FINAL REPORT

WATERTOWN-JEFFERSON COUNTY AREA TRANSPORTATION COUNCIL TRANSIT STUDY

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EXECUTIVE SUMMARY

Purpose and Need

The Watertown-Jefferson County Area Transportation Council Transit Study builds upon the earlier efforts of the Fort Drum Regional Transit Analysis (2012), which recommended transit strategies to connect a rapidly growing Fort Drum population to Watertown and nearby communities. The study area is home to a group of high functioning but highly localized and specialized transit services that lack coordination and have significant gaps in service, both temporal and geographic. Such a limited menu of transit service is now even more problematic in the context of a region that has grown enough to qualify for a Metropolitan Planning Organization (MPO), providing a regional approach to transit and transportation.

The City of Watertown city is served by Citibus, a 6-day-per week service that consists primarily of daytime, fixed-route service operating almost exclusively within city limits. Within this limited context, Citibus is respected and effective, serving about 140,000 trips per year. The region is also served by two large networks focused mostly but not exclusively on access to social services and "lifeline service" for people with few other options. These include the Watertown Volunteer Transportation Center, one of the largest such volunteer services, known and admired on a national level. In addition, the Jefferson Rehabilitation Center operates a network of routes reaching throughout the county, primarily providing access to its services.

Despite these assets, the regional network is underutilized in comparison to the way similar networks function in nearby regions, such as the networks in the cities served by Syracuse-based Centro, as well as in the Capital (CDTA) region, Greater (RGRTA) Rochester and other parts of New York State. The region's growth, which is linked to sustained, increased personnel at Fort Drum and growing satellite communities such as Le Ray have increased the urgency to expand and improve the regional transit network.

Most recently, the 2016 Jefferson County Coordinated Transportation Plan for Mobility Services set the stage for a potential expansion of transit in the county. The recently established MPO (Watertown Jefferson County Transportation Area Council) provides an opportunity with this RFP to propose a regional transit network appropriate for Watertown, Fort Drum and surrounding communities, based on real ridership potential, a robust operating organization and solid financial backing.

Key to this recommendation, in addition to identifying corridors, schedules and budget, is determining the best organizational structure for regional transit. This outcome could range from a consortium of existing agencies, a merger of agencies, or a multi-region operator like Centro, which serves Syracuse but extends as far as Oswego and Utica. Adding to the complexity is the fact that many parts of the MPO region lack the density to support frequent, fixed-route service, and their needs require employing a wider menu of mobility services. Key subordinate issues include privatized vs. public operation, optimal siting of operating facilities, and the need for resilience in this northern portion of the Tug Hill region, nationally known for its long and snowy winter. This study goes beyond service planning to include recommendations for an operating structure. As important as corridor and route recommendations, a successful operation depends on garages, fueling, washing, maintenance, dispatching, a quality crew facility and optimal logistics.

Objectives of the Study

This study is a client and stakeholder-driven effort, reflecting the deep local knowledge of local officials, existing transit and mobility providers, and leadership from major travel generators such as Fort Drum. The study begins by providing an updated inventory and maps of all transit providers and mobility services in Watertown, Jefferson County and immediately adjacent areas, including transit, intercity, volunteer and social service operators. This effort informs the subsequent recommendations with respect to operating structure by including providers based outside the county (such as in Lewis and St. Lawrence Counties), multi-regional providers such as Syracuse-based Centro, as well as other nearby transit agencies, potential contractors for privatized service, and Trailways.

The study identifies the optimal corridors in Watertown and Jefferson County, plus immediately adjacent areas, for potential new, enhanced or coordinated transit and mobility services. These identified corridors are evaluated, ranked, and further optimized to improve their performance and to be sure that the best possible corridor services have been considered. Corridor selections rankings were shared with stakeholders, public officials and the public, to ensure all relevant transportation patterns were adequately evaluated and to develop a recommendation package.

One or more packages of several corridors, including a system-wide route and service design, will be assembled as an intuitive network of compatible corridors that form an optimal regional transit system. Each package is presented with a financial (capital and operating), ridership and benefit analysis.

The report concludes by presenting the optimal transit package and an optimal organization structure for the operation of the service, based on financial, operating logistics, facilities, and management considerations. After a final refinement of the best performing options for service and organization, and with the support of the client and Stakeholders (Project Management Advisory) committee, this study includes a final recommendation of the best service and organization.

Existing Services Inventory

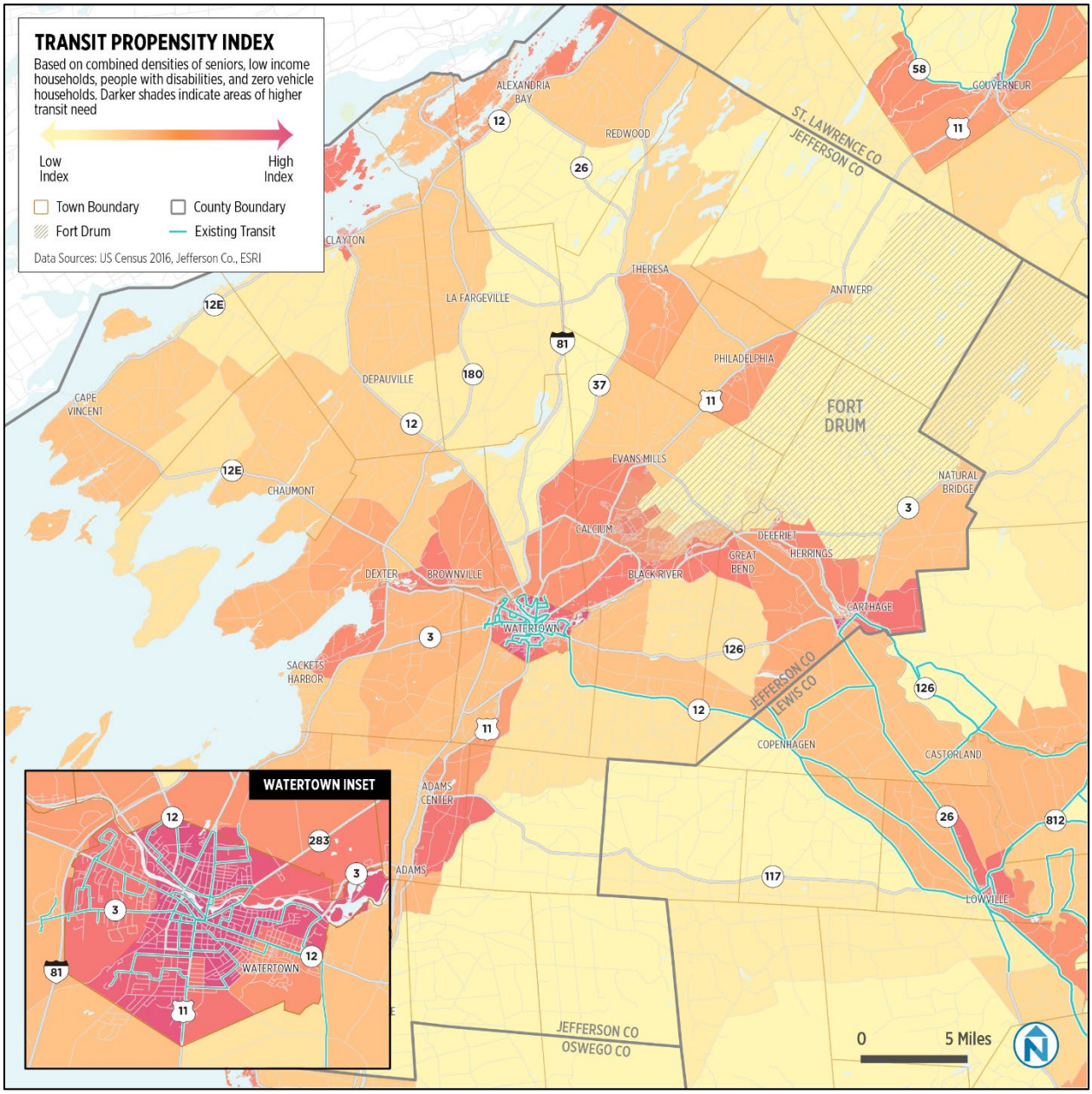
The Transit Study Area is home to three public transit operators in Jefferson, Lewis, and St. Lawrence Counties. Two of these, Lewis County Public Transit and St. Lawrence County Public Transit, operate throughout their respective Counties, while the third, Watertown Citibus, is confined to the City of Watertown. Complementing these transit providers are four major human service transportation providers, along with some small private operators, who transport individuals unable to use fixed-route service and handle non-emergency medical transportation (NEMT) needs of those living in the study area.

Market Evaluation and Demographics

To gain an understanding of where additional transit needs exist, the study team considered local population/employment densities, growth trends, commute flows, and community demographics of the three-county study area. The inventory of transit providers and mobility services in the three-county area focuses on key travel generators and market demographics. Outputs of this inventory include an updated profile of transit needs at Fort Drum, plus at the county's employers (including businesses, recreation, government and hospitals), malls, downtowns and retail concentrations, schools and housing developments, identifying which are well served or underserved by existing transit and mobility providers. This inventory includes well-known travel generators such as Salmon Run Mall, Walmarts near Watertown and Le Ray, Samaritan Hospital, the Airport and Jefferson Community College. These existing services, ridership, generators, markets, and demographics are mapped and overlaid with transit services and capacities to illustrate the match or mismatch of service, destinations, and mobility needs.

Demographic characteristics have a direct impact on the demand for public transportation and mobility services. In particular, the location and concentration of individuals who are more likely than the general public to use public transportation need to be quantified in order to appropriately prioritize transportation resources. These individuals tend to be older adults, persons with disabilities, persons with low incomes, military personnel who are stationed at Fort Drum, limited English speakers, and those who do not have access to an automobile. Population growth and density of the demographic factors evaluated result in a Transit Propensity Index (see Figure 1), a composite measure of the highest concentrations of potential riders and markets for public transportation.

Figure 1 Transit Propensity Index



Public and Stakeholder Engagement

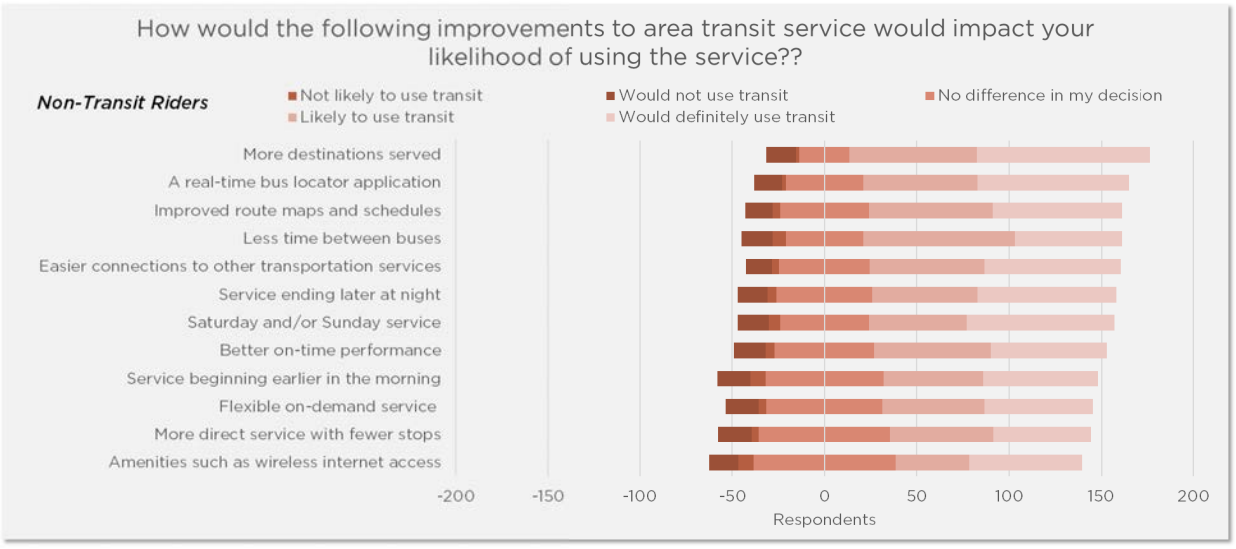
At the outset of the study, stakeholder interviews were held with representatives of Fort Drum as well as CitiBus and other local operators to better understand operational procedures as well as challenges faced by the users of those services. While early stakeholder interviews focused on operational organizations, subsequent interviews concentrated on funding sources and the ability of volunteer and specialized senior transportation to serve as first mile/last mile feeders to a proposed regional transit network.

A series of in-person outreach events were held on May 2nd, 2018, to guide subsequent technical work such as completion of the identification of potential transit development corridors, screening and ranking those corridors, and designing potential service network options. The first public outreach event was a presentation and question/answer session with the Fort Drum Community Liaison Information Forum. Representatives of the study team described project goals, preliminary findings from existing conditions analysis, a possible network configuration, and the remaining schedule to roughly 150 base operations, on-base agency, and resident group representatives. Later in the day, members of the study team visited Jefferson Community College to engage students, faculty, and visitors directly.

A transportation behavior and preference survey was administered from April 10, 2018 until June 2, 2018 via an online website (SurveyMonkey), with two-hundred ninety-six (296) responses received. The survey informs the corridor evaluation and analysis by providing insight into reasons for travel, methods of travel, what transit riders value, what drives value, and what might encourage drivers to try transit. Origin and destination information, as well as direct feedback on proposed corridors, is used to verify that proposals made by respondents are relevant and appropriate.

Certain improvements to transit service were considered attractive to non-transit riders and would make many consider using the service (see Figure 2). Respondents ranked a greater range of destinations served as the most popular factor. Information technology upgrades, service frequency, and the ability to connect to other transportation services were the most popular secondary considerations.

Figure 2 Likelihood of Behavior Change Due to Transit Improvements



All survey respondents were also asked to describe any constraints they face in obtaining employment due to a lack of available transportation options. General themes include:

- Lack of transit coverage limits employment options for residents without personal cars.

- Service-sector, shift workers can only work limited shifts because of transit's limited span of service, especially for those who work outside of 8 a.m. to 5 p.m. commuter hours.
- Employers have difficulty hiring for some entry-level roles because applicants lack reliable transportation to work.
- People with chronic medical conditions often miss their appointments due to issues with non-emergency medical transportation (NEMT) – services arrive late or are unreliable.
- Retired people living in rural areas are isolated by lack of transit coverage – even if they have personal cars, many cannot afford gas due to fixed income level.

Peer Review

This study develops a reasonable operational scope for a proposed system within the three-county study area by evaluating transit systems in regions with similar population sizes (see Figure 3). Each peer agency is further examined to identify applicable operational practices, vehicle types, and organizational models, by examining annual reports to the National Transit Database[1] for the transit operator in each peer region.

Figure 3 Peer Transit Agencies and Performance (2017)

System	City, State	Annual Passengers	Annual Revenue Miles	Passengers/ Mile	Operating Cost	Cost/ Passenger
Bay Area Transportation Authority	Traverse City, MI	378,077	1,366,566	0.28	$4,648,400	$12.29
Chautauqua Area Rural Transit System	Jamestown, NY	186,290	768,433	0.24	$2,429,237	$13.04
Kennebec Valley Community Action Program	Augusta, ME	103,313	231,825	0.45	$901,565	$8.73
Schuylkill Transportation System	Pottsville, PA	189,806	305,418	0.62	$1,760,911	$9.28

Service Plan

Recommended route alignments and service levels in this study were developed based on the following:

- Population and employment densities and characteristics
- Regional travel patterns
- Existing and planned transportation infrastructure
- Community preferences provided by survey respondents and public meeting attendees

[1] NTD Transit Agency Profiles, https://www.transit.dot.gov/ntd/transit-agency-profiles

- Project Advisory Committee and stakeholder feedback

Based on feedback received from the Project Advisory Committee, stakeholders, and WJCTC's Transit Technical Committee, this study recommends a phased approach to implementing regional transit service.

Initial Transit Network

The first phase would see CitiBus expand to serve Fort Drum as well as additional destinations just west of the City on Route 3. Expansion of CitiBus would include a new route serving Fort Drum as well as an extension of Route B Arsenal to serve the Jefferson-Lewis BOCES Bohlen Technical Center and Towne Center at Watertown, currently just outside of the CitiBus service area (see Figure 5). These expansions come at the recommendation of the Project Advisory Committee and attempt to serve locations that represent the best opportunities to add ridership and serve rider needs for an initial limited investment. The route to Fort Drum would operate along U.S. 11 to a yet to be determined transfer point where riders would board a shuttle authorized to operate with the fort boundaries.

Figure 4 Expanded CitiBus Network Composition Characteristics

Corridor	Weekday Round Trips	Weekday Start	Weekday Stop	Weekend Round Trips	Weekend Start	Weekend Stop
A-1 State-East Main	10	7:00AM	9:30PM	6	9:40AM	5:45PM
A-2 Washington	9	7:45AM	8:50PM	5	10:25AM	4:55PM
B Arsenal	19	7:00AM	9:40PM	11	9:40AM	5:40PM
C-1 Northside Loop	10	7:00AM	9:30PM	6	9:40AM	5:40PM
C-2 Coffeen-JCC	9	7:45AM	8:55PM	5	10:25AM	4:55PM
Fort Drum/Calcium	8	7:15AM	8:50PM	6	9:55AM	6:00PM

In future phases, the transit network would expand to serve additional destinations in and adjacent to Jefferson County. The Expanded CitiBus service changes are retained in network packages representing future system expansion.

Future Transit Network

The final stage of the future transit network, the Phase 3 package, builds upon the Initial Transit Network, shown above, as well as three intermediate stages of enhancement, shown as the MPO-Bounded Network, Regional Network Phase 1, and Regional Network Phase 2 in Figure 6. These iterations are composed of corridors, service frequencies, and daily service spans derived from the iterative corridor ranking process, population and employment density, and transit propensity indices described in the study's preceding Market Evaluation and Public and Stakeholder Engagement sections. The Phase 3 regional network package is created by adding round trips to the Phase 1 and Phase 2 packages and ultimately extending the service day span. A proposed Phase 3 corridor map is shown in Figure 5. The enhanced package also features seasonal routes, as well as routes that operate only during limited parts of the day. Most round trips added to the Phase 2 schedule fill in mid-day and evening gaps in service. Phase 3 represents an aspirational level of service.

Figure 5 Proposed Phase 3 Regional Corridor Map

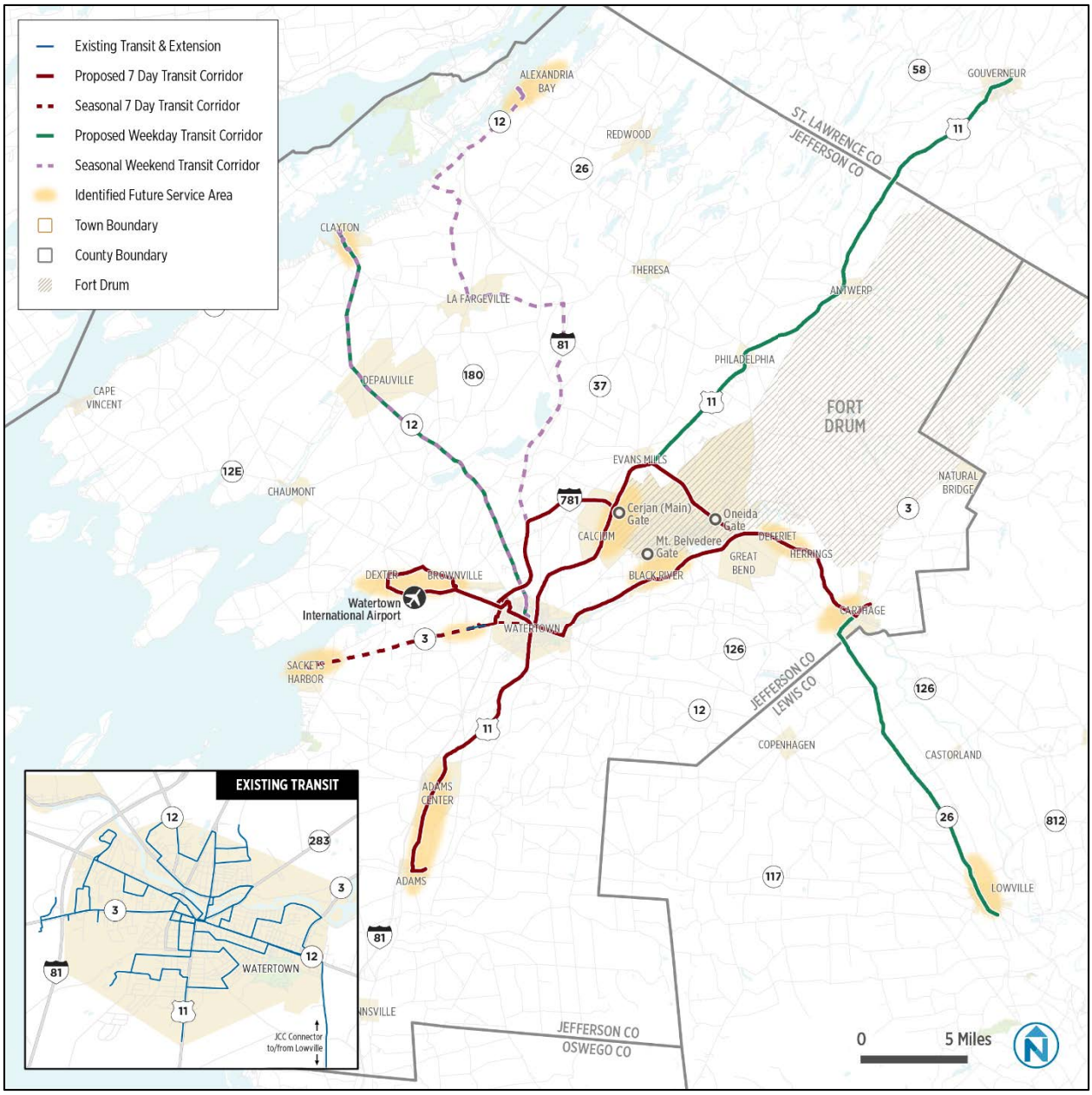
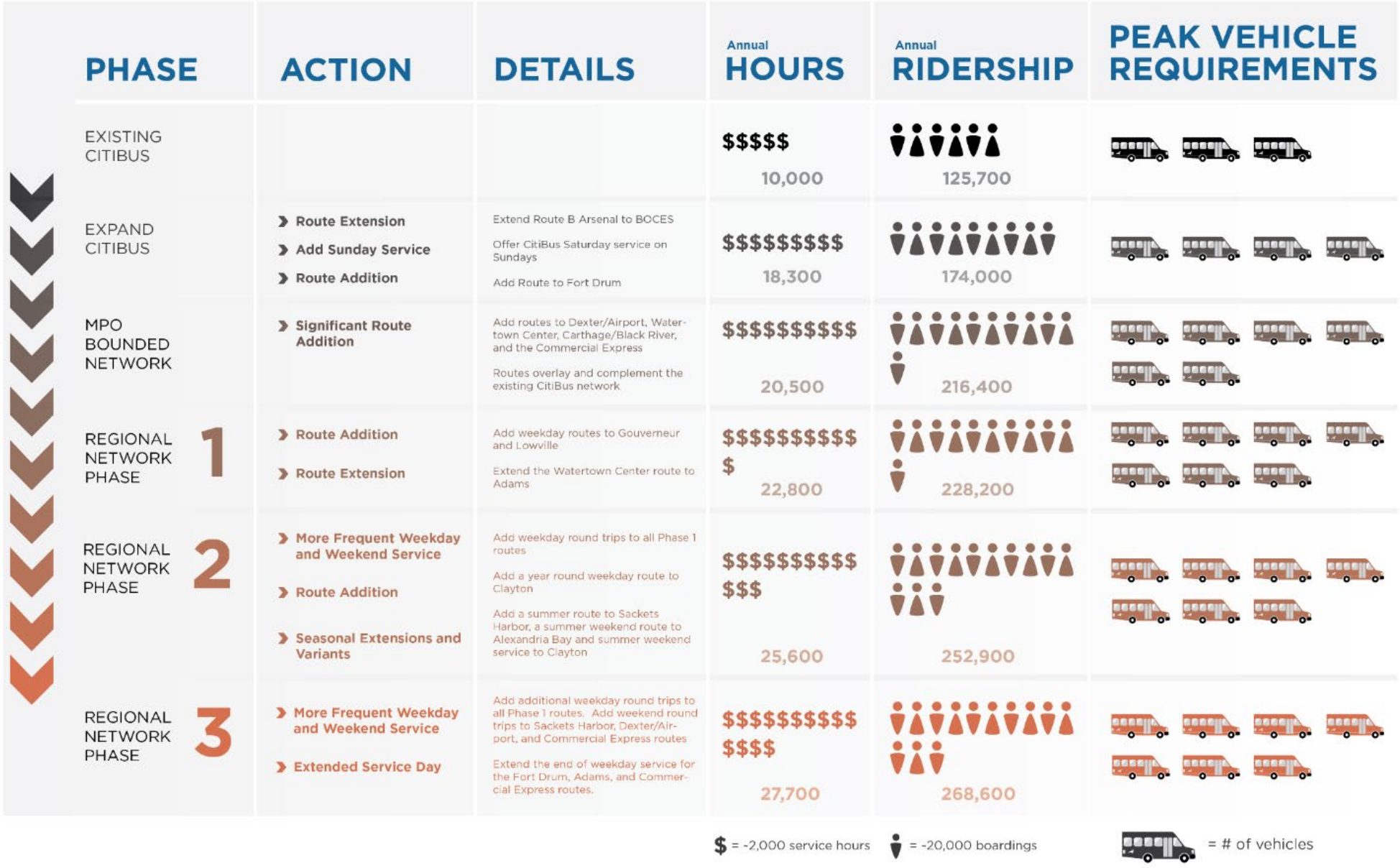


Figure 6 Phase 3 Regional Network Year-Round Composition



Financial Plan

Organizationally, the Watertown-Jefferson County Area Transportation Council (WJCTC) can enhance and open up service to the City of Watertown and the surrounding county using resources that already exist and/or contract out the service either as a whole or in parts. The organizational structure of the new service depends on the existing contract/relationship between CitiBus and the City of Watertown and WJCTC's preparedness to start anew. The key to providing quality service is to have:

- Clear expectations of service and scope of work
- Key performance indicators
- An excellent relationship between the operator and the Transportation Council to modify and enhance service as needed

Possibilities for future regional transit network operational structures include:

- Operation by the City of Watertown as an FTA direct recipient
- Operation by a newly created public agency
- Operation by another existing public agency (Jefferson County, Central New York Regional Transportation Authority)
- Contracted operation by a private operator
- Contracted operation by a non-profit operator

In the near term, it is recommended that the City of Watertown remain a direct FTA recipient, overseeing an initial expansion of the CitiBus system. This option makes the best use of existing facilities and service delivery experience, provides more autonomy over new fixed-route services, and retains a higher level of responsiveness to the needs of the community.

In exchange for assuming greater operating costs and burden, Watertown residents are likely to realize greater levels of access to employment, shopping and services, and continuing education. Additionally, the community is likely to stimulate additional economic activity (goods and services) from new access from outside Watertown, especially consumers from Fort Drum where there is a large carless adult population.

When ready to expand to a regional network service package, it is recommended that an overseeing public agency craft a Request for Proposals for private operation of regional routes. The Enhanced CitiBus network established in the initial phase may remain under the purview of the City of Watertown or it may be included in the regional proposal. Further integration and coordination with regional routes into a single system is recommended, though this may require a City system redesign.

Operating Costs

Initial Transit Network

CitiBus' operating expenses per revenue vehicle hour for fixed-route bus service was $77.13 in 2017. This figure is used to estimate the cost of expanded service as it accounts for the fundamental of CitiBus employee contracts. The Expanded CitiBus service package would provide 83% more weekly revenue service hours. Expanded operation, including Sunday service in and immediately outside of Watertown, accounts for a 40% revenue hours increase over the existing system, while solely adding a seven days a week Fort Drum route would increase revenue hours 43% over current totals. Annual operating costs would increase by approximately $641,000 over the reported $772,708 spent on fixed-route bus service in 2017 to account for the increase in service time.

Estimated Funding Contributions

To understand the possible necessary contribution by the City of Watertown to the operation of an expanded bus service, this study performed an assessment of past and likely future funding sources and levels. The ratio of bus fare collected to riders on the current CitiBus system is maintained at roughly $0.85/rider, resulting in roughly $41,000 additional fare revenue collected by an expanded system. While the federal 5307 and 5311 formula programs nominally provide up to 50% of operating costs, peer agencies were only able to recoup between 17% and 31% of fixed-route bus operating costs through federal sources in 2017. Thus, predicted federal reimbursement is limited to just over 25% of operating costs.

In 2017, State of New York and other funding sources accounted for over $150,000 of the revenues used to operate CitiBus. According to the State Operating Assistance formula, just under $130,000 of that total is attributable to STOA formula funds. However, according to the budget of the City of Watertown, the New York State Department of Transportation sends additional aid to offset costs related to the City's bus system.

Other funding sources provide an additional $41,400 to CitiBus operations. These include:

- STOA Clean-Up Funding
- Advertising revenue ($14,950)
- Contributions from the Jefferson County Office of the Aging ($5,600).

Noting fixed sources as well as the uncertainty regarding supplemental state assistance, the City of Watertown's contribution to an enhanced CitiBus network that extends Route B – Arsenal, adds Sunday service, and connects to Fort Drum, would need to increase by between $135,000 and $171,500 to a new total of between $630,000 and $666,000. If an Expanded CitiBus network did not includes service to Fort Drum, and merely extended Route B and created Sunday service, the required local contribution would be reduced to a range of approximately $482,500 to $507,400.

Figure 7 Anticipated Revenue Breakdown for Expanded CitiBus Service

	CitiBus Operating Costs	Fare Revenue	Federal Assistance	Formula State Operating Assistance	Other Funding	City General Fund Contribution
2017 Fixed-Route Operation	$772,708	$106,738	$0	$129,781	$41,398	$494,791
Expanded CitiBus Network Estimates	$1,413,752	$147,740	$353,438	$225,764	$20,550 - $56,817	$629,993 - $666,260
Expanded CitiBus (No Fort Drum)	$1,078,344	$125,926	$269,586	$154,878	$20,550 - $45,430	$482,524 - $507,404

Future Transit Network

Average operating expenses per revenue vehicle hour for the fixed-route bus service of reviewed peers was roughly $60 in 2017. This figure is used to estimate the cost of regional service provided by a private contractor. Annual operating costs are dependent on the scale of the chosen network (Figure 89), ranging from an additional $696,000 (MPO Bounded Network) to $1,129,000 (Phase 3 Regional Network).

Figure 8 CitiBus Performance (2017)

Annual Passengers	Annual Revenue Vehicle Miles	Operating Cost (Bus Only)	Operating Cost/ Passenger
125,711	114,301	$772,708	$6.15

Figure 9 Network Packages Estimated Operating Costs

Network Package	Estimated Additional Annual Passengers	Additional Annual Revenue Vehicle Miles	Estimated Additional Operating Cost
Expanded CitiBus	48,300	110,750	$641,000
MPO Bounded	90,700	180,150	$696,000
Regional Phase 1	102,500	276,000	$837,000
Regional Phase 2	127,150	355,300	$1,000,000
Regional Phase 3	142,850	405,150	$1,129,000

The funding eligibility of a contracted regional network is dependent on the network service package chosen. The MPO Bounded regional network is completely eligible for Formula 5307 funds, while the larger, more truly regional networks would require an accounting of Formula 5311 service miles. All routes would be eligible for State operating assistance and would be able to recover some amount of operating costs through fare collection, the structure of which would need to be determined depending on the size and shape of the regional network chosen.

Estimated Funding Contributions

This study performed a financial assessment of likely future funding sources and levels to understand the possible necessary contribution by a local agency to the operation of a contracted regional service. As discussed above, $60 is used to estimate the hourly cost of regional service provided by a private contractor based on peer data as well as certain assumptions regarding scheduling and staffing.

The ratio of bus fare collected to riders on the current CitiBus system is used to estimate likely farebox recovery. At approximately $0.85/rider, fare revenue ranges from almost $58,000 for the MPO Bounded Network to just over $102,000 for the full regional system buildout. Because peer agencies were only able to recoup between 17% and 31% of fixed-route bus operating costs through federal sources in 2017, predicted 5307 and 5311 contributions are limited to just over 25% of operating costs.

Based on predicted ridership, calculated revenue vehicle miles, and the current State Operating Assistance service payment rates, STOA payments would exceed necessary local funding, which violates the 100% local match policy. As such, STOA payments are adjusted downward while the local contribution is adjusted upward to equalize those sources and ensure all conditions are met to receive the state assistance payments. Required annual operational contributions to regional transit operations by a local agency range from $117,000 to $257,000 dependent on the level of service of the network chosen. Note again that STOA receipts are limited by the local match requirement, but that end-of-year STOA Clean-Up Funds described earlier are likely to further reduce direct local funding payments.

Figure 10 Anticipated Local Contributions Needed for Contracted Regional Service (Excl. CitiBus)

	Regional Operating Costs	Fare Revenue	Federal Assistance	Formula State Operating Assistance	Local Funding (Match)
MPO Bounded	$390,000	$57,843	$98,031	$117,063	$117,063
Regional Phase 1	$531,000	$67,846	$133,473	$164,840	$164,840
Regional Phase 2	$694,860	$88,766	$174,662	$215,716	$215,716
Regional Phase 3	$823,170	$102,082	$206,914	$257,087	$257,087

The figures above only quantify the needs for regional network routes operated under contract and assume that CitiBus continues separate operation. Should the entirety of City and regional operations be included in proposed contract operations, the following projections apply:

Figure 11 Anticipated Local Contributions Needed for Contracted Regional Service (Incl. CitiBus)

	Annual Operating Cost	Fare Revenue	Federal Assistance	Formula State Assistance	Local Funding
Enhanced CitiBus, no Fort	$838,830	$125,926	$209,708	$154,878	$348,319
Enhanced CitiBus, with Fort	$1,099,740	$147,740	$274,935	$225,764	$451,300
MPO Bounded	$1,228,830	$183,769	$307,208	$271,941	$465,913
Regional Phase 1	$1,369,830	$193,772	$342,458	$319,718	$513,883
Regional Phase 2	$1,533,690	$214,692	$383,423	$370,594	$564,982
Regional Phase 3	$1,662,000	$228,008	$415,500	$411,965	$606,527

DOCUMENT REVIEW

Mobility needs and meeting them via transit and transportation services has been an active area of study within the region dating back to 2011.

- The **Fort Drum Transit Needs Assessment (2011-2012)**, prepared for the Fort Drum Regional Liaison Organization, outlined a series of strategies to meet identified needs. The needs assessment revealed a large amount of inter-county travel between Fort Drum, the Wal-Mart retail area, Watertown, and Lowville. Conversations with providers revealed in many cases a desire to reach new markets, coordinate service, and try new delivery options. The study identified a number of opportunities for new and increased transportation services.
  - Maximized use of inter-city bus service.
  - The development of vanpools and more extended use of the Mass Transit Benefit Program.
  - Extension of the Lewis County LOOP Purple Route to Watertown.
  - Improvement of the legibility of information & marketing materials.
  - Inclusion of transit information in soldiers' welcome packets.
  - Development of minimum service standards for taxis.

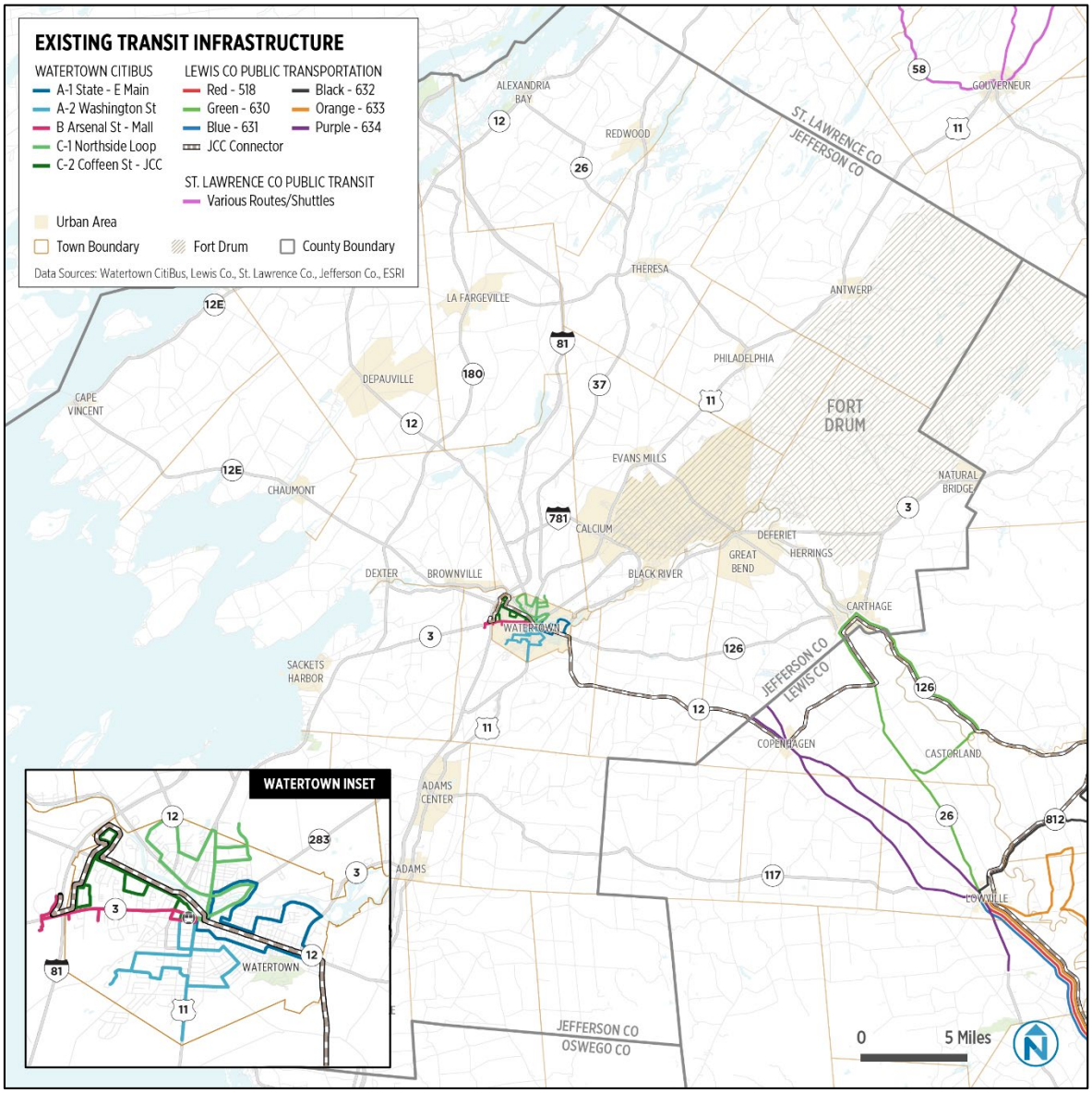
  Possible frameworks for project and strategy implementation were produced by project stakeholders. The first option involved the formation of a regional transit committee made up of organizations and providers in Jefferson County, southern St. Lawrence County, and northwestern Lewis County. Other options would see the newly formed committee hire a mobility manager either on a temporary or permanent basis.
- More recently, Volunteer Transportation Center, in conjunction with the WJCTC, prepared the **Jefferson County Coordinated Transportation Plan for Mobility Services (2016)**. The plan is intended to help improve the coordination of transportation services for persons with disabilities, older residents, and individuals with lower incomes. The provisions ensure that communities and organizations coordinate transportation resources provided through multiple Federal programs. Through the plan, local transportation partnerships can coordinate various solutions, such as shared vehicles, funding, maintenance, training, information technology, dispatch services, and intelligent transportation services. The plan puts forward preliminary steps for increasing ride coordination, expanding routes along the major corridors, sharing equipment, and maximizing service hours.

EXISTING SERVICES OVERVIEW

The study area is home to three public transit operators in the three counties, two of which operate county-wide and the third confined to the City of Watertown. Complementing these transit providers are four major human service transportation operations, along with some small private operators, who transport individuals unable to use fixed-route service and handle non-emergency medical transportation needs of those living in the study area. This chapter describes the services offered by the major transportation providers in detail and lists other providers of more specialized transportation.

TRANSIT SERVICES

Figure 12 Fixed-Route Transit Services Inventory



Citibus

Service Overview

Public transportation in Watertown is provided by Citibus, a service of the Department of Public Works of the City of Watertown.

Fixed-Route Service

The Citibus fixed-route system consists of five local routes (Figure 13) that run Monday through Friday 7 a.m.-6:15 p.m. and Saturdays 9:40 a.m.-5 p.m. There is no fixed-route service on Sundays or on New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day or Christmas. All routes serve the Arcade Street Transfer Station, which is the primary transfer point between Citibus routes. Routes A-1 and A-2 are interlined through the downtown area, as are C-1 and C-2. Citibus currently operates exclusively within the Watertown city limits with two exceptions: Salmon Run Mall and retail plazas west of I-81 and Seaway Plaza just north of the city limits in the Town of Pamelia.

Figure 13 Citibus Weekday Service Characteristics

Number	Route Name	Begin	End	Daily Trips	Common Headway
A-1	State-East Main	7:00AM	6:15PM	9	80 min
A-2	Washington	7:40AM	5:35PM	8	80 min
B-1	Arsenal-Mall	7:00AM	6:15PM	17	40 min
C-1	Northside Loop	7:00AM	6:15PM	9	80 min
C-2	Coffeen-JCC	7:40AM	5:35PM	8	80 min

Demand-Response Service

Citibus also provides ADA paratransit service Monday through Friday from 7 a.m. to 6:15 p.m. and Saturday from 9:40 a.m. to 5:35 p.m. for eligible passengers. The service origin and destination must be within ¾ mile of Citibus fixed route service. Paratransit service is under contract by Guilfoyle Ambulance Service.

Lewis County Public Transportation

Service Overview

Public transportation in Lowville is provided by Lewis County Public Transportation, an office of Lewis County Government. Service is operated by Birnie Bus Service, Inc.

Fixed-Route Service

The Lewis County fixed-route system consists of seven local routes (Figure 14) that operate Monday through Friday from 6:25 a.m. to 5:15 p.m. Additionally, there are daily connector routes serving colleges and shopping centers in the larger cities of Watertown and Utica. There is no fixed-route service on Saturdays, Sundays, or on New Year's Eve, New Year's Day, Memorial Day, Independence Day, Labor

Day, Thanksgiving Day or Christmas. All routes serve Lowville, though common stops do not act as transfer points due to the nature of most routes performing one commute trip in each direction per day. All routes are able to deviate ¾ miles from the posted routing and schedule to perform incidental non-emergency medical transportation functions. Routes 518, 630, 631, 632, the connectors, and the seasonal Old Forge youth employment route operate outside of Lewis County boundaries.

Figure 14 Lewis County Transportation Weekday Service Characteristics

Number	Name	Begin	End	Round Trips
518	Red	7:45AM	4:30PM	1
630	Green	6:25AM	5:15PM	1
631	Blue	6:50AM	4:25PM	1
632	Black	6:30AM	4:30PM	1
633	Orange	6:25AM	4:00PM	1
634	Purple	6:40AM	4:30PM	1
	Lowville Loop	9:50AM	1:30PM	3
548	Utica Connector (T,Th)	6:45AM	4:15PM	1
549	Utica Connector (M,W,F)	6:25AM	5:00PM	1
	JCC Connector	6:45AM	7:15PM	1

Demand-Response Service

Lewis County Public Transportation also offers a "Dial-A-Ride" service and will deviate from the route up to ¾ of a mile for individuals who cannot travel to the scheduled bus stop locations. Dial-A-Ride transportation service is available Monday through Friday from 6:30 a.m. – 4:30 p.m. All requests must be received and confirmed by Birnie Bus personnel by 2:00 pm the day prior.

St. Lawrence County Public Transit

Service Overview

St. Lawrence NYSARC officially operates the public transportation for St. Lawrence County. Buses stop at more than 50 locations throughout St. Lawrence County, including two in Gouverneur. Public transit routes are not merged with public transit routes and demand-response service is no longer operated by NYSARC, but rather contracted through Volunteer Transportation Center.

Fixed-Route Service

The St. Lawrence County fixed-route system consists of a number of regularly scheduled single trips between listed stops. Some trips are arranged as transit routes with multiple stops while others are designated as shuttles and make direct trips between only two stops. In some cases, a shuttle trip is one

functional leg of a larger transit route. Six of these trips serve Gouverneur on weekdays. There is no weekend service.

Figure 15 Service Characteristics Serving Gouverneur

Origin(s)	Destination(s)	Depart	Days
Canton, Ogdensburg, Others	Canton	7:05AM	M-F
Canton	Community Health Center, Canton	7:58AM	M-F
Canton, Potsdam, Massena, Ogdensburg, Others	Canton	9:45AM	M-F
Canton	Ogdensburg, Canton, Others	12:58PM	M-F
Canton	Ogdensburg, Massena, Potsdam, Canton	1:45PM	M-F
Community Health Center, Canton	Canton, Ogdensburg	3:50PM	M-F

HUMAN SERVICES TRANSPORTATION OPERATORS

Volunteer Transportation Center

The Volunteer Transportation Center (VTC) provides door-to-door rides for the last 24 years to health, social, and other destinations for residents of Jefferson, Lewis and St. Lawrence Counties who lack other transportation alternatives. There is no explicit cost to ride, though the organization does solicit donations from riders. Rides requests to medical appointments, grocery shopping, and nursing home visits are accommodated, though grocery trips must be booked at least two days in advance and can only take place Monday through Friday. Medical destinations make up the massive majority of rides provided. There is no range limit to the service. Previous destinations served include New York and Buffalo. VTC aspires to provide transportation for any and all trip purposes in the future.

Jefferson Rehabilitation Center

The JRC provides door-to-door transportation to its clients, all persons with developmental disabilities, to agency facilities, programming, and work sites. JRC operates several facilities in Jefferson County, including its main center in Watertown and residential facilities around the county. Transportation generally occurs in single trip pairs coinciding with the beginning and the end of the program day while some lesser transportation activity occurs during the mid-day.

NYSARC of St. Lawrence County

NYSARC administers a number of programs for clients and provides transportation to those programs, including specialized recreational programs such as fitness and the arts, which may occur on weekend days. During the week, door-to-door transportation serves career opportunity programs and practical skills rehabilitation. Much like the JRC, all transportation is pre-planned and routed so that the typical operational day experiences some mid-day gaps between pick-up and drop-off of clients.

Samaritan Keep Home

Samaritan Keep Home is a nursing facility in Watertown that also offers Adult Day Care and other assisted living services. In-house operated transportation is among program offerings. The vehicle fleet is also contracted by MAS to fulfill Medicaid-eligible trips (ambulette service) throughout Jefferson County. Service is available from 5 a.m. to 9 p.m. seven days a week.

MARKET EVALUATION

To gain an understanding of where additional transit needs exist, the study team considered the size, spatial distribution and characteristics of the local population. In particular, population/employment densities, growth trends, commute flows, and community demographics are examined. Population growth and density and the demographic factors studied lead us to a Transit Propensity Index; a measure of the highest concentrations of potential riders and markets for public transportation. Additionally, individuals with certain demographic characteristics are more likely to rely on public transportation due to economic or physical constraints and/or limited access to private automobiles.

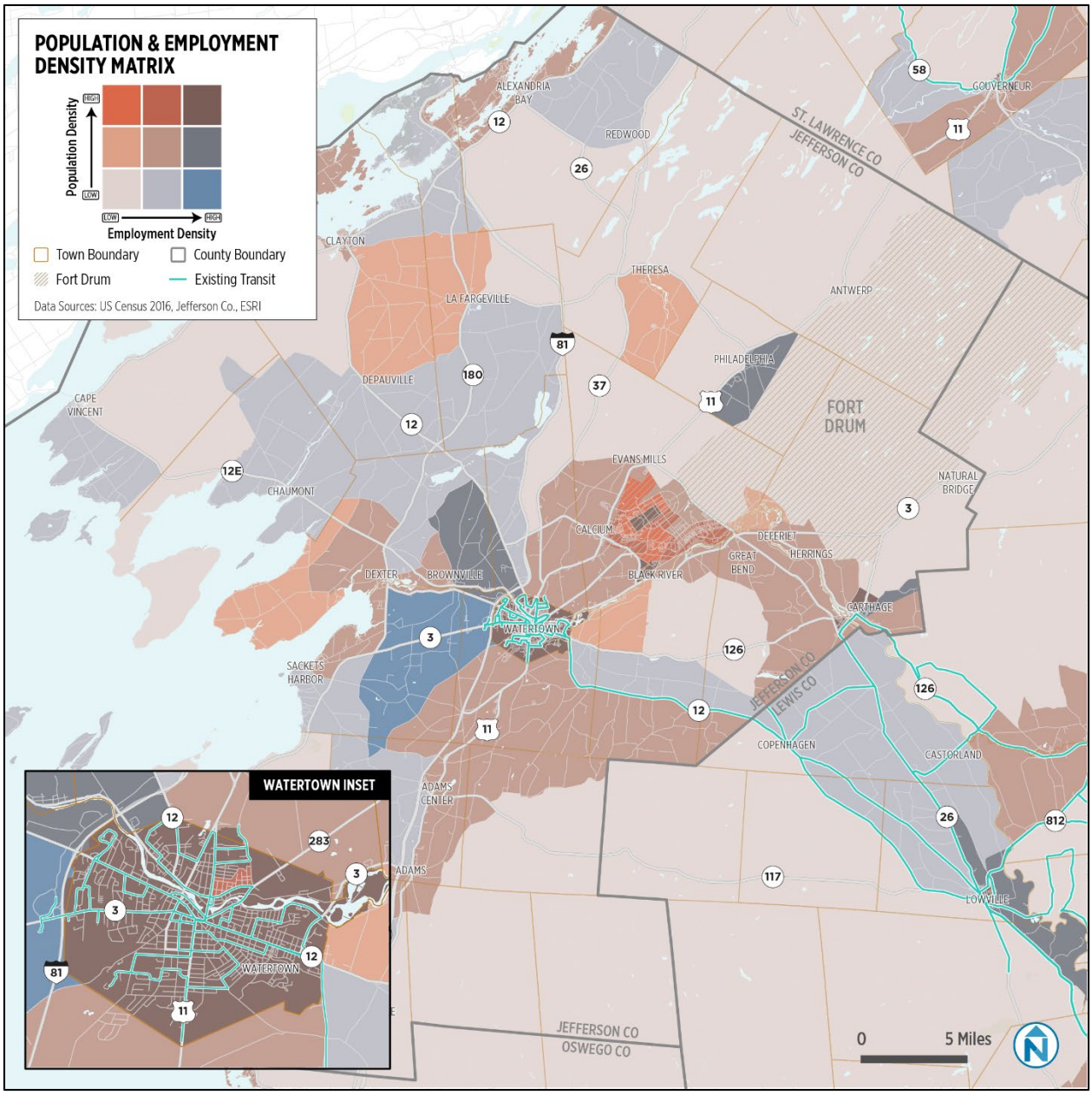
POPULATION & EMPLOYMENT

Population and employment densities help to determine where transit routes can be operated cost-effectively where resources are limited. Serving population and employment centers makes transit more financially efficient. Most transit systems serve a wide mix of riders, including those who choose transit for their commute, those who rely on transit to complete daily tasks such as shopping, and those who find transit convenient for transacting personal business including medical appointments. These, and a whole host of other reasons for choosing transit, form the foundation of the market for service.

Population and Employment Density

The study area as a whole is sparsely populated with a total population of just over 125,000 individuals spread over 1,273 square miles; a population density of just over 98 persons per square mile. As shown in Figure 16, the highest levels of population density are located in the City of Watertown, in the villages of Carthage, Lowville, and Gouverneur, and within Fort Drum. The highest levels of employment density are seen within the city, in the commercial and industrial areas immediately west of the city, in Philadelphia coinciding with Indian River Central School District facilities, in Lowville, in Carthage, and at Fort Drum.

Figure 16 Population and Employment Density



Population and Employment Trends

The study area has a stable population with slow growth owing mainly to activity at Fort Drum. The largest cities and villages have seen moderate population decline since 2010.

Figure 17 Study Area Population Trends

Location	2010[2]	2013 Estimate[3]	2016 Estimate[4]	Change 2010-2016
Jefferson County	116,229	118,073	117,966	1.5%
City of Watertown	27,023	27,453	26,997	-0.1%
Fort Drum CDP	12,955	13,745	13,500	4.2%
Village of Lowville	3,470	3,715	3,282	-5.4%
Village of Gouverneur	3,949	3,927	3,831	-3.0%
Study Area Total	123,648	125,715	125,079	1.2%

According to LEHD statistics, employment opportunities in the study area have declined 3.5% since 2010. While some localities like Lowville have seen gradual increases, the largest absolute decline is associated with Fort Drum. The military tracks on-post employment independently of census bureau surveys due to the transient nature of operations. As of May 2010, the Fort was home to 18,958 active military members. By February 2018, that figure had declined 22% to 14,780 soldiers.

Figure 18 Study Area Employment Trends

Location	2010[5]	2015[6]	Change 2010-2015
Jefferson County	36,267	36,120	-0.4%
City of Watertown	17,515	15,823	-9.7%
Study Area Total	58,349	56,315	-3.5%

Regional Employment Characteristics

The largest employer in the region is the 10th Mountain Division and Fort Drum, employing over 22,000 people. This figure includes 14,780 soldiers and approximately 3,700 civilian employees.[7] Other major employers include area hospitals, New York State offices, various county offices, local school districts, and several large manufacturers.

[2] U.S. Census Bureau, 2010 Source File 1
[3] U.S. Census Bureau, 2009-2013 American Community Survey 5-Year Estimates
[4] U.S. Census Bureau, 2012-2016 American Community Survey 5-Year Estimates
[5] U.S. Census Bureau, Center for Economic Studies, 2010 Work Area Profile Analysis
[6] U.S. Census Bureau, Center for Economic Studies, 2015 Work Area Profile Analysis
[7] February 2018 UCFR Population. Fort Drum.

Major employers in the study area are listed in Figure 19 below. In some instances, a specific total number of employees is replaced by a given range.

Figure 19 Major Regional Employers

Name	Address	Place	Employees[8,9]
Fort Drum	1000 10th Mountain Division Drive	Fort Drum	18,480
Samaritan Medical Center	800 Washington Street	Watertown	2,455
New York State	Various	Various	1,900
Jefferson County	Various	Various	830
Convergys	146 Arsenal Street	Watertown	800
Jefferson Rehabilitation Center	Various	Various	548
Lewis County General Hospital	7785 North State Street	Lowville	350-675
Jeff-Lewis BOCES	20104 NY Route 3	Watertown	500
Kraft Heinz	7388 Utica Boulevard	Lowville	375-450
Watertown City School District	Various	Watertown	417
Carthage Area Hospital	1001 West Street	Carthage	384
City of Watertown	Various	Watertown	367
Gouverneur Correctional Facility	112 Scotch Settlement Road	Gouverneur	367
New York Air Brake Corp.	748 Starbuck Avenue	Watertown	355
Lewis County	Various	Various	280-300
Car-Freshner Corporation	21205 Little Tree Drive	Watertown	279
Jefferson Community College	1220 Coffeen Street	Watertown	273
Lowville Academy and CSD	7668 North State Street	Lowville	240-260
Johnson Newspaper Corp.	260 Washington Street	Watertown	246
Watertown Family YMCA	119 Washington Street	Watertown	239
National Grid	21265 NY Route 232	Watertown	200
Gouverneur Hospital	77 West Barney Street	Gouverneur	200

Sources: Jefferson County Economic Development, Lewis County Economic Development

[8] Jefferson County Economic Development. http://www.jcida.com/Data-Demographics/Major-Employers-List.aspx
[9] Lewis County Economic Development. https://naturallylewis.com/goodcompany/major-employers

Commute Travel Patterns

Figure 20 illustrates regional commute patterns to and from locations within the study area. According to U.S. Census Bureau Longitudinal Employer-Household Dynamics (LEHD) data,[10] a large majority of Jefferson County residents work within the county (71%), and relatively few travel to Lewis (1.6%) and St. Lawrence (3.2%) Counties for work. Conversely, 27% of workers residing in Lowville work in Jefferson County, over a third of these in the City of Watertown. Far fewer Gouverneur-based employees work in Jefferson County (13%) while less than a quarter of those are commuting to Watertown. The largest concentrations of commuters to Jefferson County coming from outside of the country travel from Lowville, Croghan, and Denmark.

Figure 20 Regional Commute Patterns

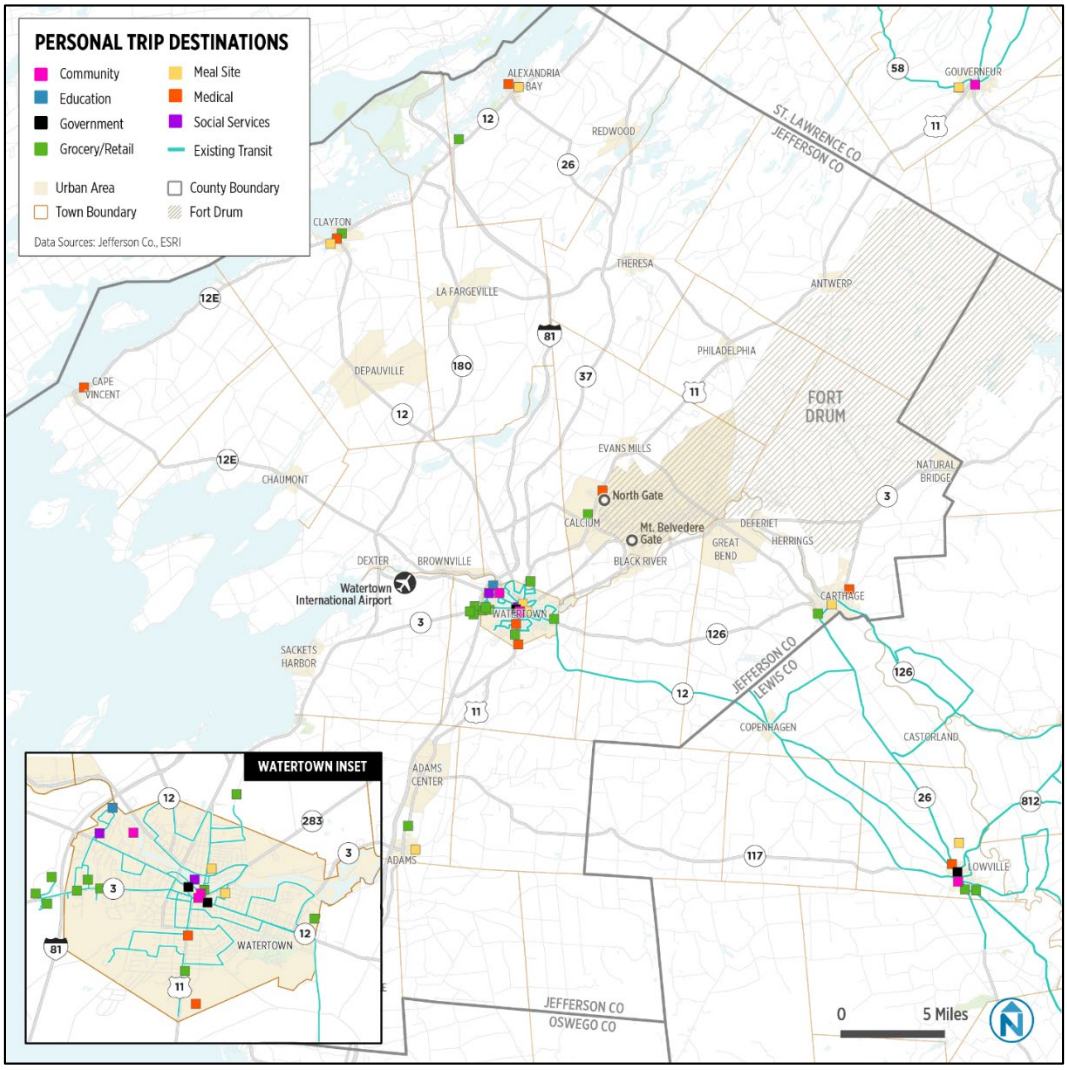
[10] U.S. Census Bureau, Center for Economic Studies, 2015 Work Area Profile Analysis

Non-Commute Destinations and Activity Centers

Locating the most common destinations within the study area assists in identifying primary travel corridors and travel patterns. This analysis includes destinations for both choice riders and transit-dependent riders who tend to frequent social services and senior programs. Major destinations include a range of sites such as shopping centers, educational facilities, medical facilities, senior centers, congregate meal sites[11], and other institutional resources such as libraries or municipal offices.

As part of understanding transportation needs, key destinations are represented spatially in Figure 21. Key destinations are mapped together with existing transportation routes to understand how well the routes are matched with the destinations. Mapped destinations include the shopping centers, schools, medical services, community centers and senior centers listed in the Existing Transit System and Market Report. Unsurprisingly, the major destinations within the study area are clustered around the more urban areas: Watertown, Carthage, Lowville, and Clayton.

Figure 21 Common Personal Trip Destinations



[11] Jefferson County Office for the Aging. http://www.co.jefferson.ny.us/index.aspx?page=298

DEMOGRAPHIC ANALYSIS

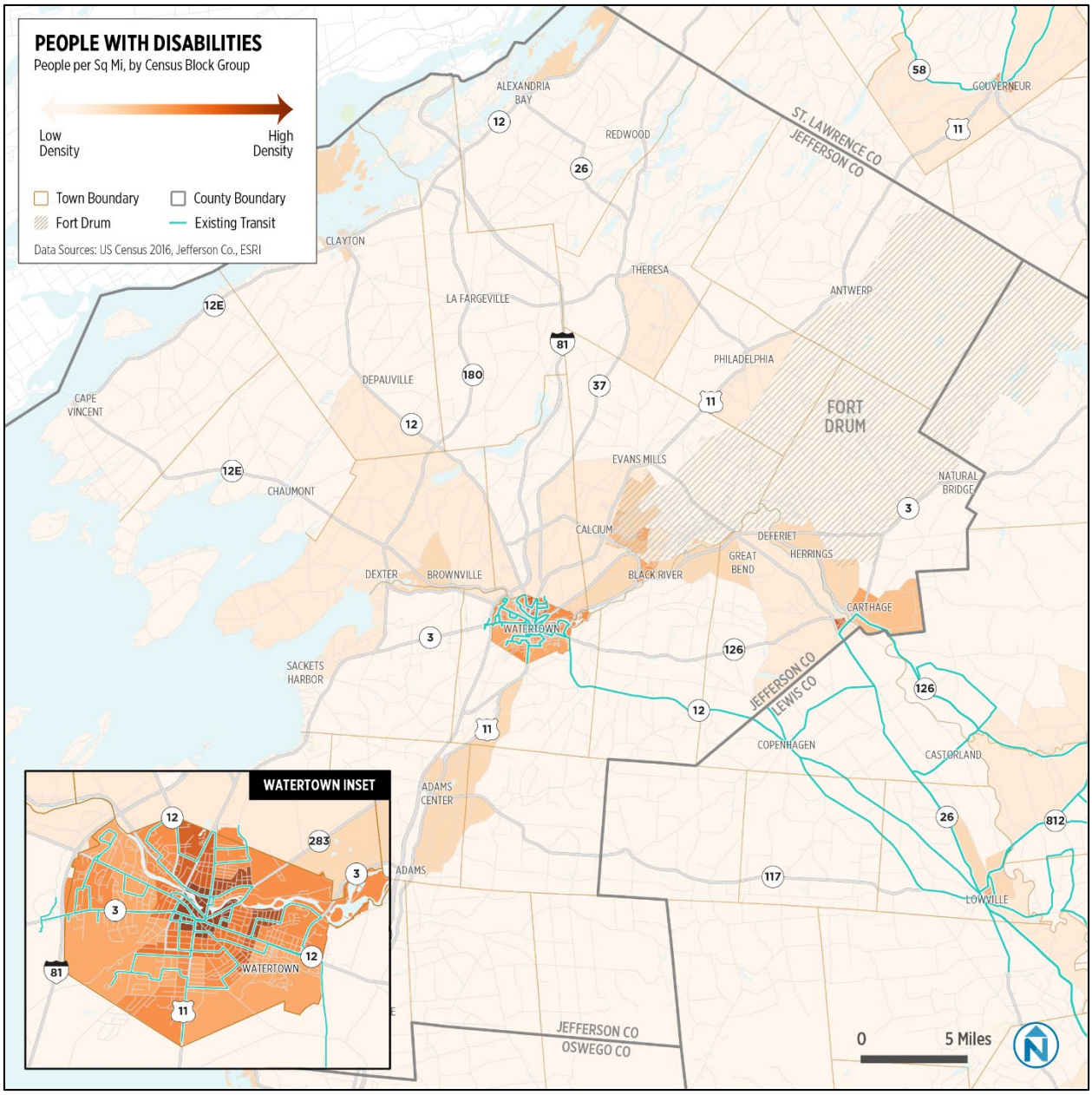
Demographic characteristics have a direct impact on the demand for public transportation and mobility services. In particular, the location and concentration of individuals who are more likely than the general public to use public transportation need to be quantified in order to appropriately prioritize transportation resources. These individuals tend to be older adults, persons with disabilities, persons with low incomes, limited English speakers, and those who do not have access to an automobile. Data for this analysis is primarily drawn from the 2016 American Community Survey 5-year estimates.

The following series of maps shows the spatial distribution of each population independently and identifies areas that have a higher concentration of these individuals. When looking at the maps, it is important to note that the maps highlight relative population, or, the percentage of the targeted population as compared to the population overall. This means that some areas will be marked as having a relatively high concentration of a particular population, even if the absolute number of these individuals is small. Relative results for an area should be compared with the population and employment density matrix seen in Figure 16 to better understand the context of that demographic.

People with Disabilities: Persons with disabilities often are heavily dependent on public transit service. Some types of disabilities may prevent people from driving. Access to transportation is an important factor in allowing persons with disabilities to access service and live independently. Public transit providers are required to provide ADA Paratransit for persons whose disability prevents them from utilizing fixed-route transit service.

The highest concentrations of disabled persons live in Watertown and West Carthage. Secondary concentrations are found in Carthage and Black River. Rural areas within the study area have comparatively low densities of disabled residents.

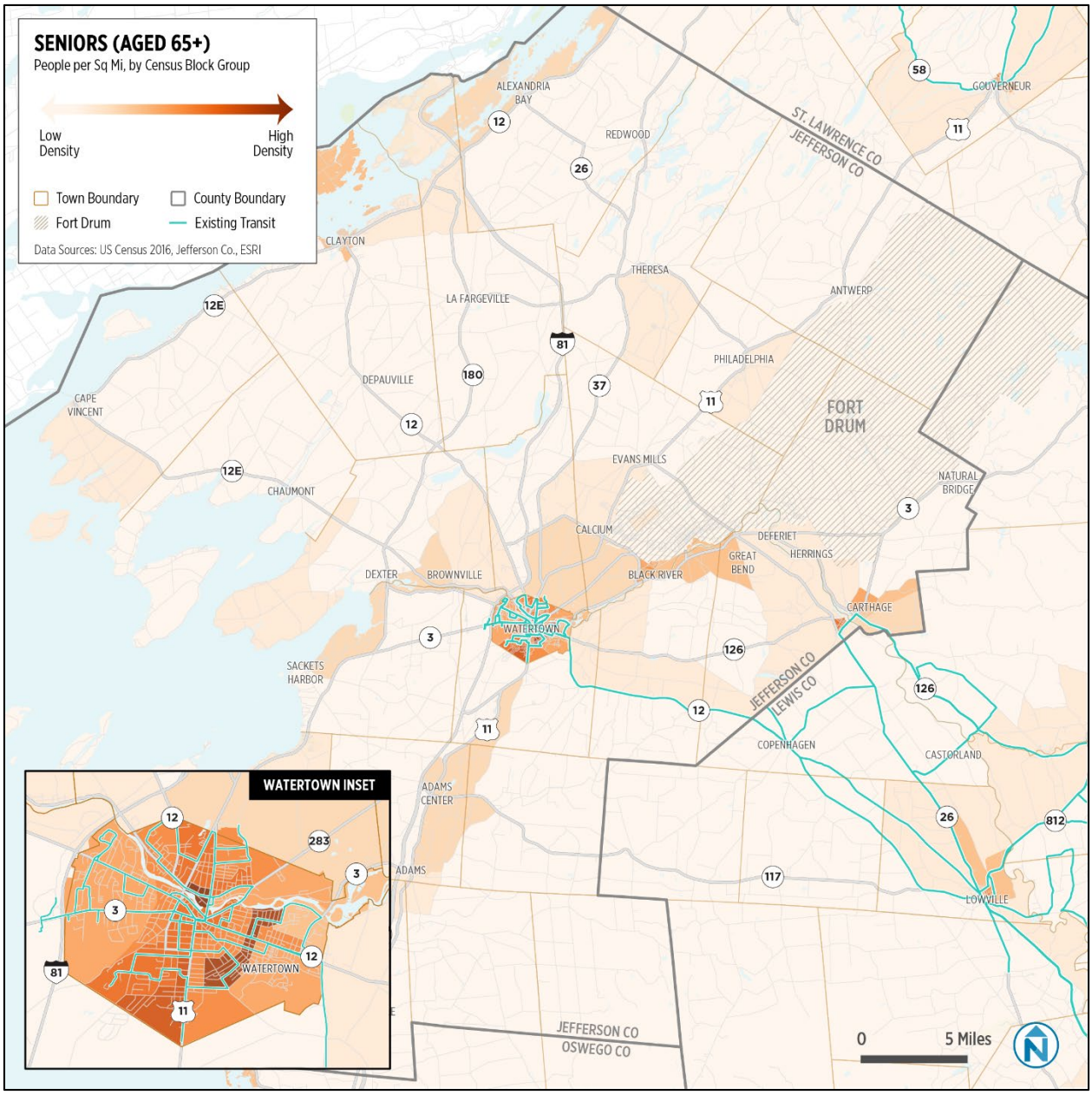
Figure 22 People with Disabilities Concentration



Older Adults: Older adults typically use public transportation more frequently than the general population. Seniors often exhibit higher demand for transit as they become less capable or willing to drive themselves, or can no longer afford to own a car on a fixed income.

Older adults who live in the study area are concentrated similarly to those with disabilities, with older adults choosing to live in the city and village centers rather than in the rural areas. Watertown again has a higher proportion of older adults than other areas in the region.

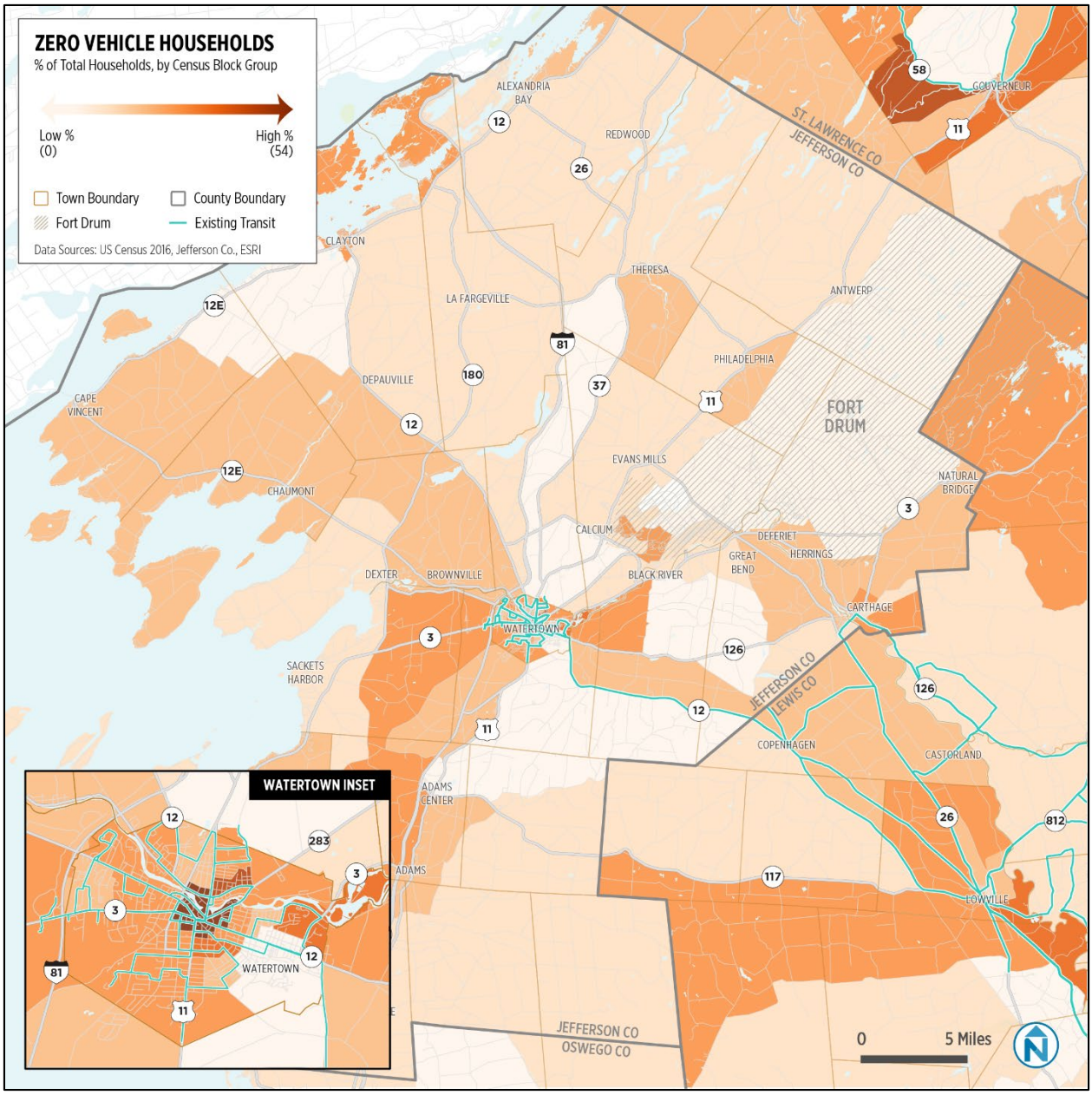
Figure 23 Senior Concentration



Limited English Speakers: Limited English proficiency correlates closely to income and can be another indicator of a household's relative dependency on transit. Significantly less than 1% of households within the study area identified as limited English speaking households.

Zero Vehicle Households: One of the most influential indicators of transit demand is whether a household has access to a personal vehicle. This indicator may represent households without the economic means of owning a vehicle, households that choose not to own a car, or individuals who are unable to drive. Households without a vehicle are more distributed throughout the study area. Very few areas see household vehicle access rates higher than 90%. Roughly half of the households within the census block groups corresponding to Downtown Watertown do not have access to a private vehicle, the highest levels found in the study area.

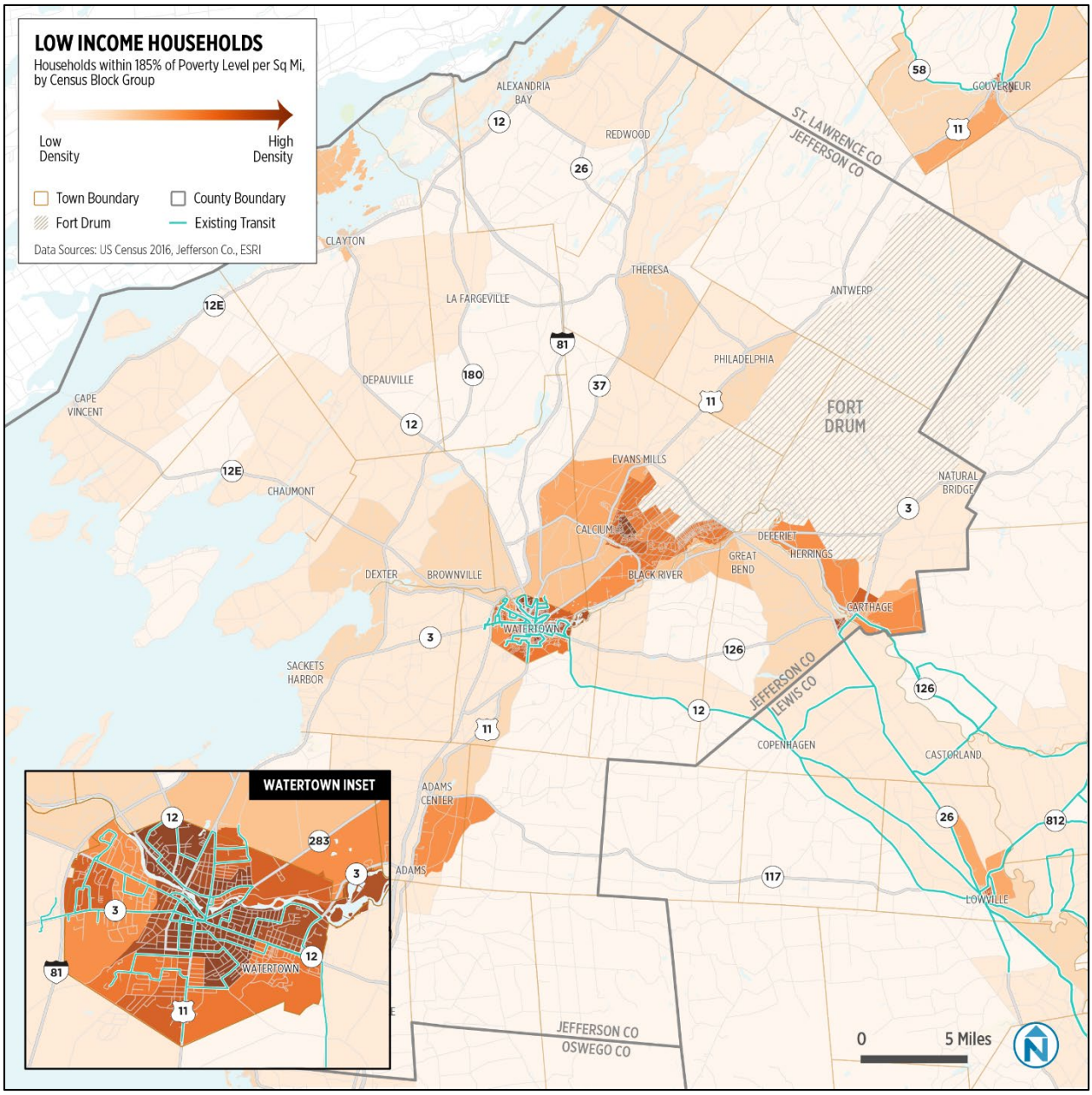
Figure 24 Zero Vehicle Household Concentration



Low Income Households: For the purposes of this analysis, households are classified as low-income if they earn up to 185% of the federal poverty threshold, which is the income eligibility criteria for various social service programs in New York. For a four-person household, this equates to annual income of just over $46,000.

Figure 25 shows the distribution of low-income households per square mile throughout the county and adjacent areas. Again the highest densities are found in the City of Watertown, on Fort Drum, and in the villages of Carthage, Lowville, and Gouverneur, representing an overlap between low income households and other transit dependency factors described above.

Figure 25 Low Income Household Concentration



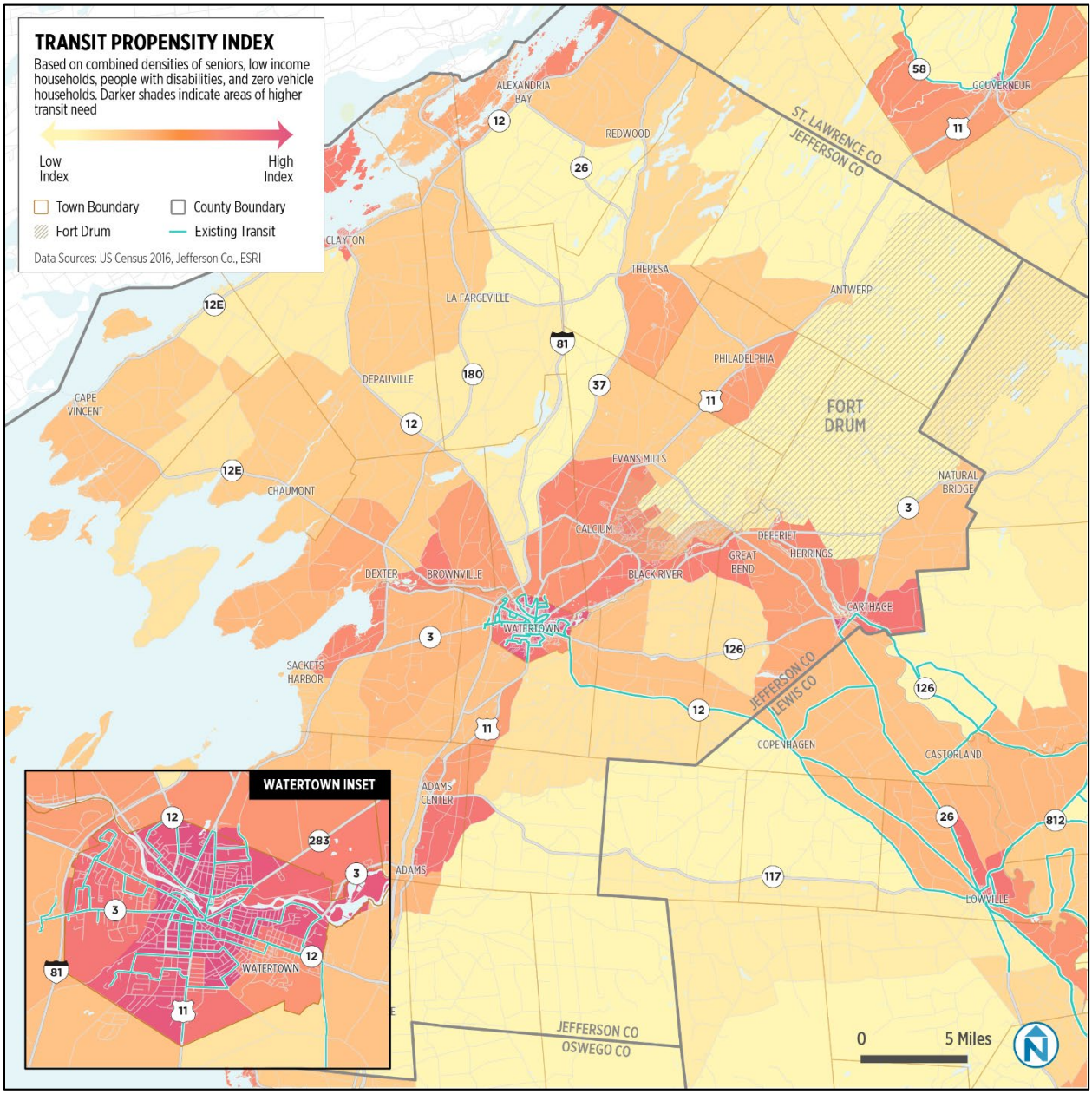
Transit Propensity Index

A transit propensity index was developed to illustrate the combination of the factors analyzed and displayed above. The index aggregates, without weighting, the following demographic variables: households with income at/below 185% of the federal poverty level, persons with disabilities, older adults (age 65+), and zero-vehicle households.

These segments of the population are most likely to depend on transit for their transportation needs, and Figure 26 shows where the highest densities of these populations are located in the study area. The concentrations of high overall transit propensity match closely with the concentrations of older adults, people living below 185% of the poverty level, households without access to a vehicle, and persons with

disabilities. Figure 26 illustrates that the locations with populations most likely to be reliant on transit are found in much of the City of Watertown, West Carthage, and in the Village of Gouverneur. Moderate to high transit propensity is shown in other locations including Lowville, Carthage, Adams, Clayton, Alexandria Bay, on and near Fort Drum, and west of Brownville.

Figure 26 Transit Propensity Index



PUBLIC AND STAKEHOLDER FEEDBACK

Stakeholders and the public been engaged throughout the process to better understand current transportation patterns as well as shortcomings to be addressed in an improved regional transit network. Primary stakeholder engagement was carried out through a series of agency-focused interviews, a pair of public surveys, and in-person presentations and discussions with potential rider groups and other interested committees.

STAKEHOLDER INTERVIEWS

At the outset of the study, stakeholder interviews were held with representatives of Fort Drum as well as CitiBus and other local operators to better understand operational procedures as well as challenges faced by the users of those services.

Fort Drum officials noted the desire of soldiers to visit commercial areas within and closer to Watertown. Linking soldiers to regional transit services would be a challenge, noting that the on-post shuttle, profiled in the Fort Drum Transit Needs Assessment, is no longer operating. Its existence was tied to a period in time during which Fort Drum acted as a rapid troop deployment staging area. As deployments have ramped down in recent years, command could not justify continuation of the service. It is also noted that a new Fort museum, outside of security checkpoints on NY Route 26 could serve as a transfer point.

Watertown officials related a vision for CitiBus to more greatly impact the community and its riders. Included in that vision are increased frequency, a longer service day, and additional service days each week. CitiBus initially expressed an interest to expand to BOCES and newer residential communities as well as to reach jobs just outside of the City of Watertown. Increasing the number of identifiable shelters and stops was another stated goal.

The Volunteer Transportation Center (VTC) has emerged as a primary transit stakeholder as an organization that provides door-to-door rides to health, social, and other destinations for residents of Jefferson, Lewis and St. Lawrence Counties who lack other transportation alternatives. The organization has expressed a desire to fulfill its complete mission, which is to provide transportation for any reason, not simply limited to human services assistance. VTC has expressed a desire to procure buses for operation in rural Jefferson County. To that end, they have formed a second not-for-profit organization known as North Country Mass Transit to fill in transit gaps between CitiBus and volunteer services in rural Jefferson County. VTC has purchased property in the town of Pamelia to serve as an operational headquarters with potential to serve as a future maintenance facility for transit vehicles.

While early stakeholder interviews focused on operational organizations, subsequent interviews have concentrated on funding sources and the ability of volunteer and specialized senior transportation to serve as first mile/last mile feeders to a proposed regional transit network. Organizations such as the Wilna-Champion Transportation Association see themselves as adaptable to this role while recognizing the value and increased range that a regional transit system represents to their clients.

A non-operational stakeholder, Jefferson Community College represented by its Dean of Students, participated in a stakeholder interview. The school currently distributes bus tickets, but sees limited effectiveness due to the limited geographic coverage of the current system. The Dean noted the difficulty in linking Fort Drum to the college as they lack the budget to send frequent cabs to the Fort. Of their 3,500 students, 35% are military or affiliated. The department arranges roughly 450 rides for students per year, increasingly relying on Volunteer Transportation Center to drive students to rural areas.

IN-PERSON PUBLIC OUTREACH

Figure 27 Survey Promotional Postcard

A series of in-person outreach events were scheduled on May 2nd, 2018 to guide subsequent technical work such as completion of the identification of potential transit development corridors, screening and ranking those corridors, and designing potential service network options. Housing and employment market information, along with transit propensity index information was presented to all attendees. In addition to comments collected in-person, attendees of the various events were encouraged to send more detailed feedback via the first online survey administered by the study team. The first public outreach event was a presentation and question/answer session with the Fort Drum Community Liaison Information Forum. Representatives of the study team described project goals, preliminary findings from existing conditions analysis, a possible network configuration, and the remaining schedule to roughly 150 base operations, on-base agency, and resident group representatives.

Later in the day, members of the study team visited Jefferson Community College to engage students, faculty, and visitors directly. Typical concerns of JCC affiliates involve the early end of the CitiBus service day. Students working later shifts downtown related difficulty with a final bus that leaves the campus at 6:00 p.m. Others whose final class ends after 9 p.m. experience similar difficulty. Another primary consideration is that the school library is open and a popular destination on Sundays, a day that CitiBus does not currently operate. Survey promotional postcards were distributed during layovers at the CitiBus transfer center on Arsenal Street before an evening public meeting at the Dulles State Office Building. Participants at the public meeting were residents of Midtown Towers who expressed a desire to use the transit system for reasons other than commuting. Some related frustration with having to walk home from work on occasion.

An additional in-person outreach event was conducted on November 7th, 2019. Members of the project reviewed findings, and outlined the service proposals described in this report. Approximately 40 members of the public were attendance, and most reacted positively to the final presentation of information.

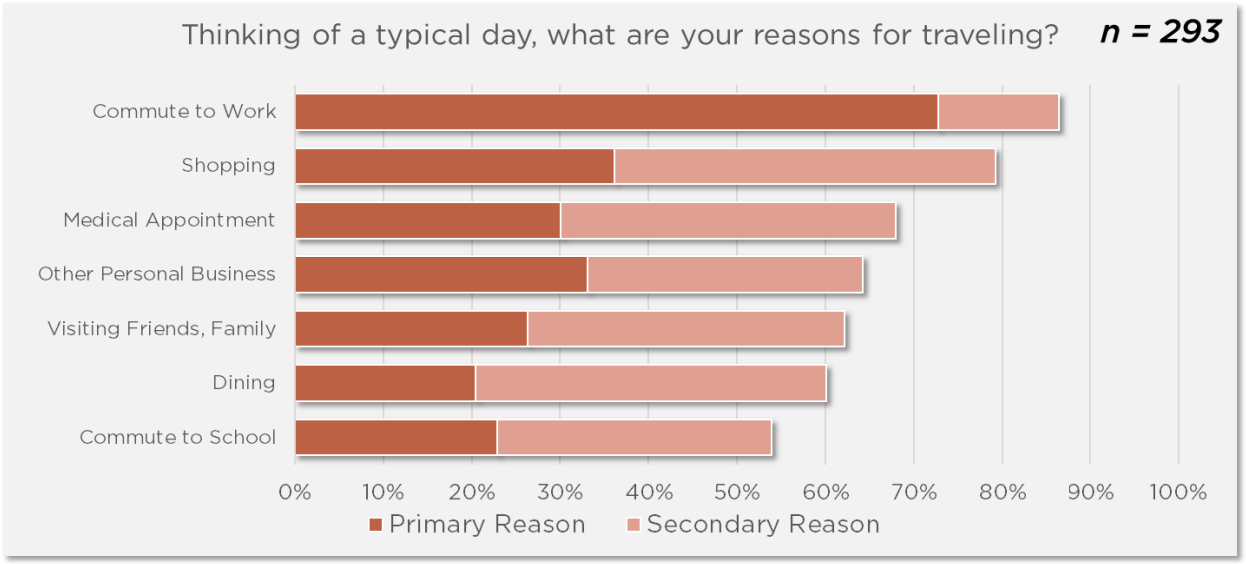
INITIAL PUBLIC SURVEY

A transportation behavior and preference survey was administered from April 10, 2018 until June 2, 2018 via an online website. Stakeholders were responsible for promoting participation across the community while further in-person promotion of the survey took place on May 2 and 3, 2018 during public outreach sessions at Fort Drum, Jefferson Community College, and the CitiBus Transfer Station. Two-hundred ninety-six (296) responses were received while two-hundred twenty-four (224) respondents completed the entire survey. The survey informs the corridor evaluation and analysis by providing insight into reasons for travel, methods of travel, what transit riders value, what drives value, and what might encourage drivers to try transit. Origin and destination information, as well as direct feedback on proposed corridors, is used to verify that proposals made to this point have been relevant and appropriate.

Reasons for Travel

Over 70% of survey respondents indicated that their commute to work was a primary reason for traveling. The most common secondary reason chosen were shopping trips.

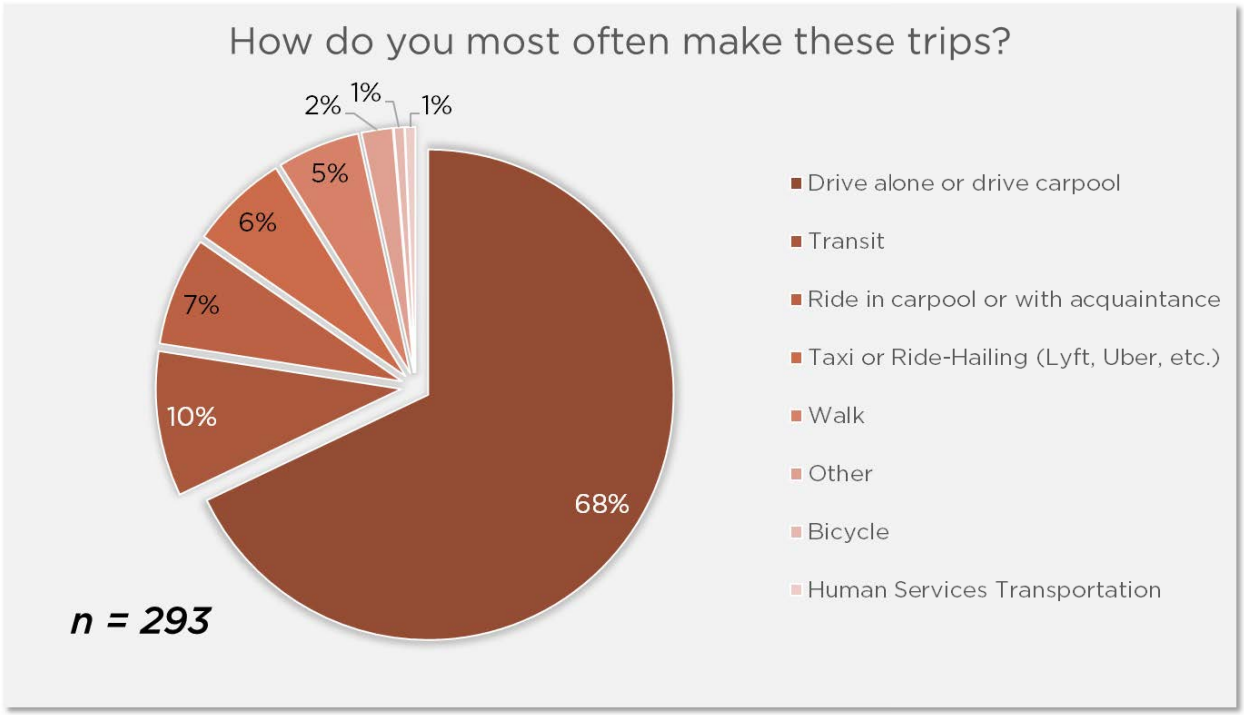
Figure 28 Survey Respondent Reasons for Travel



Travel Mode

Over two-thirds of respondents reported traveling by themselves in a private automobile. Ten percent of respondents are primarily transit riders. Of the 32% percent who do not drive themselves, over two-thirds (70%) are either unable to drive and/or do not have access to a vehicle.

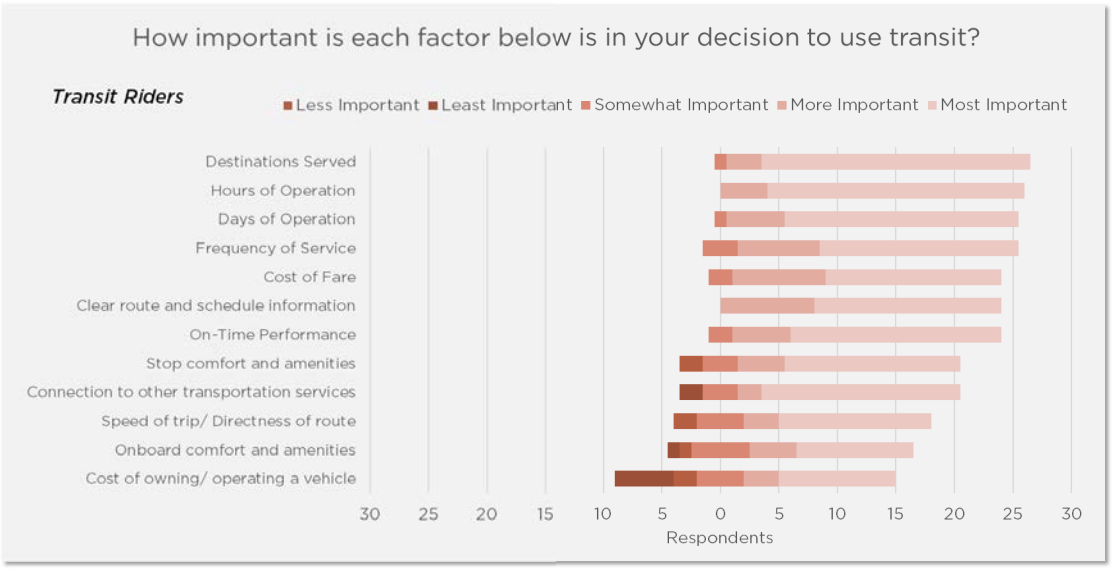
Figure 29 Survey Respondent Travel Mode



Value Preferences

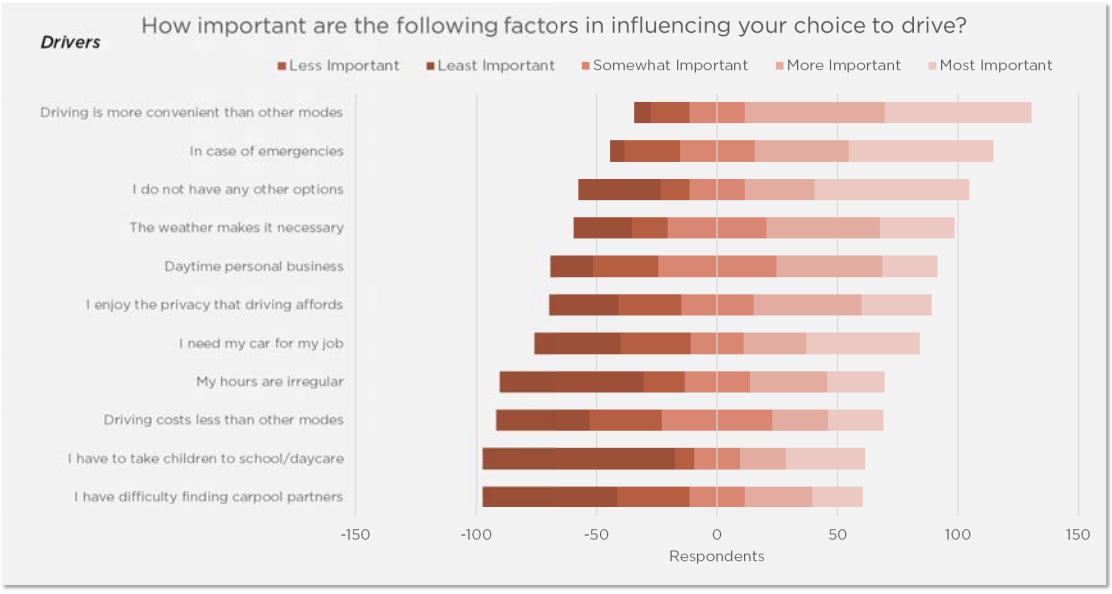
While many respondents to a transportation survey cite transit frequency, service span, cost, on-time performance, and other factors as important to them, by asking for relative value one can ascertain the most important factor to the group as a whole. Using this methodology, destinations served represent the current transit rider's primary consideration in choosing to use the service. Coverage is joined by hours and days of operation as well as frequency of service as highly important to riders.

Figure 30 Aspects of Transit Important to Transit Riders



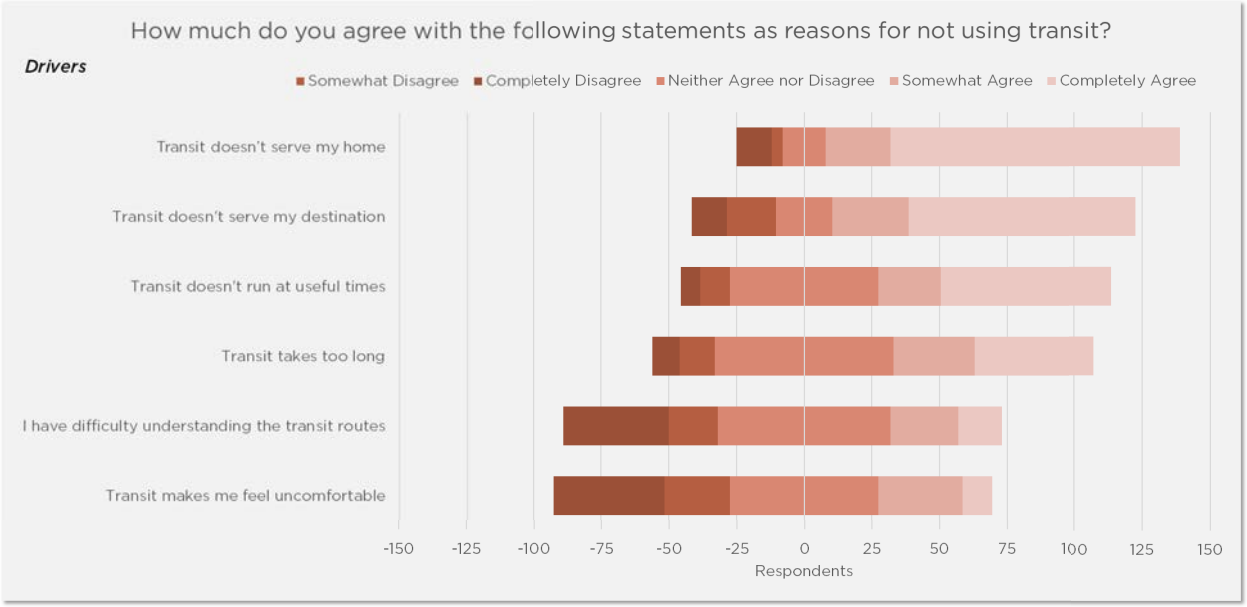
Regarding the decision to drive alone, convenience is a clear priority. Flexibility to respond to emergencies, a lack of alternatives, and weather-related concerns are the next most common reasons stated for making use of a private vehicle for travel. Notably irregular schedules and transporting children are not a factor for a majority of respondents.

Figure 31 Factors Important to Drivers



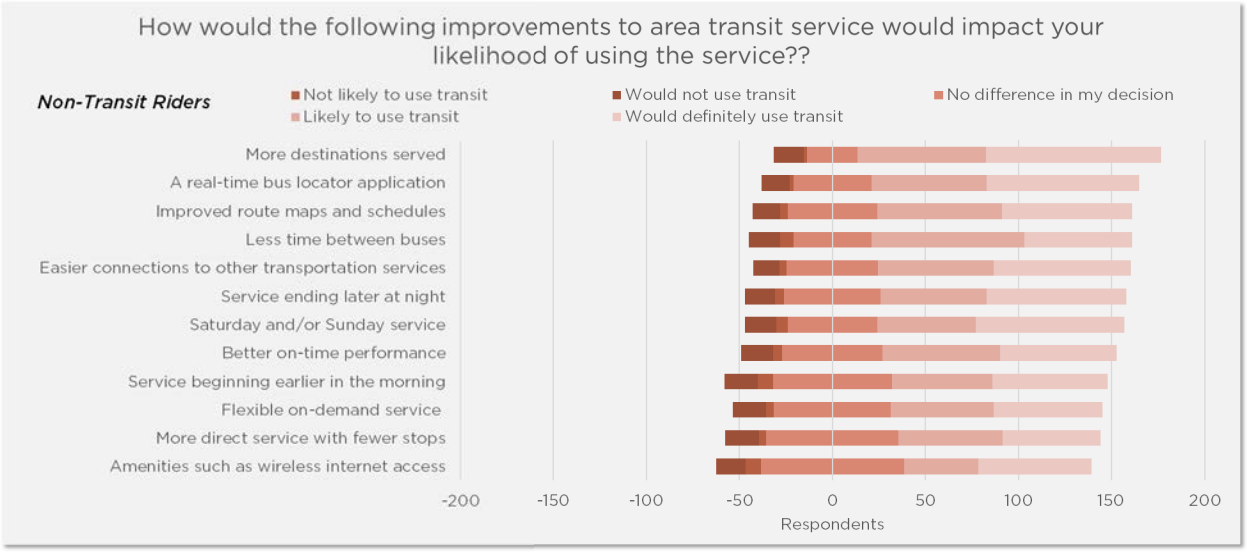
Lack of coverage is seconded when looking at reasons why drivers do not currently use transit as a mobility option. Short service span and long travel times compared to personal vehicles also influence drivers while route legibility and perception of personal comfort are not influencing most driver decisions.

Figure 32 Aspects of Transit Important to Drivers



Certain improvements to transit service were considered attractive to non-transit riders and would make many consider using the service. More destinations served was once again the most popular response while information technology upgrades, service frequency, and the ability to connect to other transportation services were the most popular secondary considerations.

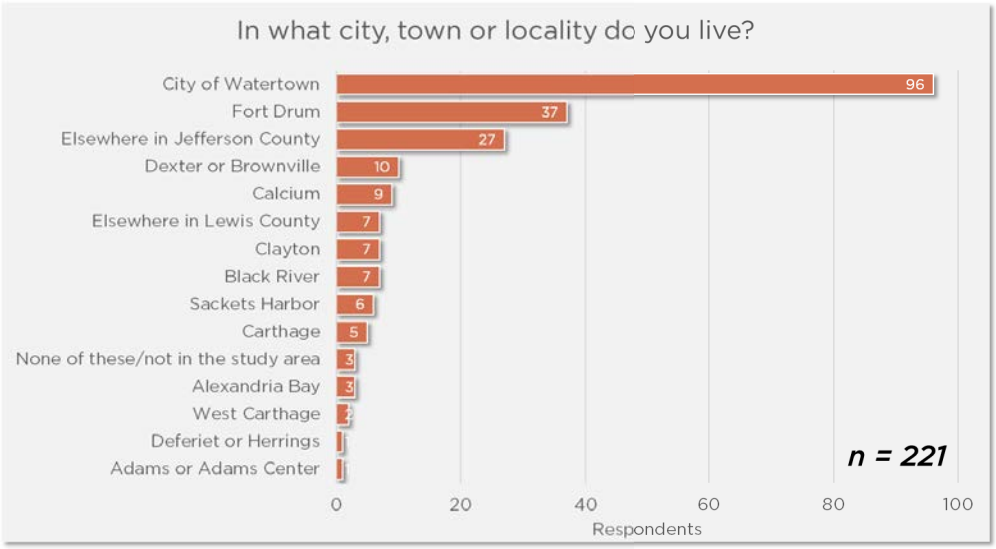
Figure 33 Likelihood of Behavior Change Due to Transit Improvements



Origin

A large plurality of those who chose to disclose where they live are located in the City of Watertown. Fort Drum was the only other location home to more than ten survey respondents.

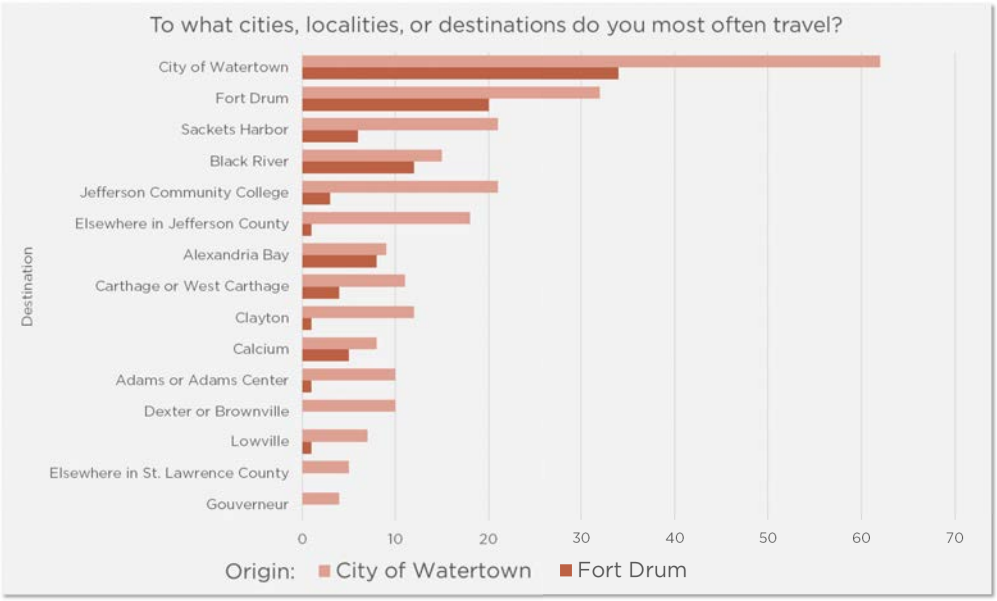
Figure 34 Place of Residence of Respondents



Destination

Among the respondents who live in the two major regional centers, the City of Watertown is the most popular destination. This includes trips that both begin and end within the city. Fort Drum is the second most popular destination for both groups. This supports an emphasis on corridors linking the city and fort in the design and selection process. Jefferson Community College and Sackets Harbor are tertiary popular destinations for city residents.

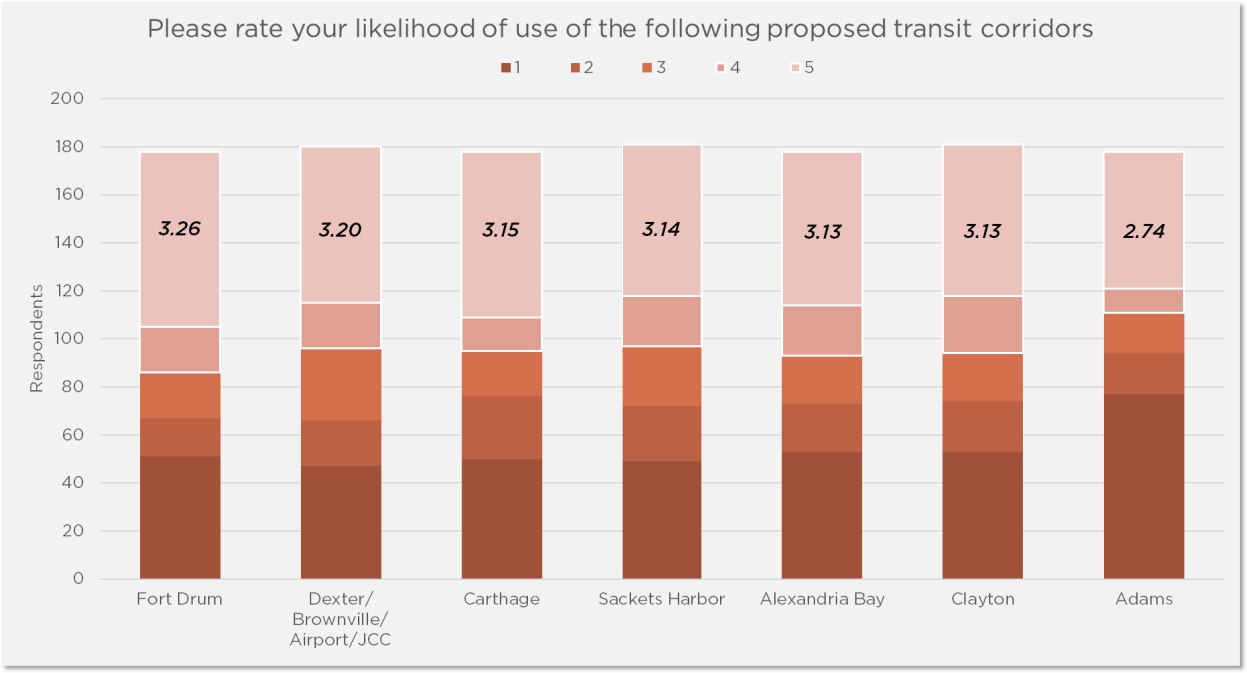
Figure 35 Travel Destinations – Watertown and Fort Drum Residents



Feedback on Proposed Corridors

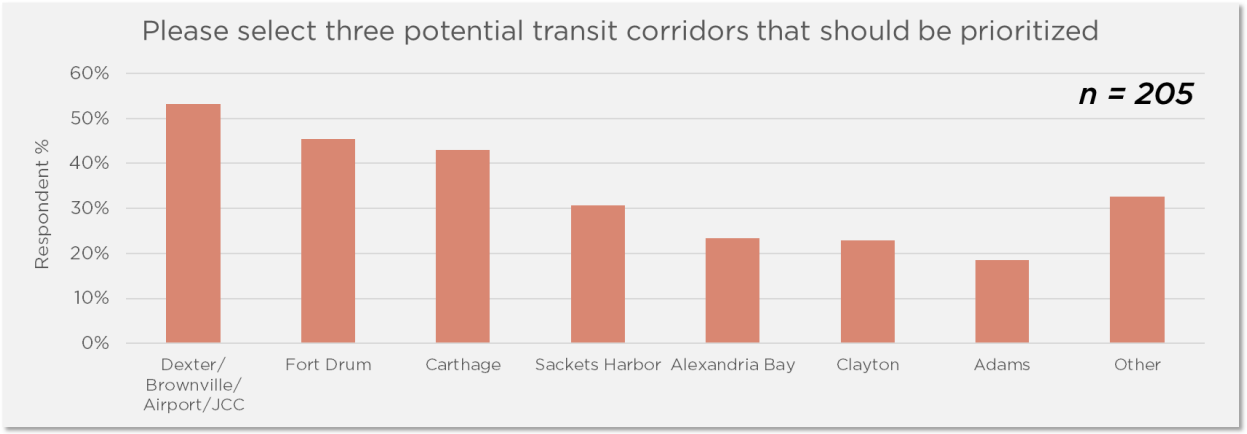
When presented with written descriptions of many of the proposed corridors evaluated in this document, respondents were asked to rate their interest and likelihood of use of those corridors on a scale of 1 to 5. Average scores all appear in a narrow range and the highest rating is given to most corridors fairly equally. Average ratings are included in updated route profiles. Some corridors were included in the analysis due to discussions with stakeholder groups after the survey was opened to the public and do not have a corresponding rating.

Figure 36 Reported Likelihood of Transit Corridor Use – Survey 1



When asked to prioritize just three potential transit corridors, including not explicitly listed in the survey, over 40% of respondents listed the Dexter/Brownville/Airport/JCC, Fort Drum, and Carthage corridors as the highest priorities.

Figure 37 Transit Corridor Prioritization

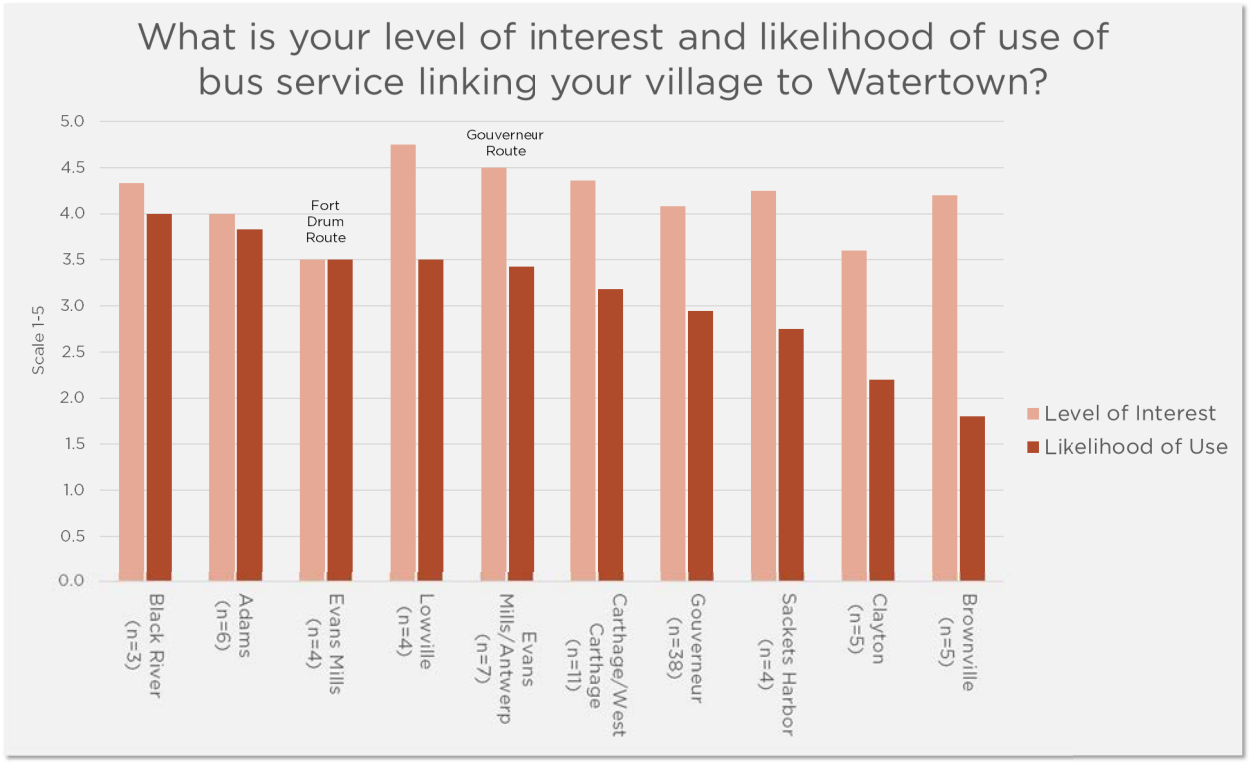


SUPPLEMENTAL PUBLIC SURVEY

At the request of the Jefferson County Planning Department, a secondary online survey was launched in August, 2018 to attempt to poll residents in locations other than the City of Watertown or Fort Drum about connecting services. The Villages of Adams, Antwerp, Black River, Brownville, Carthage, West Carthage, Clayton, Deferiet, Dexter, Evans Mills, Gouverneur, Lowville, Philadelphia, and Sackets Harbor were targeted and the survey promoted through various town and village governments as well as St. Lawrence County mobility management. Responses were collected between August 10, 2018 and November 9, 2018.

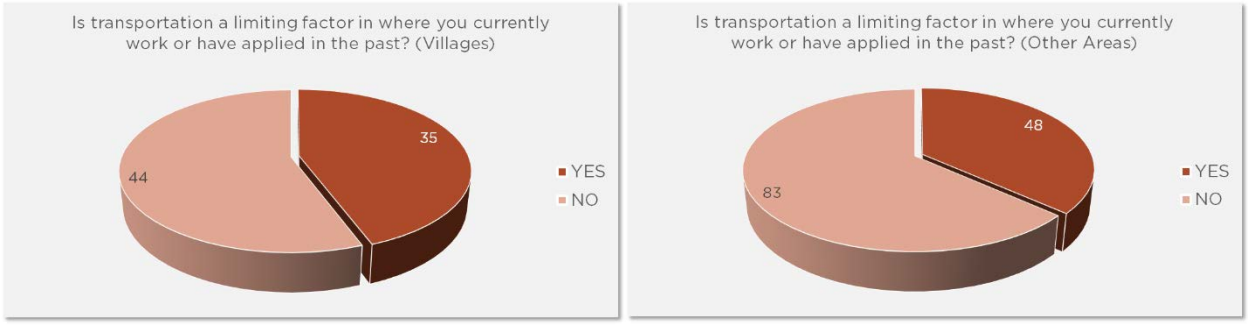
After identifying their home locality, participants were asked to rate their interest in, and likelihood of use of, transit service connecting their locale to Watertown and other intermediate destinations. Likelihood of use was in line with initial survey results for most corridors, with the exception of Clayton and Brownville.

Figure 38 Interest and Likelihood of Transit Corridor Use – Survey 2



All participants were asked if transportation is a limiting factor in where they currently work or have applied in the past. The percentage of respondents who affirmed that transportation is indeed a limiting factor was higher in targeted villages (44%) than respondents who did live in any of the targeted villages (37%).

Figure 39 Transportation as a Limiting Factor in Employment Search



Finally, all participants were also asked to describe any constraints they face in obtaining employment due to a lack of available transportation options. General themes include:

- Lack of transit coverage limits employment options for residents without personal cars.
- Service-sector, shift workers can only work limited shifts because of transit's limited span of service, especially for those who work outside of 8 a.m. to 5 p.m. commuter hours.
- Employers have difficulty hiring for some entry-level roles because applicants lack reliable transportation to work.
- People with chronic medical conditions often miss their appointments due to issues with non-emergency medical transportation (NEMT) – services arrive late or are unreliable.
- Retired people living in rural areas are isolated by lack of transit coverage – even if they have personal cars, many cannot afford gas due to fixed income level.

PEER REVIEW

In order to develop a reasonable operational scope for a proposed system within the transit study area, regions with similar populations to the study area that feature a regional center of similar size were chosen. Annual reports to the National Transit Database[12] for the transit operator in each peer region were examined. Some demographically comparable areas were not considered in the analysis if they did not feature at least some fixed-route service. Peers and their basic performance characteristics are defined in Figure 40. Each peer agency is further examined to identify applicable operational practices, vehicle types, and organizational models.

Figure 40 Peer Transit Agencies and Performance (2017)

System	City, State	Annual Passengers	Annual Revenue Miles	Passengers/ Mile	Operating Cost	Cost/ Passenger
Bay Area Transportation Authority	Traverse City, MI	378,077	1,366,566	0.28	$4,648,400	$12.29
Chautauqua Area Rural Transit System	Jamestown, NY	186,290	768,433	0.24	$2,429,237	$13.04
Kennebec Valley Community Action Program	Augusta, ME	103,313	231,825	0.45	$901,565	$8.73
Schuylkill Transportation System	Pottsville, PA	189,806	305,418	0.62	$1,760,911	$9.28

JAMESTOWN, NEW YORK

In 1976, a rural transportation demonstration project was approved for initial funding and service began in November of 1977. The Chautauqua Area Regional Transit System (CARTS, originally titled the Chautauqua Area Rural Public Transportation System) was entirely demand/response based until 1979 when a fixed schedule route was implemented between Jamestown and Westfield. In 1997, fixed route service was expanded through the absorption of former fixed-route systems in Jamestown and Dunkirk. At the same time, CARTS assumed coordination of county-wide non-emergency medical transportation. A new office and maintenance facility was opened in 2001.

Today, CARTS operates 15 fixed routes and two tiers of dial-a-ride demand response service for those unable to access the fixed route service due to age or disability. Seven fixed routes operate within the City of Jamestown and the immediate surrounding area, connecting on non-coordinated intervals at a downtown transfer location. Certain routes begin their service day at 6:00 a.m. with the last Jamestown city service ending at 4:30 p.m. Two fixed routes operate in Dunkirk from 7:30 a.m. until 5:30 p.m. All fixed route service operates Monday through Friday. Non-discounted fixed route bus fare is $2.25 to $2.75 dependent on zones covered by the trip. Round trip discounts are available. In addition, CARTS

[12] NTD Transit Agency Profiles, https://www.transit.dot.gov/ntd/transit-agency-profiles

operates six rural routes that connect Jamestown and Dunkirk to the smaller towns and villages across the county. Rural routes operate between six and eight daily round trips. Some rural route runs may be deviated from the scheduled bus route. This service is limited due to time and bus capacity. One-way on-route fare ranges from $2.25 to $4.75 while off-route fare ranges from $4.00 to $6.50. Door-to-door paratransit is available in addition to curb-to-curb service. Strict paratransit is only available near fixed route service in Dunkirk, Jamestown, Celoron, Lakewood, and Falconer and costs $4.50 to $5.50 one-way, $7.75 to $9.50 for round trip service.

Operating Structure and Funding

CARTS operates 7 paratransit vehicles and 20 cutaway type buses for fixed routes. The total cost of fixed route and demand response services in 2017 was over $3 million. Fixed route service accounted for 79% of that sum, or $2.43 million. Just over 11% of funding, approximately $350,000, came directly from the County budget.

Figure 41 Chautauqua Area Regional Transit System 2017 Funding Sources

Funding	Fixed Route	Demand Response
Federal	$402,156 (13%)	
State	$1,261,353 (41%)	
Local	$346,846 (11%)	
Fare Revenue	$234,602 (7.6%)	$86,771 (2.8%)
Other	$749,538 (24%)	
Total	**$3,081,266**	

Performance Characteristics

Fixed route ridership as a function of trips per revenue hour has increased from 2014-2015 levels (3.0 trips per revenue hour). Absolute annual ridership has also increased from approximately 145,000 during those years. Demand response trip rates remained steady over the period from 2014 to 2017.

Figure 42 Chautauqua Area Regional Transit System 2017 Performance

2017	Fixed Route	Demand Response
Passenger Trips	186,290	50,002
Vehicle Revenue Miles	768,433	132,258
Vehicle Revenue Hours	51,226	14,278
Trips per Hour	3.6	3.5
Expense per Passenger Trip	$13.04	$13.04

Partnerships and Coordination

While CARTS does not coordinate schedules to facilitate connections to other services, County mobility management has developed the Chautauqua County Coordinated Transportation Plan to coordinate transportation providers and stakeholder agencies in order to maintain current levels of service while improving efficiency and fulfilling more individualized needs. Involved agencies include the Chautauqua

County Department of Social Services, the Chautauqua County Office for the Aging, the Chautauqua County Veterans Service Agency, The Resource Center, Chautauqua Adult Day Care Centers, Inc., SUNY Fredonia Public Transportation, Chautauqua Works, and the New York State Department of Transportation.

TRAVERSE CITY, MICHIGAN

Bay Area Transportation Authority (BATA) was established on February 1, 1985, combining the former Leelanau County Public Transit and the City of Traverse City Dial-A-Ride. The transit authority offers Loop service with dedicated routes and fixed stops, as well as Link service that functions as a traditional dial-a-ride. In addition, BATA introduced programs like Bike-n-Ride, Ski-n-Ride seasonal flex routes, and various event shuttles, broadening standard service offerings.

The transit authority offers five city loop fixed routes that converge on the Downtown Hall Street Transfer Station. The service day for these routes begins at 6:00 a.m. and ends at 10:00 p.m. Weekday headways range from 30 minutes on Routes 1 and 2, 45 minutes on Routes 4 and 5, to 60 minutes on Route 3. The city loop routes operate on weekend days from 9:00 a.m. to 8:00 p.m. at half the weekday frequency, excepting Route 3. One-way bus fare on city loop fixed routes is $1.50 and includes transfers within a 40 minute time window. A 31-day commuter pass for unlimited loop rides costs $35.00. Reduced fares are available for seniors, veterans, active military, students, and persons with disabilities. Children five years of age or less are not required to pay a fare. BATA launched a new Bayline fixed-route service on June 25th, 2018. This is the first high-frequency, east-west connection for the region. Buses operate every 12–15 minutes between 7:00 a.m and 11:00 p.m. There is no fare for riders of the Bayline service.

BATA's Village Loop service connects outlying villages and towns in Grand Traverse and Leelanau Counties to downtown Traverse City. The six routes also have the flexibility to route deviate up to ¾ mile from the primary route. A typical Village Loop operates eight to twelve weekday round trips from 5:00 a.m to 9:20 p.m. and three weekend round trips at a flat fare of $3.00 one-way.

BATA offers two tiers of demand response service. For those unable to access fixed route service due to age or disability, City Link service offers door-to-door transportation seven days a week within the City Loop service area. Village Link service covers the rest of the two county service area and will transport residents from their home to a Village Loop stop or between two points within the county of residence. All link fares are $3.00 one-way with advanced reservation, $6.00 one-way for same day reservations.

Operating Structure and Funding

BATA was established in 1985 and is a legal authority formed under ACT 196 of Michigan Law. It is overseen by a seven-member Board of Directors with representatives from both Grand Traverse and Leelanau Counties. BATA employs 120 people including drivers, mechanics, dispatchers, customer service representatives and a small administrative team. BATA operates 20 paratransit vehicles and a mix of 42 cutaway and larger buses for fixed routes. The total cost of fixed route and demand response services in 2017 was almost $7 million. Fixed route service accounted for two-thirds of that sum, or $4.648 million. Just over 35% of funding in 2017, almost $2.5 million, came directly from a millage assessed on residents of both counties. On May 2, 2017, Grand Traverse and Leelanau County residents voted to increase the levy from 0.3447 mill to 0.5 mill beginning January 2018 and resulting in an additional $1.1 million in annual local funding.

Figure 43 Bay Area Transportation Authority 2017 Funding Sources

Funding	Fixed Route	Demand Response
Federal	$1,317,347 (19%)	
State	$2,720,360 (39%)	
Local	$2,447,990 (35%)	
Fare Revenue	$328,208 (4.7%)	$162,658 (2.3%)
Total	**$6,976,563**	

Performance Characteristics

BATA provides more than half a million annual rides to residents and visitors in Leelanau and Grand Traverse counties. Fixed route ridership as well as ridership as a function of trips per revenue hour increased in 2017 from 2016 levels (364,289 and 3.8, respectively). Demand response trip rates decreased over that same time period.

Figure 44 Bay Area Transportation Authority 2017 System Performance

2017	Fixed Route	Demand Response
Passenger Trips	378,077	127,949
Vehicle Revenue Miles	1,366,566	677,260
Vehicle Revenue Hours	92,346	44,174
Trips per Hour	4.1	2.9
Expense per Passenger Trip	$12.29	$18.20

Partnerships and Coordination

BATA works with the Disability Network of Northern Michigan to improve accessibility to all services. Additionally, BATA joined with the Disability Network and Leelanau County Senior Services to create the Leelanau County Transit Alliance (LCTA) and implement inclusive transportation planning. Through community outreach and intentional dialogue, Leelanau residents, businesses and organizations identify unmet transportation needs to reach outcomes that are collaborative and systemic in nature, creating sustainable solutions that transport people to where they want to go. This collaborative approach applies to all transportation services available in Leelanau County, including public transportation, non-profit volunteer transit programs, and private enterprise.

From a route coordination standpoint, (BATA) and the Grand Traverse County Commission on Aging (COA) have launched a pilot service that provides dedicated door-to-door transportation for seniors in Grand Traverse County. The new service, specially branded and wrapped as COAST (Commission on Aging Senior Transit), offers rides at no cost to qualified COA members. COAST operates Mondays, Wednesdays, and Fridays from 8:00 a.m. to 5:00 p.m. Additionally, BATA uses their website to promote a route operated by Benzie Bus between Traverse City and Lake Ann in neighboring Benzie County.

AUGUSTA, MAINE

Kennebec Valley Community Action Program (KVCAP), a Regional Transportation Corporation serving Central Maine since 1976. The Kennebec Explorer system introduced in 2010 is based on a transit plan developed for KVCAP and the Maine Department of Transportation in 2009. Kennebec Explorer is a flex-route system featuring two routes serving Waterville, five routes serving Augusta, and one route operating between the two Monday through Friday 52 weeks per year. The typical service day is from 8:30 a.m. to 4:20 p.m. with the exception of Augusta to Waterville commuter service. Kennebec Explorer routes perform four to eight daily round trips. KVCAP also operates three limited flex route services in Kennebec and Somerset counties from one to three days per week depending on the service. Fare for most flex route service ranges from $1.25 to $1.50 dependent on whether a town boundary is crossed. Service linking Waterville to Augusta and Jackman to Skowhegan costs $3.50 one-way. A monthly commuter pass costs $80.

The KV Van transportation program offers door-to-door van services to elderly, disabled and/or low income throughout Kennebec and Somerset Counties as well as special needs children and children under protective custody of the State of Maine. In addition to the agency-owned fleet, KV Van uses over 100 volunteer drivers to transport individual passengers. Among other services, these volunteers provide customized transportation services to special needs children and children under protective custody of the State of Maine.

Operating Structure and Funding

KVCAP owns and operates 24 paratransit vehicles and 9 cutaway type buses for fixed and flex routes. The total cost of directly operated fixed route and traditional demand response services in 2017 was just under $3 million. Fixed route service accounted for approximately 30% of that sum, or $900,000. Funding from the State of Maine comprises a minimal amount of the annual operating budget, just 3%.

KVCAP combines a number of funding sources to operate Kennebec Explorer. Various municipalities make contributions to operations as well as private donors including Maine General Health, the University of Maine at Augusta, downtown Augusta employers, Inland Hospital, and Waterville business supporters. These along with farebox recovery and federal/state contributions support the flex route bus services.

KV Van depends on funding through MaineCare, the Maine Department of Health and Human Services, United Way, and other community service programs. KVCAP's transportation brokerage program collaborates with Penquis, The MaineCare transportation broker for Kennebec and Somerset Counties. Program revenue for this branch of the operation also covers the operating deficit for KV Van and comprises the other operating funding reported the National Transit Database.

Figure 45 Kennebec Valley Community Action Plan 2017 Funding Sources

Funding	Fixed Route	Demand Response
Federal	$511,944 (17%)	
State	$87,520 (3.0%)	
Local	$190,243 (6.5%)	
Fare Revenue	$78,697 (2.7%)	$14,522 (0.5%)
Other	$2,060,274 (70%)	
Total	**$2,943,200**	

Performance Characteristics

Annual flex-route bus ridership as a function of trips per revenue hour has ranged between 5.3 and 6.0 trips per revenue hour for the years 2014-2017. Absolute annual ridership on flex-route service has steady increased from 83,000 to 103,000 during that time. Demand response trips and trip rates have steadily fallen over that period.

Figure 46 Kennebec Valley Community Action Plan 2017 Performance

2017	Fixed Route	Demand Response
Passenger Trips	103,313	93,945
Vehicle Revenue Miles	231,825	786,389
Vehicle Revenue Hours	17,293	50,960
Trips per Hour	6.0	1.8
Expense per Passenger Trip	$8.73	$21.73

Partnerships and Coordination

As an initiative of KVCAP, Kennebec Explorer does not coordinate schedules to facilitate connections to other services. As community-supported transportation, partnerships are numerous and generally limited to financial contribution. These partners include state agencies, local municipalities, private health organizations, charitable organizations, universities, economic development agencies, and smaller-scale business entities.

POTTSVILLE, PENNSYLVANIA

In 1982, the Schuylkill Transportation System (STS) was created under the leadership of our Schuylkill County Commissioners to take over services of the East Penn Transportation Company. In 1988, STS dedicated its maintenance and administrative facility in St. Clair. Subsequent upgrades to service saw ADA-compliant paratransit introduced in 1992 followed by the achievement of 100% ADA accessibility on fixed route service in 1995. In 2011, the former Pottsville station on the Reading Railroad was refurbished and opened as the Union Station Intermodal Transit Center to serve as a primary system hub.

STS operates 10 full year fixed routes, a seasonal fixed route, traditional paratransit for those unable to access the fixed route service due to age or disability, and a countywide demand response van service. Most routes operate on a hub and spoke system out of Pottsville, with a secondary hub located in Shenandoah. Services operates Monday through Saturday, though some services do not operate on Saturdays. Some routes operate only on Saturdays, but there is no service on Sundays or major holidays. Weekday service days range amongst routes. The earliest departure from Pottsville to Shenendoah leaves at 6:30 a.m. while all weekday routes have completed their service day by 6:00 p.m. Fixed-route one-way base fare is $1.50. Transfers are available for $0.25, paid when boarding the first bus. Senior Citizens (65+) who are registered with STS as well as children under 9 ride fare-free. Children between 9 and 12 years of age pay a reduced $0.55 fare.

Reduced rate paratransit is available to those who are currently on medical assistance through the State Department of Human Services, those with a disability aged 18-64 who live along a fixed route but are unable to access it, and those aged 65 or older that reside in Schuylkill County. The Shared Ride Van Program is designed to offer more specialized accessible van transportation to Schuylkill County residents who are primarily senior citizens aged 65 and over. Registered senior citizens who qualify under

Schuylkill County's Office of Senior Services can travel to health care, social services, grocery, senior centers, and certain other destinations, for a discounted fare of $1.00 each way. Persons with disabilities aged 18-64 who live in areas not served by STS fixed route or ADA paratransit services may be eligible to use Shared Ride service. A person must call to schedule curb-to-curb service the day before the trip is to be made and be willing to share the vehicle with other riders making similar trips. Riders may travel anywhere within Schuylkill County currently served by the STS Shared Ride Van Program. Fares are dependent on distance traveled.

Operating Structure and Funding

The STS fleet consists of Gillig transit buses for conventional fixed route service with smaller cutaway minibuses used on lower utilized fixed routes as well as paratransit service. A maximum of 9 transit vehicles operate simultaneously while 26 vehicles are reserved for paratransit and van service. The total cost of fixed route and demand response services in 2017 was over $4 million. Fixed route service accounted for 44% of that sum, or $1.76 million. About 3% of funding, over $129,000, came directly from the county budget. The vast majority of funding comes from the State of Pennsylvania. Pennsylvania Act 44, an agreement with the Pennsylvania Turnpike Commission, provides annual funding contributions for broader Commonwealth transportation needs. Act 44 was amended by Act 89 in 2013, requiring that Act 44 obligations are allocated to support transit capital, operating, multi-modal and other non-highway programs. This subsidy program is the single largest revenue source for STS fixed route transit. The largest source of funding for paratransit operations is a Pennsylvania Lottery program intended to benefit passengers 65 years of age and older. Another significant funding source for paratransit operations is the Pennsylvania Medical Assistance Transportation Program.

Figure 47 Schuylkill Transportation System 2017 Funding Sources

Funding	Fixed Route	Demand Response
Federal	$537,340 (13%)	
State	$2,623,472 (65%)	
Local	$129,161 (3.2%)	
Fare Revenue	$170,489 (4.2%)	$181,651 (4.5%)
Other	$388,937 (9.6%)	
Total	**$4,031,050**	

Performance Characteristics

Fixed route ridership as a function of trips per revenue hour has steadily decreased since 2014 (11.8 trips per revenue hour). Fixed route transit efficiency is still, however, the highest of all peer agencies reviewed. Absolute annual ridership has also steadily decreased from over 210,000 trips in 2014. Demand response trip rates also decreased during the period from 2014 to 2017.

Figure 48 Schuylkill Transportation System 2017 System Performance

2017	Fixed Route	Demand Response
Passenger Trips	189,806	72,050
Vehicle Revenue Miles	305,418	354,747
Vehicle Revenue Hours	17,463	22,130
Trips per Hour	10.9	3.3
Expense per Passenger Trip	$9.28	$31.51

Partnerships and Coordination

STS partners with the State Medical Assistance Transportation Program to provide non-emergency medical transportation services as well as medical and social service trips to persons with low income, but who do not have an access card under the Human Services Development Fund.

STS connects with the services of Hazleton Public Transit in McAdoo and the Lower Anthracite Transportation System in Ashland. Additionally, long distance bus service connections are available to Fullington Trailways bus service in Shenandoah, Frackville, Mahanoy City, Hometown, and Pottsville.

SERVICE PLAN

Recommended route alignments and service levels were developed based on the following:

- Population and employment densities and characteristics
- Regional travel patterns
- Existing and planned transportation infrastructure
- Community preferences provided by survey respondents and public meeting attendees
- Project Advisory Committee and stakeholder feedback

Corridors that were previously identified and screened to determine their level of viable service are grouped and scheduled for the purpose of determining capital and staffing needs as well as other operational costs. The regional transit service is intended to build on existing services offered by CitiBus, which provided over 114,000 miles of fixed-route service in 2017.

A primary consideration in the creation of regional service is whether CitiBus remains a separate system or whether their resources are consolidated into a single regional transit agency. Transit network service plans have been developed where CitiBus schedules and assets are preserved as the core of the regional network since CitiBus currently serves the densest and most central portions of the region at a high level of effectiveness. CitiBus' riders per mile and cost per rider are better than typical small regional networks.

INITIAL TRANSIT NETWORK

Based on feedback received from the Project Advisory Committee, stakeholders, and WJCTC's Transit Technical Committee, a phased approach to implementing regional transit service is recommended. The first phase would see CitiBus expand to serve Fort Drum as well as additional destinations just west of the City on Route 3.

Expansion of CitiBus would include a new route serving Fort Drum as well as an extension of Route B Arsenal to serve the Jefferson-Lewis BOCES Bohlen Technical Center and Towne Center at Watertown, currently just outside of the CitiBus service area. These expansions come at the recommendation of the Project Advisory Committee and attempt to serve locations that represent the best opportunities to add ridership and serve rider needs for an initial limited investment. The route to Fort Drum would operate along U.S. 11 to a yet to be determined transfer point where riders would board a shuttle authorized to operate with the fort boundaries.

A CitiBus expansion would see four significant changes to the existing system. Route B Arsenal would be extended to BOCES or Towne Center (Target) on select weekday trips. This would require a change to the CitiBus system service interval from 40 to 45 minutes. Trips serving BOCES would not serve Towne Center such that only a five minute headway adjustment is necessary. Weekend trips would terminate at Towne Center. Additionally, round trips would be added to the end of the service day in order to serve the last major JCC class dismissal time at 8:30 p.m. and allow those students to make connections. These changes would extend the end of the service day from 6:15 p.m. to 9:40 p.m. on weekdays. Sunday service identical to Saturday service as described in Figure 29 would be added.

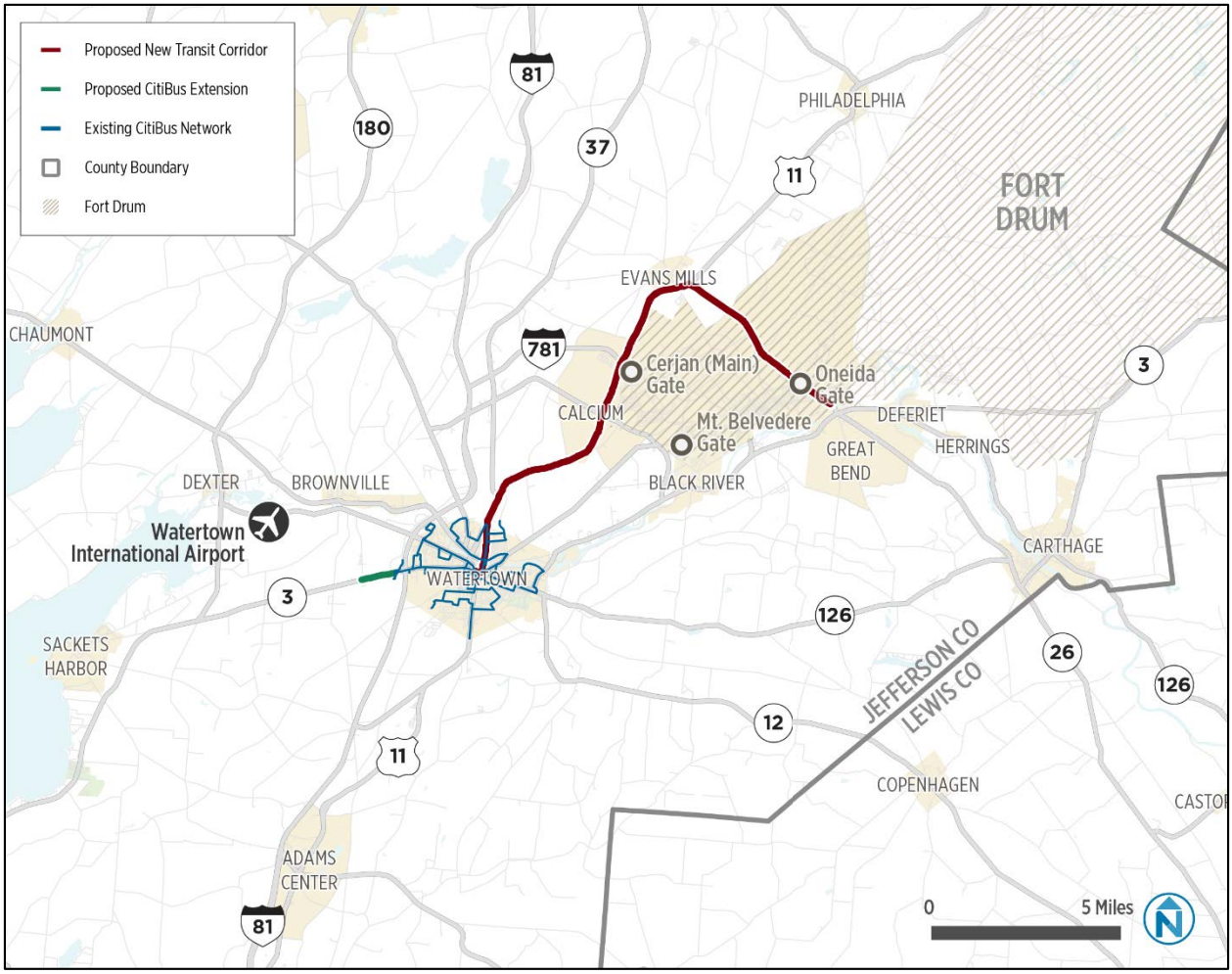
A new route to and from Fort Drum would be added that would operate seven days per week, making eight round trips on weekdays, six on weekend days and complement the CitiBus Route C-1 Northside Loop. The Fort Drum route would operate mostly along US Route 11 with the ability to serve multiple Fort Drum gates dependent on agreements to link to potential on-post shuttle services. The route would serve

multiple commercial areas in addition to multiple military employment centers, including Wheeler-Sack Army Airfield.

Figure 49 Expanded CitiBus Network Composition Characteristics

Corridor	Weekday Round Trips	Weekday Start	Weekday Stop	Weekend Round Trips	Weekend Start	Weekend Stop
A-1 State-East Main	10	7:00AM	9:30PM	6	9:40AM	5:45PM
A-2 Washington	9	7:45AM	8:50PM	5	10:25AM	4:55PM
B Arsenal	19	7:00AM	9:40PM	11	9:40AM	5:40PM
C-1 Northside Loop	10	7:00AM	9:30PM	6	9:40AM	5:40PM
C-2 Coffeen-JCC	9	7:45AM	8:55PM	5	10:25AM	4:55PM
Fort Drum/Calcium	8	7:15AM	8:50PM	6	9:55AM	6:00PM

Figure 50 Recommended Initial Transit Network



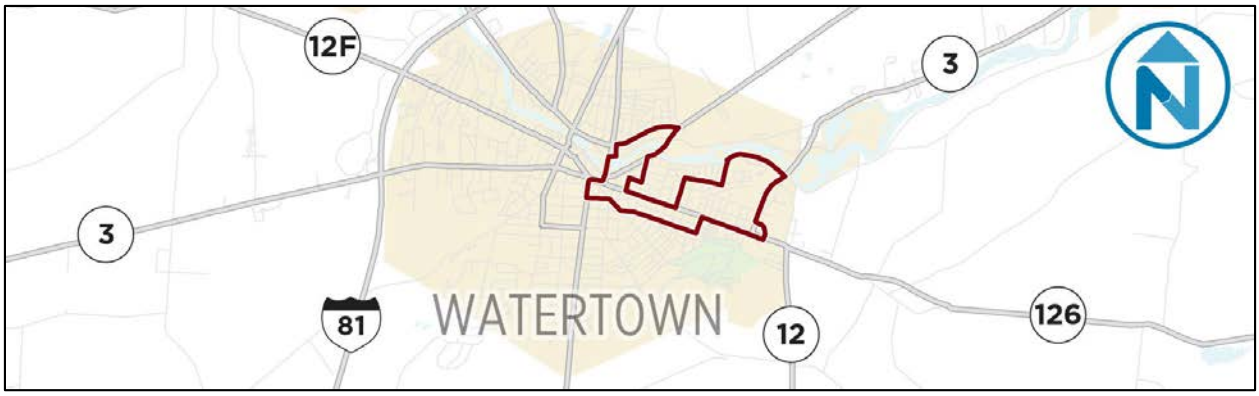
Proposed Initial Network Routes

A-1 State-East Main

Route A-1 State-East Main operates primarily along Academy Street, State Street, Eastern Boulevard, Huntington Street, and Main Street East in a counterclockwise loop. Northland Plaza is served as well as multiple apartment communities, including Midtown Towers.

Round Trip Route Length	Weekday Round Trips	Weekday Span
6.6 miles	10	7:00AM – 9:30PM
Round Trip Running Time	**Weekend Daily Round Trips**	**Weekend Span**
35 minutes	6	9:40AM – 5:45PM

Figure 51 Expanded CitiBus – State-East Main

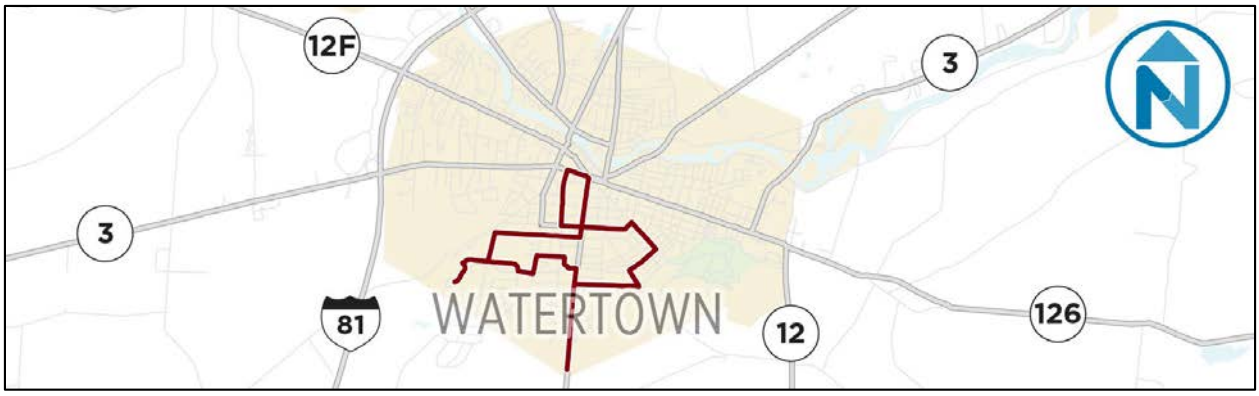


A-2 Washington

Route A-2 Washington operates primarily along Washington Street, Flower Avenue, Thompson Boulevard, Winslow Street, and Sherman Street in a counter-clockwise loop with deviations. Samaritan Hospital is served by this route along with the Samaritan Medical Plaza and Watertown City Schools. Maple Court and Summit Wood apartment communities are served by Route A-2. The route passes nearby to the entrance to Thompson Park.

Round Trip Route Length	Weekday Round Trips	Weekday Span
8.0 miles	9	7:45AM – 8:50PM
Round Trip Running Time	**Weekend Daily Round Trips**	**Weekend Span**
35 minutes	5	10:25AM – 4:55PM

Figure 52 Expanded CitiBus – Washington



B Arsenal

Route B Arsenal serves as CitiBus' primary route to commercial destinations on the west side of the City. The route currently operates primarily on Arsenal Street with deviations into plazas containing large format retail and grocery stores as well as the Salmon Run Mall. As previously described, Route B Arsenal would extend beyond current termini at the Mall and the Plaza at Salmon Run to serve the Bohlen Technical Center (BOCES) and Towne Center at Watertown.

Round Trip Route Length	Weekday Round Trips	Weekday Span
8.2 miles	19	7:00AM – 9:40PM
Round Trip Running Time	**Weekend Daily Round Trips**	**Weekend Span**
40 minutes	11	9:40AM – 5:40PM

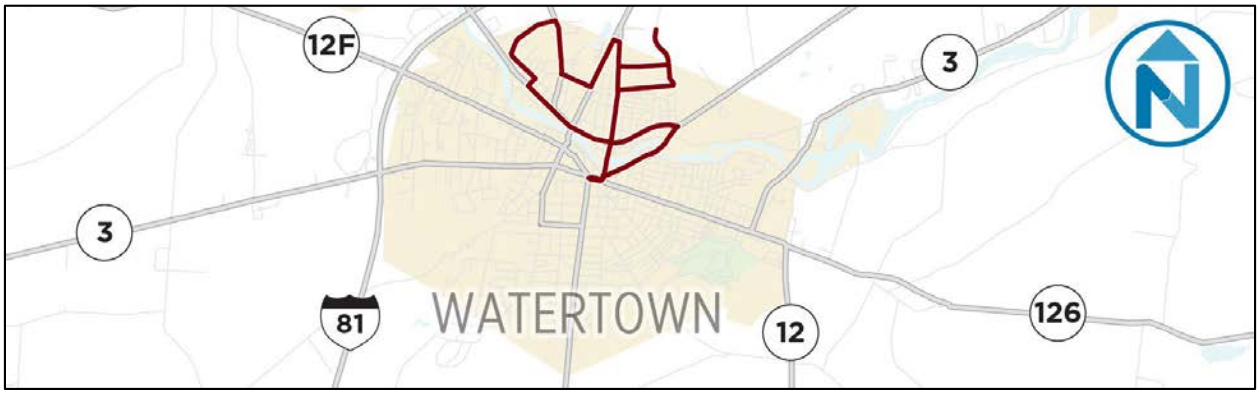
Figure 53 Expanded CitiBus – Arsenal

C-1 Northside Loop

Route A-1 State-East Main operates primarily along Mill Street, Leray Street, and Main Street in a twisting configuration. Seaway Plaza is served as well as multiple apartment communities, including Hilltop, Curtis, Starwood, Leray Street, Kelsey Creek, and Skyline Apartments.

Round Trip Route Length	Weekday Round Trips	Weekday Span
8.2 miles	10	7:00AM – 9:30PM
Round Trip Running Time	**Weekend Daily Round Trips**	**Weekend Span**
35 minutes	6	9:40AM – 5:45PM

Figure 54 Expanded CitiBus – Northside Loop

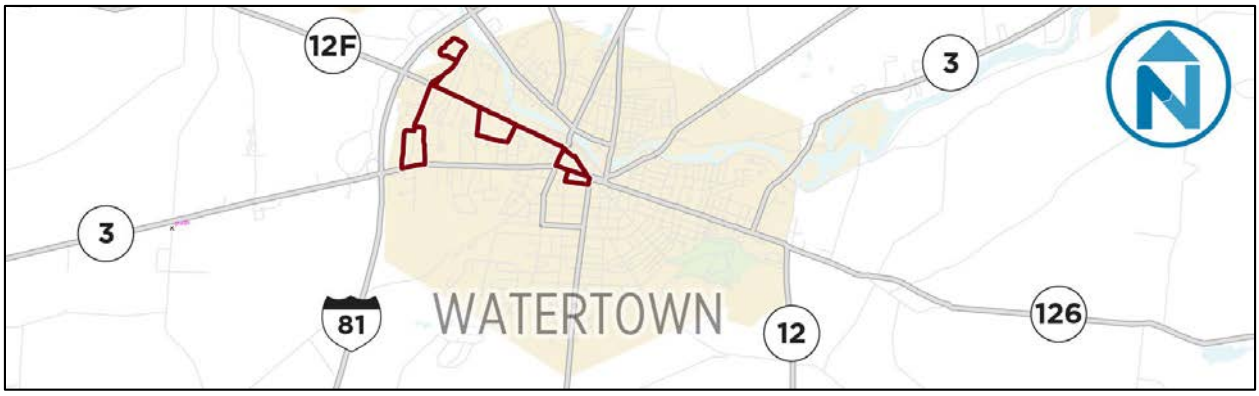


C-2 Coffeen-JCC

Route C-2 Coffeen-JCC serves a number of purposes, including as a secondary route to west side commercial plazas, Stateway Plaza in particular. The route is the primary link to Jefferson Community College, Jefferson Rehabilitation Center, and Duffy Fairgrounds and Ice Arena. While the route largely follows Coffeen Street and Gaffney Drive, an inbound deviation is made onto Bellew Avenue, Emmett Street, and Breen Avenue.

Round Trip Route Length	Weekday Round Trips	Weekday Span
7.4 miles	9	7:45AM – 8:50PM
Round Trip Running Time	**Weekend Daily Round Trips**	**Weekend Span**
35 minutes	5	10:25AM – 4:55PM

Figure 55 Expanded CitiBus – Coffeen-JCC

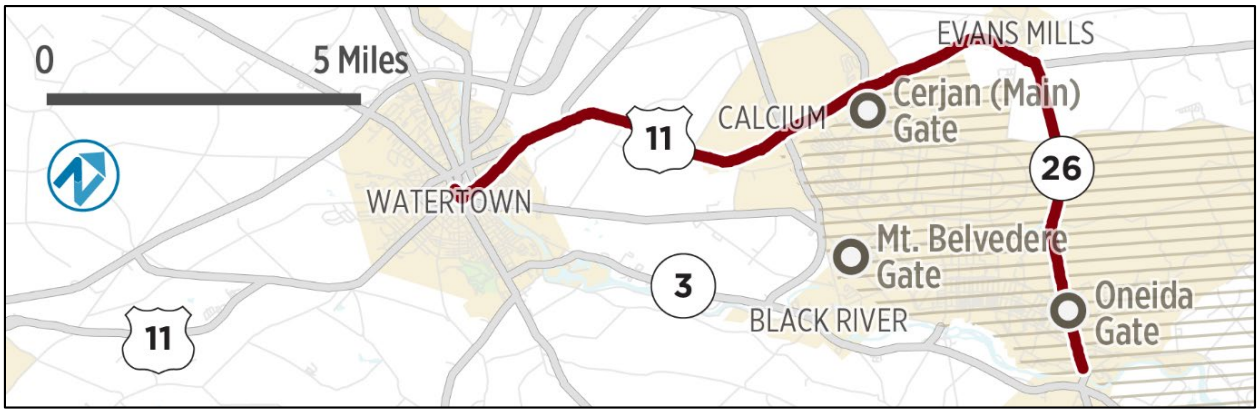


Fort Drum/Calcium

The Fort Drum corridor operates mostly along US Route 11 with the ability to serve multiple Fort Drum gates. The corridor serves multiple commercial areas in addition to multiple military employment centers, including Wheeler-Sack Army Airfield. Uncertainty is acknowledged regarding the exact off-post transfer location to a potential base-operated shuttle.

Round Trip Route Length	Weekday Round Trips	Weekday Span
30.8 miles	8	7:15AM – 8:50PM
Round Trip Running Time	**Weekend Daily Round Trips**	**Weekend Span**
49 minutes	6	9:55AM – 6:00PM

Figure 56 Expanded CitiBus – Fort Drum/Calcium



FUTURE TRANSIT NETWORK

In future phases, the transit network would expand to serve additional destinations in and adjacent to Jefferson County. The Expanded CitiBus service changes are retained in network packages representing future system expansion.

MPO Bounded Regional Network

The MPO Bounded Network package is created by including those corridors in the corridor identification technical memo which do not leave the WJCTC Boundary shown in Figure 57. Some identified corridors are truncated, such as the Adams corridor, to remain within the FTA's urban area boundary for 5307 Urbanized Area Formula Program funds. Figure 59 displays the corridors that act as components of the MPO-bounded network package. All corridors in this network package are recommended to operate seven days per week and throughout the entire year.

Figure 57 MPO and FTA 5307 Eligible Areas

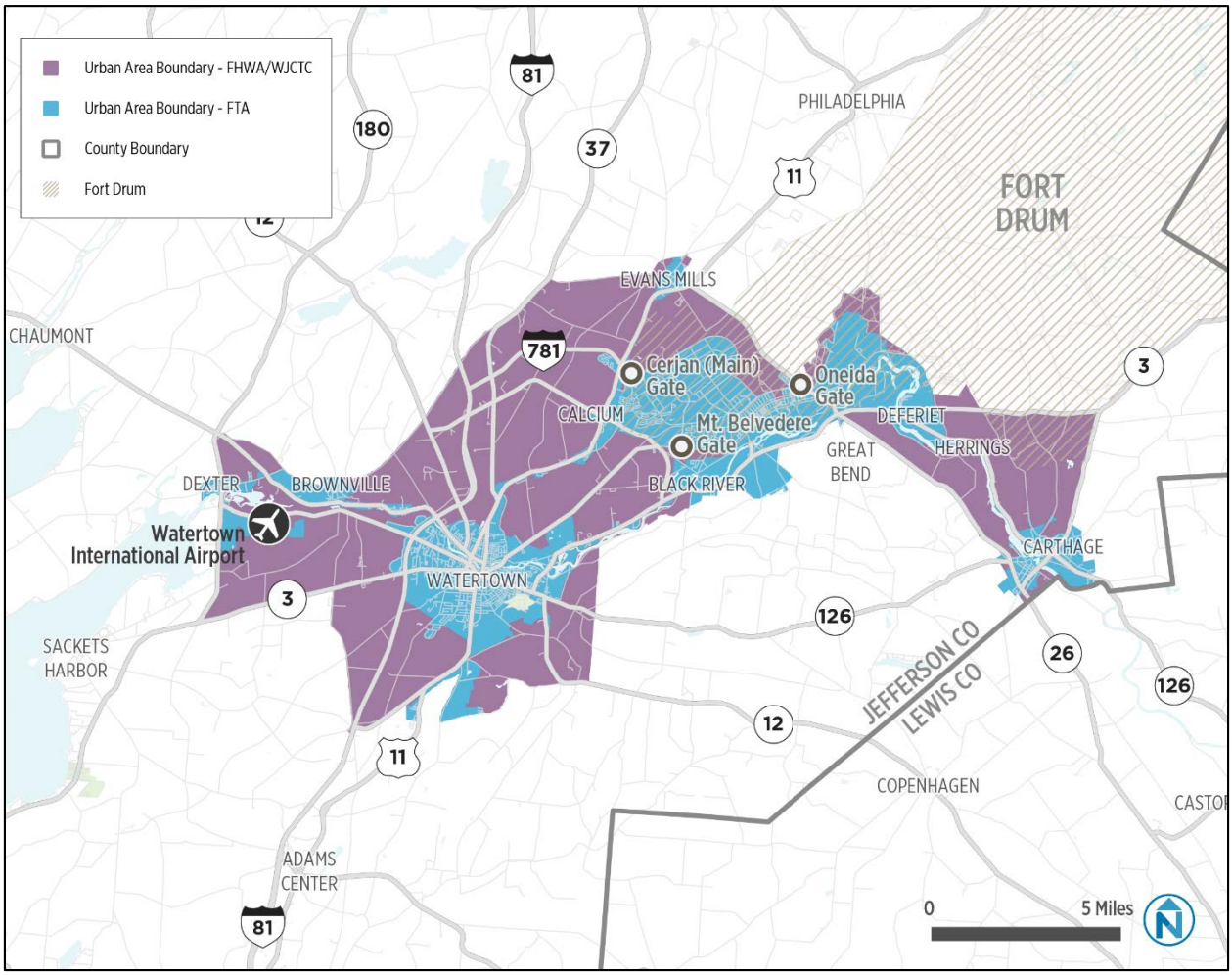
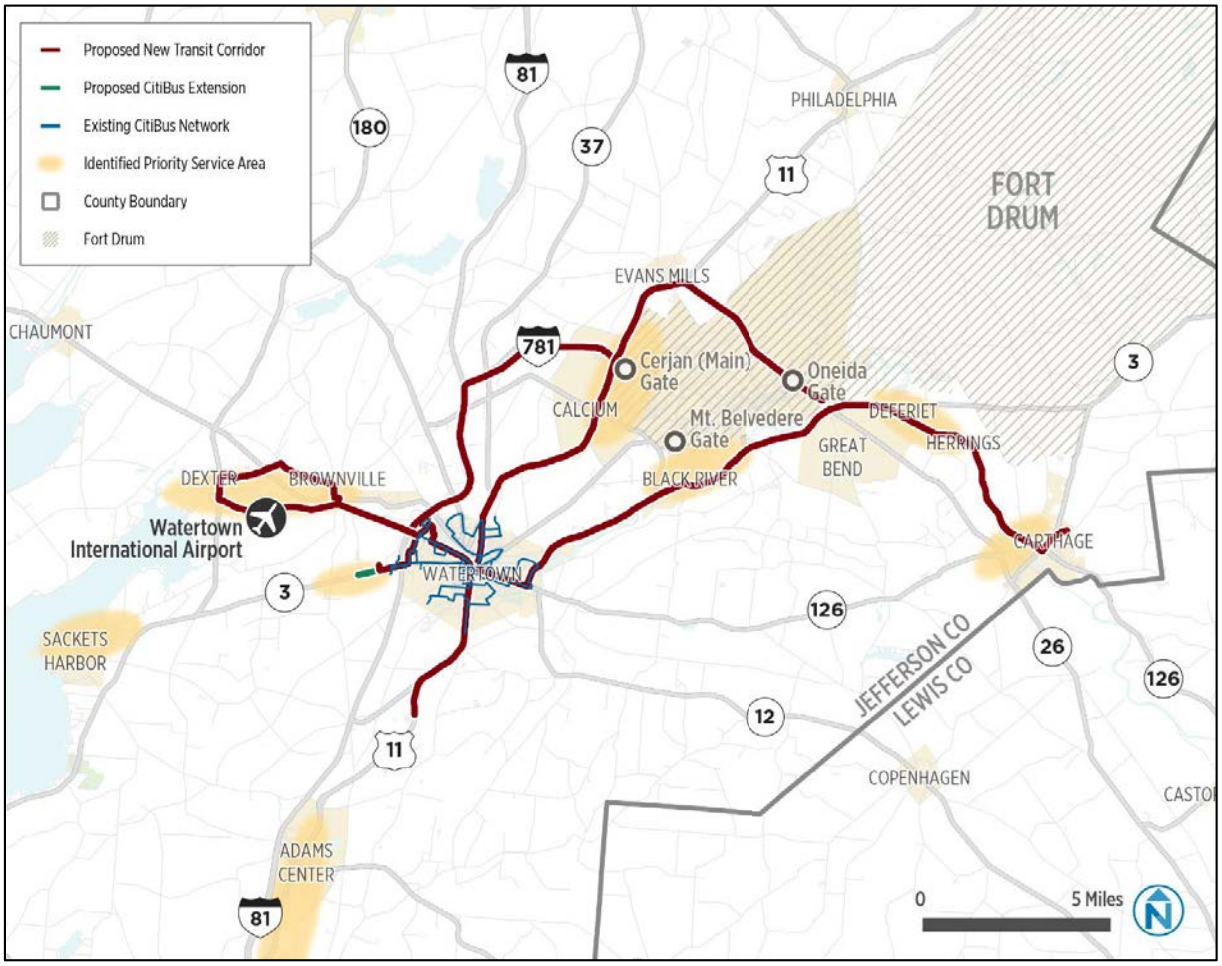


Figure 58 MPO Bounded Network Composition Characteristics

Corridor	Weekday Round Trips	Weekday Start	Weekday Stop	Weekend Round Trips[13]	Weekend Start	Weekend Stop
Fort Drum/Calcium	8	7:15AM	8:50PM	6	9:55AM	6:00PM
Dexter/JCC/Airport	4	7:15AM	7:40PM	2	11:10AM	6:10PM
Watertown Center	4	8:00AM	6:05PM	2	12:30PM	5:25PM
Carthage/Black River	2	7:35AM	7:35PM	2	9:45AM	7:35PM
Fort Drum/JCC Commercial Express	2	10:50AM	7:00PM	2	10:50AM	7:00PM

Figure 59 Proposed Corridors – MPO Bounded Regional Network Map



[13] Round trips on each weekend day

Regional Network Phase 1

The Phase 1 network package is made up of corridors and daily service spans derived from methodology described in the screening and ranking process technical memo. Within the iterative corridor ranking process, peer agency tables, population and employment density, and transit propensity indices informed ridership projections and the corresponding chosen number of round trips for each corridor. The lowest performing corridors identified as part of that work are not included in the Phase 1 regional network.

Figure 61 displays the corridors that act as components of the proposed service network package. All corridors would operate year-round, though corridors displayed in green would not include weekend service.

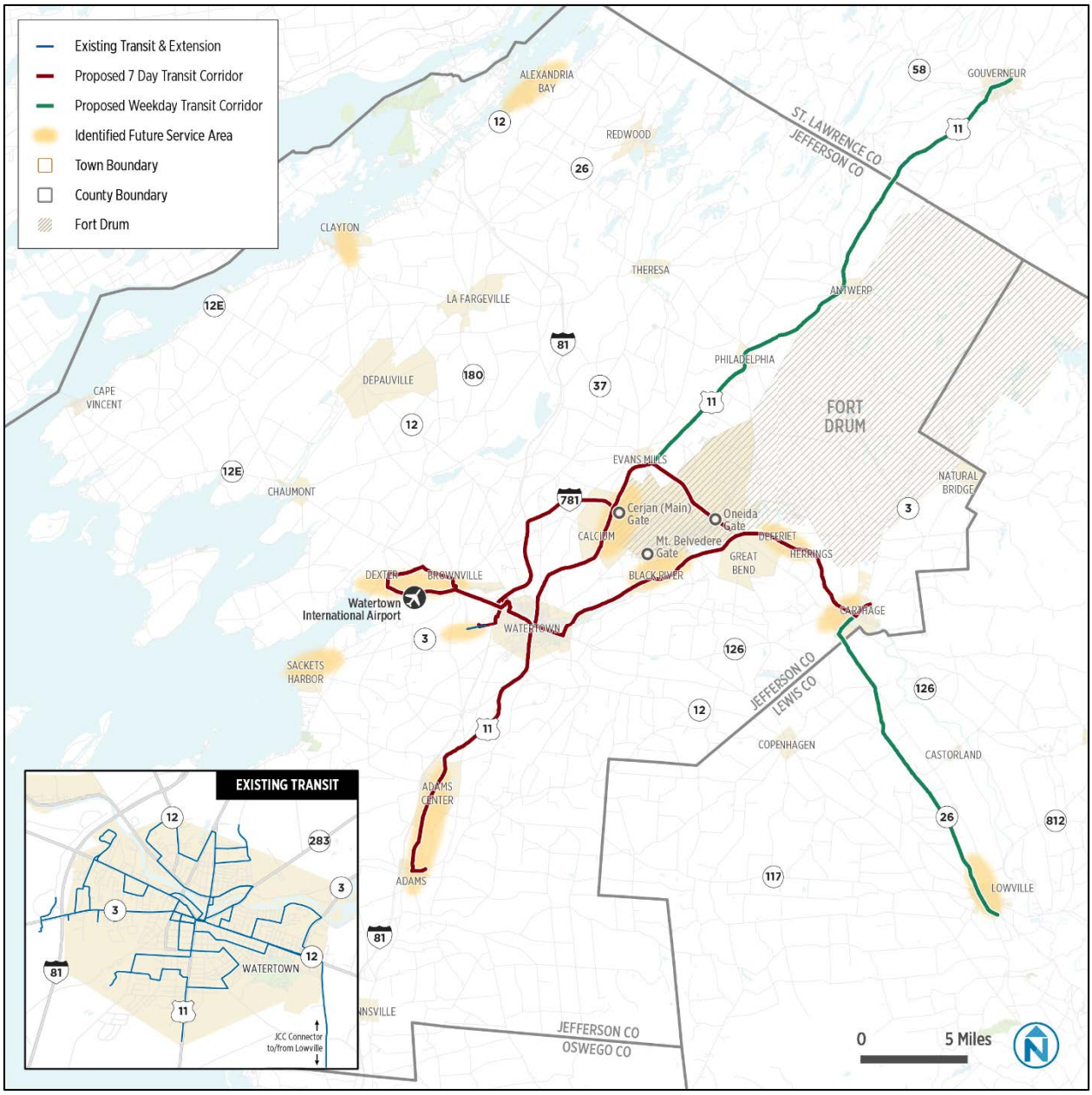
Figure 60 Phase 1 Regional Network Composition Characteristics

Corridor	Weekday Round Trips	Weekday Start	Weekday Stop	Weekend Round Trips[14]	Weekend Start	Weekend Stop
Fort Drum/Calcium	8	7:15AM	8:50PM	6	9:55AM	6:00PM
Dexter/JCC/Airport	4	7:15AM	7:40PM	2	11:10AM	6:10PM
Adams	4	8:00AM	6:25PM	2	12:30PM	5:25PM
Carthage/Black River[15]	2	9:00AM	5:35PM	2	9:45AM	7:35PM
Fort Drum/JCC Commercial Express	2	10:50AM	7:00PM	2	10:50AM	7:00PM
Gouverneur	2	7:00AM	4:45PM	0		
Lowville/Carthage	2	7:00AM	7:30PM	0		

[14] Round trips on each weekend day

[15] Effective service span is lengthened by Lowville/Carthage corridor service

Figure 61 Proposed Phase 1 Regional Corridor Map



Regional Network Phase 2

The Phase 2 service network package is made up of all corridors featured in Phase 1 plus additional annual and seasonal corridors evaluated during corridor identification. Figure 64 displays the corridors that act as components of the Phase 2 network package. Based on feedback received, some routes are only recommended for operation during certain days and/or a limited portion of the year. Corridors displayed in green represent annual weekday only service while dashed corridors would only operate between Memorial Day and Labor Day. Light purple dashed corridors represent weekend seasonal service.

Figure 62 Phase 2 Regional Network Year-Round Composition

Corridor	Weekday Round Trips	Weekday Start	Weekday Stop	Weekend Round Trips[16]	Weekend Start	Weekend Stop
Fort Drum/Calcium	10	7:15AM	8:50PM	6	9:55AM	6:00PM
Dexter/JCC/Airport	5	7:15AM	7:40PM	2	11:10AM	6:10PM
Adams	5	8:00AM	6:25PM	2	12:30PM	5:25PM
Carthage/Black River[17]	3	9:00AM	5:35PM	2	9:45AM	7:35PM
Fort Drum/JCC Commercial Express	3	10:50AM	7:00PM	2	10:50AM	7:00PM
Clayton	2	9:00AM	7:20PM	0		
Gouverneur	2	7:00AM	4:45PM	0		
Lowville/Carthage	2	7:00AM	7:30PM	0		

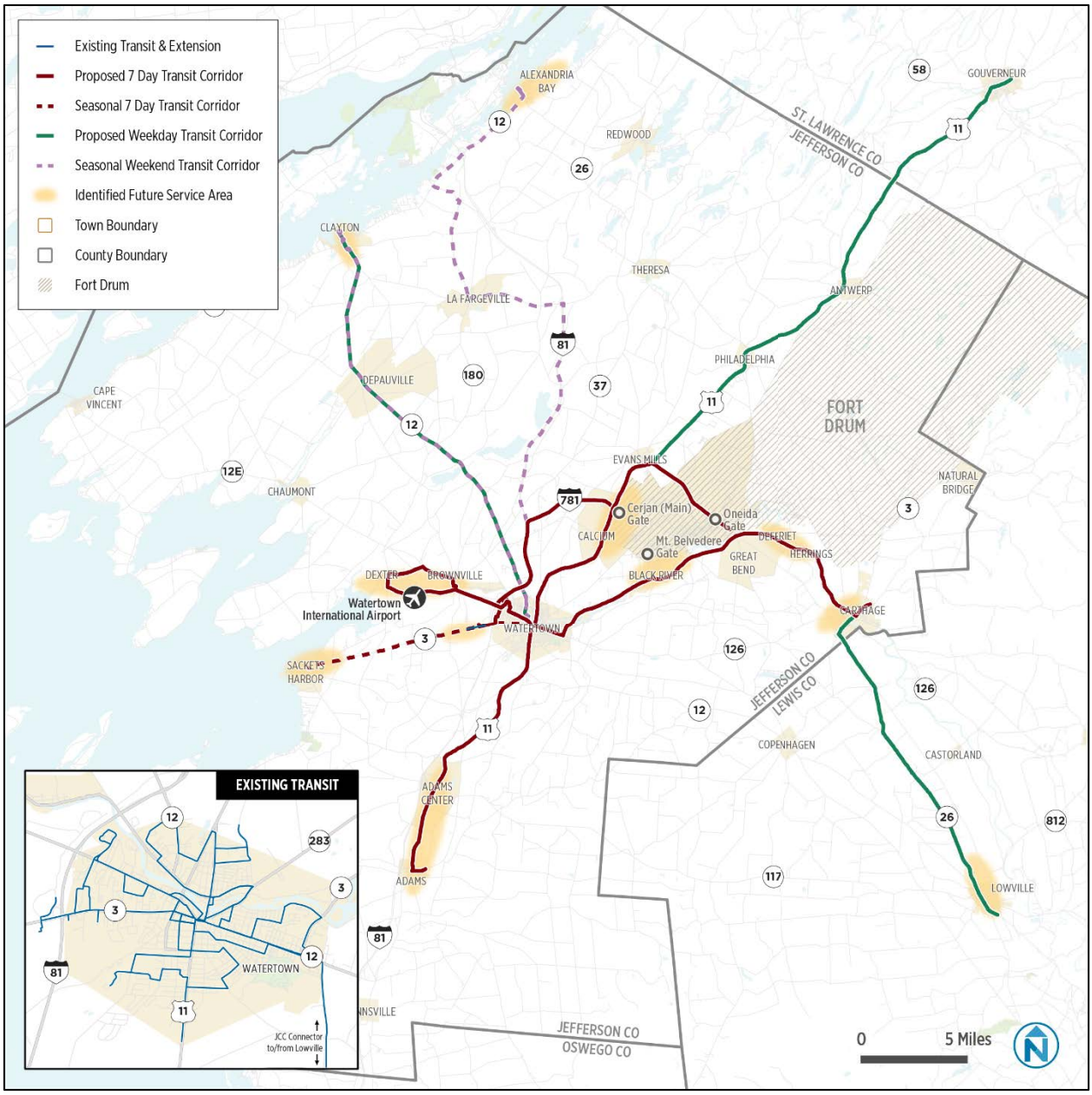
Figure 63 Phase 2 Regional Network Summer Only Service

Corridor	Weekday Round Trips	Weekday Start	Weekday Stop	Weekend Round Trips	Weekend Start	Weekend Stop
Sackets Harbor	4	9:30AM	8:35PM	2	1:00PM	9:15PM
Clayton				2	9:45AM	8:15PM
Alexandria Bay				2	11:00AM	9:10PM

[16] Round trips on each weekend day

[17] Effective service span is lengthened by Lowville/Carthage corridor service

Figure 64 Proposed Phase 2 Regional Corridor Map



Regional Network Phase 3

The Phase 3 regional network package is created by adding round trips to the Phase 2 package and ultimately extending the service day span. The enhanced package also features seasonal routes. Most round trips added to the Phase 2 schedule fill in mid-day and evening gaps in service. Phase 3 represents an aspirational level of service.

Corridors served remain consistent between Phase 2 and Phase 3. Refer to Figure 64, the Phase 2 proposed corridor map. As in Phase 2, some routes are only recommended for operation during certain days and/or a limited portion of the year.

Figure 65 Phase 3 Regional Network Year-Round Composition

Corridor	Weekday Round Trips	Weekday Start	Weekday Stop	Weekend Round Trips[18]	Weekend Start	Weekend Stop
Fort Drum/Calcium	12	7:15AM	11:35PM	6	9:55AM	6:00PM
Dexter/JCC/Airport	6	7:15AM	7:40PM	3	11:10AM	6:10PM
Adams	6	8:00AM	8:20PM	2	12:30PM	5:25PM
Fort Drum/JCC Commercial Express	4	10:50AM	9:45PM	3	10:50AM	7:00PM
Carthage/Black River[19]	4	9:00AM	5:35PM	2	9:45AM	7:35PM
Clayton	2	9:00AM	7:20PM	0		
Gouverneur	2	7:00AM	4:45PM	0		
Lowville/Carthage	2	7:00AM	7:30PM	0		

Figure 66 Phase 3 Regional Network Summer Only Service

Corridor	Weekday Round Trips	Weekday Start	Weekday Stop	Weekend Round Trips	Weekend Start	Weekend Stop
Sackets Harbor	5	9:30AM	9:50PM	3	1:00PM	9:15PM
Clayton				2	9:45AM	8:15PM
Alexandria Bay				2	11:00AM	9:10PM

[18] Round trips on each weekend day

[19] Effective service span is lengthened by Lowville/Carthage corridor service

Proposed Future Network Routes

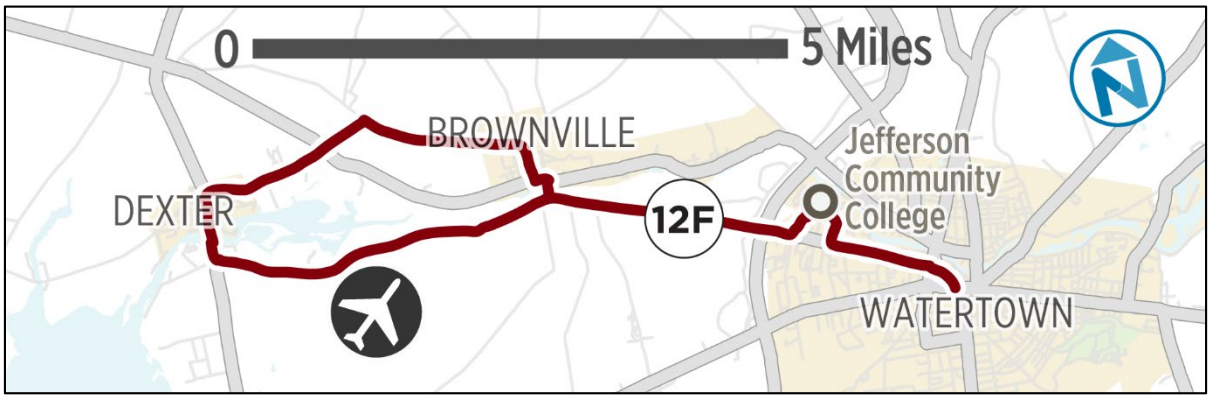
Round trip and span information for the corridors that comprise the various regional networks reflects the full regional network build-out as described by Regional Network Phase 3 (Figure 65 and Figure 66).

Dexter/JCC/Airport

The Dexter/Brownville corridor increases frequency of access along Coffeen Street to Jefferson Community College. The corridor also extends coverage to a major hardware store, Watertown International Airport, and the village centers of Dexter and Brownville. Almost 100 people use the Watertown International Airport each day. Bus schedules would be designed to connect to an arrival at 11:50 a.m. and a 12:15 p.m. departure.

Round Trip Route Length	Weekday Round Trips	Weekday Span
16.5 miles	6	7:15AM – 7:40PM
Round Trip Running Time	**Weekend Daily Round Trips**	**Weekend Span**
40 minutes	3	11:10AM – 6:10PM

Figure 67 Future Network – Dexter/JCC/Airport



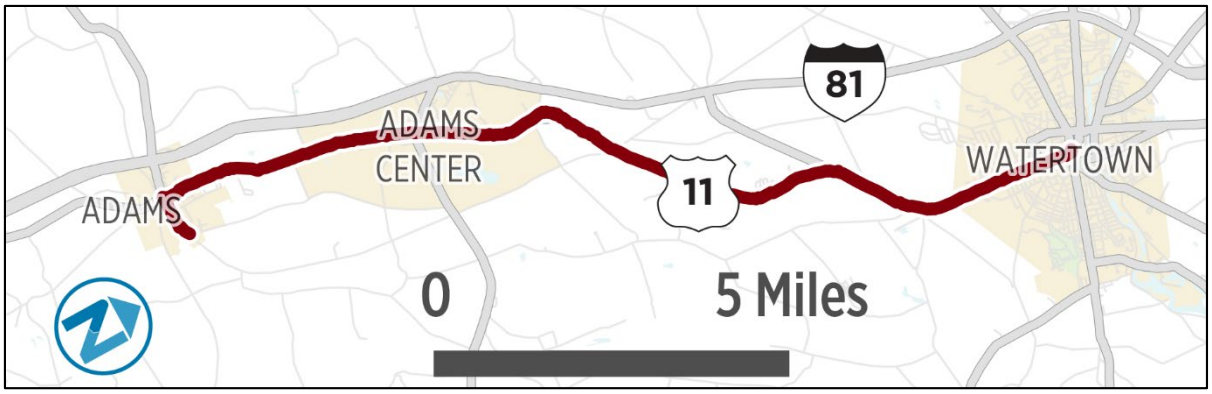
Adams

The Adams/Adams Center corridor provides bus service along Route 11 (Washington Street in the City of Watertown), terminating at the Country View Apartments senior meal site in Adams. The corridor serves Downtown Watertown, Samaritan Medical Center, additional medical offices, Watertown City Schools, multiple supermarkets, and the business districts of Adams and Adams Center.

Within an MPO Bounded Regional Network, this route would terminate at Northland Estates in order to remain within the FTA Section 5307 boundary. All versions of this corridor offer integration opportunities with CitiBus Route A-2.

Round Trip Route Length	Weekday Round Trips	Weekday Span
28.6 miles	6	8:00AM – 8:20PM
Round Trip Running Time	**Weekend Daily Round Trips**	**Weekend Span**
53 minutes	2	12:30PM – 5:25PM

Figure 68 Future Network – Adams



Fort Drum/JCC/Commercial Express

The Fort Drum/ Jefferson Community College /Commercial Express corridor links the Fort with JCC and commercial areas at the western edge of the City of Watertown without traveling to Downtown Watertown. The route would utilize Interstates 781 and 81 to arrive at the college. Noting secondary travel purposes indicated in the public survey, the corridor links together populations with high transit propensity indices (soldiers, students) to commercial necessities such as supermarkets, clothing, and home supply stores. As with the primary Fort Drum corridor, the exact off-post transfer location to a potential base-operated shuttle is unknown subject to change.

This corridor creates multiple new transfer points between routes and effective extends service to Downtown Watertown for JCC students via transfer at the commercial center.

Round Trip Route Length	Weekday Round Trips	Weekday Span
26.0 miles	4	10:50AM – 9:45PM
Round Trip Running Time	**Weekend Daily Round Trips**	**Weekend Span**
48 minutes	3	10:50AM – 7:00PM

Figure 69 Future Network – Fort Drum/JCC/Commercial Express

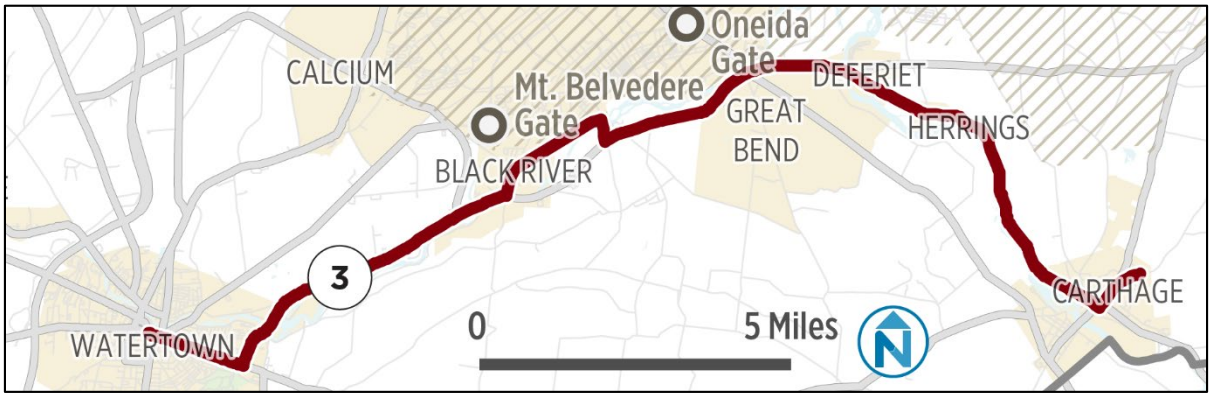
Carthage/Black River

The Carthage/Black River corridor travels along NY Route 3 to connect multiple small communities along the Black River to the City of Watertown and Village of Carthage, providing access options for medical facilities and other daily needs. The corridor travels near to two Fort Drum access points, potentially increasing service to the military population, before terminating in the Village of Carthage.

Additional round trips to Lowville using this corridor would increase the effective span and number of options. Potential integration with CitiBus Route A-1 may also impact service span and frequency.

Round Trip Route Length	Weekday Round Trips	Weekday Span
40.8 miles	4	9:00AM – 5:35PM
Round Trip Running Time	**Weekend Daily Round Trips**	**Weekend Span**
78 minutes	2	9:45AM – 7:35PM

Figure 70 Future Network – Carthage/Black River



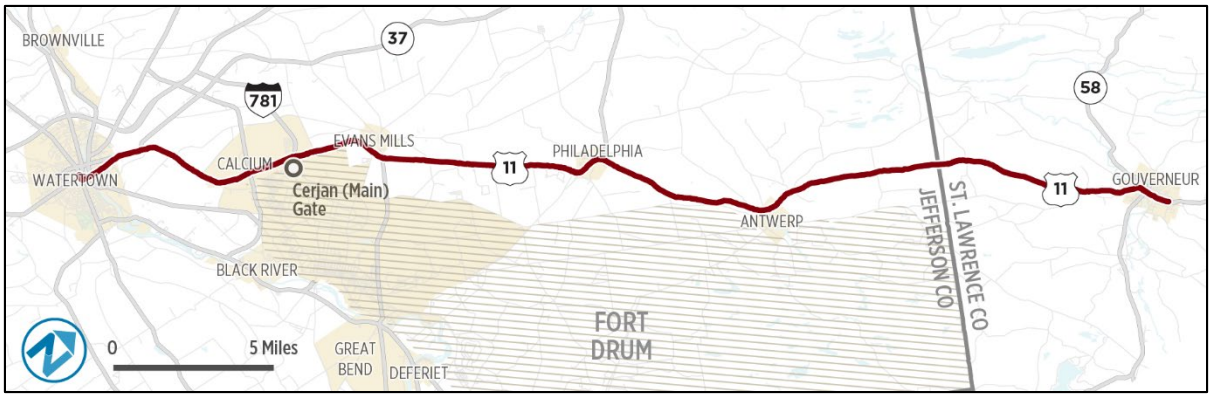
Gouverneur

The Gouverneur corridor is designed to connect to St. Lawrence County Transit on East Main Street in the Village of Governeur. The route passes in close proximity and augments service to the Fort Drum Main Gate and the commercial area immediately to the west and could be used to augment service to the Fort.

Weekend service is not foreseen as viable at this time since there is no weekend connection to be made to St. Lawrence County Transit. The corridor is not a fundamentally high performer due to its length, nor based on spatial demographics. Its viability is bolstered by the opportunity to provide extra service to and from Fort Drum. Further discussions with St. Lawrence County are required to create a suitable weekend link.

Round Trip Route Length	Weekday Round Trips	Weekday Span
72.3 miles	2	7:00AM – 4:45PM
Round Trip Running Time	**Weekend Daily Round Trips**	**Weekend Span**
107 minutes	-	-

Figure 71 Future Network – Gouverneur

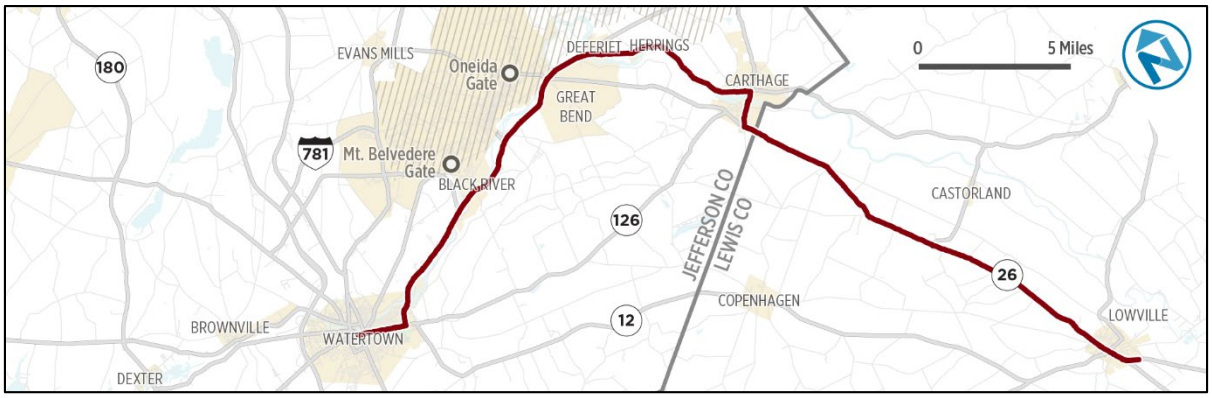


Lowville/Carthage

The Lowville corridor extends the Carthage corridor to the Village of Lowville on select weekday trips, linking regional employment, medical, and social services centers to intermediate destinations. The Lowville trips do not travel into Great Bend.

Round Trip Route Length	Weekday Round Trips	Weekday Span
70.9 miles	2	9:00AM – 7:30PM
Round Trip Running Time	**Weekend Daily Round Trips**	**Weekend Span**
111 minutes	-	-

Figure 72 Future Network – Lowville/Carthage



Clayton

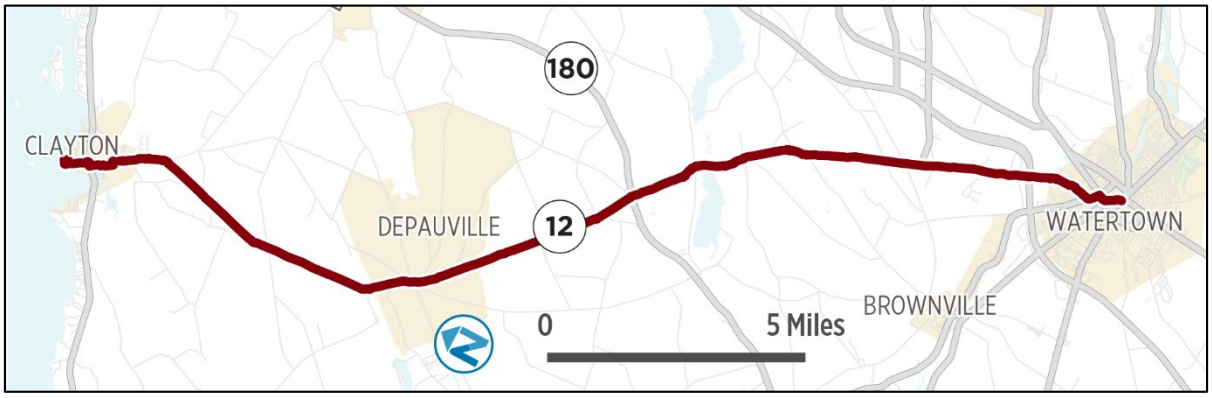
The Clayton corridor connects Route 12 to Clayton destinations such as the Paynter Senior Citizens Center, Samaritan Family Health Center, and a full service supermarket, terminating on Riverside Drive in the Village of Clayton's business district. The route is projected to perform far below average and would only operate on weekdays, making two round trips, and attempting to coincide with employment schedules. Weekend service to/from Clayton would be seasonal, operating only between Memorial Day and Labor Day.

Round Trip Route Length	Weekday Round Trips	Weekday Span
44.7 miles	2	9:00AM – 7:20PM

Round Trip Running Time	Weekend Daily Round Trips	Weekend Span
65 minutes	2*	9:45AM – 8:15PM

*Seasonal operation between Memorial Day and Labor Day

Figure 73 Future Network – Clayton



Sackets Harbor

The Sackets Harbor corridor increases frequency of access along Arsenal Street to the commercial area at the western edge of the Watertown city limits and the Jefferson-Lewis BOCES Bohlen Technical Center. The corridor also extends coverage to the Sackets Harbor village center. Weekday and weekend services would only operate on a seasonal basis between Memorial Day and Labor Day.

Round Trip Route Length	Weekday Round Trips	Weekday Span
21.5 miles	5*	9:30AM – 9:50PM
Round Trip Running Time	**Weekend Daily Round Trips**	**Weekend Span**
49 minutes	3*	1:00PM – 9:15PM

*Seasonal operation between Memorial Day and Labor Day

Figure 74 Future Network – Sackets Harbor

Alexandria Bay

The Alexandria Bay corridor would function as an express service, utilizing Interstate 81 between exits 47 and 49 before resuming transit service along NY Routes 411, 180, and 12. The route would provide access to a major employment center in LaFargeville as well as a hospital in Alexandria Bay. Although the

corridor was lowest performing during the screening and ranking process, the Project Advisory Committee recommended a implementation to test the market with the service most likely to succeed, operating on weekends between Memorial Day and Labor Day.

Round Trip Route Length	Weekday Round Trips	Weekday Span
67.4 miles	-	-
Round Trip Running Time	**Weekend Daily Round Trips**	**Weekend Span**
83 minutes	2*	11:00AM – 9:10PM

*Seasonal operation between Memorial Day and Labor Day

Figure 75 Future Network – Alexandria Bay

SERVICE IMPLEMENTATION PLAN

A detailed service implementation plan has been developed that incrementally grows fixed-route transit services through a phased approach. The initial phase provides a minimum level of local and regional service. Subsequent phases include additional service and expanded coverage. Revenue hours for regional routes in regional networks are unable to be isolated from other routes due to non-regular schedule interlining.

Figure 76 Service Implementation Plan

Phase	Route	Action	Weekday Service Span	Weekday Round Trips	Weekend Day Service Span	Weekend Day Round Trips	Annual Revenue Hours
Expanded Citibus	A-1 State-East Main	Extend span, add Sunday	7:00AM-9:30PM	10	9:40AM-5:45PM	6	2,470
	A-2 Washington	Extend span, add Sunday	7:45AM-8:50PM	9	10:25AM-4:55PM	5	2,190
	B Arsenal	Extend route and span, add Sunday	7:00AM-9:40PM	19	9:40AM-5:40PM	11	4,460
	C-1 Northside Loop	Extend span, add Sunday	7:00AM-9:30PM	10	9:40AM-5:40PM	6	2,470
	C-2 Coffeen-JCC	Extend span, add Sunday	7:45AM-8:50PM	9	10:25AM-4:55PM	5	2,190
	Fort Drum/Calcium	Implement new route	7:15AM-8:50PM	8	9:55AM-6:00PM	6	4,350
MPO Bounded Regional Network	A-1 State-East Main	No change	7:00AM-9:30PM	10	9:40AM-5:45PM	6	2,470
	A-2 Washington	No change	7:45AM-8:50PM	9	10:25AM-4:55PM	5	2,190
	B Arsenal	No change	7:00AM-9:40PM	19	9:40AM-5:40PM	11	4,460
	C-1 Northside Loop	No change	7:00AM-9:30PM	10	9:40AM-5:40PM	6	2,470
	C-2 Coffeen-JCC	No change	7:45AM-8:50PM	9	10:25AM-4:55PM	5	2,190
	Fort Drum/Calcium	No change	7:15AM-8:50PM	8	9:55AM-6:00PM	6	6,500
	Dexter/JCC/Airport	Implement new route	7:15AM-7:40PM	4	11:10AM-6:10PM	2	
	Watertown Center	Implement new route	8:00AM-6:05PM	4	12:30PM-5:25PM	2	
	Carthage/Black River	Implement new route	7:35AM-7:35PM	2	9:45AM-7:35PM	2	

Phase	Route	Action	Weekday Service Span	Weekday Round Trips	Weekend Day Service Span	Weekend Day Round Trips	Annual Revenue Hours
	Fort Drum/JCC Commercial Express	Implement new route	10:50AM-7:00PM	2	10:50AM-7:00PM	2	
Regional Network Phase 1	A-1 State-East Main	No change	7:00AM-9:30PM	10	9:40AM-5:45PM	6	2,470
	A-2 Washington	No change	7:45AM-8:50PM	9	10:25AM-4:55PM	5	2,190
	B Arsenal	No change	7:00AM-9:40PM	19	9:40AM-5:40PM	11	4,460
	C-1 Northside Loop	No change	7:00AM-9:30PM	10	9:40AM-5:40PM	6	2,470
	C-2 Coffeen-JCC	No change	7:45AM-8:50PM	9	10:25AM-4:55PM	5	2,190
	Fort Drum/Calcium	No change	7:15AM-8:50PM	8	9:55AM-6:00PM	6	8,850
	Dexter/JCC/Airport	No change	7:15AM-7:40PM	4	11:10AM-6:10PM	2	
	Watertown Center (Adams)	Extend route (Adams) and weekday span	8:00AM-6:25PM	4	12:30PM-5:25PM	2	
	Carthage/Black River	Adjust span to facilitate Lowville route	9:00AM-5:35PM	2	9:45AM-7:35PM	2	
	Fort Drum/JCC Commercial Express	No change	10:50AM-7:00PM	2	10:50AM-7:00PM	2	
	Gouverneur	Implement new route	7:00AM-4:45PM	2	-	-	
	Lowville/Carthage	Implement new route	7:00AM-7:30PM	2	-	-	
Regional Network Phase 2	A-1 State-East Main	No change	7:00AM-9:30PM	10	9:40AM-5:45PM	6	2,470
	A-2 Washington	No change	7:45AM-8:50PM	9	10:25AM-4:55PM	5	2,190
	B Arsenal	No change	7:00AM-9:40PM	19	9:40AM-5:40PM	11	4,460
	C-1 Northside Loop	No change	7:00AM-9:30PM	10	9:40AM-5:40PM	6	2,470

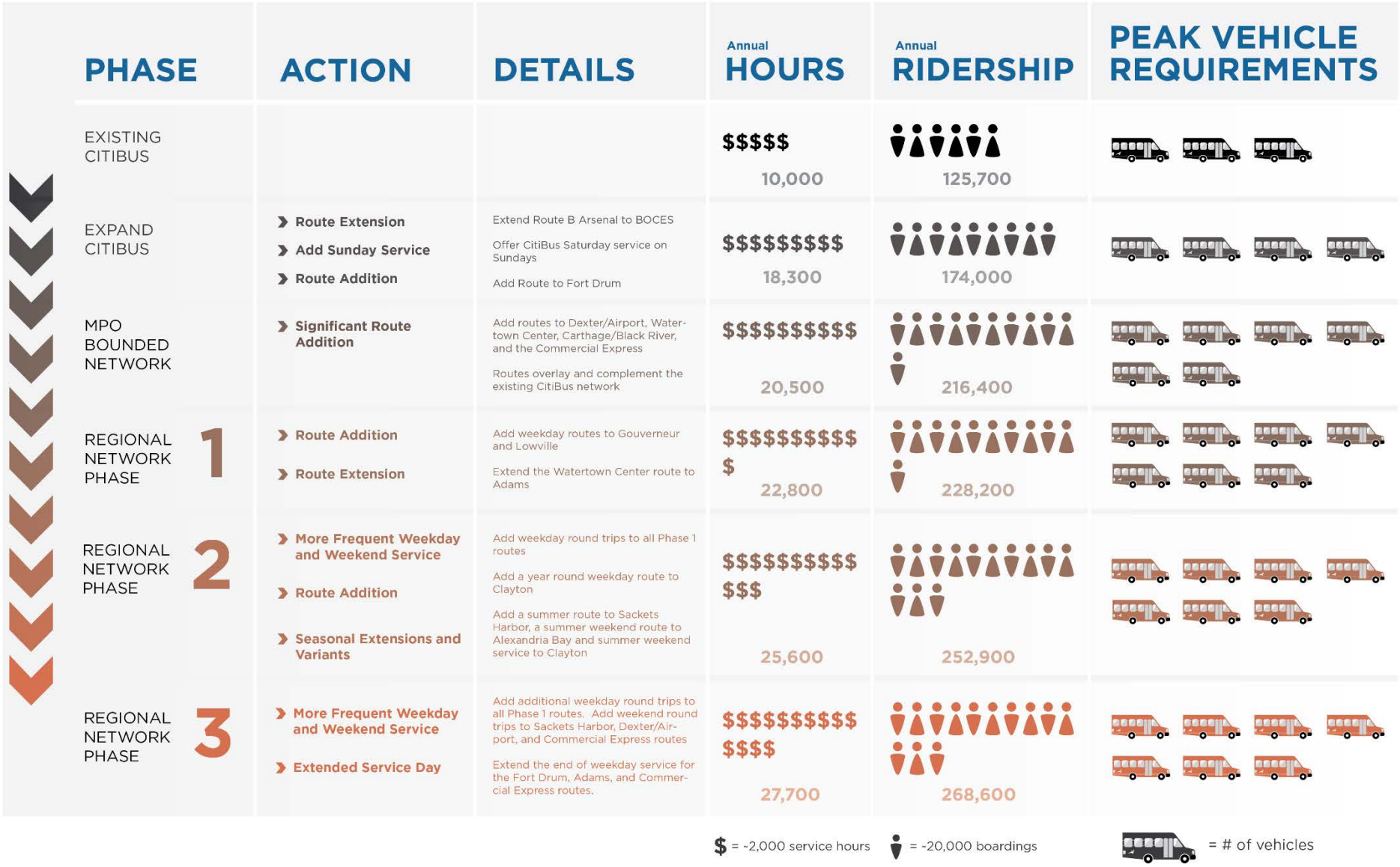
Phase	Route	Action	Weekday Service Span	Weekday Round Trips	Weekend Day Service Span	Weekend Day Round Trips	Annual Revenue Hours
	C-2 Coffeen-JCC	No change	7:45AM-8:50PM	9	10:25AM-4:55PM	5	2,190
	Fort Drum/Calcium	Increase weekday trips.	7:15AM-8:50PM	10	9:55AM-6:00PM	6	11,580
	Dexter/JCC/Airport	Increase weekday trips.	7:15AM-7:40PM	5	11:10AM-6:10PM	2	
	Adams	Increase weekday trips.	8:00AM-6:25PM	5	12:30PM-5:25PM	2	
	Carthage/Black River	Increase weekday trips.	9:00AM-5:35PM	3	9:45AM-7:35PM	2	
	Fort Drum/JCC Commercial Express	Increase weekday trips.	10:50AM-7:00PM	3	10:50AM-7:00PM	2	
	Gouverneur	No change	7:00AM-4:45PM	2	-	-	
	Lowville/Carthage	No change	7:00AM-7:30PM	2	-	-	
	Clayton	Implement new route and seasonal weekend service	9:00AM-7:20PM	2	9:45AM-8:15PM	2*	
	Sackets Harbor	Implement new seasonal route	9:30AM-8:35PM	4*	1:00PM-9:15PM	2*	
	Alexandria Bay	Implement new weekend season route		-	11:00AM-9:10PM	2*	
Regional Network Phase 3	A-1 State-East Main	No change	7:00AM-9:30PM	10	9:40AM-5:45PM	6	2,470
	A-2 Washington	No change	7:45AM-8:50PM	9	10:25AM-4:55PM	5	2,190
	B Arsenal	No change	7:00AM-9:40PM	19	9:40AM-5:40PM	11	4,460
	C-1 Northside Loop	No change	7:00AM-9:30PM	10	9:40AM-5:40PM	6	2,470
	C-2 Coffeen-JCC	No change	7:45AM-8:50PM	9	10:25AM-4:55PM	5	2,190
	Fort Drum/Calcium	Increase weekday trips and extend span	7:15AM-11:35PM	12	9:55AM-6:00PM	6	13,720

Phase	Route	Action	Weekday Service Span	Weekday Round Trips	Weekend Day Service Span	Weekend Day Round Trips	Annual Revenue Hours
	Dexter/JCC/Airport	Increase weekday and weekend trips	7:15AM-7:40PM	6	11:10AM-6:10PM	3	
	Adams	Increase weekday trips and extend span	8:00AM-8:20PM	6	12:30PM-5:25PM	2	
	Carthage/Black River	Increase weekday trips	9:00AM-5:35PM	4	9:45AM-7:35PM	2	
	Fort Drum/JCC Commercial Express	Increase weekday and weekend trips, extend weekday span	10:50AM-9:45PM	4	10:50AM-7:00PM	3	
	Gouverneur	No change	7:00AM-4:45PM	2	-	-	
	Lowville/Carthage	No change	7:00AM-7:30PM	2	-	-	
	Clayton	No change	9:00AM-7:20PM	2	9:45AM-8:15PM	2*	
	Sackets Harbor	Increase weekday and weekend trips, extend weekday span	9:30AM-8:35PM	5*	1:00PM-9:15PM	3*	
	Alexandria Bay	No change			11:00AM-9:10PM	2*	

*Seasonal operation only between Memorial and Labor Day

Each sequential network service package represents an increase in capital and operating costs over the existing CitiBus system. Incremental increases in ridership, revenue hours, and peak vehicle requirements are portrayed in Figure 77, a phased implementation summary that assumes direct steps from one network package to the next. While the table above describes route-by-route operating characteristics of each transit network, the summary on the following page would feature fairly equal expansion steps in terms of annual operating hours and peak vehicle requirements. The most significant increase in ridership versus operating cost increase occurs when a true regional network with multiple transfer points is realized due to the creation of the MPO Bounded Network.

Figure 77 Phased Implementation Summary



CAPITAL PLAN

VEHICLES

Right-sizing of vehicles is important from an operational and fiscal standpoint. Several vehicle types are available for range of services. Anticipating ridership loads, average passenger trip lengths, and customer expectations are primary factors when determining the appropriate vehicle type for each service. Based on anticipated ridership, the appropriate service vehicle would be a 20-25 passenger cutaway van (example pictured). Common models seating 20 to 22 passengers include:

- El Dorado (Salina, KS) – Aerotech
- StarTrans Bus (Goshen, IN) – Senator II
- Diamond Coach (Oswego, KS) – VIP 2500
- Elkhart Coach (Elkhart, IN) – EC II
- Glaval Bus (Elkhart, IN) – Universal

Versions of 2017-2019 models of these vehicles equipped with Braun or Ricon wheelchair lifts range in cost from $70,800 to $83,200 per vehicle, not including fare box or other peripheral installations. Augmenting CitiBus' fleet to add a vehicle appropriate to the Fort Drum route, while still allowing for two spare vehicles, would require a minimum capital investment of $70,800 to $83,200.

All transit vehicles should be wheelchair accessible and include electronic route/destination signage. Bike racks are also an important feature as they have the potential to attract customers traveling to areas not within walking distance of bus stops.

Figure 78 Peak Vehicle Requirements and Capital Costs

Phase	Changes	30' Bus	Cutaway	Costs
Existing	N/A	3	-	-
Expanded CitiBus	Add Fort Drum Route	3	1	$70,800 – $83,200
MPO Bounded	Add New Routes	3	3	$354,000 – $416,000
Phase 1 Regional	Add New Routes (Gouverneur, Lowville)	3	4	$424,800 – $499,200
Phase 2 Regional	Extend Routes, Add Summer Routes	3	4	$424,800 - $499,200
Phase 3 Regional	Extend Hours	3	4	$424,800 - $499,200

BUS STOPS

All stops should be fully accessible with a concrete landing and access to a sidewalk or pathway. ADA accessibility standards require that each bus stop include a landing pad with a minimum width of 60 inches and minimum depth of 96 inches. Bus stops should also connect to adjacent sidewalks or pedestrian paths. Many transit systems go beyond ADA minimums and provide a landing pad for the rear door of the bus. The addition of landing pads, connecting sidewalks, and amenities such as seating and shelter enhance the customer experience.

Stop Spacing

The optimal spacing between bus stops involves a balance of customer convenience and operating efficiency. Closely spaced stops reduce the distance to/from customer origins and destinations but result in slower bus speeds as each additional stop with activity requires the bus to decelerate, come to a complete stop, load and unload riders, and then accelerate back into traffic. Stops spaced farther apart result in faster, more reliable service but can significantly increase walking distance. Since most riders want service that balances convenience and speed, the number and location of stops is a key component of determining that balance.

In general, areas with high population and employment density should have shorter stop spacing than areas with moderate or low densities. Actual stop spacing will vary based on built environment characteristics.

Stop Placement

Bus stop placement involves a balance of customer safety, accessibility, and operations. The placement of each bus stop can be classified as one of the following:

- Near-side—immediately prior to an intersection
- Far-side—immediately after an intersection
- Mid-block—between two intersections

Bus stops are generally located at street intersections to maximize pedestrian accessibility from both sides of the street. Far-side stops are typically ideal at signalized intersections and along high-volume arterial streets. Near-side stops are typically preferable along low-volume streets such as neighborhood streets to reduce the possibility of stopping twice at an intersection.

Bus turning movements, driveways, and dedicated turn lanes sometimes restrict the placement of stops at or near an intersection and necessitate a mid-block stop. Mid-block stops may also be considered when destinations are a significant distance from intersections. Mid-block stops may be the only option at major intersections with dedicated turn lanes. Additional factors to consider when determining the placement of a bus stop include lighting, slope, adjacent land use, and constraints such as trees, poles, and fire hydrants.

Stop Signage

Well-designed bus stop signage has the opportunity to provide useful customer information while simultaneously marketing transit service. Route signage should be limited to one design to minimize inventory and materials costs.

Bus stop signage should include the following:

- CitiBus or Regional Transit Agency logo
- Unique panels with route number/name/endpoint
- Unique stop identification number, which can be used to access schedule information
- CitiBus or Regional Transit Agency website address and customer service phone line
- ADA-accessible symbol if applicable

The unit cost of bus stop poles and signage is approximately $250 per stop. An example of modern bus stop designs is shown in Figure 79.

Figure 79 Sample Bus Stop Designs

Sources: King County Metro, Regional Transit Service (Rochester)

Stop Amenities

Bus stops amenities enhance customer experience by increasing comfort and perceived safety while reducing perceived waiting times. Bus stop amenities also influence the community's image perception of transit service. The provision of amenities is typically based on ridership. A guideline for bus stop amenities is included in Figure 80.

Figure 80 Bus Stop Amenity Guidelines

Amenity	Description
Pole and sign	Stops with fewer than 5 average daily boardings
Pole, sign, and seating	Stops with 10-20 average daily boardings
Pole, sign, seating, and shelter	Stops with 20 or more average daily boardings

Circumstances that might preclude installation of shelters or seating at a particular stop meeting specific thresholds are:

- Amenities would compromise pedestrian or operational safety
- Adequate right-of-way is not available
- Regulations enforced by City, County, State, or Federal government
- Installation costs are excessive
- Plans are in place to relocate or close the stops

The approximate cost of bus shelters with seating and trash receptacles is $10,000 per stop.

TRANSFER POINTS

If the transit network is to grow in terms of the number of buses in simultaneous operation, a new central transfer point should be considered. The existing CitiBus Transfer Station on Arcade Street in Watertown would struggle to accommodate a fourth transit vehicle during pulsed operation. In addition, its location near the western end of Public Square results in significant operation delay due to difficulty exiting the site and right turn requirements.

Figure 81 Existing CitiBus Transfer Station

Source: Google

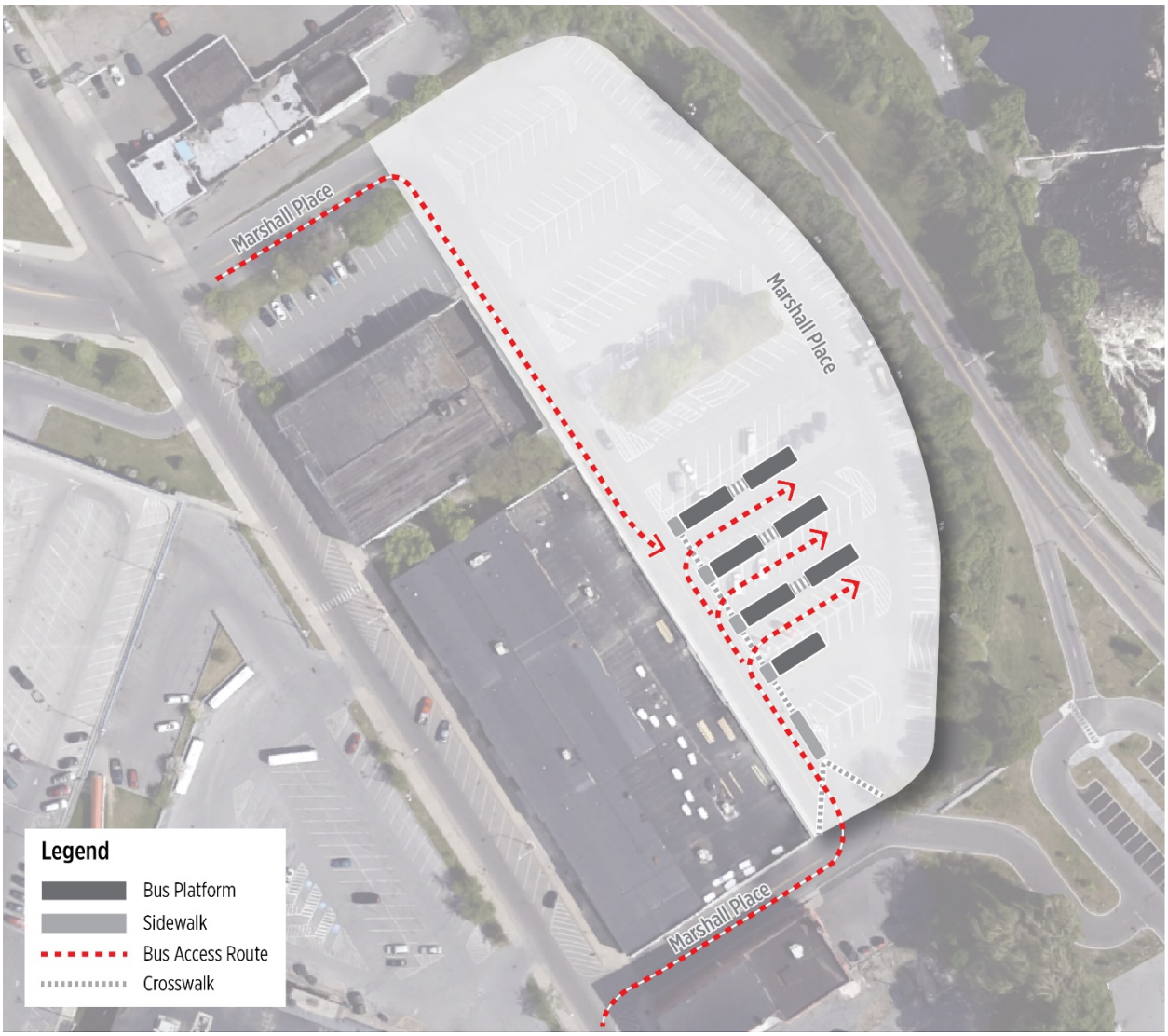
Discussions with stakeholders have presented several city-owned alternatives for transfer operations of a larger regional transit network. Each allows for easier circulation of both 30-foot and cutaway buses and

potentially larger platforms and waiting areas. Access to the rest of the regional roadway network is expedited thanks to a lack of turn restrictions onto less traveled roads. The alternatives are as follows:

- Operations at J.B. Wise Plaza may use the outer parking lot aisles for circulation and load at the curb behind buildings fronting public square
- The Butler Pavilion and associated circular driveway could serve as a sheltered location with modifications
- Marshall Place, which wraps around the underutilized parking lot behind 210 Court Street features sufficiently wide access and egress to Court Street and is proximate to the Northern Regional Center for Independent Living, a built-in constituency. A depiction of a potential transfer center configuration at Marshall Place is shown in Figure 83.

Figure 82 Transfer Station Alternatives

Figure 83 Potential Marshal Place Transfer Center Configuration



If future operations include an express route from Fort Drum to commercial areas at and beyond the City's western edge, consideration will need to be given to a creating a common stop that features more amenities than a typical stop (shelter, seating, etc.). A public option is land within the Western Boulevard right-of-way near the intersection with Arsenal Street. A private option outside of the City, such as Salmon Run Mall, would require negotiations and/or easements in order to provide an adequate satellite passenger waiting area and transfer station.

Example Bus Transfer Center Configurations

Figure 84 Bus Transfer Center in Lowell, MA

Figure 85 Bus Transfer Center in Portland, OR Credit: Steve Morgan

Figure 86 Bus Transfer Center in Ilmenau, Germany Credit: Daniel Beyer

OPERATIONS FACILITY

As the MPO bounded network essentially requires a doubling of vehicles and support facilities compared to existing CitiBus, construction costs for a new secondary regional bus facility should be taken into account. Note that if regional operation were contracted to a private operator, that operator would be responsible for providing an adequate operations facility.

There are a number of facility cost calculators that are useful. They are designed by various engineering firms and use industry standards to determine the costs of equipment and need for space. For example, a fleet of three body-on-chassis minibuses, a spare vehicle, and storage areas would require approximately 13,000 square feet of building space – as shown in Figure 87.

The space requirements can vary based on the administrative accommodations, parking (indoor, covered, or outdoors), anticipated storage areas, and the storm run-off required. Storm run-off is typically equal to the area of the building footprint plus outdoor parking and storage areas, although it varies by location.

The costs associated with building a facility adequate to house regional route operations for the MPO Bounded network are estimated at approximately $3.2 million.[20] Note that this estimate does not include room for future expansion. New facility costs required for subsequent expansions of the regional network will be noted in the description of each network's capital costs.

The estimate is based on having one bay for maintenance, including lifts and necessary equipment, as well as indoor parking given the harsh winter environment. The estimate also includes contingencies and contractor's fees and profits. The estimate does not include architect fees, environmental surveys, and in-house contractor costs. Construction costs are based on industry standards for varying required square footage for bays, fueling, bus wash, and fare collection within the building. Vehicle maintenance facilities and parts storage areas are budgeted at approximately $200 per square foot. Bus parking is estimated at $106 per square foot.

[20] HDR Bus Facility Calculator.

Figure 87 New Bus Facility Construction Costs

	Square Feet	Cost/Sq. Foot	Total w/Contingencies
Building Areas			
Administration	1,700	$265.60	$451,600
Operations	100	$166.00	$16,600
Vehicle Maintenance Areas	4,700	$199.20	$936,400
Parts Storage	200	$199.00	$39,800
Interior Bus Parking	3,780	$106.30	$401,700
Service Areas (Fuel/Fare/Wash)	2,200	$199.20	$438,300
Total Building Areas	**12,680**		**$2,284,400**
Equipment			
Administrative and Operations Areas			$43,500
Maintenance and Storage Equipment			$150,900
Fuel and Wash Equipment			$132,800
Total Equipment			**$327,200**
Exterior Areas			
Site Development/Utility Extensions	77,800	$2.00	$155,000
Site Landscaping	11,670	$2.30	$27,100
Other Paving – Circulation and Parking	53,450	$8.30	$443,700
Total Exterior Areas			**$625,800**
Total Facility	**77,800**		**$3,237,400**

As service expansion to any of the three larger regional networks requires an extra revenue vehicle as well as an extra spare, a new operations facility becomes more costly. The building would now approach 15,000 square feet and cost over $3.5 million due to increases across the board with the exception of administrative, maintenance, and parts storage areas. This facility does not allow for the regional fleet to grow larger than six vehicles (maximum four in service with spares).

FINANCIAL PLAN

OPERATING OPTIONS

Organizationally, the Watertown-Jefferson County Area Transportation Council (WJCTC) can enhance and open up service to the City of Watertown and the surrounding county using resources that already exist and/or contract out the service either as a whole or in parts. The organizational structure of the new service depends on the existing contract/relationship between CitiBus and the City of Watertown and WJCTC's preparedness to start anew. The key to providing quality service is to have:

- Clear expectations of service and scope of work
- Key performance indicators
- An excellent relationship between the operator and the Transportation Council to modify and enhance service as needed

Possibilities for future regional transit network operational structures include:

- Operation by the City of Watertown as an FTA direct recipient
- Operation by a newly created public agency
- Operation by another existing public agency (Jefferson County, Central New York Regional Transportation Authority)
- Contracted operation by a private operator
- Contracted operation by a non-profit operator

In the near term, it is recommended that the City of Watertown remain a direct FTA recipient, overseeing an initial expansion of the CitiBus system. This option makes the best use of existing facilities and service delivery experience, provides more autonomy over new fixed-route services, and retains a higher level of responsiveness to the needs of the community.

In exchange for assuming greater operating costs and burden, Watertown residents are likely to realize greater levels of access to employment, shopping and services, and continuing education. Additionally, the community is likely to stimulate additional economic activity (goods and services) from new access from outside Watertown, especially consumers from Fort Drum where there is a large carless adult population.

When ready to expand to a regional network service package, it is recommended that an overseeing public agency craft a Request for Proposals for private operation of regional routes. The Enhanced CitiBus network established in the initial phase may remain under the purview of the City of Watertown or it may be included in the regional proposal. Further integration and coordination with regional routes into a single system is recommended, though this may require a City system redesign.

A future CitiBus network that operates concurrently with a regional network may seek to make the following service adjustments to better coordinate with regional routes. Route A-2 Washington should be scheduled in order to more evenly space bus traffic (Watertown Center/Adams regional route) along Washington Street within the City of Watertown. Likewise, Route C-1 Northside Loop should be scheduled to more evenly space C-1, Fort Drum, and Gouverneur buses on Leray Street. Route C-2 Coffeen Street currently utilizes an inbound deviation from Coffeen Street on Emmett Street. Both Route C-2 and the Dexter/JCC/Airport regional route should operate via that deviation if it is retained. Otherwise, neither bus should follow that deviation. Regardless, Route C-2 and Dexter/JCC/Airport buses should be scheduled for even spacing at JCC and on Coffeen Street.

OPERATING COSTS

Initial Transit Network

CitiBus's operating expense per revenue vehicle hour for fixed-route bus service was $77.13 in 2017. This figure is used to estimate the cost of expanded service as it accounts for the fundamental of CitiBus employee contracts. The Expanded CitiBus service package would provide 83% more weekly revenue service hours. Expanded operation, including Sunday service in and immediately outside of Watertown, accounts for a 40% revenue hours increase over the existing system, while solely adding a seven days-per-week Fort Drum route would increase revenue hours 43% over current totals. Annual operating costs would increase by approximately $641,000 over the reported $772,708 spent on fixed-route bus service in 2017 to account for the increase in service time.

Future Transit Network

Average operating expenses per revenue vehicle hour for the fixed-route bus service of reviewed peers ranged from was roughly $50 in 2017. This figure, adjusted 20% to $60 to account for idiosyncrasies in staffing needs for service as envisioned and scheduled, is used to estimate the cost of regional service provided by a private contractor. Annual operating costs are dependent on the scale of the chosen network (Figure 89), ranging from an additional $696,000 (MPO Bounded Network) to $1,129,000 (Phase 3 Regional Network).

Figure 88 CitiBus Performance (2017)

Annual Passengers	Annual Revenue Vehicle Miles	Operating Cost (Bus Only)	Operating Cost/ Passenger
125,711	114,301	$772,708	$6.15

Figure 89 Network Packages Estimated Operating Costs*

Network Package	Estimated Additional Annual Passengers	Additional Annual Revenue Vehicle Miles	Estimated Additional Operating Cost
Expanded CitiBus	48,300	110,750	$641,000
MPO Bounded	90,700	180,150	$696,000
Regional Phase 1	102,500	276,000	$837,000
Regional Phase 2	127,150	355,300	$1,000,000
Regional Phase 3	142,850	405,150	$1,129,000

*Plus paratransit extended area of service

NON-FARE FUNDING SOURCES

Federal Funding

The US DOT Federal Transportation Administration (FTA) "Fixing America's Surface Transportation" (FAST) Act that was signed into law in December 2015 provides funding for existing and new public transportation efforts by reauthorizing programs and changes to improve mobility, streamline capital project construction and acquisition, and increase the safety of public transportation systems across the country.[21] It provides predictable formula funding and competitive grants for transit agencies to manage long-term assets, such as buses and infrastructure and address state of good repair needs. A number of grants offered through FAST provide formula and competitive funding for MPOs such as the Watertown Jefferson County Area Transportation Council (WJCTC).

WJCTC is the Metropolitan Planning Organization (MPO) designated by the Governor of the State of New York for the City of Watertown and surrounding area in Jefferson County. It has the responsibility of developing and maintaining both a Regional Transportation Plan and a Transportation Improvement Program for the area's federal aid eligible highway and public transit facilities. The Council was established in 2014 when the population of the Watertown urbanized area exceeded 50,000 as determined by the 2010 Census. It was determined that the geographic area for the Council's transportation planning would be limited to the adjusted urbanized area.

The Council consists of three principal working groups – the Policy Committee (PC), the Highway Technical Committee (HTC) and the Transit Technical Committee (TTC). The Policy Committee is responsible for reviewing and approving all planning undertaken by the Council and its staff. The Technical Committees are responsible for coordinating transportation planning activities and providing technical advice to the PC. The Technical Committees are composed of professional/technical staff representatives from each of the member governments. The HTC focuses on highway/bridge issues, while the TTC focuses on transit issues within the WJCTC boundary.

5307 Urbanized Area Formula Program

The Urbanized Area Formula Funding program (49 U.S.C. 5307) makes Federal resources available to urbanized areas and to Governors for transit capital and operating assistance and for transportation related planning in urbanized areas. An urbanized area is a Census-designated area with a population of 50,000 or more as determined by the U.S. Department of Commerce, Bureau of the Census.

Eligible Recipients: Public bodies with the legal authority to receive and dispense Federal funds. Governors, responsible local officials and publicly owned operators of transit services are required to designate a recipient to apply for, receive, and dispense funds for urbanized areas pursuant to 49 U.S.C. 5307(a)(2). The Governor or Governor's designee is the designated recipient for urbanized areas between 50,000 and 200,000.

Eligible Activities: Eligible activities include planning, engineering, design and evaluation of transit projects and other technical transportation-related studies; capital investments in bus and bus-related activities such as replacement of buses, overhaul of buses, rebuilding of buses, crime prevention and security equipment and construction of maintenance and passenger facilities; and capital investments in new and existing fixed guideway systems including rolling stock, overhaul and rebuilding of vehicles, track, signals, communications, and computer hardware and software. All preventive maintenance and

[21] Federal Transit Administration. https://www.transit.dot.gov/FAST

some American with Disabilities Act complementary paratransit service costs are considered capital costs. For urbanized areas with populations less than 200,000, operating assistance is an eligible expense.

Recipients must maintain equipment and facilities in accordance with their transit asset management plan. See FTA Transit Asset Management https://www.transit.dot.gov/TAM. Recipients are required to submit an annual report listing transit improvement projects (formerly 1% requirement) that were carried out in preceding year.

Funding Levels:

- Federal Share is not to exceed 80% of net project cost.
- Federal share may be 90% for cost of vehicle-related equipment attributable to compliance with Americans with Disabilities Act and the Clean Air Act.
- Federal share may be 90% for projects or portions of projects related to bicycles.
- Federal share may not exceed 50% of net project cost of operating assistance.
- Formula Details: For areas of 50,000 to 199,999 in population, formula based on population and density.
- Funds are available for the year appropriated plus five years.

Other: The matching funds can come from other federal (non-DOT) funds. Local communities can implement programs with 100% federal funding. Must offer half fare or reduced fare to people with disabilities and seniors during off-peak hours for fixed-route services.

Additionally, in accordance with the FTA's recapture requirements, any projects funded by the Urbanized Area Formula Funding program must ensure that non-FTA recipients cannot benefit from the federal funding. In the case of WJCTC's projects, this means that only WJCTC or Watertown transit operators receiving federal funding may use garages or bus stations that receive federal funding.

5311 Formula Grants for Rural Areas

This program provides capital, planning, and operating assistance to states and federally recognized Indian tribes to support public transportation in rural areas with populations less than 50,000, where many residents often rely on public transit to reach their destinations. It also provides funding for state and national training and technical assistance through the Rural Transportation Assistance Program.

Principles:

- Maintain existing transit needs by dedicating capital and operating funds for vital projects.
- Provide and maintain a flexible program by assuring that the program of projects continues to be developed through a cooperative, between NYSDOT and the Section 5311 applicants.
- A continued effort to decrease dependency on Section 5311 funds for transit. Requiring applicants to actively seek alternative funding sources to support their transit operations can be a valuable safeguard again shortage of program funds.
- Maintain a multi-year program of projects in order to foster planning of within the constraints of available federal funding.
- Maintain timely use of funds, NYSDOT requires that all FTA Section 5311 funds be obligated within 2 years of programming to avoid lost funds.

Eligible Recipients: States, Indian tribes, groups or communities identified by the Bureau of Indian Affairs (BIA). Subrecipients may include state or local government authorities, nonprofit organizations, or

operators of public transportation or intercity bus service that receives funds indirectly through a recipient.

Eligible Activities: Eligible activities include planning, capital, operating, job access and reverse commute projects, and the acquisition of public transportation services.

Funding Levels:

- Federal share is not to exceed 80% of capital project cost.
- Federal share is not to exceed 50% of operating cost.
- Federal share may be 80% for ADA non-fixed-route paratransit service.

Other: Each state must spend no less than 15 percent if its annual apportionment for the development and support of intercity bus transportation, unless it can certify, after consultation with intercity bus service providers, that the intercity bus needs of the state are being adequately met. In determining the amount of the unsubsidized portion of connecting feeder service that is eligible as an in-kind local match, all operating and capital costs can be included without revenue offset.

Revenue from the sale of advertising and concessions may be used as a portion of a local match. Recipients may use up to 20% of their 5311 allocation (previously 10%) for the operation of paratransit service, if certain conditions are met.

Additionally, in accordance with the FTA's recapture requirements, any projects funded by 5311 Formula Grants must ensure that non-FTA recipients cannot benefit from the federal funding. In the case of WJCTC's projects, this means that only WJCTC or Watertown transit operators receiving federal funding may use garages or bus stations that receive federal funding.

State Funding

State Operating Assistance (STOA)

The New York State Department of Transportation distributes about $3.0 billion annually in Mass Transportation Operating Assistance (MTOA), and other transportation assistance, to approximately 130 transit operators.

The MTOA fund was created by Section 88-a of State Finance Law and is subdivided into upstate and downstate dedicated tax fund accounts. The upstate account provides funding to all transit systems outside the 12-county metropolitan transportation commuter district. A portion of the Petroleum Business Tax is the sole dedicated revenue source for the upstate account.

Services eligible for operating assistance include bus revenue services, available to the public on a regular and continuing basis, having predetermined and publicly posted fares and service hours. Fixed route or route deviation services shall also have printed schedules. Demand-responsive services must have published service areas, hours of operation, fares and the phone number to arrange for service.

The STOA payment formula provides 40.5 cents per passenger in addition to 69 cents per revenue vehicle mile and requires a 100% local match for any assistance payment received. In addition, end-of-year supplemental state assistance known as STOA Clean-Up Funding exists due to requirement that the state allocate all available transit operating assistance dollars. Unlike formula funds, this money is not applied for, but is distributed proportionate to the size of STOA formula awards. As an example, St. Lawrence County Mobility Management reported receiving $219,000 from this secondary distribution in 2017, greater than one-third of total operating funds expended. Note that a heavy reliance on non-formula-based funding represents a sizable risk to an administering public agency.

Partnerships

Student Transit Pass

Many transit providers across the country negotiate with colleges and universities for a student pass agreement. These programs are often referred to as a Universal Transit Pass or U-Pass and are beneficial to transit providers and their college /university partners, as well as the students and the community.

Student pass agreements are often structured so that the transit provider receives a set dollar amount per each student in exchange for all students being able to use their student identification card as an unlimited transit pass. Colleges and universities typically include the cost of the semester pass within student fees, typically ranging from $25-$75 per semester. Operating on a semester basis ensures that only current students may benefit from the agreement.

Benefits of a universal student pass include:

- Reduced price or free access to transit for students, which is particularly beneficial to low income students
- Rewards existing riders with an individual fare reduction
- Attracts new riders who have not previously been inclined to try transit, but have already paid for the benefit
- Provides a stable source of income to the transit agency, which may either improve cost recovery or fund service improvements such as increased transit frequency
- Increased transit ridership reduces traffic congestion and parking demand at the school
- Provides an student recruiting incentive

Partnerships with Major Employers

Large employers and transit agencies can work together to encourage and facilitate the use of transit as a commuting option. Often the effort focuses on education regarding benefits and options available to employees, but can also include incentives. Many transit agencies offer a commuting program to employers that allows employees to take advantage of federal pre-tax payroll deduction for the purchase of transit passes. Employees are able to acquire their passes at their place of employment and are reassured by a guaranteed ride home program in which the employer guarantees a free taxi ride in case of emergency.

A more direct partnership in which employers purchase a specific number of passes from the transit agency for its employees at a discounted rate can provide a stable source of revenue for the transit agency while improving job access. In addition, the agency can work with employers to provide a starter kit which includes one-week trial passes, a personalized trip plan, applicable route schedules, and the business card of someone within the agency who can be called on to answer questions that the new riders might have.

FUNDING STRUCTURE

Initial Transit Network

While the new Fort Drum route largely travels within the urban area boundaries defined as eligible to receive operational cost reimbursement via Formula 5307, there are areas along Route 11 and Route 26 where the route leaves these boundaries. According to New York State DOT, as long as stops are not serviced in these areas, and stops along the Route 26 non-urbanized area are not practical due to the presence of Fort Drum boundary fences on either side of the corridor, the entirety of this route would qualify for 5307 reimbursement. CitiBus is currently in the process of applying for reimbursement of a portion of operating costs from previous years through the newly-created MPO and the 5307 formula program.

The extension to Towne Center and BOCES is eligible for reimbursement under the Formula 5311 program. Applicants must identify what portion or percentage of their revenue vehicle miles occur outside of the FTA urban area boundary. This extension would represent 207 of 4,112 weekly revenue miles or 5% of the expanded system.

It should be noted that collected fares constitute a significant revenue source. While hard to estimate due to uncertainty regarding a fare structure for regional routes, CitiBus received 14% of their 2017 bus operating funds, over $100,000, from bus rider fares, equal to $0.85 per rider. Peer regional agencies recovered a range of $0.76 to $1.26 per rider via the farebox.

Estimated Funding Contributions

To understand the possible necessary contribution by the City of Watertown to the operation of an expanded bus service, an assessment of past and likely future funding sources and levels was performed.

The ratio of bus fare collected to riders on the current CitiBus system is maintained at roughly $0.85/rider, resulting in roughly $41,000 additional fare revenue collected by an expanded system. While the federal 5307 and 5311 formula programs nominally provide up to 50% of operating costs, peer agencies were only able to recoup between 17% and 31% of fixed-route bus operating costs through federal sources in 2017. Thus, predicted federal reimbursement is limited to just over 25% of operating costs.

In 2017, State of New York and other funding sources accounted for over $150,000 of the revenues used to operate CitiBus. According to the State Operating Assistance formula, just under $130,000 of that total is attributable to STOA formula funds. However, according to the budget of the City of Watertown, the New York State Department of Transportation sends additional aid to offset costs related to the City's bus system.

Other funding sources provide an additional $41,400 to CitiBus operations. These include:

- STOA Clean-Up Funding
- Advertising revenue ($14,950)
- Contributions from the Jefferson County Office of the Aging ($5,600)

Noting fixed sources as well as the uncertainty regarding supplemental state assistance, the City of Watertown's contribution to an enhanced CitiBus network that extends Route B – Arsenal, adds Sunday service, and connects to Fort Drum, would need to increase by between $135,000 and $171,500 to a new total of between $630,000 and $666,000. If an Expanded CitiBus network did not includes service to Fort Drum, and merely extended Route B and created Sunday service, the required local contribution would be reduced to a range of approximately $482,500 to $507,400.

Figure 90 Anticipated Revenue Breakdown for Expanded CitiBus Service

	CitiBus Operating Costs	Fare Revenue	Federal Assistance	Formula State Operating Assistance	Other Funding	City General Fund Contribution
2017 Fixed-Route Operation	$772,708	$106,738	$0	$129,781	$41,398	**$494,791**
Expanded CitiBus Network Estimates	$1,413,752	$147,740	$353,438	$225,764	$20,550 - $56,817	**$629,993 - $666,260**
Expanded CitiBus (No Fort Drum)	$1,078,344	$125,926	$269,586	$154,878	$20,550 - $45,430	**$482,524 - $507,404**

Future Transit Network

The funding eligibility of a contracted regional network is dependent on the network service package chosen. The MPO Bounded regional network is completely eligible for Formula 5307 funds while the larger more truly regional networks would require an accounting of Formula 5311 service miles. All routes would be eligible for State operating assistance and would be able to recover some amount of operating costs through fare collection, the structure of which would need to be determined depending on the size and shape of the regional network chosen.

Estimated Funding Contributions

In order to understand the possible necessary contribution by a local agency to the operation of a contracted regional service, a financial assessment of likely future funding sources and levels was performed. As discussed under Financial Requirements, $60 is used to estimate the hourly cost of regional service provided by a private contractor based on peer data as well as certain assumptions regarding scheduling and staffing.

Again, the ratio of bus fare collected to riders on the current CitiBus system is used to estimate likely farebox recovery. At approximately $0.85/rider, fare revenue ranges from almost $58,000 for the MPO Bounded Network to just over $102,000 for the full regional system buildout. Again, because peer agencies were only able to recoup between 17% and 31% of fixed-route bus operating costs through federal sources in 2017, predicted 5307 and 5311 contributions are limited to just over 25% of operating costs.

Based on predicted ridership, calculated revenue vehicle miles, and the current State Operating Assistance service payment rates, STOA payments would exceed necessary local funding, which violates the 100% local match policy. As such, STOA payments are adjusted down while the local contribution is adjusted upward to equalize those sources and ensure all conditions are met to receive the state assistance payments. Required annual operational contributions to regional transit operations by a local agency range from $117,000 to $257,000 dependent on the level of service of the network chosen. Note again that STOA receipts are limited by the local match requirement, but that end-of-year STOA Clean-Up Funds described earlier are likely to further reduce direct local funding payments.

Figure 91 Anticipated Local Contributions Needed for Contracted Regional Service (Excl. CitiBus)

	Regional Operating Costs	Fare Revenue	Federal Assistance	Formula State Operating Assistance	Local Funding (Match)
MPO Bounded	$390,000	$57,843	$98,031	$117,063	**$117,063**
Regional Phase 1	$531,000	$67,846	$133,473	$164,840	**$164,840**
Regional Phase 2	$694,860	$88,766	$174,662	$215,716	**$215,716**
Regional Phase 3	$823,170	$102,082	$206,914	$257,087	**$257,087**

The figures above only quantify the needs for regional network routes operated under contract and assume that CitiBus continues separate operation. Should the entirety of City and regional operations be included in proposed contract operations, the following projections apply.

Figure 92 Anticipated Local Contributions Needed for Contracted Regional Service (Incl. CitiBus)

	Annual Operating Cost	Fare Revenue	Federal Assistance	Formula State Assistance	Local Funding
Enhanced CitiBus, no Fort	$838,830	$125,926	$209,708	$154,878	**$348,319**
Enhanced CitiBus, with Fort	$1,099,740	$147,740	$274,935	$225,764	**$451,300**
MPO Bounded	$1,228,830	$183,769	$307,208	$271,941	**$465,913**
Regional Phase 1	$1,369,830	$193,772	$342,458	$319,718	**$513,883**
Regional Phase 2	$1,533,690	$214,692	$383,423	$370,594	**$564,982**
Regional Phase 3	$1,662,000	$228,008	$415,500	$411,965	**$606,527**

MOBILITY MANAGEMENT

Empowering people by providing real transportation choices is central to improving the overall mobility system of Watertown and the surrounding region. Many people in the region, including people with disabilities, older adults, veterans, people with low income, and those residing in rural areas and on tribal lands, lack transportation choices and are forced to rely on a single form of transportation. People may be unable to physically access various transportation options, they may not be able to afford them, or they may be geographically isolated from them. For those who cannot access more than one form of transportation, this lack of transportation choice limits their ability to reach jobs, services, and education and recreational opportunities, thereby lowering quality-of-life and their ability to play a positive role in their community.

Mobility management, the innovative provision of flexible transportation options to those in need of them, can address the lack of transportation choices affecting many in the Watertown region. By better informing and enabling people to access and afford multiple transportation options, transportation agencies can provide greater transportation choice and thereby enhance the overall quality of mobility within a city or region. In Watertown, example of mobility management could include:

- The provision of one call/one click systems that centralize access to repositories of transportation services and help riders plan and book their trips.
- Subsidy/voucher programs that enable low-income residents to afford transit or taxi trips.
- Travel training services and accessibility infrastructure databases, that provide people with more information about the transportation options available to them.

Such programs in the Watertown region would help individuals with more limited mobility options gain enhanced access to a broader array of transportation services that better meet their needs.

CONCLUSION

The Watertown-Jefferson County Area Transportation Council Transit Study provides a guide for coordinating, expanding, and improving transit and mobility services in the Watertown region. The study examines existing transit service in Watertown and Jefferson County to provide an inventory of all local and regional transit services. This research informs the development of proposals for new transit and mobility service scenarios. The study identifies potential corridors in Watertown and Jefferson County for new or improved transit and mobility service based on an evaluation of market and demographic conditions. It proposes service scenarios, comprised of packages of corridors and system-wide route and service designs, to form an optimal regional transit system. Each service scenario is presented with financial, ridership, and benefit analyses. Services scenarios have been designed such that they can be phased in over time to build on one another. In order of their intended phasing, the service scenarios proposed are:

- Expanded Citibus network
- MPO bounded network
- Regional network Phases 1 – 3

In each successive phase, the project estimates that ridership and costs will increase as service is expanded. The proposed service scenarios described in this document were informed by an assessment of previous planning efforts, existing transit service, the market potential for transit service across the region, and in-person and online public and stakeholder feedback. The project also analyzed peer transit agencies to develop an operational scope for proposed service scenarios.

In the first proposed service scenario, Citibus service would expand to serve Fort Drum and areas just west of Watertown, and would operate on Sundays. In the proposed MPO bounded regional network, new regional routes within the WJCTC boundary are proposed. The three phases of the proposed regional network build on this MPO bounded network by adding new routes and increasing service to destinations further afield in Jefferson, and parts of Lewis and St. Lawrence counties. This report contains service and financial plans for each of these service scenario proposals which outline funding requirements, operating costs, capital and infrastructural needs, and design standards. It outlines funding structures for each proposed service scenario, including fare and non-fare revenues, and identifies non-fare funding resources such as federal and state grants and partnership opportunities.

This report ultimately provides a suite of recommendations that can help address the transportation challenges facing the Watertown-Jefferson County region, particularly gaps in its transit services. The proposed service scenarios described in this report would deliver coordinated, phased improvement of local and regional transit service that would build on existing services to better serve areas where there is demand for transit service. The report provides clear guidance on how these scenarios should function, and on the financial and technical resources required to ensure effective implementation, and to support efforts by the Watertown-Jefferson County Area Transportation Council to improve transit across the Watertown-Jefferson County region.