



DRAFT NETWORK REFINEMENT AND RECOMMENDATION REPORT

WATERTOWN-JEFFERSON COUNTY AREA TRANSPORTATION COUNCIL TRANSIT STUDY

MARCH, 2019



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INTRODUCTION

The 2016 Jefferson County Coordinated Transportation Plan for Mobility Services has created a framework for a potential expansion of transit in the county. The recently established MPO, the Watertown Jefferson County Area Transportation Council (WJCATC), is proposing a regional transit network for Watertown, Fort Drum and surrounding communities. The new transit network should be organized considering ridership potential, the eventual operating organization, and likely financial resources. Beyond the identification of corridors, schedules, and budget, the best organizational structure for regional transit must be determined. Currently, many parts of the region lack the density to support frequent, fixed-route service. In order to serve these areas, the new network would need to employ a wider variety of mobility services to meet the community’s needs over the years to come.

This document builds on the work described in the potential transit corridor identification and screening and ranking process technical memos. Based on advisory committee and public feedback, corridor and service options have been adjusted to reflect more context appropriate service. Corridors are now assembled into potential service network package alternatives. Governance and organizational structure alternatives are also examined in order to make recommendations that merge service planning options with the optimal operating agency.

Network Packages

The study team has identified potential viable regional networks, based on forecasted ridership, and the associated operating and capital costs for each network. These costs include the number of buses required for a new regional fleet and the cost to build a new operations facility. While the current CitiBus facility can accommodate a fleet for the current and expanded CitiBus system, a regional network would require a new facility to accommodate the new larger regional fleet.

Each of the networks builds on an enhanced CitiBus system that features route extensions and Sunday service. Furthermore, each regional network package builds on a prior network package. The extensions, additional routes and estimated capital costs are summarized below:

Figure 1 Network Package Summary

Network Package	Action(s)	Capital Costs	Annual Operating Costs
Expanded CitiBus	Extend Route B - Arsenal to BOCES	\$70,800 to \$83,200	\$1,413,750
	Add Sunday Service		
	Add Route to Fort Drum		
MPO Bounded	Add Routes to Dexter/Airport, Watertown Center, Carthage/Black River, Fort Drum Commercial Express	\$3,591,400 to \$3,653,400	\$1,468,700 to \$1,579,700
Regional Phase 1	Add Weekday Routes to Gouverneur and Lowville	\$3,946,500 to \$4,020,900	\$1,609,700 to \$1,760,700
	Extend the Watertown Center Route to Adams		

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Network Package	Action(s)	Capital Costs	Annual Operating Costs
Regional Phase 2	Add Weekday Round Trips to All Phase 1 Routes	\$3,946,500 to \$4,020,900	\$1,772,700 to \$1,971,700
	Add a Year-Round Weekday Route to Clayton		
	Add Summer Seasonal Services		
Regional Phase 3	Add Weekday Round Trips to All Phase 1 Routes	\$3,946,500 to \$4,020,900	\$1,901,700 to \$2,136,700
	Add Weekend Round Trips to Select Routes		
	Extend Weekday Service Day for Select Routes		

Agency Governance/Organization Structure

Central to the expansion of transit throughout WJCTC is CitiBus, which is currently operated by the City of Watertown. The system has been in existence since 1975 and serves over 125,000 passengers per year within the City. They cover approximately 114,000 vehicle revenue miles at a total operating cost of \$773,000. CitiBus is the only public transit in the MPO with infrastructure in place, is eligible for Federal Transit Administration (FTA) Funding, and is a logical starting point for service expansion beyond Watertown.

The City of Watertown is identifying opportunities for improvement of CitiBus, such as new bus procurement. Current buses are beyond their expected useful life and the service does not run on Sundays. In recent years, CitiBus has been funded locally and at the state level and has not received federal grant reimbursements for operations. The MPO has the opportunity to build on the funding CitiBus receives from federal, state, and local sources. In general, FTA funding formulas require a 50/50 match for operating funds and an 80/20 match for capital funds. CitiBus is currently establishing new relationships with the Federal Transit Association (FTA) and is pursuing reimbursement for its capital and operating expenditures.

As Watertown is the most densely populated municipality in the region, and currently operates the CitiBus physical and administrative infrastructure, it is most efficacious to preserve CitiBus as the core of the regional networks. A question remains whether CitiBus would expand to operate regional service, whether CitiBus might merge into an authority, or whether the County or another agency would administer regional service via contract or other means. CitiBus does have a facility, employees, and an established organizational structure. Any expansion of CitiBus would have to happen concurrently with CitiBus's activities toward reaching their state-of-good repair with their current fleet.

Once determined, the MPO can work with the State to authorize the funding recipients and establish a reporting structure in accordance with federal and state funding requirements. Once oversight responsibility is established, an administering agency would have the option to provide service from within the current structure, outsource the service, and/or develop a combination thereof.

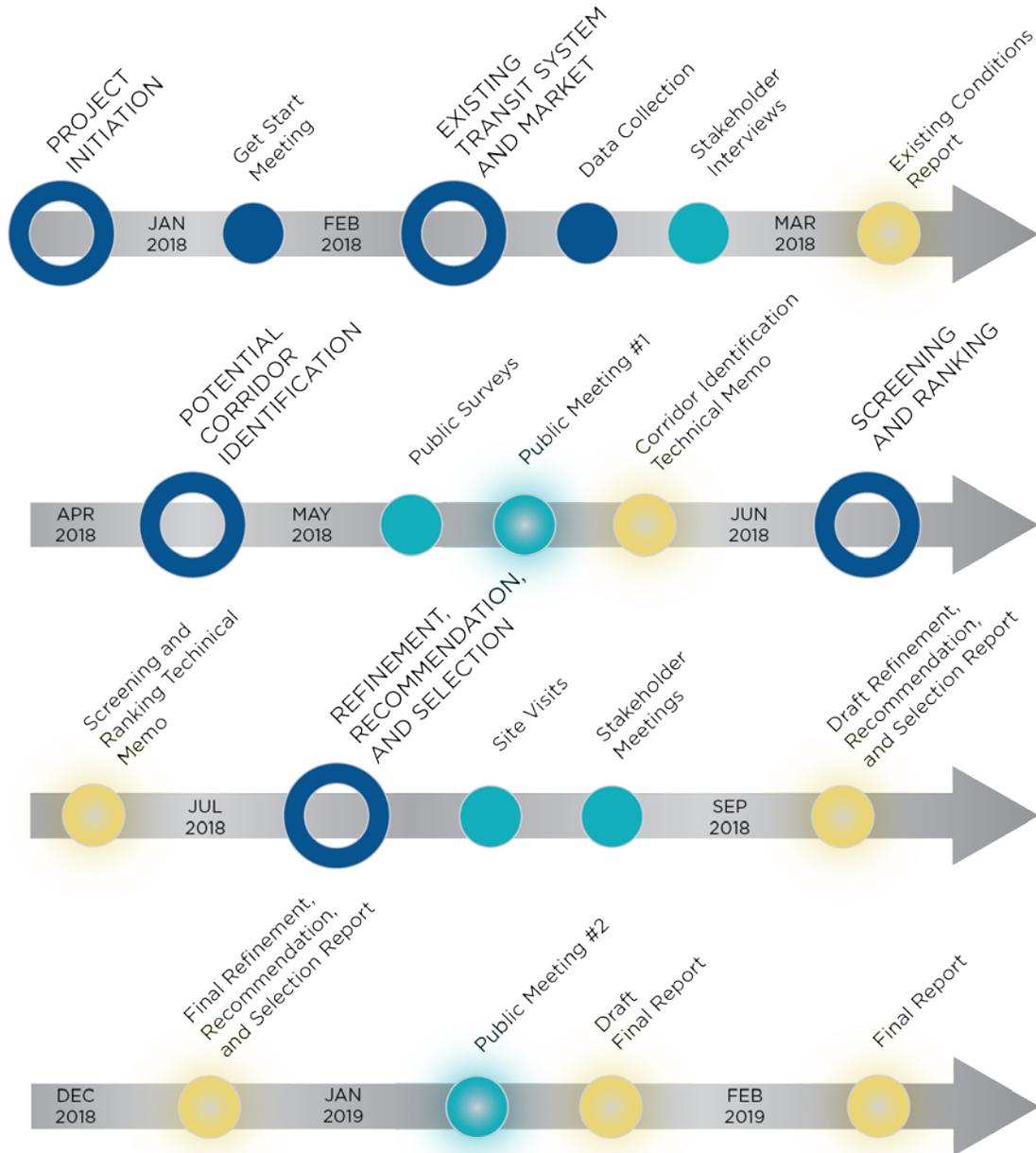
Recommendations

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.

When ready to expand to a regional network service package, it is recommended that the appropriate administering 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.

Project Schedule and Scope

Figure 2 Complete Project Schedule



PREVIOUS STUDIES

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 WJCATC, 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.

NETWORK PACKAGES

Corridors that have previously been identified and screened to determine their level of viable service are now 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. Each network package reflects schedule coordination with CitiBus’ five route in-city service network regardless of the ultimate recommended operating agency for the regional network. The description of each service package explicitly notes any changes to the length of the service span of CitiBus routes due to coordinated activity.

A primary consideration in the creation of regional service is whether CitiBus remains a separate city-only system or whether their resources are consolidated into a single regional transit agency. At present, network packages are developed where CitiBus schedules and assets are preserved as the core of the regional network as 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. New regional routes, their performance, capital, and operational requirements are calculated independently as new services.

Figure 4 Existing CitiBus Network Composition Characteristics

Corridor	Weekday Round Trips	Weekday Start	Weekday Stop	Weekend Round Trips	Weekend Start	Weekend Stop
A-1 State-East Main	9	7:00AM	6:15PM	6	9:40AM	4:55PM
A-2 Washington	8	7:45AM	5:35PM	6	10:25AM	5:35PM
B Arsenal	17	7:00AM	6:15PM	12	9:40AM	5:35PM
C-1 Northside Loop	9	7:00AM	6:15PM	6	9:40AM	4:55PM
C-2 Coffeen-JCC	8	7:45AM	5:35PM	6	10:25AM	5:35PM

REGIONAL NETWORK SCOPE

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 Database³ 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 attributes are defined in Figure 5. Peers will be further examined in the Final Report, including an assessment of agency governance.

³ NTD Transit Agency Profiles, <https://www.transit.dot.gov/ntd/transit-agency-profiles>

Figure 5 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

EXPANDED CITIBUS

An expansion of CitiBus as it currently operates was mentioned as a potential first step alternative in discussions with advisory committee members and project stakeholders. Such a network would require CitiBus to apply to the New York State Department of Transportation’s Safety Bureau in order to obtain authority to operate outside of city limits. The State will initiate a 30-day comment period before stating their approval or rejection of the application.

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.

Composition and Changes

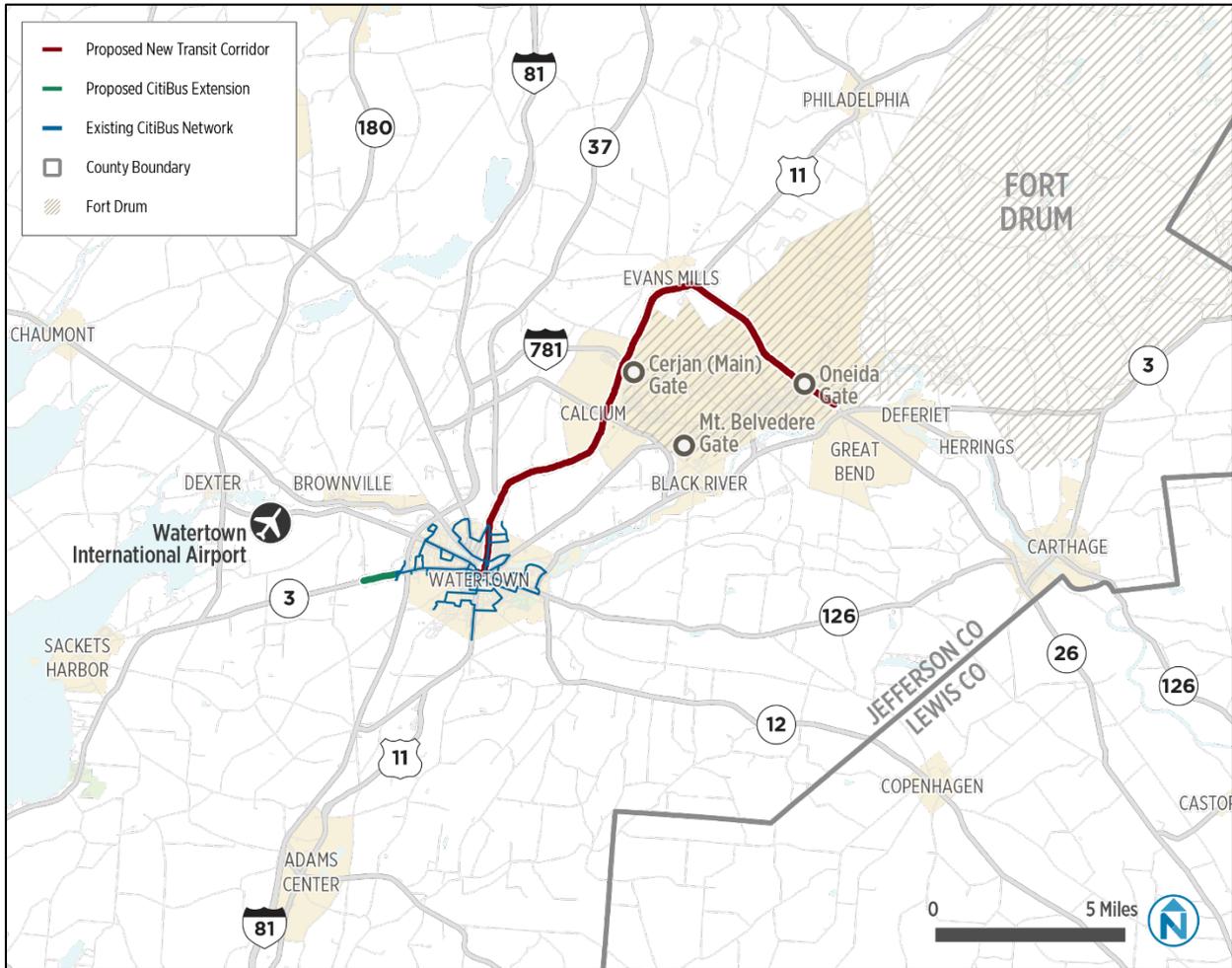
A CitiBus expansion would see four significant changes to the existing system. Route B Arsenal would be extended to BOCES or Towne Center (Target) on select weekday trips. This would require a change to the CitiBus system service interval from 40 to 45 minutes. Trips serving BOCES would not serve Towne 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.

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

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Army Airfield. 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 7 would be added.

Figure 6 Potential Initial CitiBus Expansion



In addition, any new routes or extensions to the transit network must include provision of complementary ADA paratransit services for those who are unable to use accessible fixed route services. Paratransit services are characterized by vehicles that operate flexible routes or demand response service and provide origin-to-destination service. Per Federal Regulation Title 49, Subtitle A, Part 37, transit systems that run fixed routes must also provide ADA complementary paratransit service within $\frac{3}{4}$ mile on either side of the fixed route. The paratransit ride may not be provided more than an hour before or after the requested time and service must be provided on the same days and during the same hours as fixed route service. There may be no restrictions or priorities based on trip purpose. Service must be provided regardless of the nature of the trip. ADA complementary paratransit requirements do not apply to commuter or intercity service.

The Fort Drum route, and others described in subsequent service packages must obey this criteria, which may change the nature of CitiBus' current paratransit operating contract. Funding sources for paratransit, including Federal Section 5310 and state operating assistance, are described later in this document as a means to finance any additional paratransit capital and operating expenses.

Figure 7 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 (Extended)	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

Forecast Financial Analysis

Capital Costs

An expanded CitiBus would operate four buses simultaneously at certain times of day, requiring an addition to the fleet. The corridor identification memo previously identified body-on-chassis minibuses as an appropriate vehicle to handle the envisioned passenger loads. 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 farebox 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. An expanded CitiBus network should consider the implications of a mixed fleet of multiple vehicle sizes, ensuring that appropriately sized spares exist to fill in on regional or city routes.

Operating Costs

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 system provides:

- 23.75 additional revenue vehicle hours per weekday
- 8.5 additional revenue vehicle hours per Saturday
- 32.5 additional revenue vehicle hours per Sunday

The Expanded CitiBus service package would provide 83% more weekly revenue service hours. Of that increase, just less than half is attributable to expanded operation in and immediately outside of Watertown while just over half is due to the added Fort Drum service. 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.

Forecast Performance Analysis

Additional annual ridership on the extended Route B Arsenal service was calculated using elasticities found in Transportation Research Board guidance sponsored by the Federal Transit Administration.⁴ Adding 422 weekly revenue miles to existing routes would result in roughly 22,600 additional annual passengers.

Forecasted ridership on the new Fort Drum route is calculated by comparing the annual amount of new service miles provided, approximately 80,000, against peer networks and their average performance. A new regional route serving Fort Drum that operates at a level comparable to peer agencies would attract almost 25,700 annual riders or about five passengers per one-way trip. Together with the Arsenal expansion, CitiBus would attract over 48,000 additional riders annually.

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 8. Some identified corridors are truncated, such as the Adams and Sackets Harbor corridors, to remain within the FTA's urban area boundary for 5307 Urbanized Area Formula Program funds. Figure 9 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.

The Expanded CitiBus service changes described in the previous section are retained in this and all network packages representing future system expansion.

⁴ Transportation Research Board. *TCRP Report 95: Chapter 10 Bus Routing and Coverage Traveler Response to Transportation System Changes*. 2004.

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Figure 8 MPO and FTA 5307 Eligible Areas

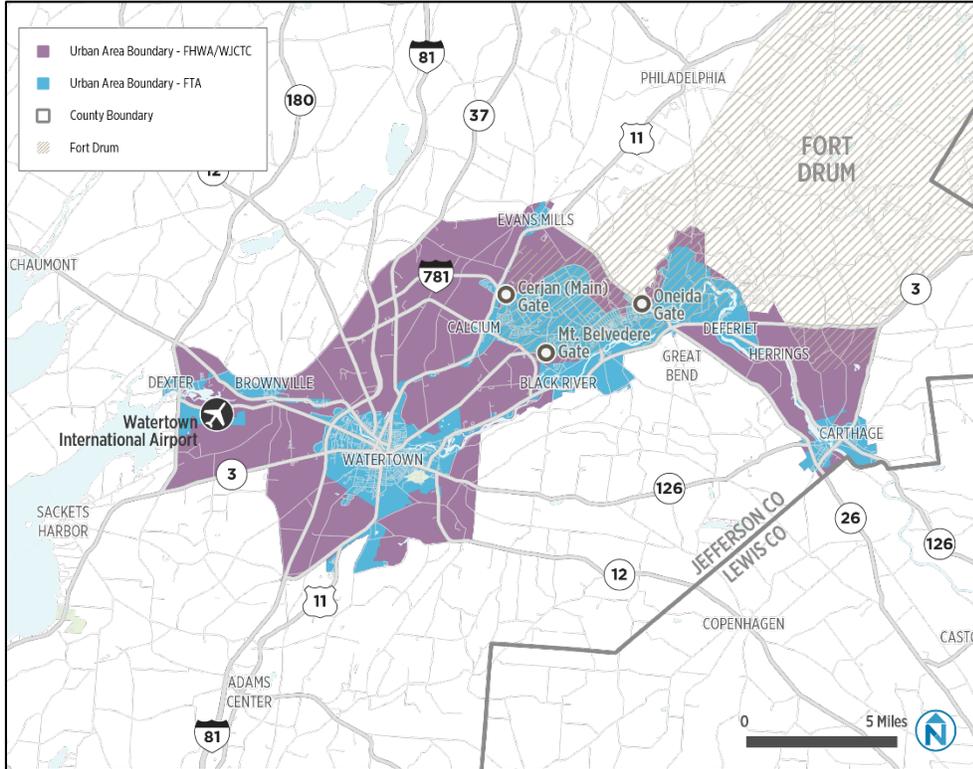
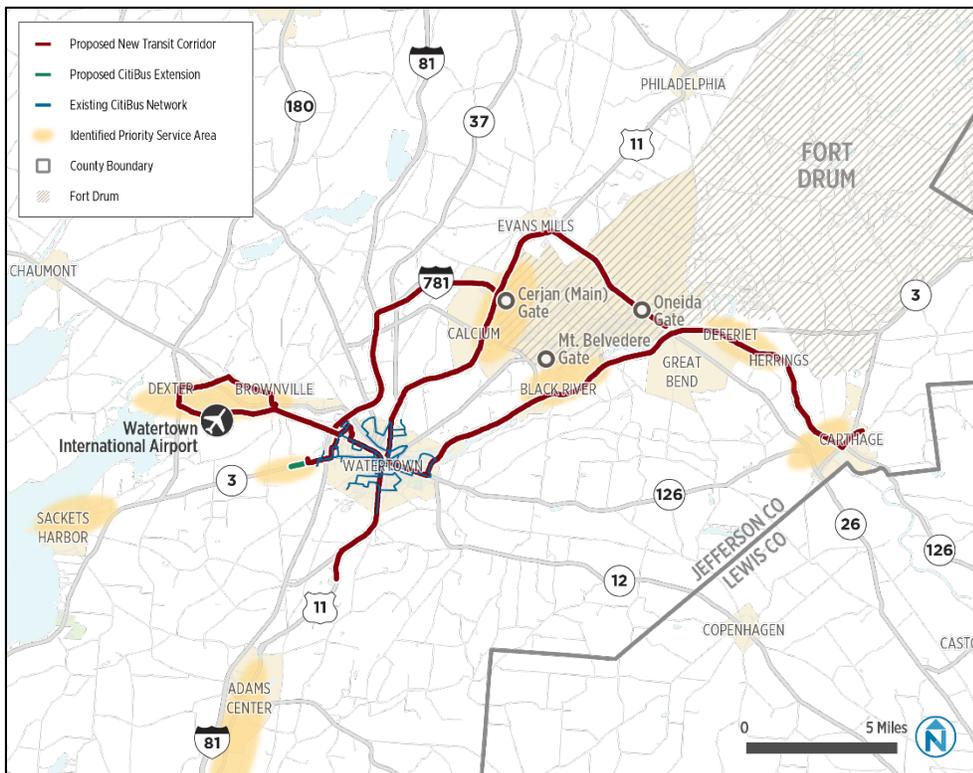


Figure 9 Proposed Corridors - MPO Bounded Regional Network Map



Composition

The following are the corridors included in the MPO Bounded regional network package. Corridor-by-corridor service characteristics are summarized in Figure 10.

- **Fort Drum/Calcium**
 - Service to Fort Drum is identical to service in the Expanded CitiBus network package, again dependent on an agreement with the Fort to provide on-post shuttle service to/from final destinations.
- **Dexter/JCC/Airport**
 - Would increase frequency and extend service span along Coffeen Street to Jefferson Community College.
 - A special round trip to the Watertown International Airport would be coordinated with a flight arrival at 11:50 a.m. and a 12:15 p.m. departure, including flexible layover time to allow for early arrival and/or late departure due to flight delays
 - Would operate seven days per week; four round trips on weekdays, two on weekend days
 - Complements CitiBus Route C-2 Coffeen-JCC
- **Watertown Center**
 - Would provide bus service south of the City along US Route 11 terminating at Northland Estates
 - Would serve Samaritan Medical Center, additional medical offices, Watertown City Schools, and a supermarket
 - Would operate seven days per week; four round trips on weekdays, two on weekend days
 - Complements CitiBus Route A-2 Washington
- **Carthage/Black River**
 - Would travel 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
 - Would travel near to two Fort Drum access points, potentially increasing service to the military population, before terminating in the Village of Carthage
 - Would operate seven days per week; two round trips on weekdays, two on weekend days
 - Additional round trips on the Lowville corridor would increase the number of weekday round trips serving Carthage to four, lengthening the effective span of the service day
 - Complements CitiBus Route A-1 State-East Main
- **Fort Drum/JCC Commercial Express**
 - Would link the Fort with JCC and commercial areas at the western edge of the City of Watertown without traveling to Downtown Watertown
 - Would utilize Interstates 781 and 81 to arrive at the college
 - As with the primary Fort Drum corridor, the exact off-post transfer location, and agreement to provide on-post shuttle service is required and subject to change
 - Would operate daily, making two round trips on weekdays, two on weekend days
 - Would create multiple new transfer points between routes

Figure 10 MPO Bounded Network Composition Characteristics

Corridor	Weekday Round Trips	Weekday Start	Weekday Stop	Weekend Round Trips ⁵	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

Forecast Performance Analysis

Annual revenue vehicle miles were calculated for regional routes within the MPO Bounded service package to compare against levels of service provided by peers. Round trip route distance was multiplied by five times the number of weekday round trips plus the number of Saturday and Sunday round trips, then multiplied again by 50 service weeks allowing for holiday closures.

The MPO Bounded service package features over 180,000 more annual revenue vehicle miles than existing CitiBus, 157,000 of which are attributable to regional routes. Ridership projections for the network count over 68,000 annual passenger trips taken across the five regional corridors and an additional 22,600 riders taking advantage expanded CitiBus service. The passengers/mile ratio of regional routes is above the peer agency average, but in line with the Kennebec Valley Community Action Program's Kennebec Explorer. This is due to the relatively shorter distances traveled by routes within MPO boundaries compared with those proposed as part of possible expanded regional networks.

Figure 11 MPO Bounded Regional Network Predicted Performance

Corridor	Annual Passengers	Annual Revenue Miles	Passengers/Mile	Passengers/Trip
Fort Drum/Calcium	31,754	80,073	0.40	6.11
Dexter/JCC/Airport	12,993	20,160	0.64	5.41
Watertown Center	8,987	10,080	0.89	3.74
Carthage/Black River	9,166	28,545	0.32	6.55
Fort Drum/JCC Commercial Express	5,224	18,200	0.29	3.73
Total	68,125	157,058	0.43	5.32

⁵ Round trips on each weekend day

Forecast Financial Analysis

Capital Costs

The network described above would require a maximum of three additional buses in operation at one time—a total of six including CitiBus. Assembling a vehicle fleet appropriate for this new regional network (including 2 spare vehicles) would involve a capital investment of \$354,000 to \$416,000. Should CitiBus become integrated into this and other expanded regional networks, mixed fleet composition will become an even more important consideration.

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 12.

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.⁶ 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.

⁶ HDR Bus Facility Calculator.

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Figure 12 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

Operational Costs

The MPO Bounded network package includes:

- 76 weekly additional revenue hours as part of the CitiBus Expansion
- 20 regional revenue vehicle hours per weekday
- 15 regional revenue vehicle hours per weekend day

The expansion of Route B Arsenal and introduction of Sunday CitiBus service would account for an annual operating cost increase of over \$300,000. The MPO Bounded network package would provide 6,500 annual hours of regional revenue service. If regional operation is contracted to a private operator, the nominal annual operating cost is estimated at \$390,000, higher than the average cost per revenue vehicle hour figures of peer agencies (approximately \$50/hour) due to long operations breaks between peak periods and mid-day trips, which may require additional part-time staffing. If CitiBus were to be further expanded and regional routes operated by City staff, operating costs of regional routes could be as high as \$500,000 per year.

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. Service characteristics were further refined using public survey and advisory committee feedback.

Figure 13 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.

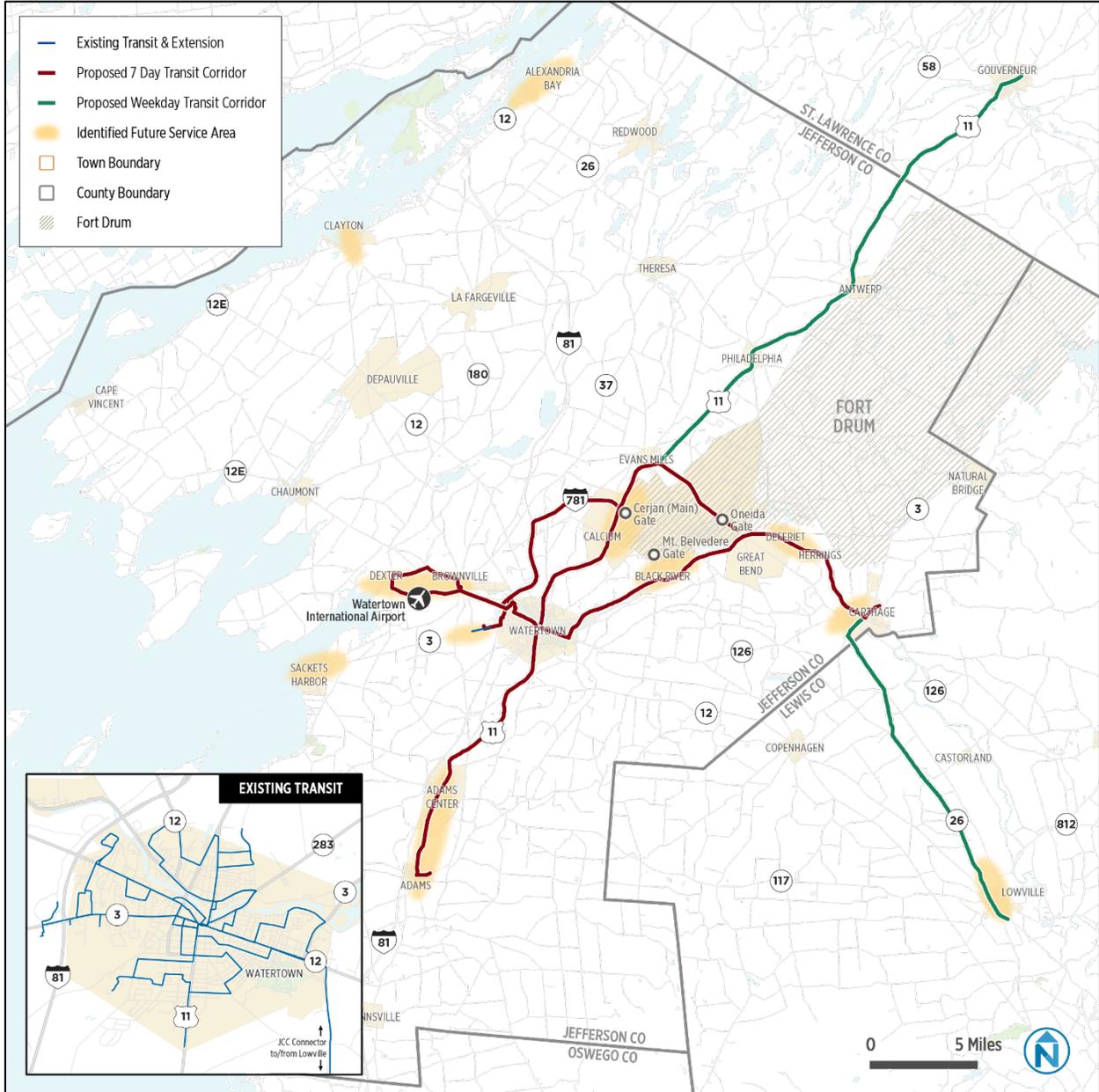
Composition

The following are the corridors included in the Phase 1 regional network package. Corridor-by-corridor service characteristics are summarized in Figure 14.

- **Fort Drum/Calcium**
 - Fort Drum service is identical to the Expanded CitiBus and MPO Bounded network packages, again dependent on an agreement with the Fort to provide on-post shuttle service to/from final destinations.
- **Dexter/JCC/Airport**
 - Service to Dexter, Brownville, and the Airport is identical to the MPO Bounded network package
- **Adams**
 - Would extend service to into southern Jefferson County along US Route 11 terminating at the Country View Apartments senior meal site in Adams
 - Would add service to additional supermarkets, and the business districts of Adams and Adams Center
 - Would operate seven days per week, making four round trips on weekdays, two on weekend days

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Figure 13 Proposed Phase 1 Regional Corridor Map



- **Carthage/Black River**
 - Weekday departure times are changed compared to the MPO Bounded network package
 - Would still operate seven days per week, making two round trips on weekdays, two on weekend days
 - Additional round trips on the Lowville corridor would increase the effective number of weekday round trips serving Carthage to four and maintain the effective span of the service day

- **Fort Drum/JCC Commercial Express**
 - Commercial Express service is identical to that provided by the MPO Bounded network, again dependent on an agreement with the Fort to establish a transfer point and provide on-post shuttle service to/from final destinations.
- **Gouverneur**
 - Designed to connect to St. Lawrence County Transit on East Main Street in the Village of Gouverneur
 - Would pass in close proximity and augments service to the Fort Drum Main Gate and could be used to complement the Fort Drum/Calcium route
 - Would operate only on weekdays as there is no weekend connection to be made to St. Lawrence County Transit
- **Lowville/Carthage**
 - Would extend the Carthage corridor to the Village of Lowville along NY Route 26
 - Would link regional employment, medical, and social services centers to intermediate destinations
 - Would perform two round trips on weekdays

Figure 14 Phase 1 Regional Network Composition Characteristics

Corridor	Weekday Round Trips	Weekday Start	Weekday Stop	Weekend Round Trips ⁷	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 ⁸	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		

Forecast Performance Analysis

Annual revenue vehicle miles were calculated for regional routes similarly to MPO Bounded Network calculations. The Phase 1 regional service package features over 276,000 more annual revenue vehicle miles than existing CitiBus. Regional routes alone are responsible for almost 253,000 of those miles. Ridership projections for the network count almost 80,000 annual passenger trips taken across the seven regional corridors. The passengers/mile ratio of regional routes is at the peer agency average.

⁷ Round trips on each weekend day

⁸ Effective service span is lengthened by Lowville/Carthage corridor service

Figure 15 Phase 1 Regional Network Predicted Performance Evaluation

Corridor	Annual Passengers	Annual Revenue Miles	Passengers/Mile	Passengers/Trip
Fort Drum/Calcium	31,754	80,073	0.40	6.11
Dexter/JCC/Airport	12,993	20,160	0.64	5.41
Adams	12,834	34,344	0.37	5.35
Carthage/Black River	9,166	28,545	0.32	6.55
Fort Drum/JCC Commercial Express	5,224	18,200	0.29	3.73
Gouverneur	4,704	36,157	0.13	4.70
Lowville/Carthage	3,230	35,447	0.09	3.23
Total	79,906	252,926	0.32	5.40

Forecast Financial Analysis

Capital Costs

The Phase 1 regional network would require a maximum of four buses in operation at one time in addition to the needs of the expanded CitiBus network. Assembling an appropriately sized regional route vehicle fleet (including spares) will require a capital investment of \$ 424,800 to \$ 499,200.

Due to the requirement of an extra revenue vehicle as well as an extra spare, a new operations facility, such as the one described in previous section, 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).

Operational Costs

For the purpose of estimating operational costs, the Phase 1 network package includes:

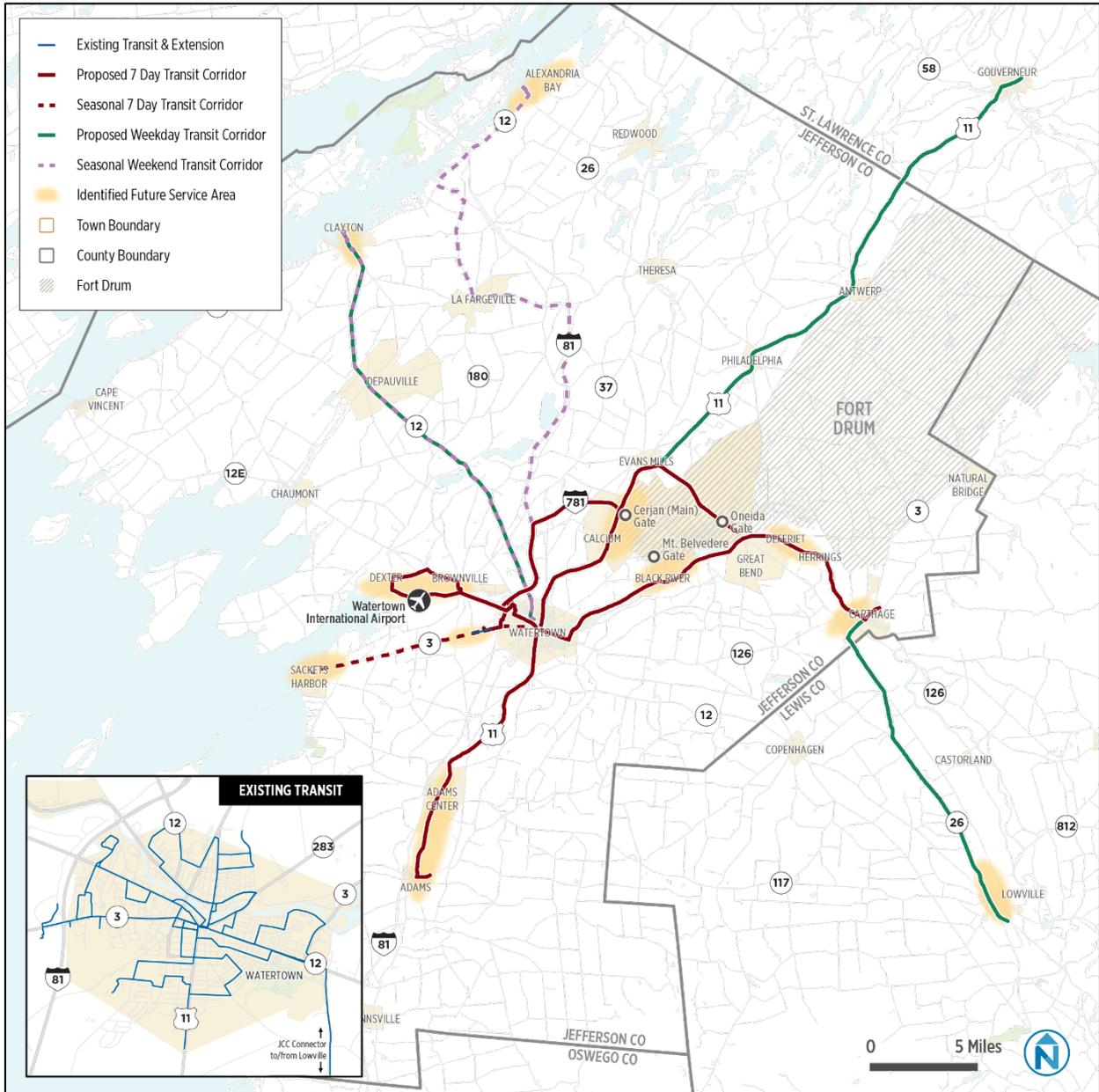
- 76 weekly additional revenue hours as part of the CitiBus Expansion
- 29 regional revenue vehicle hours per weekday
- 16 regional revenue vehicle hours per weekend day

CitiBus expansion once again represents a minimum \$ 300,000 operating cost increase. The Phase 1 regional network package would provide 8,850 annual hours of regional revenue service. Once again, operating costs are dependent on the operating agency. If regional operation is contracted to a private operator, the nominal annual operating cost is estimated at \$ 531,000. If the entire network were operated by CitiBus, operating costs of regional routes could be as high as \$ 683,000 per year.

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 16 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 16 Proposed Phase 2 Regional Corridor Map



Composition

The following are adjustments to the corridors included in the Phase 1 regional network package in order to create the Phase 2 network. Corridor-by-corridor service characteristics are summarized in Figure 17 and Figure 18. Adjustments to the Phase 1 service package are shaded.

- **Fort Drum/Calcium**
 - Requires an agreement with the Fort to provide on-post shuttle service.
 - Would increase to ten round trips on weekdays, six on weekend days
 - Would add mid-morning and mid-afternoon weekday round trips
- **Sackets Harbor**
 - Would operate to Sackets Harbor between Memorial Day and Labor Day
 - Would increase frequency of access along Arsenal Street to the commercial area at the western edge of the Watertown city limits during summer months
 - Would operate seven days per week; four round trips on weekdays, two on weekend days
 - Complements CitiBus Route B Arsenal
- **Dexter/JCC/Airport**
 - A special round trip to the Watertown International Airport, coordinated with a flight arrival at 11:50 a.m. and a 12:15 p.m. departure, is maintained as a route feature
 - Would increase to five round trips on weekdays, two on weekend days
 - Would add one mid-afternoon weekday round trip
- **Adams**
 - Would increase to five round trips on weekdays, two on weekend days
 - Would add one morning weekday round trip
- **Carthage/Black River**
 - Would continue to operate seven days per week, making three round trips on weekdays, two on weekend days
 - Would add one mid-day weekday round trip
 - Would continue to take advantage of additional round trips on the Lowville corridor
- **Fort Drum/JCC Commercial Express**
 - Requires an agreement with the Fort to provide on-post shuttle service.
 - Would increase to three round trips on weekdays, two on weekend days
 - Would add one mid-afternoon weekday round trip
- **Gouverneur**
 - Gouverneur service is identical to the Phase 1 network package
- **Lowville/Carthage**
 - Lowville service is identical to the Phase 1 network package
- **Clayton**
 - Would connect Watertown via Route 12 to Clayton destinations such as Downtown Clayton, the Paynter Senior Citizens Center, and Samaritan Family Health Center
 - Would only operate on weekdays between Labor Day and Memorial Day

▪ **Alexandria Bay**

- 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
- 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

Figure 17 Phase 2 Regional Network Year-Round Composition

Corridor	Weekday Round Trips	Weekday Start	Weekday Stop	Weekend Round Trips ⁹	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 ¹⁰	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 18 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

Forecast Performance Analysis

Annual revenue vehicle miles were calculated for regional routes similarly to previous regional network calculations. The Phase 2 regional service package features over 355,000 more annual revenue vehicle miles than existing CitiBus. Regional routes alone are responsible for over 332,000 of those miles, which would represent the median of annual revenue miles provided among studied peer agencies, though well below the average. Ridership projections for the network count over 104,000 annual passenger trips taken across the seven regional corridors. The passengers/mile ratio of regional routes is just below the peer agency average.

⁹ Round trips on each weekend day

¹⁰ Effective service span is lengthened by Lowville/Carthage corridor service

Figure 19 Benchmark Regional Network Predicted Performance Evaluation

Corridor	Annual Passengers	Annual Revenue Miles	Passengers/Mile	Passengers/Trip
Fort Drum/Calcium	38,770	95,472	0.41	6.25
Sackets Harbor (Summer)	4,363	7,217	0.60	6.49
Dexter/JCC/Airport	15,864	24,360	0.65	5.47
Adams	15,669	41,499	0.38	5.40
Carthage/Black River	11,192	38,739	0.29	5.89
Fort Drum/JCC Commercial Express	6,378	24,700	0.26	3.36
Gouverneur	5,744	36,157	0.16	5.74
Lowville/Carthage	3,944	35,447	0.11	3.94
Clayton	2,586	24,842	0.10	2.33
Alexandria Bay (Summer Weekend)	36	3,776	0.01	0.32
Total	105,588	334,735	0.31	5.31

Forecast Financial Analysis

Capital Requirements and Costs

As the Phase 2 regional network package still requires seven vehicles (three CitiBus, four regional) simultaneously operating during the AM and PM peak periods, the regional route vehicle fleet will require the same capital investment as the Phase 1 network, \$424,800 to \$499,200.

As with the Phase 1 network, the Phase 2 network requires a facility that can accommodate six vehicles including spares. This building contains 15,000 square feet of space and would cost over \$3.5 million.

Annual Operational Costs

From an operational cost perspective, the Phase 2 network package includes:

- 76 weekly additional revenue hours as part of the CitiBus Expansion
- 37.25 regional revenue vehicle hours per weekday between Labor Day and Memorial Day
- 44 regional revenue vehicle hours per summer weekday
- 16 regional revenue vehicle hours per weekend day between Labor Day and Memorial Day
- 23 regional revenue vehicle hours per summer weekend day

CitiBus expansion once again represents a minimum \$300,000 operating cost increase. The Phase 2 regional network package would provide 11,609 annual hours of regional revenue service. Once again, operating costs are dependent on the operating agency. If regional operation is contracted to a private operator, the nominal annual operating cost is estimated at just under \$700,000. If the entire network were operated by CitiBus, operating costs of regional routes could be as high as \$900,000.

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 16, 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.

Composition

The following are adjustments to the corridors included in the Phase 2 regional network package in order to create the Phase 3 service option. Corridor-by-corridor service characteristics are summarized in Figure 20 and Figure 21. Adjustments to the Phase 2 service package are shaded.

- **Fort Drum/Calcium**
 - Requires an agreement with the Fort to provide on-post shuttle service.
 - Would operate seven days per week; twelve round trips on weekdays, six on weekend days
 - Would add two late-evening weekday round trips
- **Sackets Harbor**
 - Would again operate to Sackets Harbor between Memorial Day and Labor Day
 - Would operate seven days per week; five round trips on weekdays, three on weekend days
 - Would add one late-evening weekday round trip
 - Would add one mid-afternoon round trip on weekend days
- **Dexter/JCC/Airport**
 - Would continue to provide a special round trip to the Watertown International Airport, coordinated with a flight arrival at 11:50 a.m. and a 12:15 p.m. departure
 - Would operate seven days per week; six round trips on weekdays, three on weekend days
 - Would add one early-afternoon round trip on weekday and weekend days
- **Adams**
 - Would operate seven days per week; six round trips on weekdays, two on weekend days
 - Would add one evening weekday round trip
- **Carthage/Black River**
 - Would operate seven days per week; four round trips on weekdays, two on weekend days
 - Would add one mid-afternoon weekday round trip
- **Fort Drum/JCC Commercial Express**
 - Requires an agreement with the Fort to provide on-post shuttle service.
 - Would increase to four round trips on weekdays, three on weekend days
 - Would add one evening weekday round trip
 - Would add one mid-afternoon round trip on weekend days
- **Gouverneur**
 - Gouverneur service is identical to the Phase 2 network package

- **Lowville/Carthage**
 - Lowville service is identical to the Phase 2 network package
- **Clayton**
 - Clayton service is identical to the Phase 2 network package
- **Alexandria Bay**
 - Alexandria Bay service is identical to the Phase 2 network package

Figure 20 Phase 3 Regional Network Year-Round Composition

Corridor	Weekday Round Trips	Weekday Start	Weekday Stop	Weekend Round Trips ¹¹	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 ¹²	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 21 Enhanced 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

Forecast Performance Analysis

Annual revenue vehicle miles were calculated for regional routes similarly to previous regional network calculations. The Phase 3 regional service package features over 405,000 more annual revenue vehicle miles than existing CitiBus. Regional routes alone are responsible for over 382,000 of those miles, which again would represent the median of annual revenue miles provided among studied peer agencies, but still be well below the average. Ridership projections for the network count over 120,000 annual passenger trips taken across the seven regional corridors. The passengers/mile ratio of regional routes is again just below the peer agency average.

¹¹ Round trips on each weekend day

¹² Effective service span is lengthened by Lowville/Carthage corridor service

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Figure 22 Enhanced Regional Network Predicted Performance Evaluation

Corridor	Annual Passengers	Annual Revenue Miles	Passengers/Mile	Passengers/Trip
Fort Drum/Calcium	44,585	110,871	0.40	6.19
Sackets Harbor (Summer)	5,018	9,322	0.54	5.78
Dexter/JCC/Airport	18,243	30,240	0.60	5.07
Adams	18,020	48,654	0.37	5.30
Carthage/Black River	12,870	48,934	0.26	5.36
Fort Drum/JCC Commercial Express	7,335	33,800	0.22	2.82
Gouverneur	6,605	36,157	0.18	6.61
Lowville/Carthage	4,535	35,447	0.13	4.54
Clayton	2,973	24,842	0.12	2.67
Alexandria Bay (Summer Weekend)	42	3,776	0.01	0.37
Total	120,227	382,042	0.31	5.16

Forecast Financial Analysis

Capital Costs

The Phase 3 network package would not need an additional vehicle during the peak travel period. Its increased operations largely fill in gaps or extends the service day. Thus, the regional route vehicle fleet will require the same capital investment as the Phase 1 and Phase 2 network packages, \$ 424,800 to \$ 499,200.

As with the Phase 1 and Phase 2 regional networks, the Phase 3 network requires a facility that can accommodate six vehicles including spares. This building contains 15,000 square feet of space and would cost over \$ 3.5 million.

Operating Costs

Revenue vehicle hours increase significantly as part of the Phase 3 package, including:

- 76 weekly additional revenue hours as part of the CitiBus Expansion
- 45.5 regional revenue vehicle hours per weekday between Labor Day and Memorial Day
- 51.25 regional revenue vehicle hours per summer weekday
- 17.25 regional revenue vehicle hours per weekend day between Labor Day and Memorial Day
- 25 regional revenue vehicle hours per summer weekend day

A CitiBus expansion once again represents a minimum \$ 300,000 operating cost increase. The Phase 3 regional network package would provide 13,720 annual hours of regional revenue service. As was the case for other regional network packages, if regional operation is contracted to a private operator, the nominal annual operating cost is estimated at more than \$ 820,000. If the entire network were operated by CitiBus, operating costs of regional routes could be as high as \$ 1.06 million.

SERVICE PLANNING SUMMARY

Each proposed network service represents an increase in capital and operating costs over the existing CitiBus system. As CitiBus routes would remain as part of any regional network, the increased amounts in each row of Figure 24 represent additional riders, revenue miles, or costs above the CitiBus baseline rather than an incremental increase. Incremental increases are portrayed in Figure 25, a phased implementation summary that assumes direct steps from one network package to the next. Operating costs are listed as a range reflecting the differences between private contract operation versus the City of Watertown employment model and its associated cost per operating hour.

Figure 23 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 24 Network Packages Estimated Performance Comparison

Network Package	Estimated Additional Annual Passengers	Additional Annual Revenue vehicle Miles	Estimated Additional Fleet Cost	Estimated Facility Cost	Estimated Additional Operating Cost
Expanded CitiBus	48,300	110,750	\$62,900 to \$81,500	-	\$641,000
MPO Bounded	90,700	180,150	\$314,500 to \$407,500	~\$3.2M	\$696,000 to \$807,000
Regional Phase 1	102,500	276,000	\$377,400 to \$489,000	~\$3.5M	\$837,000 to \$988,000
Regional Phase 2	127,150	355,300	\$377,400 to \$489,000	~\$3.5M	\$1,000,000 to \$1,199,000
Regional Phase 3	142,850	405,150	\$377,400 to \$489,000	~\$3.5M	\$1,129,000 to \$1,364,000

Phased Implementation

While the tables above describe operating characteristics of any network should a regional oversight agency decide to aggressively launch an advanced regional network, a phased approach as described 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.

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Figure 25 Phased Implementation Summary

PHASE	ACTION	DETAILS	Annual HOURS	Annual RIDERSHIP	PEAK VEHICLE REQUIREMENTS
EXISTING CITIBUS			\$\$\$\$\$ 10,000	 125,700	
	<ul style="list-style-type: none"> ▶ Route Extension ▶ Add Sunday Service ▶ Route Addition 	Extend Route B Arsenal to BOCES Offer CitiBus Saturday service on Sundays Add Route to Fort Drum	\$\$\$\$\$\$ 18,300	 174,000	
	<ul style="list-style-type: none"> ▶ Significant Route Addition 	Add routes to Dexter/Airport, Watertown Center, Carthage/Black River, and the Commercial Express Routes overlay and complement the existing CitiBus network	\$\$\$\$\$\$ 20,500	 216,400	
REGIONAL NETWORK PHASE	1	<ul style="list-style-type: none"> ▶ Route Addition ▶ Route Extension 	Add weekday routes to Gouverneur and Lowville Extend the Watertown Center route to Adams \$\$\$\$\$\$ 22,800	 228,200	
REGIONAL NETWORK PHASE	2	<ul style="list-style-type: none"> ▶ More Frequent Weekday and Weekend Service ▶ Route Addition ▶ Seasonal Extensions and Variants 	Add weekday round trips to all Phase 1 routes Add a year round weekday route to Clayton Add a summer route to Sackets Harbor, a summer weekend route to Alexandria Bay and summer weekend service to Clayton \$\$\$\$\$\$ 25,600	 252,900	
REGIONAL NETWORK PHASE	3	<ul style="list-style-type: none"> ▶ More Frequent Weekday and Weekend Service ▶ Extended Service Day 	Add additional weekday round trips to all Phase 1 routes. Add weekend round trips to Sackets Harbor, Dexter/Airport, and Commercial Express routes Extend the end of weekday service for the Fort Drum, Adams, and Commercial Express routes. \$\$\$\$\$\$ 27,700	 268,600	

\$ = -2,000 service hours = -20,000 boardings = # of vehicles

AGENCY GOVERNANCE/ ORGANIZATIONAL STRUCTURE

Organizationally, the Watertown-Jefferson County Area Transportation Council (WJCTC) can enhance 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

POTENTIAL OPERATING ORGANIZATIONS

Possibilities for future regional transit network operational structures include:

- CitiBus
- Operation by a newly created public agency
- Operation by another existing public agency
- Contracted private operator
- Contracted non-profit operator

CitiBus

CitiBus is currently part of the Department of Public Works for the City of Watertown and reports to the Superintendent of Public Works. They provide fixed route public transportation, emergency evacuations, and special shuttles. CitiBus also performs intergovernmental coordination of transportation services and agreements. They are already providing affordable, equitable, sustainable, and safe public transit for Watertown. At present, CitiBus has a collective bargaining agreement that protects the workers along with the other represented employees for the DPW. The agreement does not require buy-in from the union representatives nor a right of first refusal for expanded routes. However, it is recommended that the City discuss these issues with CitiBus and its representation to avoid labor relations disputes.

Newly Created Public Agency

WJCTC has the option to support the creation of a transit authority chartered by statute as a quasi-governmental agency or corporation by the State of New York. The authority's mission would be to solve problems related to transit issues and provide service within the boundaries of the WJCTC. It would have the power to obtain property, impose taxes to fund operating costs, and the ability to operate independently of Jefferson County.

Other Existing Public Agency

While Jefferson County does not have a central countywide transit operator, through the work of its Planning Department or Transportation Department, they can coordinate the services of an operator or provide the service for the County.

Additionally, operating authority in Jefferson County is granted in the charter of the Central New York Regional Transportation Authority (Centro). The Jefferson County legislature must vote to be part of the authority, triggering a mortgage recording tax funding stream. If Centro was to take over service provision in Jefferson County, Centro itself would solely determine the corridors and level of service provided based on projected funding. Centro is not authorized to operate a vehicle in St. Lawrence or Lewis Counties as these areas are outside of their transit district.

Contracted Operator

Private Operator

The routes outside of the City of Watertown are eligible to contract out to a service provider in a competitive process through a transparent Request for Proposals. As a recipient of tax payer money, it will be necessary to offer a competitive wage and benefits to the workers. A benefit of contracted operation is efficiency and oversight through financial leveraging that holds private companies accountable for delivering service. This does not mean, however, that the private contractor will necessarily be more cost efficient or accountable. As identified by the Eno Center for Transportation's *A Bid for Better Transit – Improving Services with Contracted Operations*, success requires that:

1. The government cannot contract out the public interest;
2. Clear contracts align the contractors' profit motive with agency goals, and
3. Symbiotic agency-contractor relationships improve operations and foster innovation.

As stated in the report, government and private companies have different operating models. The government is publicly subsidized to provide a service and a private company's goal is profit. Nevertheless, contracting out the rural services in Jefferson County allows for expansion and an opportunity to advance the County's goals to provide service to a mix of villages and rural towns anchored by the City of Watertown and the Fort Drum military installation, as well as regional services facilities and cultural attractions.

To overcome the competing interests of a private service provider and public works departments, any contractor must be overseen by an authorizing or administering entity. That entity must define a clear contract that aligns the contractor's profit motive with agency goals. Expectations of such a contract agreement are listed below. It is recommended that any administering entity identify its goals and expectations along with performance indicators so that the contract is clear and the parties develop a strong working relationship.

A strongly reciprocal agency-contractor relationship is recommended to improve operations and foster innovation as the service is new and introduced to the public. This type of relationship starts from the beginning with direct language, regular face to face meetings, and a mechanism for management that simplifies the update process to the new service during the initial implementation period.

Non-Profit Operator

Contracting out the services to a non-profit organization is a new model in use by transportation authorities. Kennebec Explorer Public Bus Service in Maine serves the Augusta-Waterville Area. The service is operated by the Kennebec Valley Community Action Program and largely funded by private

businesses, non-profit organizations, and municipalities. It is a flex-route public bus that provides service using comfortable, accessible, air conditioned buses operated by professional drivers. Its routes are designed to offer a convenient, affordable means of transportation to the general public, which includes commuters, elderly passengers, and passengers with disabilities.

While the goal of non-profits is traditionally to provide resources and services, it is important to maintain the clear contracting language that is also required of for-profit businesses as well as public unions.

Contracted Operator Expectations

- Provide service according to Scope of Work by ____ date.
- Experience providing bus service on fixed routes
- Provide required inspections, preventative maintenance, and break-down maintenance on buses
- Experience developing scheduled maintenance systems and planning
- Provide on road service and tow service for break-downs
- Facility for housing buses in protected environment
- Experience working with WJCTC and CitiBus
- Experience complying with Key Performance Indicators, such as
 - Total Ridership
 - Mean Distance Between Failures
 - Percent of total scheduled bus trips completed, total and by bus depot
 - Vehicle Miles
 - Collisions with Injury Rate
 - Customer Accident Injury Rate
 - Total Paratransit Ridership
 - Bus Passenger Wheelchair Lift Usage

POTENTIAL OPERATING FACILITIES

The study team researched current the various transit operations and conducted visits to five organizations that operate transportation services in and near Jefferson County. They include public transit agencies CitiBus and Centro, non-profits such as Jefferson Rehabilitation Center (JRC) and the Volunteer Transportation Center (VTC) operating as North Country Mass Transit, and the private contractor Freeman Bus. All have different missions, markets, and provide different services as they represent a sample of the current services provided.

Watertown CitiBus

CitiBus is Watertown's public bus service that is governed under the Department of Public Works. They have a fleet of five buses (two spares) and one paratransit vehicle. There is a total staff of seven full-time and five part-time employees operating out of a central garage and maintenance complex. Maintenance facilities include a dedicated lift and a bus wash station.

Jefferson Rehabilitation Center (JRC)

JRC is a non-profit agency dedicated to enhancing the quality of life and maximizing the potential of persons with disabilities. At present, they have twelve 24-person capacity buses and have a new vehicle on order. JRC operates ten buses, reserving two spare vehicles, on dedicated routes to pick up participants and return them to their homes at the end of the day. JRC has a dedicated garage bay for maintenance and has the space to add another bay if it were to expand. Subsequent to site visits, the JRC and St. Lawrence NYSARC merged into a unified agency known as the ARC Jefferson – St. Lawrence New York. As of March, 2019, no changes had been made to consolidate agency transportation departments.

North Country Mass Transit

Volunteer Transportation Center (VTC), a non-profit agency dedicated to the wellness for the community by ensuring access to medical appointments and other necessities for people with no other means of transportation, currently provides door-to-door services using over 225 volunteer drivers who are reimbursed for the use of their own private vehicles. Under the guidance of VTC, a new non-profit named North Country Mass transit has been formed and is poised to expand operations to address rural public transit issues across Jefferson County.

Freeman Bus/Clarence Henry Coach

Freeman Bus is a school bus contracting and charter service with a current fleet of 50 school buses and charter buses. They have 14 covered bays and a heated garage, as well as 10 maintenance bays and a bus wash. Freeman Bus offers:

- School bus contracting
- Charter services
- Maintenance service
- Emergency services
- On-Call for any company who needs bus service
- Bus engine overhauls
- Bus cleaning

Freeman Bus held the Watertown City School District bus service contract from 1964 through 2018. During that period, they retained 65 employees. They recently lost the contract to First Student. Since the study team's visit with Freeman, the business has been sold to the owner of Norfe Systems of Connecticut, which focuses on computer-based commercial databases designed for bus and motorcoach companies. The new corporation will continue its contract with the Community Action Planning Council and Clarence Henry Coach operations.

Central New York Regional Transportation Authority

The Central New York Regional Transportation Authority (Centro) is the public transportation provider for Onondaga, Oswego, Cayuga, and Oneida counties, which includes the cities of Syracuse, Oswego, Fulton, Auburn, Rome and Utica. They also provide inter-city service between certain combinations of these cities, Syracuse, and a number of communities in between. They have a fleet of 238 buses and 638 (including part-time) employees and operate a full-service facility in Syracuse that handles all maintenance and bus overhauls. As previously explained, Centro is not currently authorized to operate transit service in Jefferson County. Legislative action on the part of the County is required.

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Figure 26 Potential Operating Facilities Strengths and Weaknesses

Facility	Turnkey Ready	Room to Accommodate	Needs Expansion	Needs Construction	Ability to Perform Maintenance	Transit Experience
CitiBus	No	Yes	Yes	Yes	2	3
JRC	No	Yes	Yes	Yes	2	2
VTC	No	Yes	No	Yes	0	0
Freeman	Yes	Yes	No	No	3	1
Centro	Yes	Yes	No	No	3	3

The visited facilities vary tremendously in size and ability to accommodate maintenance and storage operations as shown above. They range from having a volunteer fleet of cars and drivers to a large transit facility that serves Syracuse and its large metropolitan region. Some are turn-key ready whereby the management structure and facility already exist to accommodate new buses and routes.

All of the facilities have room to accommodate the new fleet of buses with either indoor or outdoor parking. While interior parking is recommended because of consistent below-freezing temperatures during the winter; it is not necessary. It is possible to keep the engines adequately heated using block heaters, as JRC does, to prevent damage to the combustion chamber and cylinder heads if the diesel fuel were to gel due to low temperature.

None of the facilities would have to expand their footprints to maintain buses, but JRC would need to add another maintenance bay and VTC would have to convert their property into a viable maintenance facility.

The study team rated the facilities on their ability perform maintenance. Based on a scale of 0 to 3, zero indicates that it has no ability to perform maintenance at this time. A rating of 3 indicates that it has the facilities, infrastructure, and operational ability in place to provide maintenance, including scheduled and unscheduled repairs. A rating of 2 means that the service area would have to be enhanced and/or additional staff trained to maintain the vehicles.

Transit experience is based on the facility’s current experience of providing fixed route service on a scale of 0 to 3. Zero indicates that the facility does not currently, nor has previously provided fixed route service. One indicates that it has previously provided fixed route service but no longer does so. Two indicates providers of client-specific fixed route service (paratransit). Three indicates that the provider currently operates true fixed route service on a full-day schedule.

POTENTIAL 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.¹³ 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 will focus on transit issues within the WJCTC boundary.

5303-5304-5305 Program – Metropolitan and Statewide Planning

These programs provide funding and procedural requirements for multimodal transportation planning in metropolitan areas and states that is cooperative, continuous and comprehensive, resulting in long-range plans and short-range programs of transportation investment priorities. The programs are jointly administered by FTA and the Federal Highway Administration (FHWA), which provides additional funding.

Eligible Recipients: States and MPOs

Eligible Activities: Develop transportation plans and programs, plan, design, and evaluate a public transportation project, and conduct technical studies related to public transportation.

Performance Based Planning Process:

- Requires MPOs and States to develop transportation plans and transportation improvement programs through a performance-driven, outcome-based approach to planning.
- Requires MPOs to establish performance targets that address both the surface transportation measures set forth in 23 U.S.C 150(c), in coordination with the state and public transportation performance measures in coordination with providers of public transportation, to ensure

¹³ Federal Transit Administration. <https://www.transit.dot.gov/FAST>

consistency with performance targets related to transit asset management and transit safety, as set forth in 49 U.S.C. 5326(c) and 5329(d).

- MPO plans must include performance targets that address performance measures and standards and a system performance report
- Transportation Improvement Programs (TIP) must include a description of the anticipated progress brought about by implementing the TIP toward achieving the performance targets.
- MPO's continue to develop Unified Planning Work Programs, Metropolitan Transportation Plans, Transportation Improvement Programs and Public Participation Plans.
- FTA and FHWA certify the metropolitan planning process in Transportation Management Areas.

Funding Levels: Federal Share 80% with a required 20% local match

Formula Details: Funds are allocated by formula to States, which then sub-allocate the funding to MPOs.

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 some Americans 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.¹⁴ 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.

¹⁴ <https://www.transit.dot.gov/TAM>

- 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.

5310 Enhanced Mobility for Seniors and Individuals with Disabilities

Section 5310 strives to improve mobility for seniors and individuals with disabilities by removing barriers to transportation service and expanding transportation mobility options. This program supports transportation services planned, designed, and carried out to meet the special transportation needs of seniors and individuals with disabilities in all geographical areas. Eligible projects include both traditional capital investment and nontraditional investment beyond the Americans with Disabilities Act (ADA) complementary paratransit services.

As regional plans for Jefferson County become more concrete, smaller services that act as feeder services to the bus routes may be eligible for Section 5310 funding for some very specific uses, such as for employment commuting or senior services.

Eligible Recipients: Formula funds are apportioned to direct recipients such as States for rural and small urban areas and designated recipients chosen by the Governor of the State for large urban areas. State or local governmental entities that operate a public transportation service may also be a direct recipient.

Eligible Activities: Direct recipients have flexibility in how they select subrecipient projects for funding, but their decision process must be clearly noted in a program management plan. The selection process may be formula-based, competitive, or discretionary and subrecipients can include states or local government authorities, private non-profit organizations, or operators of public transportation.

Fifty-five percent of program funds must be used on capital or traditional 5310 projects, such as:

- Buses and vans; wheelchair lifts, ramps, and securement devices
- Transit-related information technology systems including scheduling/routing/one-call systems
- Mobility management programs
- Acquisition of transportation services under a contract, lease, or other arrangement

Both capital and operating costs associated with contracted service are eligible capital expenses. User-side subsidies are considered one form of eligible arrangement. Funds may be requested for contracted services covering a time period of more than one year. The capital eligibility of acquisition of services as authorized in 49 U.S.C. 5310(b)(4) is limited to the Section 5310 program.

The remaining programmed 45 percent is for nontraditional projects. Under MAP-21, the program was modified to include projects eligible under the former 5317 New Freedom program, described as *Capital and operating expenses for new public transportation services and alternatives beyond those required by the ADA, designed to assist individuals with disabilities and seniors*. Examples include:

- Travel training
- Volunteer driver programs
- Bus stop access construction
- Improving signage and wayfinding

- Incremental cost of providing same day service or door-to-door service
- Purchasing vehicles to support new accessible ride sharing and/or vanpooling programs

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 against 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 of 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.

5339 Bus & Bus Facilities Infrastructure Investment Program

The Bus & Bus Facilities Infrastructure Investment Program (49 U.S.C. 5339) makes federal resources available to states and direct recipients to replace, rehabilitate and purchase buses and related equipment and to construct bus-related facilities including technological changes or innovations to modify low or no emission vehicles or facilities. Funding is provided through formula allocations and competitive grants. A

sub-program, the Low- or No-Emission Vehicle Program, provides competitive grants for bus and bus facility projects that support low and zero-emission vehicles.

Eligible Recipients: Designated recipients that operate fixed route bus service or that allocate funding to fixed route bus operators; state or local governmental entities; and federally recognized Indian tribes that operate fixed route bus service that are eligible to receive direct grants under 5307 and 5311. Subrecipients include eligible recipients that receive grant funding under the formula or discretionary programs may allocate amounts from the grant to subrecipients that are public agencies or private nonprofit organizations engaged in public transportation.

Eligible Activities:

- Capital projects to replace, rehabilitate and purchase buses, vans, and related equipment, and to construct bus-related facilities, including technological changes or innovations to modify low or no emission vehicles or facilities.
- Grantees may use up to 0.5% of their 5339 allocation on Workforce Development activities.

Funding Levels:

- Federal Share 80% net capital cost with a required 20% local match
- Funds remain available for obligation for 4 fiscal years. This includes the fiscal year in which the amount is made available or appropriated plus 3 additional years.
- Sub-program competitive grant for Low or no emissions bus deployment

Congestion Mitigation and Air Quality Program (CMAQ)

CMAQ provides funding to areas in nonattainment or maintenance for ozone, carbon monoxide, and/or particulate matter. States that have nonattainment or maintenance areas still receive a minimum apportionment of CMAQ funding for either air quality projects or other elements of flexible spending. Funds may be used for any transit capital expenditures otherwise eligible for FTA funding as long as they have an air quality benefit.

Surface Transportation Block Grant Program – 23 USC 133

This flexible funding program provides funding that may be used by states and localities for a wide range of projects to preserve and improve the conditions and performance of surface transportation, including highway, transit, intercity bus, bicycle and pedestrian projects.

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.

Example Operations and Funding Structure

St. Lawrence County

St. Lawrence NYSARC operates public transportation in St. Lawrence County under contract with the County. Transit operations are not route-deviated or mixed with NYSARC, but rather interlined, where a vehicle that drops off a client becomes scheduled public transit for the return trip, in order to streamline staffing and scheduling and maximize vehicle revenue miles for funding purposes. Vehicles belong to and are housed and maintained by St. Lawrence NYSARC. The administering public agency in this type of contracted arrangement would require a mobility manager on staff who acts as a conduit between NYSDOT, County and/or Local Municipal Governments, the contracted operator, and public and private human services agencies.

In 2017, St. Lawrence County Public Transportation expended over \$600,000 of operating funds (Figure 27). Discussions with St. Lawrence County mobility management yielded insight into their operational model and revenue sources.

The system relies heavily on State and Federal funding. Almost 60% of 2017 operating expenses were reported as state funds. This is possible due to a large receipt of end-of-year supplemental state assistance. This extra state aid is known as STOA Clean-Up Funding and result from a 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. According to the County mobility manager, the system received \$219,000 from this secondary distribution in 2017. Federal assistance in the form of 5311 formula grants for rural areas accounted for an additional \$104,000 of operations revenues. Note that a heavy reliance on non-formula-based funding represents a sizable risk to an administering public agency.

Due to the size of State and Federal funding, the contribution by local sources was approximately \$40,000 in 2017. This funding model is flexible with respect to the source of the local contribution. St. Lawrence NYSARC itself provided the local funding listed in 2017. However, depending on the terms of the contract, this contribution may come from the administering agency. Beginning in 2019, St. Lawrence County will make a \$60,000 contribution to operations. The terms of the contract, in which the operator may assume some financial risk, must be made clear during the Request for Proposals process.

Figure 27 2017 Revenue Summary for St. Lawrence County Public Transportation

	Operating Costs	Fare Revenue	Federal Assistance	State Assistance	Other Funding	Local Contribution
2017	\$610,572	\$68,174	\$104,000	\$360,870	\$37,884	\$39,644

RECOMMENDATIONS

INITIAL RECOMMENDATION

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.

Governance and Operations

As described earlier, the New York State Department of Transportation's Safety Bureau would need to be contacted in order for CitiBus to operate further outside of city limits. The State would initiate a 30-day comment period before stating their approval or rejection of the application. This expanded service, which includes only one regional route, would continue to operate as CitiBus, a division of the Department of Public Works of the City of Watertown.

Financial Requirements

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.

An expanded CitiBus would operate four buses simultaneously at certain times of day, requiring an addition to the fleet. The corridor identification memo previously identified body-on-chassis minibuses as an appropriate vehicle to handle the envisioned passenger loads. Common models range in cost from \$62,900 to \$68,300 per vehicle. Twenty passenger fully accessible vehicles can be purchased for approximately \$81,500, reflecting the markup associated with the installation of a wheelchair ramp or lift.

While CitiBus would not need to construct a new operations facility to accommodate this expansion, overnight storage of an extra vehicle, and the associated costs, should be considered as an additional potential capital expenditure.

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.

Eligible Funding Sources

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.

Potential Operations Funding Structure

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 revenue 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 include 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 28 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

SECONDARY RECOMMENDATION

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.

Governance and Operations

First and foremost, the RFP must clearly state the Scope of Work, service levels, and identify the expectations associated with maintenance. Any private operator of regional service must demonstrate the possession of a facility that can house and provide required inspections, preventative maintenance, and break-down maintenance on buses in a protected environment. A selected operator should also have previous experience providing bus service on fixed routes, have experience developing scheduled maintenance systems and planning, and be able to provide on road service and tow service for break-downs.

Financial Requirements

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 24), ranging from an additional \$ 696,000 (MPO Bounded Network) to \$1,129,000 (Phase 3 Regional Network).

Regional networks would require additional vehicles in service simultaneously during peak operational periods. Again, capital costs are dependent on the scale of the network chosen. The MPO Bounded Network would require three additional vehicles plus two spares, costing between \$314,500 and \$407,500 while the unbounded regional networks would require an additional vehicle, raising the capital cost range to between \$ 377,400 and \$ 489,000. Note once more that the private contractor would be responsible for

providing an operations facility, alleviating the need to the public entity to construct a new facility such as that described in Figure 12.

NTD Reporting

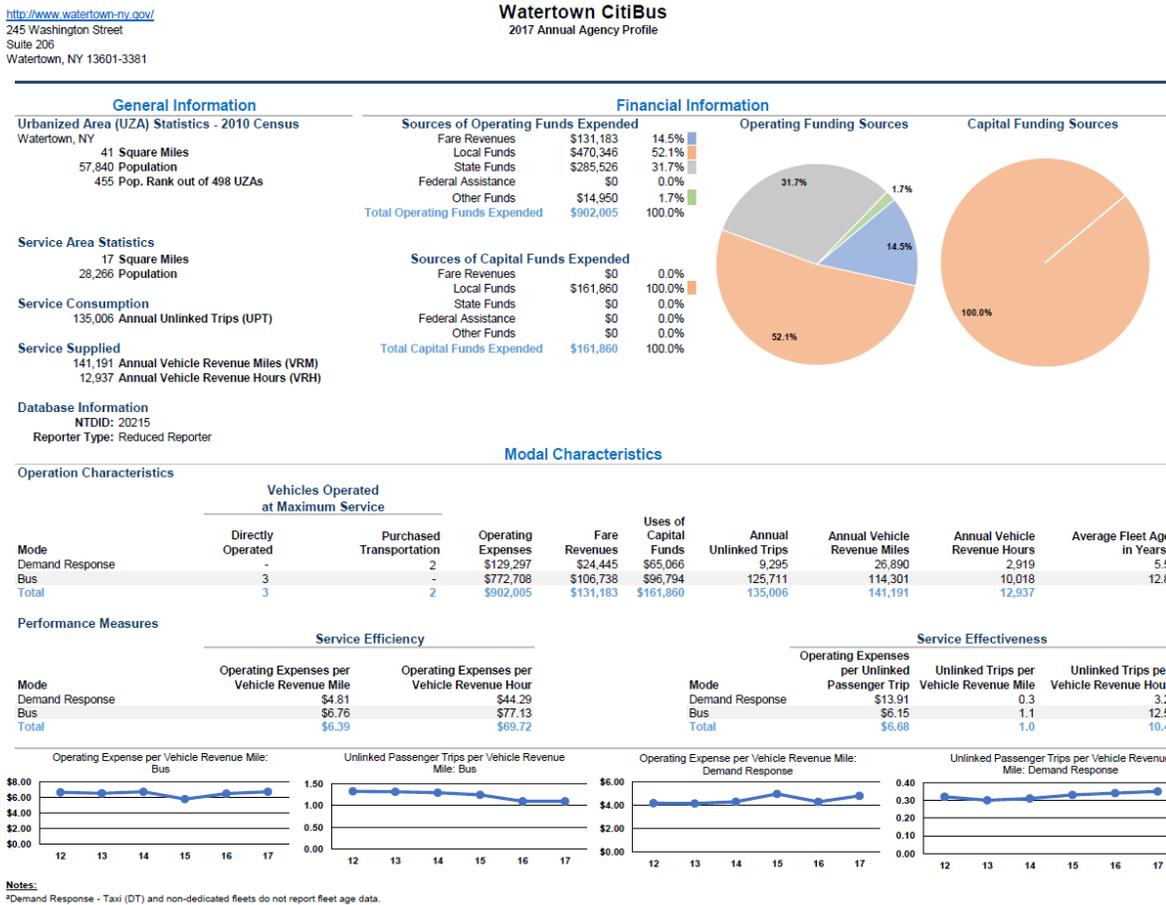
Any expansion to true regional service is limited by available capital and operating funds, which includes funding from the FTA, NYS, and local governments, such as the City of Watertown. As the MPO prepares an RFP, the scope of work is limited by its potential funding for the current and ensuing years. For illustrative purposes, the FTA identifies the amounts attributable to each State and estimated allocations for operating assistance based on the percentage of population attributed to the States in the UZA as determined by the 2010 Census.¹⁵ For 2018, Watertown's apportionment is \$1 million. As this amount is limited to operating funds, it is necessary for any funding to be matched by the State or local government. All matches must be consistent with Section 5307 statutory requirements. It will be necessary for the MPO to identify and project its funding sources.

To receive funding, the operator will be required to report on all data required by the National Transit Database (NTD). The NTD is the nation's primary source for information and statistics on the transit systems of the United States. As stated by the FTA, statute requires that recipients or beneficiaries of grants from the Federal Transit Administration (FTA) under the Urbanized Area Formula Program (§5307) or Other than Urbanized Area (Rural) Formula Program (§5311) submit data to the NTD. Thus, any service provider must be compliant with NTD reporting requirements so that the funding is not jeopardized. The NTD requires information on funding sources, inventories of vehicles and maintenance facilities, safety event reports, measures of service provided and consumed, and data on transit employees. This information feeds publicly available agency profiles (Figure 28).

¹⁵ <https://www.transit.dot.gov/funding/apportionments/table-3a-fy-2018-section-5307-operating-assistance-special-rule-operator-caps>

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Figure 29 CitiBus 2017 NTD Agency Profile



ADA Paratransit Services

As with City routes, any new regional routes must include provision of complementary ADA paratransit services Per Federal Regulation Title 49, Subtitle A, Part 37. Services are defined as flexible route service or demand response origin-to-destination service within 3/4 mile on either side of a fixed route. This criteria would require a change to the current CitiBus paratransit operating contract, or an entirely new contract. Paratransit capital and operating expenses are eligible for funding through Federal Section 5310 as well as formula state operating assistance, described earlier in this document. As a point of comparison, paratransit represented over 14% of CitiBus total operating expenses in 2017. Peer agencies, such as the Schuylkill Transportation System, and especially the Kennebec Valley Community Action Program, saw expenses related to demand response service exceed those of the fixed route transit program. This is largely tied to governance and operational structure. A thorough peer review of each peer agency, including statistics related to their paratransit operations, will be included in the final transit study.

Eligible Funding Sources

Funding program 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.

Potential Operations Funding Structure

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 30 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

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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 31 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

NEXT STEPS

A series of public engagement events will be held in Watertown, at Fort Drum, and at Jefferson Community College to receive comments and concerns regarding the initial and secondary recommendations.

This feedback, as well as results of a similar previous visit and a pair of public surveys will be incorporated into the final transit study report.