



North Central Area Transit Future Service Framework

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Prepared on behalf of North Central Area Transit and the City of Ottawa, Illinois by SRF Consulting Group, Inc.



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Introduction

Earlier phases of the NCAT Strategic Plan included analyses of existing service and ridership characteristics, demographics and community characteristics, regional travel patterns, and system performance relative to comparable peers. Findings from these analyses were compiled into the Comprehensive Operations Analysis (COA).

Building on the issues identified in the COA, as well as concerns identified by NCAT riders, staff, major stakeholder groups, and the broader public engagement process, the project team began evaluating service alternatives and models that meet the needs of the community today and into the future. The range of service types and improvements that were considered during this project are defined on the following pages and analyzed further in the Future Service Scenarios section of the document. The Scenario Phasing Recommendations section contains the project's final recommendations and preferred implementation timeline.

Key questions considered during the development of service alternatives include:

- Where are the most critical gaps in the transit network?
- What key/emerging destinations should be better served by transit? What regional connections are needed to make these places easier to reach?
- How should various service investments be prioritized?
- What improvements to accessibility, including rural and fringe infrastructure and facilities (such as bus stops or transfer points), are necessary to support transit users?
- What technologies could enhance the efficient provision of transit service and/or improve customer service?
- Are there any other specific transit improvements requested by riders or revealed by preferences from the stakeholder engagement process?

Before analyzing specific service alternatives, the project team evaluated several potential mode choices to determine feasibility in LaSalle County, as outlined in the following section.

Transit Service Options Considered

While NCAT currently operates only demand response service, there are many types of transit modes available for consideration, each of which show promise in particular contexts that range from rural areas to regional centers. These services were analyzed for their suitability for use in LaSalle County. Transit service types advanced for consideration are outlined in red in Figure 1.

Figure 1. Spectrum of Transit Mode Options



The following transit service options were considered for the LaSalle County. Each option includes a brief description, as well as its associated advantages, disadvantages, and best use cases.

Local Bus

Local buses operate on fixed routes and provide efficient, predictable transit along those routes. This mode is best utilized in walkable areas of medium- to high-density with closely spaced origins and destinations. This service type has the advantage of providing service to designated stops on a predictable schedule but is ineffective for serving low-density areas. Local bus service was not identified as a recommended service alternative for LaSalle County, as it does not meet the need for flexibility in trip origins and destinations that exists even in denser parts of the county like Ottawa and LaSalle-Peru. However, regional fixed routes were identified for further examination, each of which contain local service segments as appropriate.

Express Bus

Express buses provide fast service to regional destinations, often from residential areas to employment centers. These routes are typically only operated during peak hours and are best used to transport people to and from major commuter markets. While they provide fast services to regional destinations, they typically offer only peak-hour service. They are best utilized in major commuter markets and were therefore not identified for further study in LaSalle County. Again, regional fixed routes may fulfill some of the same intended outcomes as an express or commuter service if implemented accordingly.

Flex Route

Deviated route (or “flex route”) transit operates on a typically fixed route, while allowing for pre-requested deviations from the route, typically $\frac{3}{4}$ mile, to pick-up and drop-off riders. This allows riders (especially those with mobility difficulties) to use route-based service without needing to get to fixed stop locations. An advantage of this service over the fixed route type is the ability to serve destinations within $\frac{3}{4}$ mile of the route upon request, while the trade-off for such a service is the introduction of variance in travel times based on demand for deviations. Because this type of service is best utilized in suburban or rural areas, it was identified as a preferred service type for LaSalle County. When applied in either a local or regional context, this route type meets the flexibility needs of the community without sacrificing cost-effectiveness when compared to the existing demand response system.

Microtransit

Microtransit offers on-demand service within a designated geographic area. Riders book their trip through an app and are picked up at or near their origin and dropped off at or near their destination. This mode provides riders with the ability to schedule on-demand, point-to-point trips within a designated geographic area, such as those areas in the NCAT system that have been identified as having high demand for in-town trips. Microtransit requires reservations via a phone or app and is capacity constrained. This mode is typically most successful in areas that are safe and walkable to complement short walks to pick-up and drop-off locations, and it is best applied where demand for transit is relatively low. For these reasons, the project team considered microtransit in the development of NCAT service alternatives.

Future Service Scenarios

Through the service recommendation development process, the project team incorporated a variety of service types that were each deemed appropriate for the region under a variety of operating frameworks. These included new fixed-routes, deviated or “flex” routes, on-demand microtransit zones, and improvement of existing demand-response service. Evaluation of each of these service types in the context of the gaps in the NCAT system have resulted in the development of four service scenarios, each of which is detailed in this document.

Information on each scenario includes rationale and system gaps addressed, routing and service patterns, frequency, and preliminary cost and ridership estimates. Assumptions regarding each of these scenario elements are laid out as appropriate.

Scenario 1: Deviated Routes

Deviated routes are a cost-effective alternative to in-town trips using the existing NCAT demand response service, aiming to consolidate the most common in-town trips onto one regularly scheduled bus service with additional flexibility. These routes allow for deviations of a predetermined distance (generally $\frac{3}{4}$ mile, in alignment with ADA complementary paratransit requirements for fixed routes) and are desirable in small urban, suburban, or rural environments where sufficient demand exists beyond the capacity of demand response service alone. This service type balances schedule predictability with coverage flexibility.

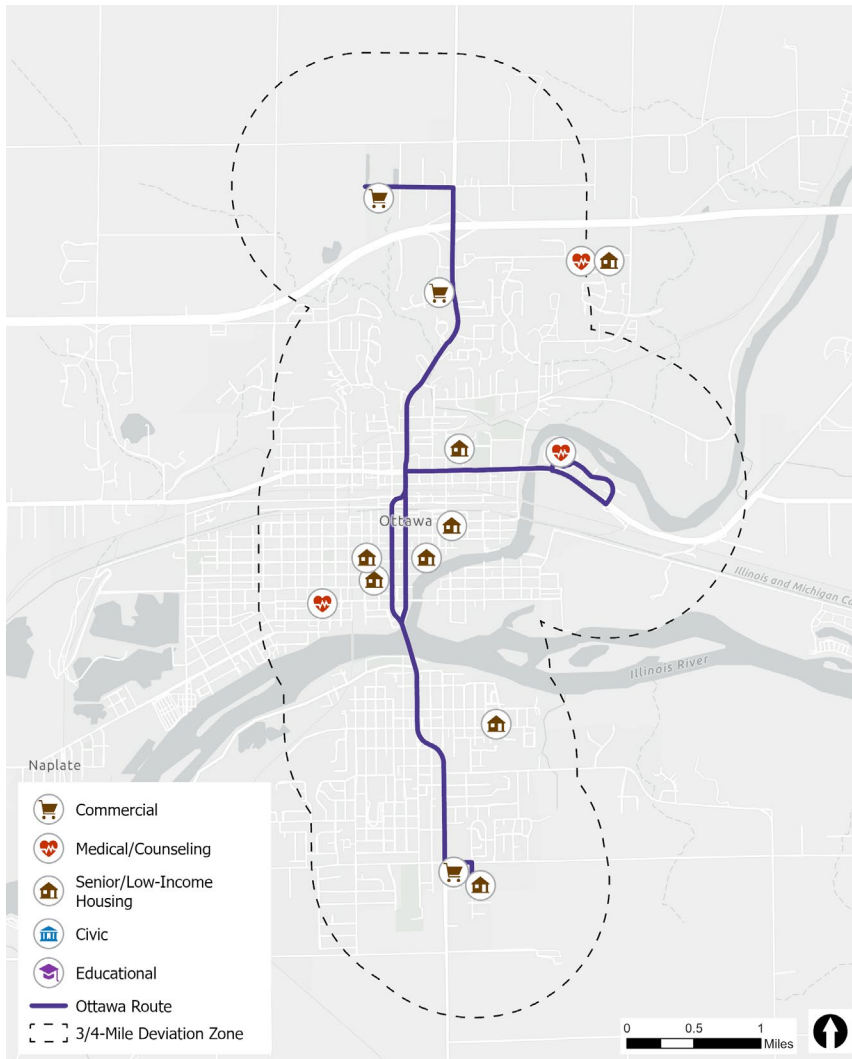
In LaSalle County, places like Ottawa and LaSalle-Peru both have the compact urban form and current trip volume to justify introducing fixed route service. However, attempting to do so with a single traditional fixed route in each of the two areas would require the exclusion of several activity centers. In these environments, a deviated route would allow an adequate amount of flexibility to reach the majority of each city with only one route each.

Ottawa Deviated Route

Route Description

As shown in Figure 2, the proposed deviated route in Ottawa serves multiple trip generators and attractors along main roadways such as Columbus Street, LaSalle Street, State Street, and 1st Avenue. This route would run from Walmart in the north to Ottawa Place Senior Apartments to the south, with additional service to OSF Medical facilities, which collectively drive the highest volume of current demand response trips of any destination in LaSalle County. Along this proposed route, passengers can board and alight at designated stops or call ahead for a deviation within $\frac{3}{4}$ mile.

Figure 2. Ottawa Deviated Route – Trip Generators

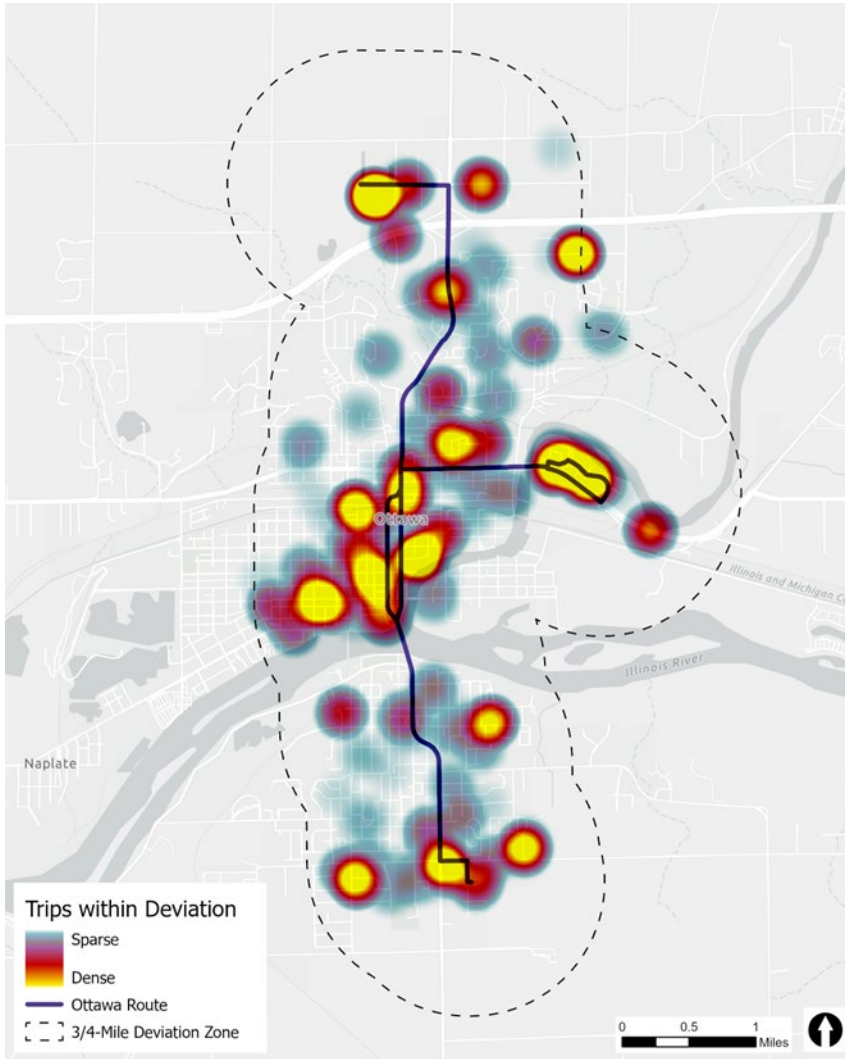


Resource Requirements and Ridership Estimates

A round trip on this route is approximately 13 miles and is expected to take 50 minutes of drive time, without consideration of factors such as dwell time, traffic, layover time, and route deviations. Factoring in these variables creates additional runtime, this route is anticipated to operate on 90-minute headways for a total of seven daily round trips with NCAT’s current weekday-only service hours. This route frequency is possible with only one vehicle. Based on this resource requirement information and 2024 NCAT costs per revenue hour, this route is anticipated to cost approximately \$297,000 per year.

Figure 3 shows the density of existing NCAT trips that both begin and end within the 3/4 mile buffer based on August 2024 ridership counts. Many of these trips are concentrated within a five-minute walk of the proposed route and stop placement can be tailored accordingly. The total number of trips represented is 1,073, or approximately 16.7% of total NCAT trips in that same month. Assuming that each of these trips is replaced by this deviated route, the average daily ridership is expected to be approximately 49 trips. However, this number also does not factor in the generation of additional new transit trips because of increased visibility and the convenience provided by scheduled routing.

Figure 3. Ottawa Deviated Route – Existing Trip Density

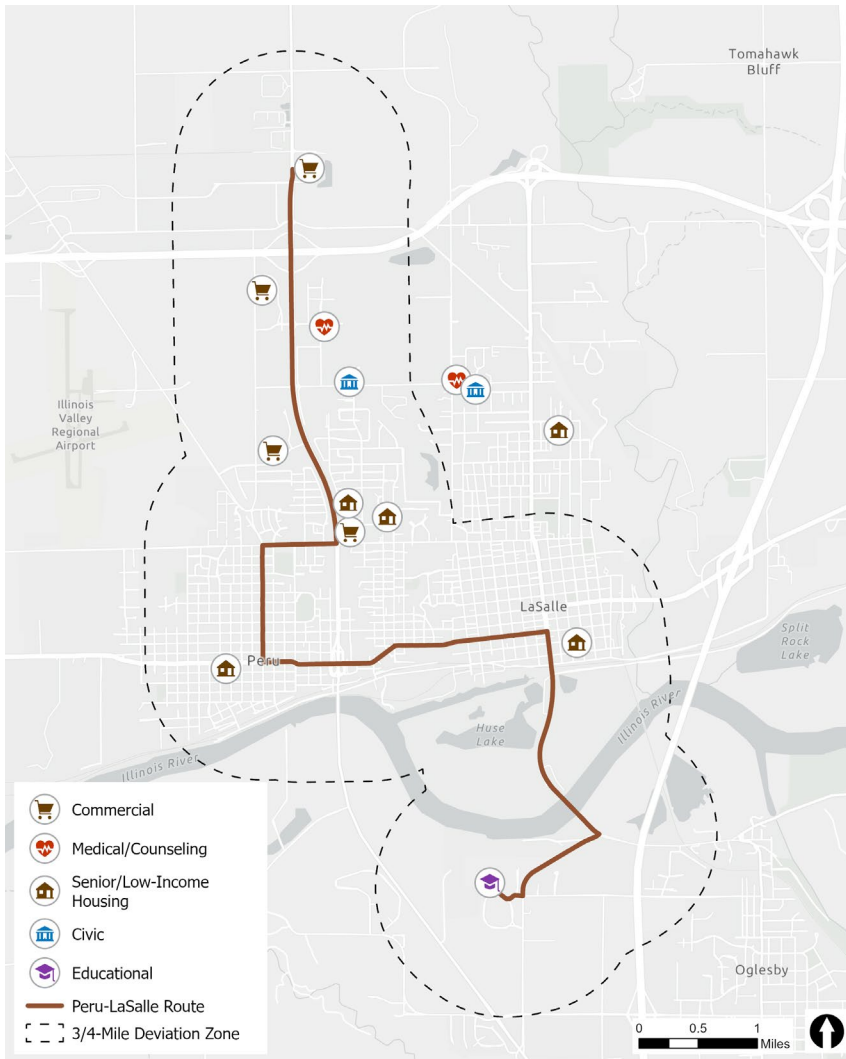


LaSalle-Peru Deviated Route

Route Description

As shown in Figure 4, the proposed deviated route in LaSalle-Peru serves major trip generators and attractors in both cities, operating along major roads such as 5th Street, 4th Street, Peoria Street, and Highway 251, with additional service to IVCC in Oglesby. This route would run from IVCC in the south to Walmart in the north, and passengers would be able to board and alight at designated stops or call ahead for a deviation within $\frac{3}{4}$ mile.

Figure 4. LaSalle-Peru Deviated Route – Trip Generators

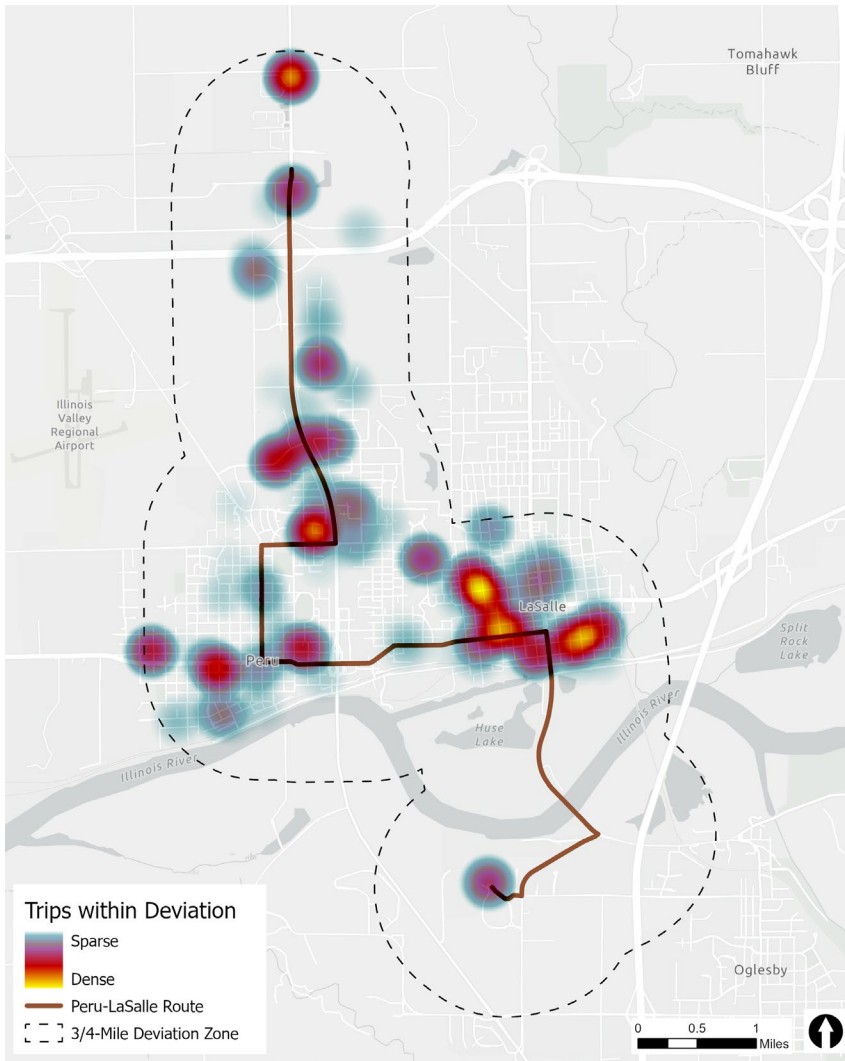


Resource Requirements and Ridership Estimates

A round trip on this route without deviations and other sources of delay is approximately 16 miles and would take an estimated 50 minutes; similarly to the proposed Ottawa route, additional buffer time results in a proposed 90-minute headway. This also equates to seven daily trips within NCAT's existing service hours, and only one vehicle is required. The annual cost is expected to be approximately \$297,000.

Figure 5 shows the density of existing NCAT trips that both begin and end in the ¾ mile buffer based on August 2024 ridership. The total number of trips represented is 645, or just over 10% of all NCAT trips in that same month. This indicates that the route would have an expected average of 29 daily trips, not including the potential for the attraction of new transit trips.

Figure 5. LaSalle-Peru Deviated Route – Existing Trip Density



Deviated Route Resource Summary

As shown in Table 1, both deviated route proposals are expected to have the same approximate annual cost due to comparable total travel times per round-trip cycle, while the Ottawa route proposal will likely have higher ridership.

Table 1. Estimated Resource Requirements for Proposed Deviated Routes

Route	Route Length (Round-Trip)	Anticipated Headway	Existing Daily Trips Covered by Route	Existing Annual Trips Covered by Route	Estimated Annual Operating Cost
Ottawa	13 miles	90 minutes	49	12,152	\$297,000
LaSalle-Peru	16 miles	90 minutes	29	7,192	\$297,000

Scenario 2: Microtransit

The Federal Transit Administration defines microtransit as “a technology-enabled service that uses multi-passenger vehicles to provide on-demand services with dynamically generated routing.” Microtransit services typically have designated service areas. Service models can include but are not limited to first/last mile connections to fixed route transit and point-to-point service within a specified zone or geography.

Microtransit is ultimately a form of demand response transit, though it differs from traditional reservation-based demand response services in that rides typically do not require advance reservations. Instead, passengers may request rides when needed, similarly to how one would hail a ride through a rideshare service, and the technology built into the service will match the rider with a driver who can serve their request. Microtransit services often feature an app that customers use to request a trip instead of requiring a phone call to a transit agency’s dispatch team.

In LaSalle County, larger communities such as Ottawa, the LaSalle-Peru area, and Streator represent places in where microtransit could be an effective alternative. These communities are large enough to generate a significant number of in-town trips that cover relatively short trip distances and could be served by microtransit. NCAT could establish microtransit zones in each of these communities and assign an appropriate number of vehicles dedicated solely to intra-community transit trips within each zone. Based on evidence from other communities that have implemented microtransit, keeping vehicles within these smaller areas can allow for more trips to be served per vehicle revenue hour, ultimately allowing the agency to serve more riders with fewer resources.

Service Characteristics

To establish microtransit service in LaSalle County, NCAT would need to first determine whether to operate the service in-house or contract with a turnkey microtransit provider, such as Via. If operated in-house, purchasing new vehicles would not necessarily be required. Instead, NCAT could assign some of its existing fleet to microtransit zones as needed. A turnkey provider would typically provide vehicles and drivers, though NCAT would pay the provider a fee for this service.

Regardless of operational structure, NCAT would need to develop an app to be used for ride requests. A turnkey provider would typically be able to provide their own app technology, while an in-house microtransit service may require working with a software company to develop an app that integrates with NCAT’s existing structure.

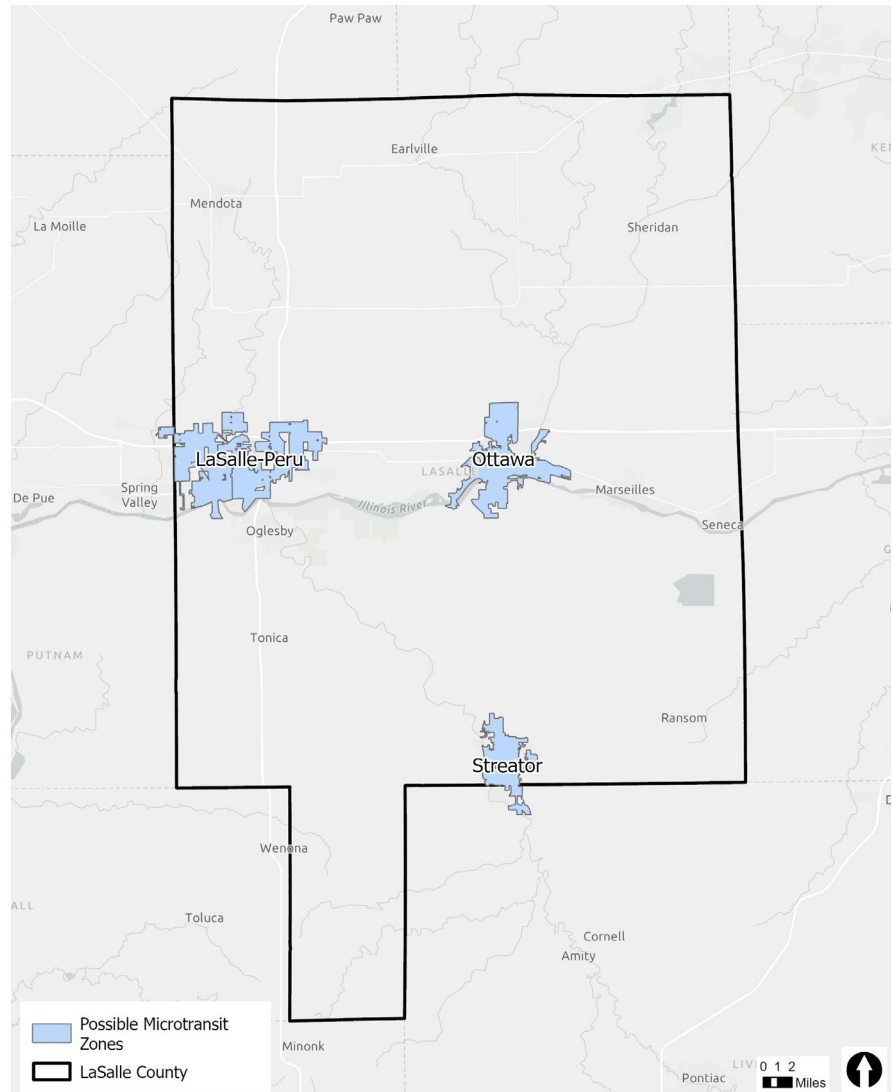
Once a microtransit service is established, all rides that begin and end within a particular microtransit zone would be served by microtransit only, rather than NCAT’s traditional demand response service. Traditional demand response services would then be used only for trips that start and/or end outside a microtransit zone.

Possible Microtransit Zones

Microtransit zones should ideally be relatively small geographic areas with high enough transit demand to justify dedicating vehicles and drivers specifically to trips within the zone. With this in mind, three communities in LaSalle County appear to have the potential to successfully support microtransit:

1. **Ottawa.** The city of Ottawa contains approximately 15.5 square miles and generated 1,252 in-town trips in August 2024 (19.6 percent of all NCAT trips that month).
2. **LaSalle-Peru.** The Cities of LaSalle and Peru together contain approximately 23.7 square miles and generated 815 in-town trips in August 2024 (12.7 percent of all NCAT trips that month). Because LaSalle and Peru border each other, they would be included within a single microtransit zone.
3. **Streator.** The City of Streator contains 7.4 square miles and generated 345 in-town trips in August 2024 (5.4 percent of all NCAT trips that month).

Figure 6. Proposed Microtransit Zones in LaSalle County



Microtransit zone boundaries can be established in the manner that is most convenient for NCAT's operations. As shown in Figure 6, municipal boundaries themselves can be used as the microtransit zones' boundaries, or boundaries can be drawn more smoothly. The latter option would involve including some unincorporated areas and/or excluding some incorporated areas on the fringes of each community, but the boundaries would be simpler to interpret.

The span of service for microtransit could vary depending on availability of funding and local needs within each microtransit zone. Microtransit's hours of service could mirror those of NCAT's existing service, or hours of service could be extended later into the evening and/or earlier into the morning. Microtransit could also operate on weekends if desired.

Microtransit Resource Summary

Table 2 shows the number of passengers expected to be served daily and annually with a microtransit service in each proposed zone based on existing in-town ridership trends for each community. Ridership projections do not account for the possibility that improvements to the passenger experience resulting from microtransit implementation could help to generate more in-town transit demand than currently exists.

Table 2 also shows the maximum number of vehicles that would be needed in circulation within the zone to serve peak demand (based on typical microtransit services exhibiting a capacity of four to five trips per vehicle revenue hour) and the estimated annual operating cost (using NCAT's 2024 cost per vehicle revenue hour). Of note, the projected operating cost would not be an additional cost if NCAT utilized its own fleet to operate an in-house microtransit service. Instead, the cost figures represent the estimated portion of NCAT's current operating costs that would be diverted to the microtransit program.

Table 2. Estimated Resource Requirements for Proposed Microtransit Zones

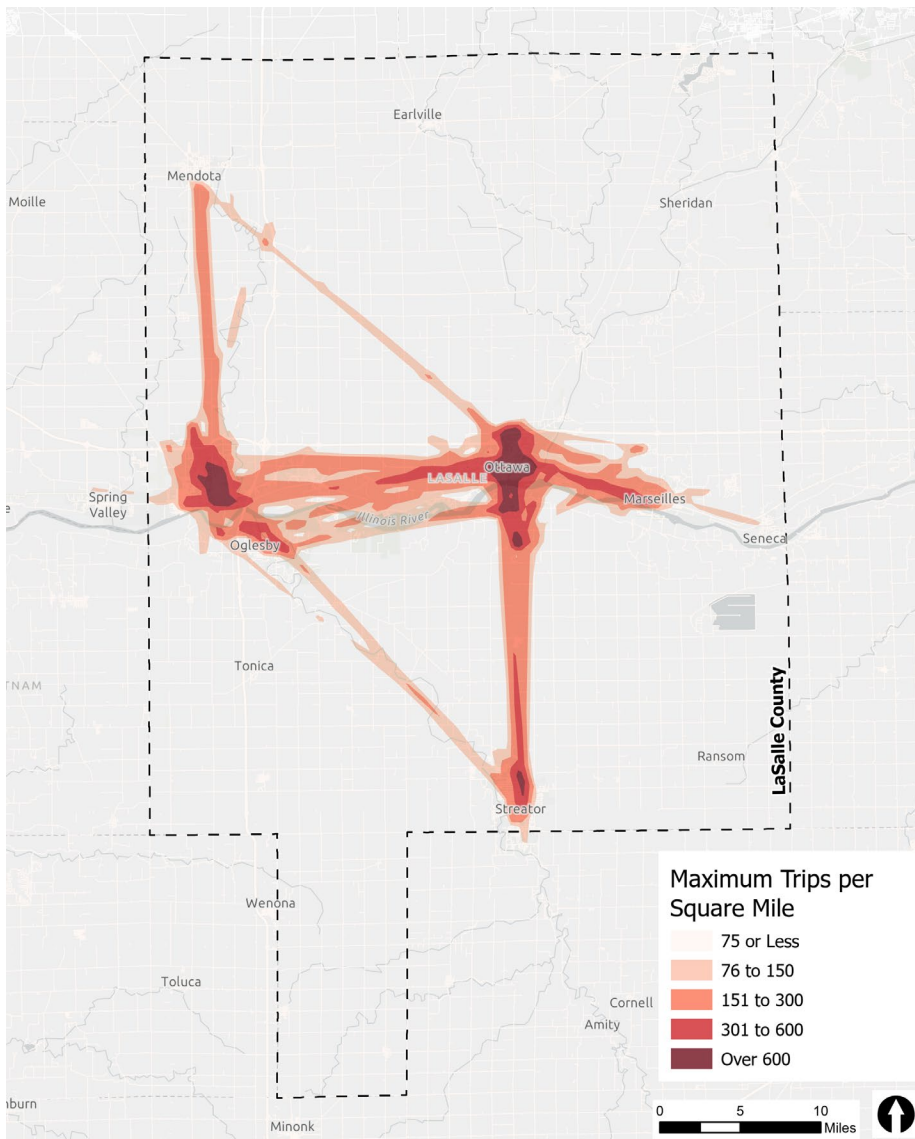
Microtransit Zone	Proposed Zone Area	Max Hourly Vehicle Requirement	Daily Passengers	Annual Passengers	Estimated Annual Operating Cost
Ottawa	15.5 square miles	3	57	14,113	\$615,300
LaSalle-Peru	23.7 square miles	2	37	9,187	\$419,500
Streator	7.4 square miles	1	16	3,889	\$363,600

Scenario 3: Regional Routes

Similarly to the way deviated routes aim to fulfill demand for in-town trips on NCAT's current demand response service, regional fixed routes have the potential to address both in-town and out-of-town trips based on how they are operated. Regional fixed routes can consolidate demand response trips on regularly traveled regional corridors with a more cost-effective service type; alternatively, regional deviated routes can accomplish this while also replacing in-town trips within $\frac{3}{4}$ mile, though at a greater cost.

Figure 7 illustrates NCAT trip density, with clear trends emerging on the most popular intercity corridors. These include Ottawa to Marseilles, Ottawa to LaSalle-Peru, Ottawa to Streator, and LaSalle-Peru to Mendota. Generally, common trip destinations include medical centers, low-income and senior housing, major retail centers, downtown areas, IVCC, and industrial complexes. These trip generators and attractors can guide stop placement decisions for any regional services.

Figure 7. NCAT Origin-Destination Line Density (2024)



Analysis Methodology

Based on this travel corridors data and other work completed to date, the project team developed a set of three potential regional routes, each with a standard fixed and deviated option. Each route is intended to replace the most highly traveled and expensive trips in the current NCAT system, with priority given to key destinations such as downtown areas, Walmart locations (both LaSalle and Ottawa), and OSF Medical, among others.

Routes were analyzed to develop estimates of the number of existing trips covered by their service areas. Standard fixed route calculations included all current trips both starting and ending within a $\frac{1}{4}$ mile (five-minute walk) of the route, while deviated route calculations included all current trips beginning and ending within a $\frac{3}{4}$ mile deviation zone. Routes are shown with these two relevant radii in each map in the following section.

After developing ridership estimates for each of the two service types, the project team evaluated the total round-trip cycle time for each route to estimate each alternative's associated cost. The project team assumed that each route would operate four daily round trips for the purpose of meaningful comparison between the alternatives. Operating costs are based on NCAT's operating cost per revenue hour, which was \$112.78 in Fiscal Year 2024. The project team assumed a 20% schedule buffer for standard fixed route cycle times to account for dwell time and traffic delay, before then adding an additional 15% for layover time.

Additional schedule time was allotted for deviated routes to account for deviations according to the following procedure:

- 1) Begin with fixed route cycle time
- 2) Determine a conservative estimate for route deviations per round-trip cycle by subtracting $\frac{1}{4}$ mile radius existing ridership from $\frac{3}{4}$ mile radius existing ridership, isolating the trips presumed to result from deviations based on distance from the route alignment
- 3) Assign time to each deviation in one round-trip based on the average route speed in the fixed route scenario, assuming an average deviation of $\frac{1}{2}$ mile
- 4) Add total round-trip cycle deviation time to the fixed route time to determine the total runtime

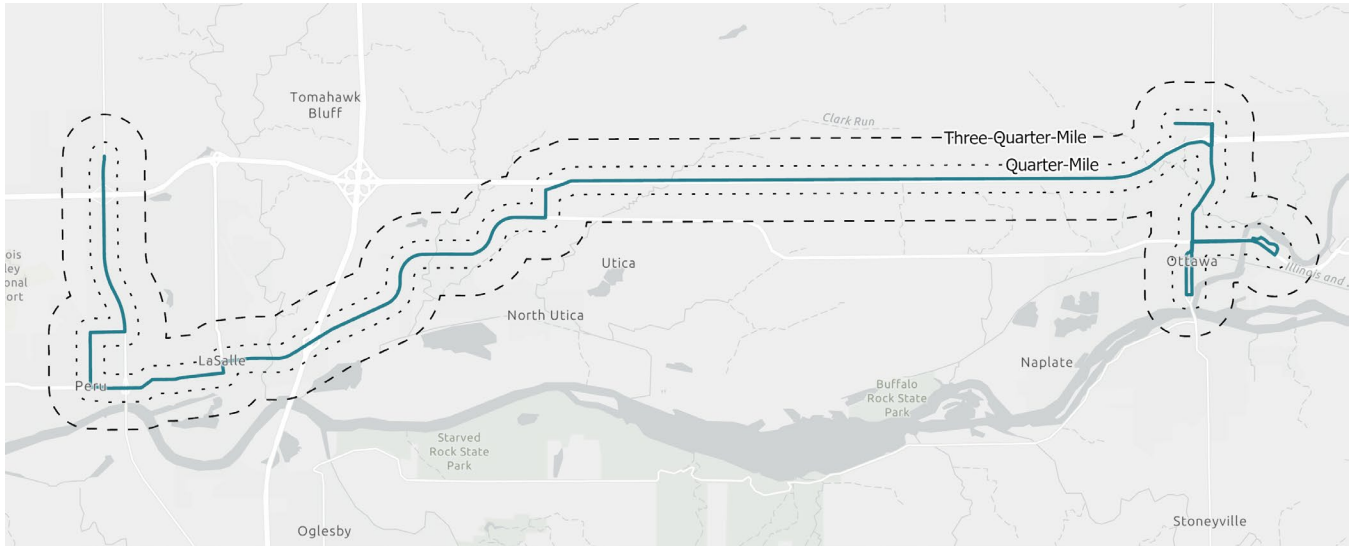
Deviation time estimates are intended to be conservative by assuming that all current NCAT trips that begin and end between $\frac{1}{4}$ mile and $\frac{3}{4}$ mile of the proposed route alignments would instead be carried out by the regional route. In practice, this is an overestimate of the amount of buffer time necessary to meet demand for route deviations.

Round-trip cycle times were then multiplied by the current operating cost per hour to determine the total cost of one round trip. Annual expense totals were extrapolated from these values.

Potential Route Alignments

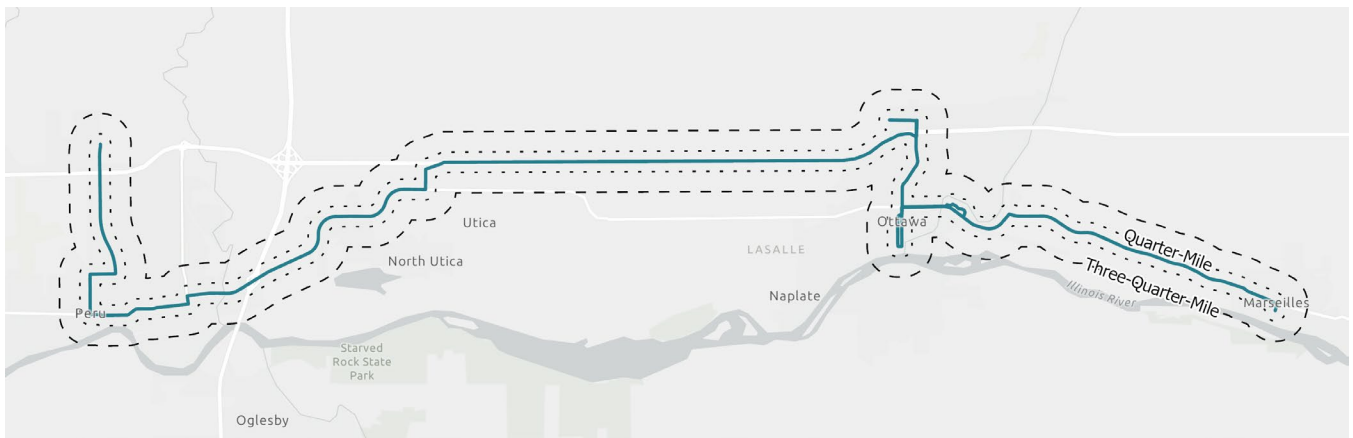
Based on work completed to date, the project team determined that the core regional connection to be provided is LaSalle-Peru to Ottawa. This regional route concept, shown in Figure 8, begins at Walmart in LaSalle and terminates in Ottawa, serving both OSF Medical and downtown Ottawa. The route also serves both downtown LaSalle and downtown Peru, as well as multiple key retail and residential locations. The route is approximately 54 miles round-trip, and the project team estimates that a standard fixed route would take 138 minutes to complete one round-trip. A deviated route would take approximately 151 minutes to complete one round-trip.

Figure 8. LaSalle-Peru to Ottawa Regional Route



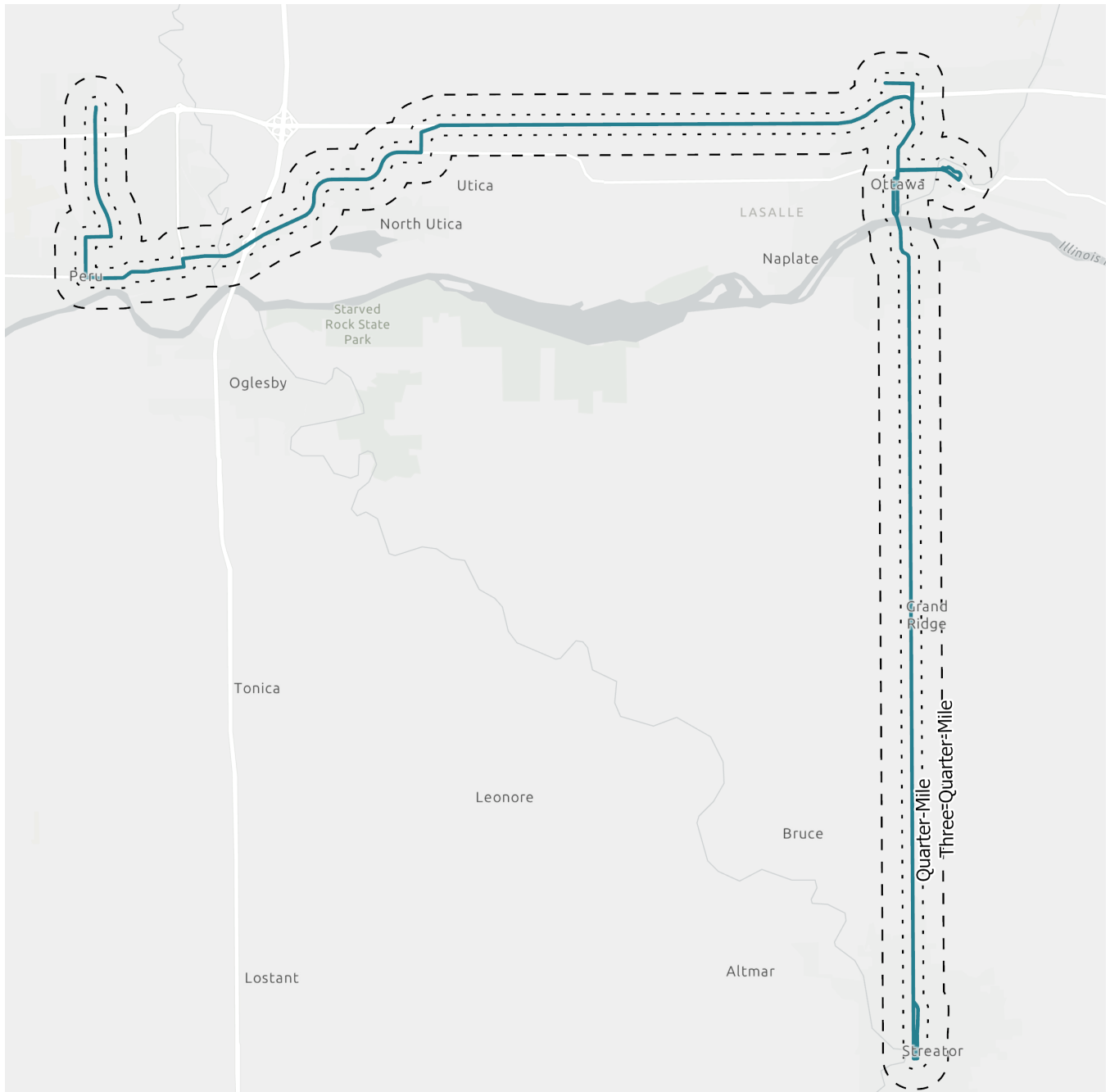
The second route alternative includes the entirety of the first alignment with additional service to Main Street in Marseilles. Ridership data shows that Marseilles is a popular trip origin for regional travel and may justify additional service. This route is approximately 66 miles round-trip and would take approximately 166 minutes to complete one round trip. The deviated route would take approximately 187 minutes.

Figure 9. LaSalle-Peru to Marseilles Regional Route



The third route alignment includes the core LaSalle-Peru to Ottawa corridor and continues south to downtown Streator. In addition to being a popular trip origin and destination for intercity trips, in-town trips in Streator are also significant. This route is approximately 86 miles round-trip and would take approximately 207 minutes to complete one round trip. A deviated route would require approximately 231 minutes to complete one round trip.

Figure 10. LaSalle-Peru to Streator Regional Route



Regional Route Resource Summary

Table 3 provides detailed information on various attributes of the operation of each of these regional route concepts. Cost estimates assume that each route operates four round trips per day and is served by one vehicle.

While deviated routes have the potential to replace both in-town and intercity trips currently fulfilled by NCAT's demand response service, their efficiency depends on carrying a high number of passengers per trip. If local or regional deviated routes are implemented, NCAT will need to consider how route reservations and trip eligibility interact with NCAT's traditional demand-response services.

Table 3. Estimated Resource Requirements for Proposed Regional Routes

Regional Route Concept	Route Length (Round-Trip)	Route Type	Total Cycle Time (Round-Trip)	Existing Daily Trips In Route Area	Existing Annual Trips In Route Area	Estimated Annual Operating Cost
LaSalle-Peru to Ottawa	54 miles	Fixed	138 minutes	37	9,176	\$257,300
		Deviated	151 minutes	78	19,344	\$281,600
LaSalle-Peru to Marseilles	66 miles	Fixed	166 minutes	45	11,160	\$309,500
		Deviated	187 minutes	93	24,064	\$348,700
LaSalle-Peru to Streator	86 miles	Fixed	207 minutes	53	13,144	\$386,000
		Deviated	231 minutes	133	32,984	\$430,700

Scenario 4: Expanded Demand Response

Scenario 4 involves the expansion of NCAT's existing demand response service. Expansion could occur in one or more of the following ways:

- Expansion of weekday service span
- Addition of weekend service
- Addition of vehicles/drivers to existing service hours

This scenario would involve no changes to existing fares, service policies, or other aspects of the service model. Instead, the goal would be to optimize NCAT's existing service model to meet demand for transit that is currently unmet.

Expansion of Weekday Service Span

This element of Scenario 4 assumes that NCAT could expand its weekday service window to provide trips from 5:00 A.M. to 10:00 P.M. Expanding weekday service is expected to generate a relatively low number of new trips compared to the other elements of Scenario 4, as early morning and later evening trip demand would be lower than daytime trip demand. Extrapolation of existing weekday ridership data generates the following estimates for this expansion of service:

- 1,373 additional annual trips (a conservative estimate that does not account for increased demand generated by service enhancements)
- 2,484 additional annual vehicle revenue hours needed to accommodate these new trips
- At least 12 vehicles needed in circulation at peak service (9:00 A.M.)
- Additional annual operating cost of approximately \$280,100

Addition of Weekend Service

To develop estimates of ridership, vehicle needs, and operating costs associated with adding weekend service, several assumptions were made. The first assumption is that the service span could be as wide as 5:00 A.M. to 10:00 P.M. The second assumption is that the number of daily weekend transit trips would be approximately 95.6 percent of weekday transit trips, a number generated by calculating the ratio of total daily weekend to weekday trips in LaSalle County using Replica trip data. The final assumption is that the hour-by-hour distribution of weekend transit trips would generally mirror that of all trips in LaSalle County, as reported by Replica.

Using these assumptions, the following estimates were developed for the addition of weekend service in LaSalle County:

- 29,702 additional annual trips
 - This is an ambitious estimate, as the weekend to weekday trip ratio used in estimates may not be as high for transit as it is for all trips.
- 10,400 additional vehicle revenue hours to accommodate these new trips
- At least 8 vehicles needed in circulation at peak weekend service times (11 A.M. and 1 P.M. to 6 P.M.)
- Additional annual operating cost of approximately \$1,200,000

Addition of Vehicles and Drivers to Existing Service Hours

This element of Scenario 4 aims to address issues of unmet demand during existing service hours instead of expanding the service window. In 2024, NCAT recorded 8,271 administrative cancellations. These canceled trips represent unserved demand. An assumption made in developing estimates for this element of Scenario 4 is that trip cancellations and denials are spread evenly across the annual service days, and within each service day the denials are proportionate to hourly trip demand. With an understanding that denials may not occur with such a predictable and regular distribution, the resulting estimates for the addition of vehicles and drivers to existing service hours are as follows:

- 8,271 additional annual trips
 - This is a conservative estimate that only accounts for adding vehicles to meet known unmet demand. It does not account for potential increases to demand that may occur as a result of decreased trip denial/cancellation rates.
- 4,464 additional vehicle revenue hours needed to accommodate these new trips
- At least four new vehicles needed in circulation at peak service (9:00 A.M. and 2:00 P.M.)
- Additional annual operating cost of approximately \$503,400

Expanded Demand Response Resource Summary

As shown in Table 4, each service expansion type requires a level of investment that are broadly comparable to the introduction of new service types, though estimated ridership increases vary widely. The project team made multiple assumptions regarding the impacts of service implementation during times of day and days of the week that do not currently have any service; further public engagement and analysis is needed to determine the magnitude of latent demand that exists in LaSalle County.

Table 4. Estimated Resource Requirements for Proposed Expanded Demand Response

Service Expansion Type	Estimated Increase in Annual Vehicle Revenue Hours	Estimated Increase in Annual Passenger Trips	Estimated Increase in Annual Operating Cost
Span Increase	2,484	1,373	\$280,100
Weekend Service	10,400	29,702	\$1,200,000
Capacity Increase	4,464	8,271	\$503,400

Summary

NCAT Future Service Scenarios consist of four alternatives considered as part of the NCAT Strategic Plan; each scenario was developed with objectives including increasing system capacity and enhancing transit access, efficiency, and cost-effectiveness in LaSalle County. Summarized in Table 5, these include the implementation of deviated routes, deployment of microtransit zones, establishment of regional fixed or deviated routes, and expansion of the existing demand response system. These scenarios offer NCAT a flexible framework to meet the evolving mobility needs of its service area.

Deviated routes in Ottawa and LaSalle-Peru provide a cost-effective alternative to current in-town demand response service. These routes consolidate frequent trips into predictable schedules while maintaining flexibility through deviation allowances. Together, these routes could account for up to 27% of current NCAT ridership and are expected to generate more trips through improved visibility and reliability.

Microtransit zones in Ottawa, LaSalle-Peru, and Streator offer a more dynamic form of demand response transit by leveraging real-time, app-based ride requests and routing. Each of these zones has demonstrated in-town travel demand. This model increases operational efficiency by allowing more trips per vehicle hour and reducing pressure on NCAT's current countywide demand response system.

Regional fixed routes connect major trip generators across LaSalle County with the potential to address high demand for the most expensive trips NCAT currently provides. Deviated versions of these routes present the greatest cost-efficiency by replacing those longer trips currently served through demand response while also absorbing short trips within communities. These alignments focus on key corridors between LaSalle-Peru, Ottawa, Marseilles, and Streator.

The expansion of NCAT's demand response service targets unmet needs by extending weekday hours, introducing weekend service, and increasing vehicle availability during peak hours. While this scenario does not significantly alter the current service model, it responds directly to latent demand observed in administrative trip cancellations and community input.

These scenarios have been presented to the public in draft form, with opportunities for ranking preferred improvements, providing written feedback, and more. This input has helped to shape the NCAT Strategic Plan's final recommendations as discussed further in the following section of this document. The final Strategic Plan recommendations include a phased implementation plan that is representative of a combination of investments that best meet the needs of NCAT, riders, and communities.

Table 5. Comparison of Service Alternatives

	Deviated-Route	Microtransit Zones	Regional Route Concepts	Expanded Demand Response
Concept	Two Deviated-Routes in Ottawa and LaSalle-Peru	Group operations into general DRT and in-town microtransit	Three alternatives for regional fixed routes that may be deviated	Expand weekday service span, add weekend service, and/or add vehicles/drivers
Benefits	Reduce vehicle/operator needs to serve in-town trips while providing regular transit service	Improve operational efficiency by dedicating some vehicles to shorter in-town trips	Reduce need for long-distance demand response trips to improve cost effectiveness	Address challenges with existing capacity and service span without requiring major changes to service structure
Annual Ridership on Service Alternative	12,152 on Ottawa; 7,192 on LaSalle-Peru	3,889 to 14,113 per zone	Up to 13,144 for non-deviated and 32,984 for deviated concepts	From 1,383 to 29,702 (increase depending on service expansion type)
Annual Cost Estimates	\$297,000 per route	\$363,600 to \$615,300 per zone	\$257,300 to \$430,700 depending on concept	From \$280,000 to \$1,200,000 depending on service expansion type

Scenario Phasing Recommendations

Each of the four service scenarios developed throughout this process represent a comprehensive set of potential transit improvements and are each intended to support unique identified gaps in LaSalle County. This preferred scenario organizes each of the four service scenarios into a phased sequence for implementation, consisting of short, medium, and long-term service improvements, based on factors such as cost and funding availability, operational feasibility, and governance structure. While all elements of these phases are drawn directly from the scenario analysis, this sequencing reflects strategic priorities and practicality associated with each of the recommended improvements within the given timeframes.

These phasing recommendations are informed by both public feedback to the draft future service scenarios and this project’s ongoing evaluation of potential governance structures and funding models for NCAT. While the project team has attempted to give priority to those proposals received most positively by NCAT riders and LaSalle County community members, financial and administrative considerations also influence the feasibility of implementing the most popular service options in the coming years.

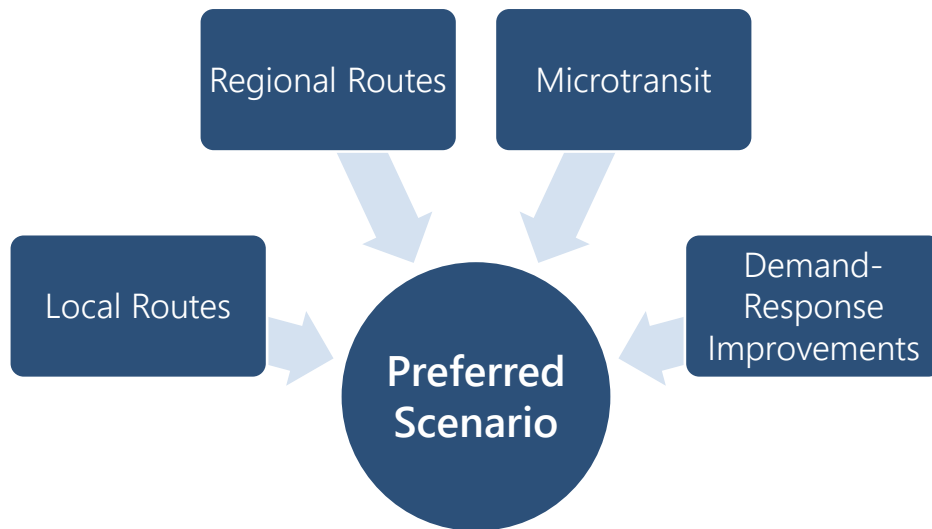
Table 6 shows the ranked preferences of survey respondents for each service scenario, with values closer to 1 indicating a higher preference and values closer to 4 indicating a lower rank. These responses reflect the opinions of 57 survey respondents. More information on public feedback to the draft Future Service Scenarios can be found in the NCAT Strategic Plan Public Engagement Summary.

Table 6. Public Ranking of Draft Future Service Scenarios

	1	2	3	4	Average Rank
Scenario 1: Deviated Routes	19	13	11	14	2.35
Scenario 2: Microtransit	4	22	15	16	2.75
Scenario 3: Regional Routes	15	14	17	11	2.42
Scenario 4: Expanded Demand Response	19	8	14	16	2.47

Future project phases and implementation will be informed by the selected governance structure, agency partnerships, and administrative changes. Additionally, the recommendations discussed are heavily contingent on the availability of new funding. Feasibility for the implementation of each service improvement is dependent on political support from municipalities where services are proposed to operate. These topics are discussed further in the Governance and Funding Report.

Figure 11. Scenario Process



Independent of the phasing recommendations detailed on the following pages, NCAT intends to continue operating its existing countywide demand response service except where explicitly noted. In instances where proposed service models result in duplication of specific types of NCAT demand response trips, it may be appropriate to restrict the types of trips available using the existing countywide demand response service. Phasing recommendations are designed in part to improve the effectiveness of existing demand response service by allowing it to accommodate countywide ridership more efficiently.

Short Term

Service concepts identified for short-term implementation consist of high-impact service adjustments to the existing demand response service model. In other words, these service adjustments are achievable without significant governance reform and can be sustainably provided under the current NCAT organizational structure. This phase is intended for implementation in the next 1 to 2 years.

Addition of Vehicles and Drivers

Expanding NCAT’s demand response capacity within existing service hours is a strategy focused on addressing unmet demand within the current service model. In 2024, NCAT recorded 8,271 administrative cancellations – trips that could not be fulfilled due to capacity constraints. These cancellations reflect a known and ongoing gap in service availability during times of peak demand.

Adding vehicles and drivers directly increases trip availability and does not require any changes to NCAT’s governance structure. NCAT should continually monitor ridership and productivity to ensure that additional resources are generating ridership and cost-effectiveness.

Implementation will depend primarily on the availability of sustainable operating funds and workforce capacity, both of which can be achieved through building public and political support for continued investment. This service improvement also addresses current unmet demand rather than requiring speculation about future demand, making the prospect of local investment more politically appealing.

Increasing capacity of current service to avoid cancellations is both responsive to current operational issues and grounded in demonstrated community need.

Span Improvements

Evening span improvements, according to numerous written survey responses, address one of NCAT's most pressing operational issues. Many people cited a lack of evening service as a major barrier to using current NCAT demand response service, particularly for those who would use NCAT to get home from work. Extending demand response operating hours to later in the day directly addresses those concerns and reflects strong alignment between public input and service planning priorities.

This improvement is straightforward to implement operationally because the organizational infrastructure for demand response service already exists. This service improvement does not require introducing a new service type and would include only a modest extension of driver availability and vehicle scheduling into the evening hours. As such, evening service span extension is a cost-effective near-term improvement that enhances access without necessitating any major capital or administrative investments, and it is feasible under any governance structure.

Span improvements also present an opportunity to pilot microtransit during lower-demand evening hours. Rather than operating full-capacity demand response service countywide during times when regional ridership may be limited, a microtransit model could be a useful way to right-size service levels to match actual need for in-town evening trips. NCAT can simultaneously test new technologies, educate the public on microtransit service, and ensure improved access for riders with later trip needs at a low cost.

An additional consideration in determining the scope of evening service improvements is local funding participation. If microtransit is to serve as justification for increased funding from other LaSalle County municipalities outside of Ottawa, then prioritizing span improvements specifically for microtransit zones would be a logical first step. However, if other cities are willing to participate in a more substantial and sustained manner, a countywide evening span expansion may be feasible and appropriate in the near term. In this case, span improvements offer NCAT both an immediate benefit and a strategic opportunity to align local funding commitments with visible and cost-effective service gains.

Medium Term

Medium-term improvements build on the short-term recommendations by offering more substantial service changes at a higher cost, potentially requiring new funding and/or governance reform. The level of success of implemented short term improvement(s) will aid in determining which additional system enhancements should be pursued in the medium term, based in part on performance metrics, NCAT's future funding and governance structure, continued public engagement, and any changes to transit's operating environment in LaSalle County. This implementation phase is intended to be planned for a 3-to-5-year horizon.

Weekend Service

While strong interest exists in expanding service beyond weekdays, weekend operations come with substantial budgetary implications. Of all the proposed improvements discussed in the future service

framework, weekend service is one of the most expensive. However, the demand modeling assumption underlying the cost estimate for weekend demand response service is based on total regional travel demand and does not account for known behavioral differences in trip patterns by day of week. As such, a more measured approach is recommended for initial implementation.

Rather than launching full-day service at weekday levels, a limited-hours pilot is proposed for the medium term phase. This approach would allow NCAT to assess actual demand, identify peak weekend periods, and evaluate service productivity without incurring the full cost of an all-day schedule equivalent to that of weekdays.

Staging weekend service in this way also offers flexibility in future budget planning. If usage demonstrates concentrated demand in the late morning through early evening, for example, the service span can be tailored accordingly, avoiding unnecessary expense on low-ridership early morning or late evening periods. This approach is more incremental and ensures that service expansion occurs in response to demonstrated needs while preserving fiscal sustainability. This implementation approach ensures that costs remain reasonable as part of the medium term phase.

The introduction of weekend service also requires consideration of the selected mode(s) to be expanded. Countywide demand response weekend service is the most direct extension of current operations, but also the most expensive on a per-trip basis, particularly in periods of lower demand such as weekends. Microtransit may offer a more cost-effective alternative during weekend hours, especially if a flexible scheduling system is also in place. A third option, limited weekend operation of deviated fixed routes within municipalities, could serve key destinations efficiently; however, this model would only make sense if local demand is concentrated around predictable corridors which align roughly with weekday destinations. Final mode selection should be informed by early weekend travel data, driver availability, and the status of technology procurement efforts underway in earlier phases. A hybrid approach may also be warranted, blending service types to balance competing priorities.

Because of its high cost and potential for a broad countywide impact, weekend service presents an opportunity for testing new funding arrangements. As part of the ongoing governance evaluation, cost-sharing frameworks may be developed that support expansion into weekend operations equitably across municipalities.

Microtransit

This service scenario entails the procurement of new technology to replace NCAT's existing in-town demand response trips with microtransit. Under this model, NCAT's existing countywide demand response service would no longer serve in-town trips that fall entirely within microtransit zones. This service would result in improved reliability and scheduling, improving the customer experience dramatically and increasing flexibility and system capacity. Despite being a new service in name, microtransit is effectively an upgraded and modernized version of the demand response service that NCAT currently offers; this system upgrade may be implemented regardless of the transit system's governance structure and is suitable for the medium term. However, such a service is contingent on whether NCAT, with its current staff capacity, is capable of or open to pursuing technology grants to fund the procurement of new software.

Microtransit also comes with the unique benefit of freeing up resources for other countywide NCAT trips, providing reliability and capacity benefits to those trips beginning and/or ending outside each of the

municipalities slated for a potential microtransit zone or pilot program. In effect, launching a microtransit program addresses known issues for all current NCAT trips without necessarily requiring countywide investment in increased capacity.

An additional consideration in the implementation of microtransit is municipalities' capacities to fund such an improvement to their in-town demand response trips. Any city or town proposed for a microtransit zone or pilot that does not currently provide NCAT funding outside of donations (LaSalle, Peru, and Streator) would need to ensure access to a sustainable local funding source. NCAT's current local match has been a barrier to maintaining current service levels, so NCAT's ability to provide microtransit is fully contingent on participating municipalities providing a robust local match. However, NCAT can leverage the rider-facing improvements to local trips, such as the ability to schedule trips on a mobile app instantaneously, as justification for increased funding.

Public engagement conducted to date (as of late-June 2025) indicates that microtransit, while not a popular choice for survey respondents, is a very common *second choice* of when ranking the four draft future service scenarios presented. Based on written responses, a potential explanation for this pattern is that the desire for microtransit is outweighed by the desire for improvements to existing demand response service, such as weekday service span expansion and weekend service. Weekday service span expansion is also proposed as a short term improvement, while weekend service requires substantial investment and is addressed in subsequent phases. Positioning microtransit as a local demand response service improvement during existing operating hours at minimal additional cost aligns broadly with public preferences for demand response improvements. This service type is easily scalable and can be piloted or implemented in the evening hours if riders or communities demand in-town trips outside NCAT's existing service hours.

Local Deviated Routes

The introduction of local deviated routes is an opportunity to expand mobility within municipalities while reducing reliance on demand response scheduling. Among all proposed service types, this option has received the strongest support in public engagement activities to date. Survey respondents emphasized the convenience of not needing to schedule trips in advance at all, unless the additional flexibility of route deviations is necessary to complete their trips.

Implementing these routes, however, comes with distinct capital costs. Establishing designated stops will require upfront investment in signage, sidewalk enhancements, ADA accessibility improvements, and potential features such as bus stop infrastructure and bus pullouts, among others. Each of these capital expenses requires additional coordination with municipal public works departments. While these costs are modest relative to major fleet expansion or new facilities, they still warrant consideration and are a necessary step in formalizing service patterns and ensuring route visibility.

In addition to these infrastructure needs, local deviated routes will likely necessitate a technology upgrade. NCAT's current software may not support dynamic deviations at the scale necessary to reliably operate such a service, especially if multiple deviated routes operate simultaneously within Ottawa and LaSalle-Peru. If the technology package pursued in the short term for microtransit can support both service types, this would offer a significant advantage. NCAT would be able to streamline procurement, centralize dispatch and scheduling, and offer long-term flexibility across different modes.

Future considerations associated with the implementation of a deviated route must address the extent to which such a service would duplicate other NCAT offerings such as microtransit or in-town demand response trips. Because there necessarily would be a geographical overlap between these services, NCAT would need to assess which types of trips should be offered by each of its services. Additionally, municipalities may differ in which services they are willing to fund given their community characteristics; for example, one municipality may favor microtransit if it feels demand in any set travel corridor is low, while another municipality may favor a local deviated route if it expects demand to be more concentrated. NCAT would need to address these situations on a case-by-case basis.

While public interest in this transit mode is high, the sequencing of this improvement in the medium term reflects the need to address those foundational elements first. Funding commitments, short-term technology upgrades, and coordination with local partners on final routing and infrastructure placement all require significantly more planning than improvements discussed in the short term phase. When all of those pieces are in place, local deviated routes can serve as a core part of the system's municipal-level service strategy, offering a balanced blend of predictability, service visibility, and flexibility.

Long Term

The long-term phase includes service changes that require major operational and financial commitments. Implementation of this phase will be closely tied to the selected governance structure, informing not only who delivers and oversees these service improvements, but also how operating costs are distributed. This long-term vision includes the most robust system improvements and reflects a realistic timeline that accounts for organizational capacity, capital planning, and regional collaboration. These improvements are intended to be implemented on a 6 to 10 year timeline.

Regional Routes

Regional routes represent a significant long-term investment in connectivity throughout LaSalle County. These routes are envisioned as replacements for the longest and most resource-intensive trips currently offered as demand response trips. While these routes may reduce per-trip operating costs and improve predictability and countywide mobility, the implementation of these routes entails both operational and capital challenges. Dedicated vehicles (as well as associated storage and maintenance), significantly expanded driver hours, and targeted public engagement countywide will be required to launch and sustain these routes. New bus stops would need to be constructed, and additional coordination with multiple municipal partners and regional stakeholders is necessary.

Beyond capital and operational considerations, regional routes will demand increased intergovernmental collaboration. Because these services will span multiple jurisdictions, sustainable funding will depend on shared investment and policy alignment across the county and participating cities. As such, the introduction of regional routes is closely tied to the outcome of this project's governance and funding discussions. In a system with clearer delineation of oversight, responsibility, and cost-sharing mechanisms, regional service can serve as the foundation for countywide mobility.

Expanded Service Area

Expanding the service area beyond LaSalle County represents the most complex and administratively demanding improvement under consideration. While it offers the potential to create a regionally integrated and comprehensive transit network, implementation is guaranteed to require a formal change to NCAT's governance model. Such an expansion cannot occur within the agency's current organizational structure and would either require joining an existing transit district, such as Reagan MTD, or forming a new multi-county entity. Ongoing analysis as part of this project will evaluate which option, if any, aligns most effectively with NCAT's goals and the travel needs of the communities it serves.

In addition to legal and administrative challenges, expanded service would require substantial public engagement on a broad geographical scale to assess demand, set service priorities, and ensure that any new jurisdictions receiving NCAT service are willing to participate in funding and oversight. The launch of any new inter-county service would also require procurement of additional vehicles, as well as facility and staffing expansions to support service growth.

Because of the magnitude of these changes and the foundational shift in how NCAT would need to operate, expanded service area planning is best reserved for the long-term phase. This timeline allows for completion of the governance evaluation, implementation of its findings, formal commitments from regional partners, alignment of capital planning with service demand, and robust planning processes associated with mode choice based on operational needs and other considerations.

Summary and Future Considerations

The phased approach outlines a path for implementing service improvements based on feasibility, funding, and community priorities. While some elements can move forward quickly, others will require additional planning, coordination, and long-term investment. Phases also vary in their capacity to be implemented under NCAT's current governance structure. This consideration is discussed in greater detail in the Governance and Funding Report.

Implementing the service improvements described in this plan will require follow-up implementation work tailored to each service type. Table 7 summarizes the key next steps and potential performance measures that will guide effective planning and continued evaluation over time.

Table 7. Future Considerations for Implementation

Recommendation	Phase	Cost Estimate ¹	Implementation Actions	Potential Performance Measures
Addition of Vehicles and Drivers	Short Term (1-2 Years)	\$503,400	<ul style="list-style-type: none"> Review patterns of trip denials and unserved demand highlighted in the COA Assess additional vehicle and driver needs by time of day Revise driver shifts and/or add vehicle routes as appropriate 	<ul style="list-style-type: none"> Ridership by hour Trip denial rate Cost per hour Customer satisfaction
Span Improvements	Short Term (1-2 Years)	\$280,100	<ul style="list-style-type: none"> Identify targeted hours for service extension in conjunction with funding partners Revise driver shifts to accommodate extended schedules 	<ul style="list-style-type: none"> Ridership by hour Trip denial rate Cost per hour Customer satisfaction
Weekend Service	Medium Term (3-5 Years)	\$1,200,000	<ul style="list-style-type: none"> Confirm desired operating hours Ensure sufficient local match funds are available for larger service expansion If constrained by the number of drivers or available funds, balance weekend service with other transit expansion needs 	<ul style="list-style-type: none"> Passenger trips per hour Ridership by time of day Trip purposes
Microtransit	Medium Term (3-5 Years)	\$1,398,400	<ul style="list-style-type: none"> Determine which municipality or municipalities are interested in microtransit service Request local match for microtransit service from all participating municipalities Define zone boundaries (if different from precise municipal borders) Work with IDOT to develop technology requirements for microtransit software and procure through a competitive bid Develop pilot framework and evaluation criteria 	<ul style="list-style-type: none"> Wait time Trip denial rate Cost per trip Shared ride rate App usage rate Trip density and origin-destination pairs

¹ The Future Service Scenarios chapter describes the cost estimate methodology
SRF Consulting Group

Recommendation	Phase	Cost Estimate ¹	Implementation Actions	Potential Performance Measures
Local Deviated Routes	Medium Term (3-5 Years)	\$594,000	<ul style="list-style-type: none"> • Finalize route alignments and stop locations • Coordinate infrastructure needs with municipalities and LaSalle County • Develop service design standards • Conduct public engagement 	<ul style="list-style-type: none"> • Passenger trips per hour • On-time performance • Deviation time • Stop-level boardings and alightings • Ridership by time of day
Regional Routes	Long Term (6-10 Years)	\$430,700	<ul style="list-style-type: none"> • Coordinate with regional partners on funding • Finalize regional travel corridors and stop destinations • Conduct feasibility analysis 	<ul style="list-style-type: none"> • Ridership by hour • Cost per hour • Cost per mile • Stop-level ridership • On-time performance
Expanded Service Area	Long Term (6-10 Years)	TBD	<ul style="list-style-type: none"> • Conduct further governance and legal analysis for multi-county service • Engage new partners on funding models and service priorities • Evaluate demand for LaSalle County trip attractors in surrounding counties • Evaluate demand for specific destinations outside LaSalle County 	<ul style="list-style-type: none"> • Route-level ridership • Funding participation • Subsidy per passenger trip • Inter-county demand