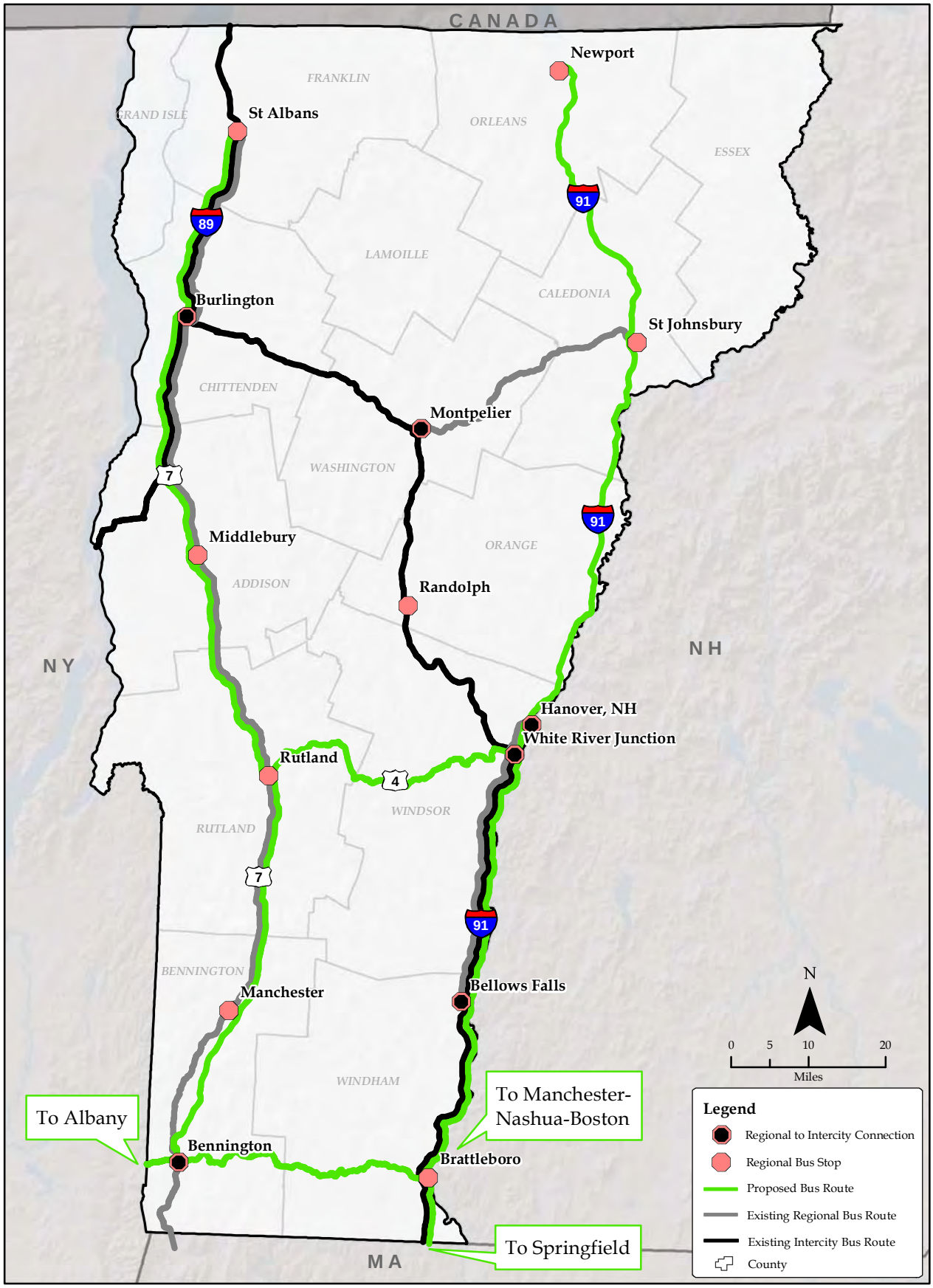
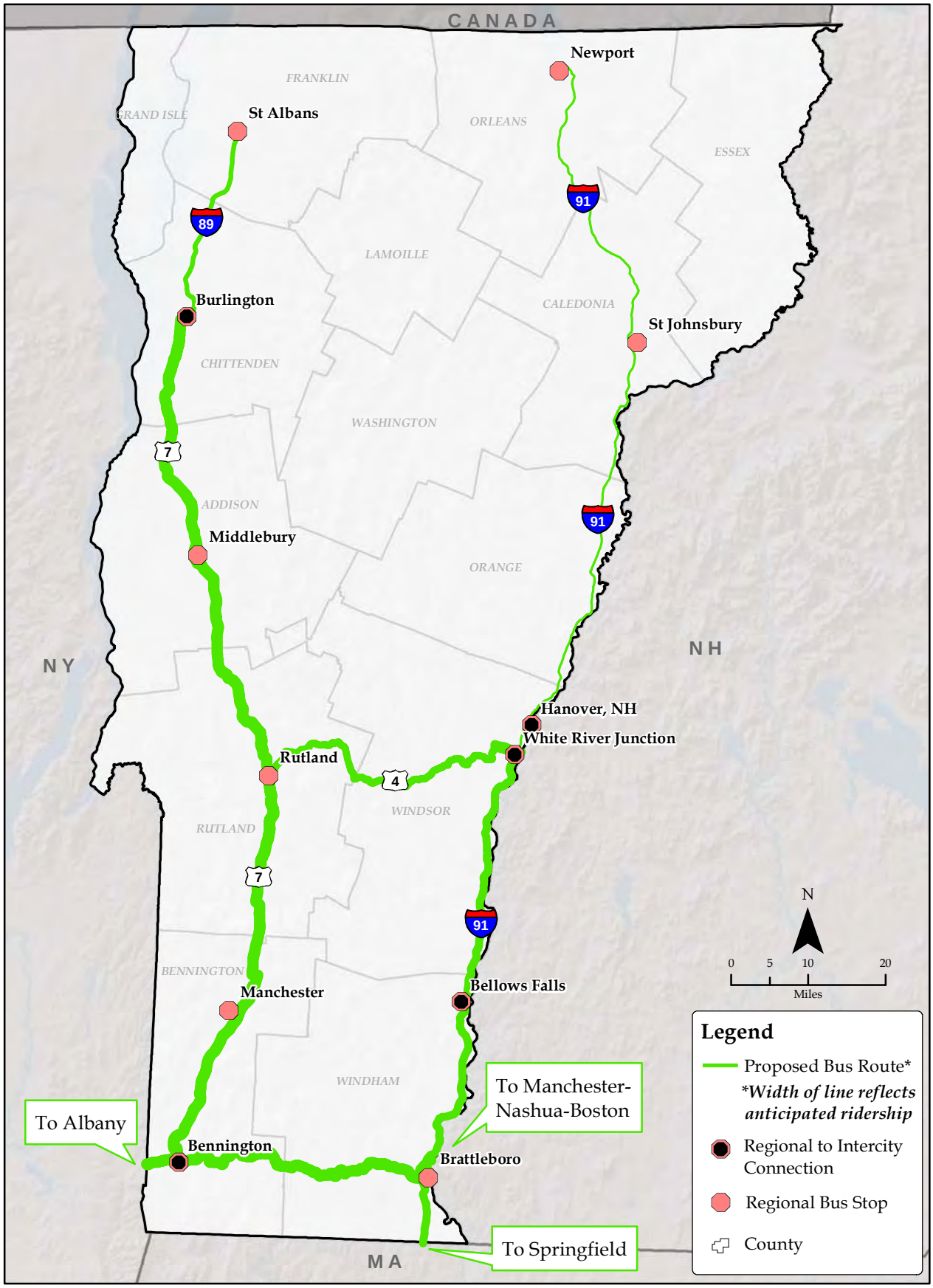


Table 5-2: Predicted Ridership for Vermont Intercity Corridors

Route Description	One-Way Distance (Miles)	Connection To	Serves Airport	Potential Operator	Estimated Ridership		
					Regression Model	Trip Rate Model	Average
White River Junction (VT) - Springfield (MA)	143	New York City (NYC)	No	National Intercity Carrier	8,200	3,800	6,000
			No	Non-Intercity Bus Operator	2,400	3,800	3,100
Rutland - White River Junction	51	Montreal, Boston, NYC	No	National Intercity Carrier	6,000	2,100	4,050
			No	Non-Intercity Bus Operator	200	2,100	1,150
Rutland - Burlington	68	Boston, Montreal	Yes	National Intercity Carrier	11,000	2,700	6,850
			Yes	Non-Intercity Bus Operator	5,200	2,700	3,950
Albany (NY) - Burlington	158	NYC, Montreal	Yes	National Intercity Carrier	11,700	3,700	7,700
			Yes	Non-Intercity Bus Operator	8,700	3,700	6,200
Brattleboro - Nashua (NH) - Boston (MA)	66	Boston	Yes	National Intercity Carrier	18,100	18,000	18,050
Brattleboro - Nashua (NH)	66		No	National Intercity Carrier	6,900	800	3,850
	66		No	Non-Intercity Bus Operator	1,100	800	950
Brattleboro - Springfield (MA)	59	NYC, Albany	Yes	National Intercity Carrier	12,700	4,800	8,750
			Yes	Non-Intercity Bus Operator	6,900	4,800	5,850
St. Johnsbury - White River Junction	60	Boston, NYC	No	National Intercity Carrier	4,600	600	2,600
			No	Non-Intercity Bus Operator	0	600	300
Newport - White River Junction	102	Boston, NYC	No	National Intercity Carrier	5,900	2,400	4,150
			No	Non-Intercity Bus Operator	100	2,400	1,250
St. Albans - Burlington	29	Boston, NYC	Yes	National Intercity Carrier	10,500	1,700	6,100
			Yes	Non-Intercity Bus Operator	4,700	1,700	3,200
Albany (NY) - Brattleboro - Manchester (NH)	164	NYC, Boston	Yes	National Intercity Carrier	21,200	14,100	17,650
			No	Non-Intercity Bus Operator	15,400	14,100	14,750
Albany (NY) - Rutland - White River Junction	139	NYC, Boston	No	National Intercity Carrier	7,300	3,100	5,200
			No	Non-Intercity Bus Operator	100	2,400	1,250

Figure 5-6: Relative Demand on Proposed Routes



airport, low population corridors generally had regression predictions that are lower than the trip rate results. Only one of these corridors is currently in operation, the White River Junction to Springfield (MA) service operated by Greyhound. No ridership data is available, but based on the revenue per mile data provided by that firm, the estimated regression ridership appears to be slightly below the actual ridership, which could be considered as a very limited validation of the regression estimates, In general, however, it must be recalled that these are estimates with a fairly wide confidence interval. The models were calibrated on data from similar services, but local circumstances can easily cause a particular route to have ridership that is significantly different. However, applying the same Toolkit to all the corridors provides a consistent way of looking at the relative difference in potential ridership. Because of the significant differences between the regression and trip rate model results in many of the corridors, the demand estimates were averaged to provide a single demand number for use in the subsequent steps of the plan. This was done to be on the conservative side with regard to potential ridership. To help provide some context for these route level estimates, Table 5-3 presents estimated Vermont boardings for the two Amtrak trains serving the state.

Table 5-2 also illustrates some of the tradeoffs in service design, particularly the choice of operator and decisions about serving airports. The regression model in the toolkit reflects the fact that services provided by a national intercity bus carrier were generally found to have higher ridership, probably because of the fact that such services are fully interlined in terms of ticketing, and are included in the schedule information, telephone information, and websites of the carriers. This allows inbound passengers to know about the service and buy tickets, as well as outbound passengers, resulting in a higher ridership base. Unfortunately, the toolkit models do not provide for testing the impact of multiple frequencies, which would be quite useful in designing services.

For this analysis, the Toolkit was adjusted in some cases to evaluate particular situations that may affect potential ridership. For example, in the Burlington-Albany corridor the predicted ridership is 14,500 using the regression model. However, Megabus now operates express services from Burlington to New York City with a single stop just north of Albany. These services may have taken all the passengers from those routes that are destined for New York. The impact of such a scenario can be tested by eliminating Burlington from the model inputs. The model procedure already eliminates the population of the "destination" city, Albany, as it is the largest population city on the route. It is removed to reflect the fact that it likely already has substantial intercity service. To adjust the model result to reflect the potential impact of the Megabus service, the user can also drop Burlington so that the predicted ridership simply reflects the intermediate towns. In that case, the predicted regression ridership falls to 11,700, which we have used in the analysis, averaging it with the trip rate demand to come up with a single conservative estimate for each route.

Table 5-3: Vermont Amtrak Ridership

Ethan Allen	Jun 11	Jul 11	Aug 11	Sep 11	Oct 11	Nov 11	Dec 11	Jan 12	Feb 12	Mar 12	Apr 12	May 12	Annual Total
Castleton	113	138	139	139	98	161	185	126	115	120	176	155	**1,661**
Rutland	608	649	649	649	544	546	961	756	697	656	568	507	**7,788**
Grand Total	**721**	**787**	**788**	**788**	**641**	**706**	**1,146**	**882**	**812**	**776**	**744**	**662**	**9,449**

Vermonter	Jun 11	Jul 11	Aug 11	Sep 11	Oct 11	Nov 11	Dec 11	Jan 12	Feb 12	Mar 12	Apr 12	May 12	Annual Total
Bellows Falls	198	166	166	166	184	164	205	126	131	150	127	213	**1,994**
Brattleboro	638	677	677	677	887	637	785	558	590	779	538	684	**8,126**
Essex Junction	770	856	856	856	1,201	908	988	762	633	1,134	670	636	**10,266**
Montpelier	291	282	283	283	281	285	343	270	226	314	294	240	**3,389**
Randolph	74	76	76	76	72	90	77	77	58	96	78	66	**913**
St Albans	164	128	128	128	149	104	154	102	96	120	136	130	**1,537**
Waterbury	180	198	198	198	233	168	322	192	175	219	137	156	**2,375**
White River Junction	638	567	567	567	641	585	639	440	429	515	612	609	**6,806**
Windsor	13	34	34	34	44	55	48	23	27	28	30	40	**407**
Grand Total	**2,965**	**2,985**	**2,984**	**2,984**	**3,691**	**2,993**	**3,560**	**2,547**	**2,363**	**3,352**	**2,621**	**2,772**	**35,814**
Total Amtrak Ridership in Vermont (Boardings)													**45,264**

In developing services, the higher potential ridership and revenue is one reason to prefer a national carrier—at the same time, the higher operating costs of such firms may offset that advantage. For longer routes with high ridership, contracting with a firm that is part of the national intercity bus network may be necessary to provide the peak capacity, but for shorter routes the optimal solution may involve contracting with local carriers or public transit providers that have lower operating costs, but requiring them to be fully interlined with national networks to maximize ridership to and from the national network. If the ridership benefit from being part of the national network can be combined with lower costs, operating assistance requirements can be minimized. Similarly, the potential additional ridership that could result from serving an airport can be compared to the potential additional costs of such service in terms of time and miles (and airport access costs).

Estimated Operating Costs

Table 5-4 presents estimated operating costs for these same corridors. Because the operators are not known at this time, two sets of calculations were made for each corridor. For the national intercity carrier a rate of $4.25 per revenue bus mile was used for existing service, and $3.96 per mile for new services that would be operated using smaller buses provided under capital grants. The smaller buses generally allow for lower driver costs, and these assumptions were made based on data from other states. These figures were multiplied by the number of round-trip miles for the proposed service, with adjustments made if more than one round-trip per day is under consideration. National intercity bus services generally run 365 days per year, so that was used as the basis for cost estimates.

For the non-intercity bus carriers, $2.77 per mile was used. Generally, transit operator costs are available as a cost per hour, and in order to be conservative a cost of $100 per service hour was used as the basis for these operating costs. This was developed by taking the FY 2011 hourly operating cost of CCTA, and escalating it 4% per year for two years. To convert it to a mileage cost, the hourly cost was divided by 36 miles per hour, an assumed average speed based on the schedule times of current and previous intercity services in Vermont. Although non-intercity operators often operate only five days per week, intercity travel demands peak on Fridays and Sundays and intercity services generally operate 365 days per year so that level of service (365 days) was used for all cost estimates for comparability. It should be noted that, if implemented with five day per week service (or less), as intercity services the five days would need to include Fridays, Sundays, and holidays.

Revenue

Table 5-5 presents estimates of the potential revenue on the selected routes. It should be noted that the revenue estimates are more speculative even than the demand

Figure 5-4: Route Options for Burlington Connector Shuttle

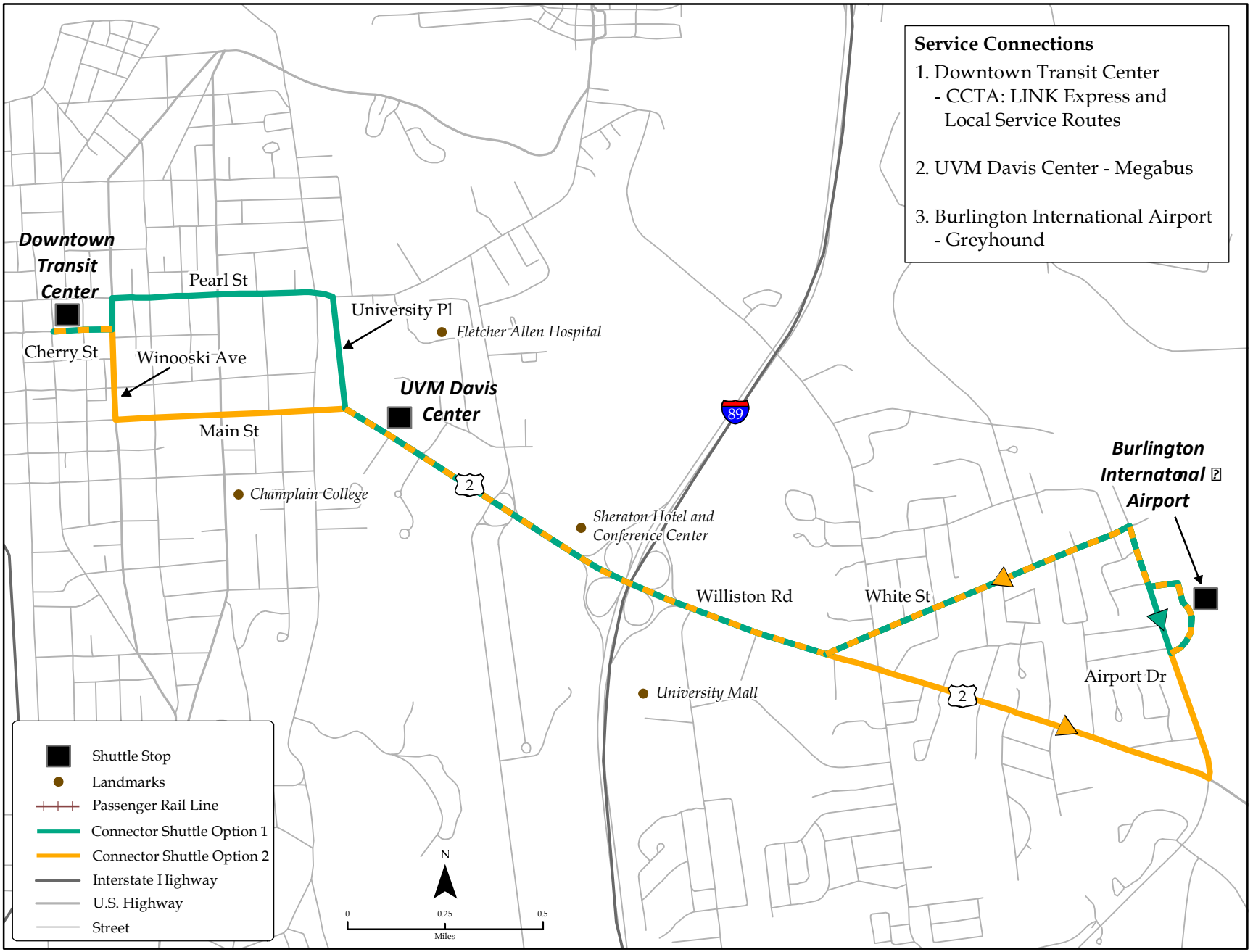


Table 5-5: Estimated Revenue by Route

Route Descriptiion	Potential Operator	One-Way Distance	Estimated Ridership (1)	Estimated Passenger-Miles (2)	Revenue per Passenger-Mile (3)	Estimated Revenue (4)
White River Junction (VT)-Springfield (MA)	National Intercity Carrier	143	6,000	686,400	0.235	$161,304
	Public Transit-non-interline	143	3,100	354,640	0.12	$42,557
Rutland-White River Junction	National Intercity Carrier	51.26	4,050	166,082	0.19	$31,556
	Public Transit-non-interline	51.26	1,150	47,159	0.12	$5,659
Rutland-Burlington	Public Transit-non-interline	68.35	3,950	215,986	0.12	$25,918
Albany-Burlington	National Intercity Carrier	158.18	7,700	974,389	0.19	$185,134
	Public Transit-non-interline	158.18	6,000	759,264	0.12	$91,112
Brattleboro-Nashua (NH)	National Intercity Carrier	66.35	3,850	204,358	0.19	$38,828
	Public Transit-non-interline	66.35	950	50,426	0.12	$6,051
Brattleboro-Springfield, MA	Public Transit-non-interline	59	5,850	276,120	0.12	$33,134
St.Johnsbury- White River Junction	Public Transit-non-interline	60	300	14,400	0.12	$1,728
Newport-White River Junction	Public Transit-non-interline	102	1,250	102,000	0.12	$12,240
St. Albans-Burlington	Public Transit-non-interline	28.5	3,200	72,960	0.12	$8,755
Albany-Manchester	National Intercity Carrier	164	17,650	2,315,680	0.19	$439,979
	Public Transit-non-interline	164	14,750	1,935,200	0.12	$232,224
Albany-Rutland-White River Junction	National Intercity Carrier	139	5,200	578,240	0.19	$109,866
	Public Transit-non-interline	139	1,250	139,000	0.12	$16,680

(1) Estimated Ridership taken from Table 5-2.

(2) Estimated Passenger-Miles developed by multiplying Estimated Ridership times One-Way Distance times .8 (to account for trips from intermediate stops).

(3) Revenue per Passenger-Mile is generally assumed to be $0.19 for national intercity bus type services, based on recent Greyhound applications, and $0.12 for local transit services based on the average of Vermont LINK Express regional commuter fares (for single-ride tickets).

(4) Estimated Revenue is Passenger-Miles times Revenue per Passenger-Mile.

estimates, because they involve an assumption regarding the average trip length of passengers on the particular route. Intercity bus fares vary with the trip distance, discount plans, and with the amount of time before the trip takes place—in contrast to transit fares that generally are per boarding, with discounts for passes or multi-ride tickets. Consequently, estimating intercity bus fares generally is done by using average revenue per passenger mile, times the actual or estimated passenger miles on a particular service. In this table, the intercity routes operated by private intercity carriers are assumed to have revenue per passenger mile of $0.19, based on company estimates used in recent grant applications. For the cases in which it is assumed that a public transit operator would provide the service, it is assumed that the service would not be interlined and the transit operator would have its own separate fares. To develop a fare per mile, the $4.00 per trip cash fare used on the LINK Express routes was divided by the one-way route length, with the resulting fare per mile ranging between $0.102 and $0.14, with an average of $0.12 per mile, which was used in the analysis. These rates have to be multiplied by an estimate of annual passenger miles to provide an annual revenue total.

However, the available demand model predicts ridership (boardings) rather than passenger miles, so passenger miles must be estimated by multiplying the ridership times some assumption about the average trip length on that route. For rural intercity routes, it is likely that the average number of passenger miles per boarding is close to the route length, because passengers are riding to the end of the route to make intercity connections. An example might be the proposed Rutland to White River Junction route—most of the boardings are anticipated to use the bus to ride the entire length of the route. There may be some Woodstock passengers who ride only to White River Junction (and back), producing fewer passenger miles, but based on the percentage of the trips originating in Woodstock in the trip rate demand model, this is a small proportion of the overall ridership.

Another way to check the passenger mile assumptions is to examine the one route for which there is actual data. The White River Junction to Springfield (MA), route has a reported average load of approximately 12 (calculated as passenger miles per bus mile), and annual revenue of approximately $275,000. If one takes the estimated demand from the regression model, assumes each of those passengers rides the entire 143 mile length of the route, and pays $0.235 per mile in fares, the resulting calculation results in an estimated average load of 11.23 and annual revenue of $275,561, which is very close to the reported performance of the route. Unfortunately, there is only this one route we can use to validate the assumption that the average trip length approximates the one-way route distance. Again, to be conservative and allow for the likelihood that some passengers will not ride the entire length of the route, for these estimates it has been assumed that the average trip length (on the route in question) is equal to 80% of the route length. To allow comparison among the routes this assumption has been applied to all routes in Table 5-5.

Net Operating Deficits

Table 5-6 brings together the analysis above for these proposed routes to present estimates of the net operating deficit for each route. The projected route level deficits range from $291,955 for the Albany-Bennington-Rutland-White River Junction route (if operated by a national carrier using its own vehicle capital), to a low of $34,112 if a national intercity carrier connected Albany with Manchester, New Hampshire via Bennington, Brattleboro, Keen and Nashua. It should be noted again that these are estimates based on a chain of assumptions, including the demand estimates and the assumptions about fare level and average trip length. Also, it should be noted that the deficits shown in this table are for the entire route, rather than being pro-rated to reflect only Vermont miles—so the interstate routes, if shared with another state, might well have lower projected operating costs for Vermont. That is one reason why Greyhound has projected Vermont deficit for the White River Junction to Springfield (MA) service is approximately $91,000 per year, rather than the amount shown in this table ($281,310). The other reasons for the difference are the use of assumptions in this analysis that are much more conservative than the existing conditions on this route.

These projections by themselves cannot be used to select routes—a critical next step is to look at the relative performance of each to determine which services are likely to deliver the most for the money.

ROUTE PERFORMANCE

Vermont uses a number of performance metrics in assessing the services provided by its public transit operators. Some of them do not fit long-distance commuter or intercity services well, because such services have relatively few boardings, but may have a larger load factor than more urban or rural services. The private intercity bus carriers typically focus on financial measures, particularly the overall revenue per mile as compared to the cost per mile. For unsubsidized private firms the goal is to have the average revenue per mile exceed the costs. This single measure reflects the fare level, the ridership, and the costs of a particular service. In Table 5-7, the projected routes are compared on three performance measures: revenue per mile, farebox recovery, and subsidy per passenger. Revenue per mile reflects the combined effects of ridership and fare level, and is an indicator of the potential value of the service. However, the cost side needs to be considered as well, and it is included in the farebox recovery measure. The farebox recovery for each route/operator type as it is essentially the same measure as that used by the private intercity firms. Determining an appropriate threshold level is to some extent arbitrary, but if a standard of 20% were applied, a number of the proposed services would not meet the test:

- White River Junction-Springfield (Massachusetts) operated by a non-interlined public transit operator, due to lower ridership and lower fare levels than for the national carrier,

- Rutland-White River Junction operated by a public transit operator—lower costs are offset by a low fare level and lower ridership with no interline traffic,

- Rutland-Burlington operated by a non-interline carrier, due to the lower predicted ridership and lower fare levels.

- Brattleboro-Nashua (NH) operated by a public transit operator, again the lower demand of small towns with no interline traffic and low fare levels results in a low farebox recovery,

- Brattleboro-Springfield (MA) operated by a public transit operator—again the lack of interline traffic and an assumed lower fare results in a low farebox recovery,

- St. Johnsbury-White River Junction operated by a public transit operator—has low demand to start with, and even with lower costs the farebox recovery is very low (note that this route also was tried as a new start previously, and had low ridership leading to cancellation),

- Newport-White River Junction operated by a non-interline carrier, due to a limited number of stops, low average population of the proposed stops, a lack of interline traffic, and lower fare revenue per mile,

- St. Albans-Burlington operated by a public transit operator is affected by the low fare level,

- Albany-Rutland-White River Junction operated by a non-interline carrier, primarily due to lower predicted ridership and lower fare revenue per mile.

Table 5-6: Net Operating Deficit by Route

Route Descriptiion	Potential Operator	One-Way Distance	Estimated Ridership (1)	Estimated Passenger-Miles (2)	Revenue per Passenger-Mile (3)	Estimated Revenue (4)	Annual Bus-Miles	Estimated Average Load (5)	Annual Operating Cost	Net Operating Deficit (6)
White River Junction (VT)-Springfield (MA)	National Intercity Carrier	143	6,000	686,400	0.235	$161,304	104,390	6.58	$ 442,614	$ 281,310
	Public Transit-non-interline	143	3,100	354,640	0.12	$42,557	104,390	3.40	$ 289,160	$ 246,603
Rutland-White River Junction	National Intercity Carrier	51	4,050	166,082	0.19	$31,556	37,420	4.44	$ 148,182	$ 116,627
	Public Transit-non-interline	51	1,150	47,159	0.12	$5,659	37,420	1.26	$ 103,653	$ 97,994
Rutland-Burlington	Public Transit-non-interline	68	3,950	215,986	0.12	$25,918	99,791	2.16	$ 138,211	$ 112,293
Albany-Burlington	National Intercity Carrier	158	7,700	974,389	0.19	$185,134	115,471	8.44	$ 457,267	$ 272,133
	Public Transit-non-interline	158	6,000	759,264	0.12	$91,112	115,471	6.58	$ 319,856	$ 228,744
Brattleboro-Nashua (NH)	National Intercity Carrier	66	3,850	204,358	0.19	$38,828	48,436	4.22	$ 191,805	$ 152,977
	Public Transit-non-interline	66	950	50,426	0.12	$6,051	96,871	0.52	$ 134,166	$ 128,115
Brattleboro-Springfield, MA	Public Transit-non-interline	59	5,850	276,120	0.12	$33,134	43,070	6.41	$ 119,304	$ 86,170
St.Johnsbury- White River Junction	Public Transit-non-interline	60	300	14,400	0.12	$1,728	43,800	0.33	$ 121,326	$ 119,598
Newport-White River Junction	Public Transit-non-interline	102	1,250	102,000	0.12	$12,240	74,460	1.37	$ 206,254	$ 194,014
St. Albans-Burlington	Public Transit-non-interline	29	3,200	72,960	0.12	$8,755	41,610	1.75	$ 160,416	$ 151,661
Albany-Manchester	National Intercity Carrier	164	17,650	2,315,680	0.19	$439,979	119,720	19.34	$ 474,091	$ 34,112
	Public Transit-non-interline	164	14,750	1,935,200	0.12	$232,224	119,720	16.16	$ 331,624	$ 99,400
Albany-Rutland-White River Junction	National Intercity Carrier	139	5,200	578,240	0.19	$109,866	101,470	5.70	$ 401,821	$ 291,955
	Public Transit-non-interline	139	1,250	139,000	0.12	$16,680	101,470	1.37	$ 281,072	$ 264,392

(1) Estimated Ridership taken from Table 5-2.

(2) Estimated Passenger-Miles developed by multiplying Estimated Ridership times One-Way Distance times .8 (to adjust for trips not covering the entire route).

(3) Revenue per Passenger-Mile is generally assumed to be $0.19 for national intercity bus type services, based on recent Greyhound applications, and $0.12 for local transit services based on the average of Vermont LINK Express regional commuter fares (for single-ride tickets).

(4) Estimated Revenue is Passenger-Miles times Revenue per Passenger-Mile.

(5) Estimated Average Load is Passenger-Miles (From Table 5-5) per Bus-Mile (from Table 5-4).

(6) Net Operating Deficit is Annual Operating Cost minus Estimated Revenue.

Table 5-7: Projected Performance by Route

Route Descriptiion	Potential Operator	Estimated Ridership (1)	Revenue per mile (2)	Estimated Farebox Recovery	Subsidy per Passenger
White River Junction (VT)-Springfield (MA)	National Intercity Carrier	6,000	$1.55	36%	$47
	Public Transit-non-interline	3,100	$0.41	15%	$80
Rutland-White River Junction	National Intercity Carrier	4,050	$0.84	21%	$29
	Public Transit-non-interline	1,150	$0.15	5%	$85
Rutland-Burlington	Public Transit-non-interline	3,950	$0.26	19%	$28
Albany-Burlington	National Intercity Carrier	7,700	$1.60	40%	$35
	Public Transit-non-interline	6,000	$0.79	28%	$38
Brattleboro-Nashua (NH)	National Intercity Carrier	3,850	$0.80	20%	$40
	Public Transit-non-interline	950	$0.06	5%	$135
Brattleboro-Springfield, MA	Public Transit-non-interline	5,850	$0.77	28%	$15
St.Johnsbury- White River Junction	Public Transit-non-interline	300	$0.04	1%	$399
Newport-White River Junction	Public Transit-non-interline	1,250	$0.16	6%	$155
St. Albans-Burlington	Public Transit-non-interline	3,200	$0.21	5%	$47
Albany-Manchester	National Intercity Carrier	17,650	$3.68	93%	$2
	Public Transit-non-interline	14,750	$1.94	70%	$7
Albany-Rutland-White River Junction	National Intercity Carrier	5,200	$1.08	27%	$56
	Public Transit-non-interline	1,250	$0.16	6%	$212

(1) Estimated Ridership taken from Table 5-2.

(2) Revenue per mile is Estimated Revenue (Table 5-5) divided by Bus-Miles (Table 5-3).

The other performance measure that is applied is the total subsidy per passenger boarding. While the numbers may appear to be high compared to transit numbers, it should be recalled that the trip lengths are much longer than the typical small urban transit trip, and that appropriate comparisons are intercity services such as the Amtrak rail passenger service or the Essential Air Service from Rutland to Boston. Setting the level for this performance measure is also arbitrary, but it might be thought of in terms of the cost of alternatives—if the cost per passenger for a rural intercity trip is greater than the cost of a taxi or shuttle for the same trip, then it might well make sense to provide some type of user-side subsidy for those services rather than provide the subsidized intercity bus service. An alternative benchmark might be the subsidy per passenger for the state-subsidized Amtrak services (approximately $55), if one considers an intercity trip to have comparable value whatever the mode. In any case, several of the proposed services have relatively high subsidy per passenger levels:

- White River Junction-Springfield (Massachusetts), operated by a non-interline public transit provider ($80 per boarding),
- Rutland-White River Junction, operated by a non-interline public transit provider ($85 per boarding),
- Brattleboro-Nashua operated by a non-interline public transit provider ($135 per boarding),
- St. Johnsbury-White River Junction operated by a non-interline public transit provider ($399 per boarding),
- Newport-White River Junction operated by a non-interline public transit provider ($155 per boarding), and
- Albany-Rutland-White River Junction operated by non-interline public transit provider ($212 per boarding).

All of the other projected services have an estimated subsidy per boarding under $60, with six under $30 per trip.

ALTERNATIVE STRATEGY: LOW-COST TRANSIT OPERATORS WITH INTERCITY CARRIER FARE AND DEMAND LEVELS

The performance evaluation highlights the impact on performance of lower predicted ridership and lower revenue per mile for non-interlined services. The

demand model used projects higher ridership for Section 5311(f) services operated by private national intercity carriers than for services operated separately by local transit systems. This model is calibrated on national experience, and it generally reflects the ability of the national carrier to use its brand name, national telephone information system, its agents/stations, and its website to produce higher ridership levels. Without these attributes, passengers who are traveling to a point served on the subsidized route (inbound traffic) would not know that it has service, and would not travel. In addition, the ability to fully connect with the national network often means that the fare revenue per mile is higher, producing more revenue. However, the national carriers also have higher operating costs reflecting unionized work forces and the use of expensive large over-the-road coaches. The analysis above suggests that if one can combine the low-costs with the higher demand and revenue levels of the national carrier, the subsidy requirements could be reduced.

This could be accomplished by having the subsidized services operate as part of the Greyhound Connect network, with full interline ticketing, shared station stops, inclusion in the Greyhound internet and telephone information services, and the Greyhound Connect branding. The basic idea is similar to that used in the airline industry, in which separate regional commuter airlines operate as if they are integrated with one of the major airlines in terms of branding, fares/ticketing, and scheduling. To the passenger the United Express carrier is the same as United Airlines, but in reality a separate lower cost carrier such as Mesa Airlines is providing the service. The major carrier benefits from the feed traffic (as would Greyhound), and the use of the lower cost carrier allows for service to smaller markets that would not be feasible at the higher cost levels of the major air carriers. Applying this same model to the bus industry means that the user would find Greyhound service on many of these routes if they checked Greyhound's website, but that the required Section 5311(f) subsidy would be lower due to the combination of the higher ridership/revenue and the lower operating costs. Greyhound benefits from the feed traffic to their trunk routes, and in turn supports the subsidized services by allowing use of the value of the capital on their unsubsidized routes as in-kind match.

Table 5-8 presents the most optimal circumstances in which the low-cost transit operator costs are combined with the higher revenue and ridership expectations of the intercity carriers for the potential Vermont routes. It should be noted that the cost levels used in this table assume that vehicle capital would be available for all services, and that to the user the low-cost transit operated service would have all the attributes of the national intercity carrier (except the use of smaller buses). As can be seen the farebox recovery and subsidy per passenger improves considerably for the services operated by the lower cost public transit operators under a fully-interlined arrangement. Regarding each of these routes:

- White River Junction-Springfield (MA) reflects the fact that this is an existing route with a relatively high revenue per mile, which could be combined with lower operating costs to minimize the operating deficit.

- Albany (NY)-Burlington was the best of the former Vermont Transit routes (which had three daily round-trips as recently as 2005). Even with changes to the estimated demand to reflect the loss of Burlington-New York ridership to Megabus, it appears that there is still enough demand to make this service a strong candidate. It addresses intra-state needs to connect many places in the State to its largest city as well. The estimated demand assumes that the service connects directly to both the Burlington and Albany airports.

- Albany (NY)-Manchester (NH) was proposed by Greyhound in a grant application to Vermont, and the projected ridership here is higher than Greyhound's estimates. The demand on this corridor is driven by the connection between Albany and points west to Manchester and its Boston services—much of the population on the route is outside Vermont. Vermont might want to consider participating in this route together with other states.

- Albany-Rutland-White River Junction also serves much of the same territory as Albany-Burlington, but it provides a new link from southwestern Vermont to services that continue to Boston.

Given the low projected deficit for the Rutland-White River Junction service, it may well be that combining that with the Albany-Burlington route would provide the greatest number of options to persons in that section of Vermont, at a combined net deficit of $206,819. An alternative strategy could be to operate the Albany-Rutland-White River Junction route, combined with the Rutland-Middlebury-Burlington service. Such a pairing would have a higher projected net deficit ($268,380). One other potential issue that could affect the cost levels is the projected average load on several of these routes. If the average is 7-10 passengers, it means that peak travel times could well have twice that amount. If the normal vehicle on the route is a 20-24 passenger vehicle, it is possible that peak demand could require double sections.

The dollar estimates provided in this table are estimates, and it may well be that the "low-cost" transit operators would experience higher costs if operating over longer distances, or that demand or revenue estimates are too optimistic. These factors will need to be considered in the development of a program.

Table 5-8: Estimated Net Operati5g Deficits and Performance Using Low-Cost Transit Operators Fully Interlined with Intercity Carriers

Route Descriptiion	Potential Operator	One-Way Distance	Estimated Ridership (1)	Estimated Passenger-Miles (2)	Revenue per Passenger-Mile (3)	Estimated Revenue (4)	Estimated Average Load (5)	Annual Operating Cost	Net Operating Deficit (6)	Revenue per mile (7)	Estimated Farebox Recovery	Subsidy per Passenger
White River Junction (VT)-Springfield (MA)	National Intercity Carrier	143	6,000	686,400	$0.24	$161,304	6.58	$ 442,614	$281,310	$1.55	36%	$46.88
	Public Transit-Fully interlined	143	6,000	686,400	$0.19	$130,416	6.58	$ 289,160	$158,744	$1.25	45%	$26.46
Rutland-White River Junction	National Intercity Carrier	51	4,050	166,082	$0.19	$31,556	4.44	$ 148,182	$116,627	$0.84	21%	$28.80
	Public Transit-Fully interlined	51	4,050	166,082	$0.19	$31,556	4.44	$ 103,653	$72,097	$0.84	30%	$17.80
Rutland-Burlington	Public Transit-Fully interlined	68	3,950	215,986	$0.19	$41,037	2.16	$ 138,211	$97,174	$0.41	30%	$24.60
Albany-Burlington	National Intercity Carrier	158	7,700	974,389	$0.19	$185,134	8.44	$ 457,267	$272,133	$1.60	40%	$35.34
	Public Transit-Fully interlined	158	7,700	974,389	$0.19	$185,134	8.44	$ 319,856	$134,722	$1.60	58%	$17.50
Brattleboro-Nashua (NH)	National Intercity Carrier	66	3,850	204,358	$0.19	$38,828	4.22	$ 191,805	$152,977	$0.80	20%	$39.73
	Public Transit-Fully interlined	66	3,850	204,358	$0.19	$38,828	2.11	$ 134,166	$95,338	$0.40	29%	$24.76
Brattleboro-Springfield, MA	Public Transit-Fully interlined	59	5,850	276,120	$0.19	$52,463	6.41	$ 119,304	$66,841	$1.22	44%	$11.43
St.Johnsbury- White River Junction	Public Transit-Fully interlined	60	300	14,400	$0.19	$2,736	0.33	$ 121,326	$118,590	$0.06	2%	$395.30
Newport-White River Junction	Public Transit-Fully interlined	102	1,250	102,000	$0.19	$19,380	1.37	$ 206,254	$186,874	$0.26	9%	$149.50
St. Albans-Burlington	Public Transit-Fully interlined	29	3,200	72,960	$0.19	$13,862	1.75	$ 160,416	$146,554	$0.33	9%	$45.80
Albany-Manchester	National Intercity Carrier	164	17,650	2,315,680	$0.19	$439,979	19.34	$ 474,091	$34,112	$3.68	93%	$1.93
	Public Transit-Fully interlined	164	17,650	2,315,680	$0.19	$439,979	19.34	$ 331,624	($108,355)	$3.68	133%	($6.14)
Albany-Rutland-White River Junction	National Intercity Carrier	139	5,200	578,240	$0.19	$109,866	5.70	$ 401,821	$291,955	$1.08	27%	$56.15
	Public Transit-Fully interlined	139	5,200	578,240	$0.19	$109,866	5.70	$ 281,072	$171,206	$1.08	39%	$32.92

(1) Estimated Ridership taken from Table 5-2 using only the higher demand associated with national intercity carriers.

(2) Estimated Passenger-Miles developed by multiplying Estimated Ridership times One-Way Distance times .8 (to account for trips covering less than the entire route).

(3) Revenue per Passenger-Mile is generally assumed to be $0.19 for national intercity bus type services, based on recent Greyhound applications--here all services use that fare level.

(4) Estimated Revenue is Passenger-Miles times Revenue per Passenger-Mile.

(5) Estimated Average Load is Passenger-Miles per Bus-Mile (from Table 5-3).

(6) Net Operating Deficit is Annual Operating Cost minus Estimated Revenue.

(7) Revenue per mile is Estimated Revenue divided by Bus-Miles.

PRIORITIZING AMONG PROPOSED SERVICES

The analysis in the previous technical memoranda provided data on the estimated performance of proposed intercity routes, but stopped short of a fuller prioritization analysis. One could simply rank the proposed services based on the performance measures, but there are other factors to be considered. In this section, a broader analysis is presented to assist in determining potential future program directions.

The prioritization methodology presented here is based on a comparison of rankings of four factors:

- **Existing Level of Service**: This factor is defined as a ranking from one to four, as follows:

  4 = No intercity or regional bus service at all along any of the route
  3= No direct service along entire route, some regional bus service along portions of the route
  2 = Regional bus service along the entire route, but requiring transfers
  1 = Direct daily service (bus only[3])

  The purpose of this ranking is to reflect that it might be a lower priority to implement a particular service if there is already some existing service in that corridor, and that an area with no intercity connection might merit service even if the proposed service is likely to perform less well.

- **Estimated Ridership:** The projected ridership of each service option is ranked, with high ridership receiving a higher score. This factor is essentially a measure of the magnitude of potential benefits. The development of these estimates is documented in earlier in this chapter. Ridership assumptions used are intended to provide a conservative estimate.

- **Subsidy Required:** in this case, the subsidy per boarding performance measure is ranked, with a low subsidy per passenger receiving a higher ranking. It is included as a measure of cost-effectiveness. The values for this performance measure were developed in this chapter. It should be noted again that the assumptions behind these values are intended to provide a conservative value that is consistent between the route alternatives.

[3] The analysis in Chapter 3 included Amtrak and air service from Rutland. However, this ranking does not include the availability of Amtrak or air service because the Section 5311(f) program cannot be used to fund such services, and Section 5311(f) is intended to provide connectivity to the national intercity bus network.

- **Trips Made Feasible:** Chapter 3 included an analysis of the number of trips from key Vermont origins to major out-of-state destinations that are currently not feasible because of excessive travel time or transfer requirements. This was used to define intercity need. In this ranking, each of the proposed services was evaluated to see how well it addressed these service gaps. Services that addressed more of the gaps were ranked higher. The ranking summary is presented in Appendix E.

Each of the factors can be weighted to reflect different values on these factors. One option is to weight them equally, each making up 25% of the total score, so that each has the same impact. Alternatively, each factor can receive a different weight reflecting differences in the relative importance.

Using these four factors, all of the proposed new intercity services from the previous technical memorandum have been ranked, based on the ridership estimates and cost per passenger for services provided by a regional provider that is assumed to have lower operating costs, but is fully interlined with a national intercity carrier. Tables 5-9, 5-10, 5-11, and 5-12 each present a different weighting option for the four factors.

Table 5-13 presents a summary of the four options, with the weighting for each and the impact on the relative scoring. Clearly, the weighting has some impact, but in general, the proposed routes that rank the highest do so under all four options. Changes in ranking generally are in the middle grouping, and those that rank poorly do so under all four options.

Given these results, it would appear that the Burlington-Middlebury-Rutland-Albany route should be considered as a prime candidate for re-introduction of intercity service.

The other high-ranking route, Albany-Bennington-Brattleboro-Keene (NH)-Nashua (NH)-Manchester (NH), scores highly largely on the strength of forecast ridership, much of which is due to the large populations on the New Hampshire end of the route. From a Vermont perspective, it does address the service need for connecting the southern end of the State to Manchester, New Hampshire, and to Boston-bound bus services (depending on the schedules). Only a portion of the route is in Vermont, and it does not link southern Vermont with the state's main population and activity centers. As can be seen in Appendix E, this route has a ranking of 3 (out of 5, with 1 being the best) in terms of addressing Vermont trips that are currently considered "not feasible", with four such connections made feasible. For these reasons, despite its high ranking, the most appropriate actions involve discussion with New Hampshire about potential joint support for such a route in the future.

As noted above, in the middle rankings the prioritization changes somewhat more in response to the different weighting schemes. Table 5-14 summarizes the impacts of the different weighting schemes by compiling an average ranking. Based upon the average score, the next priority would be Rutland-White River Junction. This is followed by Rutland-Burlington, which is a segment duplicating a portion of the highest ranked route, Burlington-Albany—if that route is funded; it would not make sense to also fund Rutland-Burlington.

Table 5-9: Prioritizing Proposed Intercity Routes in Vermont

Route	Other Communities Served	Existing Level of Service (LOS)	Existing LOS Ranking	Score Factor for Existing LOS Ranking	Estimated Ridership (1)	Ridership Ranking (low to high)	Score Factor for Estimated Ridership	Subsidy per Passenger (1)	Subsidy Rank	Score Factor for Subsidy Required per Passenger	Trips made feasible by route*	Feasible Creation Rank	Score Factor for Feasible Creation Rank	Total Score	Overall Need Rank
Burlington - Albany	Bennington, Rutland, Manchester, Middlebury	No Direct connection; sporadic regional service	3	*0.1*	7700	10	*0.2*	$17.50	9	*0.2*	8	5	*0.5*	6.6	1
Albany - Manchester (NH)	Bennington, Brattleboro	No Direct connection; sporadic regional service	3	*0.1*	17650	11	*0.2*	-$6.14	11	*0.2*	4	3	*0.5*	6.2	2
Rutland - Burlington	Middlebury	Regional service requiring one transfer	2	*0.1*	3950	5	*0.2*	$24.60	7	*0.2*	5	4	*0.5*	4.6	3
Rutland - WRJ	--	No direct connection	4	*0.1*	4050	6	*0.2*	$17.80	8	*0.2*	3	2	*0.5*	4.2	4
WRJ - Springfield (MA)	Bellows Falls, Brattleboro	Daily Amtrak service; Daily Greyhound service (possible	3	*0.1*	6000	9	*0.2*	$26.46	5	*0.2*	3	2	*0.5*	4.1	5
Albany - Rutland - WRJ	Bennington	Direct Amtrak service between Rutland and Albany; No direct connection b/w White River Junction and Rutland	3	*0.1*	5200	7	*0.2*	$32.92	4	*0.2*	4	3	*0.5*	4.0	6
Brattleboro - Springfield (MA)	--	National provider service via Greyhound	1	*0.1*	5850	8	*0.2*	$11.43	10	*0.2*	0	1	*0.5*	4.2	6
St Albans - Burlington	--	Local service via LINK Express	1	*0.1*	3200	3	*0.2*	$45.80	3	*0.2*	5	4	*0.5*	3.3	8
Brattleboro - Nashua	--	No direct connection	4	*0.1*	3850	4	*0.2*	$24.76	6	*0.2*	0	1	*0.5*	2.9	9
St Johnsbury - WRJ	--	No direct connection	4	*0.1*	300	1	*0.2*	$395.30	1	*0.2*	4	3	*0.5*	2.3	10
Newport - WRJ	St. Johnsbury	No direct connection	4	*0.1*	1250	2	*0.2*	$149.50	2	*0.2*	0	1	*0.5*	1.7	11

1. Projections based on fully interlined low-cost transit operators (Table 5-8).

Table 5-10: Prioritizing Proposed Intercity Routes in Vermont

Route	Other Communities Served	Existing Level of Service (LOS)	Existing LOS Ranking	Score Factor for Existing LOS Ranking	Estimated Ridership (1)	Ridership Ranking (low to high)	Score Factor for Estimated Ridership	Subsidy per Passenger (1)	Subsidy Rank	Score Factor for Subsidy Required per Passenger	Trips made feasible by route*	Feasible Creation Rank	Score Factor for Feasible Creation Rank	Total Score	Overall Need Rank
Burlington - Albany	Bennington, Rutland, Manchester, Middlebury	No Direct connection; sporadic regional service	3	*0.1*	7,700	10	*0.2*	$17.50	9	*0.3*	8	5	*0.4*	7.0	1
Albany - Manchester (NH)	Bennington, Brattleboro	No Direct connection; sporadic regional	3	*0.1*	17,650	11	*0.2*	-$6.14	11	*0.3*	4	3	*0.4*	7.0	1
Rutland - Burlington	Middlebury	Regional service requiring one transfer	2	*0.1*	3,950	5	*0.2*	$24.60	7	*0.3*	5	4	*0.4*	4.9	3
Brattleboro - Springfield (MA)	--	National provider service via Greyhound	1	*0.1*	5,850	8	*0.2*	$11.43	10	*0.3*	0	1	*0.4*	5.1	4
Rutland - WRJ	--	No direct connection	4	*0.1*	4,050	6	*0.2*	$17.80	8	*0.3*	3	2	*0.4*	4.8	4
WRJ - Springfield 9MA)	Bellows Falls, Brattleboro	Daily Amtrak service; Daily Greyhound service (possible deletion);	3	*0.1*	6,000	9	*0.2*	$26.46	5	*0.3*	3	2	*0.4*	4.4	6
Albany - Rutland - WRJ	Bennington	Direct Amtrak service between Rutland and Albany; No direct connection b/w White River Junction and Rutland	3	*0.1*	5,200	7	*0.2*	$32.92	4	*0.3*	4	3	*0.4*	4.1	7
Brattleboro - Nashua	--	No direct connection	4	*0.1*	3,850	4	*0.2*	$24.76	6	*0.3*	0	1	*0.4*	3.4	7
St Albans - Burlington	--	Local service via LINK Express	1	*0.1*	3,200	3	*0.2*	$45.80	3	*0.3*	5	4	*0.4*	3.2	9
St Johnsbury - WRJ	--	No direct connection	4	*0.1*	300	1	*0.2*	$395.30	1	*0.3*	4	3	*0.4*	2.1	10
Newport - WRJ	St. Johnsbury	No direct connection	4	*0.1*	1,250	2	*0.2*	$149.50	2	*0.3*	0	1	*0.4*	1.8	11

1. Projections based on fully interlined low-cost transit operators (Table 5-8).

Table 5-11: Prioritizing Proposed Intercity Routes in Vermont

Route	Other Communities Served	Existing Level of Service (LOS)	Existing LOS Ranking	Score Factor for Existing LOS Ranking	Estimated Ridership (1)	Ridership Ranking (low to high)	Score Factor for Estimated Ridership	Subsidy per Passenger (1)	Subsidy Rank	Score Factor for Subsidy Required per Passenger	Trips made Feasible by Route*	Feasible Creation Rank	Score Factor for Feasible Creation Rank	Total Score	Overall Need Rank
Manchester (NH) - Albany	Bennington, Brattleboro	No Direct connection; sporadic regional service	3	*0.2*	17,650	11	*0.4*	-$6.14	11	*0.2*	4	3	*0.2*	7.8	1
Burlington - Albany	Bennington, Rutland, Manchester, Middlebury	No Direct connection; sporadic regional service	3	*0.2*	7,700	10	*0.4*	$17.50	9	*0.2*	8	5	*0.2*	7.4	2
WRJ - Springfield (MA)	Bellows Falls, Brattleboro	Daily Amtrak service; Daily Greyhound service (possible deletion); sporatic regional service	3	*0.2*	6,000	9	*0.4*	$26.46	5	*0.2*	3	2	*0.2*	5.6	3
Brattleboro - Springfield (MA)	--	National provider service via Greyhound	1	*0.2*	5,850	8	*0.4*	$11.43	10	*0.2*	0	1	*0.2*	5.6	4
Rutland - WRJ	--	No direct connection	4	*0.2*	4,050	6	*0.4*	$17.80	8	*0.2*	3	2	*0.2*	5.2	5
Albany - Rutland - WRJ	Bennington	Direct Amtrak service between Rutland and Albany; No direct connection b/w White River Junction and Rutland	3	*0.2*	5,200	7	*0.4*	$32.92	4	*0.2*	4	3	*0.2*	4.8	6
Rutland - Burlington	Middlebury	Regional service requiring one transfer	2	*0.2*	3,950	5	*0.4*	$24.60	7	*0.2*	5	4	*0.2*	4.6	7
Brattleboro - Nashua	--	No direct connection	4	*0.2*	3,850	4	*0.4*	$24.76	6	*0.2*	0	1	*0.2*	3.8	8
St Albans - Burlington	--	Local service via LINK Express	1	*0.2*	3,200	3	*0.4*	$45.80	3	*0.2*	5	4	*0.2*	2.8	9
Newport - WRJ	St. Johnsbury	No direct connection	4	*0.2*	1,250	2	*0.4*	$149.50	2	*0.2*	0	1	*0.2*	2.2	10
St Johnsbury - WRJ	--	No direct connection	4	*0.2*	300	1	*0.4*	$395.30	1	*0.2*	4	3	*0.2*	2.0	11

1. Projections based on fully interlined low-cost transit operators (Table 5-8).

able 5-12: Prioritizing Proposed Intercity Routes in Vermon3															
Route	**Other Communities Served**	**Existing Level of Service (LOS)**	**Existing LOS Ranking**	**Score Factor for Existing LOS Ranking**	**Estimated Ridership (1)**	**Ridership Ranking (low to high)**	**Score Factor for Estimated Ridership**	**Subsidy per Passenger (1)**	**Subsidy Rank**	**Score Factor for Subsidy Required per Passenger**	**Trips Made Feasible by Route***	**Feasible Creation Rank**	**Score Factor for Feasible Creation Rank**	**Total Score**	**Overall Need Rank**
Burlington - Albany	Bennington, Rutland, Manchester, Middlebury	No Direct connection; sporadic regional service	3	*0.5*	7,700	10	*0.1*	$17.50	9	*0.1*	8	5	*0.3*	4.9	1
Albany - Manchester (NH)	Bennington, Brattleboro	No Direct connection; sporadic regional service	3	*0.5*	17,650	11	*0.1*	-$6.14	11	*0.1*	4	3	*0.3*	4.6	2
Rutland - WRJ	--	No direct connection	4	*0.5*	4,050	6	*0.1*	$17.80	8	*0.1*	3	2	*0.3*	4.0	3
Albany - Rutland - WRJ	Bennington	Direct Amtrak service between Rutland and Albany; No direct connection b/w White River Junction and Rutland	3	*0.5*	5,200	7	*0.1*	$32.92	4	*0.1*	4	3	*0.3*	3.5	4
WRJ - Springfield (MA)	Bellows Falls, Brattleboro	Daily Amtrak service; Daily Greyhound service (possible deletion); sporatic regional service	3	*0.5*	6,000	9	*0.1*	$26.46	5	*0.1*	3	2	*0.3*	3.5	4
Rutland - Burlington	Middlebury	Regional service requiring one transfer	2	*0.5*	3,950	5	*0.1*	$24.60	7	*0.1*	5	4	*0.3*	3.4	6
Brattleboro - Nashua	--	No direct connection	4	*0.5*	3,850	4	*0.1*	$24.76	6	*0.1*	0	1	*0.3*	3.3	7
St Johnsbury - WRJ	--	No direct connection	4	*0.5*	300	1	*0.1*	$395.30	1	*0.1*	4	3	*0.3*	3.1	8
Newport - WRJ	St. Johnsbury	No direct connection	4	*0.5*	1,250	2	*0.1*	$149.50	2	*0.1*	0	1	*0.3*	2.7	9
Brattleboro - Springfield	--	National provider service via Greyhound	1	*0.5*	5,850	8	*0.1*	$11.43	10	*0.1*	0	1	*0.3*	2.6	10
St Albans - Burlington	--	Local service via LINK Express	1	*0.5*	3,200	3	*0.1*	$45.80	3	*0.1*	5	4	*0.3*	2.3	11

1. Projections based on fully interlined low-cost transit operators (Table 5-8).

Table 5-13: Summary of Weighting Options

Score Factors	Option 1	Option 2	Option 3	Option 4
Existing LOS	10%	10%	20%	50%
Estimated Ridership	20%	20%	40%	10%
Subsidy Required	20%	30%	20%	10%
Trips Made Feasible	50%	40%	20%	30%
Rank				
1	**Burlington - Albany**	**Burlington - Albany**	**Albany - Manchester (NH)**	**Burlington - Albany**
2	**Albany - Manchester (NH)**	**Albany - Manchester (NH)**	**Burlington - Albany**	**Albany - Manchester (NH)**
3	**Rutland - Burlington**	**Rutland - Burlington**	**WRJ - Springfield**	**Rutland - WRJ**
4	**Rutland - WRJ**	**Brattleboro - Springfield (MA) (tie)**	**Brattleboro - Springfield**	**Albany - Rutland - WRJ (tie)**
5	**WRJ - Springfield (MA)**	**Rutland - WRJ (tie)**	**Rutland - WRJ**	**WRJ - Springfield (MA) (tie)**
6	**Albany - Rutland - WRJ (tie)**	**WRJ - Springfield**	**Albany - Rutland - WRJ**	**Rutland - Burlington**
7	**Brattleboro - Springfield (MA) (tie)**	**Albany - Rutland - WRJ**	**Rutland - Burlington**	**Brattleboro - Nashua**
8	**St Albans - Burlington**	**Brattleboro - Nashua**	**Brattleboro - Nashua**	**St Johnsbury - WRJ**
9	**Brattleboro - Nashua**	**St Albans - Burlington**	**St Albans - Burlington**	**Newport - WRJ**
10	**St Johnsbury - WRJ**	**St Johnsbury - WRJ**	**Newport - WRJ**	**Brattleboro - Springfield (MA)**
11	**Newport - WRJ**	**Newport - WRJ**	**St Johnsbury - WRJ**	**St Albans - Burlington**

The next priority is Brattleboro-Springfield (MA). This route ranks higher than the White River Junction-Springfield (MA) route. The Brattleboro-Springfield segment overlaps a portion of that route, but benefits in the ranking because it has lower costs due to the shorter route. The lower ranking of the White River Junction-Springfield (MA) route in this prioritization is based on projected ridership that is lower than what is actually experienced, and upon a lower operating cost from switching to a lower cost transit operator. It would not make sense to fund both of these routes, going forward.

The low-priority routes are generally low priority under each of the weighting options presented here. One, St. Albans to Burlington, reflects the availability of LINK Express service, but with only the one origin it has lower ridership than some other routes that serve more towns. However, it does address five "infeasible" trips, and so if intercity connectivity could be provided in a low-cost manner (improved connectivity to intercity services in Burlington, or having the Greyhound buses that pass through make a stop) it would make sense as part of an overall program. Newport and St. Johnsbury to White River Junction both are affected by low projected demand and the costs of a longer route. Daily intercity service is probably not the most appropriate service model for these markets, but a lower frequency service, or an on-demand service, might be considered as a way to address the lack of options for connectivity from this part of the State. The difficulty in designing such services comes from the desire of connecting intercity bus companies to be able to quote daily (or at least five-days per week) connecting service if they provide the value of their in-kind miles as the local match. Without that potential source, which is a limited resource itself, the local operating match required would have to come from another source.

Chapter 6

Policy, Program, and Program of Projects

This chapter provides recommendations for the development of a program to address the needs for rural intercity bus service in Vermont. Program approaches used in other states that have implemented Section 5311(f) programs are presented and assessed, and a modified version of the Section 5311 grant program is recommended for initial implementation. As a grant program, VTrans would solicit applications from potential providers, but it is recommended that the solicitation focus on specific program priorities, including the definition of particular services that have been identified in this study. These recommendations also provide additional direction regarding the role of VTrans in its intercity bus policy, the use of Section 5311(f) money, as well as specific guidance concerning details of Vermont's intercity program.

KEY POLICY ISSUES FOR VERMONT

No Certification – Vermont Has Unmet Rural Intercity Bus Needs

An initial policy question is probably the most fundamental, given the way in which the FTA Section 5311(f) program is structured, and that is whether or not there are unmet rural intercity bus needs. If there are, then the state cannot certify to FTA that it has no unmet needs.

Based on the findings of the needs assessment summarized in Chapter 3, and the consultation process documented in Chapter 4, Vermont has unmet rural intercity bus needs. This finding will assist VTrans in the development of statewide strategies to address the Intercity Bus needs. VTrans will utilize the 15% sub-allocation of its overall Section 5311 program funding for this purpose. It may be that in some years, the identified projects that are feasible to implement do not fully utilize the 15% allocation. In that case, the state may file a partial certification to allow use of the unexpended funds for other rural needs. However, FTA permits states to hold funds in a program reserve for up to three years. Many states do retain their Section 5311(f) funding for use in subsequent years when projects may be ready for implementation, or to deal with

unexpected changes in the unsubsidized intercity network that may need to be addressed. This strategy is recommended.

Considerations for Intercity Bus Program Process

VTrans should have a separate program for rural intercity service, with separate guidance and a unique application, rather than simply including rural intercity projects in with all other Section 5311 projects. If competition exists for available funding, then rural intercity projects may not receive full consideration for the following reasons:

- Lack of grant-writing skills: One reason is that rural intercity projects are likely to be proposed by private for-profit firms that are inexperienced at developing and articulating a project proposal.

- Lack of comparability in projects: A second factor is that intercity projects typically are very different from transit projects, in that they have few passengers (who make long trips)—scoring on the basis of the number of persons served will typically not favor the intercity project. Intercity projects may have higher potential farebox revenues than transit projects, as passenger fares are based on distance, but often this does not offset the perception that there are few riders compared to local transit. Also, intercity projects typically do not carry enough passengers to affect congestion levels.

- Local match may not be available: Also, the public transit programs are typically operated by or supported by local governments, with either the transit operator or the local government in the position of using tax revenues to provide the local match. Intercity projects proposed by a private for-profit operator currently lack a source of local match and political support, as the carrier is not likely to want to operate a loss-making service if only part of the loss is covered. So intercity projects may need to utilize the in-kind match provisions that are only available under Section 5311(f), which will be less confusing if included in a separate application process.

- Intercity projects may lack a sponsor: The current grant program offers funding and depends on local interests to develop competitive projects and to present them in the best possible light. There may well be intercity needs, but in the absence of a local government sponsor, no project will be developed, and no one will apply for funding to provide it.

Fundamentally, the reason that intercity projects do not fit well into a state public transportation grant program is that the jurisdictional level is not appropriate. State transit programs typically provide grant funding to local systems (subrecipients), while intercity routes may serve multiple jurisdictions, or even be interstate in nature. The experience in most states before federal deregulation of the ICB industry, was that non-local transportation was a federal and a state responsibility, regulated at the state and federal levels. Only federal- and state-level regulations could maintain unprofitable rural services by enforcing cross-subsidies and ensure that the public interest was met, and this is true for transportation programs to support non-local (intercity) transportation as well. The public transit programs, with the exception of Section 5311(f), are aimed at local or regional services. But the "locality" of concern for intercity services is effectively the state or multiple states. Recognizing this would require that the state become the grantee or applicant for intercity programs and the analogue of the transit authority in terms of managing the system and seeking funding. This does not mean that the state would need to take over all intercity services. Rather, the state would need to identify which services are not being provided by the marketplace and then use available funding to focus on these services. In recent years, different states have sought to achieve this through different means, either by modifying the grant program to give priority to proposals for services identified as priorities by the state, or by changing the role of the state entirely, making it the grant recipient that in turn contracts for operation of particular routes through a Request for Bids process. In the second approach, the state no longer depends on local sponsors or applicants to respond, but is seeking contract bids. The following section outlines these alternative models.

The State Role

There are a number of states that have used their Section 5311(f) funding to develop programs that are closely aligned with the stated federal goals for the program and conform well to the definitions and emphases found in the FTA guidance. These states utilize several different approaches, particularly in regard to the role of the state in defining the projects and providing a continuing state role.

Grant Solicitation with No Project Definition

One approach might be described as a version of the classic state role in managing a program that provides funding to a locality or sub-jurisdiction. The state defines the program purposes, eligibility, funding conditions, application procedures, reporting, etc. as the framework of the program, and presents that as an offer available to eligible parties. Localities, or eligible parties are free to define their own projects and activities within the guidelines of the program. The eligible parties apply to the state,

and if their application meets the criteria defined in the guidelines, the project is funded. If there is more demand for the funds than can be met with existing resources, the state may also have an evaluation process to select projects, or allocate funds by another means based on demographic or performance criteria. It is the applicant that determines local needs and defines a project or program to address the need. In the case of the rural intercity bus program, the applicant may be a private company (if eligible in a particular state), a private non-profit, or a public entity. The state role is relatively passive in the sense that it does not define where service should be provided, how much service, or what type of service—only that the sub-recipient meets all the guidelines, provides the service promised in the application, and complies with applicable federal and state regulations.

This model is typically used by states to manage the overall rural public transportation program under Section 5311. It is very appropriate where a significant portion of the funding is provided by the sub-recipient as match and where the program is intended to address local service. The difficulty in relying on it for the intercity bus program is that the state has no direct way of ensuring that any particular link or route is addressed. Or the state could receive an application to serve a key corridor, but only one and that from an operator that is likely unable to provide the service (based on track record, lack of compliance understanding, etc.). This scenario leaves the state with a choice of a problematic project or no service in that area. The benefit of the open application is that there may be an operator or locality that seeks to serve a previously unidentified valid need, or an innovative service. Having the projects defined by the state might well discourage such applications.

Grant Solicitation for Particular Projects

Some states have continued the approach of having an open grant application for rural intercity services, but specify to a greater extent in the solicitation that they are seeking service in a particular corridor, or even with certain characteristics. The grant application offers funding, spells out the program requirements, and then provides necessary background for an applicant to respond and address the particular service needs. Such service needs include maintaining service that would otherwise be discontinued, replacing a discontinued service, or intercity needs identified through a state or regional planning process. The advantage of using a grant, rather than issuing a request for bids, is that it gives the state more latitude in choosing among competing applications. The state can select one that it feels best meets the overall needs of the project, rather than being forced to select a particular bid because it is lowest in cost. It also allows for more flexibility in the responses. As an example, the state can ask for daily service in a particular corridor, specifying key stops—but leave it open for applicants to propose the timetable, the connections, the type of vehicle, etc. Finally, in

many states a grant solicitation process is much easier to conduct than a procurement, which would be the alternative way to define the projects.

The Colorado program exemplifies this approach. In Colorado, responses to an open or undefined grant solicitation had resulted in two firms applying for funds to operate a service from Denver to the state border with Nebraska, continuing on to Omaha. This service had been dropped by Greyhound. However, Greyhound had also dropped service in the U.S. 50 corridor, east-west across the middle of the state, and a study had identified a need for service from Denver to central Colorado as a replacement. No firm had developed such a project, so the state issued a grant solicitation for service from Denver to Gunnison, setting some minimum characteristics regarding frequency and connectivity based on the study. A second solicitation was needed to attract an operator, and the service is now under way.

Similarly, a statewide intercity bus study identified a need to reinstitute service from Denver west to Salt Lake City on the U.S. 40 corridor, which was abandoned by Greyhound. Again, Colorado issued a grant solicitation for the specific corridor, ultimately rejecting all applications as exceeding the available budget. Through a cooperative effort with Utah, a second solicitation effort attracted a proposal that apparently meets the solicitation requirements. The corridor-by-corridor efforts require that the corridors have been identified and some parameters developed, linking the service levels to the available funding. This approach also requires a fair amount of staff time to administer, as each grant is in effect the startup of a new transit system.

The State as Grantee, Projects Operated Under Contract

The State of Washington has taken this approach to managing its Section 5311f program. A statewide needs assessment and policy study found several corridors that either already had rural intercity service funded by the state with Section 5311(f) funds, or were areas of unmet need. However, the state transit program had a single unified application process in which all transit applications were submitted and evaluated together, with the state then determining the appropriate funding for each selected project. The result was that rural intercity funding was being used to support a number of projects that were essentially rural or local in nature, largely because there were applicants supporting those projects. Yet links in the state intercity network were unserved because there was no locality willing to apply for these long routes serving many jurisdictions, and therefore no local match.

Another issue is that in some cases providers who did apply and receive funding were unable to meet financial and other compliance requirements. The study suggested that the appropriate level of jurisdiction for intercity services was the state, rather than

regions or localities. The state was identified as the grantee for all Section 5311(f) funding, and it issued requests for bids to operate services on particular corridors with several specifications: the routing, general frequency and characteristics, and the requirements for connectivity with existing national network intercity bus services and other connections as secondary (airport or Amtrak). Marketing requirements were also included, along with reporting and compliance requirements.

The state has branded these services under its own "Travel Washington" logo, with each corridor identified by name as the "Grape Line," the "Dungeness Line," the "Apple Line," etc., reflecting a regional characteristic or product. Thus the subsidized route is not identified with the contractor, who could change over time. The vehicles are supplied by the state, required to stay with the route, and identified in terms of the route name and "Travel Washington."

The issue of local match was addressed by ensuring that the contracted services interline with a private unsubsidized service that can be used as in-kind match for the federal operating assistance (under the FTA Pilot Project regulations), in effect allowing the state to provide 100% federal operating funding for the contracts. With no local match funding, the available Section 5311(f) funding can only address a limited amount of service, and at the moment there are three funded corridors, with plans for developing a fourth. Putting this program through the state purchasing process to issue requests for bids, and following all the procurement processes took more time and effort than initially anticipated, particularly as combined with the use of a new funding/match program. This administrative and management effort has required a state transit program person as the designated Intercity Program Manager.

The major benefits of this approach come from the ability of the state to designate particular services as the subsidized part of the overall intercity network and to specify in greater detail the characteristics of the service. Branding the services and providing the capital allows for continuity of service, even if the contractors change. Use of the Pilot Project funding method eliminates the need for state or local funds for operating match. There are two major disadvantages: One arises from the possibility that some locality, region, or operator has an unmet need or service proposal that the state did not previously identify as part of its study, but may still be worthy of funding. The other disadvantage is the need to utilize the state government's procurement system to contract for services, which can add significant administrative time or impose requirements on contractor evaluation and selection, which might not be included in a grant selection process.

Combination Program: Accept Grant Applications/Issue Grant Solicitations for Particular Project

One state has addressed these issues by developing a program that has both types of roles. Oregon includes Section 5311(f) in an open application for a discretionary grant program that can be used by operators or local/regional areas to apply for funding for services that they are proposing. The state also has conducted a review of the overall network and identified a number of corridors that are unserved. The state has issued a Request for Proposals (RFP) to contract directly for service with defined characteristics on a number of such corridors in southern Oregon. In a general sense the discretionary program is aimed at public transit operators and not for-profit organizations, and the RFP is intended for private for-profit bidders, though in fact neither solicitation document limits the respondents. The discretionary grant program requires local match for the available federal funds, while the contract program provides the operator a reimbursement for losses, subject to disincentives if the farebox recovery falls below 24% and to incentives if the farebox recovery is between 30% and 100%. The contractor is not required to provide local match, but the Oregon Department of Transportation (ODOT) is using the Pilot Project method to provide for in-kind match for the reimbursement program. All contractors are required to interline with Greyhound and/or Amtrak.

This Oregon approach is an effort to provide the best of both worlds, allowing for local initiative (and funding), but using the state's perspective to identify and contract for services that fill gaps in the overall state network. The main disadvantage is the administrative time required at the state level to manage both a grant program and a contract program using a RFP. ODOT also has a full-time intercity program staff member.

Vermont Alternatives

In developing a Section 5311(f) program, Vermont has some similarity to Washington in that there are a limited number of corridors, there is currently no state match available, the likelihood of local cash match is limited, the in-kind match may be critical, and there are a number of regional operators that could be contractors. However, there is no history of VTrans contracting directly for operation of services, and the state's transit operators directly operate all of their own bus services (no local history of contract operators). The administrative time and effort to develop an Invitation for Bid (IFB) process (leading to a contract rather than a grant) within the state procurement process might well be prohibitive, and the available staffing at VTrans is more limited than that in Washington, or the contracted program in Oregon. VTrans is administratively able to conduct a discretionary grant program.

The discretionary grant program approach does offer the possibility that the state might not get applications for particular projects it has identified as desirable, or it might get applications that are for projects that are not rural intercity in nature, or are from applicants that do not meet state requirements. VTrans could include direction in the application calling for certain types of projects, either in terms of facilities or service in particular areas, and then favor appropriate responses with funding.

States with well-defined rural intercity programs generally have a specific policy, program, and application—sometimes quite different from the standard local transit programs. It is recommended that VTrans follow the Colorado approach, using a separate intercity solicitation process for service in specific corridors.

Section 5311(F) Funding and Match

As described in previous chapters, Section 5311(f) funding can be used for a number of eligible purposes, including operating assistance, capital (for vehicles, computers, facilities, etc.), marketing, and planning. For Vermont, the analysis in the study to this point suggests that operating assistance will need to be a priority to implement new or replacement service to areas of high need, which are currently unserved. Vehicle capital may also be needed to reduce the operating costs and provide infrastructure for new rural intercity bus services. New services should each also have a marketing component to the project, and it is recommended that the state consider statewide marketing of the entire network, including unsubsidized services as well as any new services.

Under the FTA program, the local match generally required for operating assistance projects is 50% of the net operating deficit, while that for capital, marketing and planning is 20%. Often private providers are willing to provide the 20%, particularly to obtain a vehicle. However, private firms generally have not been enthused about providing 50% of the net operating deficit themselves, as this means that they continue to lose money providing service under Section 5311(f)—but only half as much as they would lose otherwise.

The requirement for operating match can be addressed by using the in-kind funding method described in previous chapters. This involves redefining the project to include connecting unsubsidized service. Under SAFETEA-LU half of the value of the fully-allocated cost of the unsubsidized service can be used as local match, but under the 2012 MAP-21 reauthorization, it appears that the entire value of the fully-allocated operating cost can be counted as local match (though FTA has not issued regulatory guidance yet). The allowable value for a given project will depend on the fiscal year of the funds involved. With careful consideration of project design related to the

connectivity and the length of the involved segments, the operating deficit of the subsidized portion of the project can be funded with 100% federal operating assistance.

This option is of critical importance to Vermont, in that there is no state funding available for local match; there are relatively few local transit providers that have the potential to direct their local match toward projects that could be considered intercity in nature; and there is no authority provided to local governments to collect a dedicated tax for transit (as there is in Washington, for example). Consequently the likelihood of local cash match is low, and the need to rely on the in-kind match method is high.

Use of the in-kind match method necessitates that the unsubsidized connecting carrier, whose costs are counted as match, be included in the project as having agreed to provide these miles. This costs the carrier nothing, but it is their opportunity to make sure that the funded services actually provide a meaningful connection to their services. In Vermont, the amount of unsubsidized service available is limited to the Vermont miles on the four daily Greyhound round-trips between Montreal and Boston, and the mileage operated by Yankee Trails between the New York State line and Bennington. The Vermont mileage from the Canadian border to White River Junction is approximately 130 miles, and only two of those schedules operate during times that convenient connections in Vermont can be made. Megabus, the only other carrier in Vermont, has not shown any interest in participating projects requiring use of their in-kind miles, though Concord Coach in neighboring New Hampshire is providing in-kind match for some of its own services. To use the in-kind method alone (at least for projects funded under SAFETEA-LU) may result in a very limited program, focusing only on the highest priority services, or require Greyhound to count miles operating on connecting services in other states. The other option is to develop some kind of state policy regarding funding for intercity bus service in Vermont—perhaps enabling legislation allowing use of state funds for the non-federal portion of rural intercity projects.

These policy considerations, together with the available funding, lead us to the program policy described in the next section.

INTERCITY PROGRAM

The proposed Vermont Rural Intercity Program can be described in terms of the project priorities, the types of projects that are eligible, and the requirements for local participation (funding match). The program also will need an ongoing planning process, including a consultation process with the state's intercity transit providers and

the public (or agencies representing the public). All of these elements are presented below.

Potential Funding for Rural Intercity Bus Service

If one accepts the notion that a consultation process has found unmet needs and there is a need to have a rural intercity bus program, the next questions that arise are those related to funding. Vermont's Section 5311(f) 15% share of its overall Section 5311 allocation would be about $523,000, and there is always the issue of local match—as the operating ratios for this program are the same as Section 5311 generally, with a limit on the federal share of 50% of the net operating deficit. Fortunately, as a means of dealing with the local match requirements for intercity services, FTA formerly had an administrative program regulation (known as the Pilot Project) for Section 5311(f) that allowed for the use of the value of capital on unsubsidized intercity bus service that connected with rural intercity projects to be used as the local match for operating projects. This regulation was included in the MAP-21 transportation reauthorization statutes, and so will be available for the foreseeable future as a funding option. This was done by defining the project as having both a subsidized segment and an unsubsidized segment. Under MAP-21, bus-miles on the connecting unsubsidized segments can be valued at 100% of their fully-allocated cost, and then counted as in-kind operating match for the subsidized segment. With artful identification of project routes and services, it is thus possible to use the in-kind match to cover all or a large portion of the required operating match.

Project Priority

Based on the input to date, it would appear that the there are five priorities for Section 5311(f) projects. In order of priority, they are as follows:

- Operating assistance to maintain existing rural intercity services.

- Operating assistance for new rural intercity services that meet the definition, serve areas identified as having unmet need (based on the analysis in this study), score highly on the prioritization process presented in the previous chapter, have the potential to meet identified performance targets in terms of farebox recovery, and subsidy per passenger trip (which would allow some trading off of frequency, route length, and fare level), and/or serve areas that currently have no options.

- Marketing assistance for support of the intercity aspects of a statewide travel planner/information system (which would include all the intercity networks, not just rural).

- Vehicle capital funding for use on Section 5311(f) funded services as a first priority, and then for maintaining unsubsidized services that are potentially endangered. Given the limited amount of available Section 5311(f) funding, it is recommended that other vehicle capital funding sources, such as Congestion Mitigation and Air Quality Improvement (CMAQ), be used for this purpose.

- Capital for limited improvements to stops, including trailblazer and other signage, benches, shelters, or accessibility improvements. Again, given the limited amount of funding, other sources of funding should be considered to the extent possible.

Project Eligibility

Operating Assistance

Grantee. The VTrans Rural Intercity Bus Program will be the grantee for Section 5311(f) assistance and use this funding to conduct a separate rural intercity discretionary grant program for the provision of rural intercity services. Such services must meet the definition of intercity service and be identified as part of the state's network through the planning process.

Process. VTrans will monitor the state's intercity network (using the inventory in this study as a base) to determine the routes and services that are being provided by private carriers and need assistance if they are to be operated. For those services, an annual grant application solicitation will be issued requesting that qualified operators provide their qualifications, price, experience, and proposed service design for those services and corridors. The applications will be evaluated by a committee consisting of VTrans staff members and regional planning representatives. The applications will present the fully-allocated cost of providing the proposed service, in order to make proposals submitted by private for-profit, private non-profit, and public entities comparable. Fully-allocated costs include the pro rata share of administrative expenses and the full cost of the vehicle capital proposed for use, not including any capital subsidies. In other words, if a bidder proposes using vehicles obtained under another FTA program that has provided 80% of the cost of the vehicle, the proposal should reflect the entire cost of the vehicle. An applicant should clarify if they do not have vehicles to run the service in question, but would need a capital grant for equipment.

Operating grants would generally be for a one-year period, renewable for up to five years based on acceptable performance, though VTrans may wish to consider making this a two-year program to reduce the administrative costs involved and allow ridership growth before evaluating a project renewal.

Eligible Services and Service Design. In general, the services that will be implemented are limited to those that are identified as part of the state's intercity network, but are not served by existing intercity providers. As Section 5311(f) is the primary federal funding source, they will be services that are primarily designed to serve rural (non-urbanized) areas, though they will likely have to operate into terminals in urbanized areas to make interline connections. In general, these services will link places of over 5,000 in population (unless a stop at a smaller place can be made en route without deviating the service) that are located more than 25 miles from an existing intercity bus stop. The potential ridership on the service should be sufficient to permit a farebox recovery of at least 20% after an initial 18 months of service (to allow growth in ridership). In general, services should have the following characteristics:

- Fixed-route, fixed-schedule (except for designated Rural Intercity Feeders, which may be demand-response or route deviation services)
- Be able to carry baggage and bus package (which is an FTA requirement)
- Operate at least five days per week (at the recommended farebox recovery level) (except for designated rural intercity feeders, which may be demand-response or less than five day per week service)
- Provide for meaningful connections with the national intercity network through physical connections at common terminals, interline ticketing, provision of schedule information, and schedules that minimize connecting times (within 120 minutes before/after designated connecting services)
- Be accessible to persons with disabilities (as required by ADA)

VTrans will facilitate project design prior to the development of the grant solicitation for service by consulting with 1) unsubsidized carriers providing the connection to points outside the region, and 2) local stakeholders including representatives of local public transit systems, private non-profit transportation providers, likely traffic generators such as higher education institutions, correctional facilities, military bases, or major medical facilities, regional planning agencies, and local governments.

Eligible Rural Intercity Grant Applicant. A qualified grant applicant would be a firm or entity that has a project manager with experience in the operation and management of scheduled, regular route services. It should have Federal Motor Carrier Safety Administration (FMCSA) certification allowing interstate transportation of passengers for hire (a USDOT number), along with evidence that it currently meets FMCSA insurance coverage requirements for the types of vehicles proposed for use in the service. It should be able to meet FTA compliance requirements for Drug-Free Workplace, Drug and Alcohol testing, the ADA, and all other requirements of contractors on projects receiving federal funds. Unless there are specific reasons that would preclude it or make it unnecessary or inadvisable, the carrier should be a member of the National Bus Traffic Association (NBTA) and have interline ticketing arrangements, which would make it part of the national intercity bus network. Should an applicant not be an NBTA member or an interline partner, it may put forward its qualifications to do so if selected—the grant award could then be made contingent on a carrier meeting this qualification.

Operating Match. VTrans intends to make maximum use of the flexibility granted by the FTA to use third-party in-kind capital costs of connecting service as local operating match. Under FTA guidelines, this would require that the operator of the connecting service be agreeable to use the capital value of their operating miles as match. Applicants may therefore be required to 1) bid acknowledging that they do not have such an agreement with a connecting unsubsidized carrier, recognizing that the success of their application may be dependent on obtaining this agreement subsequent to selection, 2) present evidence that they have consulted with a connecting carrier and that they therefore will have this match, or 3) provide the in-kind match from their own unsubsidized routes.

It is possible that the need for match may exceed the available in-kind, or that VTrans may deem it necessary to establish a service on a route for which there is no agreeable connecting carrier. In that case VTrans will require local or state operating match in cash for the amount not funded under the in-kind program.

Capital Assistance

The VTrans rural intercity program may eventually provide capital funding for the purchase of vehicles; for eligible participation (depending on the project, the funding sources may vary) in publicly-owned intermodal passenger facilities; for equipment needed to improve accessibility for persons with disabilities; and for computers/terminals and other equipment needed to facilitate ticketing, information, and management. Capital funding is to be obtained with 80% federal and 20% local or carrier funding. Capital requirements will be identified during the project design phase

of operating contracts and annually through the intercity bus consultation process. For the initial operating projects Vtrans may require the operators to supply the vehicles in order to meet schedules or in the case that the available funding does not allow for both capital and operating grants. The capital portion of the intercity bus program may also be able to utilize other funding sources in addition to Section 5311(f), such as CMAQ.

In general, vehicle funding will be limited to vehicles needed to operate on services funded by VTrans if the operator does not have available, suitable vehicles. Vehicle specifications will be determined by VTrans in consultation with the successful grant applicant. VTrans will be the lien holder on the vehicle, providing it to the operator. Disposition arrangements will need to be predetermined, as carriers with an interest in the vehicle may want to retain a vehicle they have maintained. The vehicles will be painted and marked to show that they are provided by VTrans, using logos and the state's name, along with showing the carrier's name and any required regulatory markings. They shall be clearly identified as VTrans-funded buses, with state identification numbers visible from both sides and the rear. This is consistent with the Transit Statewide Marketing project, the Public Transit Policy Plan, and other aspects of GoVermont.

Funding for facilities could include funds for trailblazer signage, bus stops, benches or shelters, counters, seats, etc.—or the portion of an intermodal station or facility that is functionally related to the provision of rural intercity bus service. Capital funding is likely to be limited, and funding from the Section 5311(f) program will be used for facilities in rural areas (under 50,000) as a first priority, and then for facilities in urbanized areas only to the extent that such facilities can be demonstrated to serve routes originating in rural areas. In another approach to financing facilities, the VTrans program may seek local applicants for funding from other sources (such as CMAQ or the Bus and Bus Facilities programs), particularly in urbanized areas, to meet intermodal passenger facility needs within the state's intercity network. Local match could include state funds, local government funds, or carrier funds.

Capital for accessibility improvements could include expenses involved in making intercity bus passenger facilities in rural areas accessible (such as ramps, wider doors, restroom modifications), or the incremental cost of wheelchair lifts and associated equipment (extra doors, sliding seats, restraint systems, interlocks, etc.) on new buses (or as retrofits on existing intercity buses with an anticipated remaining service life of six years). Accessibility capital may be considered for vehicles that operate on the unsubsidized portion of the state's network, as long as they serve at least some rural stops and operate in the State of Vermont at least 50% of the time. Other potential capital projects include terminals/computers needed for interline ticketing,

communications equipment, signage, etc. Hardware needed to support the statewide travel information system could also be included in this part of the capital program.

Planning Assistance

Planning for the VTrans Rural Intercity Program will involve three key elements:

- Annual Consultation and Network/Plan Update: An annual consultation process and needs assessment that will develop priorities for the coming year and update the Statewide Intercity Network,

- Statewide Intercity Bus Plan Update: A more comprehensive statewide intercity bus needs assessment and policy plan to be conducted every four years, and

- The Statewide Traveler Information System: Support for traveler information that includes route, timetable, and station information for the intercity network, which should be part of the GoVermont website.

Annual Consultation and Network/Plan Update. The annual process will be conducted by VTrans and will involve identifying and contacting intercity carriers to ask: 1) what services they are providing in Vermont (schedules, routes, terminals); and 2) if they can identify existing or near-term future intercity needs that they cannot meet without some level of assistance (which they will be asked to identify or quantify). If there are any federal or state policy or funding changes that could impact the program, VTrans will identify them and discuss them during the consultation process. The unmet needs assessment by the providers could be based on requests for service, marketing surveys, etc. or on trends for existing service that could require assistance in the future. This information will be analyzed and used as a basis for additional projects or changes in the coming year. The results of the consultation will be documented by VTrans in terms of an updated Statewide Network and projects or changes needed, which would be reflected either in service changes included in contract renewals or in solicitation documents.

Statewide Intercity Bus Plan Update. The second planning effort will be more comprehensive and involve updating the Statewide Intercity Bus Plan. Expanding outreach to a more extensive stakeholder base, including local public transit operators, transit planners, regional transit planning organizations, local governments, and others, will be a key component. The Plan update will include needs identification from the Human Service Coordination Plans, Regional Transit Development Plans, and Regional Transportation Plans. Depending on the availability of updated Census information, it

may include updating statewide demographic needs. Key destinations for intercity services will be identified as well. A complete inventory of existing intercity services will be updated and used as a basis for modifying the Statewide Intercity Bus Network as needed. Changes in the policy and funding environment will be identified, and any revisions to the VTrans program policy will be included. Based on this complete reassessment, an updated program policy and four-year plan will be developed. This planning process will include the consultation with the intercity bus operators as well. Funding for consultant assistance to update the Statewide Intercity Bus Plan can be provided under the Section 5311(f) funding at an 80% federal share.

Statewide Traveler Information System. Whether this involves building and maintaining a VTrans website, or providing updated information to support market-based web information services, this function is key to making sure that the public knows of the availability of services in the Statewide Network. Funding for this information system could go toward placing all VTrans contracted services in *Russell's Guide*, the national intercity timetable guide; funding/technical assistance as needed to make sure that updated intercity network information is provided to Google transit or other websites; support for providing information to the state's 511 transportation information system; and at the very least, a map with linkages to carrier websites on the VTrans website. Funding should also be included under this element to make sure that there is a website with information on the contracted services with appropriate linkages.

Administration. There will undoubtedly be other staff functions for VTrans in managing this program:

- Project Development,
- Grant solicitation and application development, evaluation, and contracting,
- Technical assistance to applicants, operators, and other network providers,
- Compliance monitoring,
- Oversight of capital procurements,
- Monitoring capital—usage, maintenance, incidents, insurance, documentation, etc.
- Maintaining current network information,
- Outreach and on-going consultation, and documentation of this process,
- Coordination with other transit providers, and
- Coordination with other state/transit system/Amtrak programs.

These functions are analogous to the general grant management processes, but will likely require at least a half-time staff member, particularly during the initial year or two of the program and then periodically as the consultation and contracting

processes result in more significant program changes. VTrans could utilize the available Section 5311(f) administrative funding for these functions, but if possible it would be better to use the federal funds for program initiatives and to fund staff with state funds.

PROGRAM OF PROJECTS

Based on the program policy outlines above, the Vermont program will have operating assistance to maintain existing services and reinstate service in high-priority corridors as the key focus, with capital assistance to support the operating projects, and a marketing and information component to inform Vermonters about all the available options. All of these are eligible uses under Section 5311(f). The program for the near-term future includes the following projects.

Operating Assistance

Maintain Existing Service in the White River Junction to Springfield (MA) Corridor

In May of 2012, Greyhound Lines notified VTrans that it would discontinue all service between White River Junction and Springfield (MA), effective June 19, 2012 unless VTrans provided some level of support to cover Greyhound losses on the service. Greyhound also offered to work with an alternative replacement carrier if the state so chose. The affected services are shown on Greyhound Timetable 67, and include a daily southbound bus leaving White River Junction at 8:25 a.m., with stops in Bellows Falls at 9:05 a.m. and Brattleboro at 10:15 a.m., arriving in Springfield at 11:45 a.m. allowing a connection to a New York-bound Greyhound at 12:15 p.m. Northbound, this service leaves Springfield at 9:40 a.m., with Brattleboro served at 11:05 and Bellows Falls at 12:10 p.m., arriving in White River Junction at 12:50. The northbound bus meets a Greyhound schedule in White River Junction that leaves at 1:10 p.m., headed for Montpelier, Burlington, and Montreal (PQ). There is also state-supported Amtrak service in this corridor on the "Vermonter", which leaves White River Junction southbound at 11:05 a.m., about two and half hours after the Greyhound, and arrives in White River Junction northbound at 6:45 p.m., about six hours after the Greyhound schedule. Though they serve the same Vermont points, they are not on the same schedules, but could be seen as offering additional frequencies.

Based on the existing level of revenue, Greyhound offered to continue operating the service for $91,299 per year, which is the revenue shortfall on the Vermont miles on the route. Greyhound estimated the deficit per bus-mile at $1.635, multiplied by the annual Vermont miles of 55,840, to arrive at their estimated net deficit. Greyhound operates its own large over-the-road buses on the route, so the costs are fully-allocated

Table 6-1: Section 5311(f) Pilot Project Funding for Vermont Rural Intercity Service Between White River Junction and Springfield (MA) Using Greyhound In-Kind Miles as Local Match

	Annual				
	Cost	Revenue	Deficit	Farebox Recovery	Subsidy/Pass.
	$ 244,112	$ 152,813	$ 91,299	63%	$15.22
In-kind Capital Match Available	$ 220,022				
(Greyhound connecting service)			Excess Match		
			$ 128,723		

Project Description: Provides One Round-Trip Per Day to Connect White River Junction with Springfield, MA)
Connects with Greyhound Services in White River Junction and Springfield (MA Connecting schedules shown on attached table.

	Operating Costs		Operating Revenue		Operating Deficit
New Route:	Round Trip Miles	284	Average Load	12.22	$ 91,298.55
White River	Daily Trips	1	Annual Ridership (1)	6,000	
Junction to	Daily Miles	284	Vermont Pass-Miles	677,965.60	
Springfield (MA)	Vermont Daily Miles	152	Vermont Revenue	152,813.45	
	Operating Days	365			
	Annual Vermont Miles	55,480			
	Cost/Mile	$ 4.40			
	Total Cost	$ 244,112.00			

	Operating Costs		Eligible Match
Unsubsidized	Unsubsidized Miles (3)	205	Value of In-Kind Capital costs (50% of operating cost)
Connecting	Daily Trips	1	$ 220,022
Services:	Daily Miles	274	
White River Junctio	Operating Days	365	
to Montreal (Sched	Ann. Miles	100,010	
3533), Springfield	Cost/Mile (4)	$ 4.40	
to New York	Total Cost	$ 440,044	
(Schedule 2033)			

Notes:

(1) Ridership estimated based on average of TCRP Report 147 Regression and Trip Rate Models.
(2) Revenue estimated based on $0.19 per passenger- mile revenue, times passenger-miles.
(3) For purposes of determining the value of in-kind capital, only one trip per day of the Greyhound miles from White Rive Junction to Swanton (Canadian border) was used, and one trip from Springfield to New York City.
(4) Estimated at $4.25 per mile based on recent Greyhound reports.

and include both capital and operating costs. The local match for the current funding of this route is provided by using the value of capital (50%) on the unsubsidized connecting Greyhound service. Table 6-1 presents a calculation of the costs and match under the current arrangement with Greyhound, and Table 6-2 presents the connecting schedules that provide the in-kind match.

Table 6-2: In-Kind Connecting Service Used as Match for White River Junction to Springfield, MA

	Read Down		Read Up	
	Subsidized Segment	**Unsubsidized Segment (Match)**	**Subsidized Segment**	**Unsubsidized Segment (Match)**
Canadian Border				17:00
Burlington				15:05
Montpelier				14:05
White River Junction				13:10
White River Junction	8:25		12:50	
Bellows Falls	9:05		12:10	
Brattleboro	10:15		11:05	
Greenfield, MA	10:50		10:35	
Northampton, MA	11:20		10:05	
Springfield, MA	11:45		9:40	
Springfield, MA		12:15		
Hartford, CT		12:50		
Hartford, CT		13:00		
New York, NY		15:30		
Mileage:	143	144	143	130
Vermont Miles	76		76	

The rationale for funding this existing service included the desire to maintain the service until broader decisions could be made regarding the intercity bus program, to continue offering this alternative transportation resource in this corridor (as the loss of the service would leave Brattleboro and Bellows Falls with no intercity bus service at all (though the Vermonter rail service would continue)), and the desire to maintain the ridership and revenue levels until an alternative operator could be found. The thought was that if the revenue levels were maintained, a lower-cost regional provider using publicly-funded buses could continue the service in the future with a relatively low deficit for Vermont, providing this corridor with the additional frequencies and connections of the national bus network as well as the rail network.

Going forward, then, the proposed project is for continued operation of this corridor, using a regional provider, but operating a service that is fully-interlined with the national intercity bus network. It is anticipated that it will continue to use in-kind match provided by Greyhound, as it will connect and interline with Greyhound schedules in White River Junction and Springfield (MA). Table 6-3 presents an estimate of the costs, revenues, and deficits for this continuation, based on the current demand and revenue levels, the estimated costs of a regional provider, and the use of buses that are provided using federal and state capital funding. The costs of the buses are included in the section on capital assistance. In this table, it is also assumed that Vermont will pay the entire deficit on the route, rather than just the Vermont miles, which is a conservative assumption, but based on the reality that a regional provider will not be willing to take a significant loss on miles operated in New Hampshire and Massachusetts. At this point, neither state has shown a willingness to provide funding for this route, but it is recommended that Vermont contact these states regarding a joint project, as this service provides the only intercity bus connection for Keene (NH), and for Greenfield and Northampton (MA).

Because the current contract with Greyhound is scheduled to terminate in a year (presumably following the June 19 planned termination date), in order to avoid a gap in service VTrans will need to initiate solicitations to maintain this service immediately, along with the procurement process for the buses need to operate the service. This is with a goal of transitioning the service to the new provider in June of 2013 (or before).

New Stop in St. Albans

In the needs analysis the lack of intercity connections to and from St. Albans was noted. Until recently, St. Albans had intercity bus service, and even today there are four northbound and four southbound Greyhound services that pass by St. Albans on their route between Montreal and Boston. Based on preliminary discussions with Greyhound, the firm is willing to have buses stop in St. Albans if a suitable location can be found. The location should be close to the interstate highway interchange to minimize the delay to persons on the bus and the costs of serving the stop. In some cases a restaurant, store, hotel, or gas station/convenience store is willing to become a bus agent, selling tickets, handling bus package express, providing customer information, and a passenger waiting area. If VTrans and Greyhound are unable to find such a business in St. Albans, another option is to have the Greyhound buses stop at the park and ride lot.

This change should not require any additional operating costs—there may be a need for signage and/or a bench or shelter. It would be desirable if an entity in St. Albans took "ownership" of the job of finding and maintaining an intercity bus stop in that town.

Table 6-3: Example of Potential Section 5311(f) Pilot Project Funding for Vermont Rural Intercity Service Between White River Junction and Springfield (MA) Using Greyhound In-Kind Miles as Local Match

	Annual				
	Cost	Revenue	Deficit	Farebox Recovery	Subsidy/Pass.
	$ 289,160	$ 130,416	$ 158,744	45%	$26.46
In-kind Capital Match Available (Greyhound connecting service)	$ 212,521				
			Excess Match		
			$ 53,777		

Project Description: Provides One Round-Trip Per Day to Connect White River Junction with Springfield, MA)
Connects with Greyhound Services in White River Junction and Springfield (MA). Connecting schedules shown on attached table.

	Operating Costs		Operating Revenue		Operating Deficit
New Route:	Round Trip Miles	286	Daily Ridership	16.4	$ 158,744.30
White River	Daily Trips	1	Annual Ridership (1)	6,000	
Junction to	Daily Miles	286	Passenger-Miles	686,400.00	
Springfield (MA)	Operating Days	365	Annual Revenue	$ 130,416	
	Ann. Miles	104,390			
	Cost/Mile	$ 2.77			
	Total Cost	$ 289,160.30			

	Operating Costs		Eligible Match
Unsubsidized	Unsubsidized Miles (3)	205	Value of In-Kind Capital costs (50% of operating cost)
Connecting	Daily Trips	1	$ 212,521
Services:	Daily Miles	205	
White River Junction	Operating Days	365	
to Montreal (Sched	Ann. Miles	100,010	
3533), Springfield	Cost/Mile (4)	$ 4.25	
to New York	Total Cost	$ 425,043	
(Schedule 2033)			

Notes:

(1) Ridership estimated based on average of TCRP Report 147 Regression and Trip Rate Models.
(2) Fare estimated based on $0.19 per passenger- mile revenue, times passenger-miles.
(3) For purposes of determining the value of in-kind capital, only one trip per day of the Greyhound miles from White Rive Junction to Swanton (Canadian border) was used, and one trip from Springfield to New York City.
(4) Estimated at $4.25 per mile based on recent Greyhound reports.

New Service Burlington-Middlebury-Rutland-Bennington-Albany (NY)

This corridor scored highly in all of the prioritization options, shows good potential performance, and it addresses the need most often identified by participants in the consultation process. It was the best performing of the Vermont Transit routes that were discontinued in 2005-2006, and it addresses many of the trips identified as "infeasible" in the assessment of potential intercity trips, because it eliminates many of the transfers that would be required from the existing regional service in this corridor.0 The proposed service is one round-trip per day, using two buses, scheduled to meet the Greyhound requirements for use of the in-kind match (interline connections to/from Greyhound unsubsidized schedules within two hours at connecting stops), and to actually allow for users to connect to buses to/from Montreal and Boston (in Burlington), and to New York City (in Albany).

Table 6-4 presents a summary of the projected route costs and revenues, as developed in Chapter 5, assuming a $2.77 per mile operating cost operator, who is using buses that have been provided from public transit capital programs. The costs, revenues, and subsidy are calculated as if Vermont will need to pay for the New York miles as well, given that there is no agreement with New York and it is unlikely that a regional provider would absorb the losses on that portion of the route. The estimated net deficit for this service is $134,722.

As noted above, Vermont does not have long, frequent, unsubsidized intercity bus services operated by firms that are willing to allow the use of their routes to provide the value of in-kind capital. There are only the four daily round-trips operated by Greyhound between the Canadian border and White River Junction (130 miles one-way) on the Montreal-Boston route in Greyhound Table 62. One round-trip is essentially overnight, meaning that the opportunities to have a meaningful and convenient connection are limited. The remaining three round-trips generate 780 bus-miles per day, or 284,700 annual miles. This route uses one route, 94,900 miles; to generate the value of in-kind match required to allow federal funding of the net deficit on the subsidized segment from Burlington to Albany. Table 6-5 presents a schedule showing the connecting Greyhound unsubsidized service. The relevant connection location is Burlington. One southbound trip from Montreal to Boston is used as match (Schedule 3586), and the remaining match comes from using the northbound Schedule 3531 segment between White River Junction and Burlington, combined with the Schedule 3587 segment between Burlington and the Canadian border. The proposed timetable thus allows connections to the 1:30 p.m. southbound subsidized service both from Montreal and from White River Junction. At the other end of the route, passengers can change buses in Albany to an Adirondack Trailways schedule that terminates in New York City at 9:35 p.m. On the northbound service, a passenger can leave New York at 8:30 a.m. (Adirondack Trailways), arrive in Albany at noon, catch the

Table 6-4: Potential Section 5311(f) Pilot Project Funding for Vermont Rural Intercity Service from Burlington to Albany (NY)
Using Greyhound In-Kind Miles as Local Match

	Annual				
	Cost	Revenue	Deficit	Farebox Recovery	Subsidy/Pass.
	$ 319,856	$ 185,134	$ 134,722	58%	$17.50
In-kind Capital Match Available (Greyhound connecting service)	$ 201,663				

Excess Match
$ 66,941

Project Description: Provides One Round-Trip Per Day to Connect Burlington with Bennington (Albany)
Connects with Greyhound Services in Burlington, Albany. Connecting schedules shown on attached table.

	Operating Costs		Operating Revenue		Operating Deficit
New Route: Burlington to Bennington, to NY State line (Albany)	Round Trip Miles	316.36	Daily Ridership	21	$ 134,721.87
	Daily Trips	1	Annual Ridership	7,700	
	Daily Miles	316.36	Passenger-Miles	974,389.00	
	Operating Days	365	Annual Revenue	$ 185,134	
	Ann. Miles	115,471			
	Cost/Mile	$ 2.77			
	Total Cost	$ 319,855.78			

	Operating Costs		Eligible Match
Connection Greyhound Service: Swanton to White River Junction and return	Round Trip Miles	260	Value of In-Kind Capital costs (50% of operating cost)
	Daily Trips	1	$ 201,663
	Daily Miles	260	
	Operating Days	365	
	Ann. Miles	94,900	
	Cost/Mile (4)	$ 4.25	
	Total Cost	$ 403,325	

Notes:

(1) Ridership estimated based on average of TCRP Report 147 Regression and Trip Rate Models, with both Albany and Burlington populations deleted.
(2) Fare estimated based on $0.19 per passenger- mile revenue, times passenger-miles.
(3) For purposes of determining the value of in-kind capital, only one round-trip per day of the Greyhound miles from Swanton to White River Junction,Vermont, was used.
(4) Estimated at $4.25 per mile based on recent Greyhound reports.

northbound subsidized schedule at 12:30 p.m., and arrive in Burlington at 5:20 p.m., allowing a transfer to a northbound service to Montreal at 7:00 p.m., or a southbound bus headed for Montpelier and White River Junction (and eventually Boston), leaving Burlington at 6:45 p.m.

Table 6-5: In-Kind Connecting Service Used as Match for Burlington-Albany

	Read Down		Read Up	
	Subsidized Segment	Unsubsidized Segment (Match)	Subsidized Segment	Unsubsidized Segment (Match)
Canadian Border		11:15		21:00
Burlington		13:15		19:00
Burlington	13:30		17:20	
Middlebury	14:25		16:25	
Rutland	15:40		15:10	
Manchester Center	16:35		14:15	
Bennington	17:10		13:40	
Albany, NY	18:20		12:30	
Montpelier		14:45		11:45
White River Junction		15:40		9:20
Boston, MA		18:45		7:00
Mileage:		130		130
Vermont Miles		130		130

New Service between Rutland and White River Junction

A second new route proposed as part of the network is one round-trip per day to connect Rutland with White River Junction, offering connections to Greyhound services to/from Boston. This corridor was also identified in the prioritization, primarily addressing the goal of linking Rutland with White River Junction/Hanover/Lebanon; Manchester (including the airport); and Boston. The costs, ridership and revenue are based on one round-trip per day. Based on the old Vermont Transit schedules, the estimated trip time is an hour and fifteen minutes. Eastbound, the service would leave Rutland at approximately noon, arriving in White River Junction/Hanover at 1:15 p.m., in time to allow a passenger to catch a Boston-bound bus at 1:45 (even if two stops are needed). On the westbound return, the bus from Boston arrives in White River Junction at 12:40, so a passenger from that bus could board the Rutland bus at 1:15 p.m. and arrive in Rutland at approximately 3:30 (allowing use of the bus for other peak hour regional services). It should be noted that these schedules have been chosen to provide intercity connections and allow use of the in-kind match. Based on input from the

consultation process, there is also interest in Rutland in having a morning inbound bus to White River Junction, with an evening return, to service medical, shopping and other needs. If there is another funding source, such a service could be combined with this intercity link to meet even more mobility needs and provide improved regional connectivity.

The estimated costs, ridership, and revenues for this route are shown in Table 6-6, along with the in-kind match. The match is generated by using the entire southbound schedule 3538, 130 miles, one-way. The connecting northbound Greyhound schedule in Vermont is not used for in-kind match on this route, because it has already been used to support the Springfield (MA) to White River Junction service; however, there is adequate in-kind mileage to support this short route. Alternatively, if FTA policy permitted this service to be combined with the other services in the state's program, the in-kind overmatch available from the Burlington-Albany service might be used to support this route. Table 6-7 presents the schedule for the connecting services, and depicts those that are used for in-kind match.

New Intercity Rural Feeder between Newport, St. Johnsbury, and White River Junction

While the services described above serve greater populations, and are likely to have better performance than other tested routes, the Newport to White River corridor remains as a concern primarily because of the lack of any alternatives for connections into or out of the region. As seen in Chapter 5, if operated as a daily fixed-route, fixed-schedule service, the combination of limited demand and a long route result if a very high subsidy per passenger and low farebox recovery. This route was problematic for Greyhound and Vermont Transit for the same reasons, and was seen as likely to be abandoned even in the 1998 statewide intercity bus study.

However, the Section 5311(f) regulations permit funding to be used for "rural feeder services" that are not required to have the same characteristics as rural intercity services. They may be demand-responsive, with reservations required, and they may utilize other types of vehicles—but the purpose of the services must include the connection to the national intercity bus network. The existence of this sub-category allows for the development of an alternative option to serve Newport and St. Johnsbury—an intercity service that requires advance reservation, and only operates on days that passengers will need it to reach intercity bus services. As long as it provides for the bus connection, it may also be that it could serve as an intercity rail passenger connection, though some care might be required in applying subsidies from different sources depending on the mode to which the customer is connecting (i.e. bill the trip to Section 5311(f) if it is connecting to bus, to another source if it is connecting to rail).

Table 6-6: Vermont Section 5311(f) Pilot Project--Rural Intercity Service from Rutland to White River Junction Using Greyhound Miles as In-kind Match

	Annual Cost	Revenue	Deficit	Farebox Recovery	Subsidy/Pass.
	$ 103,127	$ 31,556	$ 71,571	31%	$17.67
In-kind Capital Match Available (Greyhound connecting service)	$ 100,831				

Excess Match
$ 29,260

Project Description: Provides One Round-Trip Per Day to Connect Rutland to White River Junction Connects with Greyhound Services in White River Junction.

	Operating Costs		Operating Revenue		Operating Deficit
New Route: Rutland-White River Junction	Round Trip Miles	102	Daily Ridership	11	$ 71,571.10
	Daily Trips	1	Annual Ridership (1)	4,050	
	Daily Miles	102	Fare (2)	7.79	
	Operating Days	365	Annual Revenue	$ 31,556	
	Ann. Miles	37,230			
	Cost/Mile	$ 2.77			
	Total Cost	$ 103,127.10			

Connection	Operating Costs		Eligible Match
Greyhound Service: Swanton to White River Junction (Sched 3538)-one way southbound	Round Trip Miles	130	Capital costs (50% of operating cost)
	Daily Trips	1	$ 100,831
	Daily Miles	130	
	Operating Days	365	
	Ann. Miles	47,450	
	Cost/Mile (4)	$ 4.25	
	Total Cost	$ 201,663	

Notes:

(1) Ridership estimated based on TCRP B-37 low trip rate estimate.
(2) Fare estimated based on $0.84 per mile revenue, divided by expected ridership.
(3) For purposes of determining the value of in-kind capital, only one round-trip per day of the Greyhound miles from Swanton to White River Junction,Vermont, was used.
(4) Estimated at $4.25 per mile based on recent Greyhound reports.

Table 6-7: Connecting Service and Service Used as In-Kind Match for White River Junction-Rutland

Eastbound-Rutland to White River Junction (Boston)

	Read Down	
	Subsidized Segment	**Unsubsidized Segment (Match)**
Canadian Border		8:30
Burlington		11:00
Burlington		11:30
Montpelier		12:15
White River Junction		13:10
Rutland	12:00	
Woodstock	12:55	
White River Junction	1:15	
White River Junction		13:45
Boston, MA		16:55
Mileage:		130
Vermont Miles		130

Westbound-(Boston) White River Junction to Rutland

	Read Down	
	Subsidized Segment	**Unsubsidized Segment (Connection)**
Boston, MA		10:00
White River Junction		12:40
White River Junction	1:15	
Woodstock	1:35	
Rutland	14:30	
Montpelier		12:00
Burlington		12:55
Canadian Border		1:15

Such services operate as Amtrak connections in some locations, for example the "Traincatcher" service operated by Greater Glens Falls Transit in New York state, which provides service to and from the Ethan Allen Express at Fort Edward, connecting the train to the entire Glens Falls region. The service must be scheduled two days in advance, uses a small cutaway type bus, and is demand-response from origin to the

train station or train station to customer destination. An alternative to the demand-response option would be a scheduled service, but scheduled at a limited frequency to provide cost-effective service to the limited demand—perhaps three days per week, including the peak intercity travel days of Friday and Sunday. There are a number of less-than-daily Section 5311(f) projects across the country, including some that operate from very low population areas long distances to connect to bus service, such as the three-day per week Section 5311(f) service operated by SageStage (Modoc County's rural transit provider) from Alturas (population 2,831) and Susanville (population 4,551), California to Reno (connects to Greyhound services), a route of182 miles (one-way).

A key issue for either low frequency or demand-responsive service is that Greyhound does not provide in-kind miles to support such service. Greyhound does not operate on a reservation basis, and is therefore unable to quote passengers connecting schedules for infrequent services or those that require a reservation. Greyhound does not want to be responsible for the passenger that disembarks a bus at their location on a Sunday, only to learn that the connecting regional service to their destination does not operate until Tuesday, or that it only operates with an advance reservation (for which two days' notice is required). Because it cannot make the through reservation and guarantee the connection, Greyhound cannot offer interline tickets, and therefore does not provide the in-kind miles. However with other funding, such service can be provided. Table 6-8 presents a potential cost, revenue, and funding scenario for service between Newport, St. Johnsbury, and White River Junction, assuming that this service would operate no more than three days per week, accommodating the demand projected in Chapter 5. Non-interline regional bus fares of $0.12 per passenger mile are assumed as well. As can be seen, the projected net deficit is $72,852, of which 50% ($36,426) would be eligible under Section 5311(f).

New Service: Albany (NY)-Bennington - Brattleboro-Keene (NH)-Nashua (NH)-Manchester (NH) - Boston

This route was suggested by Greyhound Lines in a submittal to VTrans in early 2012, in part as an alternative way to maintain service to Brattleboro and Keene should the north-south service be discontinued. It was included in the analysis of potential routes in Chapter 5, and its projected ridership and performance were surprisingly good, with the projections surpassing Greyhound's own estimates. However, closer examination suggests that the relatively high demand is largely driven by the higher population of the New Hampshire stops, particularly Nashua and Manchester. Some additional analysis suggests that the ridership of a route from Albany to Bennington, Brattleboro, Keene, Nashua, and then into Boston would be even better.

Table 6-8: Reservation/Less Than Daily Service from Newport/St. Johnsbury to White River Junction

Newport-White River Junction:		One-Way Miles
One-Way Miles		102
Round-Trip Miles		204
Annual Estimated Miles (3x/week)		31,824
Cost Per Mile		$2.77
Annual Cost	$	88,152
Estimated Annual Ridership		1,250
Estimated Annual Passenger-Miles		102,000
Fare per Passenger-Mile	$	0.12
Estimated Revenue		15,300
Net Deficit:	$	72,852
50% Federal (Section 5311(f)	$	36,426
50% Non-Federal Share	$	36,426

However, from a Vermont perspective this route may have a lower priority in the sense that it serves relatively low populations, and it does not connect them with other Vermont destinations. It would provide, however, for connections to Boston from the southern part of the state—which are available through connections to Williamstown, MA and the Peter Pan services—with multiple transfers. Another issue for Vermont is that this route would not have any connections to unsubsidized service in Vermont (except possibly the Bennington-Albany Yankee Trails service), so it would not be able to use the in-kind match option to pay much of the deficit. Table 6-9 presents an estimate of the costs and revenues, with Vermont paying the subsidy on the Vermont miles, after Greyhound miles between Manchester, NH and Boston are used as in-kind match.

Finally, because most of the proposed route is in New York, New Hampshire or Massachusetts, Vermont would face significant costs to benefit users elsewhere if it tried to fund the service on its own (without the in-kind miles or funding from the other states). For that reason it is recommended that Vermont initiate discussions with the other states to determine if there is interest in a potential joint Section 5311(f) project to create this service. Colorado has worked with both Utah and Kansas on joint interstate routes, and this might be a case in which joint action could create this service.

Table 6-9: Section 5311(f) Pilot Project Funding for Vermont Rural Intercity Service Between the New York state line and Brattleboro as part of a route from Albany, NY to Manchester, NH.
Using Greyhound In-Kind Miles as Local Match

	Annual				
	Cost	Revenue	Deficit	Farebox Recovery	Subsidy/Pass.
	$ 474,091	$ 439,979	$ 34,112	93%	$1.93
In-kind Capital Match Available (Greyhound connecting service)	$ 82,216				

Excess Match
$ 48,104

Project Description: Provides One Round-Trip Per Day to Connect Albany, NY with Manchester, NH (and Boston)
Connects with Greyhound Services in Albany, NY and Manchester, NH. Connecting schedules shown on attached table.

	Operating Costs			Operating Revenue			Operating Deficit	
New Route: Albany, NY to Manchester, NH	Round Trip Miles		328	Average Load		19.34	Total	$ 34,112
	Daily Trips		1	Annual Ridership (1)		17,650	Vermont Share	$10,400
	Daily Miles		328	Total Passenger-Miles		2,315,680		
	Vermont Daily Miles		100	Total Revenue	$	439,979		
	Operating Days		365	Vermont Pass-Miles		446,030		
	Annual Total Miles		119,720	Vermont Revenue	$	134,140		
	Annual Vermont Miles		36,500					
	Cost/Mile	$	3.96					
	Total Cost	$	474,091					
	Vermont Cost	$	144,540					

	Operating Costs			Eligible Match
Unsubsidized Connecting Services: Manchester, NH to Boston	Unsubsidized Miles (3)		106	Value of In-Kind Capital costs (50% of operating cost)
	Daily Trips		1	$ 82,216
	Daily Miles		106	
	Operating Days		365	
	Ann. Miles		38,690	
	Cost/Mile (4)	$	4.25	
	Total Cost	$	164,433	

Notes:

(1) Ridership estimated based on average of TCRP Report 147 Regression and Trip Rate Models.
(2) Revenue estimated based on $0.19 per passenger- mile revenue, times passenger-miles.
(3) For purposes of determining the value of in-kind capital, only one round trip per day of the Greyhound miles from Manchester, NH to Boston was used.
(4) Estimated at $4.25 per mile based on recent Greyhound reports.

CAPITAL REQUIREMENTS: VEHICLES AND OTHER CAPITAL

In the operating program elements outlined above, it has been assumed that the operators would be provided with vehicle capital for use on the proposed routes. It has further been assumed that the funding for these vehicles would be from a source such as CMAQ, with state funding provided for the local match. Table 6-10 presents a summary of the projected capital requirements by route, along with the estimated vehicle costs. In this table it has been assumed that the vehicles would be the smaller intercity cutaways, likely ordered from the Greyhound federally-compliant procurement used to purchase buses for Alabama and Maryland. These buses have intercity type seating, overhead baggage racks, a rear baggage locker area accessed from the rear of the bus, and they are wheelchair accessible. The unit price is $161,000 with seating, on-board communications equipment, and Wi-Fi, and that is the figure used in the table.

It should be noted that these buses do not have on-board restrooms, and the ride quality is not the same as a full-size intercity coach. Given the length of some of the proposed routes (particularly the Burlington-Albany service), it may well be that VTrans would solicit bid options from providers that could furnish restroom-equipped full-size coaches. FTA policy for turnkey contracted transit services has allowed for up to 80% of 50% of the fully-allocated cost of such services to be federal capital funds—it is not clear if CMAQ funding follows the same requirements. It should be noted that Greyhound also has an open federally-compliant (ARRA) procurement for full-size, ADA-equipped over-the-road coaches, but the unit cost is approximately $550,000. It should be noted that there is a significant difference in the projected lifespan of the smaller buses versus the larger ones, so there may be some advantage to the larger bus from that perspective, as well as its ability to meet peak holiday demand without adding coaches.

In addition to the coaches, a line item is included in the capital plan for ticketing equipment ($1,000 per previously unserved stop, or $6,000), and for a statewide trailblazer signage project that would require VTrans to mount signs on public highways directing the public to the designated intercity bus stop locations. For this purpose we are estimating an average cost of $500 per sign, five signs per existing and proposed stop location (five signs at $500 per sign times 12 locations), plus 12 larger interstate signs at $2,000 each, for a total of $54,000. The total non-vehicle capital is therefore estimated at $60,000 for the five-year period.

Table 6-10: Vermont Rural Intercity Capital Requirements by Project

Vehicles Project:	Vehicles Required	Estimated Unit Cost	Number Required	Total	Federal Share	Non-Federal Share
White River Junction-Springfield	Small Intercity Bus	150,000	3	$ 450,000	$ 360,000	$ 90,000
Burlington-Albany	Small Intercity Bus	150,000	3	$ 450,000	$ 360,000	$ 90,000
Rutland-White River Junction	Small Intercity Bus	150,000	1	$ 150,000	$ 120,000	$ 30,000
Newport-White River Junction	Cutaway	100,000	1	$ 100,000	$ 80,000	$ 20,000
Albany (NY)-Manchester (NH)	Full-Size OTRB	$475,000	2	$ 950,000	$ 760,000	$ 190,000
Other Capital:						
Ticketing Equipment, etc.				$6,000	$ 4,800	$ 1,200
Trailblazer Signage				$54,000	$ 43,200	$ 10,800
Total Program:				$ 2,160,000	$ 1,728,000	$ 432,000

Marketing and Information

One significant observation coming from the inventory of services is that Vermont actually has fairly good intercity service in its interstate corridors, but that these services are very difficult to see as a network because user information cannot be found in any one source. Each of the private carriers has its own information system: a telephone number with staff to answer questions, a website with schedules; and a website with ticket purchase capabilities. Virtually all of these are limited to the services provided by that carrier, with no information about possible connections or local transit availability. VTrans could begin to address this problem (both for intercity and local transit) by developing an on-line trip planner that would allow users to go onto a website and find information about all modes, including their connections, schedules, and fares, that would allow the user to compare alternative modes, carriers, or routes and make trip plans, and/or potential staffing to provide such information by phone.

From the perspective of the intercity program, the development of a trip-planning or information tool that allows the potential user to see all the services as a network is very important to the goal of maximizing mobility using the existing resources to the greatest extent possible. Potential users may call for the state to develop new transit services between particular cities or regions, but if there is already an unsubsidized carrier providing that service, the potential user needs to be able to find out how that service can be used to meet their mobility need. It is a very cost-effective strategy for VTrans to support the development of information systems as an alternative to replacing or duplicating existing services. Further, any new ridership directed to these services by a VTrans information system will aid in sustaining these services.

The funding requirements for such an information system are in flux, as is the organizational responsibility. Google has developed Google Transit, which has many of the trip planning features desired by VTrans plus the enormous advantage of entry from the overall Google website, and linkages to Google Maps. Apple may be moving in this direction as well, given their desire to not offer Google maps on their new products. Google Transit has been developed as an open system that provides a format for transit operators to upload their own routes, schedules and fares, and to update their own files—Google takes no responsibility for this data. This element of the program would provide funding for some entity to include enter intercity, regional, and local transit schedules in Google (or other formats) and submit them with the work scope to include updating to maintain them. The conversion of existing timetables and other information to upload involves significant staff time. In Japan, national transit information is available on the internet, and through advanced cell phones. There are

firms that capture the service information and format it for use by the information systems—data brokers, in effect. The funding included in this program plan for information systems could be used to fund a contractor to obtain, format, and upload information for all of Vermont's intercity carriers (Section 5311(f) or not), and to maintain that data by updating it to reflect schedule changes.

At a more basic level, funding is also included to simply ensure that service information about the Section 5311(f) funded services is available through the normal intercity bus information channels. This includes paying for inclusion in *Russell's Guide*, the national timetable, and perhaps for printing a statewide timetable that could also be made available on the VTrans and state tourism websites. As a policy, VTrans should seeking to have all the Section 5311(f) rural intercity grantees become members of the NBTA (the national intercity bus interline revenue clearinghouse) through a sponsoring member that is an interline partner.[1] This should result in schedule and service information provision through the major connecting carriers. For example, if the operator of the Rutland-White River Junction service is a Greyhound interline partner, information about that service should be included in Greyhound's national telephone and internet schedule information system—allowing a Greyhound customer in Boston, for example, to know that it is possible to reach Rutland by bus. As an interline partner, Greyhound could sell a ticket to or from Rutland as well, with the operator of the Rutland-White River Junction service able to obtain their pro rata share of the revenue. Greyhound does show schedule information and sells tickets for its own directly-operated Section 5311(f) services on its website under the "Greyhound Connect" brand. Although it has not happened elsewhere, Greyhound has indicated that it would be willing to include similar information and support for interlined services that it does not directly operate as part of the "Greyhound Connect" website, if the state would pay the additional costs of including the service on the website. This should be provided for each of the proposed Vermont services.

In addition, funding should be provided for more traditional marketing and promotion, particularly for the new services as they are introduced, and then to maintain their visibility. The Washington State "Travel Washington" model of individual corridor websites with links to the national carrier websites and the state DOT helps to make information visible, and these are updated with real-time information about delays or problems. A similar program in Vermont is recommended as part of the intercity marketing and promotion effort.

Without detailed scoping and costing of these efforts, we have included an overall information and programming funding amount of $100,000, which could be

[1] This may not be possible for rural feeder providers offering less than daily service.

funded 80% federal, 20% state. In-kind match cannot be used for anything but operating assistance, so this and the capital would require state funding.

PROGRAM SUMMARY

Table 6-11 presents a summary of the proposed program by project. The program has generally been developed under two sets of constraints, with the idea that if the federal and state transit programs remain as currently constituted and funded, the rural intercity services would be sustainable give the "constraints". For this program there are really two sets of constraints.

One is the amount of Section 5311(f) federal funding likely to be available to Vermont for this purpose. Under the latest federal transportation reauthorization bill, entitled "Moving Ahead for Progress in the 21st Century" or MAP-21, Vermont's overall Section 5311 allocation under the "Illustrative Apportionments" tables provided by the FTA is $3,484,622, and therefore the 15% rural intercity set-aside would be $522,693. These amounts may change as FTA provides more detail on allocations. Because each of the new service projects will take time to achieve projected ridership, the implementation has been phased to keep the full operating program below the full set-aside amount, as shown in Table 6-12.

The other constraint is the amount of potential in-kind match. Currently Greyhound is the only carrier willing to provide in-kind match miles, and Greyhound's unsubsidized service in Vermont is limited to the four daily round-trips between the Canadian border and White River Junction. The one-way distance for this route is about 130 miles, and in practical terms one round-trip is really not available for a "meaningful" connection because it operates through Vermont overnight. So, the three remaining round-trips combined could provide up to 284,700 miles, which has a potential match value of $604,988, if reasonably scheduled connections can be designed. The available value of in-kind match will increase to 100% of the operating cost when funds provided under MAP-21 are used, but as long as SAFETEA-LU funds are used, the value of unsubsidized miles will remain at 50%. The FTA guidance on the in-kind match does not limit a state to use only the in-kind miles generated in that state, but as a practical matter, a state should try to use the miles it has to avoid potential conflicts over double-counting miles in another state that it may use to match its own services. Greyhound keeps track of the miles it has used as match on a project-by-project basis, nationally, but there is no other central record. In this program, maximum use is made of Vermont miles, nevertheless miles from Springfield, MA to New York City are included to match the southbound White River Junction to Springfield service, and miles from Manchester, NH to Boston are used to match the Albany-Manchester

Table 6-11: Program Summary -- Assuming Vehicle Capital is Provided, Regional Provider Costs

Funding	Project: White River Junction-Springfield, MA (Entire Route)	Burlington-Albany, NY	Rutland-White River Junction	Newport-White River Juncton	Albany , NY Manchester, NH (1)	Totals
Operating Cost	$289,160	$319,856	$103,127	$88,152	$144,540	$944,835
Estimated Farebox	$130,416	$185,134	$31,556	$15,300	$134,140	$496,546
Net Deficit	$158,744	$134,722	$71,571	$72,852	$10,400	$448,289
Operating Assistance:						
Federal Share	$91,299	$134,722	$71,571	$36,426	$10,400	$344,418
In-Kind Match Available	$220,022	$201,663	$100,831	$0	$25,066	$547,582
Excess (Shortfall) In-Kind	$128,723	$66,941	$29,260	n/a	$14,666	$239,590
Other Local Match	$0	$0	$0	$36,426	$0	$36,426
Capital Assistance (2):						
Federal Share	$396,000	$396,000	$138,400	$89,600	$769,600	$1,789,600
Local Match	$99,000	$99,000	$34,600	$22,400	$192,400	$447,400
Planning and Marketing (3):						
Estimated Cost	$20,000	$20,000	$20,000	$20,000	$20,000	$100,000
Federal Share	$16,000	$16,000	$16,000	$16,000	$16,000	$80,000
Local Match	$4,000	$4,000	$4,000	$4,000	$4,000	$20,000
Performance:						
Projected Ridership	6,000	7,700	4,050	1,250	5,380	24,380
Projected Farebox Recovery	45%	58%	31%	17%	93%	53%
Projected Subsidy/Passenger	$26.46	$17.50	$17.67	$58.28	$1.93	$18.39

1) Amounts shown are allocations of Vermont share, based on percentage of total miles.

2) Capital assistance for each project includes vehicles and 20% share of non-vehicle capital costs of $60,000 statewide.

3) Planning and marketing includes 20% of statewide $100,000 total for each project.

Table 6-12: Projected Implementation Assuming Full Revenue is Not Achieved Until Year Three
(Assuming Vehicle Capital Provided, Regional Provider Costs of $2.77 per Bus-Mile)

Project	Year 1	Year 2	Year 3	Year 4	Year 5
White River Junction-Springfield, MA (1)					
Operating Cost	$ 289,160	$ 289,160	$ 289,160	$ 289,160	$ 289,160
Projected Farebox Revenue (2)	$ 130,416	$ 130,416	$ 130,416	$ 130,416	$ 130,416
Net Deficit	$ 158,744	$ 158,744	$ 158,744	$ 158,744	$ 158,744
Burlington-Albany, NY					
Operating Cost		$ 319,856	$ 319,856	$ 319,856	$ 319,856
Projected Farebox Revenue (1)		$ 61,711	$ 123,423	$ 185,134	$ 185,134
Net Deficit		$ 258,145	$ 196,433	$ 134,722	$ 134,722
Rutland-White River Junction					
Operating Cost	$ 103,127	$ 103,127	$ 103,127	$ 103,127	$ 103,127
Projected Farebox Revenue (1)	$ 10,519	$ 21,037	$ 31,556	$ 31,556	$ 31,556
Net Deficit	$ 92,608	$ 82,090	$ 71,571	$ 71,571	$ 71,571
Newport-White River Junction					
Operating Cost		$ 88,152	$ 88,152	$ 88,152	$ 88,152
Projected Farebox Revenue (1)		$ 5,100	$ 10,200	$ 15,300	$ 15,300
Net Deficit	$ -	$ 83,052	$ 77,952	$ 72,852	$ 72,852
Federal Share (at 50% of Net Deficit)	$ -	$ 41,526	$ 38,976	$ 36,426	$ 36,426
Albany, NY-Manchester, NH (3)					
Operating Cost			$ 144,540	$ 144,540	$ 144,540
Projected Farebox Revenue (1)			$ 44,713	$ 90,380	$ 134,140
Net Deficit	$ -	$ -	$ 99,827	$ 54,160	$ 10,400
Total Section 5311(f) Operating Funds	$ 251,352	$ 540,505	$ 565,551	$ 455,623	$ 411,863

1) Cost, farebox revenue, and net deficit shown are for the entire route. Under the current contract with Greyhound, Vermont funded the deficit only on the Vermont miles (53% of the total), while Greyhound supports the non-Vermont portion of the route. Based on current revenues (which are higher than projected), the net operating deficit for the current Greyhound service is $91,300 per year. Future operators may want Vermont to fund the entire route, as shown in the table.

2) Ridership and therefore farebox revenue is not projected to achieve forecast levels until the third year of operation. For the first year, it is assumed that the service will achieve one-third of the forecast revenue, the second year two thirds, with full revenue in the third year. Because White River Junction to Springfield (MA) is an existing route, it is assumed that it will be achieving projected revenue in the first year.

3) Figures are for the Vermont portion only, as it is unlikely that Vermont would fund this route without participation by other states.

proposal. It is possible that at some point in the future Vermont would be constrained in terms of miles available for match—at that point the White River Junction to Springfield service would be vulnerable because the state does already fund rail service in that corridor. Another possibility is that Megabus might at some point be willing to provide the value of in-kind miles as local match, though this would raise some questions about the degree of connectivity to the national intercity bus network as Megabus does not offer interline ticketing and in many cases does not serve the same stops as other intercity carriers.

SUMMARY

Recommendations

In this chapter a number of issues in the development of a rural intercity bus program have been presented and discussed. This section brings together the key recommendations:

- **Certification of No Unmet Rural Intercity Needs:** As discussed earlier, in the past VTrans has certified that there are no unmet intercity needs. Based on the analysis in this study and the consultation process, it is recommended that Vermont not certify that there are no unmet needs, and begin plan implementation using the Section 5311(f) set-aside of Vermont's overall Section 5311 apportionment, or an FTA-approved equivalent (for example CMAQ or other federal funds that can be transferred to Section 5311). Under the FTA guidance for this program, a partial certification may be used if the unmet needs can be addressed with less than the 15% set-aside, and it is recommended that Vermont retain the flexibility to use that option should conditions call for it as a means of maximizing the use of federal funds.

- **Implementation as a Grant Program:** The program should be run as a separate, new grant program using a grant solicitation, rather than as a contract procurement using a Request for Proposals (RFP).

- **Additional Staff Resources:** As noted previously, VTrans will need to devote additional staff resources to the implementation of this program. An additional .5 FTE (Full-Time Equivalent) is recommended to provide capacity in the Transit Section to administer the program.

- **Performance Standards and Compliance:** Performance standards for this program will be developed in three areas:

  - **Quantitative Performance Measures:** Standards for farebox recovery and subsidy cost per passenger trip are recommended to ensure that services are provided in a cost-effective manner.
  - **Federal and State Compliance:** Contract operators will be required to meet all Federal and State program requirements. Their applications should demonstrate their understanding of these requirements, and the contracts should provide mechanisms for addressing non-compliance, including termination for non-compliance.
  - **Service Quality:** In addition, it is recommended that VTrans develop and include standards for service quality, addressing factors such as on-time performance, missed trips, user complaints, incidents and accidents, vehicle heating and cooling failures, providing agreed upon station hours, etc. Reporting requirements will include these factors.

- **Separate Application:** Although a grant program, it will have its own unique application that reflects the focus on a particular kind of service in particular corridors, and the unique nature of the match mechanism.

- **Application will specify the Services to Be Funded:** The grant solicitation will specify the corridors and frequencies to be served.

- **Source of Non-Federal Operating Match:** In-kind miles match will be used to provide the local match for operating grants. It may be necessary in some cases for the State to provide actual cash match if the value of in-kind miles available is not adequate, or if a service is desired for which no carrier is willing to provide the in-kind miles match. Depending on VTrans grant policy and funding availability, it is possible that state enabling legislation may be required to allow the use of state funds for the non-federal portion of rural intercity projects (capital or operating).

- **Open Solicitation:** The grant solicitation will be open to all carriers or operators—public, private non-profit, private for-profit, in-state or out-of-state.

- **Qualifications of Applicants:** In addition to the general qualifications required of all applicants for FTA funding, applicants desiring to provide service under this program will have to meet some additional qualifications:
  - Grant applicants will need to have FMCSA certification.
  - Grant applicants will be responsible for obtaining a letter from Greyhound (or any other carrier that can provide the value of their unsubsidized service as match) in support of their application.

  - Grant applicants will need to be members of the NBTA (National Bus Traffic Association) to participate in interline ticketing with the nationwide intercity bus network. If not already a member, applicants will need to demonstrate their willingness and ability to become members if awarded the grant.
  - Grant applicants will need to specify the schedules and routes they intend to operate, and specify the schedules and routes of the unsubsidized connecting service that will provide the value of their in-kind match.

- **Vehicle Capital:** The initial solicitation should require providers to use their own equipment. Capital funding for equipment to be used on successful routes may be provided in future years, but because of funding limitations and timing the initial round of service implementation will not include capital funding for vehicles. In future years vehicle capital should also be included as an eligible program cost. Such vehicle capital should be provided on the funded routes as a means of reducing operating and maintenance costs. If VTrans provides vehicles using federal/state capital funding, the vehicles will be painted and marked to show that they are provided by VTrans along with the operator's name and any required regulatory markings. Markings will include any identification numbers required to facilitate state oversight including periodic inspection and review of maintenance (such as grant numbers, or state vehicle identification numbers).

- **Vehicle Branding**: Whether provided by the operator or through capital grants, vehicles to be used in the funded services will need to be marked or identified to inform users that they are part of the statewide network. If the value of Greyhound in-kind miles is being used as match, the operator would be expected to mark the vehicles as being part of the Greyhound Connect network. Similarly, if the value of in-kind miles from another carrier is used as match, it would be expected that the buses would carry identification informing the public of its network connections. In addition, Vermont should use logos or common branding on the buses to identify the services and support marketing efforts. Ideally the vehicles would all be painted with a common scheme and markings, but if a carrier provides the vehicle, the branding may be done with wraps or other supplemental decals or paint.

- **Use of Fully-Allocated Operating Costs:** For equity in comparing cost estimates, all applicants, both public and private, will be asked to use fully allocated cost.

- **Marketing:** VTrans will need to fund marketing efforts in support of the new routes, including changes to the VTrans website, GoVermont, development of a trip planner, and other marketing and promotional activities. A statewide information and marketing effort should address both the subsidized services and the unsubsidized services, as the intention is to create the perception for the user that this is a single network. Such efforts should also include the state's rail passenger services and the local public transit operators.

- **Stops and Agencies:** Applicants will be expected to identify the stops on their proposed routes, including arrangements for agencies or stations. It is recognized that not all rural stops will support a commission agent, but they will all need to be signed. Commission agents who can provide information, sell tickets, provide waiting room, and handle bus package express are recommended for all locations where it is financially feasible and quality representation (for the service and the provider) can be obtained.

- **Trailblazer Signage:** VTrans should initiate a trailblazer signage program to inform the public how to find intercity bus stops, both on the subsidized and on unsubsidized services. This effort should be coordinated with adjoining states to encourage them to sign stops in their states (or at least for our subsidized services.)

- **Eligibility for Capital Funding for Non-Vehicle Needs:** The Vermont program should also make capital funding for any computers or equipment needed for interline ticketing, communications equipment, other signage, and accessibility modifications to stops or facilities.

- **Planning:** Development and continuation of a rural intercity program will require ongoing planning, which can be funded under Section 5311(f), or may be funded as part of other state and regional planning efforts. Recommended elements of the planning process include:
  - The annual consultation process,
  - The Statewide Intercity Bus Plan update—at least every four years, which may be included in the Public Transit Policy Plan update, and
  - Data and support for the traveler information system.

Implementation Timeline for Vermont Rural Intercity Bus Program

Given the recommendation above that VTrans conduct separate (from the other Section 5311 program applications) solicitations for the intercity program, the timing and schedule for program initiation will likely be governed by the desire to maintain

the current White River Junction to Springfield (Massachusetts) service and implement the other new services as soon as possible. In subsequent solicitations the timing of activities will be coordinated with other VTrans Public Transit program activities to avoid existing peak program activity periods, and will be timed to coincide with the availability of funding.

The current agreement with Greyhound for funding of the White River Junction-Springfield service has an effective date of June 20, 2012, and an expiration date of December 31, 2012. It is recommended that this contract be extended until a solicitation and implementation can be conducted for it. Initially it was thought that the solicitation for the currently funded route would occur prior to that for the other routes, but given a desire to implement service as soon as possible, and to minimize the demands on staff and applicants, it makes sense to conduct a single solicitation process in which applicants can apply to provide one, some, or all of the services. This also has advantages in terms of marketing and other activities which can include all of the proposed first round services:

- White River Junction-Springfield (MA)—Continuation of existing funded service
- St. Albans—New stop on existing unfunded service
- Rutland—White River Junction—New service

The second round of services would include:

- Burlington—Middlebury—Rutland—Manchester—Bennington—Albany (NY)—New Service
- Newport—St. Johnsbury—White River Junction—New service

In a third round another route will be added:

- Albany (NY)—Bennington—Brattleboro—Keene (NH)—Nashua (NH)—Manchester (NH)/Boston (MA)

A proposed implementation schedule for the first year is presented below:

PTAC Consideration of Plan Document	December 2012
VTrans Program Decision	January 2013
Develop Initial Program Guidance/ Procedures and application	February 2013
Issue Solicitation	March 1, 2013
Pre-Bid Meeting	March 30, 2013

Table 6-13: Projected Implementation Assuming Full Revenue is Not Achieved Until Year Three
(Assumes Vehicles are Provided by the Operator, Operating Cost Inclusive of Vehicles is $3.20 per Bus-Mile)

Project	Year 1	Year 2	Year 3	Year 4	Year 5
White River Junction-Springfield, MA (1)					
Operating Cost	$ 334,048	$ 334,048	$ 334,048	$ 334,048	$ 334,048
Projected Farebox Revenue (2)	$ 130,416	$ 130,416	$ 130,416	$ 130,416	$ 130,416
Net Deficit	$ 203,632	$ 203,632	$ 203,632	$ 203,632	$ 203,632
Burlington-Albany, NY					
Operating Cost		$ 369,508	$ 369,508	$ 369,508	$ 369,508
Projected Farebox Revenue (3)		$ 61,711	$ 123,423	$ 185,134	$ 185,134
Net Deficit		$ 307,797	$ 246,085	$ 184,374	$ 184,374
Rutland-White River Junction					
Operating Cost	$ 119,136	$ 119,136	$ 119,136	$ 119,136	$ 119,136
Projected Farebox Revenue (3)	$ 10,519	$ 21,037	$ 31,556	$ 31,556	$ 31,556
Net Deficit	$ 108,617	$ 98,099	$ 87,580	$ 87,580	$ 87,580
Newport-White River Junction					
Operating Cost		$ 101,837	$ 101,837	$ 101,837	$ 101,837
Projected Farebox Revenue (3)		$ 5,100	$ 10,200	$ 15,300	$ 15,300
Net Deficit	$ -	$ 96,737	$ 91,637	$ 86,537	$ 86,537
Federal Share (at 50% of Net Deficit)	$ -	$ 48,369	$ 45,819	$ 43,269	$ 43,269
Albany, NY-Manchester, NH (4)					
Operating Cost			$ 152,643	$ 152,643	$ 152,643
Projected Farebox Revenue (3)			$ 44,713	$ 90,380	$ 134,140
Net Deficit	$ -	$ -	$ 107,930	$ 62,263	$ 18,503
Total Section 5311(f) Operating Funds	$ 312,249	$ 657,896	$ 691,046	$ 581,118	$ 537,358

1) Cost, farebox revenue and net deficit shown are for the entire route. Under the current contract with Greyhound, Vermont funded the deficit only on the Vermont miles (53% of the total), while Greyhound supports the non-Vermont portion of the route. Based on current revenues (which are higher than projected), the net operating deficit for the current Greyhound service is $91,300 per year. Future operators may want Vermont to fund the entire route, as shown in the table.
2) Because White River Junction to Springfield (MA) is an existing route, it is assumed that it will be achieving projected revenue in the first year.
3) Ridership and therefore farebox revenue is not projected to achieve forecast levels until the third year of operation. For the first year, it is assumed that the service will achieve one-third of the forecast revenue, the second year it is two-thirds, with full revenue in the third year.
4) Figures are for the Vermont portion only, as it is unlikely that Vermont would fund this route without participation by other states.

Proposals Due	April 1, 2013
Evaluation Process	April 1-May 1, 2013
Contract-Grant Agreement	June 1, 2013
Service Transition Activities-Interline Agreements, Terminal Licenses, Agency Agreements, inclusion in timetables/ ticketing systems, marketing activities in support of transition (six weeks)	June 1-August 15
Service Initiation	September 1, 2013

Budget and Funding

Given this timeline, funding will require operators to provide vehicles. The implementation costs previously presented assumed that the capital requirements presented in Table 6-11 could be provided to the operators (which may eventually be the case), but in the near-term the funding has not yet been set aside and even if it was available, the anticipated schedule of implementation would make it doubtful that vehicles could be delivered in time for the desired service startup. For that reason, in the initial solicitation the operators will have to provide their own vehicles, though the application should also request cost information (operating costs without depreciation) that can be used at some future point in the contract to modify rates should it be possible to provide capital funding for vehicles.

Table 6-13 presents revised costs and phasing for the recommended program, using an assumed cost per mile of $3.20. This is an increase over the $2.77 per mile used in Table 6-12 because it is now assumed that the operator will be providing the vehicles, and so the depreciation of those vehicles will now be included in the per mile cost. The $3.20 rate is an assumption, and the actual costs may be higher or lower. If the costs are higher, it may be that the phasing will shift to spread the implementation over a longer period.

CONCLUSIONS

Previous chapters of this report demonstrate that there is a need for additional rural intercity bus services in Vermont. This conclusion is based on the analysis of the populations most likely to need/use intercity bus services and the locations of concentrations of population with service needs. These areas, and the locations of potential key destinations, were compared with the existing unsubsidized network of intercity services. The analysis reveals that although the existing services serve many points, there are additional places that currently do not receive service. Input from

potential providers, local government and public agency representatives in surveys, a statewide meeting, and in other input performed as part of the Public Transit Policy Plan confirmed the need for additional rural intercity services to connect the state.

Therefore VTrans should not certify to FTA that there are no unmet rural intercity needs, but should use the FTA Section 5311(f) set aside portion of Vermont's Section 5311 apportionment to support the development of rural intercity services that address these gaps and augment the services provided by the existing carriers. This will require the development of program-specific policies and procedures.

A review of the alternative models used in other states to implement Section 5311(f) rural intercity services suggested that there are several potential options that could be used by VTrans. Some states act as the subrecipient and contract directly with operators, while others offer grant programs that reflect the specialized nature of the program, or target particular state priorities (including a focus on particular corridors or routes). At least in the initial years of the program, it is recommended that Vermont offer this program as a grant, similar to its other transit programs. However, this program should have a separate policy guidance document and a separate application, presenting Vermont's program priorities and the specific areas (identified in this study) for which service proposals are desired. The program guidance will also need to be different from that of the overall Section 5311 program.

A prioritization of potential new services demonstrated that a basic program of new rural intercity connections is feasible within the constraints of the available federal funding and the available in-kind match from Greyhound, with only limited requirements for additional state funding for operating match, if vehicle capital can be provided with state and federal funding.

Appendix A

October 1, 2011

Dear _____:

The State of Vermont, through the Vermont Agency of Transportation (Vtrans), is conducting a statewide intercity bus needs assessment. A major focus of this study is to determine the potential need for state/federal assistance to maintain or provide connections from rural areas to connect with the national intercity bus network. Federal funding is potentially available for operating assistance, capital assistance (including the purchase of vehicles and other equipment or facilities), or marketing. Vtrans has already conducted an initial analysis of the need for and feasibility of implementing new rural intercity bus services, which is available for download at [http://www.kfhgroup.com/vermonttransitplanupdate.htm]. This letter is intended to solicit your input regarding unmet needs for scheduled intercity bus services, particularly rural services. We would also appreciate it if you could provide information about any scheduled services currently provided by your firm.

Your input will be considered as Vermont decides whether to develop a program of rural intercity bus assistance under Title 49 U.S.C. Section 5311(f). It will help establish program goals, assess the degree to which available services meet the needs, and make recommendations on needed program activities, services, and potential funding sources. A vital component of this assessment is consultation with existing and potential operators of rural intercity bus services regarding unmet rural intercity service needs, and your assistance in this regard would be greatly appreciated.

Based on Federal Transit Administration Circular 9040.1F the "Intercity Bus Service means regularly scheduled bus service for the general public that operates with limited stops over fixed routes connecting two or more urban areas not in close proximity, that has the capacity for transporting baggage carried by passengers, and that makes meaningful connections with scheduled intercity bus service to more distant points, if such service is available." Commuter bus service is not included in this definition.

Aspects of intercity services in Vermont that you can assist us in understanding include:

1. Existing scheduled services that provide connections between the rural areas and urban areas and how this information is made available to the public;

2. Areas/corridors/regions that you perceive as having an unmet need for service, whether there is a complete absence of service, or if existing services do not meet the needs.

3. Other aspects of intercity services in Vermont that need to be addressed. This could include facilities, wheelchair accessibility, marketing and information, schedule connections, etc.

Please provide your comments on the attached survey form, and return it in the self-addressed, postage paid envelope, or by fax or e-mail. **We would greatly appreciate a response by November 1, 2011**. In addition to this survey, **your input can be provided at a meeting on this topic to be held on November 15th, 2011, at 1:00 pm, in Montpelier at the Vtrans offices** in the National Life building in the 5th floor Board Room. At that meeting additional information will be provided regarding the Section 5311(f) program and how it could potentially be used in Vermont.

If you have no comment, please indicate that on the form and return it to us. Also, please let us know if you wish to be included in subsequent aspects of this study (and the best way to contact you or your firm). We will then distribute project information and requests for information as we proceed with the study. If you would not like to receive project information, just let us know in your response.

Vtrans has engaged the KFH Group, Inc. to compile the results of the survey and assist in the study. If you have any questions about the survey itself, please contact Fred Fravel at the KFH Group at 301-951-8660 or ffravel@kfhgroup.com. You can contact me, Barbara Donovan if you have any questions or concerns about this Vtrans initiative. We look forward to hearing from you.

Sincerely,

Barbara Donovan
AOT Public Transit Administrator
Barbara.donovan@state.vt.us

Enclosure: Needs Survey

VERMONT INTERCITY BUS CONSULTATION:
INTERCITY BUS OPERATOR SURVEY

Name:_____

Organization:_____

Mailing Address:_____

Phone:_____

Email:_____

Intercity Bus Service means regularly scheduled bus service for the general public that operates with limited stops over fixed routes connecting two or more urban areas not in close proximity, that has the capacity for transporting baggage carried by passengers, and that makes meaningful connections with scheduled intercity bus service to more distant points, if such service is available.

1. Based on this definition, do you operate any scheduled intercity bus services in Vermont or adjacent states? **Yes** ❑ **No** ❑

   If "Yes" please describe in terms of stops served, schedules, etc. (attach timetables or other information if available)

   _____

   _____

   _____

   _____

   Do you operate any other kinds of service, such as connections to airports or train stations, charter or tour service? Please describe:

   _____

   _____

   _____

   _____

2. How/Where do you make information of these services available to the public? Websites, brochures, posted schedules, etc.

3. Are there areas or corridors that you consider as having a need for more intercity bus service (particularly in rural areas)? This could be areas with no service, or places with existing service that could benefit from additional service (more schedules, local service, etc.).

4. Are there particular markets or groups that you see needing more service? Where do you think people wish to go - are there destinations needing additional service?

5. Please offer any comments regarding other aspects of intercity bus services that you see as needing improvement, such as vehicles, condition of bus facilities, schedule information, wheelchair accessibility, marketing, etc.

6. Do you want to receive future notifications about this study, including any additional surveys, meeting notices, or study reports? **Yes** ❑ **No** ❑

If "Yes", please provide review contact information at the top of this survey, and make sure it is complete.

Please return by November 1, 2011:

Fred Fravel
KFH Group, Inc.,
4920 Elm St., Ste 350
Bethesda, MD 20814.

Or fax to 301-951-0026, or email to ffravel@kfhgroup.com.

Appendix B

October 1, 2011

Dear _____:

The State of Vermont, through the Vermont Agency of Transportation (Vtrans), is conducting a statewide intercity bus needs assessment. A major focus of this study is to determine the potential need for state/federal assistance to maintain or provide connections from rural areas to connect with the national intercity bus network. Federal funding is potentially available for operating assistance, capital assistance (including the purchase of vehicles and other equipment or facilities), or marketing. Vtrans has already conducted an initial analysis of the need for and feasibility of implementing new rural intercity bus services, which is available for download at [kfhgroup ptpp website] This letter is intended to solicit input from the providers of local/regional public transit services in Vermont regarding the existence or lack of scheduled intercity bus services in your area, and any service you offer that connects with, or has potential to feed, into existing intercity bus services. We know that the regional transit operators operate a range of services and can provide a local perspective on potential or identified needs for providing scheduled transportation services to connect small town populations to larger urban areas and interstate services.

Your input, and the analysis in the draft needs assessment will be used by Vtrans as it considers whether to establish a program of rural intercity bus assistance under Title 49 U.S.C. Section 5311(f). It will also help establish program goals, assess the degree to which available services meet the needs, and make recommendations on needed program activities, services, and potential funding sources. A vital component of this assessment is consultation with existing and potential operators of rural intercity bus services regarding unmet rural intercity service needs, and your assistance in this regard would be greatly appreciated.

Based on Federal Transit Administration Circular 9040.1F the "Intercity Bus Service means regularly scheduled bus service for the general public that operates with limited stops over fixed routes connecting two or more urban areas not in close proximity, that has the capacity for transporting baggage carried by passengers, and that makes meaningful connections with scheduled intercity bus service to more distant points, if such service is available." Commuter bus service is not included in this definition.

Aspects of intercity service needs in Vermont that you can assist us in understanding include:

1. Existing scheduled services that provide connections between the rural areas and urban areas and how is this information made available to the public;

2. Areas/corridors/regions that you perceive as having an unmet need for service, whether there is a complete absence of service, or if existing services do not meet the needs.

3. Other aspects of intercity services in Vermont that need to be addressed. This could include facilities, wheelchair accessibility, marketing and information, schedule connections, etc.

Please provide your comments on the attached survey form and return it in the self-addressed, postage paid envelope, by fax or e-mail. We would greatly appreciate a response by November 1. In addition to this survey form, your input is invited at a meeting to be held on November ___, at _____, in Montpelier at the Vtrans offices in the National Life building in Room ____.

If you have no comment, please indicate that on the form and return it to us. Also, please let us know if you wish to be included in subsequent aspects of this study (and the best way to contact you). We will then distribute project information and requests for information as we proceed with the study. If you would not like to receive project information, just let us know in your response.

Vtrans has engaged the KFH Group, Inc. to compile the results of the survey and assist in the study. If you have any questions about the survey itself, please contact Fred Fravel at the KFH Group at 301-951-8660 or ffravel@kfhgroup.com. You can contact me, Dave Peletier, at _____ if you have any questions or concerns about this Vtrans initiative. We look forward to hearing from you.

Sincerely,

Dave Peletier

VERMONT INTERCITY BUS CONSULTATION
LOCAL TRANSIT PROVIDER SURVEY

Name:_____

Organization:_____

Mailing Address:_____

Phone:_____

Email:_____

Intercity Bus Service means regularly scheduled bus service for the general public that operates with limited stops over fixed routes connecting two or more urban areas not in close proximity, that has the capacity for transporting baggage carried by passengers, and that makes meaningful connections with scheduled intercity bus service to more distant points, if such service is available.

1. Are there areas or corridors that you consider as having a need for more intercity bus service (particularly in rural areas)? This could be areas with no service, or places with existing service that could benefit from additional service (more schedules, local service, etc.).

   _____

   _____

   _____

2. Are there particular markets or groups that you see needing more service? Where do you think people wish to go - are there destinations needing additional service?

   _____

   _____

   _____

3. Please offer any comments regarding other aspects of intercity bus services that you see as needing improvement, such as vehicles, condition of bus facilities, schedule information, wheelchair accessibility, marketing, etc.

   _____

   _____

   _____

4. Do you currently operate any long-distance services (Scheduled or demand-response)? **Yes** ❑ **No** ❑

   If "Yes" please describe in terms of pickup points, destinations, stops served, how passengers make reservations, eligibility restrictions, schedules, fares, etc. (attach timetables or other information if available)

   _____

   _____

   _____

   _____

5. How/Where do you make information of these services available to users? Websites, brochures, posted schedules, etc.

   _____

   _____

   _____

   _____

6. Do you see any potential need or opportunity to expand or modify these services to connect with existing intercity bus services or meet needs for intercity bus services?

   _____

   _____

   _____

   Do you want to receive future notifications about this study, including any additional surveys, meeting notices, or study reports? **Yes** ❑ **No** ❑

   If "Yes", please provide review contact information at the top of this survey, and make sure it is complete.

   Please return by November 1, 2011:

   Fred Fravel
   KFH Group, Inc.,
   4920 Elm St., Ste 350
   Bethesda, MD 20814

   Or fax to 301-951-0026, or email to ffravel@kfhgroup.com

Appendix B: VT Operators of Transportation Services

Organization	Contact		Address				Email	Phone	Fax
	L, Name	F, Name	Street	City	Zip Code	State			
Greyhound Lines, Inc.	Isaacs	Randy	361 West Main Street	Hendersonville	37075	TN	risaacs@greyhound.com	615.338.0847	615-338-0845
Concord Coach Lines, Inc.; Dartmount Coach; Boston Express	Blunt	Harry	7 Langdon Street	Concord	03301	NH		603-228-3300	
Yankee Trails World Travel	Adams	Jeff	569 Third Avenue Ext.	Rensselaer	12144	NY	jadams@yankeetrails.com	518-286-2400,ext. 203	518-283-3279
Adirondack Transit Lines	Berardi	Eugene	499 Hurley Avenue	Hurley	12443	NY	info@trailwaysny.com	845-339-4230	845-339-5222
Peter Pan Bus Lines	Picknelly	Peter	P.O. Box 1776	Springfield	01102	MA	customerservice@peterpanbus.com	413-781-2900	
MegaBus	Mullin	Amanda	4400 S. Racine Ave	Chicago	60609	IL	megabusmedia@hanser.com	800.340.6434	
Dattco Coach & Tour									
Premier Coach Company	Charlebois	Randall	946 Route 7 South	Milton	05468	VT	randy@premiercoach.net	802-655-4456	802-655-4213
Bristol Tours, Inc.	Bolles	Susan	P.O. Box 198	Bristol	05443	VT	mark@bristoltoursusa.com	802-453-2661	
Middlebury Transit	Fuller	Bill and Sara	P.O. Box 423	Middlebury	05753	VT		802-388-3838	
Bet-cha Transit			202 Marinelli Road	Middlebury	05753	VT		802-388-7800	
Mountain Transit	Sharrow	John	19 Precast Road	Milton	05468	VT	jsharrow	802-893-1334	
Lamoille Valley Transportation	Prive	Norman	643 VT Route 15 W	Morrisville	05661	VT	norm@lvt.org	802-888-2103	

Appendix C

Interaty Bus - Sign In 11/15/11

Name	Affiliation	phone	email
Meredith Birkett	CCTA	864-0211	mbirkett@cctaride.org
Petra Keating	CCRPC	660 4021	pkeating@ccrpcvt.org
Barbara Donovan	VTrans	828-2828	barbara.donovan@state.vt.us
Stephanie Gorterman	Greyhound		
	AT	802-295-1824	VCHESNUT@ADVANCETRANSIT.com
ANNE NOONAN	TRAILWAYS	845 339 4230	anoonan@trailwayny.com
Katharine Otto	SWCRPC		kotto@swcrpc.org
Mary HABIG	CRT	802-460-7433	mhabig@crtransit.org
Brian Waterman	CRT	802 460 .7433	Bwaterman@crtransit.org
Bob Young	Premier	802-655-4317	bob@premiercoach.net
Chris Andreasson	ADVANCE TRANSIT	802 295-1824 ext 206	chrisa@advancetransit.com
Jim Moulton	ACTR	802-388-1946	jim@actr-vt.org
DAVID PALMER	STAGECOACH	802 728-3713	DPALMER@STAGECOACHBUSES.ORG
DONNA BAKER	GREEN MTN EXPRESS	447-0477	dbaker@greenmtnexpress.org
Myrga Dana	MVRTD	775-3244 x113	/adx@vermontel.net
Ross MacDonald	VTrans	828-5577	Ross.macdonald@state.vt.us
Amy Rast	VTrans	828-6521	amy.rast@state.vt.us
Mollie Burke	VT. Leg.	802-257-4844	mburke@sover.net
Leonard Linney	DVTA	802-464-8187	leonard@moover.com

Appendix D

Rural Intercity Transit Consultation Workshop

Source: The Dartmouth, http://thedartmouth.com/2008/03/25/news/coach

November 15, 2011

Today's Agenda

1:00 – 1:15	Introductions/Agenda/Goals
1:15 – 2:00	5311/5311(f) Basics
2:00 – 2:30	White Paper on Unmet Intercity Needs
2:30 – 3:30	Discussion on Vermont Policy: Certification, Program Options, Services and Funding
3:30 – 4:00	Summary and next steps
4:00	Adjourn – Thank you for your participation

History – Rural Intercity Services

- Intercity bus network formerly regulated at federal (ICC) and state levels
- Resulted in cross-subsidies that supported rural services
- Decline in rural bus services and growth in human service agency transportation led to creation of federal rural transit program in 1975--began as Section 18, it is now called the Section 5311 program.
- Bus Regulatory Reform Act of 1982 and ICC Sunset in 1989 ended federal and state economic regulation
- Carriers abandoned unprofitable rural service from that time to the present—number of stops declined from about 15,000 to around 2,000 today.
- Federal policy response was limited assistance as part of rural transit program—initially called Section 18(i), now Section 5311(f).

FTA Section 5311: Rural Public Transportation Program

- Administered by VTrans
- Provides funding for transportation in areas under 50,000 population, called Non-Urbanized areas
- Eligible applicants include public agencies and private non-profit agencies
- Services must be open to the general public without restrictions, but may be designed to maximize use by persons who are transportation disadvantaged (including elderly and persons with disabilities)
- Funding is available for capital (vehicles, computers, facilities, etc.); operations (subsidies); and planning, administration and marketing
- Federal S.5311 shares:
  - Up to 80 percent federal for capital; administration, planning and marketing
  - Up to 50 percent of the net operating deficit for operations

FTA Section 5311(f): Rural Intercity Program

- Subsection of the overall Section 5311 program
- Also must serve Non-Urbanized areas- under 50,000 population
- Intercity service is defined in the FTA guidance
- Federal S.5311(f) shares same as for S. 5311—but with the addition of a program of in-kind match that can enable funding of up to 100 percent of the net operating deficit
- New federal consultation requirements require involvement of intercity operators and other stakeholders
- Also administered by VTrans

Definition of Intercity Service

- Regularly scheduled bus service
- General Public
- Operates with limited stops between two or more urban areas not in close proximity
- Not commuter service
- Fixed-route, capable of carrying baggage
- Meaningful connection with national intercity network

Meaningful Connection

- To National Network of Intercity Bus Service
- Service to physical locations where connections can be made (stations or stops)
- Scheduled to facilitate connection with intercity bus service
- Information to make connection—schedules, stop locations
- Interline ticketing not required by FTA, but Greyhound and other firms are supportive

Eligible Uses of S.5311(f) Funds

- Operating Assistance (generally 50/50 match on net deficit):
  - Funding of net deficit on a particular route or service
  - Funding for all intercity routes to support the network
  - Purchase-of-service/demonstration projects
  - User-side subsidies
- Capital Assistance (generally 80/20):
  - Vehicles
  - Shelters, stops, signage
  - Intermodal facilities (related to rural usage)
  - Computers/communications equipment (ticketing)
  - ADA accessibility equipment
- Planning and Marketing
  - Studies
  - Marketing Plans, materials, campaigns
  - Information systems

FTA Section 5311(f) In-Kind Operating Match

- Only applies on Section 5311(f) Operating Assistance projects
- Redefines the project to include both the subsidized rural intercity route and connecting unsubsidized intercity service
- The value of the capital on the unsubsidized portion is used as "in-kind" match for the operating subsidy on the subsidized portion
- The value of the in-kind capital is calculated as 50% of the fully-allocated operating cost per mile on the unsubsidized portion, times the the number of revenue miles included in the project

FTA Section 5311(f) In-Kind Operating Match (cont.)

- The value of the in-kind capital is calculated as 50% of the fully-allocated operating cost per mile on the unsubsidized portion, times the number of revenue miles included in the project

- If enough unsubsidized revenue miles are included in the project, the subsidized portion is effectively 100 percent federally funded (no cash local match required)

- Agreement from the carrier providing the unsubsidized miles to participate in the project must be included in the application/bid package, documenting the services to be used as match

- A potential disadvantage is that this method uses the funds available to the state at twice the rate of the normal 50 percent federal/50 percent local match on the net deficit

Sample Projects: Operating Assistance

- Route-level assistance:
  - Washington State: state is S.5311(f) grantee, contracts for particular
  - service in four corridors
  - Michigan: funds service on five routes with an intercity carrier
  - Minnesota: funds service on a number of rural routes with an intercity carrier
  - Maryland is funding two routes, one operated by a regional carrier and the other by a national firm
- Network assistance:
  - Iowa funds a set amount per-mile on all rural intercity services
  - New York funds all upstate intercity bus service on a rate per mile and per passenger
- Rural feeder assistance:
  - California funds Sage Stage, rural operator, on connecting route to Greyhound in Reno
  - Alabama funds rural operator West Alabama to connect with Greyhound

Sample Projects: Capital

- **Vehicles:**
  - Georgia funds private intercity carriers to purchase coaches for use in rural areas
  - Michigan funds coaches for scheduled service throughout the state
  - Colorado has purchased coaches for two private intercity operators
  - Washington is funding smaller buses for use on contracted rural intercity routes
  - Maryland funded an over-the-road bus and three small buses for use on routes

- **Facilities:**
  - Minnesota funded a portion of the Minneapolis intermodal terminal (in proportion to rural usage)
  - California intermodal terminal projects
  - Numerous states have funded trailblazer sign projects to direct people to station locations
  - New Hampshire used CMAQ funds to build intercity bus stations, leased to private operators who operate and maintain them (including park and ride lots)
  - Texas has funded intercity bus station rehab and accessibility projects

- **Other:**
  - Computers and ticketing equipment funded in a number of states
  - Shelters at rural stops of intercity service
  - A number of states have funded retrofits of intercity vehicles to support ADA accessibility

Sample Projects: Other

- Washington State funding of development of traveler information system (Google Transit statewide)

- Iowa funding of 1-800 telephone assistance operated by Jefferson Lines to tell users how to use rural transit to connect to intercity

- Marketing research in Minnesota, Iowa

Section 5311(f) Funding Levels

- 15 percent set-aside of a state's S.5311 rural transit apportionment is for rural intercity

- Unless a state has conducted a consultation process with intercity operators and certifies that it has no unmet intercity needs

- Vermont amount:

Intercity Bus Needs Assessment and Policy Options White Paper

- Completed in September 2011, part of the 2012 Vermont Public Transit Policy Plan (PTPP)

- Included:
  - Background and policy context
  - Inventory of existing intercity passenger services
  - Analysis of intercity bus service needs based on demographic analysis and identification of potential key destinations
  - Input from PPTP stakeholders and public meetings

- Policy Options:
  - Conduct consultation process to obtain additional input from stakeholders and potential providers, and if warranted
  - Develop a rural intercity program element in the state's overall public transportation program using Section 5311(f)
  - Potential funding/use if the in-kind funding method to implement new services on identified corridors using an RFP process
  - Provide capital funding for vehicles to operate new services

Review of Previous Planning Studies:

- **February 1998: Vermont Statewide Intercity Bus Study**
  - **Inventory of existing service**
  - **Identified unmet needs**
  - **identified gaps in the network and potential services to fill them**
  - **Policy and funding options**

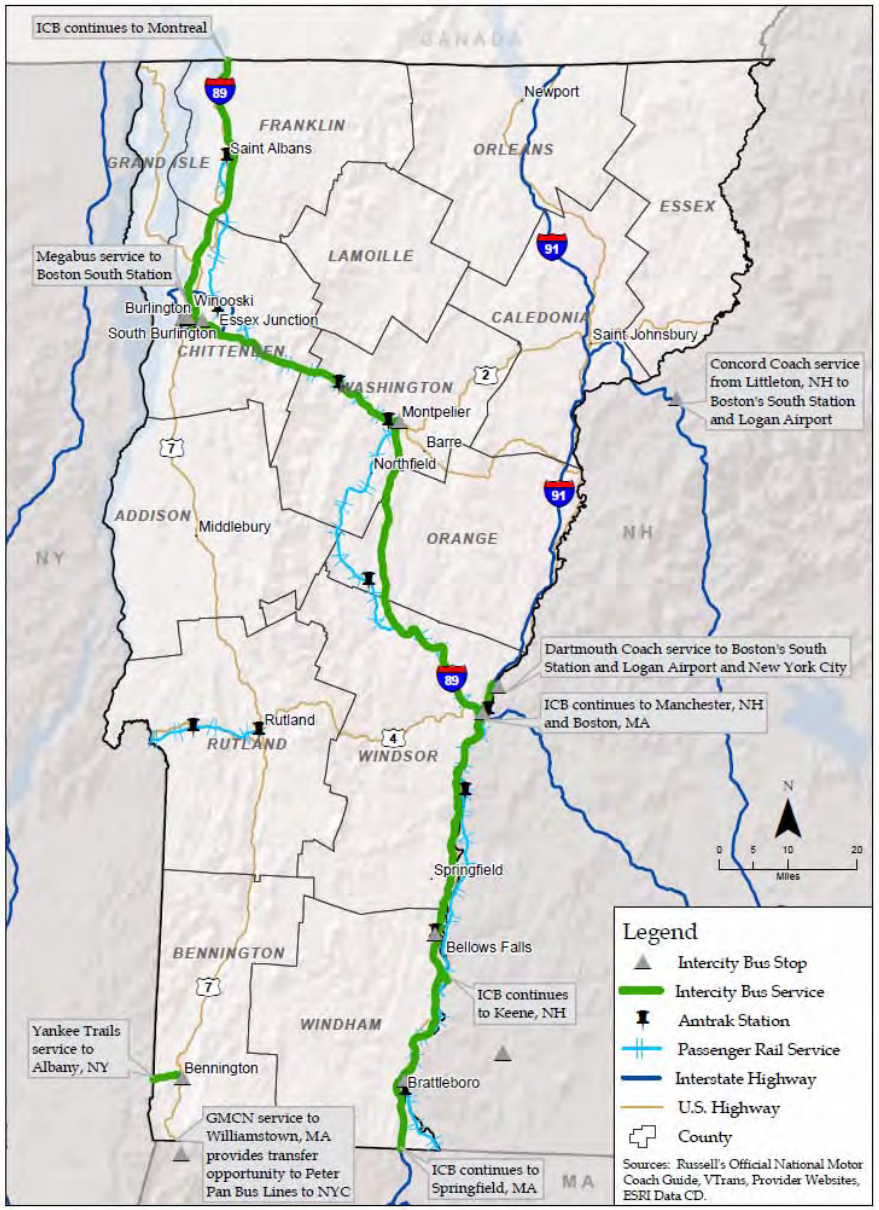
- **January 2008: A Study Regarding the Regional Connectivity of Vermont's Public Transportation System –Legislative Report**
  - **Reviewed ability to make intercity or regional trips using existing transit services following reduction in intercity bus services**
  - **Found that many trips are technically possible, but would require multiple transfers and delays**
  - **Recommended improved information about available service and potential connections**

Inventory of Current Providers

- Six providers of regularly scheduled intercity bus services:
  - Greyhound Lines
  - Megabus
  - Yankee Trails
  - Concord Coach (NH)
  - Dartmouth Coach (NH)
  - Peter Pan Bus Lines (MA)

- Within Vermont service is limited:
  - Greyhound: Montreal-Burlington-Montpelier-White River Junction-Boston and White River Junction-Bellows Falls-Brattleboro-Springfield
  - Yankee Trails: Bennington-Albany
  - Megabus: Burlington-Boston

Figure 2-1: Existing Intercity Bus Service in Vermont



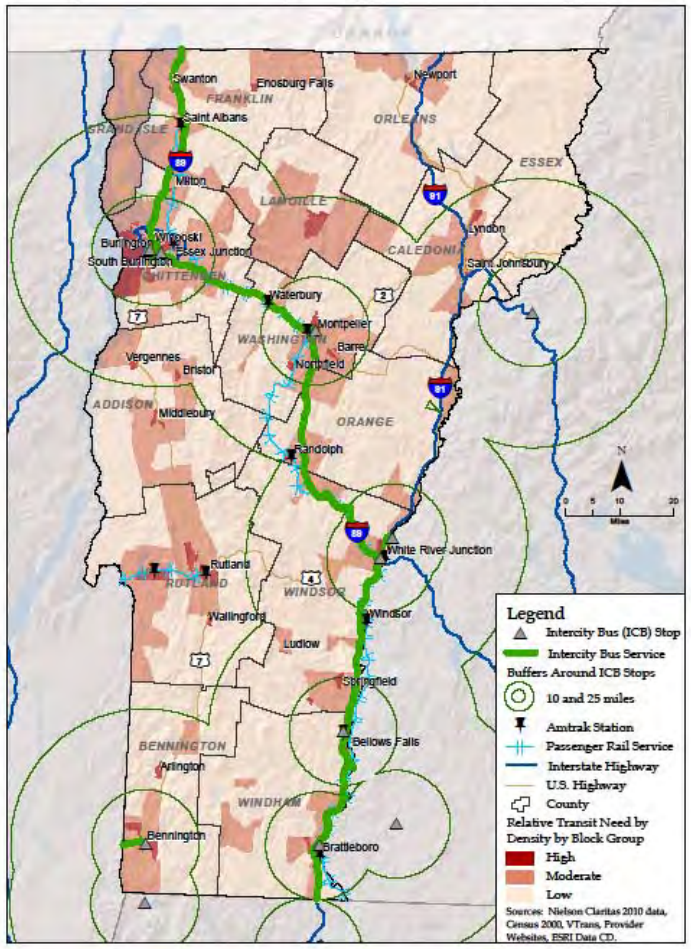
Demographic Analysis:

Identify persons with characteristics similar to those of intercity bus passengers

- **Young adults**
- **Older adults**
- **People with low income**
- **People with disabilities**
- **Autoless households**
- **Density adjustment**

Unmet Needs Based on Demographic Data

- Fourteen towns with populations greater than 2,500 and high densities of transit dependent persons are more than ten miles from existing intercity bus stops
- Nine of these towns are more than 25 miles from the nearest intercity bus stop



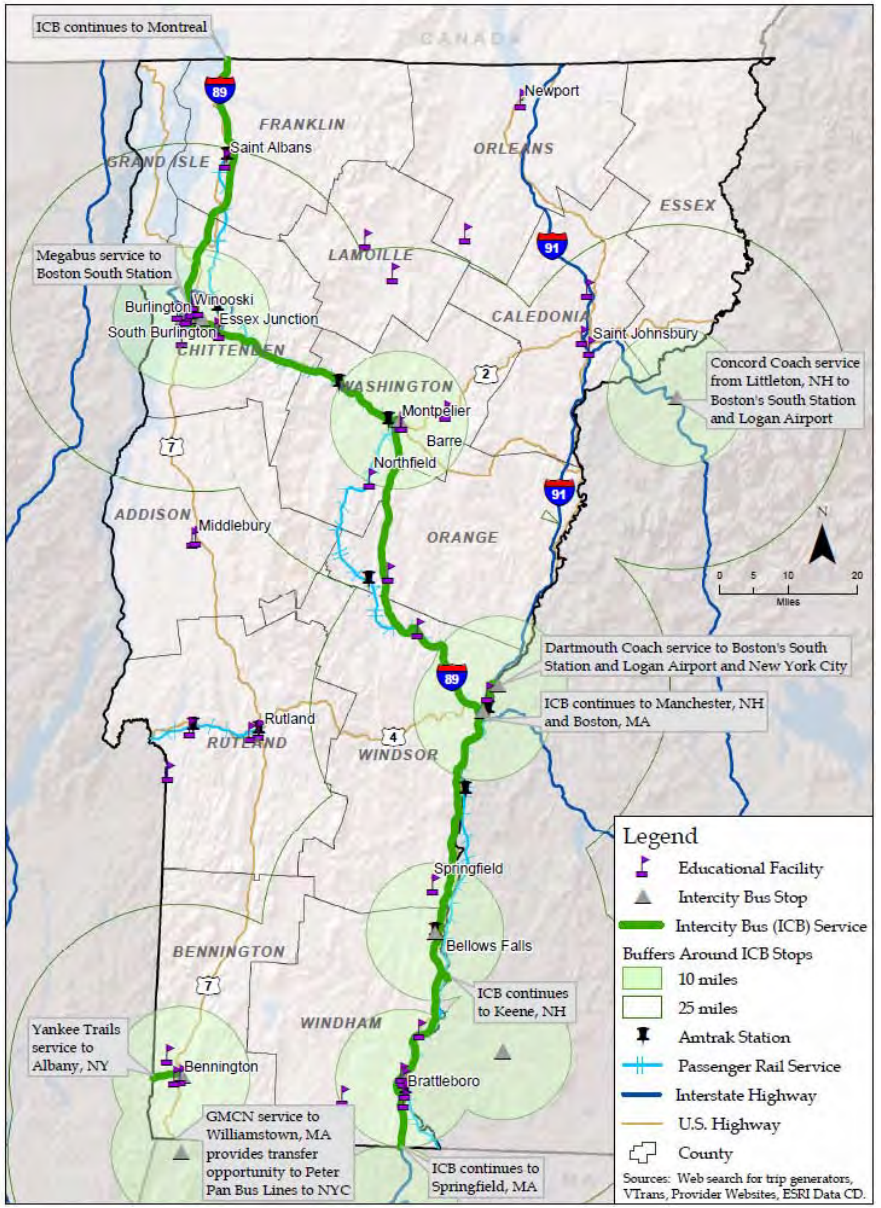
Establishing Intercity Bus Need: Destinations

- **Location of Intercity Bus Stops**

  And:
  - Colleges and universities
  - Correctional facilities
  - Hospitals
  - Major airports
  - Military Installations
  - Recreation sites—ski areas

- **Many unserved origins and destinations are in the Route 7 Corridor, Newport**

Figure 3-7: Intercity Bus Destinations - Educational Facilities



Potential Corridors:

- Illustrative Routes in the White Paper:
  - Burlington-Middlebury-Rutland-Manchester-Bennington-Albany (NY)
  - Rutland-Springfield-Bellows-Falls-Brattleboro (Boston)
  - Newport-White River Junction

- Other Routes are possible, or other connections

- Route 7 corridor may be possible using in-kind match alone with no local cash match

Recommended approach:

- VTrans should not certify no unmet needs—demographic analysis and input from the surveys identified intercity service needs

- Offer a Section 5311(f) program separate from the overall Section 5311 grant program

- Begin with a solicitation for service in a limited number of corridors

- Use the in-kind funding method so that carriers or localities do not have to provide local cash match for operating projects

- Use an RFP process to solicit bids to provide desired routes (like Washington and Oregon programs)

- Continue planning and consultation process

Establishing Intercity Bus Need: Statewide Outreach

Purpose of Discussion –

1. Review and discuss Vermont's intercity transportation: Needs, Desires, Planning

2. Discuss potential solutions to address intercity transportation needs

3. Marketing and Branding

Appendix E

Appendix E

	Proposed Route	Priority
WRJ-Springfield, MA		**4**
1	Bellows Falls to Albany	
2	Bellows Falls to Boston	
3	Bellows Falls to Manchester	
Rutland-WRJ		**4**
1	Rutland to Boston	
2	Rutland to Manchester	
3	Rutland to NYC	
Rutland-Burlington		**2**
1	Rutland to Montreal	
2	Middlebury to Boston	
3	Middlebury to Manchester	
4	Middlebury to Montreal	
5	Middlebury to NYC	
Burlington-Albany		**1**
1	Burlington to Albany	
2	Middlebury to Boston	
3	Middlebury to Manchester	
4	Middlebury to Montreal	
5	Middlebury to NYC	
6	Middlebury to Albany	
7	Rutland to Albany	
8	St Albans to Albany	
Brattleboro-Nashua		**5**
	N/A	
Brattleboro-Springfield, MA		**5**
	N/A	
St. Johnsbury-WRJ		**3**
1	St Johnsbury to Albany	
2	St Johnsbury to Manchester	
3	St Johnsbury to Montreal	
4	St Johnsbury to NYC	
Newport-WRJ		**5**
	N/A	
St. Albans-Burlington		**2**
1	St Albans to Albany	
2	St Albans to Manchester	
3	St Albans to Montreal	
4	St Albans to NYC	
5	St Albans to Boston	
Albany-Manchester (NH)		**3**
1	Bellows Falls to Manchester	
2	Brattleboro to Manchester	
3	Bennington to Manchester	
4	Bellows Falls to Albany	
Albany-Rutland-WRJ		**3**
1	Montpelier to Albany	
2	St Johnsbury to Albany	
3	WRJ to Albany	
4	Rutland to Albany	

Notes: Proposed Intercity Routes Listed in Green. Priority is assigned based on the number of trips made feasible by a given route.