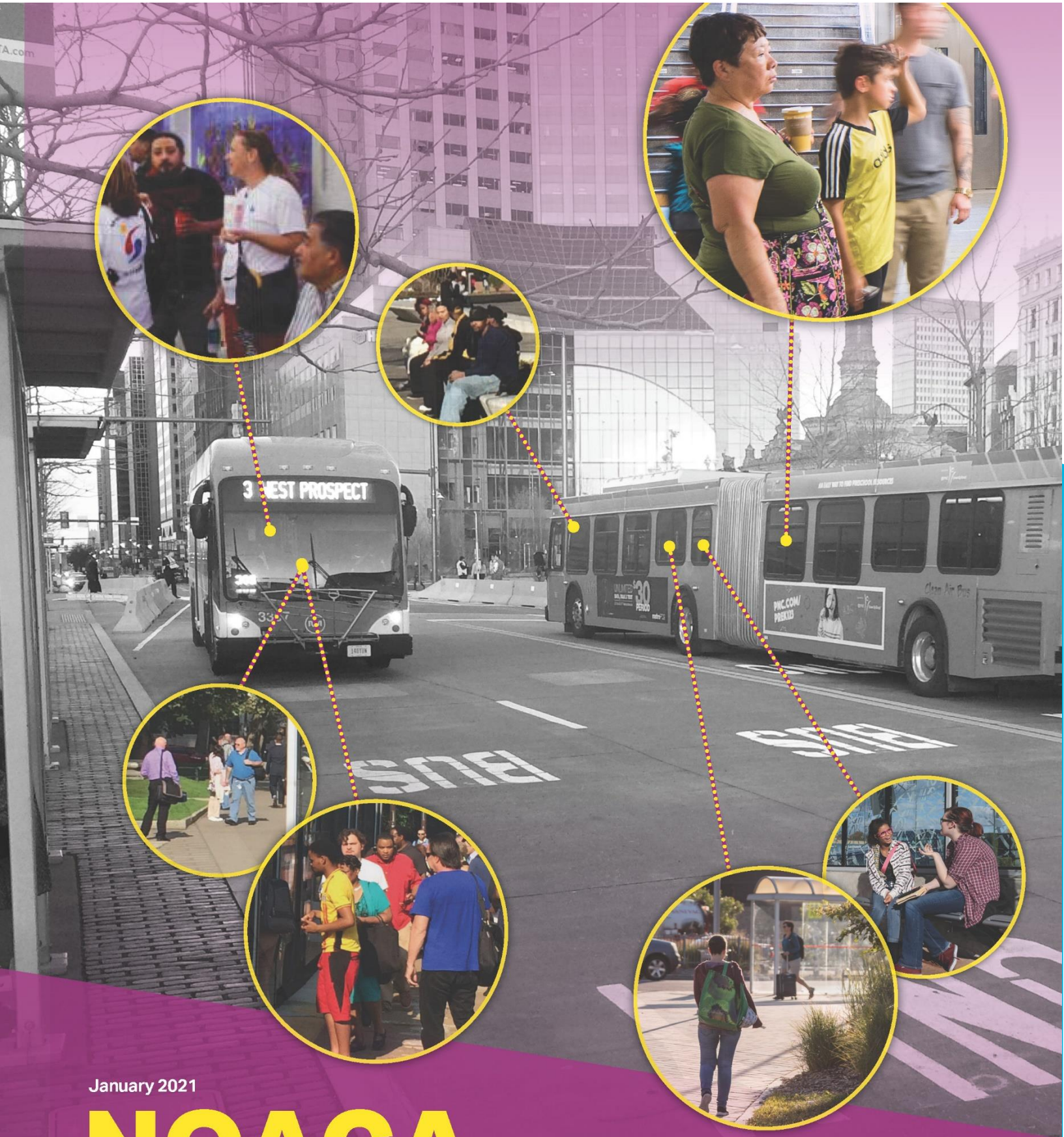

January 2021

NOACA

REGIONAL STRATEGIC TRANSIT PLAN

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Executive Summary

In the last few decades, the Northeast Ohio Areawide Coordinating Agency (NOACA) region has experienced significant changes in population, land-use, travel patterns, and funding mechanisms which have led to shifting population trends from urban to suburban, shifts in employment from the central business district to edge cities, and declining transit ridership in the NOACA region.

A more strategic and cohesive approach to regional transit is warranted. The sentiment has been echoed in various regional documents including NOACA's 2015 Regional Strategic Plan, Going Forward, Together; the 2014 Ohio Statewide Transit Needs Study, Build Your Own Transit System; and results from Crowd Gauge, NOACA's electronic survey tool.

The purpose of this study is to provide a strategic action plan that supports the development of a *cohesive* and *coordinated vision* for public transit investment in the NOACA region. The five public transit agencies in the region are Greater Cleveland Regional Transit Authority (GCRTA), Laketran, Lorain County Transit (LCT), Medina County Public Transit (MCPT), and Geauga County Transit (GCT). This study sought to do the following:

- Analyze current transit service, needs, gaps and areas of potential improvement and enhancement; analyze the projected future population and service needs(regional); determine the transit options required to effectively serve the NOACA region as well as how to best connect the region over a 10-year horizon.
- Develop a plan that supports the development of a cohesive, coordinate vision for investment in public transit on a regional scale; identify opportunities, advantages, disadvantages, and barriers to enhancing services and/or expanding services provided.
- Improve coordination of the five current public transit agencies and examine opportunities for enhanced regional coordination with neighboring public and private transit systems and providers.
- Analyze current funding mechanisms and determine potential new sources of funding necessary to meet projected needs.
- Prepare a strategic plan which identifies strategies for enhancing mobility region-wide.

The project builds upon the plans of the five public transit agencies for intra-county travel but does not assess or revise those plans. This plan addresses intercounty travel and regional needs.

The study was divided into two phases. Phase I reviewed the existing conditions of the five-county region including an analysis of demographics, transit service and travel patterns, stakeholder outreach with public and private partners, and a review of governance structures of peer regions.

Phase II focused on using the outcome of the analyses to develop a set of short-term and long-term action strategies. Strategies categorized as short-term were those with implementation periods within five years. Long-term strategies were those with implementation periods beyond five years. The long-term regional transit opportunities would yield as much benefit as the short-term strategies but would require a longer time period to implement based on needs for funding, infrastructure, or reaching agreements among the transit agencies that adequately addressed their respective circumstances and concerns. The study team also developed a set of aspirational strategies which represented high-potential and high investment risk actions that

warrant investigation. These strategies need to be evaluated objectively by quantifying the associated uncertainty and risk factors which should be monitored until the actions are determined as either feasible or infeasible.

Table ES-1 provides a summary of the short-term, long-term, and aspirational action strategies.

Table ES-1: Summary of Recommended Action Strategies

Short-Term Actions (1 to 5 Years)	Long-Term Actions (5 to 10 Years)	Aspirational Actions (5-to 10 Years with further investigation)
• Expansion of demand response service design to enhance intercounty service – Alignment of eligibility criteria – Development of cost-sharing for cross-boundary service where warranted for seamless transit	• Intercounty transit service – Commuter services to University Circle	• Regional high capacity transit – Explore additional connections: – Lorain/Elyria–Westlake-Rocky River-Lakewood-Cleveland – Cleveland-Solon
• Multi-jurisdictional procurement and support – Consider single procurement for service contractors – Advance existing NEORide initiatives for joint vehicle and equipment procurements – Consider centralized scheduling and dispatching for regional demand response transit – Continue to collaborate through active information technology (IT) planning on shared IT services	• Regional Service – Micro mobility, shared use mobility, active modes	• Connections to Areas Outside NOACA (High-Quality Transit/DR/MB) – Canton-Akron-Cleveland – Medina-Akron bus route – Existing plans for intercity transportation
• Unified regional transit information systems – Provide unified graphics and combined route maps to support cohesive regional transit – Provide regional transit information helpline or website. (e.g., 411 number)	• Support Functions – Shared administrative functions	• Regional Transit Funding – Allocation of benefit from cross boundary travel – Contributions from existing public assistance sources – Innovative plans for additional funding to capture regional synergies
• Coordinated regional fare policies – Encourage the use of existing unified fare collection systems – Coordinate regional fare structures	• Customer Interface – Fare policy alignment	

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1. Introduction

1.1 About NOACA

The Northeast Ohio Areawide Coordinating Agency (NOACA) is the metropolitan planning organization (MPO) in charge of transportation and environmental planning for the counties of Cuyahoga, Geauga, Lake, Lorain, and Medina in Ohio. The agency also serves as the Areawide Water Quality Management Agency to perform areawide planning. NOACA cooperates and works with partners throughout the region to develop and implement plans. NOACA's vision is to ***strengthen*** *regional cohesion,* ***preserve*** *existing infrastructure, and* ***build*** *a sustainable multimodal transportation system to* ***support*** *economic development and* ***enhance*** *quality of life in Northeast Ohio*.

NOACA is governed by a 45-member board of elected and appointed officials from the five member counties. Together, the board members manage the federal transportation funding in the region. The agency's role in the region can be summarized as follows[1]:

- "Unites local governments to plan, prioritize, and fund regionally significant transportation projects and ensure local involvement in decision making.
- Creates regional plans to preserve transportation assets, ensure safety, support transportation choices, and promote healthy air and water.
- Provides data, tools, resources, and maps to help inform decisions.
- Assists communities by planning for future transportation needs, identifying funding sources, providing technical assistance, and sharing best practices."

1.2 Study Purpose

Transit is an important aspect of the transportation network, and mobility choices are vital to the health and vibrancy of a region. Public transit options reduce congestion, personal transportation costs, and carbon output. Public transit is not just a form of alternative transportation, but provides options for lower-income households, the elderly, and people with disabilities. Public transit also provides access to healthcare, entertainment, and educational facilities, among other daily activities and destinations.

In recent decades, the NOACA region has been experiencing a phenomenon known as "sprawl without growth." Most metropolitan areas have increased in land area, often growing across municipal and county boundaries. Consequently, the NOACA region faces a continuous challenge associated with providing appropriate levels of public transportation and infrastructure to each geographic area. Peer regions have also experienced outward growth along highway corridors. Several of these peers have developed major transit capital investment corridors to match highway level of service to outward development areas. The NOACA region's most recent highway-competitive fixed-guideway transit corridor implementation was the Cleveland Transit System (CTS) rail rapid transit extension to Cleveland Hopkins Airport in the late 1960s.

Furthermore, interest in transportation options other than the private automobile is on the rise, largely due to the following trends:

[1] About NOACA. (n.d.) Retrieved from https://www.noaca.org/about/about-noaca

- Older adults looking to age in place will increase transit demand.
- Younger professionals are looking to locate in places where transit is rich and accessible.
- The Millennial generation is driving less.
- Millennials tend to prefer walkable urban neighborhoods over suburbs, and prefer public transit, bicycling, and walking to driving.
- Downtown and neighborhoods adjacent to downtown are experiencing population growth and development.
- Commercial growth and housing around transit tends to spur economic development.

There are five different transit agencies operating within the NOACA region: Geauga County Transit (GCT), the Greater Cleveland Regional Transit Authority (GCRTA), Laketran, Lorain County Transit (LTC), and Medina County Public Transit (MCPT). The region's population density is declining, and the population is expanding outward into townships and previously rural areas. NOACA and the region's transit systems will need to plan accordingly to meet the needs of the region's population, and necessary to prioritize limited transportation funding. The region must balance transit needs with demands, determining where to expand or reduce service, and where to strengthen core services.

The purpose of this study is to provide a strategic action plan that supports the development of a *cohesive* and *coordinated vision* for public transit investment in the NOACA region. This study seeks to do the following:

- Analyze current transit service, needs, gaps and areas of potential improvement and enhancement; analyze the projected future population and service needs(regional); determine the transit options required to effectively serve the NOACA region as well as how to best connect the region.
- Develop a plan that supports the development of a cohesive, coordinated vision for investment in public transit on a regional scale.
- Improve coordination of the five current public transit agencies and examine opportunities for enhanced regional coordination with neighboring public and private transit systems and providers.
- Analyze current funding mechanisms and determine potential new sources of funding necessary to meet projected needs.
- Prepare a strategic plan which identifies strategies for enhancing mobility region-wide.

The focus of this regional plan is on inter-county travel, and coordination with the intra-county planning carried out by the five respective transit agencies. Transit service will be essential as part of a comprehensive strategy for effectively managing transportation demand and creating more economically competitive and livable communities. As transit service should continue to serve a more prominent role in the coming years, effectively addressing the need for public transit is paramount for good decision-making.

1.2.1 Study Approach

The study builds upon the plans of the five public transit agencies for intra-county travel but does not assess or revise those plans. This plan addresses intercounty travel and regional needs. The study was divided into two phases described below.

1.2.2 Phase I: Existing Conditions

In order to understand the existing conditions for the Phase I analysis, the project team used a three-part approach. First, a regional demographic analysis was conducted to better understand regional characteristics and travel patterns. Second, the project team conducted in-depth one-on-one interviews with transit stakeholders throughout the region. The team interviewed elected officials and transit agency representative in each of the five NOACA counties. This second step was crucial to ensuring that the direction of the study and subsequent recommendations provided catered to the desires and needs of the community. In addition, basic descriptive statistics and service characteristics for each agency were gathered to provide a high-level view. This view included each agency's funding and governance characteristics as well. Finally, regional transit governance models from other regions were reviewed to identify lessons and potential strategies that could be catered to the NOACA region.

Figure 1-1: Phase I Approach

1.2.3 Phase II: Strategies

Data collected in phase I were synthesized and used to develop a set of short-term, long-term, and aspirational strategies. Short-term strategies were considered as those actions that could be implemented within five years. Long-term strategies were those actions that would need a longer implementation horizon of five to ten years. Some strategies with implementation horizons beyond the long-term were also explored. These latter strategies were categorized as aspirational strategies. A second round of stakeholder outreach was also performed to receive feedback and gain consensus on the strategies developed.

2. Regional Demographics and Transit Service

This section provides a demographic analysis of the region and a transit needs assessment. The purpose of the analysis is to assess the transit market needs in the region and identify areas for improvements for fixed-route and paratransit services as well as to identify alternative service delivery models. The focus of this regional plan is on inter-county travel and coordination with the intra-county planning carried out by the five respective transit agencies.

2.1 Analysis Approach

The demographic analysis included a review of existing regional demographics and transit service in the region to identify opportunities for improvement. The regional demographic analysis explored changes and trends described in the following three areas:

- **Population and Employment Density:** this factor included an analysis of population density for various population segments (e.g., seniors, minorities, low income, disabled, and car ownership), and the associated changes in trends over time.
- **Regional Travel Patterns:** this factor identified trends and associated changes over time for home-based work trips, non-work trips, and travel to regional trip generators.
- **Intercounty Travel:** this factor analyzed changes and trends in travel patterns between zip codes including trip gains and losses, trips for zero-car households, commuter services, and fixed route connections.

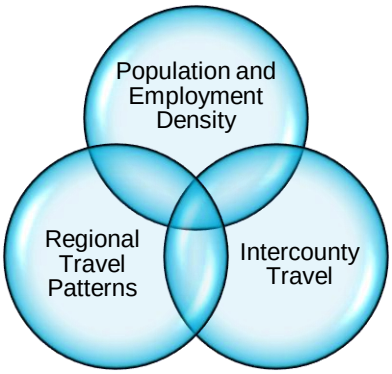


Figure 2-1: Approach to Regional Analysis

The following datasets were used in the analysis:

2.2 Population and Employment Density

The NOACA region is made up of five counties which cover an area of approximately 2000 square miles and a population of 2.1 million[2] people. The area covers 61 cities, 45 villages, and 58 townships. Generally, the majority of the region is characterized by low population and employment density with the most dense area being the City of Cleveland and surrounding suburbs (Figure 2-2).

Figure 2-3 shows the population and employment density overlaid with existing transit coverage in the region. Transit coverage was defined as an area with at least one transit stop within a half-mile walk. Intuitively, transit coverage radiated from the dense core in downtown Cleveland to other parts of Cuyahoga County. Noticeable transit coverage could also be seen in parts of Lake, Lorain, and Medina Counties. Unsurprisingly, the areas with dense transit coverage have an inverse correlation to median household income levels. In addition, the highest densities of persons with disabilities were found in census block groups located in parts of Cuyahoga

[2] Source: www.noaca.org/about/about-noaca

County. Elyria and Lorain in Lorain County also showed a significant population with disabilities that could rely on transit for mobility and access (Figure 2-5).

Further analysis of regional demographic data including minority population, persons with disabilities, household income levels (including the federal poverty threshold), and percentage of zero-car households[3] (Figure 2-4 to Figure 2-7) show a need for good transit service throughout the region but particularly in Lorain County. However, the densities in the suburban and rural counties are unlikely to generate sufficient volumes to support fixed-route transit. Door-to-door or door-to-hub service alternatives are appropriate for these areas as first mile/last mile connections to regional transit spines. Primary service markets in the lower-density, higher-income areas include park-and-ride, commuter bus service to downtown and University Circle, and paratransit for persons with disabilities.

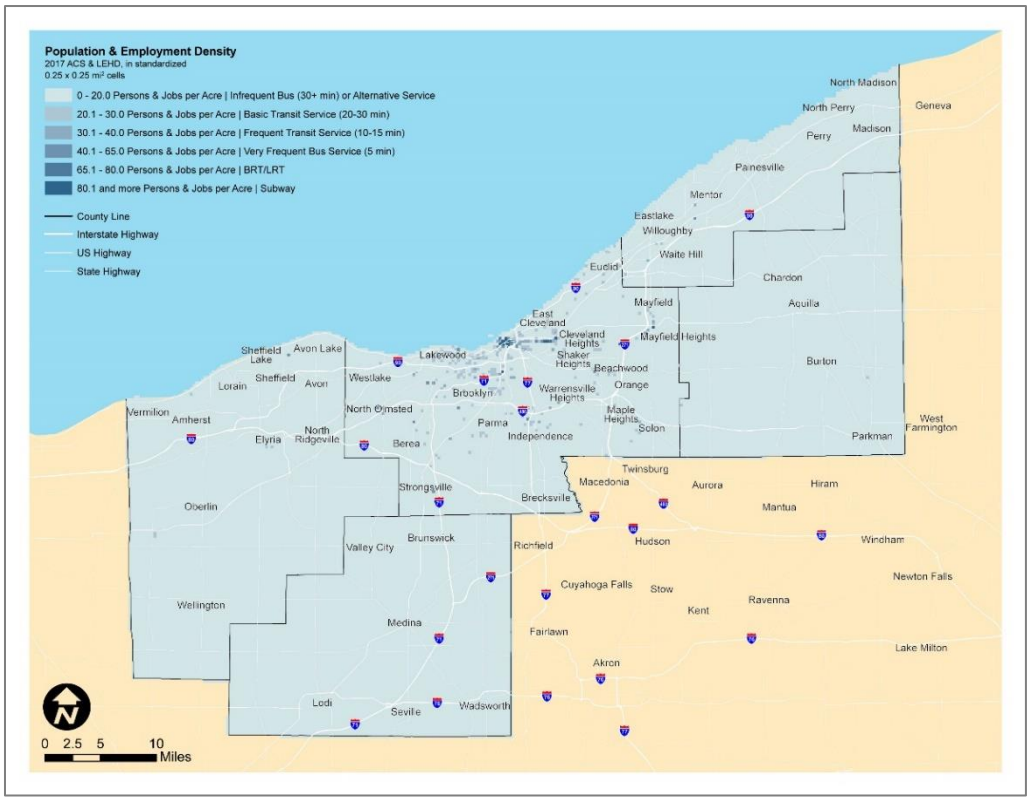


Figure 2-2: Population and Employment Density

[3] Geauga County showed several dense areas of populations with zero-car households. This could be explained by the high Amish population in that county.

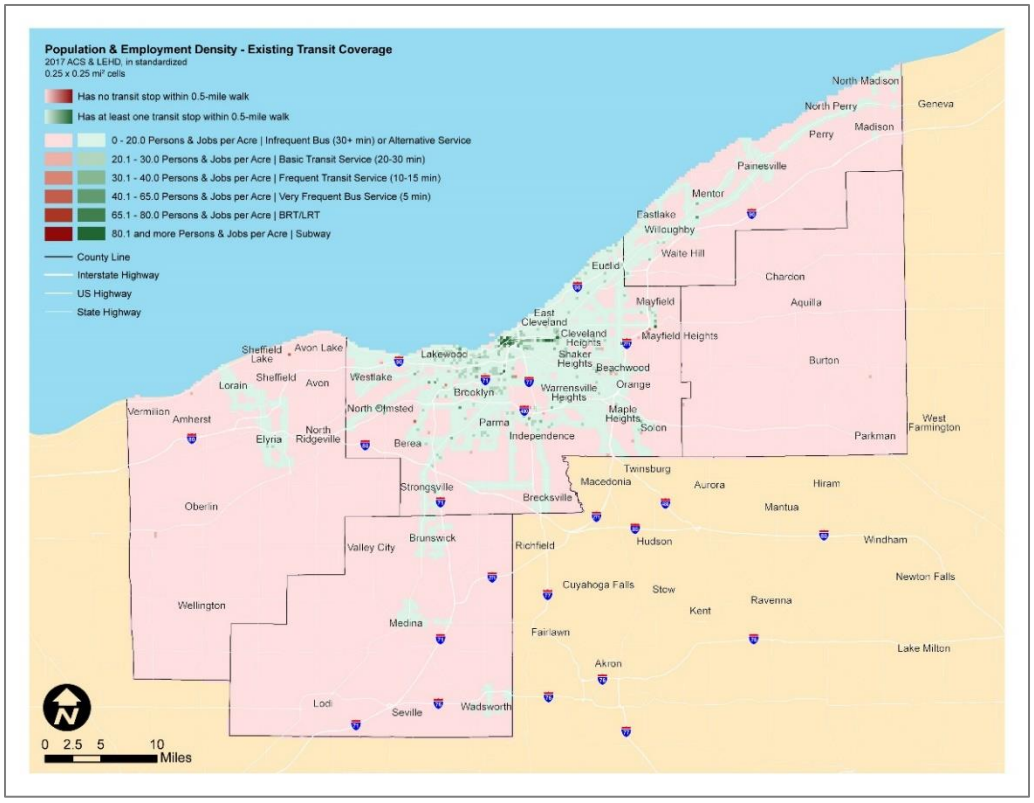


Figure 2-3: Population and Employment Density with Existing Transit Coverage

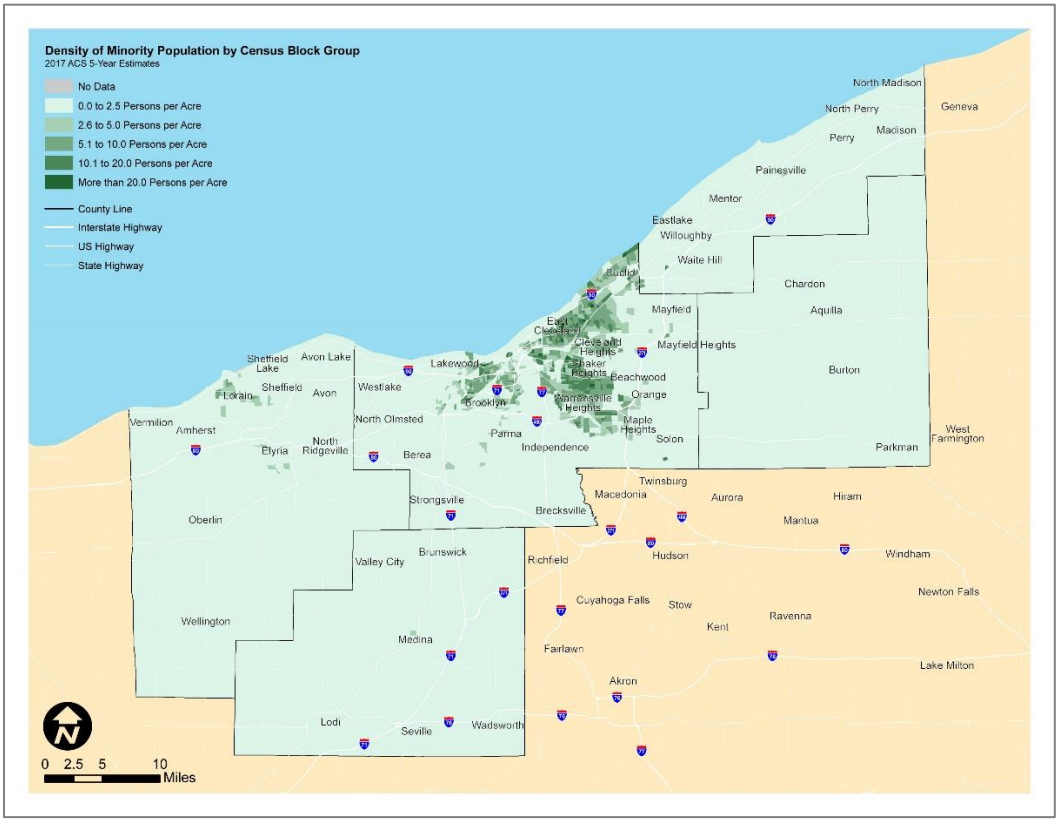


Figure 2-4: Density of Minority Population by Census Block Group

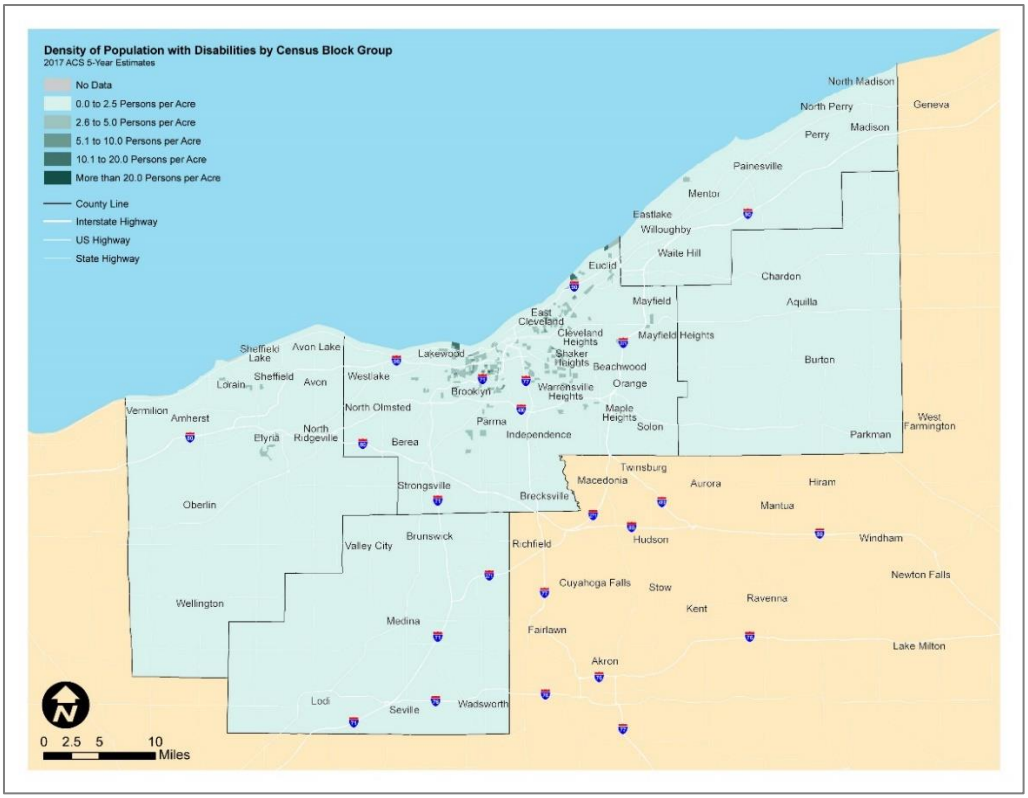


Figure 2-5: Density of Population with Disabilities by Census Block Group

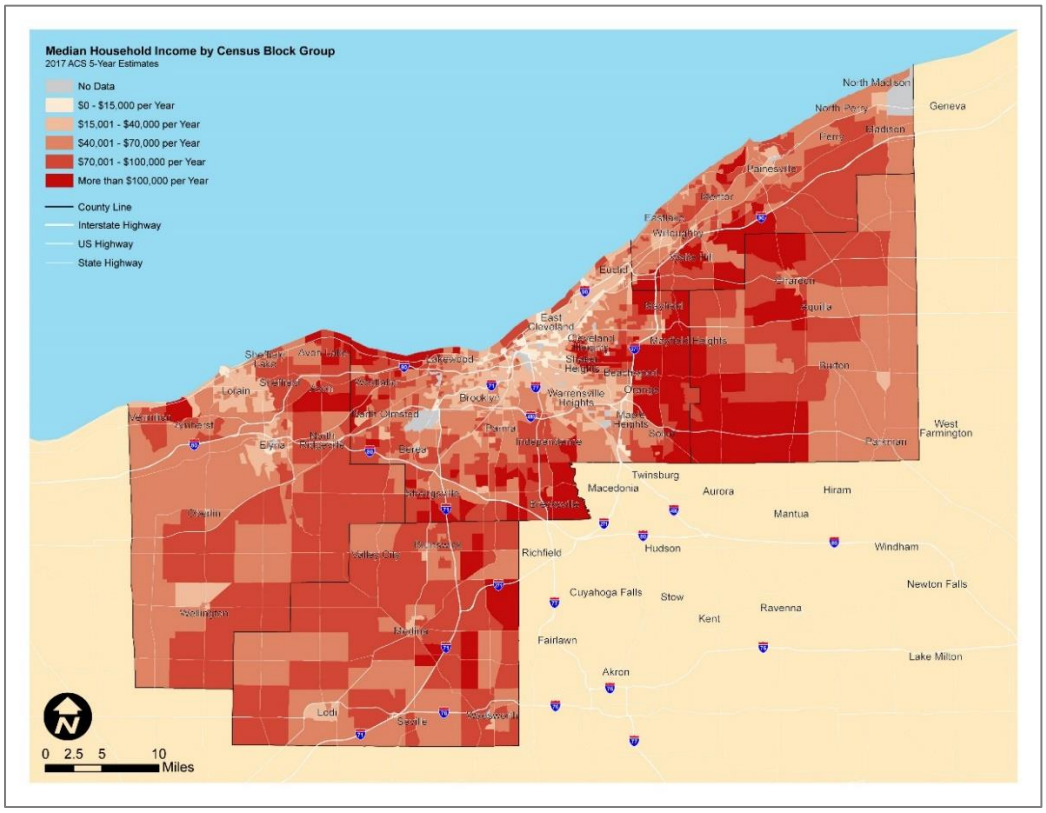


Figure 2-6: Median Household Income by Census Block Group

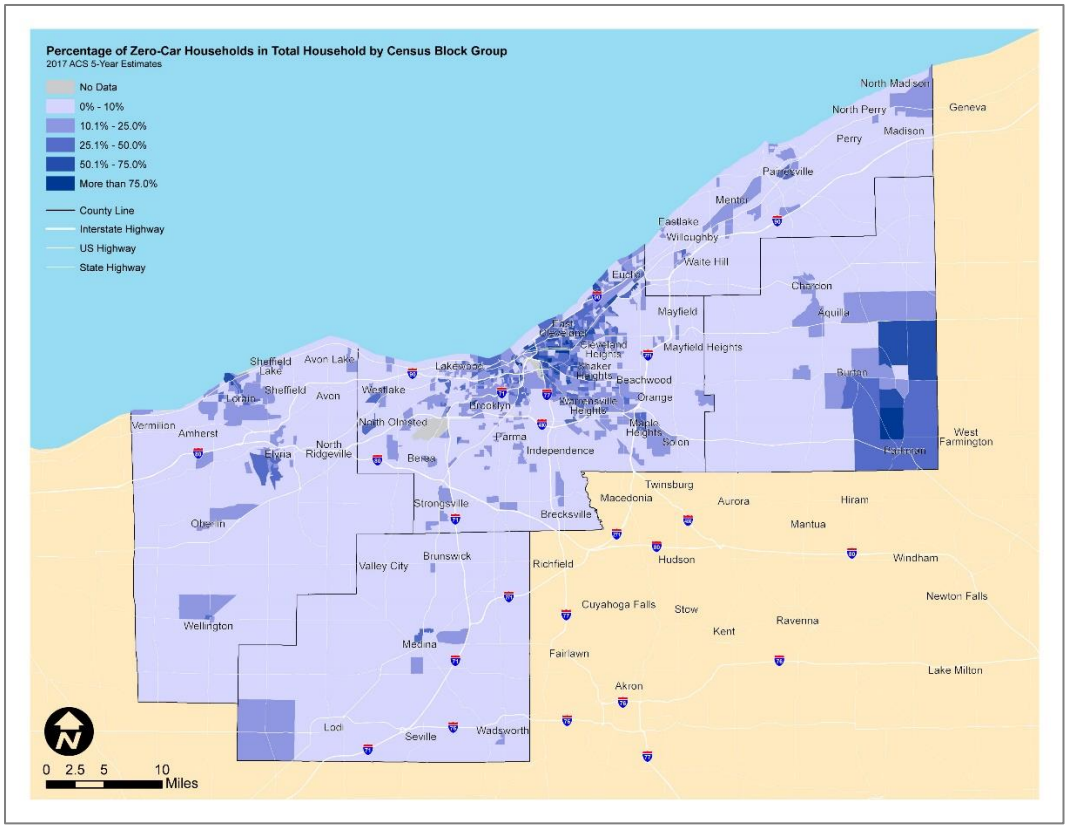


Figure 2-7: Percentage of Zero-Car Households in Total Households by Census Block Group

2.3 Regional Travel Patterns

In the last few decades, the NOACA region has experienced drastic changes in population, land-use, travel patterns, and funding mechanisms. These have led to shifting population trends from urban to suburban, shifts in employment from the central business district to edge cities, and declining transit ridership in the NOACA region. Most trips in the region are non-work trips which make up 80 percent of total trips in the region (Figure 2-8).

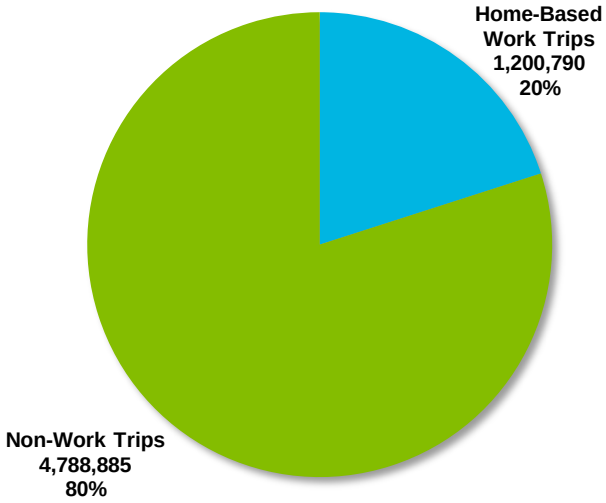


Figure 2-8: Trip Purpose for Travel in the NOACA Region

The predominant mode for work trips is single-occupancy vehicles. As shown in Figure 2-9, approximately 82 percent of work trips are described as “drive alone” with the transit share being only 3.1 percent. Thus, transit is a relatively small part of the region’s transportation market. Other modes such as bike, motorcycle, taxi, or walking make up a combined 3.6 percent. A little over double the amount of transit riders commute by carpool and the remainder work from home.

The low transit use and vehicle-centric nature of the region is largely because population, employment and demographics in much of the region do not support efficient fixed-route transit service. Only Cleveland and its adjacent suburbs, western Lake County, and a small portion of the other counties have densities and demographics to support fixed-route transit. However, planned regional transit corridor investments in the NOACA counties and peer regions show potential for focusing regional growth around transit. An example is the GCRTA HealthLine Bus Rapid Transit service.

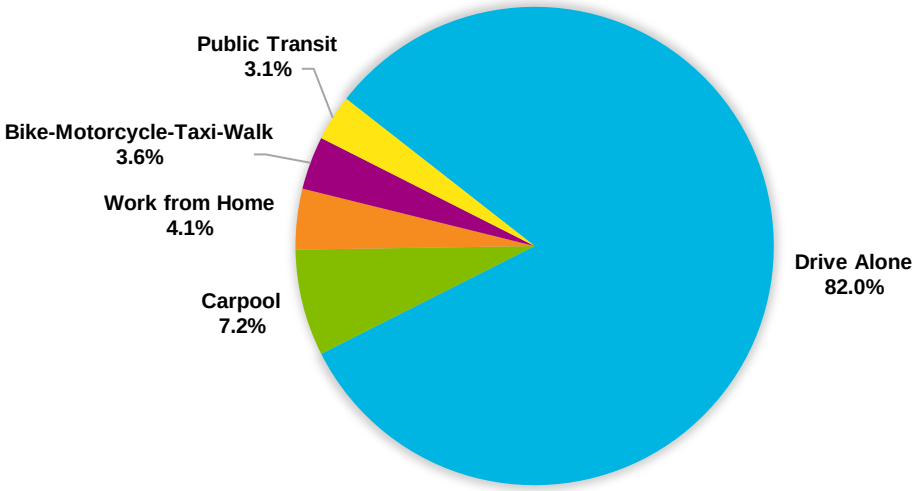


Figure 2-9: Travel Mode for Work Trips in the NOACA Region

Most transit trips in the region occur in Cuyahoga County, specifically, Cleveland and its inner suburbs (Figure 2-10).

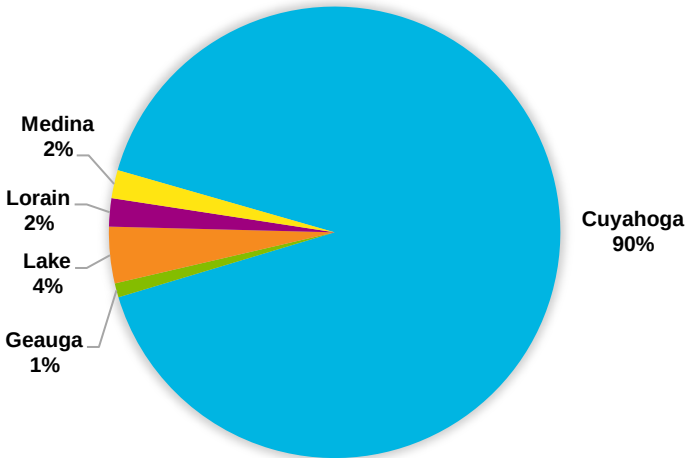


Figure 2-10: Annual Transit Trips by NOACA Counties

In summary, most trips in the region are non-work trips and are less likely to be made by transit. This could be due to several reasons: non-work trips tend to be shorter, less likely to be made during peak periods, more spontaneous, or are non-routine trips which are unplanned. Lastly, most non-work trip destinations such as shopping centers, restaurants, or other recreational locations tend to have free parking thereby incentivizing driving.

2.4 Inter-County Travel Patterns

The 2018 NOACA Regional Travel Demand Forecast Model was used to analyze regional travel patterns. Some factors analyzed include the following:

- Home-based work and non-work trips (all trips) for all households
- Home-based work trips for all households
- Home-based work trips for zero-car households
- Non-work trips for all households

Figure 2-11 shows travel patterns for all trips in the region for all households using all modes. The majority of person-trips in the region, for all purposes, using all modes starts and ends within each county. More people travel to Cuyahoga County from the other NOACA counties than the opposite, although Lake County shows more total trips from Cuyahoga to Lake County than from Lake County to Cuyahoga.

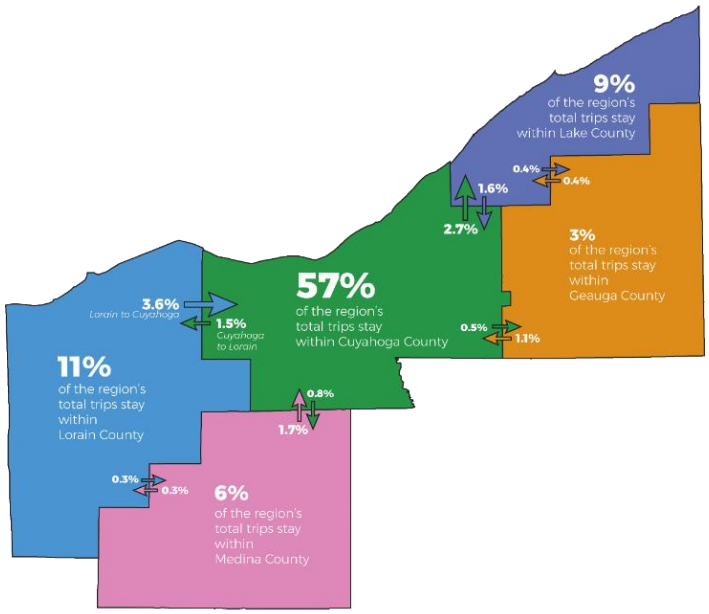


Figure 2-11: Home-Based Work and Non-Work Trip Projections for All Households (All Modes)

As seen in Figure 2-12, home-based work trips in the region are more likely to be inter-county than non-work trips. This is probably due to people having less choice over where they work, and therefore travel longer distances to work. Also, most intercounty work trips are to Cuyahoga County, which may be attributed to the employment density and major trip generators in the county. Still, Cuyahoga County has experienced a general decline in work trips generated by the county. As shown in Table 2-1, the number of home-based work trips in the region declined over the years with the greatest decrease being in Cuyahoga County, followed by Lorain and Medina

Counties. Some factors contributing to this decline could be the general aging population and changes in work practices that provide workers with more flexibility such a telecommuting.

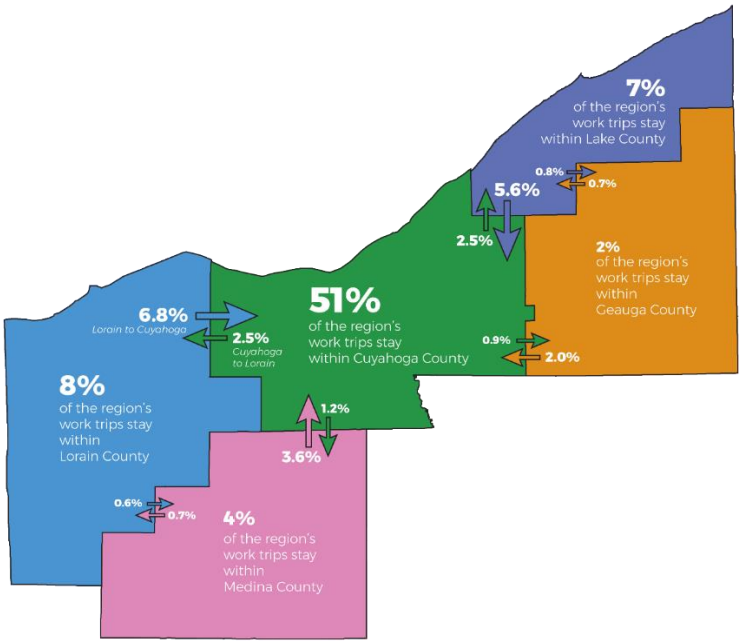


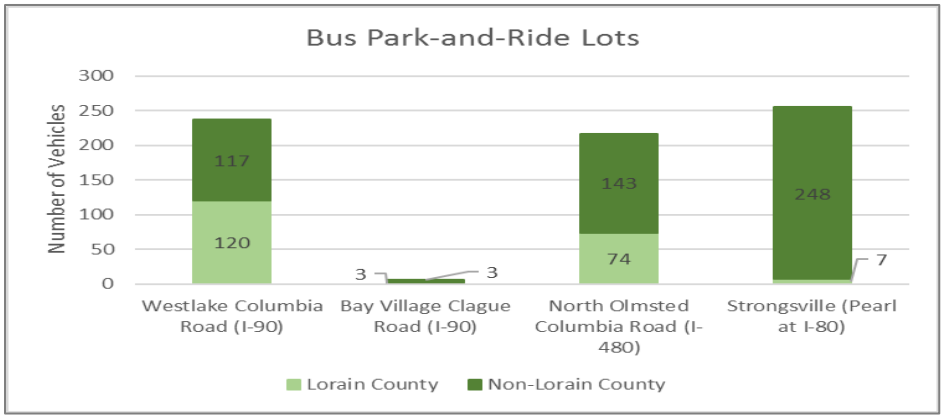
Figure 2-12: Home-Based Work Trip Projections for All Household (All Modes)

Table 2-1 shows the percent change in work trips generated between 2012 and 2017.

Table 2-1: Home-to-Work Trips Generated by County all Modes and Households, 2002 and 2017 (LEHD)

County	2002	2017	Percent Change
Cuyahoga	632,460	583,591	-7.7%
Geauga	21,122	20,991	-0.6%
Lake	82,162	77,878	-5.2%
Lorain	83,031	77,339	-6.9%
Medina	36,207	38,660	6.8%
Total	**854,982**	**798,459**	**-6.6%**

It is also worth noting the significant proportion of trips from Lorain County to Cuyahoga County. Lorain County sends more work trips to Cuyahoga County than Lake County does but there is no transit link between Lorain and Cuyahoga County. This result aligns with the 2018 Lorain County Transit Redevelopment plan which echoed the latent demand between Lorain County and Cuyahoga County. The plan referenced a 2013 study that showed as much as 600 to 700 Lorain County residents using Regional Transit Authority (RTA) park-and-ride lots each day (Figure 2-13).



Source: Lorain County Transit Redevelopment Plan (2018)

Figure 2-13: Vehicles with Lorain County License Plates Parked in RTA Bus Park-and-Ride Lots, October 31-November 2, 2017

Figure 2-14 shows projections for work trips attributed to zero-car households. From the data, we observe that the percentage of inter-county work trips made by zero-car households is much lower than inter-county trips for all households. In other words, the inability to travel far distances without transit could be a limiting factor in the number of intercounty trips made by zero-car households. For instance, only Lake County, which serves downtown Cleveland, produces a significant number of inter-county work trips by zero-car households. This could indicate a latent demand for inter-county transit service.

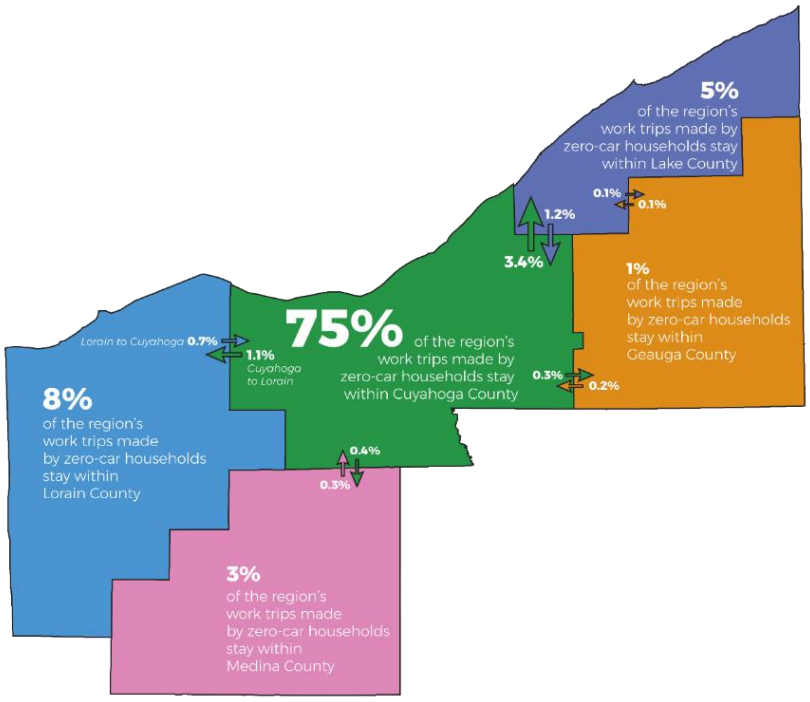


Figure 2-14: Home-Based Work Trip Projections for Zero Car Households

Figure 2-15 shows the projections for non-work trips for all households. The data shows that non-work trips are more likely than work trips to stay within each county. Non-work trips are also

less likely to be made by transit due in part to the nature of non-work trips (i.e., shorter, not during peak periods, spontaneous, usually free parking).

Furthermore, some non-work markets may be large enough to warrant service. Downtown Cleveland is projected to attract large numbers of non-work trips, with noticeable inter-county demand from Lake and Lorain counties. University Circle also attracts many non-work trips for educational, entertainment, and medical purposes. This area is generally projected to grow with the opening of Opportunity Corridor, a planned boulevard designed to provide more attractions, jobs, and improved access. Thus, providing an opportunity for potential inter-county service.

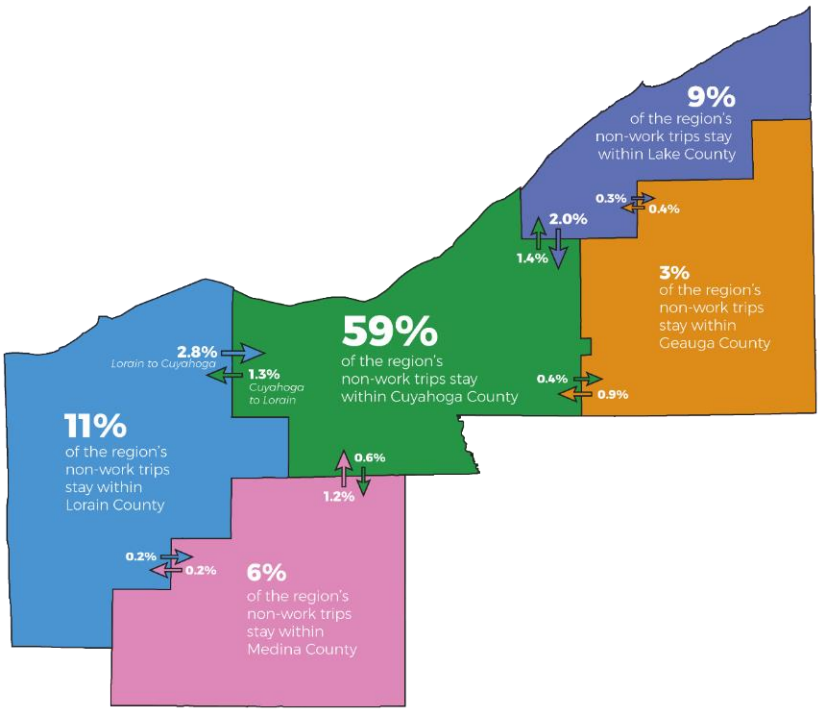


Figure 2-15: Non-Work Trip Projections for All Households

Most inter-county travel includes Cuyahoga County on either end of the trip. This is not surprising due to the relative concentration of jobs in the county. The two main regional trip generators are downtown Cleveland and University Circle. University Circle draws fewer work trips than downtown but draws a higher proportion of its work trips from other counties. More commuter services going directly to University Circle is a potential inter-county service opportunity.

2.4.1 Commuter Service

A regional commuter bus (or rail) service typically is anchored by a large, high density employment node with the following characteristics:

- A single, contiguous area
- Has at least 100,000 jobs
- Has an employment density of at least 40 jobs/acre

Within the region, downtown Cleveland is the only place that meets this standard; however, University Circle (including Cleveland Clinic) is also a potential regional commuter destination. It has more than 56,000 jobs and is sure to grow with completion of Opportunity Corridor. The area also has a job density currently higher than downtown Cleveland and attracts a diverse range of trips (i.e., medical services as well as work and school commutes). Other employment centers in the region lack the size and density to serve as destinations for commuter service. Table 2-2 provides a summary of potential destinations for commuter service.

Table 2-2: NOACA Employment Hub Estimates[4]

Name	Number of Jobs	Population	Number of Non-Residential Buildings	Floor Area of Non-residential Buildings (sqft)	Jobs per Acre	Average Floor Area per Job (sqft)	Number of Residential Buildings	Housing Units	Land Area (acres)	Housing Units per Acre
Downtown Cleveland	84,877	11,893	688	186 million	47.1	2,195	126	6,725	1,803	3.7
Downtown Cleveland - East	17,044	7,413	801	55 million	11.9	3,238	1,396	4,060	1,434	2.8
University Circle	56,858	8,295	392	78 million	57.6	1,370	882	3,742	987	3.8
Independence	22,577	689	153	6 million	21.1	282	256	285	1,069	0.3
Beachwood – Chagrin Blvd	18,956	2,105	264	19 million	10.6	990	381	971	1,795	0.5
Solon	20,456	334	305	49 million	7.1	2,408	94	150	2,888	0.1
Airport North	4,075	604	86	4 million	2.9	1,101	335	271	1,390	0.2
Airport South	10,676	2,977	584	43 million	2.8	4,072	965	1,219	3,770	0.3

As shown in the summary estimates, University Circle is a potential destination for additional commuter bus service, both within Cuyahoga County and from other counties. It is worth noting that Akron Metro and Stark Area Regional Transit Authority (SARTA), which serve residents of Summit County and Stark County respectively, already provide commuter bus service to University Circle. Commuter service into University Circle could still be promising for Lorain County and GCRTA services—particularly after completion of Opportunity Corridor.

As stated previously, a significant portion of the inter-county transit trips in the region are between Cuyahoga and Lake counties. Laketran currently offers commuter service to downtown Cleveland on weekdays from 5:30 a.m. to 6:00 p.m. Riders traveling between the two counties enjoy free transfers on both systems at three designated transfer points near the Cuyahoga-Lake County Line: Shoregate Shopping Center, East 276th Street and East 260th Street in Euclid, and Shops of Willoughby Hills. These are outstanding examples of current service coordination between transit operating agencies.

[4] Data sources:

- Population: 2017 American Community Survey (Census Block Group level statistics)
- Number of Households: 2017 American Community Survey (Census Block Group level statistics)
- Employment: 2017 Longitudinal Employer-Household Dynamics (Census Block level statistics, aggregated to Census Block Group level)
- Land Area: 2017 US. Census, Census Block Group
- Building Footprints and Height: Open City Model (aggregated to Census Block Group level)

Other inter-county bus services available in the region, past or present, include the following:

- GCRTA Commuter Express Bus connection between Brunswick and downtown Cleveland
- Lorain County operated commuter service to downtown Cleveland from October 2012 to April 2013
- Laketran's demand response service connects to Geauga County at the TriPoint Medical Center or Auburn Career Center
- Akron Metro and SARTA operate commuter express routes to downtown Cleveland and University Circle
- The Portage Area Regional Transportation Authority operates a route from Kent to Southgate Transit Center, downtown Cleveland, and University Circle
- GCRTA and Akron Metro routes meet along the county line

2.5 Summary

Overall, the analysis confirmed the trends of migration from urban to suburban localities and the associated impact on public transportation ridership. The travel volumes show limited opportunities for inter-county fixed-route transit, though a network of a few intercounty transit spines fed by fixed-route and first mile/last mile demand response services may be sustainable. Most fixed-route markets are intra-county. However, many portions of all five counties have transit needs in areas where densities and demographics are insufficient to support efficient fixed-route transit. Opportunity may be in right sizing and developing appropriate scales for each market. Below is a summary of the main findings:

- Some gaps in cross-boundary demand responsive and fixed route services exist.
- Carefully designed demand response and commuter service is warranted for increased mobility of residents.
- Employment density, demographics, and land use patterns do not support efficient fixed route service in some areas across the region.
- Level of cross-boundary travel supports need for more coordination across jurisdictions, particularly for demand responsive services.

3. Stakeholder Outreach

Over the course of this study, the project team conducted a round of stakeholder outreach in both Phases I and II. This section summarizes the first round of the outreach effort. Prior to scheduling interviews, a review of the NOACA transit agencies was undertaken. This covered general service characteristics, funding, and governance structures.

This section first provides an overview of the five NOACA transit agencies and summarizes the Phase I stakeholder outreach effort.

3.1 Overview of NOACA Region Transit Agencies

3.1.1 Geauga County Transit

GCT is a rural general public transit agency that serves the residents of Geauga County by providing demand responsive service with Americans with Disabilities Act (ADA) accessibility within the county's 16 townships. The area covers 414 square miles and serves a county population of approximately 93,649[5]. Geauga County is part of the Cleveland-Elyria Metropolitan Statistical Area and is characterized by low density and high sprawl, making it unsupportive of fixed-route service.

The agency operates its on-demand services on weekdays from 6:00 AM to 9:00 PM. In 2019, GCT provided 39,139 annual passenger trips covering a total of 479,836 vehicle miles and 21,209 vehicle hours that year. Table 3-1 provides further details on GCT's operating characteristics and Table 3-2 provides a summary of service fares.

Table 3-1: General Agency Characteristics Geauga County Transit

Description	Total
Annual unlinked trips	39,139
Annual vehicle revenue miles	479,836
Annual vehicle revenue hours	21,209
Total operating expenses	$1,330,985
Vehicles operated at maximum service	14

Source: GCT 2019 Annual Agency Profile. National Transit Database (NTD) Transit Agency Profiles[6].

Table 3-2: Geauga County Transit Fare Structure

Fare Type	Direction	Cost
Within Geauga County	One way	$6.00
Within Geauga County	One way	$3.00 with GCT Elderly or Disability Program Card
Extra stops (5 minutes or less if available)		$1.00 (more than 5 minutes regular one-way trip pricing)

[5] United States Census Bureau (2020), Quick Facts-Geauga County, Ohio

[6] GCT 2019 Annual Agency Profile. NTD Transit Agency Profiles. Retrieved from https://www.transit.dot.gov/ntd/transit-agency-profiles

Fare Type	Direction	Cost
Out of county travel	One way	Double above fares
Children 5 and under	One way	Free
Children 6 thru 17	One way	$3.00

The GCT operates as a unit of the Geauga County government and was formed under Ohio Revised Code (ORC) 306. It possesses all the powers and functions stated in ORC 306.04. The agency is governed by the three-member Geauga County Board of Commissioners who serve four-year terms. As elected officials, the commissioners serve as the taxing, budgeting, appropriating, and purchasing authority for county government.

In addition, GCT is funded through a combination of funds from the Federal Transit Administration, the Ohio Department of Transportation, and local county funds. The agency also receives additional funds by providing contracted services. Figure 3-1 provides a breakdown of GCT's 2019 funds as reported to the National Transit Database (NTD).

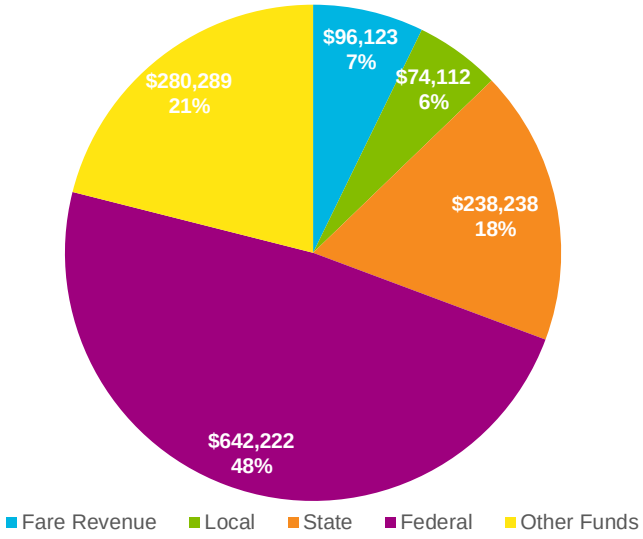


Figure 3-1: Geauga County Transit Sources of Total Funds Expended in 2019

3.1.2 Lorain County Transit

The LCT provides fixed route and demand response service in Lorain County, covering a service area of approximately 49 square miles and a population of 127,025. Its weekday service operates from 6:00 a.m. to 6:00 p.m. The agency also runs the Oberlin connector service which operates Monday and Thursday, 9:00 a.m. to 6:00 p.m. In 2019, LCT reported a total of 33,601 unlinked passenger trips for its fixed-route service and 38,273 for its demand response service. Table 3-3 provides further details on LCT's operating characteristics and Table 3-4 summarizes the fare structure.

Table 3-3: General Agency Characteristics Lorain County Transit

Description	Total
Annual unlinked trips	71,874
Annual vehicle revenue miles	449,147
Annual vehicle revenue hours	33,021

Description	Total
Total operating expenses	$2,209,336
Vehicles operated at maximum service	15

Source: LCT 2019 Annual Agency Profile. NTD Transit Agency Profiles[7].

Table 3-4: Lorain County Transit Fare Structure

Fare Type	Cost
Adults	$2.00
Senior citizens (65 plus), Persons with disabilities, Medicare card holder and children ages 3 thru 12	$1.00
Students (must show a valid High School or College ID)	$1.00
Veteran (must show a valid veterans ID)	Free
Children 2 and under	Free
Transfers (limited 1 per trip)	Free

The LCT is governed by the three Lorain County commissioners who are each publicly elected officials; one elected during the gubernatorial election and two elected during the presidential election. The board serves as the appropriating authority for county government and each serve a four-year term according to the Ohio Revised Code.

Figure 3-2 summarizes LCT's breakdown for 2019 total operating and capital funds as reported to the NTD.

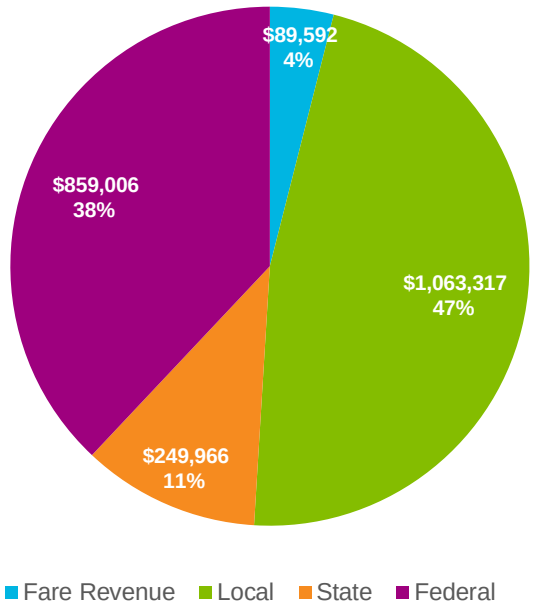


Figure 3-2: Lorain County Transit Sources of Total Funds Expended in 2019

[7] LCT 2019 Annual Agency Profile. NTD Transit Agency Profiles. Retrieved from *https://www.transit.dot.gov/ntd/transit-agency-profiles*

3.1.3 Medina County Public Transit

The MCPT provides fixed route and demand response service to the residents of Medina County. The agency's service area covers approximately 425 square miles and a population of approximately 174,091. The agency offers a range of routes across the three cities: Medina, Brunswick, and Wadsworth. In 2019, the MCPT reported a total of 77,844 unlinked passenger trips, 500,685 vehicle revenue miles, and 36,430 vehicle revenue hours (Table 3-5).

Table 3-5: General Agency Characteristics Medina County Public Transit

Description	Total
Annual unlinked trips	77,844
Annual vehicle revenue miles	500,685
Annual vehicle revenue hours	36,430
Total operating expenses	$1,969,934
Vehicles operated at maximum service	20

Source: MCPT 2019 Annual Agency Profile. NTD Transit Agency Profiles[8].

The MCPT provides a flex route service which offers riders a deviated route within one mile of the standard scheduled routes in Medina, Brunswick, and Wadsworth cities. This service is available on Monday thru Saturday. The trip times must also coincide with scheduled times on the applicable routes. Furthermore, on-demand ADA service is also available between 7:00 a.m. and 4:30 p.m. within the county and with connections to Summit County and Cuyahoga County with the proper arrangements (Table 3-6). Trip requests require 24-hour notice prior to the planned trip and at least one-hour notice for cancellations. Trip requests may also be scheduled up to fourteen days in advance.

Table 3-6: Medina County Public Transit Service Summary

City/ Other	Type	Time
Medina and Brunswick	Weekday service	6:00 a.m. – 6:00 p.m.
	Weekend service (Saturday)	10:00 a.m. – 5:20 p.m.
Wadsworth	Weekday service	9:00 a.m. – 2:00 p.m.
	Weekend service (Saturday)	N/A
Scheduling hours	Brunswick and Wadsworth	7:00 a.m. – 1:00 p.m.
	Medina	7:00 a.m. – 2:00 p.m.

Table 3-7 below shows the fare structure for MCPT's fixed route service. Fares are standard across the three cities.

Table 3-7: Medina County Public Transit Fare Structure

Fare Type	Amount
One way	$1.50
Elderly and disabled	$0.75
All day pass	$4.00

[8] MCPT 2019 Annual Agency Profile. NTD Transit Agency Profiles. Retrieved from *https://www.transit.dot.gov/ntd/transit-agency-profiles*

Since the MCPT is a component of the county government, it is governed by a three-member Board of Commissioners. The board is made up of elected officials who serve staggered four-year terms. Figure 3-3 summarizes MCPT's 2019 total operating and capital funds as reported to the NTD.

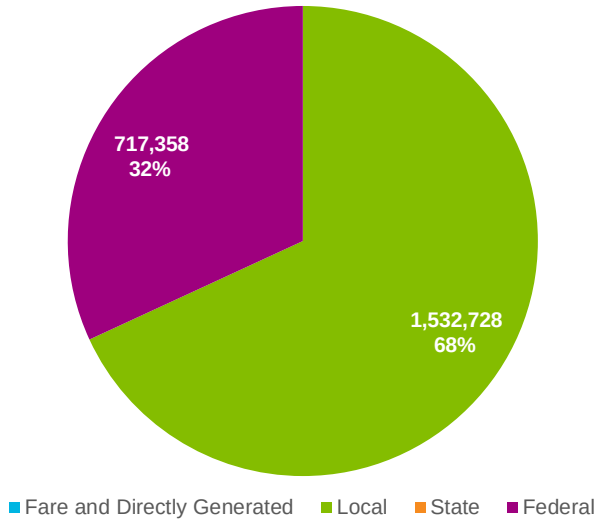


Figure 3-3: Medina County Public Transit Sources of Total Funds Expended in 2019

3.1.4 Laketran

Laketran provides commuter bus, demand response. and fixed-route motor bus service to its residents in Lake County. The agency's service area covers 227 square miles with a population of approximately 230,514. With a total fleet of 127 vehicles available for Laketran offers local fixed-route bus routes and a commuter bus service to downtown Cleveland. The demand response service is also open-door and available to all users but requires a minimum 24-hour notice. In 2019, Laketran provided approximately 707,856 annual unlinked trips, 3.2 million annual vehicle revenue miles, and 184,302 annual vehicle revenue hours of service. Table 3-8 summarizes general agency characteristics for Laketran.

Table 3-8: General Agency Characteristics Laketran

Description	Total
Annual unlinked trips	707,856
Annual vehicle revenue miles	3,204,596
Annual vehicle revenue hours	184,302
Total operating expenses	$15,311,173
Vehicles operated at maximum service	93

Source: Laketran 2019 Annual Agency Profile. NTD Transit Agency Profiles.

Laketran offers different services to its riders and different associated fares for its local routes, park-and-ride routes (commuter bus), and demand response. Table 3-9 shows a summary of fares for Laketran services.

Table 3-9: Laketran Fare Structure

Fare Type	Cost
Local Routes 1-9	
All-Day Pass	$4.00
All-Day Pass – Seniors/disabled/child	$2.00
Regular Fare	$1.75
Seniors/citizens with disabilities with a Golden Buckeye, Medicare card, ADA, or student reduced fare card	$0.75
Children ages 2-12	$0.75
Children under age 2	FREE
Transfers between Routes 1-9	FREE
Park-n-ride routes 10-13	
Regular fare	3.75
31-Day Ticket – Activates on the first day of use; expires 31 days later	$135.00
Student fare – Must present Cleveland-based school student ID when boarding	$1.50
Dial-a-Ride (In-county)	
Regular fare	$10.00
Seniors/citizens with disabilities with a Golden Buckeye, Medicare card, ADA, or student reduced fare card	$2.50
Children ages 2-12	$2.50
Children under age 2 or personal care attendants for ADA eligible trips.	Free
Dial-a-Ride (Cuyahoga County Medical Service)	
Regular fare	$20.00
Seniors/citizens with disabilities with a Golden Buckeye, Medicare card, or student reduced fare card	$5.00

Source: Laketran (2020)[9]

As an independent transit authority, Laketran is governed by a nine-member Board of Trustees who are appointed by the Lake County Commissioners. The Trustees oversee setting agency policies. In addition, Laketran has the authority to levy taxes to support the transit system. In November 2019, an additional 0.25 percent increase in sales tax was passed by public ballot bringing the total local funding to a 0.5 percent. In 2019, a total operating budget of approximately $15.3 million was reported to the NTD. Local funds accounted for more than half of the operating budget. Figure 3-4 summarizes Laketran's sources of total operating and capital funds.

[9] Laketran (2020). Fare Information. Retrieved from https://laketran.com/fare-information/

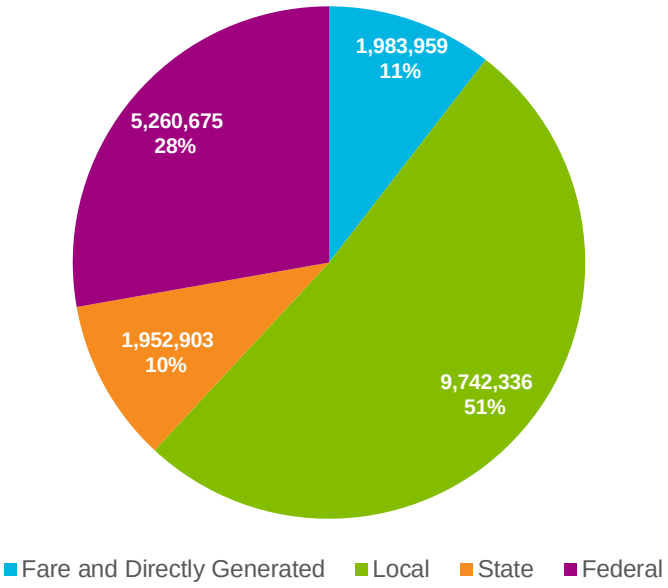


Figure 3-4: Laketran Sources of Total Funds Expended in 2019

3.1.5 Greater Cleveland Regional Transit Authority

The GCRTA is the largest public transportation provider in the NOACA region. Serving residents of Cuyahoga County, GCRTA operates within a 458 square mile service area covering a population of approximately 1.4 million. The GCRTA operates demand response, heavy rail, light rail, fixed-route bus, bus rapid transit (BRT), and vanpool modes. In 2019, the agency provided approximately 32 million unlinked trips, 21 million vehicle revenue miles, and 1.7 million vehicle revenue hours (Table 3-10).

Table 3-10: General Agency Characteristics GCRTA

Description	Total
Annual unlinked trips	32,171,825
Annual vehicle revenue miles	21,397,531
Annual vehicle revenue hours	1,688,437
Total operating expenses	$306,202,685
Vehicles operated at maximum service	461

Source: GCRTA 2019 Annual Agency Profile. NTD Transit Agency Profiles.

The GCRTA offers various fare options for its customers. These include cash fares, 5-trip fare cards, monthly passes, 7-day passes, and daily passes. Table 3-11 summarizes the fare structures for the various services.

Table 3-11: GCRTA Fare Structure

Fare type	Cash Fares Type	5-Trip Fare Cards	Monthly Passes	7-Day Passes	Daily Passes
Bus/rapid/BRT	$2.50	$12.50	$95.00	$25.00	$5.00
Senior/disabled	$1,25	$6.25	$48.00	$12.50	$2.50

Fare type	Cash Fares Type	5-Trip Fare Cards	Monthly Passes	7-Day Passes	Daily Passes
Park-n-ride bus	$2.75	$13.75	$105.00	$27.50	-
Student K-12	$1.75	$8.75	-	-	$4.25
Out-of-County	$3.75	-	-	-	-
Paratransit	$2.75	$13.75	$110.00	$30.00	$7.00
Accompanied Children (ages 6-12)	-	-	-	-	$2.50
1-Day Cleveland Pass	-	-	-	-	$5.00
2-Day Cleveland Pass	-	-	-	-	$10.00
4-Day Cleveland Pass	-	-	-	-	$20.00

Source: GCRTA (2020). Fares[10]

The GCRTA is governed by a 10-member Board of Trustees who serve overlapping three-year terms and are appointed from the City of Cleveland (four members), the suburbs (three members), and the county (three members). The Board is responsible for approving governance policies, long-range goals and annual operating budgets.

The Board also oversees the management of agency activities and implementation of its plans. In terms of agency funding, almost three-quarters of GCRTA's total operating and capital budget was funded through a one percent local sales tax. Figure 3-5 shows GCRTA's sources of total operating and capital funds as reported to the NTD in 2019.

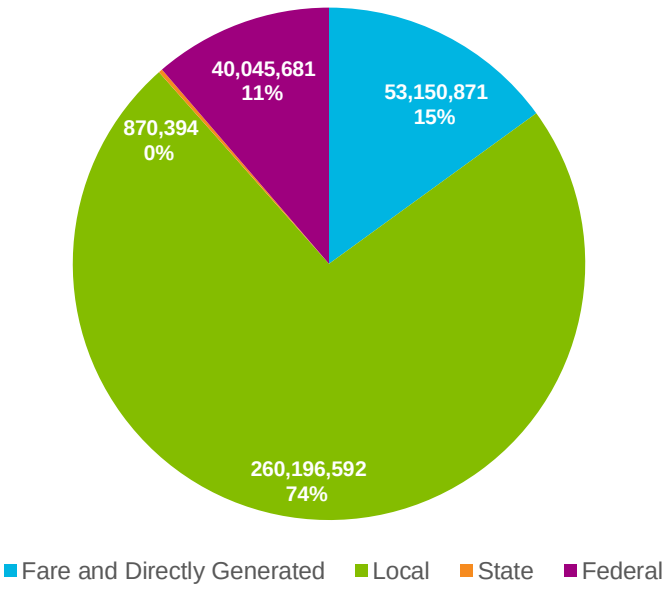


Figure 3-5: GCRTA Sources of Total Funds Expended in 2019

In summary, transit provision and funding in the NOACA region is generally provided on a county basis. Identifying existing needs and potential opportunities for additional enhanced collaboration and promotion of cross-county transit travel could lead to a more cohesive front for regional travel.

[10] GCRTA. (2020). Fares. Retrieved from *http://www.riderta.com/fares*

Table 3-12 summarizes the funding sources and governance structures for the five NOACA transit agencies.

Table 3-12: Summary of NOACA Transit Agencies

System	Area Served	Services	Funding Sources	Board Structure
Geauga	Geauga County	Demand response	Federal: 5331, 5339 State: gas tax, other Local: general revenue (reimbursed) Directly generated: fares, contracts	3-Member Board of County Commissioners
Lorain	Lorain County	Demand response bus	Federal: 5311 State: gas tax, other Local: general revenue Directly generated: fares & contracts	3-Member Board of County Commissioners
Medina	Medina County	Demand response Demand response-taxi bus	Federal: 5311 State: gas tax Directly generated: fares, advertising, contracts	3-Member Board of County Commissioners
Laketran	Lake County	Commuter bus Demand response bus	Federal: 5307, 5309, 5310 State: General revenue, gas tax, other Local: sales tax Directly generated: Fares, advertising, auxiliary/other	9-member Board of Trustees (3-year terms) Appointed by County Commissioners
RTA	Cuyahoga County & portions of Lake, Summit, Medina, & Lorain Counties	Demand response Heavy rail Light rail Bus BRT Vanpool	Fed: 5309, 5337, 5310,5317, American Recovery and Reinvestment Act State: General revenue., gas tax, other Local: sales tax Directly generated: fares, contracts, auxiliary funds, park-n-ride/ other	10-member board (overlapping 3-year terms) 4- City of Cleveland, Mayor 3- Suburbs, Mayors/City Managers 3- County, Cuyahoga County Executive

3.2 Stakeholder Outreach

3.2.1 Outreach Approach

Between December 9 and 12, 2019, the project team undertook an outreach effort with various public- and private-sector stakeholders. Most meetings were in-person unless a conflict arose, in which case, follow up phone calls were scheduled to gather the information.

In total, 14 interviews were conducted with stakeholders from the five counties and transit agencies to get their views on policy issues that impact regional mobility and connectivity. Topics covered with the stakeholders were categorized into three sections: (1) transit level of service; (2) interagency coordination, land-use incentives, and travel incentives; and (3) transit funding.

Table 3-13 shows a list of public and private stakeholders interviewed during the Phase I outreach effort.

Table 3-13: List of Transit Stakeholders for Phase I Outreach

Name	Title	Jurisdiction/Organization	Outreach Type
Freddy Collier	Director of Planning	City of Cleveland	In-person
Valerie McCall	Chief of Communications, Government & International Affairs/Member of the GCRTA Board of Trustees	City of Cleveland	Phone
Mike Foley	Director of Sustainability	Cuyahoga County	In-person
Maribeth Feke	Director of Planning	GCRTA	In-person
John Hamercheck,	County Commissioner	Lake County	In-person
Ben Capelle	Chief Executive Officer	Laketran	In-person
William Hutson	County Commissioner	Medina County	Phone
Shannon Rine	Director	Medina County Public Transit	Phone
Matt Lundy	County Commissioner	Lorain County	In-person
Pam Novak	Chief Financial Officer	Lorain County Transit	In-person
JoAnna Santilli	Transit Director	Geauga County Transit	In-person
Gerry Morgan	County Administrator	Geauga County	In-person
Debbie Berry	Vice President of Planning & Real Estate Development	University Circle	In-person
Bill Koehler	Chief Executive Officer	Team NEO	In-person
Dr. Iryna Lendel	Director of Center for Economic Development	Cleveland State University	Phone

3.2.2 Outreach Summary

Summarized below are the main outcomes of the interviews for the three categories. Level of service insights that were county-specific were excluded in this summary to focus on opportunities for intercounty coordination and cross-boundary service. Several items were discussed during the outreach process some of which could be considered regional issues, and others non-regional/local issues. The following are high-level findings from these interviews.

Level of Service

Some jurisdictions need additional and improved service to meet current demand. Although regional implications exist for need for more service, issues are primarily local. Furthermore, the level of cross-boundary travel supports a need for more coordination across jurisdictions. Below are some specific highlights from the outreach.

- GCRTA is currently working on prioritizing internal improvements for Cuyahoga County residents through its Pillar Studies. The agency is determining the direction for the level of service in terms of frequency and coverage.
- Laketran recently passed a sales tax to support existing service as well as increase the level of demand responsive service to county residents.
- Medina county is working on increasing its system ridership from current levels using a marketing approach to make county residents aware of the services offered by the county.
- Lorain County conducted a study in 2018 that identified various service needs including connections to Elyria, Avon, and Northridge. The county has not been able to meet these needs due to insufficient funding.

- Geauga County experiences higher demand for service than the agency can provide leading to a high number of trip denials (unsatisfied requests for service). More funding, drivers, and vehicles would be needed to meet their current demand.
- Some agencies (Medina and Geauga) are considering using smaller vehicles to increase fuel efficiency.

Interagency Coordination, Land Use Incentives and Travel Incentives

- Substantial coordination has been achieved between the region's transit agencies. For example, NEORide provides a shared platform for customers to purchase transit tickets across systems electronically. NEORide is also working on submitting joint grant applications and procurements. Furthermore, RTA has coordinated with Medina County in the past to exchange restricted capital funds for unrestricted local funds. Laketran and GCRTA have planned and coordinated material mitigation of the service boundary through transfer fare agreements and service designs as described in section 2.4.1, above. Based on the interview feedback, potential still exists for increased coordination among agencies
- Laketran is ready, willing, and able to support agencies such as Geauga and Lorain with back office functions including IT infrastructure and demand response scheduling. RTA also currently coordinates with Geauga County to plan for and provide service to the Amish communities in the county.
- Some conversations brought up cross-boundary travel and discussions of a regional coordination agency. The appetite on this subject varied widely, with Lorain and Medina County Commissioners being very open to the idea and others more focused on improving internal operations first.

Funding

Funding is a challenge to meeting needed level of service in some jurisdictions. Generally, there was little to no appetite for an additional sales tax, but some jurisdictions were open to an "appropriate" regional funding scheme. Some innovative funding schemes discussed included mileage-based fees, employer subsidies for transit, and tiered fares. Other potential opportunities to increase contract revenues could be absorbing transportation (consolidating) for social services or providing charter services. Following are other revenue funding schemes discussed:

- Some agencies mentioned exploring methods of increasing efficiencies within the system.
    - Geauga and Medina county are both interested in using smaller vehicles for service as a means of increasing fuel efficiency because of the existing low volumes on vehicles.
    - Medina County mentioned investigating inefficiencies and system redundancies. Both Medina and Geauga County discussed the idea of consolidating by contracting out or providing transportation for social services in the county.
- Laketran recently passed a transit levy which they plan to use for demand response service enhancement in the county. The county is not ready for more taxes on its residents but could be open to discussing road user-charges fees such as a mileage-based fee if necessary.

Table 3-14 summarizes the perceived challenges and opportunities from the regional interviews.

Table 3-14: Perceived Challenges and Opportunities

	Coordination	Efficiency	Accountability/ Responsiveness	Sustainable Revenue
GCRTA	• Coordinates with Laketran • Coordinates with Medina on exchanging capital/operating funds • Coordinates with Geauga for Amish communities • NEORide participation	• Undergoing intense internal reviews to address existing challenges	• New CEO's agenda seeks to address needs of riders • Five pillar studies address various aspects for both service needs and general agency direction	• Not seeking tax at present time • Aggressively pursuing federal, state and other funding for rail cars and infrastructure projects • Would work to find inefficiencies in system to address needs
Laketran	• Scheduling software support for Geauga • Opportunity to use Laketran facility throughout region as a central scheduling facility • Opportunity to provide service in Geauga and Ashtabula	• Working on joint procurement for fuels and software through NEORide, as well as grant application for mobile ticket readers	• Good public perception • Passed a recent tax ballot based on public trust and need for more service	• Recent increase in sales tax and vehicle licensing fee • Potential for employer subsidy or mileage-based fee • Potential for increased state funding to remain
Medina	• Coordinates with RTA to exchange unrestricted local funds with RTA's restricted capital funds • NEORide participation	• Opportunity to "right-size" vehicles by using minivans • Sees need to investigate inefficiencies and system redundancies	• Staff identified need for more marketing of services to get public buy-in and increase system usage	• Wants to investigate potential to provide transport service to social services • Potential to explore tiered fare system • Would be open to contributing to regional system if needed
Lorain	• Some coordination with RTA in the past to develop schedules • Not much coordination with other agencies	• Current contract would be less costly than contracting with another agency, (e.g., Laketran) • Potential to consolidate transportation for various social services	• Inability to provided needed service for Elyria, Avon, and Northridge due to lack of funds	• Estimates ~$4.5 million needed to fully fund services (commissioner) • Unsuccessful in passing sales tax to fund transit but property tax may be viable
Geauga	• Some coordination with Laketran on scheduling software • Opportunities for Laketran support on service delivery	• County size and sprawl of residents presents challenge (long travel times) • Opportunity to use smaller vans with better fuel efficiency	• More demand for service than agency can handle with existing fleet	• Receives federal, state and local funds (which is reimbursed). • Potential for provide charter services in addition to existing contracts. Need guidance on securing approval

4. Case Studies of Institutional Governance

4.1 Introduction

The study compared transit systems for comparative regions with multiple transit operators. Chicago, Seattle, Minneapolis, and San Diego were selected as case study cities for review with the purpose of drawing insights that could inform the NOACA region's context. The four regions were selected because of having multiple transit agencies within the region. The sections below summarize information on the governance structures of the transit agencies operating in the four metropolitan areas. With the exception of Chicago, the regions are comparable in size and fall within the top-20 United States (U.S.) combined statistical areas (CSA) by population (Table 4-1).

Table 4-1: Comparison of Region Populations (Combined Statistical Area-CSA)[11]

Region	CSA Population (Estimate 2019)	Rank Among USA CSAs
Chicago-Naperville	9,825,325	3
Seattle-Tacoma	4,903,675	14
Minneapolis-St. Paul	4,027,861	16
Cleveland-Akron-Canton (Northeast Ohio)	3,586,918	18
San Diego-Chula Vista-Carlsbad	3,338,330	19

4.2 Chicago

The Chicago metropolitan area is served by four agencies that work to support the provision of public transportation in the region. They are the RTA, Chicago Transit Authority (CTA), Metra Commuter Rail, and Pace Suburban Bus. Figure 4-1 shows the relationship between the four agencies.

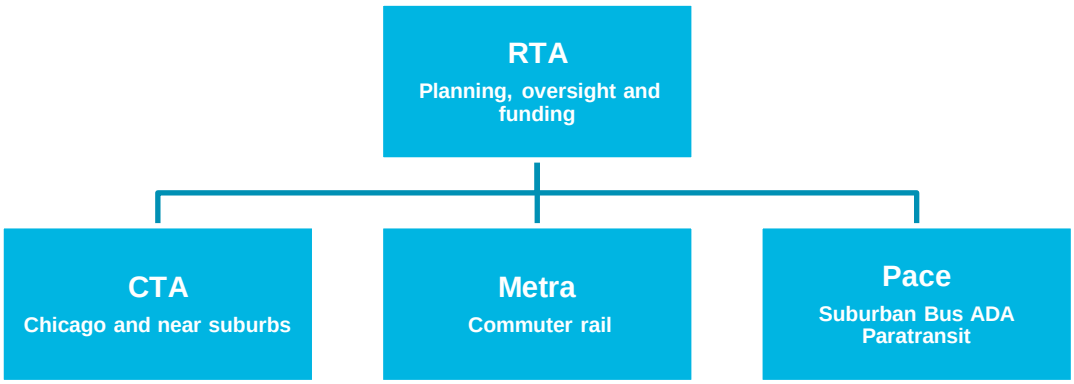


Figure 4-1: Transit Agencies in Chicago Metropolitan Area

[11] Source: http://www.citypopulation.de/en/usa/combmetro/

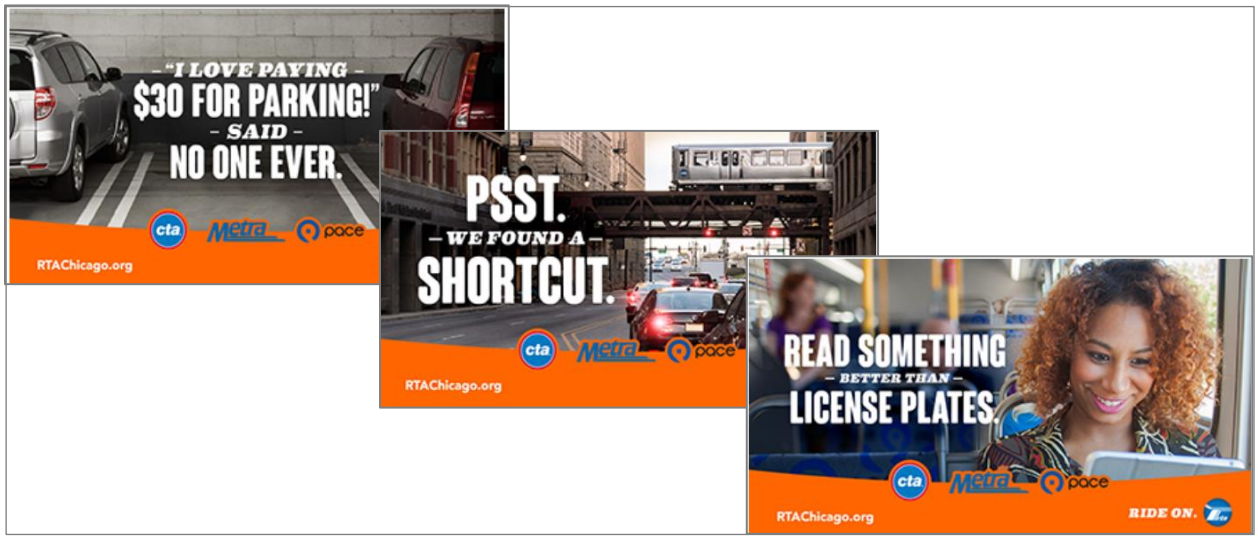
The CTA is the nation's second largest public transit system serving the City of Chicago and 35 surrounding suburbs. As the largest transit service provider in the six-county metro area, CTA provides 81 percent of all trips in the region. Prior to the ongoing health crisis and the associated impacts, CTA provided an average of 1.6 million weekday rides using 1,864 buses over 129 routes. Its rail operations cover eight routes, 224 track miles, 2,318 trips per day, and service to 145 stations including two major airports.

Metra, the Northeast Illinois Commuter Railroad division of the RTA, provides service to 3,700 square miles of the northeastern Illinois region including the counties of Cook, DuPage, Will, Lake, Kane, and McHenry. Metra owns and operates 242 stations, 11 routes, and 1,200 track miles servicing approximately 290,000 weekday trips using 700 weekday trains. Metra plays a significant role in the region's transportation system carrying 50 percent of all work trips from the suburbs to downtown Chicago.

Pace is a public transportation provider that provides fixed route and paratransit service in the region. Created in 1983, Pace serves 284 municipalities in the region with a service area of 3,677 square miles with 8.4 million residents. The agency uses its 820 fixed route buses to service 210 fixed routes and 18 express routes. Pace also operates 1,316 paratransit vehicles, 663 vanpools, 50 dial-a-rides, and 10 on-demand services.

The RTA is an umbrella agency formed from a referendum that passed in 1974 and was authorized under the Regional Transportation Authority Act, 70 Illinois Compiled Statutes 3615. It serves approximately two million riders each weekday across six counties. The RTA provides financing oversight, funding, and transit planning for the region's transit agencies. As a funding agency, the RTA allocates funding across the agencies based on a predetermined funding formula (primarily for operations, capital funds are not predetermined). Funding is generated through a one percent sales tax (one percent in Chicago and a quarter of a percent in the collar counties).

The RTA also provides *shared services* to the public. This includes integrated travel information to riders in the form of the RTA Travel Information Hotline, Automated Trip Planner, and shared "Ride On" advertising campaign (Figure 4-2).



Source: RTA "Ride On" Marketing Campaign

Figure 4-2: Chicago RTA Collaborative "Ride On" Marketing Campaign

The RTA is governed by a 16-member Board of Directors. Of the total number, fifteen of the Board Directors are appointed from the six-county region:

- Five are appointed by the Mayor of the City of Chicago
- Four by the suburban member of the Cook County Board
- One by the President of the Cook County Board
- Five by the chairman of each collar county (DuPage, Kane, Lake, McHenry, and Will)
- The Board's 16th member is elected by at least 11 of the 15 appointed members as the Chairman of the Board.

4.3 Seattle

In 1990, greater Seattle had a smaller population than Northeast Ohio. It has since grown considerably; this combination of growth and geography constrained by waterbodies and hills led to considerable congestion along the region's highway network, leading to the establishment of a multi-county transit authority in the mid-1990s.

The Seattle region has five main agencies that support public transportation provision. These are the Central Puget Sound Regional Transit Authority (Sound Transit), King County Metro, Pierce Transit, Community Transit, and the City of Seattle (Figure 4-3). Each transit agency in the region provides service and has its own governance and funding structures. However, Sound Transit was created in 1993 to complement the local transit service in the region with high-capacity, regional transit (that is competitive with highway travel) and connects the region's employment centers. Authorized under the Revised Code of Washington Sh. 81.112 and 81.104, Sound Transit builds and operates regional transit (light rail, commuter rail, and express buses) in the counties of Pierce, King, and Snohomish. Sound Transit operates as an independent and separate entity from the region's transit agencies. It is governed by an 18-member Board of Directors comprising elected officials from member counties. Membership to the Board is set proportional to the population included in the transit district:

- Ten from King County
- Four from Pierce County
- Three from Snohomish County
- One seat occupied by the Washington State Secretary of Transportation

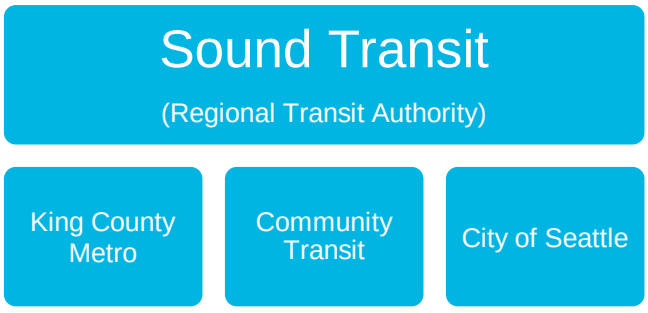


Figure 4-3: Transit Agencies in the Seattle Region

Sound Transit has the authority to levy and collect a sales tax which forms approximately 70 percent of its budget. The agency's sources of funds are listed below:

- Motor vehicle tax – 1.1 percent
- Property tax – 0.00025 percent
- Sales and use tax - 1.4 percent
- Rental car sales – 0.8 percent (up to 1.372 percent in the future)

King County Metro was formed in 1973 to provide transit services in King County including fixed-route bus, vanpools, and paratransit service. King County Metro also operates Sound Transit's regional express bus service and light rail in King County. King County Metro is governed by a nine-member King County Council which provides budgetary authority and oversight. The agency's service is funded by a 0.9 percent sales tax which makes up about 50 percent of its budget. Passenger fares form the second largest.

Community Transit provides local bus, paratransit, commuter bus, and vanpool services within Snohomish County. formed in 1976 by seven original communities, the agency's service area now includes every city in the county except for Everett. It serves an area population of more than half a million people. Community Transit is governed by a 10-member Board of Directors comprising nine elected officials and one non-voting labor representative. The Board of Directors establishes the agency's policy and legislative direction. Funding is provided by a sales tax in Snohomish County and supplemented by fares.

The last agency in the region that provides transit service is the City of Seattle which operates a Streetcar system. Although the city does not directly operate its own bus or light rail, it purchases services needed for its residents. Transit is governed by a 12-member transit board with members serving two-year terms. Funding for transit is provided by Seattle Department of Transportation, federal, and state grants as well as various project-specific city levies.

4.4 Minneapolis-St. Paul

The primary transit operator in the Minneapolis-St. Paul region is operated by the region's MPO, Metropolitan Council (Met Council). The Met Council provides commuter rail, light rail, and bus (Metro Transit, Metro Mobility, and Transit Link) services to residents of Minneapolis-St. Paul and many suburban communities covering a service area of 653 square miles and a population of about 1.8 million. The Met Council is governed by a 17-member Metropolitan Council that makes policies to guide the strategic direction of the metro area. All 17 members are appointed by the state governor and confirmed by the State Senate: 16 from each of the 16 geographic districts and one Council Chair who serves at large. In addition, the Council's Transportation Committee directly works on policy, planning, and operations for transit and other modes.

In addition to the Met Council, the Counties Transit Improvement Board (CTIB) functioned between 2008 and 2017 as a joint powers board authorized to invest tax money into metro area transit projects. Created in 2008 by the Legislature[12], the CTIB was formed in response to the Interstate 35W bridge collapse to levy a new quarter-cent sales tax and $20 tax on new car sales to help build and operate transit in seven metro counties. The CTIB consisted of two members each from five of the region's seven counties and one member from the Met Council. However, by mid-2017, member counties had already pulled out or expressed interest in doing so. Some counties voted to establish a new sales tax exclusive to their counties to fund transportation projects. Three member counties continued to levy the quarter cent sales tax and two counties doubled the amount to a half cent tax.

[12] Minnesota Legislative Reference Library. (2017). *Counties Transit Improvement Board.* Information on Minnesota State Agencies, Boards, Task Forces, and Commissions.

Potential challenges with the CTIB was the multi-layered decision-making process and decentralized nature of transit governance. For example, capital investment decisions required approval by the CTIB but had to be transferred to the Met Council for ownership and operation once planning was completed. There was also a potential divide between urban and rural areas as well as the perception of funding projects that did not advance regional objectives.

Other entities include the Transportation Advisory Board (TAB) and the various county railroad authorities. The TAB consists of elected officials created by the state to meet state and federal requirements and make investment decisions for federal funds. The railroad authorities plan corridors for rail and BRT expansions. They are governed by each county's board of commissioners which lead and fund any initial planning and analysis.

4.5 San Diego

Greater San Diego is home to the country's first, from scratch, modern light rail network. This network has been significantly expanded since the 1980s and has been complimented with commuter rail and state-funded regional intercity passenger rail service. The San Diego region has three main public transportation providers: (1) the Metropolitan Transit System (MTS), (2) North County Transit District (NCTD), and (3) San Diego Association of Governments (SANDAG). Among these three, SANDAG serves as the regional coordinating agency for public transportation.

SANDAG was formed by the 18 cities and county governments in the region to build consensus and plan strategically for the region. The agency has responsibility for planning, funding allocation, project development, and construction of public transportation. The agency assumed the roles and responsibilities of many transit functions in the region after the new state law, Senate Bill (SB) 1703, was instituted in January 2003. Many of the functions of the Metropolitan Transit Development Board (MTDB) and the North San Diego County Transit Development Board were consolidated under SANDAG. As the coordinating transit agency in the region, SANDAG distributes state transit funds and a local multi-modal fund.

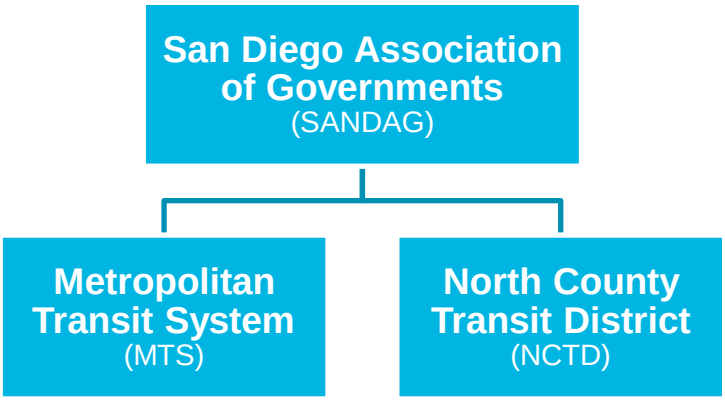


Figure 4-4: Transit Agencies in the San Diego Region

SANDAG is governed by a board of 19 regional elected officials comprising mayors, councilmembers, and county supervisors from each of the 19 local governments. The agency also has non-voting advisory representatives from the following various public agencies in the region:

- Imperial County

- U.S. Department of Defense
- Caltrans
- San Diego Unified Port District
- MTS
- NCTD
- San Diego County Water Authority
- Southern California Tribal Chairmen's Association
- Mexico
- San Diego County Regional Airport Authority

The MTS, formerly known as the MTDB, was formed in 1975 by the passage of California SB 101. After the passage of SB 1703 which transferred many of the MTDB's functions to SANDAG, the name was changed to MTS. Within its service area of San Diego County and parts of East County, MTS provides light rail, fixed-route bus and complementary ADA paratransit, express buses and freight rail services either directly or by contract. The agency provided 300,000 trips each weekday and 88 million annual passenger trips in 2018.

The MTS is governed by a 15-member board appointed as follows:

- Four from the City of San Diego
- Two from the City of Chula Vista
- One from each city council of Coronado, El Cajon, Imperial Beach, La Mesa, Lemon Grove, National City, Poway, Santee
- One from San Diego County Board of Supervisors

Funding for MTS services flows through SANDAG and is a combination of federal (Sections 5307, 5337 and 5339), state (California Transportation Development Act) and local (sales tax and fares) funds.

The NCTD was established in 1975 by SB 802 to plan, construct, and operate public transit in North San Diego County. With an average annual ridership of approximately 10.3 million passenger trips, the NCTD provides fixed-route bus, demand response, ADA paratransit, hybrid rail, and commuter rail service within its service area of 1,020 square miles. The agency is governed by a 12-member board, one from each incorporated city and the Fifth District County supervisor. Like MTS, funding for NCTD is a combination of federal, state, and local (0.25 percent sales tax) funds as well as fares.

4.6 Summary

After the review of governance structures, the common challenges identified for regional coordination were (1) variations in policies and decision-making, (2) issues of equity and control over revenue and cost sharing, (3) coordination of multiple stakeholders and fear of unresponsiveness to local needs, (4) dissimilar business and operations practices such as scheduling, fleet types, unions, local values, and fare policy, and (5) historical patterns.

To overcome these challenges, importance must be placed on prioritizing the customer experience above all else. Furthermore, collaboration is most successful when implementation

is incremental, and trust is developed among stakeholders. Every region is unique and transit structure choices must fit unique circumstances of political, legal, cultural, and historical contexts. Ultimately, a shared vision and values among those with decision-making authority matter more than the structure.

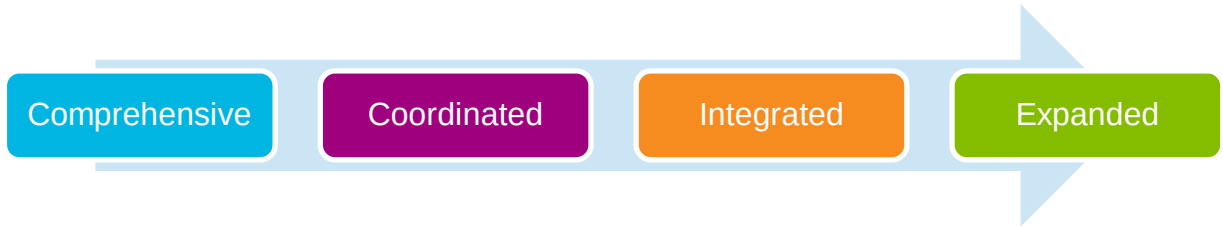
Table 4-2 provides a summary of the reviewed regional transit agencies.

Table 4-2: Summary of Governance Structures from Case Studies

	Chicago	Seattle	Minneapolis/St. Paul	San Diego
Transit Agencies	• RTA (planning, oversight and funding) • CTA (Chicago and near suburbs) • Metra (commuter rail) • Pace (suburban bus)	• Sound Transit (RTA) • King County Metro • Community Transit • City of Seattle	• Metropolitan Council • CTIB – disbanded in 2017 • Transportation Advisory Board • County railroad authorities	• SANDAG • MTS • NCTD
Coordinating Agency Governance	• 16-member board from Chicago, suburban members of Cook County board, and surrounding counties	• 18-member board from King, Pierce and Snohomish counties, State Sec. of Transportation • Authority to levy taxes	• 10-member board only, no staff • 5 member counties for capital and operating transitway costs	• 19-member board of regional elected officials
Functions	• Allocates funding • Provides shared services • Agencies retain effective veto power over any RTA action	• Manages dedicated sales tax • Plans, builds, and operates light rail, commuter rail, and express bus	• Allocates sales tax • 3 member counties continue to collect the 0.25% tax and 2 counties doubled the amount to 0.5%	• Long-term planning, funding allocation, project development, construction (system expansion)

5. Phase II: Strategies

The objective of the NOACA Strategic Regional Transit Plan is to provide a strategic action plan that supports the development of a cohesive, coordinated vision for investment in public transit in the NOACA region. Ultimately, the strategic plan is to provide comprehensive, coordinated and integrated actions that would expand transit accessibility and quality to the residents of the region. To this end, the project team and NOACA, through careful consideration of the analyses and interviews performed in Phase I, developed a set of strategies for implementation in the short- and long-term. Short-term strategies were considered as those actions that could be implemented within five years. Long-term strategies were those actions that would need a longer implementation horizon of five to ten years. In addition, some aspirational strategies were also considered. These were long-term strategies that were considered high risk and warranted further investigation and analysis to determine cost effectiveness.



The sections below summarize the suggested strategies for implementation categorized by time horizon.

5.1 Short-Term Strategies (1-5 Years)

Four key actions were identified capture opportunities in cross county travel, collaboration, customer information, and fare policies and systems (Figure 5-1).

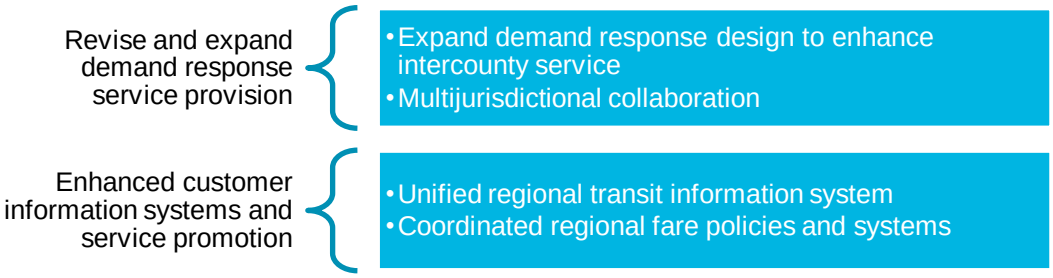


Figure 5-1: Summary of Short-Term Strategies

5.1.1 Expand Demand Response Service Design to Enhance Intercounty Service

The NOACA region is characterized by low density communities, thus, although fixed-route transit connections exist, they are limited. For example, GCRTA's commuter bus service crosses county lines into Brunswick in Medina County and Laketran also runs a commuter bus service to downtown Cleveland. Neither Medina County nor Lorain County transit routes connect to each other or to Cuyahoga County.

Furthermore, the low densities do not support rapidly expanded inter-county fixed-route service. However, the demand response service in the region provides opportunities for enhanced transit service in the region. Expanding demand response service design would involve two things: (1) alignment of eligibility requirements and (2) the development of cost-sharing for cross-boundary service (where warranted) for seamless transit.

Aligning requirements to use the various systems would eliminate the burden of determining eligibility by riders when transferring from one system to another. For example, demand response service is open to all residents in some counties. However, Cuyahoga County provides a major fixed route system with wide coverage but provides demand responsive service only to ADA eligible riders. Demand responsive service for trips by the general public within Cuyahoga County will only be introduced on an incremental basis. Bilateral or multilateral agreements to carry each other's general public residents for cross-boundary trips with a cost sharing component would increase mobility in participating counties. A parallel agreement could expand the mobility of ADA eligible residents in Cuyahoga County by extending trips outside Cuyahoga County with a cost sharing agreement. Many variations on these agreements regarding travel across boundaries for ADA and general public riders are feasible if the agencies agree that the increased mobility warrants sharing each other's costs.

A major benefit of this action is the elimination of the added burden for riders to coordinate two separate schedules at transfer points. Potential challenges could arise in determining which party provides the cross-boundary service at an efficient cost. There is also a need to determine a cost allocation for such cross-boundary trips.

5.1.2 Multi-Jurisdictional Collaboration

This strategy focuses on adopting a coordinated approach to service provision to create a unified and cohesive regional public transit. During the analysis and strategy development process, good examples of existing collaborative efforts and policies were identified. The team therefore sought to identify further opportunities to enhance the existing efforts in addition to recommending new actions and strategies.

The following actions are recommended:

- **Single procurement for service contractors**: Identifying single procurements for service contractors could enhance service in the region by increasing bargaining power with contractors when a cohesive front is presented. This also allows agencies to pool resources for efficient use of funds, potentially lower overhead costs, and provide an easier approach to coordinating transit route design. These actions would promote a regional perspective of the transit system. Aligning contract renewals across providers could, however, prove challenging. Furthermore, implementation would need to ensure compliance with each transit agency's procurement policies and procedures, as well as state and federal procurement regulations.
- **Advance existing NEORide initiatives:** Member agencies of NEORide actively work to promote coordination and collaboration in different areas including joint grants or funding initiatives, multiagency procurements, multi-county paratransit, and smart fare payment systems.
- **Consider centralized scheduling and dispatching for regional demand response transit:** Consolidating scheduling and dispatching operations in some or all of the NOACA counties could be key to closer collaboration and coordination. This strategy could increase efficiency and save funds on personnel, equipment, and software.

Potential efficiencies would include increased driver productivity with less down time, increased call-intake capacity and lower costs for software licenses. Centralized scheduling would also present a unified image to customers and provide opportunity for joint marketing or regional services. It is worth noting that this undertaking would require much coordination between agencies and would be most viable between Lake, Geauga, Lorain, and Medina counties. However, additional effort would be needed to include Cuyahoga County in such an endeavor.

- **Continue to collaborate through active IT planning on shared IT services and administrative functions:** During the study, some collaborative efforts for IT software were identified. For example, Laketran and GCT collaborated to share a software license which resulted in cost savings for GCT. Combining this strategy with a form of centralized scheduling and consolidated administrative functions could further support a cohesive approach to transit in the region and result in efficiencies.

5.1.3 Unified Regional Transit Information System

Building a unified regional transit information system entails the provision of enhanced transit information systems to promote intercounty transit information for seamless transit. This approach seeks to ease the burden on the traveler as well as promote intercounty transit service. Recommended actions to support this strategy include the following:

- **Unified graphics and combined route maps:** Development of unified graphics and combined route maps further support a cohesive regional transit approach. Any effort on developing such graphics and maps should respect the individual transit agencies branding and service populations.
- **Regional transit information helpline, website, or app:** A website would serve as a transit connections site for all transit users in the region. Information to include would be a directory of transit service providers, carpool and vanpool programs in the region, and the various connection points across counties. A listing of park-n-ride lots in the region would also enable commuters to identify more options for ease of travel. The website could also include recommendations for travel options across the region for commuters. Furthermore, a well-marketed transit connections helpline (e.g., 411 number) could potentially help riders with planning cross county trips. This effort would require coordination among the NOACA transit agencies to determine the extent of collaboration. The implementation, management, and maintenance of the system would be coordinated among the agencies. Potential exists to build on the GoOhio Commute or NEORide platforms.

5.1.4 Coordinated Regional Fare Policies and Systems

In addition to providing unified transit information to riders, a seamless transit experience could also be enhanced by providing an easy way to pay for services from one county to another. Coordinating fare structures also supports this strategy by reducing the information burden on riders. Following are methods to coordinate fare structures:

- **Encourage the use of existing unified fare collection systems:** Across the region, some multiagency mobile ticketing apps already exist which are familiar to riders. For example, NEORide and Masabi launched the EZ Fare app to enhance the customer experience and promote travel from one community to another at any time. Currently, fares for Laketran and MCPT can be accessed on the app. Further marketing and promotion throughout the NOACA region would continue to grow intercounty transit

travel and make it seamless. This service is also available on the Transit App (a transit planning app). Potential data access issues for participating agencies would have to be investigated and addressed prior to implementation.

- **Coordinate regional fare structures:** Across the region, fare policies differ from one system to another. To further develop cohesive regional transit and promote intercounty transit use, regional fare policies and structures could be coordinated, especially for demand responsive services. This effort would not be without challenges, specifically, a clear commitment, investment, and communication must be adopted by each agency to ensure a collaborative approach to an agreed outcome. Consensus must be reached on a fair and equitable basis based on the rider characteristics within each agency's jurisdiction.

As stated previously, the NOACA regional transit agencies are currently working together on different collaboration and coordination efforts to support a regional approach and increase efficiencies.

Table 5-1 provides a summary of the short-term actions. Table 5-2 shows a crosswalk of the recommended actions against existing regional efforts.

Table 5-1: Summary of Short-Term Actions (1-5 years)

Strategy	Action	Benefit	Challenges
Expansion of Demand Response Service Design to Enhance Intercounty Service	• Develop cost-sharing for cross-boundary service where warranted for seamless transit	• Eliminates need for customer to coordinate two separate schedules at transfer points (existing trips) • Additional mobility to new customers • Provides seamless travel for customers who travel outside existing service area	• Need to determine which party provides cross-boundary service at an efficient cost • Need to determine cost allocation for cross-boundary trips (cross-bill based on trip records) • Need to determine limitations, particularly for non-ADA trips with an end in Cuyahoga County
Multi-Jurisdictional Procurement and Support	• Consider single procurement for service contractors • Advance existing NEORide initiatives for joint vehicle and equipment procurements • Consider centralized scheduling and dispatching for regional demand response transit • Continue to collaborate through active IT planning on shared IT services	• Increase bargaining power with contractor by presenting cohesive front • Pool resources for efficient use of funds • Lower overhead costs • Easier coordination for demand response trips • Promotes regional perspective of transit system • Consolidating scheduling and dispatching operations could increase efficiency and save funds on personnel, equipment, and software • Centralized scheduling presents unified image to customers • Provides opportunity for joint marketing of regional services • Increased call-intake capacity • Increased driver productivity • Lowers certain costs (e.g., software licenses) • Potential to improve asset management	• Aligning contract renewals across providers may be challenging • Consolidating or preserving separate service policies and procedures may prove difficult • Dispatching decisions may be less responsive to each county's needs • Coordinating functional, integration and training requirements across providers • Alignment of procurement and cost-sharing procedures • Ensuring procurement compliance with individual agency, state, and federal policies/regulations could prove challenging
Fare Systems	• Encourage use of NEORide Masabi/Transit App (unified system familiar to riders across 5 counties) • Coordinate fare structures	• Improves ease of customer travel and transfers between systems (interoperability)	• Coordinating fare structures may be challenging due to consensus needed across agencies • Potential data access issues on shared fare collection platforms • Clear commitment, investment and communication among agencies required for success
Customer Information	• Provide unified graphics and combined route maps to support cohesive regional transit	• Promotes intercounty service information in unified way for seamless transit • Provides unified face for transit in the NOACA region	• Must consider individual agency branding and customer populations • Significant coordination required to determine extent of collaboration on

Strategy	Action	Benefit	Challenges
	• Provide regional transit information helpline or website, (e.g., 411 number)	• Promotes further inter-agency collaboration and coordination	implementation, management, and maintenance of system

Table 5-2: Crosswalk of Short-Term Actions (1-5 Years) Against Existing Regional Transit Programs

Strategy and Actions	GCRTA	Laketran	MCPT	LCT	GCT
Expand demand response service design to enhance intercounty service Align eligibility requirements Develop cost-sharing for cross-boundary service where warranted for seamless transit	Coordinated timetables/transfers for Lake Shore Boulevard services GCRTA coordination with Geauga County for Amish communities	Free transfers between Laketran and GCRTA		Past Lorain County and GCRTA schedule coordination	GCRTA coordination with Geauga County for Amish communities
Multi-jurisdictional collaboration Consider single procurement for service contractors Consider centralized scheduling and dispatching for regional demand response transit Continue to collaborate through active IT planning on shared IT services and administrative functions	NEORide initiatives and progress in coordinating procurement efforts for fuels and software Medina County and GCRTA coordination to exchange unrestricted capital funds	Laketran and Geauga County collaboration on scheduling software NEORide initiatives and progress in coordinating procurement efforts for fuels and software	NEORide initiatives and progress in coordinating procurement efforts for fuels and software Medina County and GCRTA coordination to exchange unrestricted capital funds		Laketran and Geauga County collaboration on scheduling software
Unified regional transit information system Regional transit information helpline or website Encourage use of NEORide Masabi/Transit App (unified system familiar to riders across 5 counties Unified graphics and combined route maps to support cohesive regional transit					
Coordinated regional fare policies and systems Coordinate fare structures	NEORide received an Integrated Mobility Innovation (IMI) grant	NEORide received an IMI grant funding mobile ticket readers	NEORide received an IMI grant funding mobile ticket readers		

Strategy and Actions	GCRTA	Laketran	MCPT	LCT	GCT
Unified fare collection system	funding mobile ticket readers				

5.2 Long-Term Strategies (5-10 Years)

In addition to the actions that can begin quickly as described in Section 5.1, a number of regional transit opportunities would yield as much benefit as the short term strategies, but would require somewhat longer to implement based on needs for funding, infrastructure, or reaching an agreement among the transit agencies that adequately addressed their respective circumstances and concerns. These steps could require five to ten years before taking final action to initiate these improvements.

The following four areas are recommended:

- Intercounty transit service
- Regional shared-use mobility and active modes
- Support functions
- Customer interface

5.2.1 Intercounty Transit Service - Enhance Service to University Circle

Based on data set out in Section 2.4.1, commuter services could be provided from Lake, Lorain, and Medina counties to University Circle. Commuter or medical-based service from Geauga County to University Circle may require a demand responsive feeder or many-to-one service similar to the demand responsive service already operated by Laketran with limited hours. With more than 56,000 jobs, University Circle has a higher job density than downtown and attracts a higher proportion of its work trips from other counties than downtown Cleveland. This trip generator also has a potential to grow upon the completion of the Opportunity Corridor.

Outside of potential growth in work transit trips to the area, University Circle also attracts shopping, medical, school, and recreational trips. Case Western Reserve University, Cleveland Institute of Art, and Cleveland Institute of Music have a high potential of drawing intercounty transit. Furthermore, there is potential to improve accessibility to medical services through a commuter service. The following facilities could draw more medical trips once adequate transit service is provided to University Circle:

- American Cancer Society
- Cleveland Clinic
- Center for Dialysis Care
- Cleveland Hearing and Speech Center
- Cleveland Sight Center
- Cuyahoga County Medical Examiner
- Circle Health Services
- Louis Stokes Cleveland Veterans Affairs Medical Center

As noted in the intercounty travel analysis in Chapter 2, Lorain County has a significant amount of travel to Cuyahoga County, higher than Lake County; however, there is no transit connection between the two counties. Consideration should be given to reinstating the Lorain County-downtown Cleveland connection to determine whether the current conditions and decision criteria would make it successful. Any additional service to University Circle would have to

consider potential issues with service design due to having multiple locations for job sites, unconventional street patterns and varying work shifts. Furthermore, coordination between agencies and the existing transportation committees (e.g., the Sustainable Transportation Advisory Committee and University Circle Transportation and Infrastructure Task Force) could potentially prove beneficial in designing such a service.

The responsibility for governing, funding, planning, and operating new inter-county services is not entirely established and will warrant further inter-agency cooperation. GCRTA has operated services across county lines for relatively short distances into Lake and Medina counties. On the other hand, Laketran and Lorain County have operated longer distance services to serve trips produced in their jurisdictions and attracted by employment or other generators in Cleveland, The Lorain County service was discontinued, but because travel produced in Lorain and attracted into Cuyahoga County is more than double the analogous travel produced in Lake County (see Section 2.4) new formulation of such a service is a long-range recommendation.

The recommendation includes addressing these questions of governance, funding, planning, and operating inter-county services from a regional perspective. The past efforts run the risk of serving a larger share of one county's interest than the others. They have used funding exclusively from one county, although it is reasonable to seek mobility, congestion relief, environmental, and development benefits in both counties.

Industry experience is that interjurisdictional service requires policy and planning coordination. When governed, funded, and planned primarily by one of the jurisdictions, the service may fall short by overlooking reverse commute markets and intermediate markets within the second jurisdiction, and consequently offer more limited frequency and hours than would be optimally feasible. Interjurisdictional services are often provided under cost allocation agreements that share the governance responsibility and funding burden while assigning operating responsibility based on factors of convenience and feasibility (e.g., operating base locations). Other interjurisdictional services are operated jointly using the assets and employees of both jurisdictions. While such joint operating arrangements simplify the funding issues, they complicate the scheduling and road operations issues. These are among the most fundamental choices that should be understood and shared at a regional level.

5.2.2 Regional Micro-Mobility – Shared Use Mobility, Active Modes

Development of an effective role for each transit operating agency in the growing modes of shared use micro-mobility devices (carshare, electric and unpowered biker share, and scooter share, as well as the traditional active modes of cycling and pedestrian infrastructure) will require extensive coordination with county, municipal, and state transportation programs. These more general-purpose governmental entities have some programs for these modes in the NOACA region (whether owning infrastructure and shared use vehicles or simply offering planning and incentive programs). Their experience has offered salient successes and failures, in areas such as storage and safety of shared use vehicles. In the NOACA region as elsewhere, the central business districts with the densest populations of younger residents and workers have had the most success and experience with shared use mobility. Smaller job hubs throughout the region could benefit from the most successful of these modes and deployment programs but are less likely to find success in the more marginal programs. Like higher density, lower age demographics play a role in success of the shared use and micro-mobility devises.

Shared use micro-mobility complements traditional public transportation by offering practical last-mile/first-mile solutions. While shared-use mobility usage for longer trips may compete to a limited degree with public transportation, it may also serve many of the same congestion,

environmental, and equity goals of public transportation. The role of shared-use mobility devices in public transportation agencies is evolving, with some agencies sponsoring shared use, and some seeking to coordinate storage points (e.g., docking stations) with frequent service nodes.

As clearer evidence of the emerging advantages and disadvantages of shared use mobility in a range of environments is more clearly established, the NOACA region can benefit from shared acquisition of this information, continual consultation among transit agency planners, and central planning with pilot funding to test the most promising deployments.

A closely related transportation investment that has not attracted the attention or rate of development of shared use mobility is active mode mobility. Pedestrian infrastructure that facilitates transit access in a manner similar to micromobility, as well as traditional cycling infrastructure (e.g., lane protection, infrastructure, signage, wayfinding) are generally supported and receive modest investments.

Supporting and coordinating the roles of shared use mobility including micromobility and active mode mobility is an inherent role for regional transit to play. This longer-range activity will naturally build upon the related work and programs under NOACA's Transportation for Livable Communities Initiative.

5.2.3 Support Function – Shared Administrative Functions

The transit industry is an inherently collaborative industry, in part because each operating agency has a relatively secure monopoly to provide public transportation within a certain scope. The authority exercised by the five NOACA operating agencies in each of the five counties is typical of the industry. Without need for commercial secrecy, examples of transit agencies sharing information and functions are commonplace. The NOACA agencies are no exception. The examples of Laketran providing a needed scheduling/dispatching license to Geauga County, and GCRTA providing flexible funding to Medina County in exchange for use of more restricted funding are two examples. The short-term strategies include further collaboration that could be considered on a relatively short-term basis. The agencies should continue to identify ways of improving cost-effectiveness through these collaborative efforts to share responsibilities, achieving effectiveness, and economies of scale in support and administrative functions.

Two area where collaboration will likely continue to yield cost-effectiveness for the agencies are IT services and demand responsive scheduling and dispatching.

IT services, ranging from communications infrastructure to specialized transit application solutions, offer opportunities for the agencies collectively to benefit from each other's accomplishments, and to join forces to acquire more powerful capability. NEORide has demonstrated the effectiveness of these collaborations and NEORide's additional efforts in IT should be included as one avenue for agency collaboration. Because Medina and Lorain County contract out their operations, their opportunities to participate in collaborative IT services are different; however, for key applications, they can require their contractors to utilize regional solutions, and gain both economies of scale and additional operating data. For example, if three or four of the NOACA agencies acquired an enterprise asset management system (EAM) for demand responsive vans, Medina and Lorain could participate by requiring their incoming contracts to include use of the regional EAM. They would benefit from any regional savings as well as having direct access to the vehicles' maintenance and condition data.

Demand responsive scheduling and dispatching are rapidly evolving and becoming a larger proportion of many agencies' operations. The more advanced systems provide advantages in

terms of eligibility and repeat riders, responsiveness and reduction in advance reservation times, integration with financial tracking and contract service accounting, and are advancing toward real-time reservations similar to transportation network applications such as those used by Uber and Lyft. Advantages in regional shared databases would cost-effectively support inter-county demand responsive service policies.

5.2.4 Customer Interface – Fare Policy Alignment

A more unified customer information system (e.g., map and web site or call center) is recommended as a short term strategy, along with integration of fare payment and fare structures in Sections 5.1.3 and 5.1.4. To maximize a seamless experience for the customers and use fare policy to achieve equity and the most beneficial mix of transit services, substantially more work can be done than can be achieved in the short-term time frame.

In terms of customer information and marketing a more fully integrated system can be planned and developed over time. This would involve route naming and numbering, coordinated signage and adoption throughout all customer information materials, and can also include the vehicle and stop liveries (colors and graphic themes) and even the service names. New York State Metropolitan Transportation Authority, the Research Triangle Region of North Carolina, and the bi-state region of Kansas City are examples of customer information systems that have been developed over long periods of time to unify previously disparate systems from a customer's perspective. The New York Metropolitan Transit Authority's program was planned and implemented under the oversight of a regional agency, but the North Carolina and Kansas City programs were collaborations of autonomous transit operating agencies. The goal in each case was to provide more seamless travel planning and transport to the customers. However, individual system branding and consideration for potential differences in customer populations would need to be addressed.

Similarly, the full integration of fare policies will require a longer time period than the coordination of structures that can be achieved in the short range. Some simplification of transfer structures, reduced duplication of fare charges, and simplification of discount administration may be achieved in the short term. However, the policies result in fare box recovery ratios ranging from under 3 percent to 15 percent among the five systems. While separate agencies set their fare policies with autonomy, some consideration of allocation of regional resources and rationalization of the fare policies may both improve the allocation of resources and make the payment of fares easier to understand and more convenient. Monthly or other convenience passes for inter-agency travel may be possible and allocation of fares with a regional fare collection clearing system may be warranted.

Further integration of the customer information systems and fare policies to achieve a more seamless regional system and improve allocation of resources is a long-term regional transit strategy.

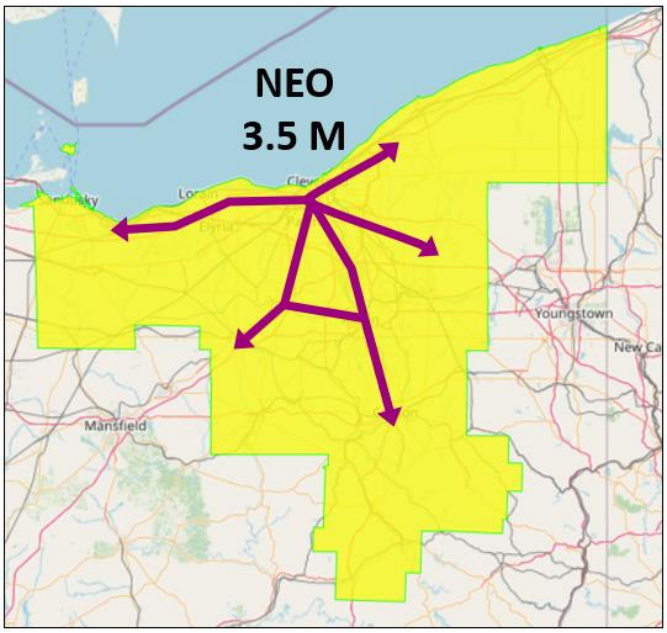
5.3 Aspirational Strategies

The aspirational strategies presented are high-potential and high investment risk actions that warrant investigation. They need to be evaluated objectively by quantifying the associated uncertainty and risk factors which should be monitored until the actions are determined as either feasible or infeasible. Whereas the short term and long term strategies in Sections 5.1 and 5.2 are part of the Regional Transit Strategic Plan and can result in cost effective improvements, the Aspirational Strategies are not yet clearly cost-effective, and will require future decisions. They

include: (1) regional high capacity transit, (2) connections to areas outside NOACA (high-quality transit/demand response/MB), and (3) regional transit funding.

5.3.1 Regional High Capacity Transit

To connect employment sites, including outlying job hubs with workers, high intensity regional transit service (bus rapid transit or rail) may become warranted in several radial corridors in the region. Frequent intercounty fixed-route service can spur growth of employment centers, employment, and economic development. These routes will achieve economic feasibility when they can carry work trips in both directions, converting traditionally unproductive outbound vehicle trips into productive reverse commute trips. The most promising bidirectional routes that should be periodically reevaluated to anticipate feasibility align with the corridors identified in the NOACA 2040 “Aim Forward” visionary plan for regional and interregional services.



Source: citypopulation.de

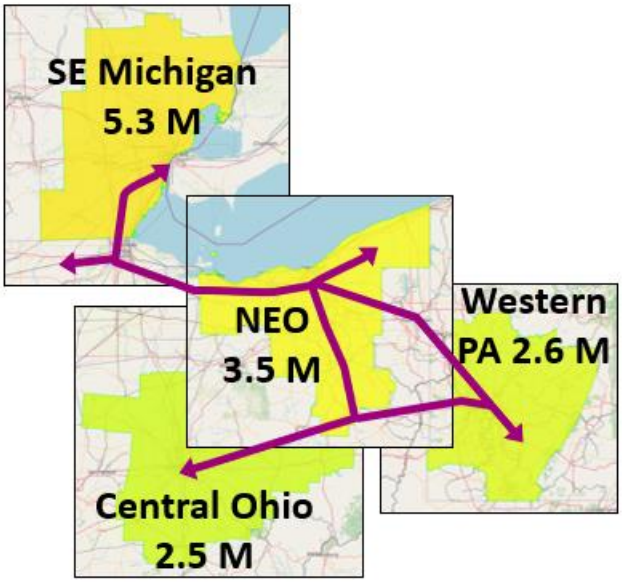
Figure 5-2: Combined Northeast Ohio Statistical Areas

It is noteworthy that although the scope of this plan is the five-county NOACA region, the travel patterns extend outside the region including not only Cuyahoga and Medina counties, but also Summit and Portage counties and the Stark County corridor. Efforts to facilitate investment in high capacity transit service that extends outside the five-county region are warranted. As development responds to transportation infrastructure and workforce accessibility, it will become possible to connect the 3.5 million residents in the wider Northeast Ohio.

In addition to the internal benefits for Northeast Ohio, the economic activity will also leverage intercity/multi-state corridor opportunities. A fine line separates urbanized Northeast Ohio from the additional five-million-plus residents in greater Youngstown, Pittsburgh, and Columbus. Intercity service to Sandusky (which is connected to Cleveland with state highways) and Toledo would approach metropolitan Detroit, Michigan. Northeast Ohio and these neighboring regions would all benefit from enhanced economic connectivity with Chicago, Illinois. Associated capital investments and service would benefit trip making within the NOACA region.

5.3.2 Connections to Areas Outside NOACA

In planning for potential investments in the future that may be warranted depending on how rapidly the region develops, it is worth considering linkages outside the five-county region and also outside Northeastern Ohio beyond traditional local public transportation. Investments in bi-directional regional service corridors outlined in the preceding section may also accelerate the development of the shared corridors for intercity service. As suggested by the inset maps, the same corridors, and potentially some of the same infrastructure that provides high intensity Northeastern Ohio transit service may support intercity service to Western Pennsylvania, Northwest Ohio, and Southeast Michigan urbanized areas. These are the same corridors that are monitored for high-speed rail feasibility. The potential to connect more than 14 million residents can warrant major collective efforts to secure federal investments leveraged by public-private partnerships that are demonstrating their value in intercity rail corridors across the country.



Source: citypopulation.de

Figure 5-3: Combined Statistical Areas: Cleveland, Pittsburgh, Columbus, Detroit

Peak directional highway-based transit currently operates between the NOACA area and the metropolitan planning areas that include Akron and Canton. Through coordination with operators in neighboring metropolitan planning areas, potential may exist for all-day, bidirectional transit service. This would be beneficial to NOACA County residents accessing jobs and education outside the NOACA area. These long-distance trips are rarely prioritized by county transit authorities. A new entity with the mission of funding and operating intercounty and inter-metropolitan service may be needed to diversify regional transit trip making.

NOACA has recently partnered with a technology developer to explore ultra-high-speed transport of passengers and goods between Northeast Ohio and neighboring major markets such as Chicago, Illinois and Pittsburgh, Pennsylvania. The Pennsylvania Turnpike Commission recently studied the market potential for connecting such a corridor to major East Coast markets (New York City and Philadelphia, Pennsylvania). The travel and economic development potential for such a system is promising, though the capital funding to develop such a network has not been identified. Local segments of such a network would be available for trips between the NOACA counties and other areas in urbanized Northeast Ohio.

A review of state-funded and interstate intercity passenger rail and motor coach corridors in the U.S. show benefits for travel within and between metropolitan areas. Infrastructure investments required to operate these intercity services tend to facilitate local regional trip making. For example, intercity investments along the Northeast Corridor between Boston, Massachusetts and Washington DC host multiple regional commuter rail corridors.

Examples now exist in Florida, California/Nevada, and Texas of intercity high-speed transport projects that rely on private capital financing. Florida's Brightline private-delivery intercity rail service was paused during the COVID-19 pandemic but remains under construction to extend from Miami to Orlando. Before the pandemic, the service operated 14 daily round trips along a corridor that is similar in length to Cleveland-Akron-Canton. The key to the Florida delivery model is right-of-way controlled for passenger service, intensive land development potential near stations, and strong intercity market potential. A private-public partnership is now exploring regional/commuter rail delivery over the same network. Extensive dedicated right-of-way is in public control between Cleveland and Canton and could potentially be leveraged for a private service delivery model linking to major markets near Northeast Ohio, such as Columbus, Pittsburgh, Pennsylvania, Detroit, Michigan, and Chicago, Illinois.

5.3.3 Regional Transit Funding

As the proportion of NOACA region travel that crosses county boundaries continues to grow and is supported by collaboration among the five operating agencies called for in the short term and longer-term strategies in this plan, the potential for regional funding dedicated to transit will also increase. The advantages of regional transit funding include the following:

- Increased revenue capacity and efficient administration.
- Clear accountability to the public that sees the benefits provided by the investments and services provided.
- Mobilization of several stakeholder governments and organizations, representing not only urban and suburban interests, but ties to surrounding rural areas that benefit from metropolitan development.

Stakeholder groups of this size can make clear cases to both state and federal officials regarding the material benefits of transit service and regional funding. Regional transit revenue may take the traditional form of excise or other taxes but may also include more innovative sources of revenue such as a mileage user fee that will be used to both manage and fund transportation. It may be administered by a regional organization providing regional services, by an umbrella agency coordinating services, or passed through directly to county operating agencies.

As the potential for regional transit funding is monitored and planned, several countervailing considerations experienced in these efforts should be addressed. Local priorities will, from time-to-time, supersede regional interests; the successful focus on regional action will depend on timing the initiatives so that they do not conflict with local agendas. In addition, regionalization should not undermine the responsiveness of local transit service planning and management. The service planning organizations should be flexible enough to coordinate locally responsive service with regional trends and investments. Last, a sometimes-under-estimated trend arises because of the labor-intensive nature of transit service (which generally expends 80 percent of its resources on wages and benefits rather than on materials, supplies such as fuel, or equipment). If the regionalization processes bring the work forces into closer proximity or involve merging them to accomplish inter-county objectives, an increase in total cost per vehicle

hour of service can be experienced, as has occurred in other regions. This results from the tendency to increase wages and benefits to the higher of any two unequal practices. When a complex system of wage rate structures, work allowances, compensatory premiums, and a variety of benefits are affected, the compound result can be difficult to anticipate and manage. Some regions have accepted the resulting reduction in the amount of service that can be provided, and others have managed the regionalization process to continue separate work force provisions.

The major service advantages of regional funding, and the increased convenience of regional services should continue to be weighed against the countervailing considerations as the NOACA region and its transportation needs develop.

6. Final Outreach and Lessons Learned

Following presentations before NOACA's Policy Committee in July, Transit Council in August, and Board of Directors in September, the project team decided to conduct a second round of outreach interviews with key elected, appointed, and transit officials within the agency's jurisdiction in order to gauge the overall reaction to the initial set of findings that had been shared at the aforementioned meetings. The first conversation was held September 15th and the last on November 19th. All were, because of the restrictions necessitated by the pandemic, conducted virtually. Following is a list of the officials, by county and in alphabetical order, who were interviewed:

Table 6-1: List of Stakeholders Interviewed for Final Outreach

Name	Position/Title	Organization	County
India Birdsong	General Manager and Chief Executive Officer	Greater Cleveland Regional Transit Authority	Cuyahoga County
Dennis M. Clough	Mayor of Westlake/Board President, GCRTA Board of Trustees	Greater Cleveland Regional Transit Authority	Cuyahoga County
Maribeth Feke	Director of Programming and Planning	Greater Cleveland Regional Transit Authority	Cuyahoga County
Michael Foley	Director, Department of Sustainability	Greater Cleveland Regional Transit Authority	Cuyahoga County
Valarie J. McCall	Chief of Communications, Government & International Affairs	City of Cleveland/ Member, GCRTA Board of Trustees	Cuyahoga County
Timothy C. Lennon	County Commissioner	Board of County Commissioners	Geauga County
Gerry Morgan	Administrator	Board of County Commissioners	Geauga County
JoAnna Santilli	Director	Geauga County Transit	Geauga County
Ben Capelle	Chief Executive Officer	Laketran	Lake County
John R. Hamercheck	President	County Board of Commissioners	Lake County
Matt Lundy	Member	County Board of Commissioners	Lorain County
Pamela Novak	Chief Financial Officer	Lorain County Transit	Lorain County
William Hutson	Vice-President	County Board of Commissioners	Medina County
Amy Lyon-Galvin	Assistant Administrator	Medina County Public Transit	Medina County
Shannon Rine	Director	Medina County Public Transit	Medina County

The final outreach interviews revealed among other things, the following: (1) widespread consensus around the need for further collaboration amongst local public transit agencies to reduce operating expenses and enhance service delivery; (2) interest in expanding cross-county public transit to specific destinations; and (3) the desire to have a central authority to coordinate and incentivize, if at all possible, inter-county partnerships.

The project team was buoyed by the fact that public transit agencies within NOACA's ambit are already engaged in many collaborative efforts and are interested in additional cooperative ventures. NEORide, of which both Laketran and MCPT are already members, is a consortium that shows particular promise in standardizing fare structures and collection systems (EZfare) and in providing a common travel app (Masabi). GCRTA is considering joining NEORide as well. One interviewee called for the five public transit authorities to develop and share best practices. Substantial support was present for the agencies and their counties to lobby collectively at the

state and federal levels to secure more funding to meet the needs of Northeast Ohio's public transit consumers.

Expanding cross-county travel is also on several of the counties and their public transit authorities' agendas. Laketran already expanded its existing demand response service to University Circle by increasing the number of daily vehicles on the route from three to five. This increase in service was directly included in its November 2019 transit sales tax ballot. A Lorain County official would like GCRTA to consider expanding its service area to include the cities of North Ridgeville, Avon, and Avon Lake. A Geauga County official would like improved access to Hopkins International Airport for county residents. Although Summit County is outside NOACA's jurisdiction, MCPT is strengthening its connection to the Greater Akron area. At least one Lake County official is pondering how to better link via public transportation Lake County to its neighbor Ashtabula.

A recurring comment from those the project team interviewed centered on the need for NOACA or some third party with the required profile and leverage to assume a leadership role in encouraging (hopefully, with money to seed efforts) and coordinating the desired inter-agency collaborations. One interviewee suggested that NOACA every year focus on a specific area of potential cooperation. Moreover, many of those with whom the project team conversed suggested that the Transit Council itself play a more substantive role, as one Lake County official stated, becoming a "more open sandbox for discussion and partnership."

In short, significant momentum exists to expand collaboration among the public transit authorities operating within NOACA's footprint, but the need exists for a centralizing force to catalyze and support such initiatives.

7. Conclusion

The purpose of this study was to provide a strategic action plan to support the development of a cohesive and coordinated vision for public transit investment in the NOACA region. Thus, the study team was charged with the following activities:

- Analyze current transit service, needs, gaps, and areas of potential improvement and enhancement; analyze the projected future population and service needs(regional); determine the transit options required to effectively serve the NOACA region as well as how to best connect the region.
- Develop a plan that supports the development of a cohesive, coordinated vision for investment in public transit on a regional scale.
- Improve coordination of the five current public transit agencies and examine opportunities for enhanced regional coordination with neighboring public and private transit systems and providers.
- Analyze current funding mechanisms and determine potential new sources of funding necessary to meet projected needs.
- Prepare a strategic plan which identifies strategies for enhancing mobility region-wide.

The focus of this regional plan was on inter-county travel and coordination with the intra-county planning carried out by the five respective transit agencies. A two-phased approach was therefore adopted. Phase I evaluated the existing conditions of the region. This evaluation involved an analysis of regional demographics, transit service, and travel patterns; a review of service, funding, and governance characteristics of the transit agencies in the region; stakeholder outreach; and a review of governance structures in peer regions. Phase II synthesized the analyses results and developed a set of short-term (1-5 years), long-term (5-10 years) and aspirational strategies for implementation. Aspirational strategies were those long-term actions considered to be of a higher risk and would therefore need further investigation into cost effectiveness before implementation.

The short-term action strategies developed have the most potential to produce immediate benefits within the short-term. They are as follows:

- Expansion of demand response service design to enhance intercounty service
  - Alignment of eligibility criteria
  - Develop cost-sharing for cross-boundary service where warranted for seamless transit
- Multi-jurisdictional procurement and support
  - Consider single procurement for service contractors
  - Advance existing NEORide initiatives for joint vehicle and equipment procurements
  - Consider centralized scheduling and dispatching for regional demand response transit
  - Continue to collaborate through active IT planning on shared IT services
- Unified regional transit information systems
  - Provide unified graphics and combined route maps to support cohesive regional transit

  - Provide regional transit information helpline or website. (e.g., 411 number)
- Coordinated regional fare policies
  - Encourage the use of existing unified fare collection systems
  - Coordinate regional fare structures

Implementation of these action strategies would potentially help the region to move towards further enhancing the existing coordination and collaborative efforts to continually improve transit within the region.

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