

Transit Development Plan

Service Strategies

The following pages present the types of services that could potentially be implemented in Chittenden County in response to the unmet transit needs and system vision identified earlier in the plan. It is recognized that this document proposes an ambitious vision for transit in the County, and that implementation is dependent on the availability of federal, state, and local funding. Nonetheless, it is important to set forth an outline of the steps needed to achieve it.

This section does not include detailed service plans for improved services; these will be developed by the CCTA planners as funds/resources become available for implementation. Service strategies are grouped into the following categories and subcategories:

1. Commuter Routes
 - Inter-regional Routes
 - Regional Routes
2. Regional Trunk Routes
3. Community Connectors
 - Local Fixed-Route Community Connectors
 - Parking and Special Purpose Shuttles
 - Fixed-Route Deviation or Demand-Responsive Connector Services in Feeder Zones
 - Demand-Responsive Connector Services for Americans with Disabilities Act (ADA) Eligible Persons in Fixed-Route
 - County-Wide Demand-Responsive General Public Service in Rural Areas
4. Other Specialized CCTA Services
 - Senior Shuttles
 - Neighborhood Specials
 - Medicaid
 - Elders and Persons with Disabilities Program

COMMUTER ROUTES INTER-REGIONAL (Figure 1)

Service Statistics

Span: Monday through Friday
Peak commute hours

Frequency: 4-6 round trips each weekday
Vehicle: Suburban coach

Service Concept

- Express services with limited stops from outlying communities into Burlington
- Would serve park and ride lots along the routes
- Since the services would serve persons outside the county, they would be implemented at the request of local communities in surrounding counties.

Implemented LINK Express Routes

- St. Albans (link to GMTA-Franklin)
- Montpelier (link to GMTA)
- Middlebury (link to ACTR)

Potential Additional LINK Express Routes

- Cambridge (via VT 15) to Essex and Burlington (also serves Underhill and Jericho)
- Waterbury to Burlington (note, as of Feb 2009, CCTA operates one morning round trip on the Montpelier LINK as a short-turn trip to Waterbury)
- Extension of St. Albans LINK to northern Franklin County

Potential Intermodal Connection Routes

- Grand Isle to Burlington, to connect with Gordons Landing-Plattsburgh Ferry
- Rutland to Burlington, to connect with Amtrak's Ethan Allen Express (EAE), using over-the-road coaches (assumes continued operation of EAE). Possible extension of this route to Albany via US 7 (if EAE is discontinued).

Figure 1 Under Construction

COMMUTER ROUTES REGIONAL ROUTES (Figure 2)

Service Statistics

Span: Monday through Friday
Peak commute hours

Frequency: 4-6 round trips each weekday
Vehicle: Smaller vehicles initially,
such as 25-30 ft buses.
Could use larger buses as
demand grows

Service Concept

- Services with more limited stops than local routes and service terminating in Burlington
- Would serve park and ride lots along the routes
- End of the routes could be served by community connectors (see below)

Implemented Regional Route

- Milton to Burlington

Potential Connections

- Colchester - Malletts Bay to Burlington
- Hinesburg to Burlington
- Richmond to Burlington (extension of US 2 service)

Figure 2 Under Construction

REGIONAL TRUNK ROUTES (Figure 3)

Service Statistics

Span: Monday through Sunday
All day

Frequency: 10-60 minute headways
Vehicle: Standard-sized buses

Service Concept

- Connect high density areas to downtown and the Hill
- Improve existing line haul services including the North Avenue, Essex, UMass/Airport, Pine Street and South End/Shelburne routes
- Potential locations for future Bus Rapid Transit and/or transit priority investments

Implemented Service Improvement

- 15-minute peak period service on the Essex Junction route

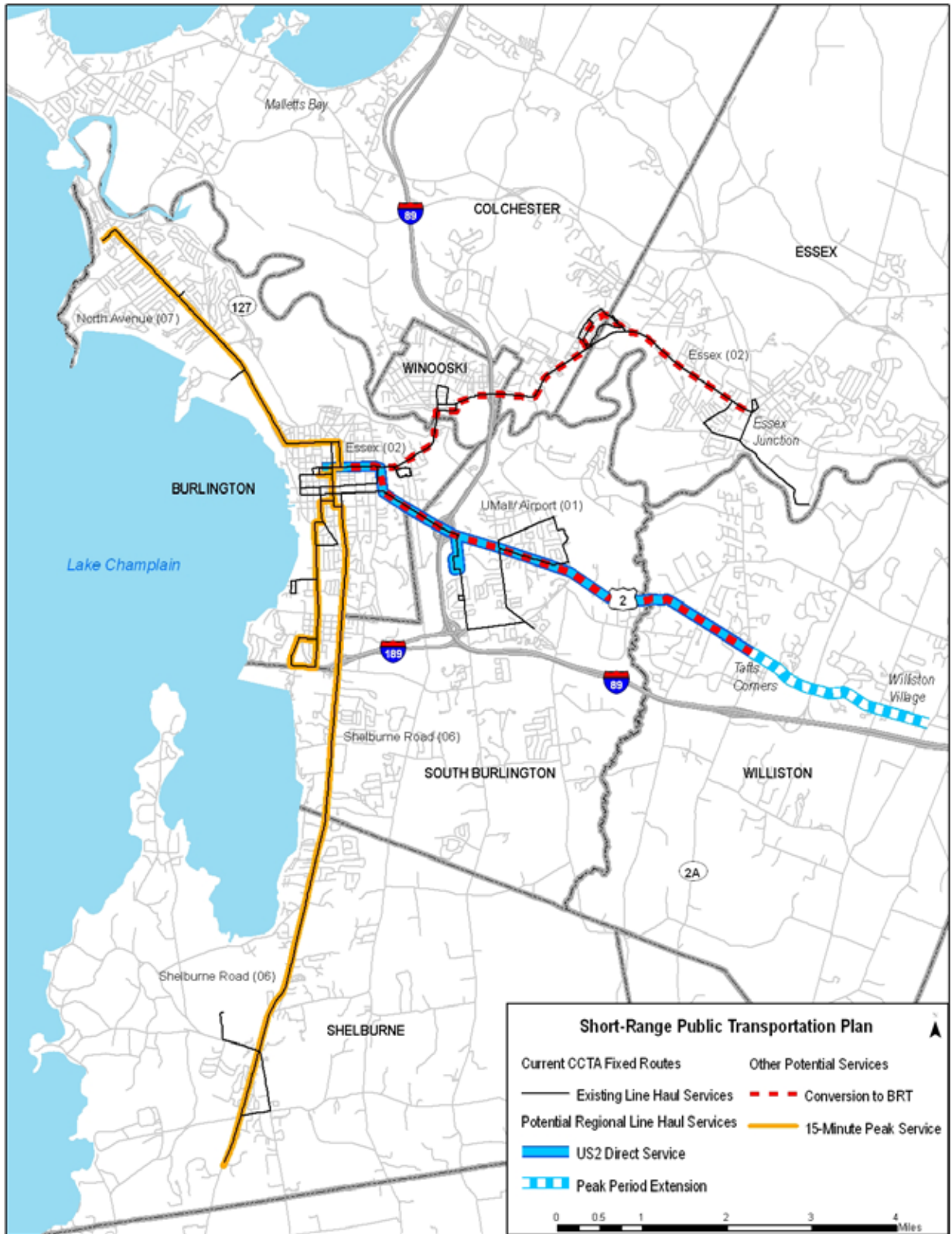
Potential New Trunk Services

- US 2 service from Tafts Corners or Williston Village to Burlington with 15-minute peak hour service. This route would divert from US 2 only at Dorset Street to reach University Mall.

Service Upgrades

- North Ave corridor, including 15-minute peak service and new Sunday service
- Pine Street corridor, including 15-minute peak service and new Sunday service
- Shelburne Road corridor, including 15-minute peak service and new Sunday service
- Incremental upgrade of US 2 to bus rapid transit, including better frequency, enhanced passenger facilities, and roadway priority treatments.
- Incremental upgrade of VT 15 service to bus rapid transit, including better frequency, enhanced passenger facilities, and roadway priority treatments.
- Future upgrade of all trunk routes
 - 10-minute peak service
 - 15-minute midday service
 - 30-minute evening service
 - 15-minute peak service on Saturday (12:00 p.m. to 5:00 p.m.)
 - 30-minute service for Saturday base and Sunday peak
 - 60-minute service on Sunday base
- Future extension of service to midnight on weekdays and until 2:00 a.m. for Burlington routes on Friday and Saturday.
- Future extension of Sunday service until 10:00 p.m.
- Begin service at 5:00 a.m. on weekdays and 6:00 a.m. on weekends

Figure 3 Regional Trunk Routes



COMMUNITY CONNECTORS

LOCAL FIXED ROUTES

(Figure 4)

Service Statistics

Span: Monday through Sunday
All day

Frequency: 15-60 minute headways
Vehicle: Medium to standard buses

Service Concept

- Serves high density areas within or close to the urban core
- Existing local fixed route services include the Riverside/Winooski, Essex Center, City Loop and Williston routes

Potential New Community Connector Services

- Restructuring of current UMall/Airport route into one or more community connectors for South Burlington. These would link to the new US 2 service at University Mall and other locations
- Extension of coverage to South Burlington's Southeast Quadrant
- Extension of service to Lime Kiln Road in South Burlington
- Inclusion of future South Burlington City Center in local service
- New connection between southern and eastern sections of South Burlington via I-189 or Swift St and Dorset St
- Restructuring of current Williston route to simplify structure and provide more direct connections
- New connections to Colchester via US2/7 to Water Tower Hill and Severance Corners
- New connection in Colchester from Malletts Bay to Village
- Improve service to Essex Way to support development
- New connection to Essex Junction route from Susie Wilson and surrounding areas.
- Future upgrade of all community connector routes
 - 15-minute peak service
 - 20-minute midday service
 - 30-minute evening service
 - 20-minute peak service on Saturday (12:00 p.m. to 5:00 p.m.)
 - 30-minute service for Saturday base and Sunday peak
 - 60-minute service on Sunday base
- Future extension of service to midnight on weekdays and until 2:00 a.m. for Burlington routes on Friday and Saturday.
- Future extension of Sunday service until 10:00 p.m.
- Begin service at 5:00 a.m. on weekdays and 6:00 a.m. on weekends

Figure 4 Under Construction

COMMUNITY CONNECTORS PARKING AND SPECIAL PURPOSE SHUTTLES (Figure 5)

Service Statistics

Span: Monday through Friday
All day

Frequency: 10-15 minute headways
Vehicle: Small to mid-sized buses

Service Concept

- Connects satellite parking lots with downtown
- Existing parking and special purpose shuttles include PARC Shuttle and the College Street Shuttle
- Potential in future to establish additional parking lots; especially around the campus and other Hill locations. In addition to downtown, shuttle services could be provided directly to the Hill

Potential New Parking Shuttle Services

- New intercept lot at Exit 14 to FAHC and downtown (possibly as extension of College Street Shuttle)
- New intercept lot at Exit 14 to airport
- New intercept lot at Exit 12 to airport
- FAHC to University Mall (possibly as extension of College Street Shuttle)

Critical Issues

- Would need to work with the City, State, and/or location communities to establish new park and ride lots
- Extension of College Street Shuttle into South Burlington may have impacts on fare policy and funding by City of Burlington

Figure 5 Under Construction

COMMUNITY CONNECTORS
FEEDERS TO TRUNK LINES AND COMMUTER ROUTES
(Figure 6)

Service Statistics

Span: Monday through Friday Peak Hours to Commuter Routes All Day to Trunk Lines	Frequency: Demand-Responsive or 15-30 minute headways on Route Deviations
	Vehicle: Small Buses

Service Concept

- Demand-responsive or route deviation service in zones around ends of commuter routes and trunk lines
- Buses doing commuter runs to Burlington could circulate in zones for 30 minutes prior to start of run if reverse commuting is minimal or unlikely
- Alternatively, area could be served with one small vehicle to connect with commuter route
- Feeder service would operate in peak hours to the commuter routes (when they are operated) and all day to the trunk or line haul routes
- Could convert Essex Center route to a demand-responsive feeder zone

Potential Zones

- Feeder services to line haul services:
 - Shelburne/Charlotte
 - Essex
 - US 2/Williston
 - New North End
- Feeder service in zones around regional commuter routes:
 - Milton
 - Jericho/Underhill
 - Richmond
 - Hinesburg

Figure 6 Under Construction

COMMUNITY CONNECTORS
ADA COMPLEMENTARY PARATRANSIT SERVICES
(Figure 7)

Service Statistics

Span: Monday through Sunday	Frequency: Demand-Responsive
Mirror Hours and Days of	Vehicle: Small Buses, and sedans
Non-Commuter	
Fixed-Route Services	

Service Concept

- Demand-responsive paratransit services for persons who are unable to use the fixed-route services and are eligible for the service under ADA rules
- Service area covers ¾ mile either side of the fixed routes – although commuter routes and route deviation services are exempt
- Service characteristics also mirror fixed routes in terms of time of day, day of week
- Requests for trips must be taken until close of business the day before
- There can be no capacity constraints or pattern of trip denials
- Currently this service is contracted to SSTA

Potential New Service Areas

- With the implementation of new or extended fixed routes, CCTA will have to expand its ADA complementary paratransit service area (again commuter routes are exempt).
- Alternatively, CCTA could serve persons with disabilities by allowing routes (particularly in outlying areas) to deviate
- Figure 7 presents the ¾ mile service area that would be created if all potential service improvements described in this plan were implemented

Figure 7 Under Construction

COMMUNITY CONNECTORS RURAL GENERAL PUBLIC DEMAND-RESPONSE

Service Statistics

Span: Monday through Saturday

Frequency: Demand-Responsive
Vehicle: Small Buses or Vans

Service Concept

- Demand-responsive paratransit services for persons who live outside the fixed-route service area – the more rural areas of the County
- County would be divided into three sectors and each sector would receive two days of service per week (e.g. Sector 1 served Monday and Thursday, Sector 2 served Tuesday and Friday, and Sector 3 served Wednesday and Saturday)
- Users request service in advance – could require longer advance reservation time compared to ADA
- Provides services for basic mobility to shopping, medical, social activities – probably not suitable for most work trips
- Volunteer driver programs, coordinated through SSTA, could provide some of this service.

Potential Service Areas

- Would cover unserved areas – as fixed-route CCTA services expand, residents in newly served areas would use the fixed-route services and the demand-responsive service could be decreased.
- Efforts made to complement rather than supplant existing human service transportation; should be coordinated with S.5310 program and existing human service transportation

OTHER SPECIALIZED SERVICES

Service Concepts – CCTA would continue the following specialized services

- **Senior Shuttles** - CCTA will continue to operate several specialized services to provide shopping opportunities for seniors and the general public.
 - **Neighborhood Specials** – CCTA will continue to operate extra service in the City of Burlington during the morning and mid-afternoon periods to meet student ridership demand. They operate on school days only, and are open to the general public.
 - **Medicaid** - CCTA is the Medicaid broker for all of Chittenden County (including those areas outside the CCTA service area). For Medicaid clients able to take the fixed routes, CCTA provides passes, and for those unable to use the fixed routes, CCTA uses volunteers, taxi operators, and SSTA.
 - **Elders and Persons with Disabilities (E&D)** –This program funds demand response and volunteer driver trips for various purposes including medical trips, shopping trips, trips to meal sites, trips to adult day centers, and vocational trips. The total pool of funding is divided among thirteen agencies and communities, each of which decides how to spend the money with respect to the types of trips served and limits on the number of trips per month for any individual client. The overall goal of the program is to try to meet essential mobility needs for seniors and people with disabilities who don't otherwise have access to public transportation.
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Park and Ride Lots

Park and ride lots can be an integral part of a successful commuter transit service in the region, especially since parking and traffic congestion are an issue in downtown Burlington and on the Hill. One concept being proposed in the region is the creation of park and ride shuttle services to connect remote parking with employment locations. In order for this concept to work, the services need to be attractive enough to lure drivers out of their cars, with park and ride facilities in convenient, accessible locations.

The MPO's 2004 park and ride study is in the process of being updated. The results of that study will be coordinated with bus service recommendations in this TDP.

Vehicles

CCTA has established a vehicle replacement plan, as presented in Table 1. All present and planned vehicles are ADA-accessible. Until recently, the CCTA fleet consisted exclusively of 30-40 foot standard transit buses and the ADA paratransit vehicles operated by SSTA. New 41-foot suburban coaches were acquired to operate the LINK Express routes. CCTA is also acquiring sedans to be used in ADA paratransit (to be operated by SSTA). These sedans will serve the trips that had been handled by taxicabs in the past.

Additional expansion vehicles will be required as new services are implemented. The size and configuration of new vehicles purchased will be tailored to the services. Smaller vehicles would be more appropriate for demand-responsive services or lower density areas with lower peak loads. Larger or more comfortable over-the-road coaches may be more appropriate for long distance express commuter services.

Facility

CCTA's current operations and maintenance facility at 15 Industrial Parkway is in very good condition and was recently expanded to allow for indoor parking of more buses, but still requires parking of some transit vehicles outside and has little room for additional drivers to park their own vehicles. Indoor storage helps extend the life of transit vehicles and also makes them easier to start. As service expands, CCTA should explore and create additional indoor bus parking and additional car parking at or adjacent to this facility. CCTA should continue to maintain and update internal systems (such as, but not limited to, communications, maintenance equipment, and HVAC) at this facility as necessary. CCTA should also develop its facility to accommodate additional staff as necessary to support growth in operational departments.

The Cherry Street transfer station will be replaced by a new Downtown Transit Center. The South End Neighborhood Transportation Center is also planned to replace the existing parking lot near Sears Lane.

CCTA also has a bus shelter expansion and replacement program, a bus stop bench program and a bus stop signage update program that need to continue and grow in order to meet the needs of current riders and make transit more attractive to new riders. Also, as new services in outlying areas are implemented, transfer points at these remote areas must also be designed to enhance rider convenience, including informational signing, shelters, seating, lighting, and other amenities.

Support Vehicles, Equipment, and Capitalized Maintenance

As CCTA grows and as its existing support vehicles and equipment age, CCTA will have to continue to program expansion and replacement equipment and parts into its annual capital budget.

Intelligent Transportation Systems (ITS)

CCTA has been investigating technology enhancements to improve efficiency and customer service. An electronic information board has been installed at the Cherry Street transit center, and new scheduling software has been installed to increase the efficiency of driver scheduling. A clear short-term priority is to provide real-time bus arrival information to passengers, and CCTA is in the process of researching systems that could provide such information. CCTA is also currently developing a web based scheduling system for ADA passengers with communication difficulties. CCTA is considering the following ITS systems for implementation in the short term:

- Computer Aided Dispatch (CAD) software/hardware linked to the driver scheduling software,
- Advanced Vehicle Location (AVL) software/hardware linked to CAD
- Predictive capacity added to AVL with on-time performance reporting
- Real-time arrival data displayed at the current Cherry Street Sign System
- Real-time arrival info available via telephone and cell phone
- Real-time arrival info linked to web based traveler information system
- Real-time arrival info linked to interactive voice system
- Real-time arrival info linked to electronic signs at top ten ridership stops/stations
- Paratransit scheduling software to improve efficiency and productivity of demand response transportation

In the longer term, additional ITS investments are being considered. These would include an upgrade of the fare payment system to include smart cards and automated vending machines, wi-fi service on all buses (beginning with the LINK Express routes), wi-fi service at major transfer points, and an expansion of the number of locations where real-time electronic bus arrival signs would be installed. The AVL system planned for buses would be extended to paratransit vehicles in the future to provide better passenger information and improve the efficiency of operations.