5.0 PUBLIC TRANSIT SYSTEMS

The Naugatuck Valley region is served by a range of public transportation options, including local, fixed-route bus services, commuter rail, paratransit services for the elderly and mobility impaired, and express bus services.

Local, fixed bus route services are operated by two primary operators:

- Three divisions of CT*transit* – Waterbury, Bristol-New Britain, and New Haven
- Greater Bridgeport Transit Authority (GBT).

Paratransit services in the majority of the NVCOG region are provided by the Greater Waterbury Transit District (GWTD). The Valley Transit District (VTD) offers this service to the lower Valley communities of Ansonia, Derby, Seymour and Shelton.

Commuter rail services are operated along the Waterbury branch of Metro North Railroad under contract to the State of Connecticut, which owns the railroad right-of-way and funds the capital and operating costs of the service.

5.1 FIXED-ROUTE BUS SYSTEMS

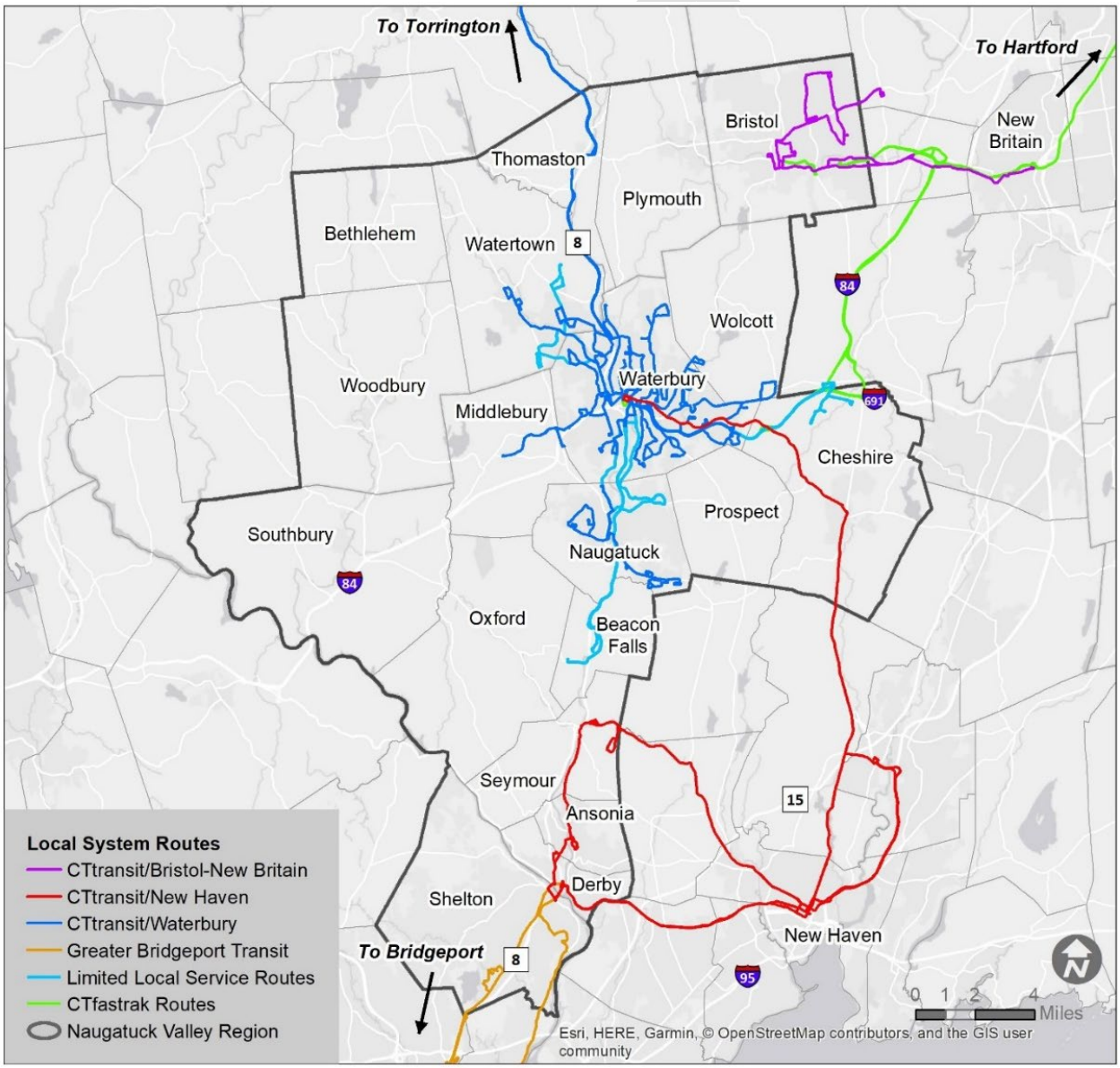
CT*transit*'s Waterbury division provides most of its services within the NVCOG region and is centered on a pulse point at the Waterbury Green. This pulse point is served every 30 minutes by all the routes in the system allowing a relatively convenient transfer between the division's 28 local routes. In addition to the City of Waterbury, Waterbury division routes provide access to some portions of Cheshire, Watertown, Naugatuck, Wolcott, and Middlebury.

Two local routes operated by CT*transit*'s New Haven division extend into the NVCOG region: New Haven division Route 229 provides a connection between downtown New Haven and downtown Waterbury primarily via Route 10 through Hamden and Cheshire, while Route 255 provides service to downtown New Haven from Derby, Ansonia, and Seymour. Three routes of the CT*transit*-Bristol/New Britain division provide local service within Bristol and one route connects downtown Bristol with downtown New Britain. Four routes of the GBT system extend into the lower Valley area, providing service to the major corporate office and retail areas in Shelton as well as the Derby-Shelton rail station.

Although a substantial portion of the region is covered by local bus service, significant gaps remain between the urban core areas, such as the absence of a connection between Waterbury and the lower Valley towns, as well as between downtown Waterbury and downtown Bristol. Additionally, Oxford, Woodbury, and Southbury do not have any bus transit services within their borders. NVCOG will investigate the addition of micro and flex transit within these municipalities.

Four express bus routes operated by CT*transit*'s – Hartford division offer service within the region primarily oriented to Hartford-bound commuters. Two express routes originate in downtown

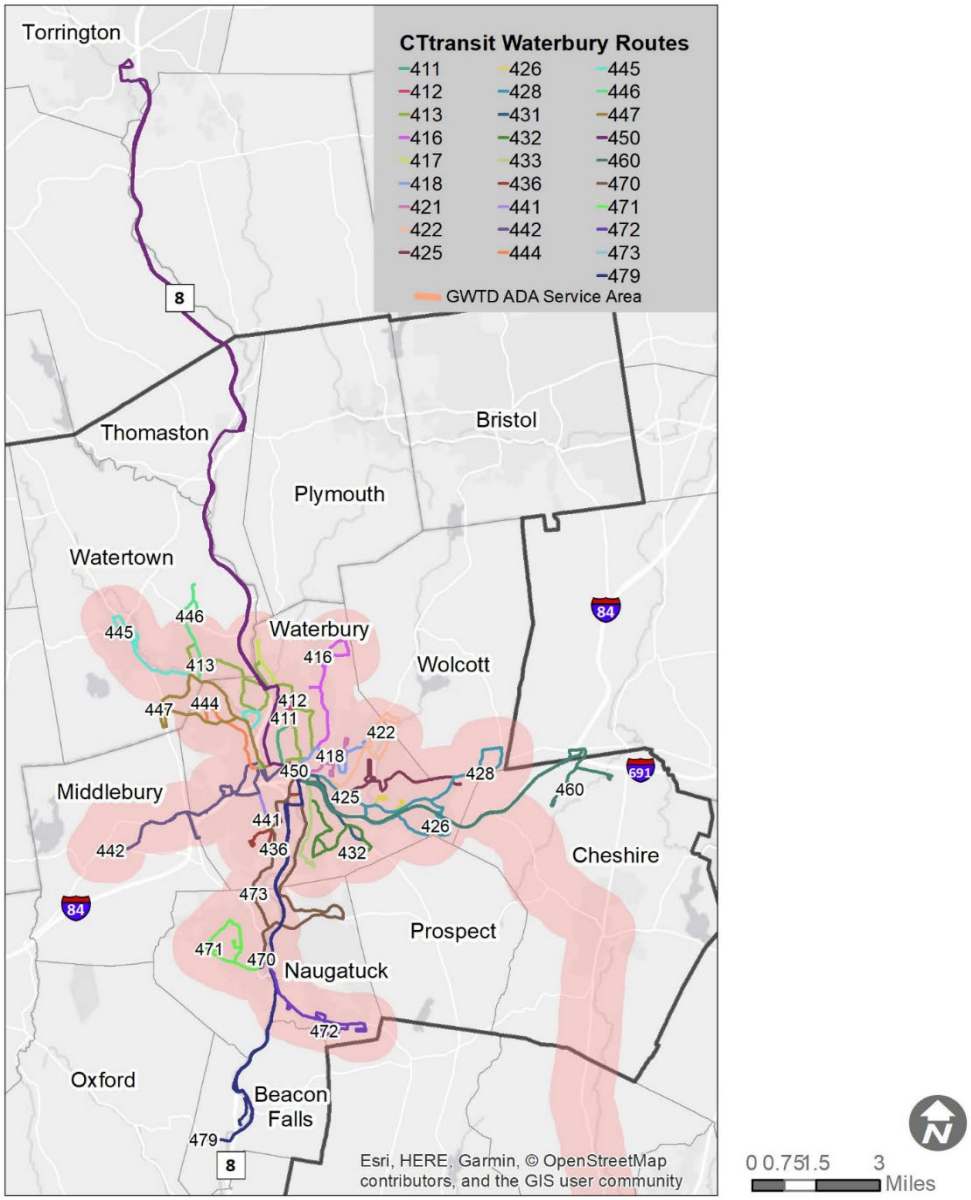
Waterbury, one in downtown Bristol and one in Cheshire. The CT*fastrak* bus rapid transit (BRT) provides these routes a high-speed connection to downtown Hartford via the dedicated busway between New Britain and Hartford. In addition, a limited-stop bus route was initiated in 2017 between Torrington and Waterbury with stops in Thomaston. Another express route runs between Waterbury and Meriden. This route creates a connection between the Waterbury Branch Line (WBL) and the Hartford Line, as well as connecting to other local bus routes in Meriden and Waterbury. Local and express bus operations in the Naugatuck Valley region are shown in the map below.



Map 1 Fixed route buses within the NVCOG Region

CT*TRANSIT*-WATERBURY

The CT*transit*-Waterbury Division system provides the most service in the region with 28 routes, plus three commuter-oriented "tripper" routes providing access to suburban employment opportunities. CT*transit*-Waterbury contracts with North East Transportation (NET) to operate the service. Service is provided seven days a week and generally operates from 6:00 AM to midnight on weekdays, 6:00 AM to midnight on Saturdays, and 9:30 AM to 5:00 PM on Sundays.



Map 2 CTtransit Waterbury Routes

The tripper[1] routes operate during the peak hours only in Waterbury and the surrounding communities.

The CT*transit* Waterbury network on average has longer headways compared to other bus networks within the state. A sampling of CT*transit* New Haven routes has an average headway of 26 minutes. CT*transit* Hartford has an average headway of 29 minutes when comparing routes of similar size and scope to New Haven's. Doing the same for CT*transit* Waterbury, the average headway is 35 minutes. CT*transit* Waterbury has the largest headway out of nearby transit operators with their routes. The network also lacks rider amenities such as transit shelters at many locations and real-time bus tracking. The NVCOG is working closely with the City of Waterbury and NET to provide funding for improved rider amenities. The current system provides lots of service area but the long headways between buses deter riders form using the system. An update to the 2023 WATS study will explore alternatives to the system to decrease headways, increase service, and rationalize routes and route planning.

Recent capital improvements include a new maintenance facility and new fare system. The new maintenance facility is located at 761 Frost Bridge Road in Watertown. The new fareboxes include automatic vehicle location and automatic passenger counters.

CT*transit* Waterbury will be deploying 10 battery electric buses replacing 10 diesel buses in kind. This will allow CT*transit* to test the new 35-foot battery electric buses within the hilly terrain that is found within the Waterbury division. The bus facility in Watertown will be upgraded to accommodate these new buses and their technology. The goal is to prepare the entire transit network into a 100% battery electrification. CTDOT has committed funds for this project, but a temporary moratorium has been placed for battery electric bus acquisition. As mandated by the Connecticut Legislature, non-alternative fuel buses cannot be purchased starting in 2024.

In 2017, the NVCOG completed the *Waterbury Area Transit Study (WATS).* The study evaluated options for the location of the bus pulse point and opportunities for improved service within existing resources. The *WATS* also identified the costs of expanding the system to fully meet the needs of the residents of the service area, particularly with respect to providing high quality, acceptable frequency service.

WATS developed recommendations for immediate, short-term, mid-term and long-term modifications. Some of the actions are stand-alone and do not rely on changes made to other routes. However, many of the recommendations build upon each other and are dependent on previous phase actions being implemented. Short-term recommendations include restructuring the Naugatuck tripper routes, providing all-day service between Naugatuck and Waterbury,

[1] Tripper service means regularly scheduled mass transportation service which is open to the public, and which is designed or modified to accommodate the needs of school students and personnel, using various fare collections or subsidy systems. (49 CFR 605.3)

improving on-time performances. Long-term recommendations included a potential commuter bus route from Waterbury to Shelton via Route 8. In order for the recommendations to be implemented, funding would need to be identified and CTDOT would be responsible for the implementation of service changes.

NVCOG would like to perform another transit study within Waterbury to update and expand WATS. The goal of the next study will be the implementation of the findings within the WATS study.

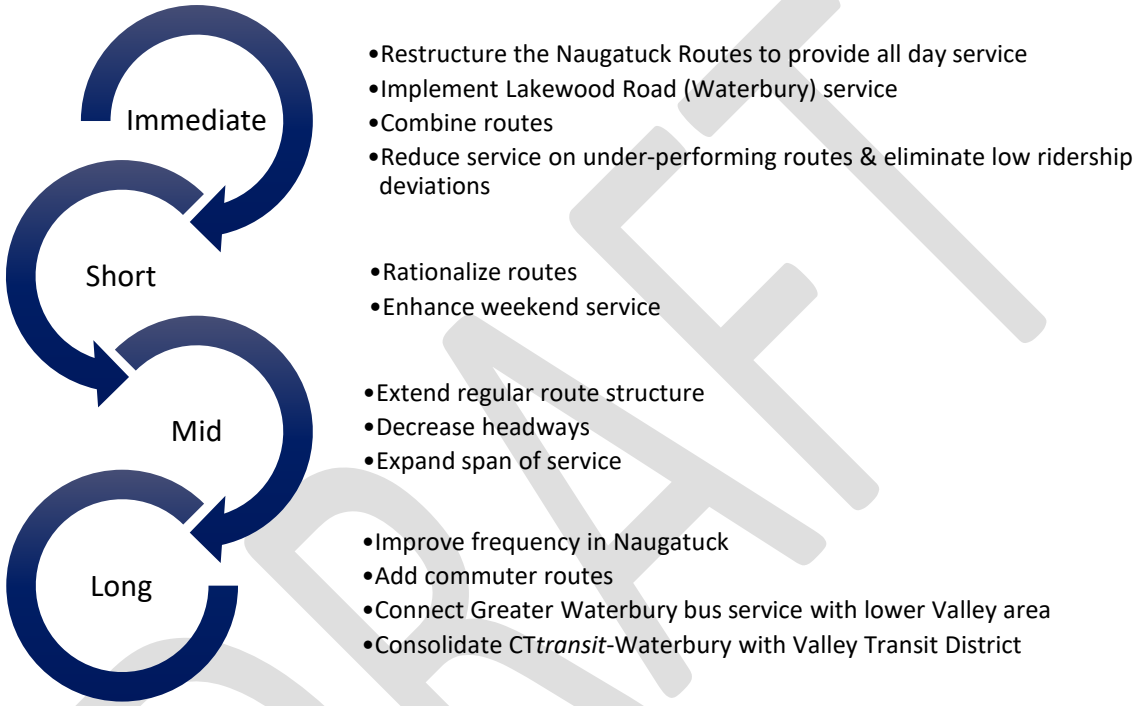


Figure 1 Waterbury Service Improvements for Corridor Communities; NVCOG WATS

CT*TRANSIT*-NEW HAVEN

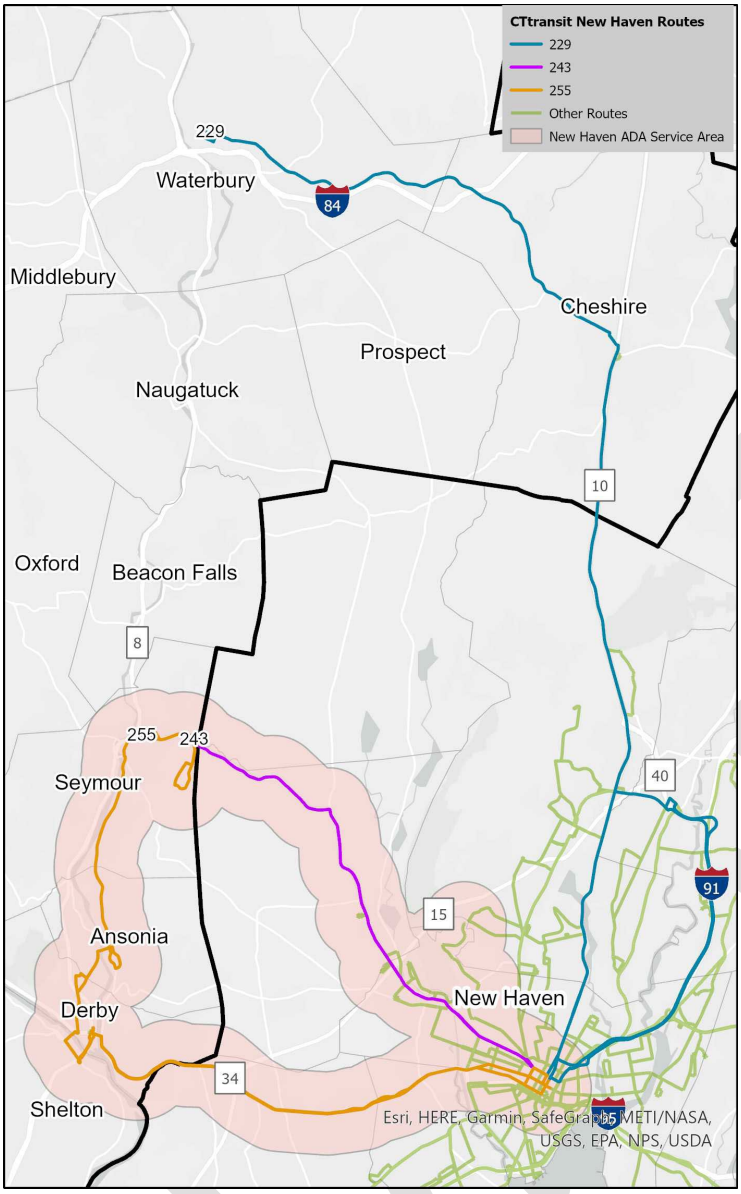
CT*transit*-New Haven contracts with HNS Management to operate 24 local bus routes and two commuter shuttles in New Haven and the surrounding communities. Service is provided seven days a week and generally operates from 5:00 AM to 1:00 AM on weekdays and Saturdays, and 6:00 AM to midnight on Sundays. The system operates using a radial system with most routes beginning and ending at the green in downtown New Haven and traveling outward from the city center on major roadways. Two of these routes continue into the Naugatuck Valley planning region.

Route 229 extends from Union Station in New Haven to downtown Waterbury via Hamden and Cheshire. It travels along Whitney Avenue, Route 10, Route 68, and Route 70 to East Main Street in Waterbury before terminating at the Green. Route 229 operates Monday through Sunday, with 18 round trips daily. Peak hour headways are 30 minutes, and a 60-minute headway is provided in the off-peak hours on weekdays. Saturday frequency is 60 minutes. The first trip to Waterbury is at 5:15 AM and the last return trip is 8:05 PM. It travels through a mix of residential and commercial areas.

Route 255 extends from New Haven along Route 34 to serve downtown Shelton, Derby, Ansonia and Seymour. It has two deviations plus one express route and connects with bus routes operated by the Greater Bridgeport Transit (GBT) and Waterbury branch line commuter rail service at the Derby-Shelton rail station. It travels through the downtown areas of Shelton, Ansonia and Seymour and provides connections with commuter rail stations in Ansonia and Seymour. The first bus departs at 6:00 AM and the last bus starts its route from the valley towns at 7:42 PM.

The route operates Monday through Saturday; there is no Sunday service. On weekdays, there are 16 round trips daily to Seymour with 30-minute headways during the peak periods and 60-minute in the off-peak timeframe. The Saturday frequency is 60 minutes.

In addition to the two routes described above, the CT*transit*-New Haven operates a part-time extension of Route 243 to Seymour via Whaley Avenue, Route 63 and Route 67. It passes through Woodbridge before terminating east of downtown Seymour at the terminus of Route 255. Two trips are made in the morning from New Haven, Monday through Friday, and one return trip is offered in the evening. At other times, connections can be made to Route 255. The extension does not operate on Saturdays or Sundays.



Map 3 CTtransit New Haven Routes within the NVCOG Region

CT*transit*-New Haven conducted an alternatives analysis bus study called the *"Move New Haven Transit Mobility Study"* to develop and evaluate transit improvements for the Greater New Haven Region. The study was completed in 2019 and recommended converting the most utilized routes, 212, 238, 243, and 265 to BRT. Additionally, it recommended creating cross-town routes and improved bus stops throughout the region. There have been very few capital improvements since the construction of the new maintenance and operations facility in 2010. The state is in the process of deploying technology upgrades to the entire CT*transit* fleet. In April 2017 real-time bus arrival information on the New Haven fleet was made available to smartphone holders. Other technologies installed include automatic passenger counters, automatic annunciation. CT*transit* has recently upgraded its fare system with contactless smartcard technology, fare capping, and

mobile payments. New fareboxes have been installed on CT*transit*-New Haven buses. The new technology was deployed system wide with a mobile application.

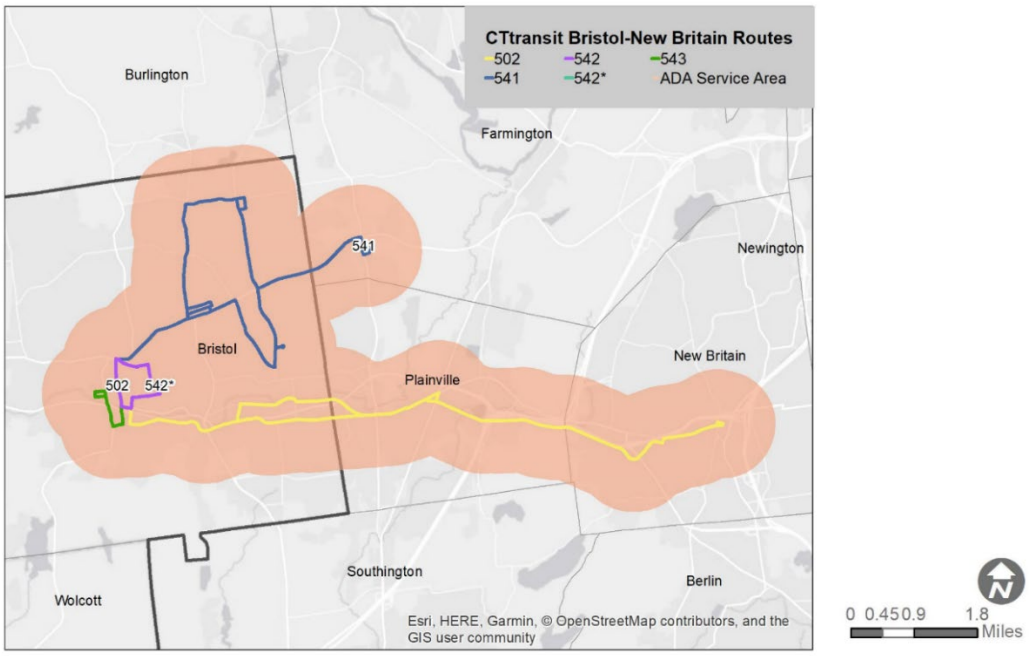
In 2021, CT*transit* in New Haven acquired 12 battery electric buses. The delivery and facility upgrade for the buses were completed in Fall of 2021.

CT*TRANSIT*-BRISTOL/NEW BRITAIN

CT*transit*-Bristol/New Britain Division provides fixed-route transit service to the towns of New Britain, Bristol, Plainville, and Berlin. Only the City of Bristol is located within the Naugatuck Valley planning region; the other three municipalities are located in the Capitol planning region. The system operates 12 fixed bus routes. Some routes provide connections to CT*transit's* Hartford and Meriden Divisions, as well as CT*fastrak* services and CT*transit* Commuter Express routes. Operations are contracted out by the CTDOT to the New Britain Transportation Company (NBT).

Although the service is primarily oriented toward downtown New Britain, where riders can transfer to the CT*fastrak* service, three routes are basically local routes within Bristol. Route 541 connects downtown Bristol to the Tunxis Community College via Farmington Avenue. Transfers can be made at the college to Route 503, which continues through Plainville to downtown New Britain. The other two local Bristol routes are relatively short loop runs wholly within the city; one serves Bristol Hospital from downtown and the other connects a residential area (Gaylord Towers) just west of downtown. All three Bristol routes begin and end at the Bristol City Hall. In addition, Route 502 connects downtown Bristol directly with downtown New Britain via Route 72 through Bristol and Plainville and Black Rock Avenue in New Britain.

Figure 2 The former Forestville Train Station, Bristol



Map 4 CTtransit Bristol-New Britain Routes within the NVCOG Region

CT*FASTRAK*

CT*fastrak* is the first bus rapid transit system in Connecticut. The service features a 9.4-mile dedicated guideway for buses between the downtown New Britain bus station and Hartford, a heavily congested corridor in central Connecticut. In downtown Hartford, buses circulate through downtown on city streets. Several CT*fastrak*-branded bus routes extend from New Britain station and provided limited stop service. In addition, commuter express bus route use the CT*fastrak* busway between New Britain and Hartford.

The dedicated busway has ten BRT stations that provide amenities more common with commuter rail stations. Buses are uniquely branded as CT*fastrak* service and stations are located along the busway.

One CT*fastrak*-branded bus route operates within the Naugatuck Valley planning region: Route 102. This route extends from the New Britain CT*fastrak* station to downtown Bristol. It operates from downtown Bristol along South Street, Pine Street and Route 72. Limited stops are provided, and the route operates as a non-stop, express bus along the divided section of Route 72 through East Bristol and the expressway section of Route 72 from the Connecticut Commons in Plainville to New Britain.

CT*TRANSIT* EXPRESS BUS SERVICES

CT*transit* operates 23 express bus routes to Hartford from throughout the state. These routes operate primarily along interstate and other expressways and make limited number of stops, usually at state-designated park-and-ride lots. Three express bus routes operate from cities and towns in the Naugatuck Valley planning region:

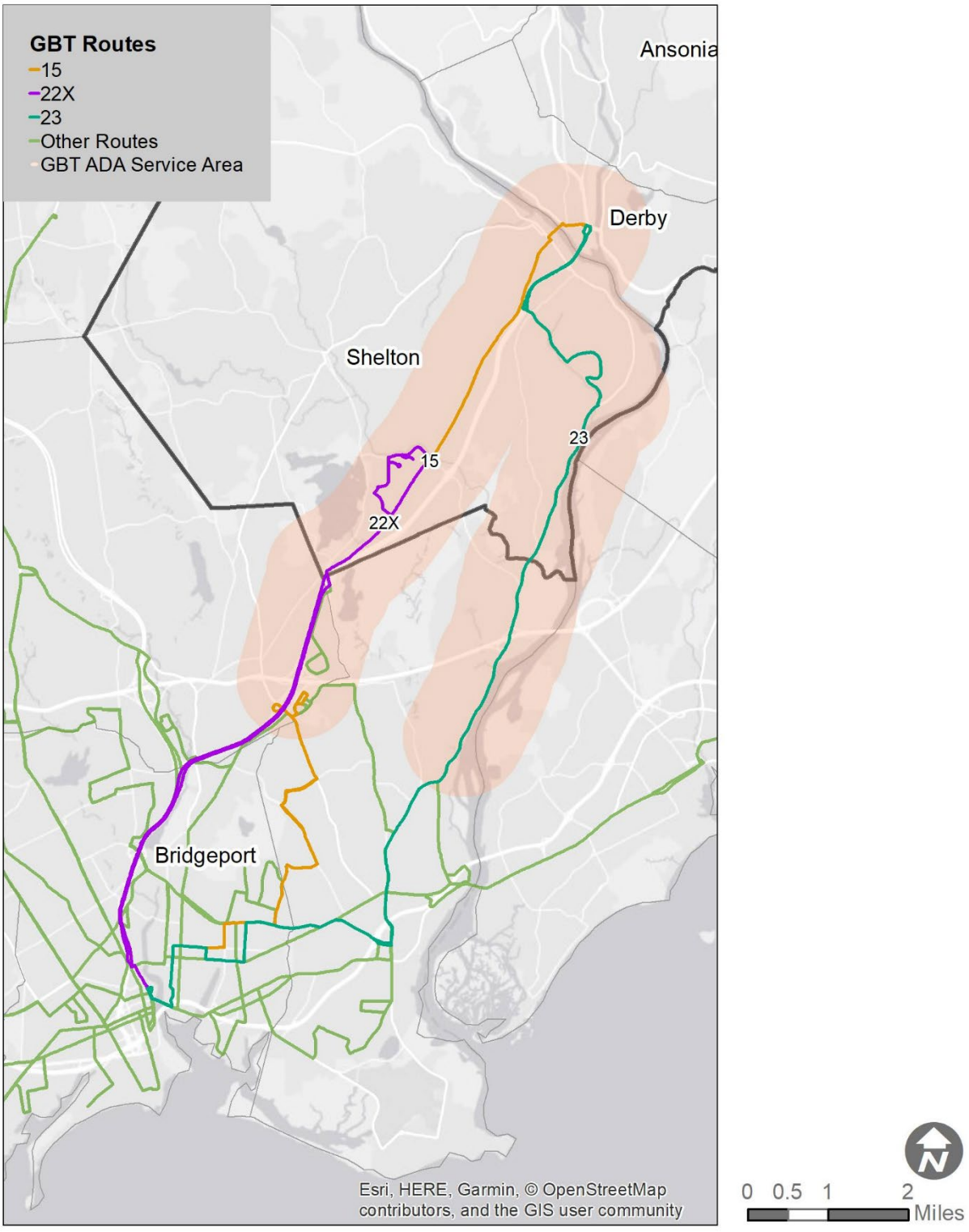
- Route 923 – Bristol Express: Operates from downtown Bristol along South Main Street and Pine Street with limited stops and then operates non-stop on Route 72 to the CT*fastrak* station in New Britain. It continues along the busway to downtown Hartford.
- Route 928 – Southington/Cheshire/Waterbury Express: Operates from the Waterbury rail station and through downtown Waterbury with limited stops and then operates non-stop on I-84 to the parking and ride lot at I-691 and then along Route 10 to the park and ride lot at Route 10 and I-84. It continues along I-84 and Route 72 to the CT*fastrak* station in New Britain. From New Britain, the route operates on the busway to downtown Hartford.
- Route 940 – Waterbury/Meriden: Operates a direct route from downtown Waterbury to the Meriden Transit Center. This route starts at the Waterbury train station and uses I-84 and I-691 to travel to Downtown Meriden. The route is notable for only having less than 5 stops local stops between the Waterbury train station and Meriden.

To provide additional commuter express service to Bristol, Route 928 would be adjusted to operate along Route 229 from I-84 to provide a connection to larger employers, especially Amazon and ESPN, in Bristol. The route would make limited stops along Route 29 and continue non-stop along Route 72 to the CT*fastrak* station in New Britain.

GREATER BRIDGEPORT TRANSIT (GBT)

The Greater Bridgeport Transit Authority (GBT) operates a total of 17 bus routes, two of these routes are express routes, and one route is the interregional Coastal Link in Bridgeport and surrounding communities of Fairfield, Stratford, and Trumbull. The system is radial with most routes beginning and ending at the Bridgeport Transit Center. A time pulse-point is operated on the hour and the half hour to allow for transfers. Service is provided seven days a week and generally operates 5:30 AM to 11:30 PM on weekdays, 5:00 AM to 11:30 PM on Saturdays, and 8:00 AM to 8:00 PM on Sundays.

The downtown Bridgeport bus terminal has 17 bus bays, a 3,000 square foot in-door waiting area, heated shelters on the platform, and real time information signs. Real-time schedule information is available on-line through their bus tracker.



Map 5 Greater Bridgeport Transit Routes

While not officially members of the GBT, three routes extend into and serve the cities of Derby and Shelton. Route 15 is aligned through the East Side of Bridgeport and Stratford to the Hawley Lane Mall in Trumbull. From the mall, it runs along Route 8 for a short distance and then along Bridgeport Avenue through Shelton. It terminates at the Derby-Shelton rail station, providing a connection to commuter rail service operated on the Waterbury Branch Line and CT*transit*-New Haven Route 255. Route 22X is an express bus route between downtown Bridgeport and the Shelton corporate office area. It operates along Route 8 to Shelton and then along Bridgeport Avenue. A loop is made through the corporate office parks located on Trapp Falls Road, Research Drive and Commerce Drive. This route provides only three morning and three evening runs on a 60-minute headway. Travel time between downtown Bridgeport and the Shelton Corporate Park is about 28 minutes. The route is oriented towards downtown Bridgeport and does not continue to downtown Shelton, downtown Derby or the Derby-Shelton rail station. The third GBT route serving the lower Valley is Route 23. It traverses the Bridgeport South End and length of Stratford along Route 113 and Route 110. In Shelton it provides access to the corporate office parks located along Constitution Boulevard. It continues to the Derby-Shelton rail station via Route 8.

The NVCOG is working on an assessment of possible alternate transportation modes to better serve the Route 8 and Waterbury branch rail line corridors (www.rt8corridorstudy.com). A key focus area of the study is to investigate transit enhancements to the Bridgeport Avenue corporate corridor in Shelton. The corridor is home to a mix of corporate office parks, retail centers and higher density residential developments, including a recently completed high-rise complex. About 11,000 people work within the corridor, with roughly 17% traveling from the Naugatuck Valley area. Because of the limited transit options, commuters are auto-dependent.

Currently, the GBT Route 22X provides express service between the Bridgeport Transit Center (BTC) in downtown Bridgeport and the Shelton Business Park. The service currently operates only during the morning and afternoon peak periods, operating with three trips in the morning and four in the afternoon. The route is oriented toward downtown Bridgeport with service providing a connection from Bridgeport to the Shelton Corporate Park in the morning and the reverse commute in the evening. A 60-minute headway is provided with the first morning trip leaving the BTC at 6:35 am. The route run is aligned along the Route 8 Expressway from Downtown Bridgeport to exit 11, where it continues service along Bridgeport Avenue.

To improve connections and access along Bridgeport Avenue, service and operations on GBT Route 22X would be enhanced by continuing the current routing north to the Derby/ Shelton Station, thereby, providing a contiguous route between the BTC and the Derby/Shelton Station. The connection from the Shelton Corporate Park area would operate either along Bridgeport Avenue, through Downtown Shelton to the Derby/Shelton Station or on Route 8. In either option, the buses would operate in general travel lanes. To attain good travel times and institute a service similar to a BRT system, the number of total stops would be limited. This service would facilitate

both southbound and northbound trips. The current GBT Route 22X service is more conducive for those traveling north in the morning and south in the evening. Additional buses would be operated to permit the same levels of service in each direction. Separate southbound service would be operated simultaneously with the northbound operations, instead of the current structure, whereby the northbound bus reverses its direction and operates as the southbound bus. Adding buses to the route will permit more frequent service and shorter headways. The major advantage to this style of system is that it would only require route definition and asset allocation to implement.

GBT has recently purchased two battery electric buses in 2020 and are in regular service today. The perchance included two bus charging station for these vehicles. The second phase of the project will include three more battery electric buses as well as three more charging stations for these buses. The end goal of the project will include infrastructure for up to 11 electric battery buses for the fleet.

BUS RAPID TRANSIT SYSTEM

As part of the alternate transportation assessment, a longer term vision for enhanced bus service along the Route 8 corridor is being considered. This option involves the development and implementation of a Bus Rapid Transit (BRT) system between Derby/Shelton rail station to the Bridgeport station. While commuter rail service is provided on the Waterbury branch line between these stations, the line is located on the east side of the Housatonic River and trains must merge onto the main New Haven rail line. This alignment limits the number and frequency of trains that can be operated and increases travel times.

A BRT would provide a more frequent and direct connection between the Naugatuck Valley and downtown Bridgeport, as well provide a high quality transit service to the office and industrial parks located along Route 8. The BRT system options address and focus on travel between the Derby/Shelton station and downtown Bridgeport and opportunities to provide better and more attractive public transit service along the Bridgeport Avenue corporate, commercial, retail, and residential corridor. The existing bus services are limited, operating at 60-minute headways and either providing only peak period service or operating all day with long travel times. The BRT concepts would provide improved and extended service, shorter headways, and shorter travel times.

Two BRT systems are being considered:

- Shoulder Running BRT: This type of BRT system would operate within and along the outside shoulder of Route 8. In this case, the right hand shoulder would be designated as a bus only lane. The BRT would operate in an express fashion with a very limited number of stops located in close proximity to the bus lane. The intent is to maximize travel speeds

and minimize delays caused by station stops and off-route diversions. The BRT would function similar to the GBT Route 22X Enhanced, as described above, except it would operate on dedicated bus only lanes, as opposed to operating in the general purpose travel lanes. The bus only lane, typically referred to as a "reserved bus lane" or "bus on shoulders," would afford the buses an opportunity to by-pass congestion and maintain a free-flow speed.

The major concern with a shoulder-running BRT is the shoulder width. Along some sections, the BRT might have to travel within the general purpose travel lanes, which would expose the buses to the same level of congestion as experienced by general traffic. When it exits Route 8, it would operate along Bridgeport Avenue and merge into general traffic and use more traditional bus stops.

- Median Running BRT: This type of BRT system is comprised of a wholly separated facility running down the center of Route 8. The proposal is to construct a busway within the center right-of-way of Route 8. Unlike the shoulder running system, no adjustments would be made to the shoulder area of the highway. Instead, a new, dedicated busway would be constructed. This system will largely eliminate conflicts with merging traffic and roadway congestion. Access to and from the busway would be via grade-separated ramps that connect to an adjacent station stop or local roads.

  The recommended width of the busway is 16 feet. The unobstructed vertical clearance over a busway is a minimum 15.5 feet with a preferred clearance of 16.5 feet. For a bi-directional, two lane busway, a raised separator should be installed. This would result in typical cross section width of 34 feet.

  Route 8 south of the Commodore Hull Bridge is a combination of an older section built in the 1960s and newer sections completed in the early 1980s. The advantage of the newer section, approximately from the underpass of Constitution Boulevard to the merge with Route 25, is that the median ranges between approximately 65 feet and over 100 feet, more than sufficient space to accommodate a two-lane, bi-directional busway. The constrained section is from the Commodore Hull Bridge to the Constitution Boulevard underpass, a distance of just under one mile (±0.91 miles). The northbound and southbound travel lanes are separated by a "Jersey" style barrier; no median is provided.

  BRT buses would travel along the separated facility for about 6.5 miles where the facility would end and merge into the overlap section of Route 8/25. At that point, BRT buses would use the general travel lanes and exit the expressway at exit 3 (Main Street) in Bridgeport. Local streets would be used to travel to the Bridgeport Transit Center, the

terminus of the BRT route and transfer point to local bus service operated by the GBT and commuter rail service operated along the New Haven main line.

The median running BRT system would function more similar to a rail system and stations would be located directly along the busway or in close proximity. Strategically located transit hubs could be built to provide a convenient station with circulator shuttles utilized to bring riders to and from their final destinations.

CT transit Bus

Figure 3 CTtransit Bus in New Haven; photo credit: New Haven Register

5.2 DIAL-A-RIDE AND PARATRANSIT SERVICES

The Naugatuck Valley planning region benefits from several transit districts operating throughout the region. Transit districts may be formed at any time under Chapter 103a of the General Statues of Connecticut. Under state statute, a transit district is a civil division of the state for purposes of governmental administration and a legal entity. Transit districts are formed to provide public transportation for a municipality or group of municipalities. Within this framework there is a great amount of flexibility as to where and what services the district choses to provide.

COMPLEMENTARY ADA PARATRANSIT SERVICE

The federal Americans with Disabilities Act of 1990 (ADA) requires transit districts that operate regular fixed-route bus services to provide complementary paratransit services to persons that are unable to use the regular bus services. This complimentary service is available to all certified ADA eligible residents that have origins and destinations within ¾ of a mile of a local fixed route.

Within the region a number of transit services are available for individuals who, because of their disability, are unable to travel on the fixed route public transit service operated. This section reviews the complementary services provided for elderly and disabled rides for each of the region's fixed route transit systems and transit districts.

The Greater Waterbury Transit District (GWTD) was formed under Chapter 103a of the General Statues of Connecticut with the expressed purpose of providing service for elderly and disabled residents. The district comprises Cheshire, Middlebury, Naugatuck, Prospect, Southbury, Thomaston, Waterbury, Watertown, and Wolcott. The GWTD provides non-ADA paratransit services and dial-a-ride services for its member communities.

The North East Transportation (NET) operates the complementary ADA paratransit program linked to the CT*transit*-Waterbury fixed-route service. Responsibilities include screening and interviewing ADA eligible clients, scheduling trips, filing complaints, and operating and maintaining the ADA fleet of vehicles. Capital stock is owned by CT*transit*. Additionally, NET provides paratransit service to Gaylord Hospital in Wallingford with FTA New Freedom funding.

The Valley Transit District (VTD) is one of the few transit districts in the state that was incorporated by special act (SA 71.71). It is comprised of four communities: Ansonia, Derby, Seymour, and Shelton. The special act grants the VTD all the same powers afforded under Chapter 103a of the general statutes. The GBT and CT*transit*-New Haven operate fixed-route bus services in the lower Valley communities that comprise the VTD. The District operates the complementary ADA services for these routes, mirroring the fixed route services, Monday through Friday. However, the Greater New Haven Transit District (GNHTD) and GBTA must operate the complementary ADA service on the weekends to meet ADA requirements.

The VTD responsibilities include interviewing and certifying ADA eligible clients, scheduling trips, filing complaints, and operating and maintaining the ADA fleet of vehicles. It also coordinates with GNHTD and NET to provide inter-district trips. In both cases VTD will provide the outgoing trip and the rider must coordinate with the relevant partner district to schedule the return trip.

The NVCOG is the direct recipient for funding from the Federal Transit Administration for capital and planning projects within the lower Valley area. As such, the NVCOG owns all the capital equipment and rolling stock for the VTD, while the VTD is the operator for the transit district. Fourteen handicapped accessible minivans are operated by the VTD.

The VTD also operates free shuttle buses from Derby/Shelton rail station to job centers along Bridgeport Avenue. This service is funded under the FTA's Jobs Access Reverse Commute (JARC) program.

The Greater Hartford Transit District (GHTD) is a quasi-municipal corporation operating under the authority of Chapter 103a of the Connecticut General Statutes. The District has broad powers to acquire, operate, finance, plan, develop, maintain and otherwise provide all forms of land transportation and related services including the development or renewal of transportation centers and parking facilities. While not a member of the District, the city of Bristol is provided with the complimentary ADA service by the GHTD, under contract to the CTDOT. The GHTD contracts with First Transit, a private operator, for the provision of its consolidated service.

The fare for complementary ADA services is $3.50 per trip for all of the transit districts operating within the region. Rides must be scheduled one day in advance and the hours of operation mirror local fixed route service in order to comply with the ADA.

NON-ADA PARATRANSIT SERVICE

In addition to the required complimentary ADA paratransit services, expanded paratransit services are provided within the region. These services are referred to as "non-ADA paratransit dial-a-ride service" to differentiate it from the services required by the ADA.

The GWTD provides the non-ADA service to all municipalities within its district regardless of local fixed route services. The same eligibility requirements as ADA-paratransit apply, but the services are available to riders who have origins and destinations beyond the ¾-mile service buffer stipulated for the complimentary ADA service. While the service area is expanded, hours of operation mirror the complementary ADA service. The NET operates the non-ADA paratransit dial-a-ride program for GWTD. Operation and certification for this program is conducted jointly with the complimentary ADA service. Buses are also shared by clients of both programs.

The fare paid by non-ADA riders depends on municipal and state subsidies. Municipalities have the option to contribute $1.75 per trip, triggering a $1.75 state match. If the municipality makes

the $1.75 contribution the rider will pay $3.50 a trip. However, if the municipality decides not to contribute $1.75 per trip, the cost for the passenger is $7.00 per trip. Rides must be scheduled one day in advance.

DIAL-A-RIDE SERVICE

The VTD operates a dial-a-ride service Monday through Friday, 6:00 am to 5:30 pm. The program is operated independently from the complementary ADA service, because the two programs have different funding sources. This service is available for both the general public and elderly and disabled riders. However, the fare for the general public is $4.50 per trip. ADA-eligible riders and those using the service to commute to work or to travel to a medical appointment pay $3.50 per trip. Reservations must be made one day in advance.

The town of Southbury operates a dial-a-ride program that provides trips throughout the GWTD region. This service is funded through the FTA New Freedom (NFI) program.

MUNICIPAL GRANT PROGRAM

The Municipal Grant Program (MGP) provides matching state funds to expand elderly and disabled transit services within a municipality. To receive funding a municipality must demonstrate that it is either already providing services or contracting to provide services of or above the value of the grant allocation.

Within the GWTD each municipality is operating a local bus for seniors and disabled residents. The municipality may or may not charge a fare to riders for this service. They use their expenditures on this local service as a match for the grant, then assign their portion to the GWTD who contracts with NET to provide a district-wide dial-a-ride service. Riders are not charged a fare for the service provided by the GWTD.

Under the MGP, NET operates two buses a day and provides service to each municipality at least one day a week. The NET takes reservations for Naugatuck, Waterbury, Thomaston, and the local senior centers in Cheshire, Middlebury, Prospect, Watertown, and Wolcott take reservations for their residents and forward them onto NET for scheduling.

While service is limited, this current set-up has been favored in the past for two reason:

- Outside of the GWTD most towns limit this type of service to their municipal borders, whereas, the GWTD offers trips within an eight-town region.
- There is flexibility to move unused resources around the region. If a member town does not fully book its designated service hours, riders from other towns are able to book rides for the unused hours. Waterbury residents often get hours on days beyond their official days. Reservations are first come first serve and can be made during the week prior the municipality's day of service.

The VTD is the local provider of most elderly and disabled transit services. As such, member municipalities generally do not operate extensive municipal bus services. Member towns have allocated their respective MGP allocations to the VTD to expand its the existing service and provide certain rides free of charge during all hours of operation. Municipal dues are used as a match for the MGP.

The remaining municipalities within the Naugatuck Valley planning region use the MGP funds to match existing local funding and expand the paratransit services they are able to offer. The following municipalities currently receive and use MGP funds directly:

- Bethlehem
- Bristol
- Oxford
- Plymouth
- Southbury
- Thomaston
- Woodbury

LOCALLY FUNDED MUNICIPAL PROGRAMS

Each municipality within the region provides a variety of services for their residents, often overseen by a local senior center. For an exhaustive list of services available, the Kennedy Center has compiled a guidebook available on their website (www.thekennedycenterinc.org/what-we-do/programs-services/mobility-services/mobility-management-project.html). Additionally, the Connecticut United Way operates a 211 number that residents throughout region may call for information about how they may be able to find transportation in their community.

FARE-FREE BUS SERVICE

Due to rising fuel prices in March of 2022, the State of Connecticut suspended the gas tax and implemented fare free bus service. The program was originally spanning from April 1st to June 30th, but it was first extended to November 30th, and then extended further to March 31st, 2023. Because of this, bus ridership began to climb, with bus ridership numbers exceeding pre COVID pandemic levels, which saw a reduced number of riders when the COVID-19 pandemic began.

The removal of fares on all bus services within the state allows many more people to utilize the service by allowing financially unstable individuals use the system for free. Additionally, free fares can get riders to try the bus system who may not normally do so. If these riders decide to continue using buses, there is a beneficial impact by taking a car that would normally be driving off the roadway.

The removal of fares has some other challenges associated with it. With the loss of ridership income, there is a reduction in funding for bus transit agencies. This can lead to reduced service or less capital improvement over time, which would dampen new ridership. Another issue is related to equity. While the free bus fares are beneficial, the impact it has on equity is less known. The free fares may assist those who are financially stable disproportionally to those who are financially unstable. If this is the case, this is further increasing the wealth gap, not closing it.

5.3 COMMUTER RAIL

Commuter rail service through the Naugatuck Valley region is operated over the Waterbury branch rail line (WBL) of the New Haven main rail line (NHML). The NHML and its branch lines are owned by the State of Connecticut. The Metro-North Railroad (MNR) operates commuter rail service along the NHML and its branch lines under a service agreement with Connecticut Department of Transportation. The agreement also requires MNR to maintain the right-of-way, facilities, and equipment.

Passenger rail service on the WBL dates back to 1849. Service was originally provided by the Naugatuck Railroad later purchased by the New York, New Haven & Hartford Railroad (NYNH&H) in 1885. In 1969 the NYNH&H went bankrupt and merged into Penn Central Transportation. The new entity declared bankruptcy one year later and the New York Metropolitan Authority (MTA) and State of Connecticut began subsidizing the New Haven line and its branches. In 1976 Conrail was formed to operate the service, but by 1983 Conrail became a non-financially viable operation. With the passage of the Northeast Rail Service Act in 1981, MTA and CTDOT formed the Metro-North Commuter Railroad.

The NHML runs between New Haven and Grand Central Terminal in New York City. Three branch lines feed into the NHML:

- New Canaan Branch Line between New Canaan and Stamford – four stations along its 7.9 mile section.
- Danbury Branch between Danbury and the South Norwalk rail station in Norwalk – seven stations along its 24.2 mile section.
- Waterbury Branch Line (WBL) between Waterbury and Bridgeport – six stations along its 27.1 mile section.

The WBL is the longest of the three branch lines and connects with the main line at the Devon wye. Connecting service to Stamford and New York City is available at the Bridgeport station. While daily service is offered on the WBL, frequency and quality of service is constrained by the existing infrastructure.

The WBL is maintained at FRA Class 3 track standards. This classification limits speeds on the line to a maximum of 59 mph. The line consists of an unsignalized, non-electrified single track with no passing sidings. The CTDOT completed infrastructure improvements along the WBL in 2020. The improvements consisted of installing a centralized traffic control signal system and Positive Train Control (PTC). By-pass sidings were constructed along four sections of track to permit bi-directional movement. The total investment amounted to about $115 million. Before these improvements were implemented the WBL was considered “dark” territory and only one train could operate on the line at any given time.

While the Waterbury stop is the end of the passenger line, tracks extend beyond the WBL and are used by freight service. The Naugatuck Railroad Company operates sightseeing tourist trains over the Torrington Branch that extends from the end of the WBL to Torrington, as well as limited freight service. In addition, the Terryville Secondary, the common collective name of the 24.3 mile section freight rail line that runs between Waterbury and Berlin, splits from the Torrington Branch a short distance from the end of the WBL. The line is owned and operated by the Pan Am Southern (PAS) Railway. The PAS also owns yard and tracks adjacent to the Waterbury commuter rail station.

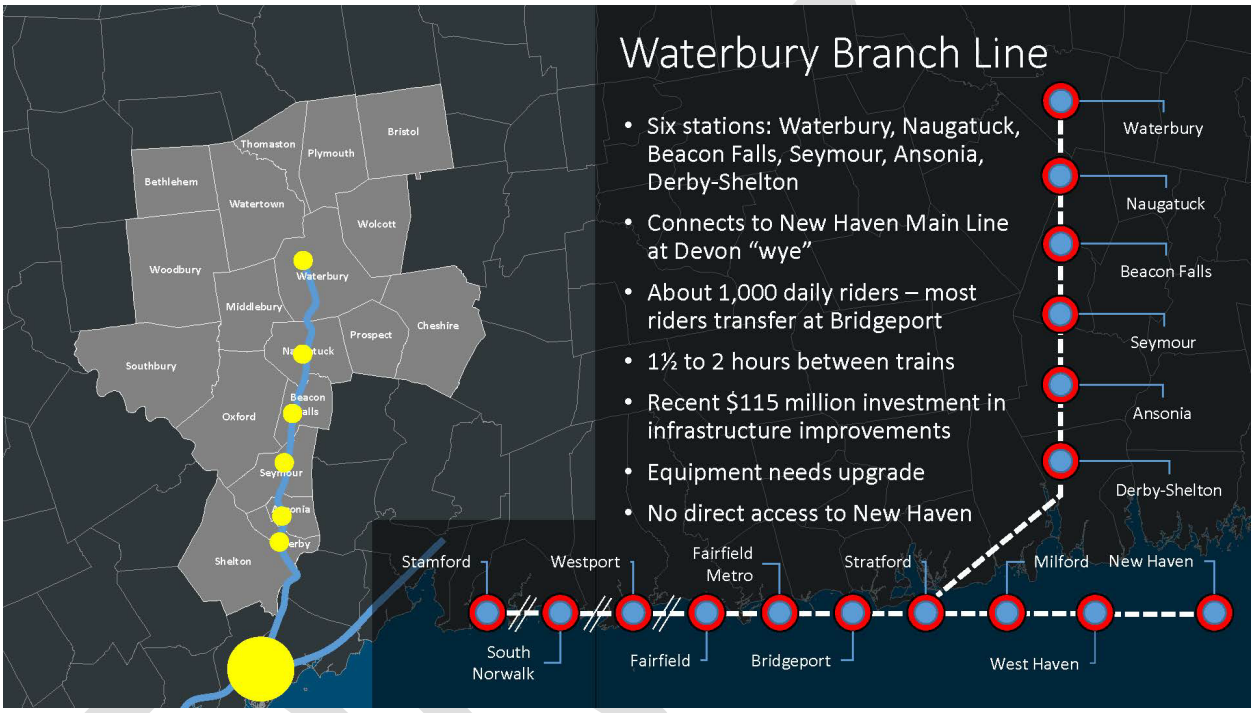


Figure 4 Waterbury Branch Line Stations; NVCOG Alternative Modes Assessment

SERVICE

In 1976 there were only eight trains daily (four in each direction), this increased to twelve by 1993. Seven new train trips were added in 2022, increasing the total daily service to 22 trips. Two additional Waterbury bound trips are provided by buses and serve all stations along the line. Waterbury Line service terminates at Bridgeport, requiring riders continuing their trip to transfer to a mainline train. Six WBL trains stop at Stratford; two inbound morning train and four outbound trains. Service to and from Stratford is primarily to discharge passengers in the inbound direction and receive passengers in the outbound direction.

Weekend service consists of only 12 trips: six in each direction.

Following the installation of the signal system, the maximum speed allowed by FRA regulations is 59 mph. This speed restriction may be modified to require slower speeds along several sections

because of track condition and at-grade crossings. The slowest speeds occur through the Devon wye. Trains can travel at only 10 mph. The segment with the greatest average speed is between the Devon Wye and Derby-Shelton station, because it is the longest segment, allowing the train to operate at maximum speeds over a longer length of Class 3 tracks.

EQUIPMENT

Figure 5 Metro North Waterbury Line Train

Since the WBL is not electrified, service is operated by diesel-powered locomotives. Most train sets consist of three coaches plus the locomotive. The equipment is shared with the Danbury branch line and sets have recently been shifted from use on the Shoreline East which permitted the increase in service on the WBL. The FRA regulations require diesel equipment to be inspected each day. The rail yards at Stamford and New Haven are the only ones capable to inspect, fuel and maintain the equipment. Currently all WBL locomotives, coaches, and cab cars are stored at the Stamford yard. This necessitates the deadheading of trainsets between Stamford and Waterbury each morning before revenue service can start. The equipment returns to Stamford after the last train arrives at Waterbury.

In the event of equipment mechanical issues, planned outages or issues on the WBL, bussing is instituted. While the MTA relies on the CT*transit* New Haven division to provide bus service as needed, unplanned outages can strain their ability to meet service requirements.

Communication issues have been reported between MTA and CT*transit* New Haven resulting in last minute needs and/or unneeded busses. With the infrastructure improvements that have

been completed in the past few years, the frequency of outages and problems that require alternate bus service has been greatly reduced.

INFRASTRUCTURE

The WBL consists of a single track over its 27-mile stretch. There are numerous crossings, including 19 road over passes and 16 at grade crossings. The WBL crosses over 15 features: nine public roads and six river crossings. In addition, approximately 51 below-grade structures existing along the WBL. These include culverts, pipes, and other underground structures. The at-grade crossings of public roads have signs, lights, and gates to protect crossing traffic when activated. However, the private road crossings are either unprotected or only have signs installed. In either case, there are no active warning systems in place.

Figure 6 View southbound from the Waterbury Train Station

There are 16 interlockings along the WBL that provide connections to rail spurs, sidings, or other rail lines. Six of these interlockings are active and the remaining ten are inactive. Of the six active interlocks, one provides a connection to a siding in Devon and three provide access to spurs to O&G Industries, Hubbard Hall, and Kerrite. WBL connects to two other rail lines using a wye. The Devon Wye provides access to the New Haven Main Line tracks and is operable in both the northbound and southbound directions. The Maybrook Line (freight) connects to the WBL at the Derby Wye, but it appears the interlocking is currently disconnected, and repairs are needed to make it operational.

STATIONS

In addition to Waterbury, the WBL has stops at Naugatuck, Beacon Falls, Seymour, Ansonia, and Derby-Shelton. The condition of the stations is generally poor and passenger amenities are limited. There are no dedicated station buildings at any of the stations for ticket offices or passenger waiting areas; tickets must be purchased in advanced or on the train. All stations, except Waterbury, feature only low-level platforms, lack canopies and have only small, three-sided, bus-style shelters to protect passengers from poor weather conditions. At the Waterbury

rail station, the high-level platform is shorter than optimal, about 125 feet, but a canopy provides some protection from the weather. The existing shelters are generally in poor condition, with evidence of attempts to remove graffiti. Platforms are in need of re-painting or re-staining, and there is evidence of rust on railings.

- Waterbury: The Waterbury rail station is located near the City's downtown area on the west side of Meadow Street. It consists of a short, high level platform, canopy, two shelters and a parking lot. Ramps provide accessibility from the parking area to the platform. It is adjacent to the old Union Station, which is now owned and occupied by the Republican-American newspaper. The station is easily accessible from I-84 and Route 8, as well as main city streets. Two express bus routes and two local bus routes connect at the Waterbury rail station. The express bus routes link to the CT*fastrak* in New Britain, while one of the local bus routes provides limited stop service to Torrington. Parking is located adjacent to and south of the platform. There are no ticket vending machines installed at the station, but an information kiosk displays static bus and train information and trash and recyclable bins are in place at the station. The parking lot was recently reconstructed and access and egress from the lot better defined. Parking spaces are defined, and pedestrian paths and bus stop locations are clearly designated. The new parking lot has enhanced security and visibility. The CTDOT is also exploring the possibility of converting a portion of the old Union Station into a climate-controlled, indoor passenger waiting area.

Figure 7 Platform at the Waterbury Train Station

- Naugatuck: The Naugatuck rail station is located on Water Street and is two blocks from the downtown area and adjacent to the former Naugatuck station building now being used as a restaurant. Route 8 is located on the opposite side of the Naugatuck River from the station but provides good access to the area via the Maple Street Bridge. It consists of a small, low-level platform with a single, open sided shelter. Parking is limited, not defined and sometimes in conflict with spaces designated for the restaurant. There are no defined walks or paths to the platform. Bus service is not provided to the station. The CTDOT is developing plans to relocate the station a short distance to the south as part of a redevelopment effort. The new location would better accommodate commuter parking.

Figure 8 The current Naugatuck Rail Station

- Beacon Falls: The Beacon Falls station is located on Railroad Avenue across the Naugatuck River from the downtown area, a relatively short distance (less than 1,000 feet). However, a walk over the Depot Street Bridge is required and there is a perception that the station is separate from the downtown. The station is easily accessible from Route 8. It consists of a low-level platform, a ramp, stairs and shelter. The parking lot is paved and spaces well marked. Three spaces are designated for handicapped parking. Amenities are few with only trash and recycle bins provided and bicycle racks installed; no ticket vending machines, information kiosk or benches are available. The station is not accessible by local bus service.

Figure 9 Waterbury Line train arrives at the Beacon Falls Station

- Seymour: The Seymour rail station is located on Main Street (Route 115) in the heart of downtown Seymour. The station consists of a low-level platform and a shelter. The shelter is unique among the WBL stations in that it is a brick structure with windows and sufficient roof overhang to protect patrons from the elements. Parking for commuters is available in front of the station, but patrons to local businesses can also park in the area. Additional commuter parking can be found in nearby mixed-use parking lots. However, commuter rail parking is not readily identified and difficult to find. A two-hour time limit is posted at the lot and the mixed use of spaces restricts parking supply. Access to the station is directly from Main Street, with connections to and from Route 8 nearby. However, wayfinding signage is limited and could easily be missed amid the normal sign clutter found in an urban environment. Passenger amenities are limited, and no ticket vending machine is available. One local bus route serves the station; operated by the New Haven division of CT*transit*. It connects the lower Valley towns with New Haven. There continues to be interest in the long-term vision of relocating the station from its constrained downtown location to an area north of the downtown as part of a TOD development.

Figure 10 The small structure at the Seymour Train Station

- Ansonia: The Ansonia rail station is located on West Main Street in downtown Ansonia, one block from Main Street (Route 115) and along the east bank of the Naugatuck River. The station is not readily accessible from Route 8. Storefronts line the street east of the station and flood control walls line the opposite side of the tracks. Between the flood control wall and the tracks is an abandoned roadway. Weeds have overtaken the old pavement. The boarding area consists of bituminous pavement and a low-level wooden platform. An old wooden canopy overs the boarding area. Three Plexiglas glass shelters line the boarding and provide some protection for passengers. Several shrubs are planted along the backside of the shelters and partially


Figure 11 The current Ansonia Train Station

obscure them from the street. Sidewalks connect the downtown Ansonia area and the station. Commuter parking is available just south of the station. Passenger amenities are limited, and no ticket vending machine is available. One local bus route passes through the Ansonia downtown area and serves the station. It is operated by the New Haven division of CT*transit* and connects the lower Valley towns with New Haven.

- Derby-Shelton: The Derby-Shelton rail station is located on the eastern edge of downtown Derby and is within walking distance of downtown Shelton, which is about a quarter-mile from the station. It is easily accessible from Route 8 and Route 34. The station is also referred to as the Derby-Shelton Multi-Modal Center (DSMMC) because of the local bus transfer point located on site. Multi-modal connections are made to fixed-route bus service operated by the Greater Bridgeport Transit Authority – Route 15 and Route 23 – and CT*transit* New Haven Division – Route 255. The administrative offices and maintenance facility of the Valley Transit District (VTD) are located on the same site as the station. A relatively large parking lot, with space for about 75 vehicles, is available at the station. No fee is required to park at the station. In addition, a canopy covers the low-level platform. The only passenger shelter is a small, unheated Plexiglas shelter. The station building was constructed in 1903 by the New York, New Haven & Hartford Railroad (New Haven Railroad), necessitated by the relocation of tracks of the former New Haven & Derby Line through Derby, and subsequent effort to double-track the line. It is a rectangular-plan brick building capped by an asphalt shingle-clad hipped roof. The interior floor plan featured a large central waiting room with a ticket office, restrooms, and a fireplace. Although the building no longer functions as a train station, the building retains many of its unique historical features and qualities and appears to be historically and architecturally significant as an example of an early-19th century New Haven Railroad station. The Derby Greenway section of the Naugatuck Valley River Greenway Trail is located on the east side the WBL from the DSMMC. However, there is not a well-defined connection between the station and the greenway. Currently, travelers need to exit the station site and walk along the existing sidewalk on the north side of Route 34, cross the

Figure 12 Platform of the Derby-Shelton Train Station looking south

on-ramp to Route 8 northbound and follow a short access driveway before reaching the greenway.

While the station functions adequately, passenger amenities are minimal. The existing shelter provides only minimal protection from the elements, as it is open on one side. While a station gateway sign has been installed at the entrance to the area, signage directing users to the station and parking is minimal. No ticket-vending kiosk is available, and train and bus information is limited. Although trash receptacles have been installed, there is track-level trash and litter. A standard bicycle rack has also been installed.

The CTDOT has initiated efforts to improve and rehabilitate several of the WBL stations. In 2021, the CTDOT was awarded a grant under the USDOT RAISE program to install high-level platforms and rehabilitate the grounds and building at the Derby-Shelton station. The total amount allocated to the project is about $24 million. The CTDOT was also awarded funds under the All Station Accessibility Program (ASAP) to install high-level platforms and other passenger amenities at the Beacon Falls, Seymour and Ansonia stations. The project will rehabilitate the station areas to bring them into compliance with American Disabilities Act requirements.

RIDERSHIP

The NVCOG conducted an on-board ridership count and intercept survey on all WBL trains over a three-day period in the fall of 2017. A team of two staff rode every train and counted the number of people who boarded and alighted at each station stop. Based on the count, there were 511 riders who boarded a WBL train and 503 passengers who got off, resulting an estimated daily ridership of 1,114 passengers. Since that survey, ridership on all commuter rail lines in Connecticut decline as a result of the COVID-19 pandemic. Based on ridership available from the Connecticut Commuter Rail Council website, monthly ridership on the WBL totaled 24,195 passengers for February 2020 and decreased to 14,608 in March 2020, as the effects of the pandemic began to take hold. It fell to less than 3,000 passengers for the month in May 2020 before rebounding the during the second half 2020, totaling 11,503 passengers for December. While this ridership level represented a 58.6% decrease from the ridership level for the same time the previous year, it was the lowest decrease for any rail line in Connecticut. By comparison, ridership on the New Haven main line decreased 81.6% and ridership on the other branch lines (Danbury and New Canaan) experienced drops of 86.2% and 84.1%, respectively. As the region continues to recover from the pandemic and adjust to the changes in travel patterns precipitated by the pandemic, WBL ridership is approaching pre-pandemic levels. The most recent available data show that ridership for August 2022 was 24,189 passengers, a 72.1% gain over the amount from the same the previous year, but still 23.5% less than the levels recorded in August 2019.

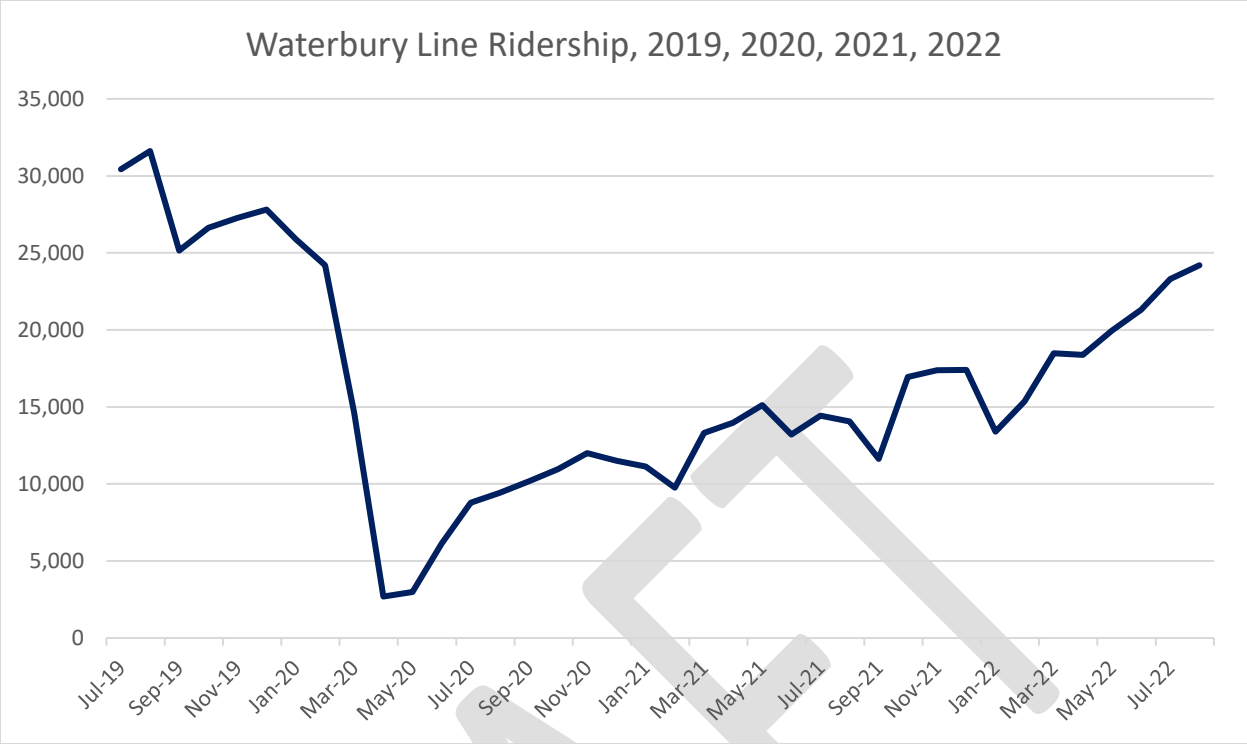


Figure 13 Ridership on the Waterbury Line from July 2019 through July 2022; data source: CT Commuter Rail Council

An objective of the on-board count was to determine where passengers were boarding a WBL train and at which station they were getting off the train. The majority of riders (60.9%) board at Waterbury with about 79.8% getting off at Bridgeport, the defined terminus of the WBL. Unless a rider's destination is at Bridgeport or Stamford, passengers are required to transfer to a main line train to reach their final destination. About 55.2% of respondents indicated that they transfer between a WBL and NHML train, with almost all transferring at Bridgeport (89.7%). The two most common destination stations were Stamford and GCT.

Problems and issues with the WBL service have been well documented at various public forums and news report and continue to be issues. The primary issue voiced by riders relates to the frequency of service on the WBL and concerns with making connections. The CTDOT has started addressing this issue by instituting additional service in 2022. The new service reduced headways and improved PM peak hour connections, but there remain concerns with frequency of service and ability to make connections.

The NVCOG has been researching the feasibility and opportunity of developing a permanent transfer station between WBL and New Haven main line services. Often passengers are reluctant make a transfer between services and prefer "one" seat rides. Because the majority of riders using the WBL already need to transfer to a main line train, establishing a transfer station is not seen as a deleterious problem. Passengers were polled about support or opposition of a transfer station at the point where the Waterbury branch line tracks connect to the main line, known as

the Devon wye. Overall, 68.1% of the respondents indicated that they would support the concept of a permanent transfer station located at the Devon wye. Of this group, about 39.4% indicated general support without any conditions, whereas 60.6% of the respondents conditioned their support with the need to provide more frequent service or continue to provide through service to Stamford. Of these two groups, providing more frequent service was the more desirable condition and selected by a higher proportion of passengers than the condition to continue to provide a through train to Stamford.

PROGRAMMED IMPROVEMENTS

The CTDOT completed several capital improvements along the WBL in 2021. These actions included installation of a Central Traffic Control Signal system, passing sidings, and improved railroad crossings. Positive Train Control (PTC) was installed concurrently with the signalization system. The signal system and passing sidings provide the opportunity to permit up to 10 trains per hour to safely operate along the branch line at the same time.

On-going, system-wide improvements to the Metro North service area will affect and improve operations along the WBL. These programmed improvements include real-time information at the stations, a new fleet, and upgraded ticket vending machines. Real-time information is operational at all NHML stations and CTDOT is programming $902 million to ramp up the entire rail fleet. In 2022, the CTDOT started operating M-8 trainsets on the Shore Line East system. This permitted the equipment that had been used on SLE to be shifted to the WBL and accommodate the increase in service implemented in 2022.

Long term programmed improvements, as part of the 30 year plan for *Let's Go CT!*, include improving service on the branch lines, providing feeder bus routes to rail stations, new diesel fleet equipment, fleet expansion, and maintenance facilities and yards on the branch lines. To improve service along the main line and branch lines the fleet of diesel equipment will be replaced and expanded at a cost of $530 million over the next 30 years. CTDOT is analyzing diesel hauled equipment purchases to replace the aging fleet and is planning to phase in purchases based on need and funding availability.

Specifically for the Waterbury branch line service, the aging fleet of locomotives and coaches currently operating on the line require replacement. Even with the reassignment of equipment from SLE to WBL, the locomotives and coaches operating on the WBL are the oldest on any Connecticut's rail lines. To fully take advantage of the new signalization system and passing sidings, additional service is needed, and new train sets are needed.

5.4 PASSENGER RAIL IMPROVEMENT PROJECTS

The Waterbury branch rail line is a critical transportation asset of the Naugatuck Valley planning region that is currently underutilized because of the age of equipment operated on the line and limited service provided. Trainsets are old, lack amenities, and are generally considered poorly cleaned and maintained. Service provided on the line remains insufficient to meet the needs of commuters and other travelers and does not offer convenient and attractive connections to preferred destinations. The potential for long layovers if required transfers are missed remains a concern. Station area features are meager with poor station access, low level platforms, basic shelters, and few amenities.

Many of these deficiencies will be addressed within the next five years because of recent awards of USDOT discretionary program funds. The CTDOT applied for and received an award through the RAISE program to rehabilitate the Derby-Shelton station and construct ADA-accessible high-level platforms. Similarly, an award from the US DOT from the All Stations Accessibility Program (ASAP) will fund ADA-accessible platforms and amenities at the Beacon Falls, Seymour and Ansonia stations. These actions area critical first step in transforming the WBL into a modern, state-of-the-art rail system.

To further increase ridership and reduce inefficiencies along the line, modern equipment must be better utilized. While electrification continues to remain the preferred option for new equipment purchases, a small Waterbury yard and maintenance facility should be constructed to allow Waterbury Line equipment to be based along the line. This would further support expansion of the service onto parts of the rail network not currently served by passenger trains.

Outside of the Waterbury Line, there are two critical passenger rail expansions considered priorities within the region. Most importantly, the line that exists between Waterbury and Berlin, passing through Bristol and New Britain, should receive the upgrades outlined in the Central CT Rail Study. Given the expected cost of this project, it is not funded in this plan, but is listed as an unfunded regional priority within Chapter 3. Additionally, extension of Waterbury Line service north to Torrington would provide access for residents of the Valley and Waterbury to the natural resources of northwest Connecticut while also improving access to the vital services and employment opportunities in Waterbury to residents of Torrington and the surrounding communities. This enhancement, under study as part of the ongoing Waterbury Line Needs Assessment, does not yet have a cost estimate and therefore is similarly not included with a funding source in this plan.

A detailed list of recommended improvements and identified funding sources are included in Appendix A.

5.5 PERMANENT DEVON TRANSFER STATION

A critical goal of the Metropolitan Transportation Plan is to improve operations along the Waterbury branch line and provide services and schedules that would be attractive and convenient to commuters and provide a reliable alternative to driving. Enhanced service along the WBL is also critical to realizing revitalization of the downtowns located along the branch line and incentivizing transit supportive developments within the station areas.

The installation of full centralized signal system and construction of four by-pass sidings permits a substantial increase in the number of trains that can operate on the WBL and the CTDOT implemented seven new train trips on the WBL in 2022 to take advantage of the ability to operate trains in both directions. The signal system has the potential to allow ten trains per hour to operate on the line. While that level of service is not being considered, it demonstrates the opportunity to operate service at headways substantially better than currently.

Despite the ability to increase service, a limiting issue continues to be the capacity on the New Haven main line; that is, the number slots available on NHML is limited and the opportunity to add more trains to NHML from the Waterbury line is constrained. While the signal system allows more trains to operate on the WBL, increasing the number of trains with direct service to Bridgeport or Stamford may not be possible to the capacity issues on the main line. In addition, the existing interlocking at Devon between the NHML and the WBL does not allow direct service to New Haven. WBL passengers wishing to travel to New Haven must continue west to Bridgeport, and transfer to an outbound train and backtrack toward New Haven. Furthermore, the schedules are not setup to coordinate this inbound-to-outbound connection, therefore longer than desirable layovers are required.

To increase the frequency of service on the WBL and expand potential transfers and connections with NHML trains, construction of a new, permanent transfer station at the Devon junction is recommended. The new station would provide the ability to increase service to mainline destinations without taking up additional schedule slots on the NHML. Waterbury branch line service would be altered to operate more like a shuttle service. Operations would terminate trains at Devon and the schedule would be retooled to facilitate the transfers. Southbound WBL trains would arrive at Devon several minutes before a NHML train is due to arrive. Similarly, northbound trains would depart Devon after the arrival of a NHML train. The new Devon station would also allow WBL riders to access outbound trains and travel to New Haven without the need to travel in the opposite direction to Bridgeport.

In addition to the expanded shuttle-type service, some WBL trains would continue as through trains on the main line to provide direct service to Bridgeport and Stamford.

The proposed alternative would locate a new Devon station within the Devon "wye" between the WBL track and the interlocking with Track 3 (inbound, local track) of the NHML. High level platforms would be installed along the WBL track and the inbound and outbound local tracks on the NHML. The platforms would be connected to provide seamless transfers. The NHML platforms would be connected via an elevated up-and-over walkway. The connection will require the installation of elevators on both platforms to ensure it is fully accessible. Vehicle parking

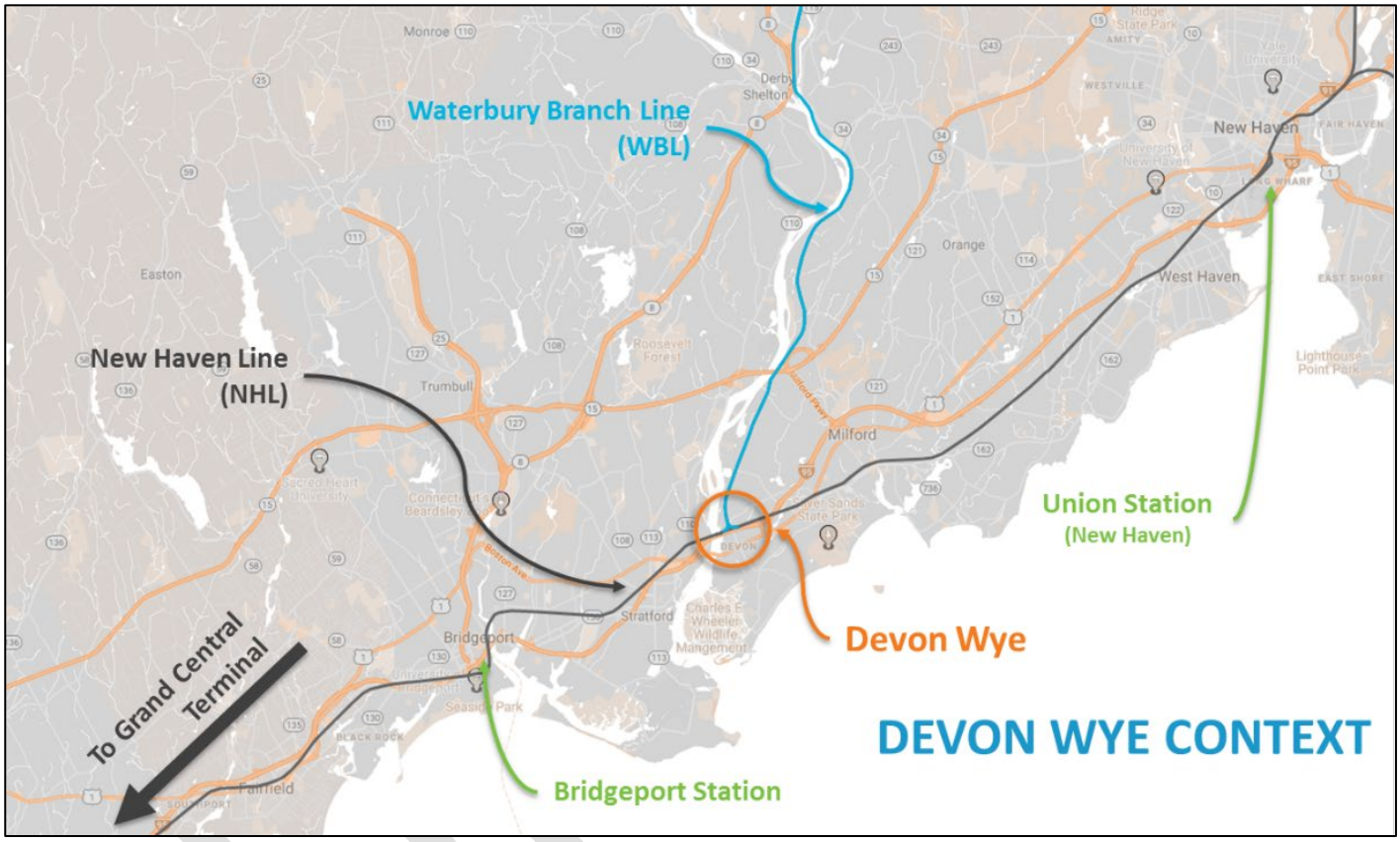


Figure 14 Context of the Devon Wye within the greater Metro North System

would be minimal and limited. While a vehicle drop-off and pick-up drive would be provided from Naugatuck Avenue, the intent is to limited access to the station primarily to passengers transferring between the WBL and NHML trains. However, given the proximity of residential neighborhoods, pedestrian access would be accommodated.

Figure 15 Rendering of the proposed Devon Transfer Station in Milford

The bridge carrying Naugatuck Avenue over the NHML is scheduled to be replaced as part of the planned Devon draw bridge project. The design of this projects has not started. This presents an opportunity to incorporate the proposed Devon transfer station concept into the Naugatuck Avenue Bridge replacement project to ensure access from Naugatuck Avenue into the site and assess the feasibility of using the bridge as the “up-and-over” between the two platforms.

5.6 MICRO-TRANSIT

Micro-transit is a form of demand-responsive transit service that offers highly flexible routing and scheduling of minibus or van style vehicles that are shared with other passengers, unlike a conventional taxi or ride-hailing service. Unlike Dial-a-Ride or paratransit service, riders do not have to call an operator and request a ride in advance. Micro-transit typically utilizes an application-based service, allowing riders to request a ride in real-time. Most micro-transit services allow users without a smartphone to request a ride by phone. The vehicle picks up riders and delivers them to their destination, with the ability to carry multiple passengers in the same vehicle to different locations. Like standard fixed route service, riders are typically picked up at common pre-determined locations such as conventional bus stops. Due to the demand-response system, however, there is no fixed schedule, and buses do not drive around empty for periods of time like a fixed route, improving system efficiency.

Micro-transit can assist with the "first and last mile problem," or the issue of how people will get between a transit hub and their origin or destination. In many cases, people can walk to and from transit if it is close enough. However, there are cases where a transit hub may be difficult to access from a passenger's origin or their destination may be difficult to access from a transit hub. This gap is called the "first and last mile connection". Micro-transit can take passengers to major transit hubs, such as train stations and bus stops, filling the first and last mile gap and making existing public transit accessible to more members of the community. Micro-transit can also replace fixed-route service in time frames with less demand, such as late nights and weekends. Aside from filling service gaps, micro-transit can reduce the need for additional parking spaces and help achieve climate goals as part of a broader package of solutions.

The potential of micro-transit is particularly significant for rural and lower density suburban communities, which often struggle to have a cost-effective method of transportation that meets the needs of the community. In these circumstances, micro-transit is cheaper to operate than conventional fixed route service, and it can provide better operational coverage in lower density areas. Micro-transit is not a replacement for fixed-route service in areas with sufficient demand.

Currently, no municipalities in the region provide micro-transit service. NVCOG is interested in gauging demand and determining suitability for micro-transit through a pilot program or study but will need to conduct further research to determine where potential locations are the communities in the Valley Transit District and the neighboring communities of Southbury and Oxford.