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1. Introduction

Lorain County initiated this project to assess and improve the performance of the Lorain County Transit (LCT) system. The plan begins with an evaluation of current services and funding operations. The plan then identifies and develops recommendations and strategies for strengthening linkages between entry level job-ready workers and job centers; for providing cost effective service to promote livability, mobility and transportation choices for Lorain County citizens; identifying and expanding sustainable and market-based revenue streams; and enhance utilization and viability of existing transportation investments.

Development of this plan was sponsored by Lorain County with funding from the Northeast Ohio Areawide Coordinating Agency (NOACA) Transportation for Livable Communities Initiative (TLCI) program. The objectives of the NOACA TLCI program are:

- Develop transportation projects that provide more travel options through complete streets and context sensitive solutions, increasing user safety and supporting positive public health impacts.
- Promote reinvestment in underutilized or vacant/abandoned properties through development concepts supported by multimodal transportation systems.
- Support economic development through place-based transportation and land use recommendations, and connect these proposals with existing assets and investments.
- Ensure that the benefits and burdens of growth, change and transportation projects are distributed equitably by integrating accessibility and environmental justice into projects.
- Enhance regional cohesion by supporting collaboration between regional and community partners.
- Provide people with safe and reliable transportation choices that enhance their quality of life.

This study was prepared by WSP in partnership with Lorain County and through a TLCI grant provided by NOACA





2. Background

Lorain County is an economically, racially and geographically diverse community. Affluent suburban areas along the county's eastern border and around Elyria and Lorain co-exist with low income urban neighborhoods, thriving farms with rural poverty, new office parks and shopping centers with under-utilized post-industrial properties. One of the most diverse areas within the northeastern Ohio region, the county is home to some of the region's largest industrial facilities, new medical facilities, office parks and shopping centers, and Oberlin College, one of the nation's most prestigious colleges.

The purpose of the Lorain County Transit Redevelopment Plan is two-fold: to provide a funding and operational model for transit in Lorain County that is sustainable, based on multiple and including market-based funding streams; and to overcome the present disconnect between the locations of workers who need jobs and job centers in need of their services, providing connections to educational, medical, shopping and other transportation needs to residents throughout the community. Improved transit connections would be a win for all concerned: for potential workers who need jobs, for employers who need workers, and for all county residents who will benefit from

lower taxes and higher levels of economic activity as a result of more people participating in the workforce.

The County recognizes that transit is a key component to economic opportunity. If transit can provide those who cannot drive themselves with access to jobs, everyone in the County benefits. New employees will take their first step on the ladder of economic opportunity and self-sufficiency. Improved access to jobs will enhance the lives of residents of low income areas, reducing economic and social isolation and improving neighborhood conditions. Expanded transportation options provide residents with improved access to education, medical care and shopping. Employers gain access to workers to support and expand their businesses. Increased economic activity benefits residents who already have jobs, by improving economic conditions and reducing tax burden. When measuring direct and secondary economic benefits, public transit investment often pays for itself in increased employment, economic activity, tax receipts, and reduced costs of public benefits.

Several studies and projects over the years, dating to the NEORail studies in the 1990s, the Vibrant NEO Project and NOACA Strategic Plan, have noted the need for improved and expanded transit services and other

alternative transportation facilities in Lorain County. Lorain County has invested millions in development of the Lorain County Transportation and Community Center, in and around Elyria's former New York Central Railroad station, and has made other transportation investments throughout the community. However, Lorain County Transit remains a small system primarily oriented to providing for the paratransit needs of the county's disabled community. Fixed route connections between the County's central communities and certain communities like Amherst and Oberlin, as well as job centers throughout the county, remain underdeveloped.

Recent innovations in technology and approaches to providing and funding transit services offer new opportunities to address the County's transportation needs. Subscription bus services, in which public transit agencies partner with employers to support transportation services for their employees, is a significant part of the transportation system in many parts of the country. Sponsorships, in which local businesses and institutions pay a portion of the cost of transportation services in exchange for naming rights, has helped provide transit service in many areas, with local examples in the Greater Cleveland RTA HealthLine and CSU line transit services.





Finally, new technologies have allowed transportation network companies (TNCs) like Uber and Lyft, as well as established taxi operators, to create new transportation models that offer opportunities for government to provide customized services to those who need transit at a reduced cost. Transit agencies throughout the country are working with TNCs to develop models that provide these services with access to transit-dependent populations and using regulations, bulk purchasing power and subsidies to provide customized services at a cost that is far less than that of conventional transit service for some types of trips. These options are explored as potential components of the transportation plan.

2.1 Project Objective and Goals

Developed by the Project Team at the kickoff meeting, the project objective and goals formed the guiding principles for plan development.

“The objective of the Lorain County Transit Redevelopment Plan is to develop a business case for Lorain County Transit to meet the needs of existing and future riders, maximize efficiency of agency and county resources, and aid in the economic and social success of Lorain County.”

The project goals are to:

- Design an efficient and effective transit system that meets the needs of the community within the agency’s financial limits.
- Provide greater access to transit for Lorain County residents, including better service and more destinations.
- Identify transit service links to underserved communities and destinations throughout the county and region.
- Provide transit service that enhances the livability of the Lorain County region.





3. Existing Conditions

commutes where the cost of commuting by car is high)

3.1 Demographic and Socioeconomic Trends

Transit tends to work best in areas of high population and/or employment density, where trips are shorter, and can be shared by multiple riders. Low-density areas are challenging to serve in a cost-effective way. Numerous demographic and employment trends in Lorain County were investigated and are summarized below. This information provided background for the assessment of existing bus service and ridership to assess the overall market potential for transit. The maps and tables below help explain where potential customers and trip generators are located, and identify population and employment trends. Typically, the best markets and opportunities for transit service include:

- Lower income workers
- Unemployed residents looking for work
- Elderly and disabled residents
- Lower income residents
- High school and college students
- Regional commuters (e.g., Lorain County residents who work in Cleveland, or have other long-distance





POPULATION

Figure 1 shows population change based on decennial Census data for the period between 2000 and 2010, and using the American Community Survey (ACS) data for the more-recent 2010-2015 period. Between 2000 and 2010, population growth was greatest in the northeastern suburbs bordering Cuyahoga County, with lower growth rates in rural, southern and western areas of the county. Areas of population loss are located in Lorain, Elyria, South Amherst, and Eaton.

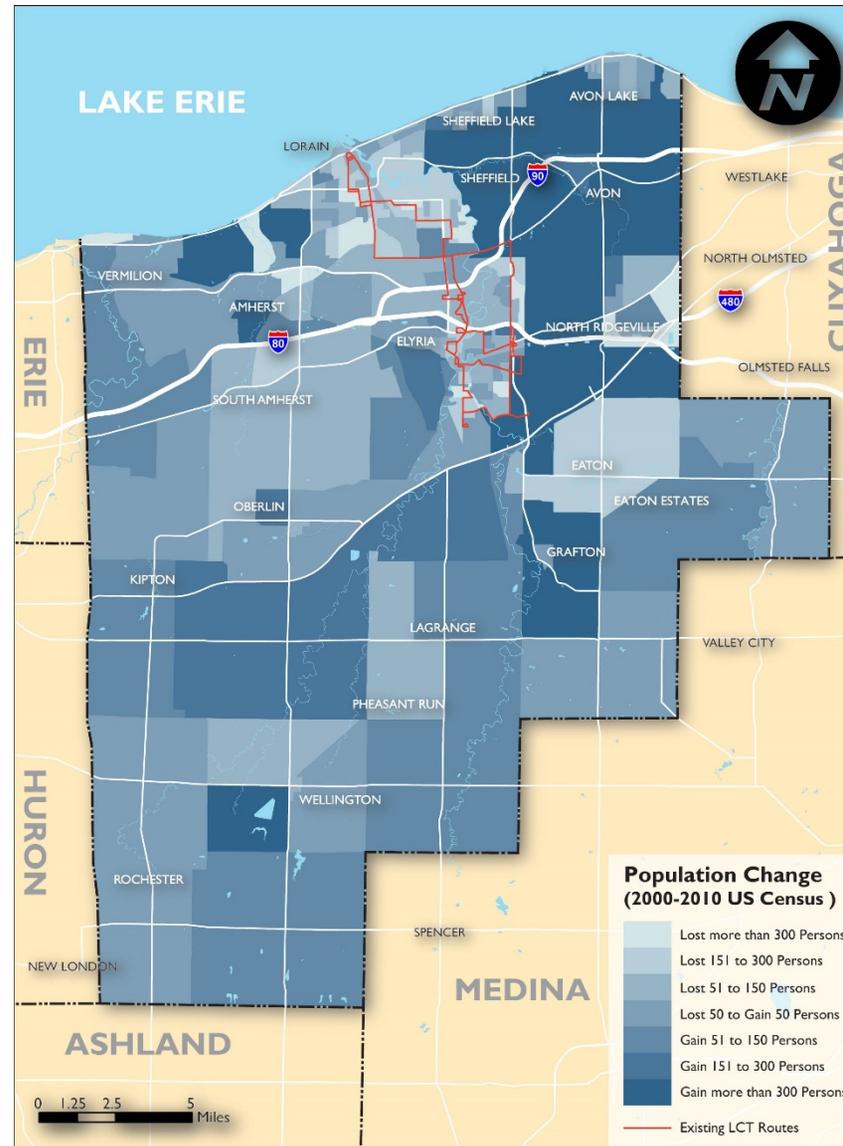


Figure 1: Population Change (2000-2010)





Figure 2 shows population change in the 2010-2015 period. Trends for the 2010-2015 period include:

- Population gains continuing in Avon and North Ridgeville;
- Rural areas with a mix of growth and decline;
- Small pockets of growth in southwest Lorain; and
- Population losses in many other communities in Lorain County.

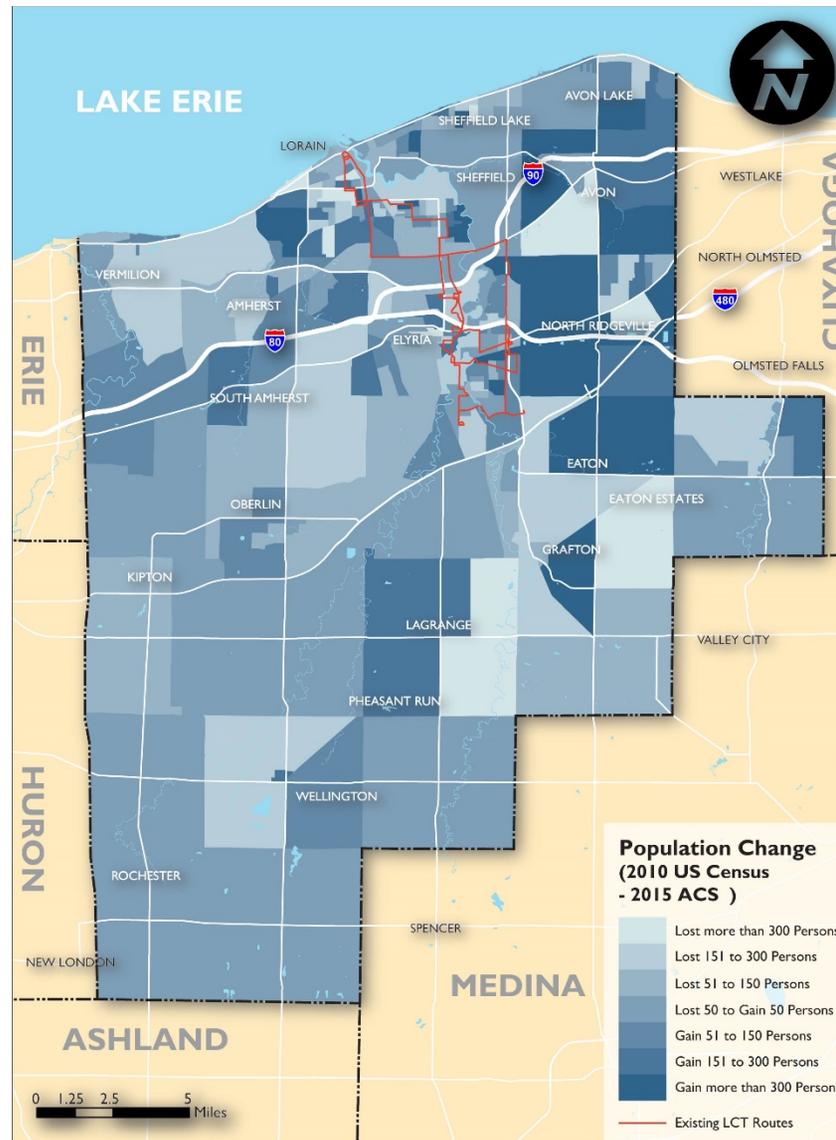


Figure 2: Population Change (2010-2015)





POPULATION DENSITY

Estimated population density in 2015 is shown in Figure 3. Despite population loss in parts of Lorain and Elyria, these two cities continue to have the highest population densities in the county. Density for most of Lorain and Elyria exceeds five persons per acre. Each city's downtown approaches 15 persons per acre, as do certain other neighborhoods. Other communities with higher than average population density include Sheffield Lake, Avon Lake, North Ridgeville, Amherst, Oberlin, and Wellington. Population density is relevant because, as noted, higher population densities allow for more-efficient transit service; more residents (potential transit riders) are located within walking distance of a bus stop.

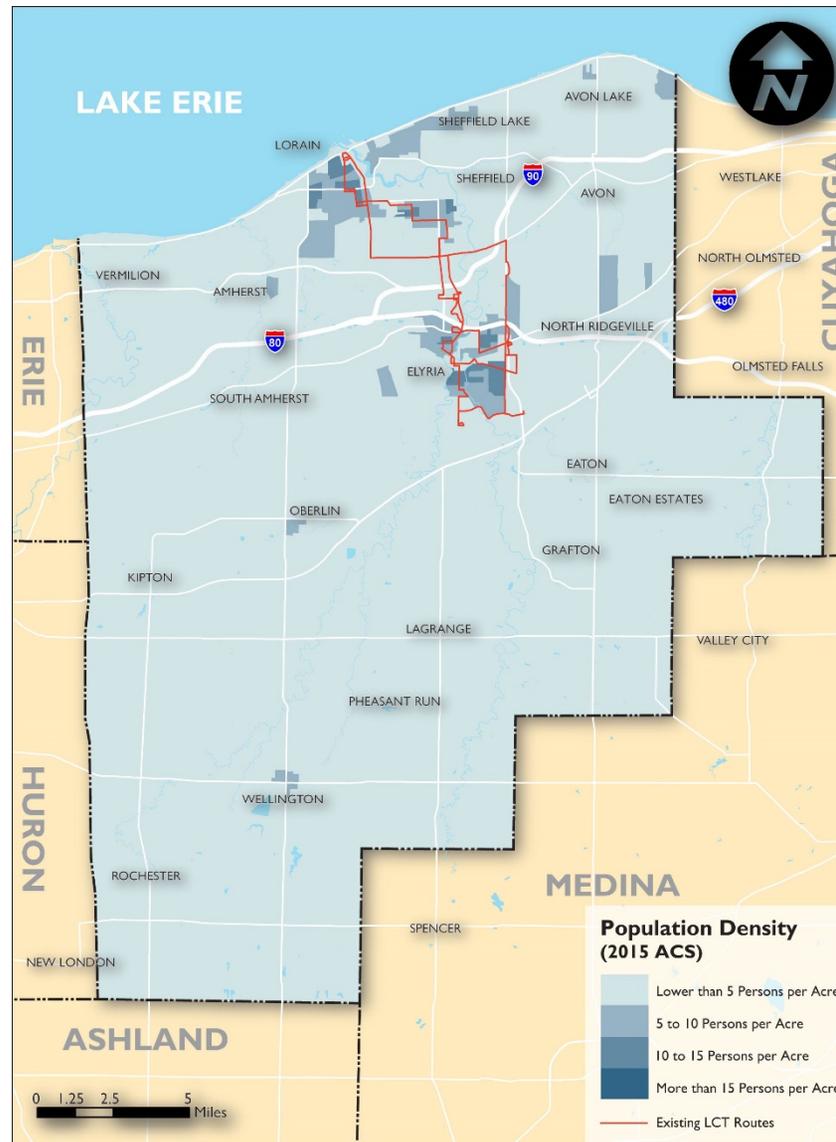


Figure 3: Population Density (2015)





EMPLOYMENT

Figure 4 shows the change in employment in Lorain County between 2006 and 2010. The employment figures show change in employment between 2006 and 2010, and more recent data from 2010 to 2014. There were large employment gains in Avon and northeastern Amherst between 2006 and 2010. In contrast, employment in almost all rural areas remained stagnant or declined; the largest job losses occurred in Sheffield, Sheffield Lake, Lorain, Elyria, parts of Amherst, and Wellington.

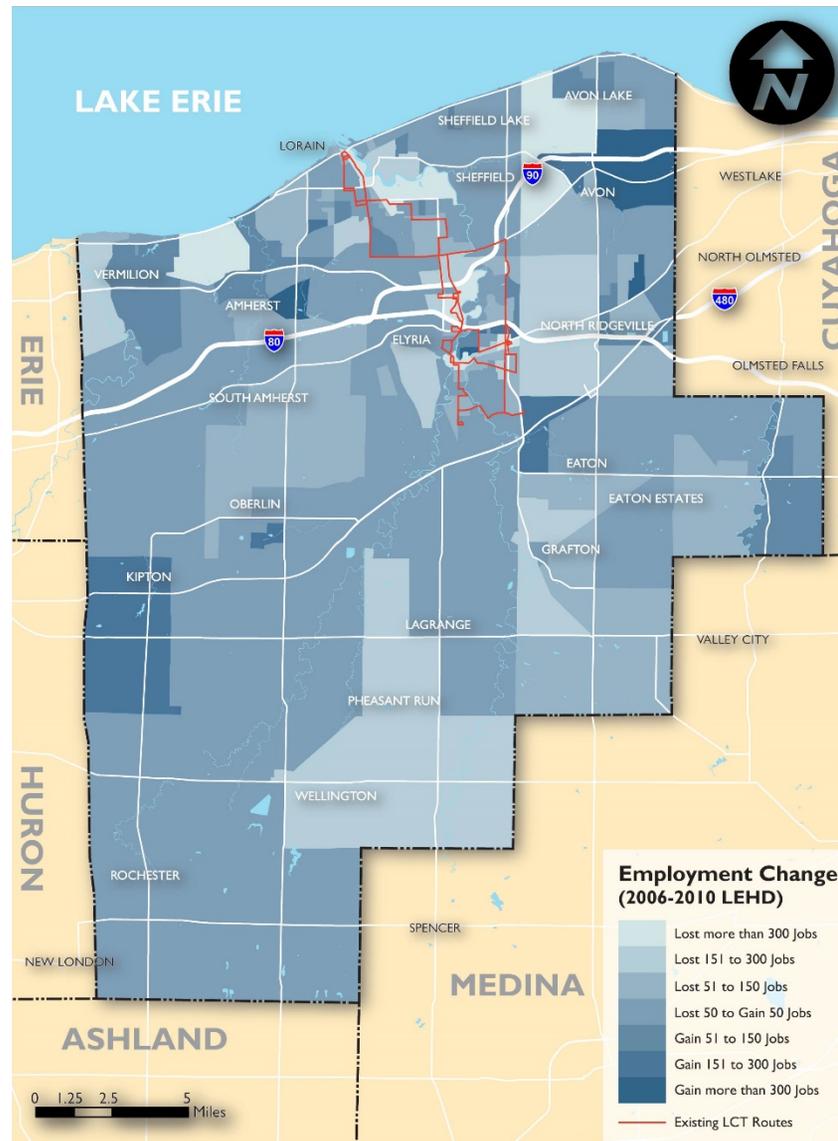


Figure 4: Employment Change (2006-2010)





Figure 5 shows employment change for Lorain County in the 2010-2014 period. During that period, large employment gains occurred in Avon Lake, Avon, North Ridgeville, and some areas of Lorain and Elyria. The largest employment losses during this period were in western Sheffield, Amherst, and Columbia Township.

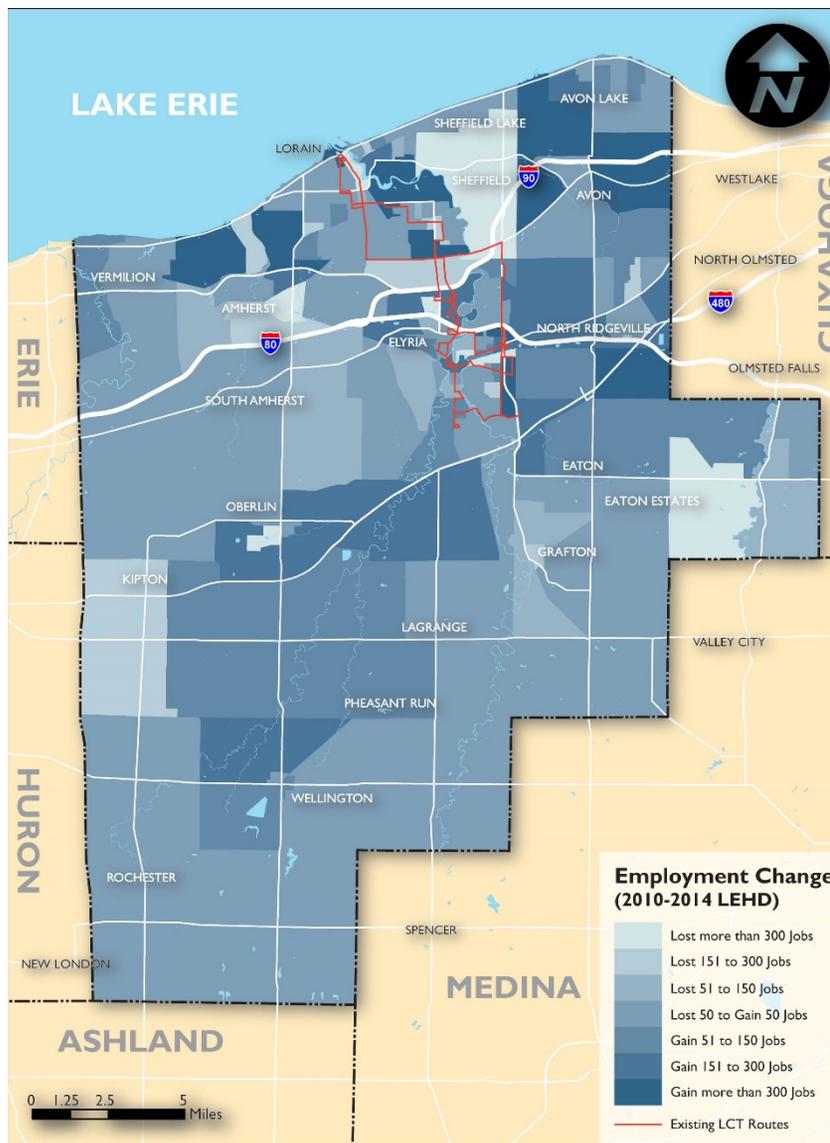


Figure 5: Employment Change (2010-2014)





EMPLOYMENT DENSITY

Figure 6 shows employment density in Lorain County in 2014. Outside of Elyria and Wellington, county-wide employment density is very low. This lack of density complicates the delivery of transit service in Lorain County. Employment density in downtown Elyria exceeds 15 jobs per acre. Employment density is more than 5 jobs per acre in downtown Wellington and in parts of Elyria outside of downtown. However, outside of these areas, county-wide employment density is lower than 5 jobs per acre.

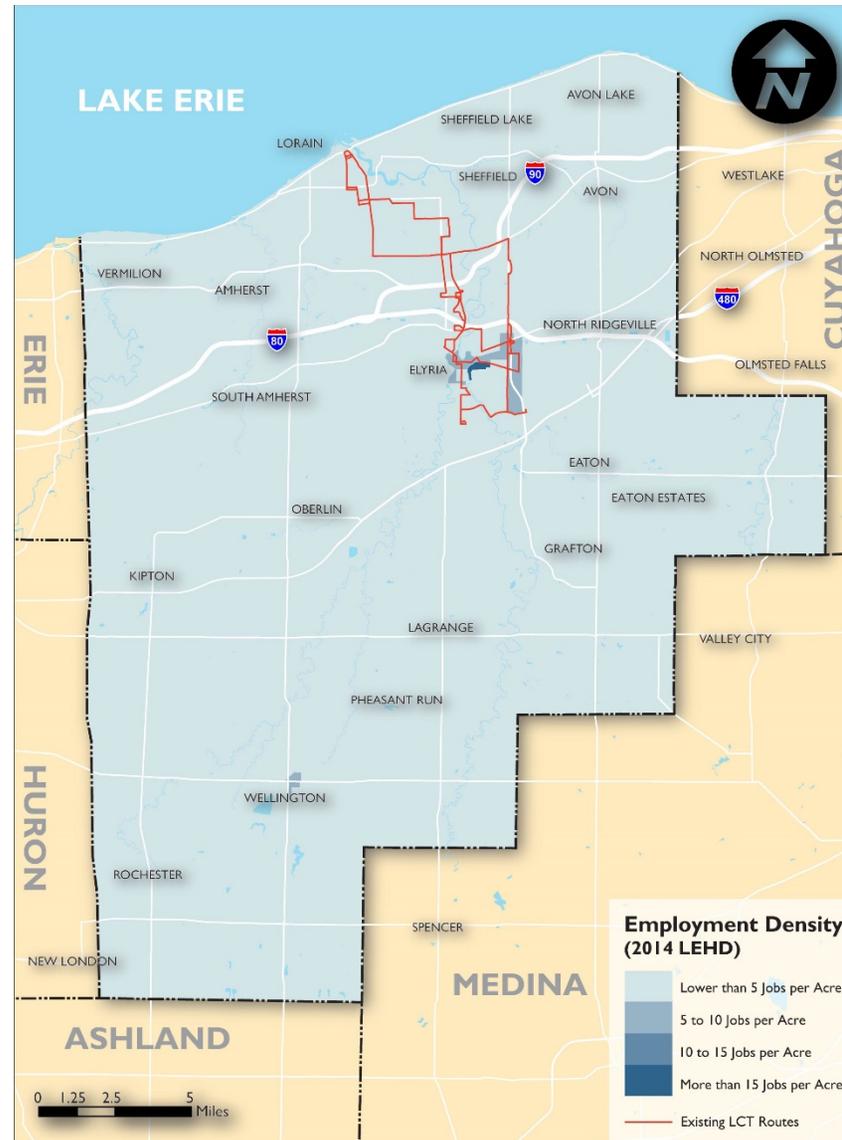


Figure 6: Employment Density (2014)





UNEMPLOYED POPULATION

The distribution of unemployment in Lorain County, according to the 2011-2015 ACS, is shown in Figure 7. The highest levels of unemployment are in northern Lorain County, including the cities of Lorain and Elyria. The city of Lorain has the highest unemployment density in the county, with over 40 percent of the labor force in some parts of the city looking for work. Two large census blocks in East Lorain, that indicate a relatively high percentage of unemployed population, actually have very low populations, as the majority of the land uses there are railroad yards and green space. The concentrations of unemployed residents of Lorain and Elyria could represent a potential transit market for bringing unemployed residents to jobs further east in the county, or into Cleveland and other parts of Cuyahoga County.

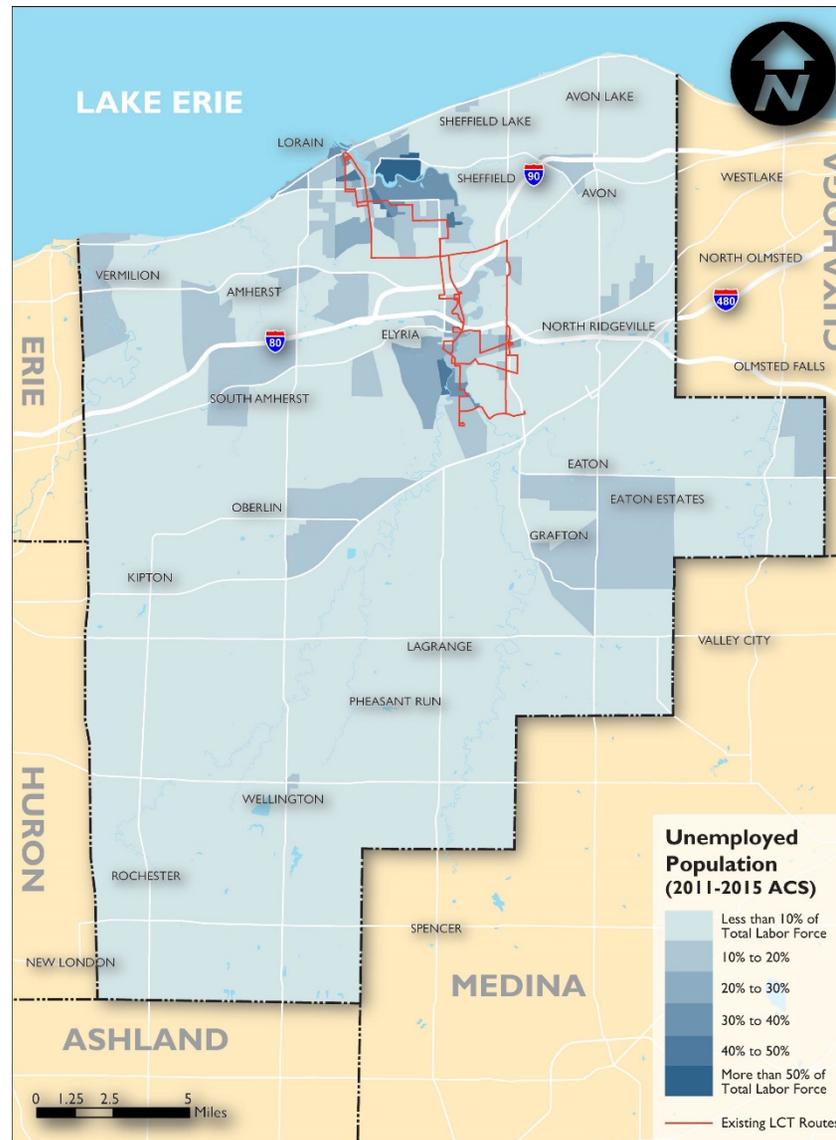


Figure 7: Unemployed Population





SENIOR POPULATION

Figure 8 shows senior population for Lorain County. Seniors, who are less likely to own and operate a vehicle, represent a population that is advantageous to serve with transit. The map indicates that there are few concentrations of seniors in Lorain County. However, some areas of high growth also show aging populations. Large senior populations aging in place in low-density residential areas will have consequences for growing paratransit demand in the future.

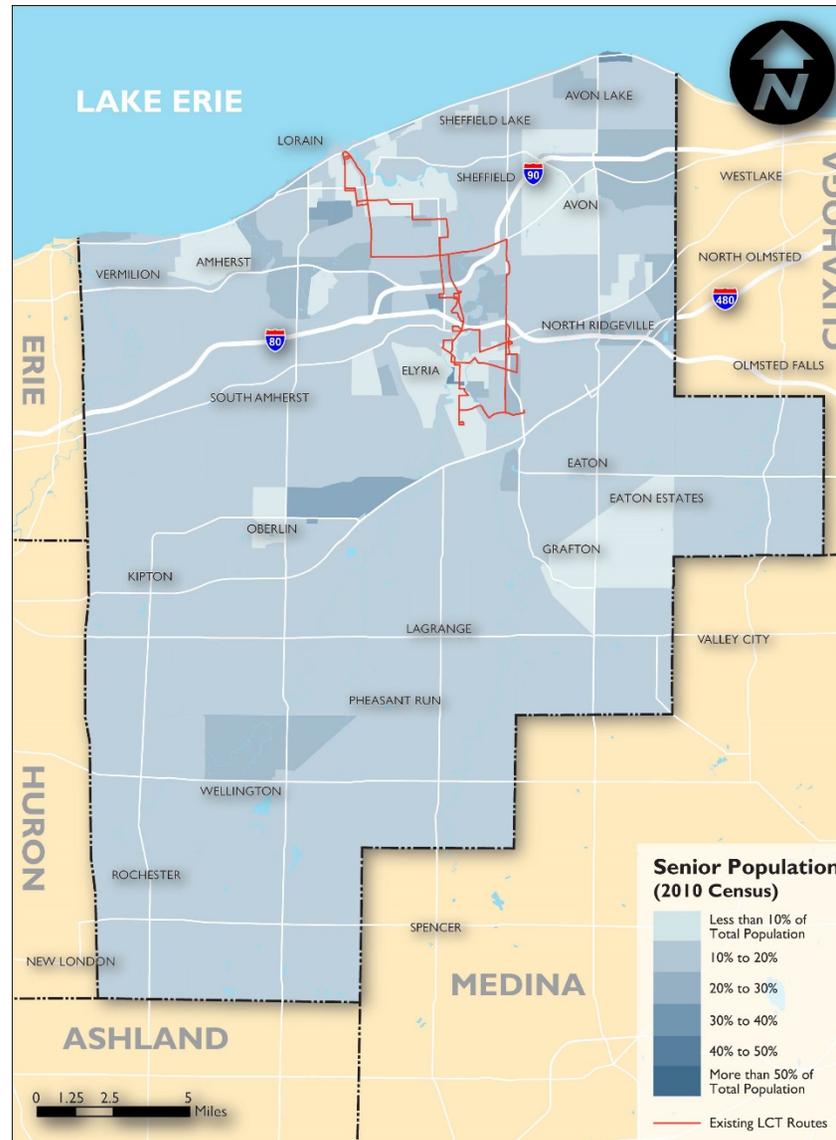


Figure 8: Senior Population





DISABLED POPULATION

Pockets of medium to high concentrations of disabled persons are located throughout the county, as shown in Figure 9. The highest concentrations of disabled persons are in Lorain and Elyria and in the areas between those two cities. Disabled people often report difficulty with transportation¹, and may therefore represent an additional potential transit market.

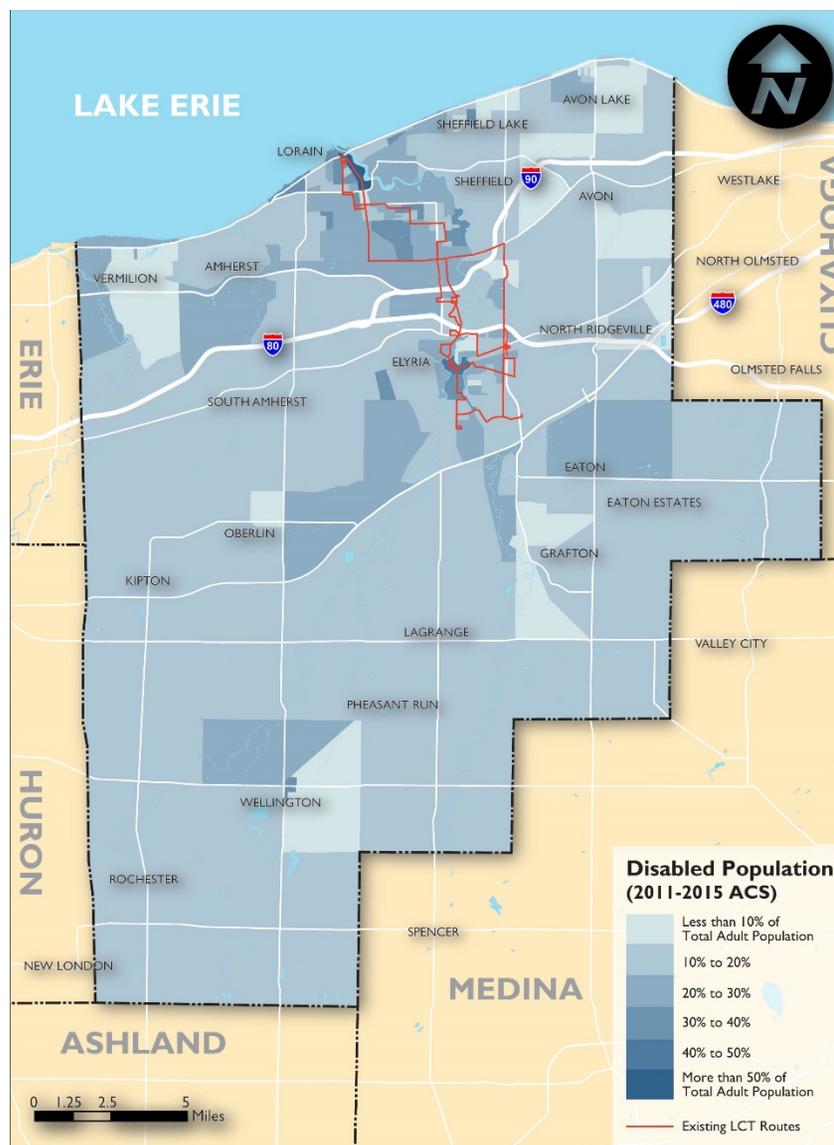


Figure 9: Disabled Population

¹ The Future of Disability in America, Institute of Medicine (US) Committee on Disability in America; Field MJ, Jette AM, editors. Washington (DC): National Academies Press (US), 2007, (<https://www.ncbi.nlm.nih.gov/books/NBK11420/>).





POVERTY

Figure 10 shows persons living below the poverty line in Lorain County. More than half of the population is living below the poverty level in large sections of Elyria and Lorain. Outside of these areas, there is very little concentrated poverty, except for a medium concentration visible in Oberlin, most likely students who typically have low or no income. Lower income households, particularly in urban areas, are more likely to rely on transit for transportation.

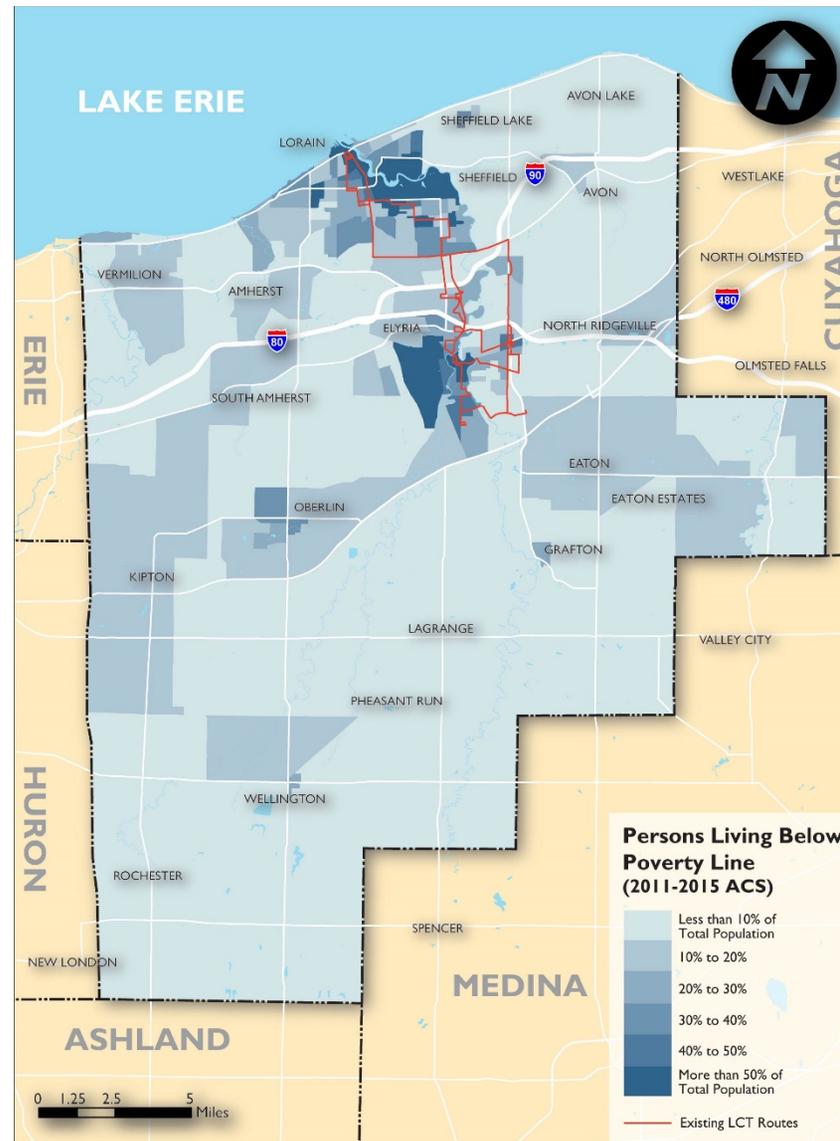


Figure 10: Persons Living Below the Poverty Line





ZERO-CAR HOUSEHOLDS

Lorain County households that lack access to a vehicle (Figure 11) are an obvious potential target market for transit. Elyria and Lorain have large areas where more than 30% of households lack access to a car. Oberlin also has a high concentration of zero-car households, most likely students living on and near campus. Portions of Wellington and Amherst also have concentrations of zero-car households.

DEMOGRAPHIC ANALYSIS SUMMARY

Analysis of the demographic data indicates several potential transit markets that are unserved or underserved by LCT’s fixed route system. LCT’s current transit service focuses on Lorain and Elyria. Potential transit markets are in the areas of greatest population and employment growth in Avon, Avon Lake and North Ridgeville, areas closest to Cleveland and other employment centers in Cuyahoga County, as well as employment growth areas in Amherst. The senior population is “aging in place” throughout the county, a trend that will increase future demand for disabled-accessible service in low density, hard-to-serve areas. On the positive side, existing fixed route transit is currently serving the areas with the highest densities of unemployed, low-income and transit dependent (zero-car) households, which are concentrated in Lorain and Elyria.

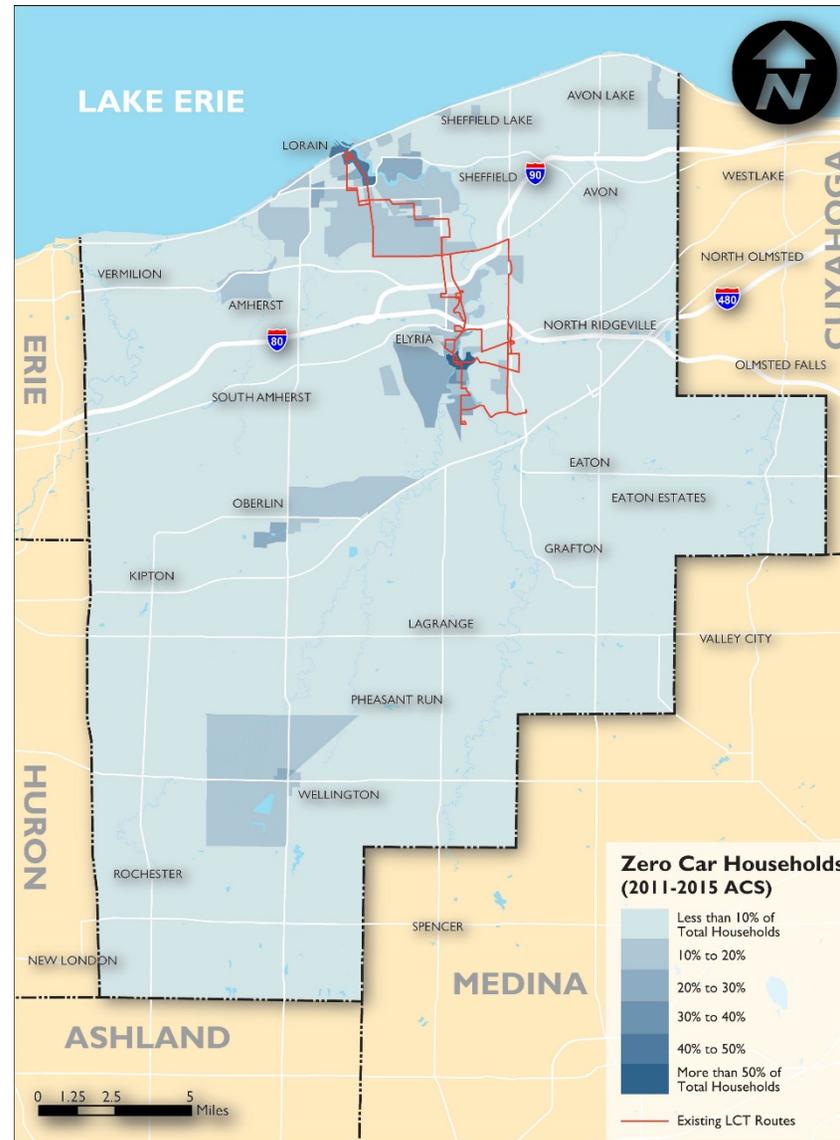


Figure 11: Zero-Car Households





3.2 Existing Transit Service and Riders

Lorain County Transit (LCT) currently operates four fixed route bus routes and an Oberlin Connector (to Elyria or Lorain). It also provides paratransit “Dial-A-Ride” services, as required by the Americans with Disabilities Act (ADA), to serve individuals who have difficulty accessing the fixed route service. LCT fixed route services are described in detail below. Other passenger transit services in the county are:

- Oberlin Airport Connector (to Cleveland Hopkins)
- Greyhound (stops in Elyria at the Lorain County Transportation & Community Center)
- Amtrak (four trains daily, all stopping between 1:00AM and 5:00 AM)

LCT FIXED ROUTE SERVICE

LCT’s existing fixed routes are mapped in Figure 12. Each route stops in the rear parking area of Life Skills High School in Elyria, which serves as a hub to allow for transfers. Service is largely focused on the cities of Lorain and Elyria, areas with the historically highest population and employment densities.

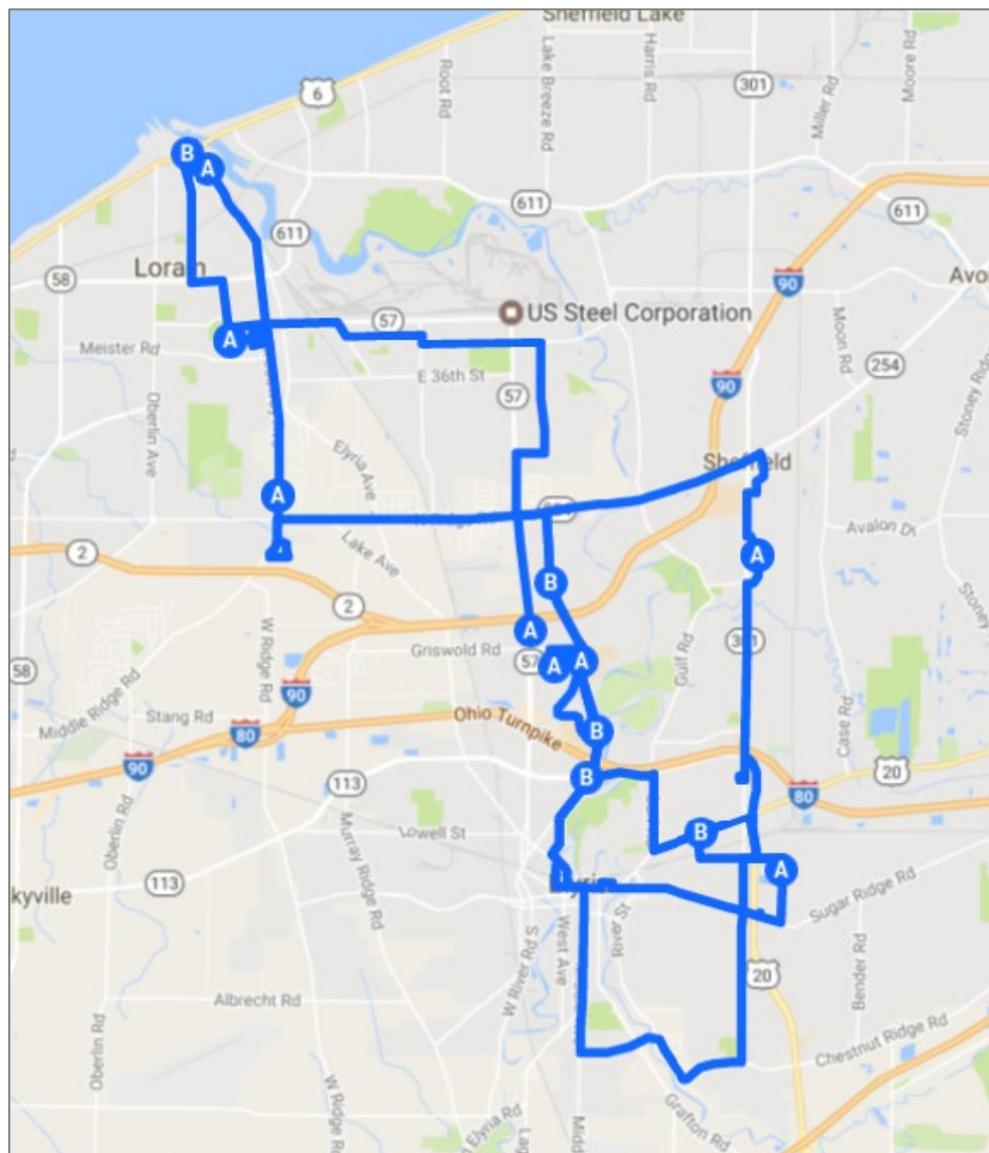


Figure 12: LCT Fixed Route Bus Service





The four routes with fixed route service are:

- Route 1: Lorain/Elyria via Washington
- Route 2: Lorain/Elyria via Broadway
- Route 51: East Elyria/Broad Street Loop
- Route 52: East Elyria/Abbe Road Loop

The span of service varies for each route so that buses are covering both Lorain and Elyria every hour, albeit in different parts of the cities. Route 2 operates from 5:30AM to 4:30PM, Route 1 and Route 52 operate from 6:30AM to 5:30PM, and Route 51 operates from 7:30AM to 6:30PM. Service is available only on Mondays through Fridays. The frequency of service (wait time between buses) is 120 minutes, a long time compared to routes in most peer transit systems.

Route 1 – Lorain/Elyria via Washington

LCT’s route diagram for Route 1 is shown in Figure 13. Route 1 begins at Life Skills High School transfer point in Elyria, traveling along West River Road, North Ridge Road, serving Sheffield Center, Gathering Hope House, Lorain County Department of Job & Family Service, OhioMeansJobs, the Nord Center, then turns onto Broadway, Oakdale, and Washington Avenue, stops at Meridian Plaza, and turns back to Life Skills High School transfer point via the same route. Route 1 serves Mercy Cancer Center (Shadden Road) upon request only. Route 1 turns into

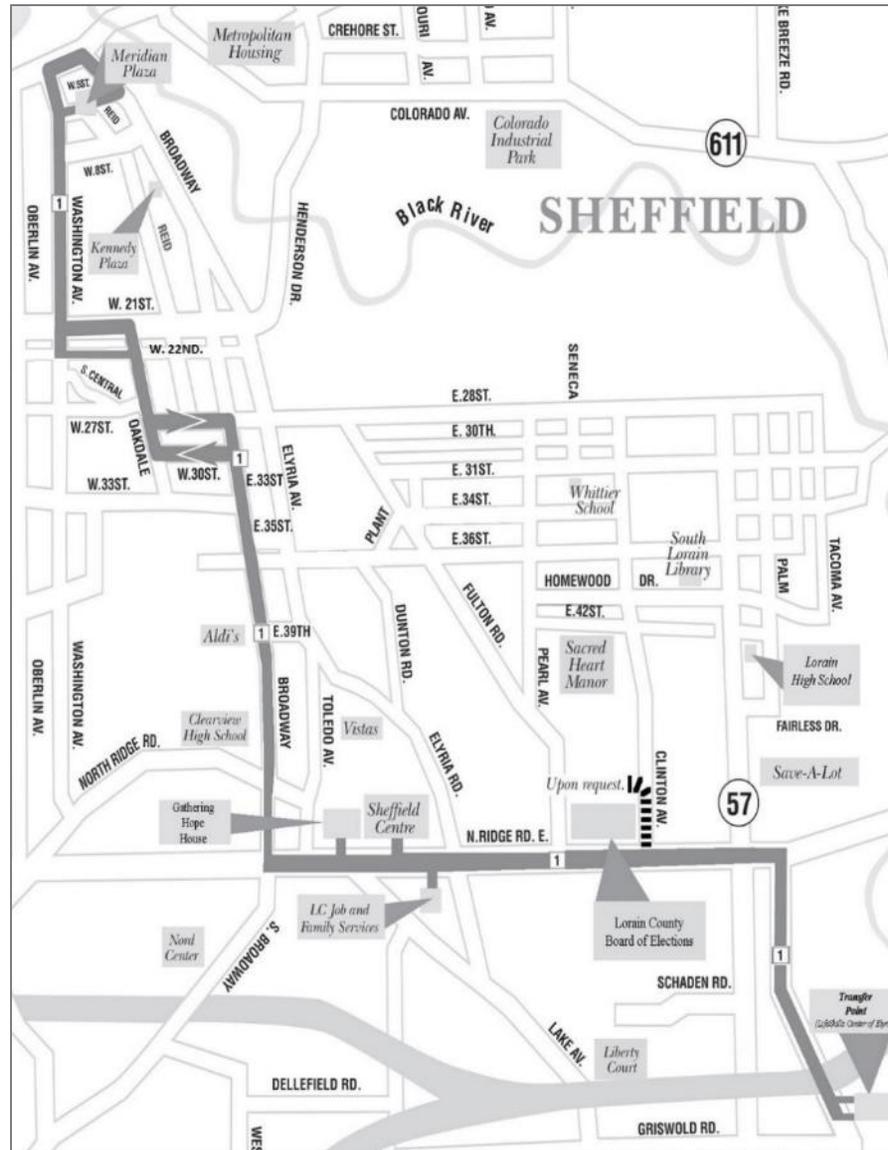


Figure 13: LCT Route 1





Route 51: East Elyria/Broad Street Loop

LCT's route diagram for Route 51 is shown in Figure 15. Route 51 is a counter-clockwise loop begins at the Life Skills High School transfer point and travels on West River Road, Foster, Chestnut, Broad Street, Route 301 (Abbe Road), and Route 254 (Detroit Road), before turning south onto Route 57 to return to the transfer point. The route serves Elyria Public Library (West River Branch), Harr Plaza, Elyria City Health Department, Lorain County Health & Dentistry, EMH/Gates Medical, Amtrak, Tri-City Family Medicine, DaVita Dialysis Center, Kensington Square Apartments, Sheffield Crossings, Lorain County Community College (LCCC), Fresenius Medical Care Elyria, Ohio Business College, and EMH Sheffield Medical Building. By request, Route 51 serves Bell Avenue & Furnace, Burger King (off Cleveland Street), Cobblestone, Schadden Road and Marc's (by Midway Mall).

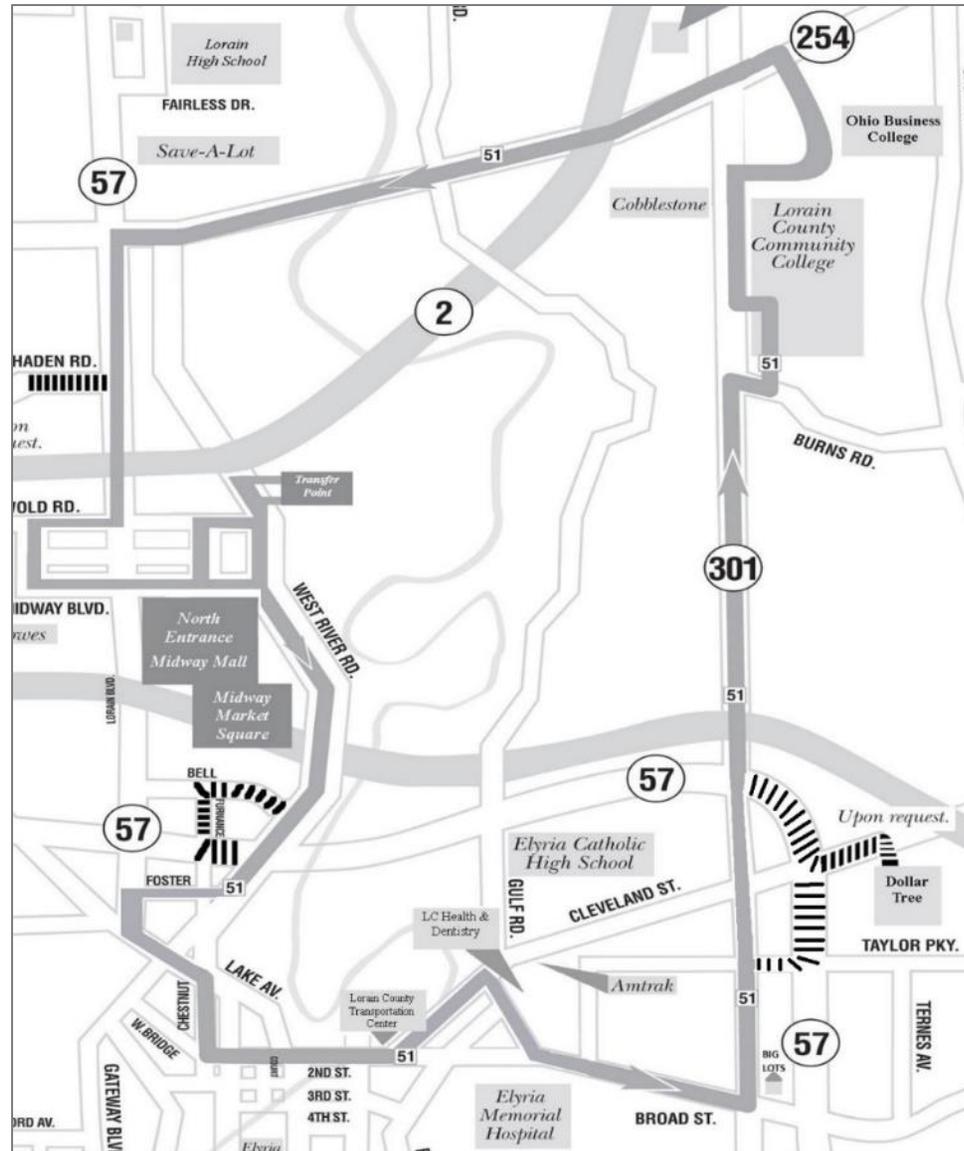


Figure 15: LCT Route 51





Route 52: East Elyria/Abbe Street Loop

The route diagram for LCT’s Route 52 is shown in Figure 16. Route 52 travels in a clockwise loop south of Route 52 in Elyria. Starting at Life Skills High School, it heads south past Midway Mall and Midway Market Square, down West River Road, turning east on Route 57, south on Gulf Road, east on Cleveland Street to Route 301 (Abbe Street). Traveling south on Abbe Street, the route heads west on Chestnut Ridge and Fuller, then north on Middle Avenue and West River Road back to Life Skills High School. The route serves Elyria Catholic High School, Elyria United Methodist Home, and Elyria High School. Upon request, Route 52 serves Taylor Woods Industrial Park, Ternes/Reaser Industrial Park Complex, Sugar Lane/Sullinger Industrial Park Complex, Fresenius Medical Care Heritage, Chestnut Commons (by Burger King), and Colonial Oaks Mobile Home Park.

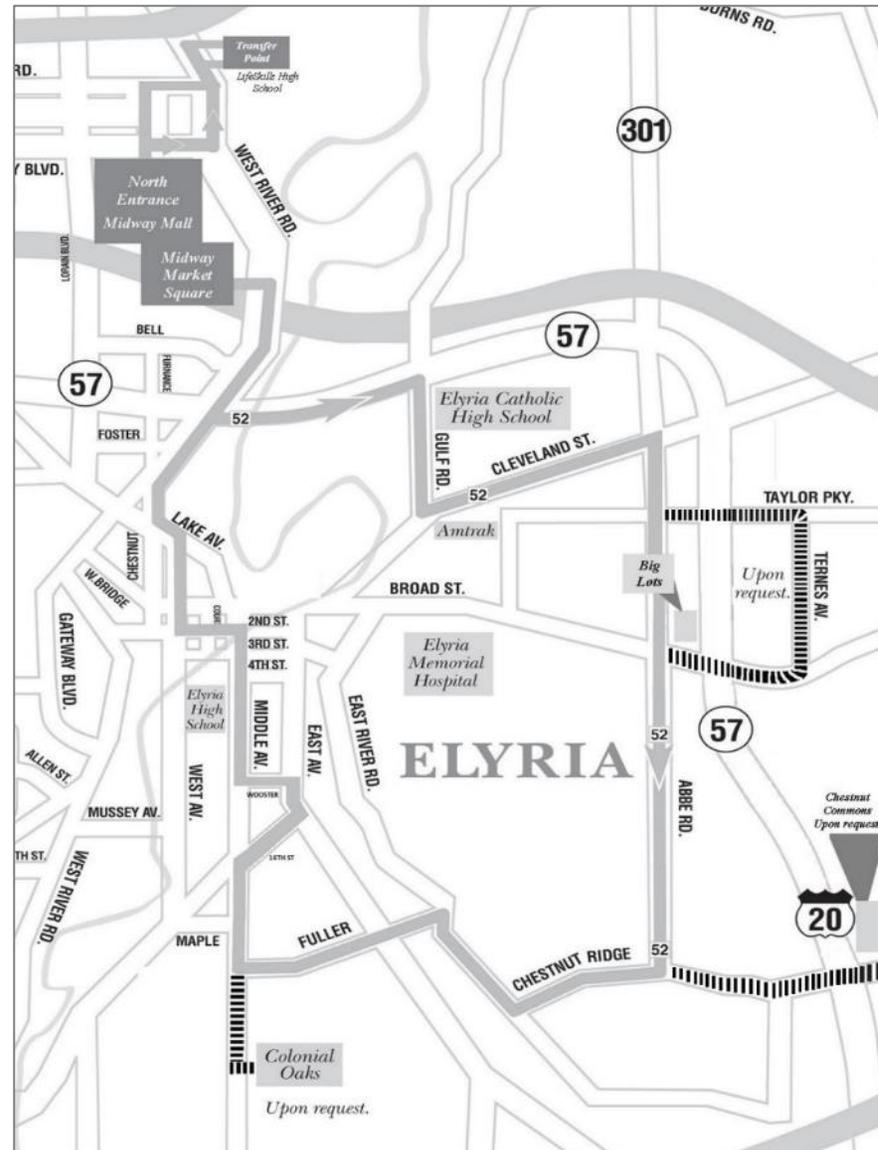


Figure 16: LCT Route 52



LCT FIXED ROUTE RIDERSHIP

Annual ridership for LCT's fixed route system from 2007 to 2017 is shown in Figure 17. Figure 18 shows monthly ridership for the period from January 2012 through December 2016. Table 1 shows ridership and other performance statistics for 2016 for each of the four individual routes.

LCT ridership fell precipitously when service levels were reduced in 2009. Today, ridership on the system is low, and continues to fall. The low frequency of the service (two hours between trips on individual routes) and the short span of service (no service coverage for second or third shift workers) pose challenges for users. Low ridership has led to low route productivity (riders per hour or mile of service provided), which is also shown in Table 1.

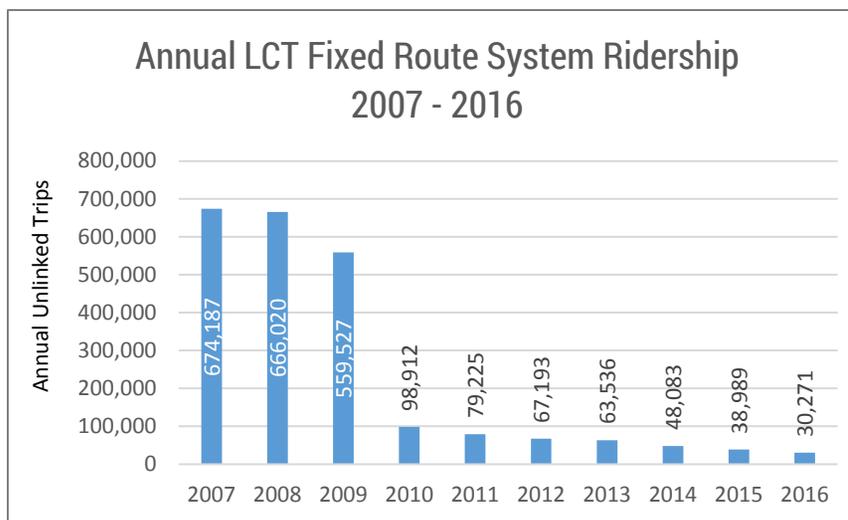


Figure 17: Annual Ridership 2007-2016

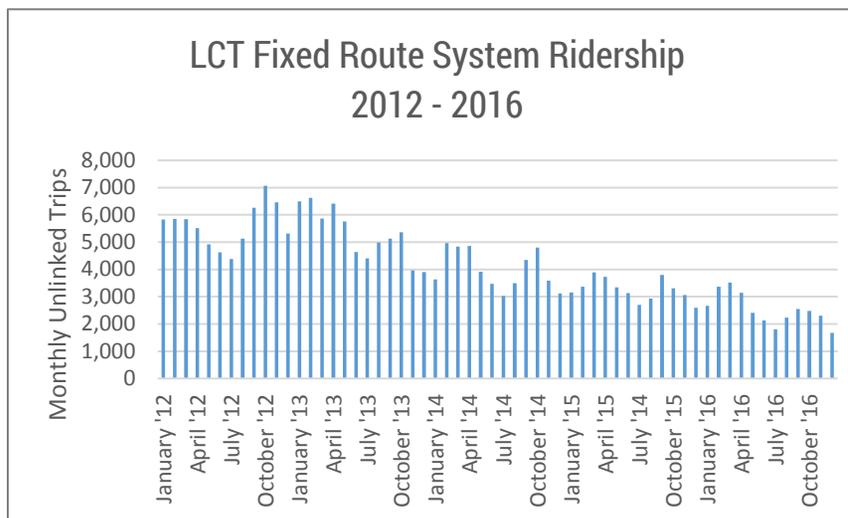


Figure 18: Monthly Trips





Table 1: Ridership and Route Productivity by Route

Route	Top Destinations	Ridership (2016)	Trips per Revenue Mile	Trips per Revenue Hour
1 Lorain/Elyria via Washington	<ul style="list-style-type: none"> • Lorain County Job and Family Services • Sheffield Center • Meridian Center 	7,234	0.29	4.8
2 Lorain/Elyria via Broadway	<ul style="list-style-type: none"> • Meridian Plaza • Southern Heights Lpd Partnership Apts 	7,101	0.29	4.8
51 East Elyria/Broad Street Loop	<ul style="list-style-type: none"> • LCCC • Ohio Business College • Elyria Public Library West River Branch • Harr Plaza • Downtown Elyria 	8,496	0.37	5.7
52 East Elyria/Abbe Street Loop	<ul style="list-style-type: none"> • Lorain County Administration Building • Chestnut Commons • Elyria Municipal Court • Midway Mall & Market Square 	7,440	0.32	5.0





3.3 Governance, Financial Status and Fare Policy

LCT is a division of Lorain County government and is governed by the Lorain County Commissioners and administered by the Lorain County Executive. LCT service is operated by First Transit, a private firm that operates bus service under contract in many US regions and internationally. First Transit manages the day-to-day operations of the service, and the bus operators, supervisors, maintenance personnel and dispatchers are employees of First Transit. Lorain County is responsible for the planning and strategic direction of the service, for installing and maintaining signage, shelters and other passenger amenities, and for acquiring and managing grants and managing the agency’s finances.

TRANSIT FUNDING

Table 2 shows LCT’s revenues for the years 2008 to 2017. As the table shows, the largest share of LCT’s revenues are derived from Federal grants, principally from FTA’s 5307 formula grant program, which provides grants to support public transit service in local areas.

As Table 2 shows, between 2008 and 2013, Lorain County greatly reduced its allocation of funding for LCT, from \$1.25 million in 2008 to \$500,000 in 2009, \$100,000 in 2010 and only \$50,000 in 2013. Federal and state operating assistance and Federal capital grants – which require local matching funds – also fell rapidly over that period. The volume of transit service operated, and the number of passenger trips provided, fell precipitously over that period, as shown in Figure 17 on page 21. Funding sources that are related to the number of trips carried by the service— particularly fare revenue—also fell dramatically between 2009 and 2013. Lorain County increased its allocation to LCT nearly nine-fold, from \$50,000 in 2016 to \$425,000 in 2017.

LCT’s 5307 grants provided nearly \$900,000 in operating and capital grants in 2016 and nearly \$1.06 million in 2017. Federal funds amounted to more than 70% of total revenues in 2016 and nearly 50% in 2017. The Ohio Department of Transportation, through its Ohio Public Transportation Grant and Elderly and Disabled Transit Fare Assistance programs, provided about \$94,000 (less than 8% of total funding) in 2016 and \$80,000 (less than 4%) in 2017.

Fare revenue, including contracts under which government and non-profit agencies purchase tickets in bulk to provide to clients, generated about \$82,000 in 2016 and \$91,000 in 2017. Given operating expenditures in those years, this works out to a farebox recovery ratio of about 11% in 2016 and 7% in 2017. LCT received \$50,000 (4% of total revenues) in funding from the Lorain County general fund in 2016. This increased to \$425,000 (19% of revenues) in 2017. This increase was in response to a new contract for LCT to provide services under contract to the county’s department of Job & Family Services. Additional grants from Job & Family Services increased revenues in the Charges for Services category from \$83,000 in 2016 to nearly \$450,000 in 2017. This additional local funding resulted in an increase in local matching funds, which enabled LCT to receive more than \$200,000 in additional FTA 5307 grant funding.





Table 2: Lorain County Transit Revenues 2016-2017 (Year of Acquisition Dollars)

Revenues	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Federal Grants										
5307 Operating Funds	394,652	1,429,093	30,651	479,576	647,391	541,339	544,104	364,893	501,668	438,415
ARRA Funds	-	432,284	738,694	66,461	70,990	10,461	-	-		
5307 Capital Funds	1,320,689	1,313,614	560,652	298,788	595,696	420,343	370,251	300,962	387,500	621,371
State Grants	425,668	526,818	459,261	136,316	181,140	110,645	129,435	99,595	94,076	80,427
Local Grants (County Allocation)	1,250,000	500,000	100,000	100,000	94,000	50,000	50,000	50,000	50,000	425,000
Farebox Revenue	534,673	501,602	163,858	136,930	120,582	139,790	109,728	99,032	69,489	78,694
Farebox Contracts	72,295	7,148	839	3,747	3,140	2,099	3,878	8,659	12,642	12,306
Advertising Commission	58,356	55,463	29,340	3,780	1,260	9,928	4,430	9,483	2,520	1,260
Refunds/Reimbursements	125	770	745	-	-	1,842	10,108	11,633	19,772	19,021
Rental Payments	-	-	-	-	1,200	-	-	6,182	23,740	27,885
Charges for Services	29,590	24,939	13,320	35,431	47,743	49,045	59,992	46,379	83,439	448,789
Insurance Proceeds	-	-	-	-	-	-	-	-	-	31,827
Personal Property-Sale	-	13,807	16,210	-	-	-	22,285	-	-	1,075
Cash Balance Carried Forward	235,665	247,193	386,099	48,731	103,219	41,045	40,775	76,010	70,903	91,793
Total Revenues	4,321,713	5,052,730	2,499,669	1,309,759	1,866,361	1,376,538	1,344,986	1,072,828	1,315,749	2,277,863





The \$900,000 in revenues in 2016, and nearly \$1.06 million in 2017, that LCT received from the 5307 was less than its full allocation of funds available under that grant program in both years. LCT has not received its full 5307 allocation in several years, due to lack of sufficient local and state match funds. For example, Lorain County's allocation of FTA 5307 grant funds in 2018 is \$2.69 million. Assuming about 80% of these funds (about \$2.15 million) were used for operating expenditures, and the remainder (about \$540,000) were used on capital, LCT's local match requirement would be nearly \$1.2 million. This includes \$1.08 million to provide the 50% match for the operating funds, and \$108,000 for the 20% match for the capital grant. This means that any additional funding provided by either the State of Ohio, Lorain County Commissioners or other local source would be matched at a rate of at least 1:1 by Federal funds dedicated to providing improved and expanded public transit service for Lorain County residents.

LCT's operating expenditures for 2016 and 2017 are shown in Table 3. As the table shows, most of LCT's expenditures (85% in 2016, 92% in 2017) are dedicated to purchasing transit operating services from First Transit. The remainder primarily covers

the salary and benefits of LCT's one non-contract employee, and vehicle maintenance and utilities costs not covered under the First Transit contract.





Table 3: Lorain County Transit Operating Expenditures 2016-2017 (Year of Expenditure Dollars)

Expenditures	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Salaries	162,832	157,357	44,672	42,589	43,557	45,356	50,991	48,034	48,534	50,036
Fringe Benefits	63,891	54,764	18,537	22,556	23,229	24,654	26,897	28,517	29,398	24,904
Worker's Compensation Insurance, Unemployment	4,890	10,515	17,862	6,339	3,776	933	812	1,000	826	-
Contract Services										
First Transit	2,141,436	2,163,676	1,035,408	724,908	980,070	706,968	680,719	510,884	630,237	1,264,588
Professional Services	-	64,380	46,273	1,168	1,578	1,430	620	212	-	10,200
Supplies	16,143	7,158	1,717	1,028	4,618	7,169	7,840	3,468	137	287
Utilities	11,228	8,525	3,977	2,880	3,535	3,150	3,594	4,257	2,742	4,500
Dues	7,402	7,116	5,969	5,409	8,913	9,516	9,516	9,516	9,516	9,516
Marketing	7,836	11,988	3,503	128	260	2,489	5,062	406	184	-
Vehicle Expenses/Building Maintenance	4,835	9,400	4,522	3,450	6,581	4,942	11,685	5,816	16,619	3,152
Other Miscellaneous	3,167	1,775	1,851	1,470	4,299	3,727	8,426	13,613	1,389	1,351
Total Operating Expenditures	2,423,660	2,496,654	1,184,290	811,925	1,080,415	810,334	806,163	625,723	739,581	1,368,535





Table 4 shows LCT’s capital expenditures for 2008 through 2017. Like operating expenditures, capital expenditures were reduced in response to the reduced county allocation beginning in 2009. From a peak of nearly \$2.2 million per year in 2009, capital expenditures fell to less than \$400,000 in 2015. Expenditures more than doubled between 2015 and 2017, in response to the increased county funding and associated increase in Federal grant funding.

Most of LCT’s capital expenditures (well over 90% in both 2016 and 2017) were utilized to reimburse First Transit for maintaining LCT’s transit vehicle fleet. The small remainder of

the capital expenditures were used to purchase vehicle equipment in 2016 and to purchase a replacement vehicle (fully funded by an insurance disbursement) in 2017. As the table shows, LCT has not invested in replacement vehicles since 2010. Given the normal four-year useful life of gasoline-powered, cutaway vehicles, all of LCT’s vehicles are at, or beyond, the end of their normal useful life. Significant expenditures on replacement vehicles will be necessary within the next few years to avoid excessive maintenance costs and potential safety concerns related to operating older vehicles with high mileage.

Table 4: Lorain County Transit Capital Expenditures 2016-2017 (Year of Expenditure Dollars)

Expenditures	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Vehicle Expenses										
First Transit	1,482,972	1,596,118	693,165	373,485	744,620	525,429	462,814	376,203	457,296	776,714
Replacement Vehicle	121,413	322,370	395,431	-	-	-	-	-	-	28,490
Construction	-	205,591	170,401	21,131	280	-	-	-	-	-
Equipment for Vehicles	46,476	45,900	7,650	-	-	-	-	-	27,079	-
Total Capital Expenditures	1,650,861	2,169,978	1,266,647	394,615	744,900	525,429	462,814	376,203	484,375	805,204





TRANSIT FARES

Shown in Table 5 and Table 6, current LCT fares are very high compared to other agencies, even large transit agencies that provide a higher level of service frequency and connectivity. Greater Cleveland Regional Transit Authority (RTA), for example, has a one-way fare of \$2.50 to \$3.75, with \$1.25 for seniors and disabled, and \$2.75 for paratransit (Dial-A-Ride). Monthly passes are \$95-\$110, or \$48 for senior/disabled.

In addition, the price relationship between multi-use fare media should be reviewed, for example, a 10-ride pass costs more than purchasing 5-day passes.

The usage of the different fare categories is shown in Figure 19. The data shows that despite the high price, the full fare is the most-used fare product. The reason for this may be that low-income users have difficulty paying for multi-use fares. The student fare is the second most-used fare product; use of the student fare remains high during summer months. The multi-ride passes, such as the monthly pass and the 10-Ride Pass, are rarely used despite the slight discount. Even the day pass accounts for only 10% of the fares purchased, which is odd given that transit trips are typically round trip. It is possible that the ending of service before 6:00pm on all routes, and as early as 4:30pm on Route 2,

has forced many workers to use transit only on the way to work, and they are relying on other modes to return home (taxis, rides from family members or co-workers, or walking).

On December 1st, 2017, Lorain County Commissioners accepted the proposed fare structure and implemented the fare reduction. For more detail on the proposed fare structure please see section 7.1 on page 83 and 84.

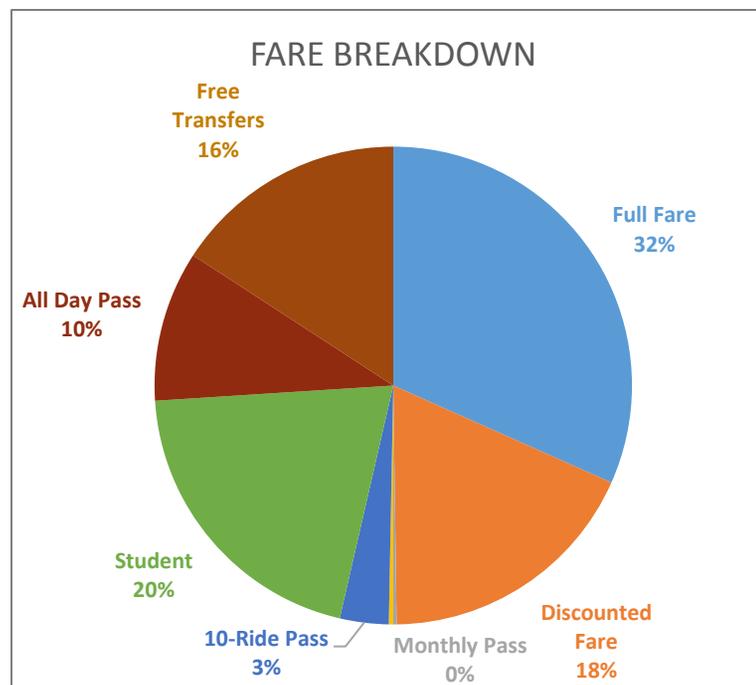


Figure 19: Fare Breakdown (Usage of Fare Types)

Table 5: Current LCT Fares

Type	Full Fare	Senior/ Disabled	Student
Single Ride	\$4.10	\$2.05	\$1.80
Day Pass	\$6.75	--	--
10-Ride	\$36.90	\$18.45	\$18.00
Monthly Pass	\$164.00	\$82.00	--
Dial-A-Ride	\$9.25	\$4.60	--





Table 6: Current Fares of LCT and other Northeast Ohio Peer Transit Agencies

Agency	Single Ride Full Fare	Single Ride Senior/ Disabled	Single Ride Student
LCT	\$4.10	\$2.05	\$1.80
Akron METRO RTA	\$1.25	\$0.50	Free with MetroZip Card
Greater Cleveland RTA	\$2.50	\$1.25	\$1.75
Laketran	\$1.75	\$0.75	\$1.50
Medina County Transit	\$1.50	-	-
PARTA	\$1.00	\$0.50	Free with FLASHcard
SARTA	\$1.50	\$0.75	-





4. Potential Transit Markets and Opportunities

This chapter addresses characteristics of current transit users in Lorain County, transit markets and transit travel patterns. The market analysis consists of analysis of:

- Transit trip generators in Lorain County, to determine if there are concentrations of origins and destinations that are not being served by fixed route transit;
- Census journey-to-work data, showing job locations of Lorain County residents;
- Results of a 2013 NOACA survey of fixed route transit users in Lorain County, including both LCT routes and RTA routes that serve Lorain County residents;
- Results of a 2017 on-board passenger count of LCT bus riders;
- Information on the (discontinued) LCT park-and-ride service to Cleveland; and
- Results of a 2017 license plate survey at RTA park-and-ride lots, including both bus and rail park-and-ride lots, to determine the presence of Lorain County vehicles.





4.1 Trip Generators

Trip generators within Lorain County were examined to determine if there are concentrations of destinations that are not currently being served by transit. These destinations are mapped in Figure 20:

- Hospitals and medical facilities
- Malls and shopping centers
- Educational facilities
 - Middle and high schools
 - Life skills centers
 - LCCC
 - Oberlin College
- Employment destinations
- Metro Parks
- Others (i.e. Apartment complexes)

LCT serves the greatest concentrations of destinations, which are located in Elyria and Lorain. However, LCT misses many important destinations in other communities including:

- Avon
- North Ridgeville
- Amherst
- Oberlin
- Wellington

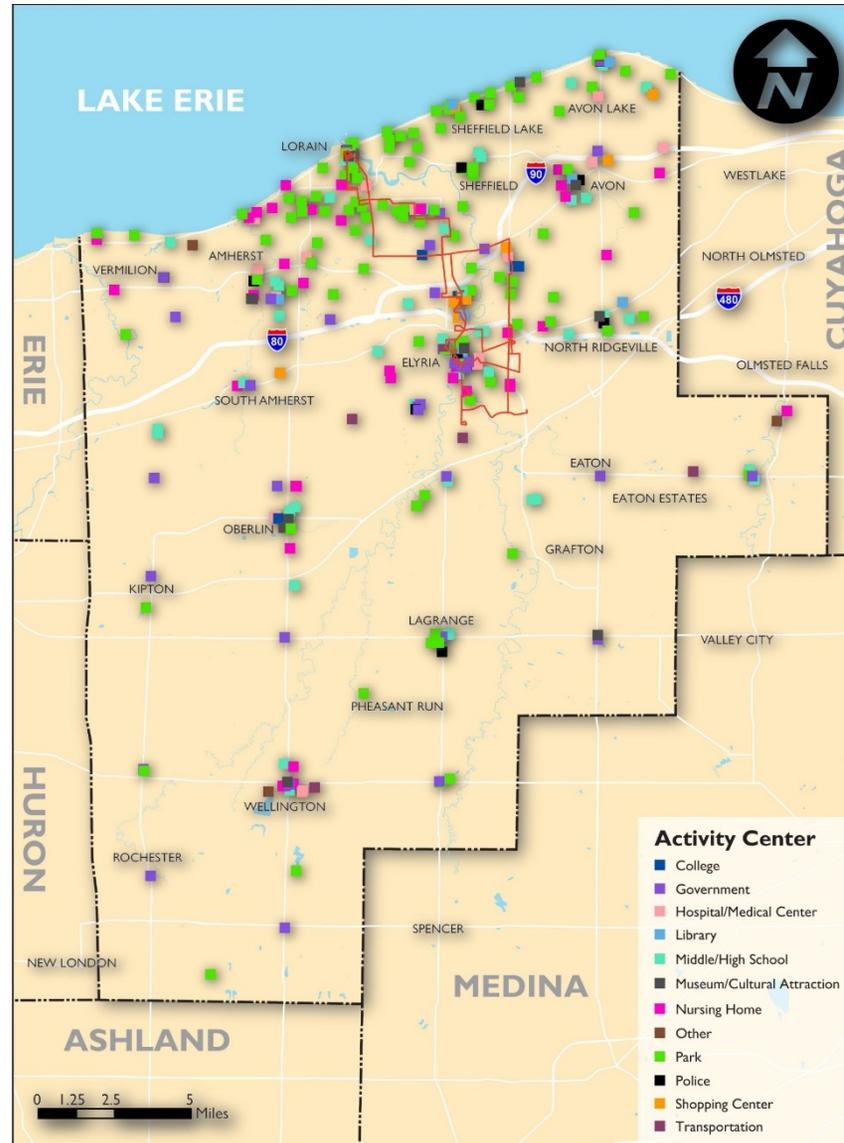


Figure 20: Activity Centers in Lorain County





4.2 Journey-to-Work Trends

The Census provides journey-to-work information which indicates where workers live and work, the duration of their commute, typical travel times, and what their mode of transportation is (walk, bicycle, drive alone, carpool, motorcycle, and various forms of transit). Figure 21 analyzes journey-to-work data from 2002-2014 for working individuals living in Lorain County. Findings indicate a shift in job locations from Lorain to Cuyahoga County:

- The number of jobs held by Lorain County residents in 2012-2014 is roughly the same as before the recession
- The number of jobs within Lorain County that are held by Lorain County residents has not returned to pre-recession levels
- The number of jobs within Cuyahoga County that are held by Lorain County residents is now higher than before the recession, and continues to grow

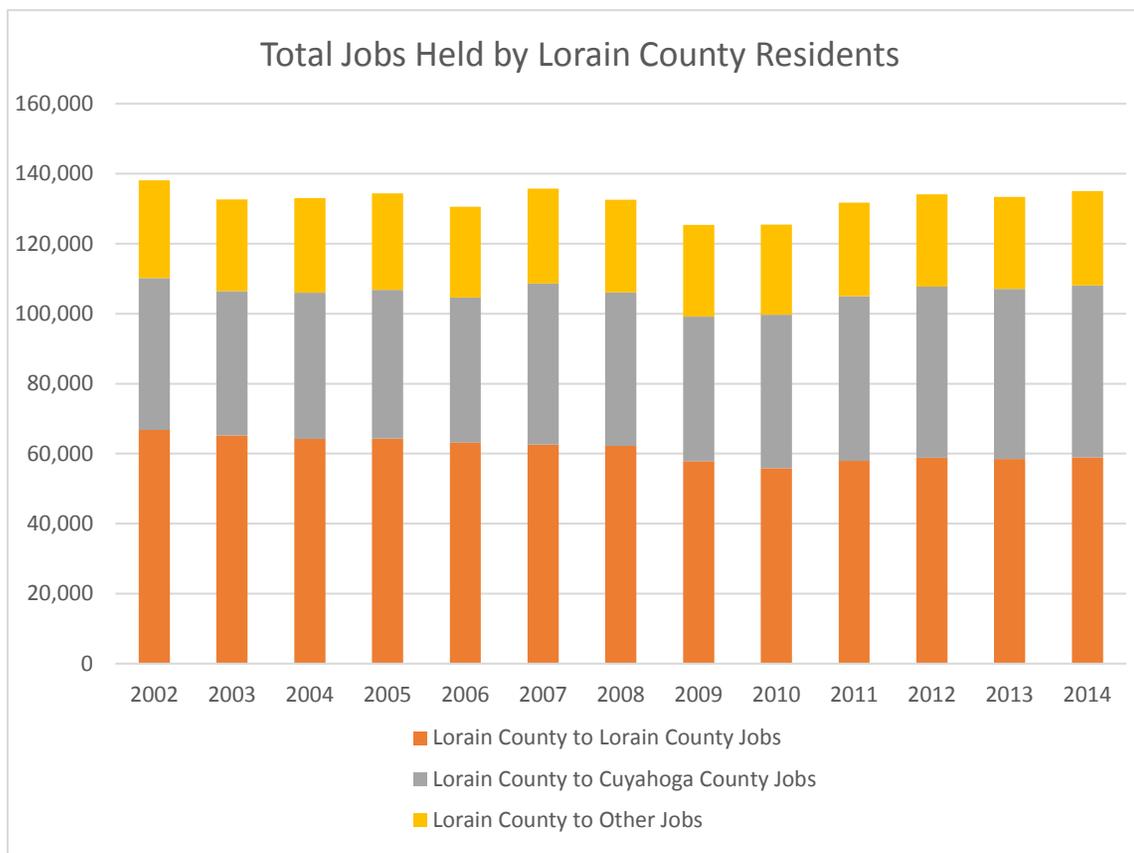


Figure 21: Location of Jobs of Employed Lorain County Residents





Figure 22 shows the trend to Cuyahoga County jobs more clearly.

- 36 percent of employed Lorain County residents hold jobs in Cuyahoga County (up from 31 percent in 2002)
- 44 percent of employed Lorain County residents hold jobs in Lorain County (down from 48 percent in 2002)
- Lorain County to Cuyahoga County commuting has grown by about 10 percent since 2002, and now represents nearly 50,000 daily trips

These trends, in part, reflect Lorain County's growth in communities along its border with Cuyahoga County, which tend to be oriented to Cuyahoga County employment markets, and population loss in Lorain, Elyria, and other areas of central Lorain County, where most residents both live and work in Lorain County.

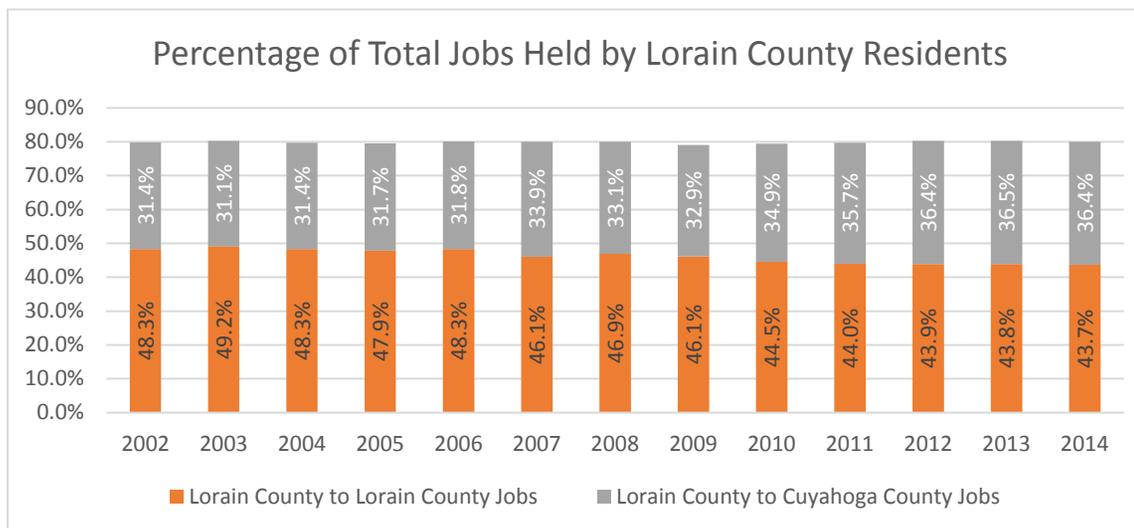


Figure 22: Share of Lorain County Commutes to Lorain and Cuyahoga Counties (2002-2014)





JOB DISTRIBUTION WITHIN CUYAHOGA COUNTY

The most recent journey-to-work data, based on surveys from 2012-2014, show that job locations for Lorain County residents working in Cuyahoga County are dispersed. This is shown in Figure 23, and mapped in Figure 24.

Because of its relative compactness and density of jobs, Downtown Cleveland is among the few, if not the only, area of Cuyahoga County that can be served efficiently by commuter bus service.

Downtown Cleveland is served by RTA’s commuter bus network, which consists of commuter bus routes originating from park-and-ride lots at the periphery of Cuyahoga County, including lots at I-90 near Columbia Road, and along I-480 near Great Northern Boulevard. Akron METRO RTA, Brunswick Transit, Laketran, PARTA and SARTA also operate commuter bus routes to downtown Cleveland from their respective counties. Only the University Circle-Cleveland Clinic area on Cleveland’s east side approaches downtown Cleveland’s density and number of jobs, and thus is a second potential destination for commuter bus service. Currently, Akron METRO and SARTA operate buses to the University Circle-Clinic area, though their primary market is not

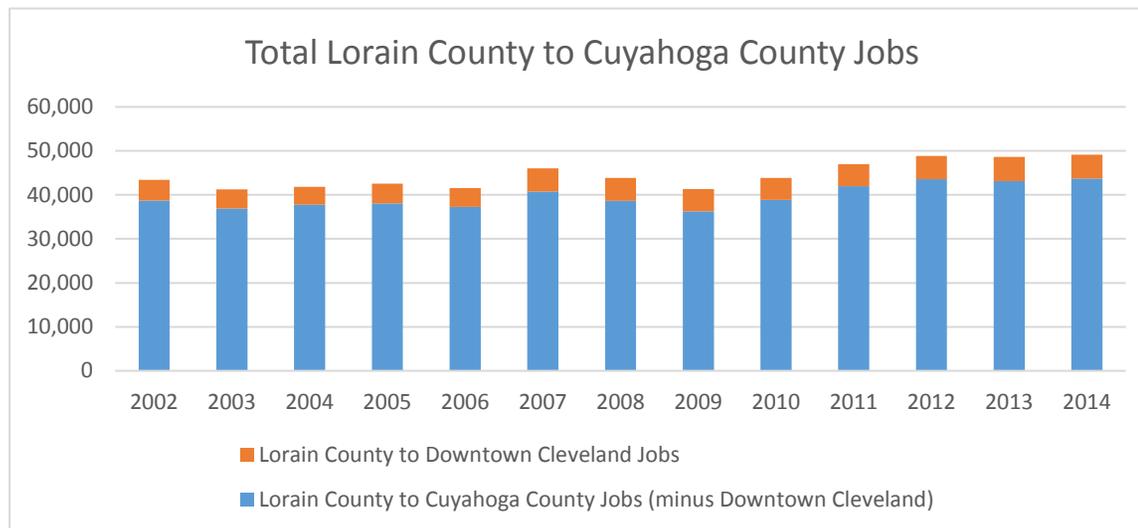


Figure 23: Destinations of Lorain-to-Cuyahoga Commutes: Downtown vs. Rest-of-County (2002-2014)

commuters, but veterans requiring connections to the Veterans Administration hospital in University Circle.

Only about 11 percent (around 5,000) of Lorain County residents who work in Cuyahoga County work in downtown Cleveland, with the others distributed in relatively small concentrations across the rest of the county. Based on counts performed at RTA park-and-ride lots convenient for Lorain County residents, it appears that, a relatively high percentage of the downtown-bound workers (around 500, or more than 10%) already use public transit (RTA park-and-ride routes), with the rest

presumably driving alone or using carpools or vanpools.

In addition to downtown, other Cuyahoga County destinations with more than 1,000 Lorain County workers include:

- I-90 Crocker Bassett area
- Rockside Road/Independence
- Cleveland Clinic



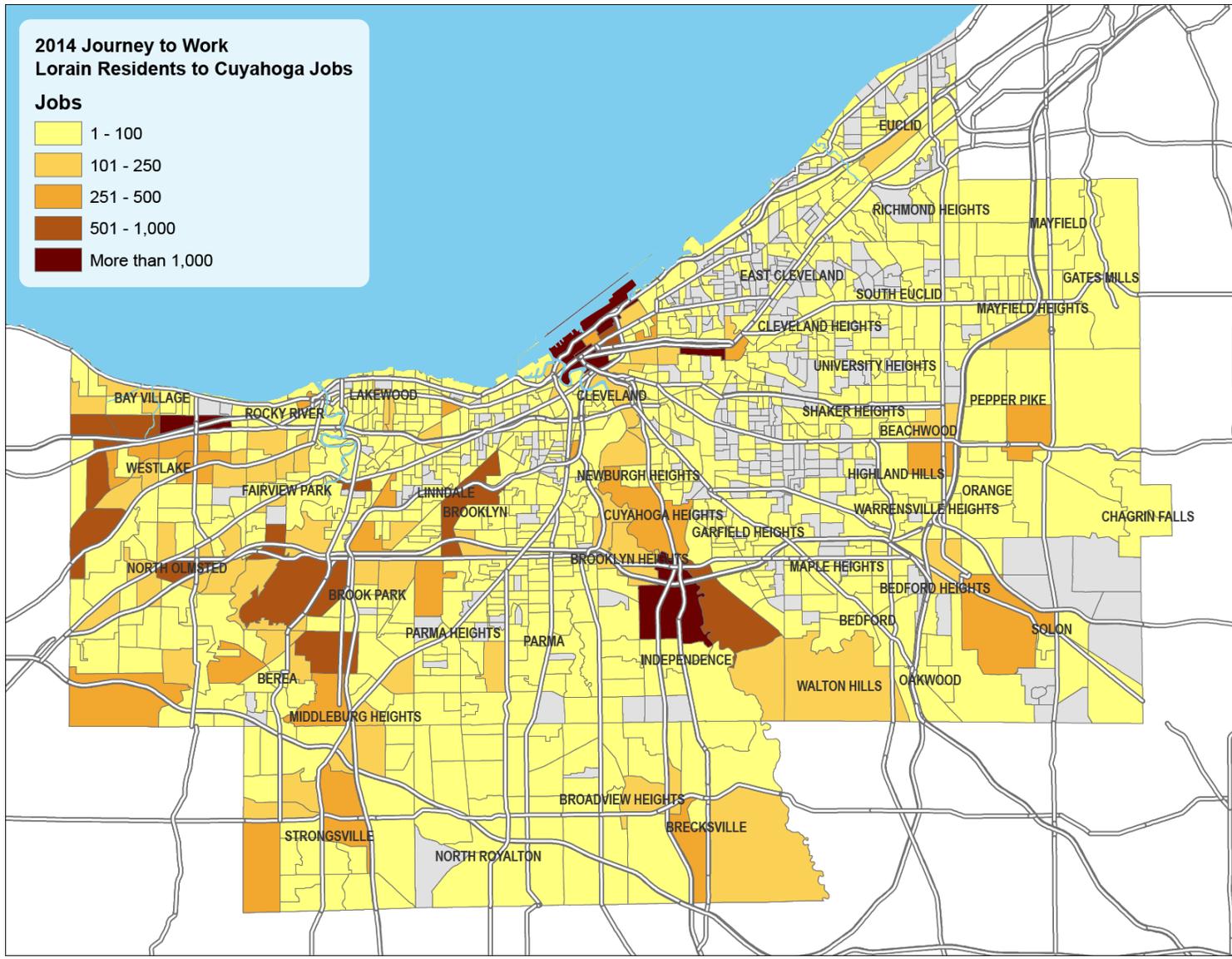


Figure 24: Destinations of Lorain-to-Cuyahoga Commutes-(2014)



4.3 2013 On-Board Passenger Survey

This section describes the existing transit market based on data from a 2013 NOACA on-board survey of LCT fixed route bus passengers and passengers on Greater Cleveland RTA (RTA) park-and-ride routes that serve Lorain County residents.

ON-BOARD PASSENGER SURVEY OF LCT BUS ROUTES

Surveys of riders on LCT bus routes revealed that:

- Nearly all riders surveyed are residents of Lorain or Elyria who walk to and from the bus; there are very few park-and-ride users.
- The majority of origins and destinations are within one block of the bus stop
- A majority of riders surveyed (57%) use transit 3-5 times per week; 26% reported using transit very infrequently (less than once a week).

The most common trip purposes, as shown in Figure 25 were:

- College/University (28%)
- Work (16%)
- K-12 School (13%)

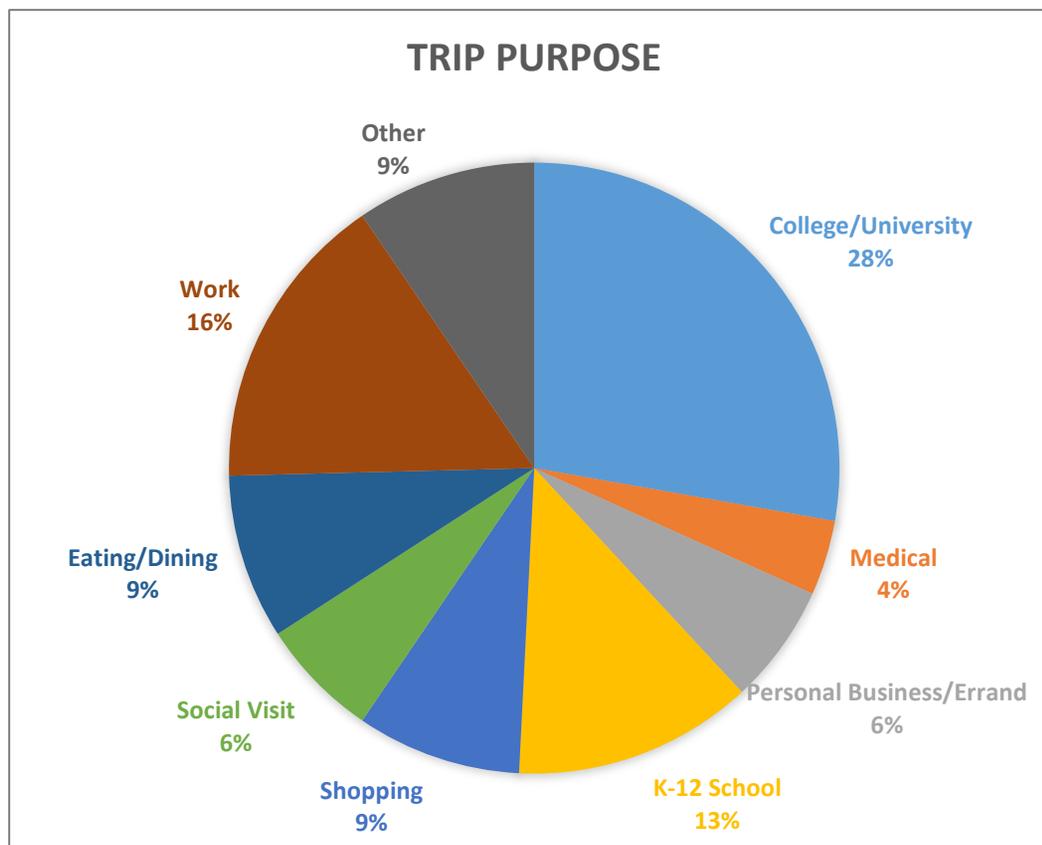


Figure 25: Trip Purpose of Current LCT Riders (based on LCT rider survey)





Characteristics of LCT’s intra-county travelers, some shown in Figure 26, include:

- Nearly all riders surveyed are from a household with no working vehicle (74%) or only one working vehicle (19%).
- Most riders surveyed (74%) do not have a driver’s license.
- 15% of riders surveyed have a disability.
- Nearly half of all riders surveyed have an annual household income of less than \$10,000.
- 90% of riders surveyed have an annual household income of less than \$25,000.
- Nearly half of all riders surveyed are students, either K-12 (15%) or college/university (34%).
- 35% of riders surveyed are employed; 28% are not employed but seeking work.

ON-BOARD PASSENGER SURVEY OF RTA ROUTES

The survey also included riders on Greater Cleveland Regional Transit Authority (RTA) park-and-ride routes that serve Lorain County riders. These include users of Route 246, which connects the Westlake Park-and-Ride lot near Columbia Road to downtown Cleveland, via I-90; and Route 263, which connects the North Olmsted Park-and-Ride

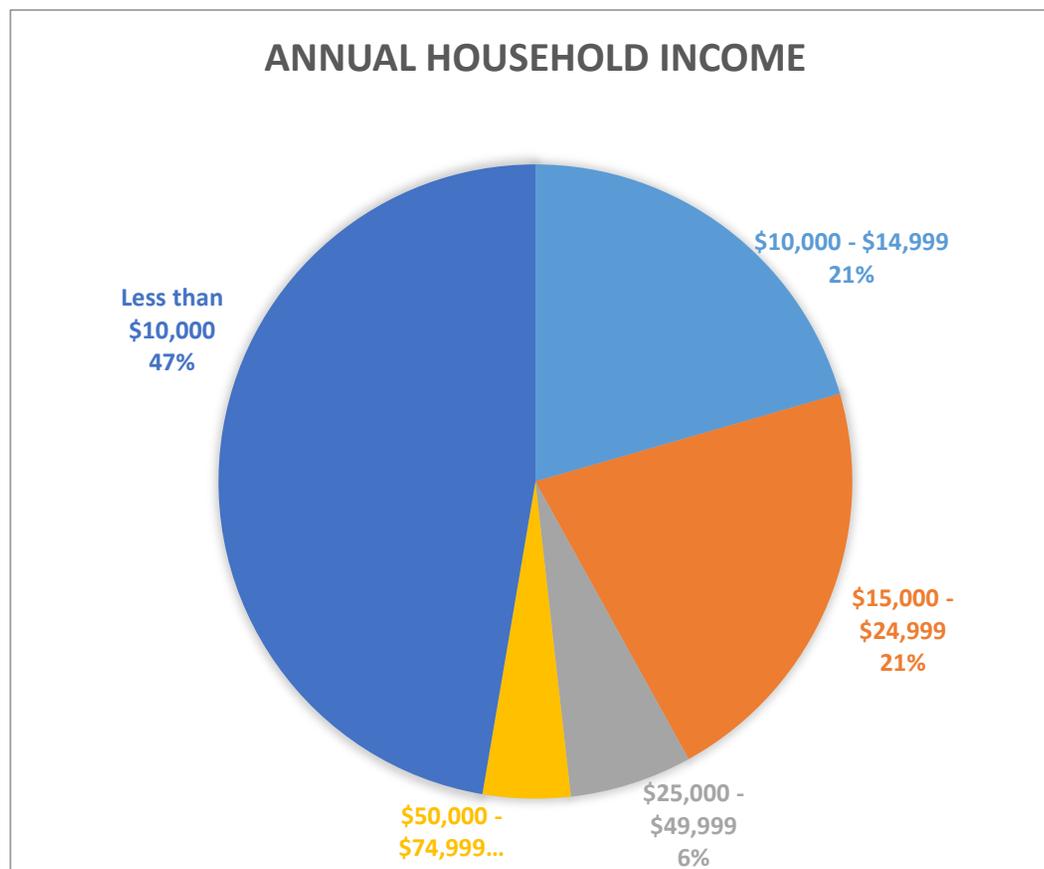


Figure 26: Household Income of Current LCT Riders (based on LCT rider survey)

on Great Northern Boulevard in North Olmsted to downtown via I-480 and I-71.

The survey showed that these riders are almost exclusively commuters employed at jobs in Cuyahoga County, with income levels that are much higher than in-county LCT

riders. Interestingly, Lorain County residents comprise a significant portion of ridership on many RTA park-and-ride bus routes, even though all RTA park-and-rides are located in Cuyahoga County. Lorain County ridership at RTA Park-and-Ride lots throughout the west





side of Cuyahoga County is discussed in detail in Section 4.7, below.

- Over half (55%) of riders surveyed on RTA Route 246 (Westlake Park-and-Ride) are Lorain County residents.
- 25% of riders surveyed on RTA Route 263 (North Olmsted Park-and-Ride) are Lorain County residents.
- Park-and-ride trips are almost exclusively home-to-work trips.
- The typical Lorain County park-and ride bus route rider is white, over 35, employed full-time, and has an annual household income over \$25,000. Nearly half (48%) of Lorain County park-and-ride bus riders have an annual household income of greater than \$75,000.

EXISTING TRANSIT MARKET IN LORAIN COUNTY

As described above, the existing fixed route transit riders in Lorain County have different characteristics depending on whether LCT or RTA services are being used. For LCT fixed route service within Lorain County:

- Users of local LCT service are mostly lower income residents traveling for educational, employment or shopping purposes.

- Most local LCT riders are compelled to use transit due to low incomes, lack of a vehicle, and/or an inability to drive
- Few are “riders by choice” (choice riders have access to a car, but use transit because it is more convenient or cost-effective for them, e.g., to avoid parking in downtown Cleveland)

There are several important concentrations of jobs, medical facilities and shopping in areas located outside the current LCT service area. This indicates a potential market for Lorain County-based fixed route transit to these areas. In contrast, fixed route service in Cuyahoga County serves Lorain County residents who are more likely to be commuters with higher incomes; most have access to a vehicle and are therefore “choice riders.”

Significant concentrations of Lorain County residents work in the Crocker Bassett, Independence/Rockside and the University Circle-Cleveland Clinic areas, indicating a potential transit market for more direct services to these locations.

4.4 2017 On-Board Passenger Count

An on-board survey was conducted to obtain a more detailed estimate of the current local

transit market. Conducted on November 2 and November 6, 2017, counts were performed between 6:30 AM and 6:30 PM for Route 1 and Route 51, and 5:30 AM to 5:30 PM for Route 2 and Route 52, to capture as many riders as possible. Counts recorded the number of passengers getting on and off the transit vehicles at each stop. Counts also include the number of transfers between Route 1 and Route 51, and Route 2 and Route 52, as LCT allows passengers to stay on the vehicle when Route 1 and Route 2 turn into Route 51 and Route 52 at the transfer point, and vice versa.

While the results of a two-day ridership count can be distorted by outside forces such as weather, these on-board surveys can be a useful tool for understanding travel patterns and identifying frequently used bus stop locations.

Figures below depict the total number of passengers boarding (Figure 27) and alighting (Figure 28) the buses by time of day, during the two-day period. Route 1 and Route 2 both picked up more passengers in the morning and in early afternoon than they dropped off. Whereas more passengers were dropped off from Route 51 and Route 52 during the same period. These counts indicate a pattern of passengers boarding the Route 1 and Route 2 buses in Lorain and





traveling to Elyria for work or school. Similarly, in the later afternoon from 2:30PM to 4:30PM, the reverse pattern exists, where passengers return from Elyria back to Lorain.

Aside from the temporal distribution, the on-board passenger counts also reveal the spatial distribution of popular stops within the current system. Figures 29 to 32 illustrate the number of boardings and alightings at each stop for each route.

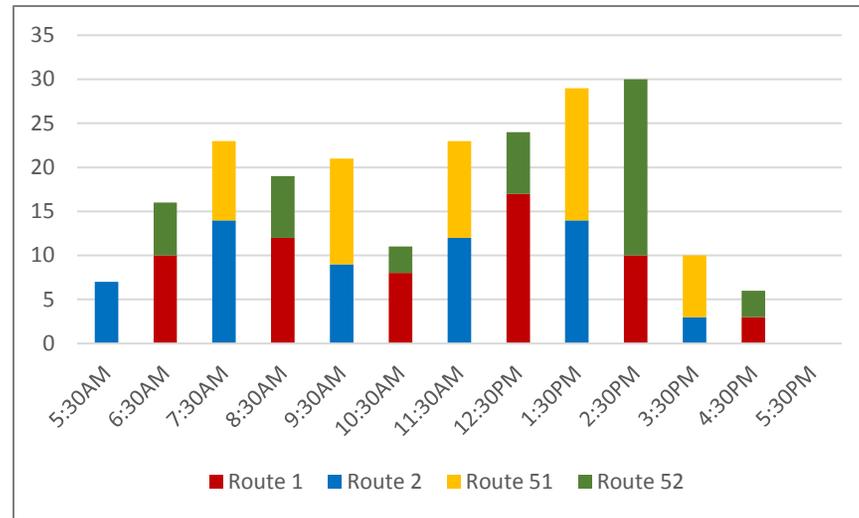


Figure 27: Total Number of Boardings, by Route and by Time of Day

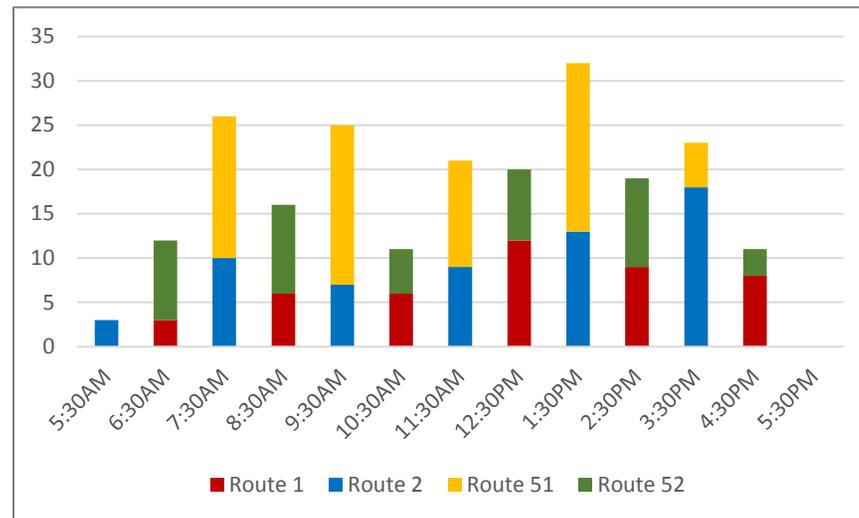


Figure 28: Total Number of Alightings, by Route and by Time of Day



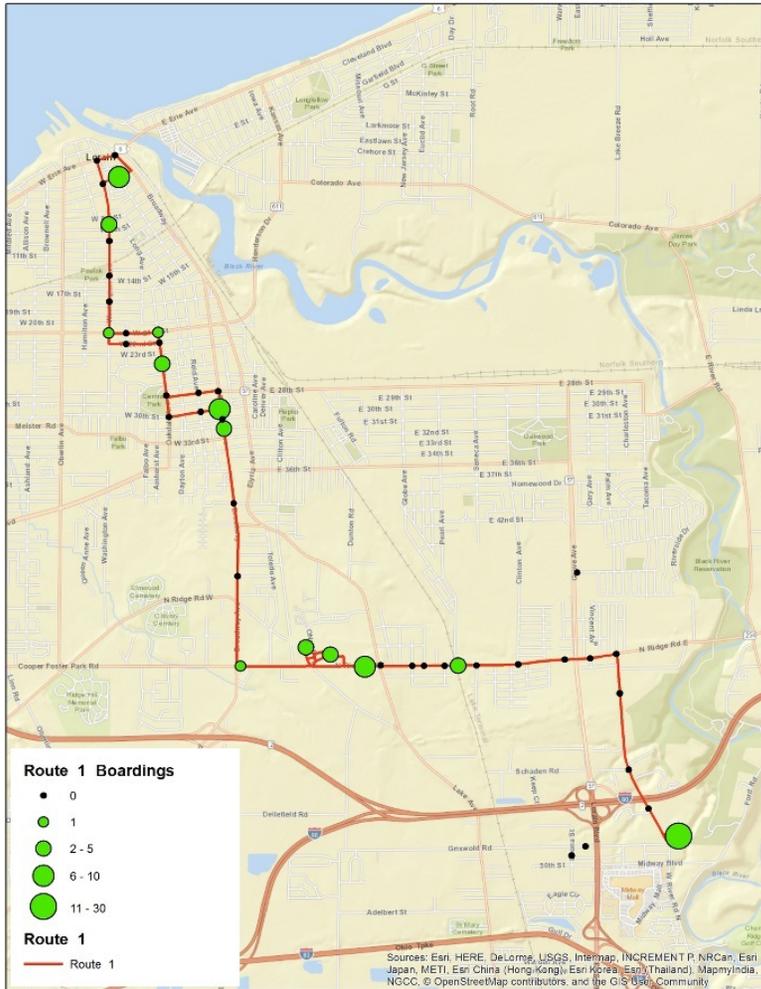


Figure 29: Route 1 Boarding & Alighting Activity

As shown in Figure 29, Route 1 has several popular locations: Meridian Plaza and downtown Lorain, Oakdale Avenue at West24th Street, Broadway at West 30th and

32nd Street, Gathering Hope House and Sheffield Center, and Life Skills High School.



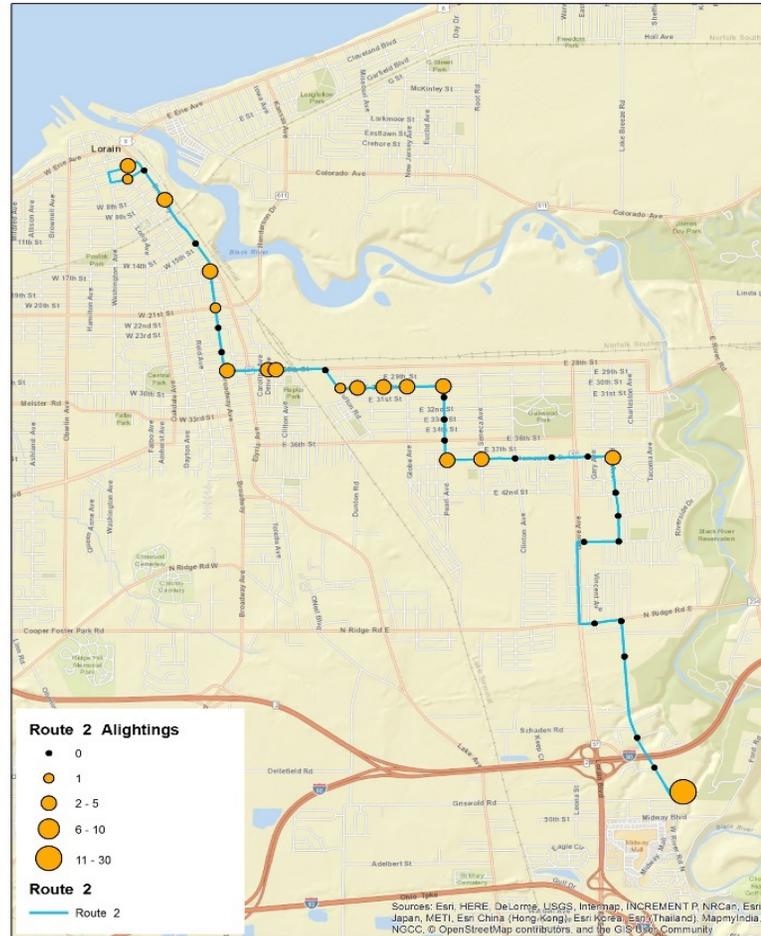
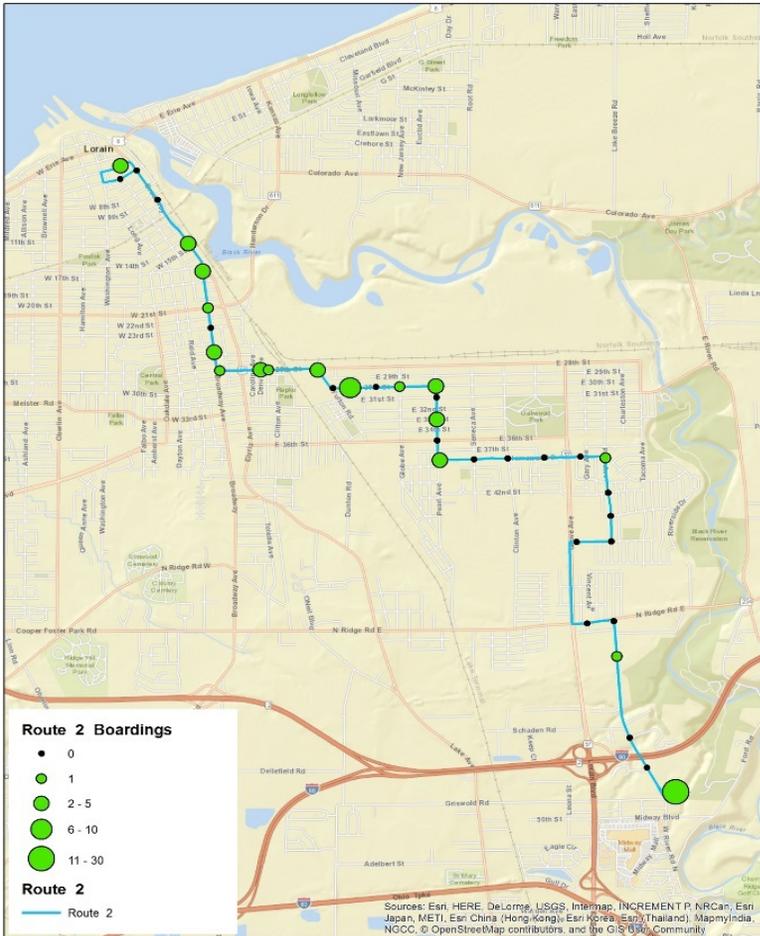


Figure 30: Route 2 Boarding & Alighting Activity

The boarding and alighting activity of Route 2 (Figure 30) is not as concentrated as travel on Route 1. Downtown Lorain, Broadway, East 28th Street, East 30th Street and Homewood

Drive all have similar levels of activity. However, some locations are slightly more popular than others, including the Haven

Center on East 30th Street and Life Skills High School.



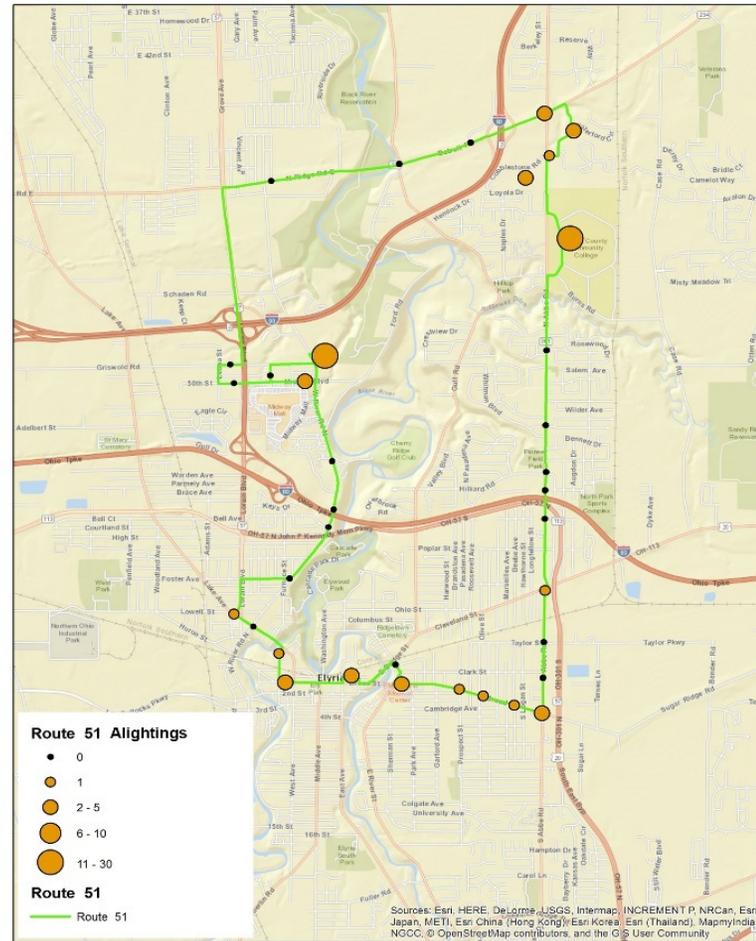
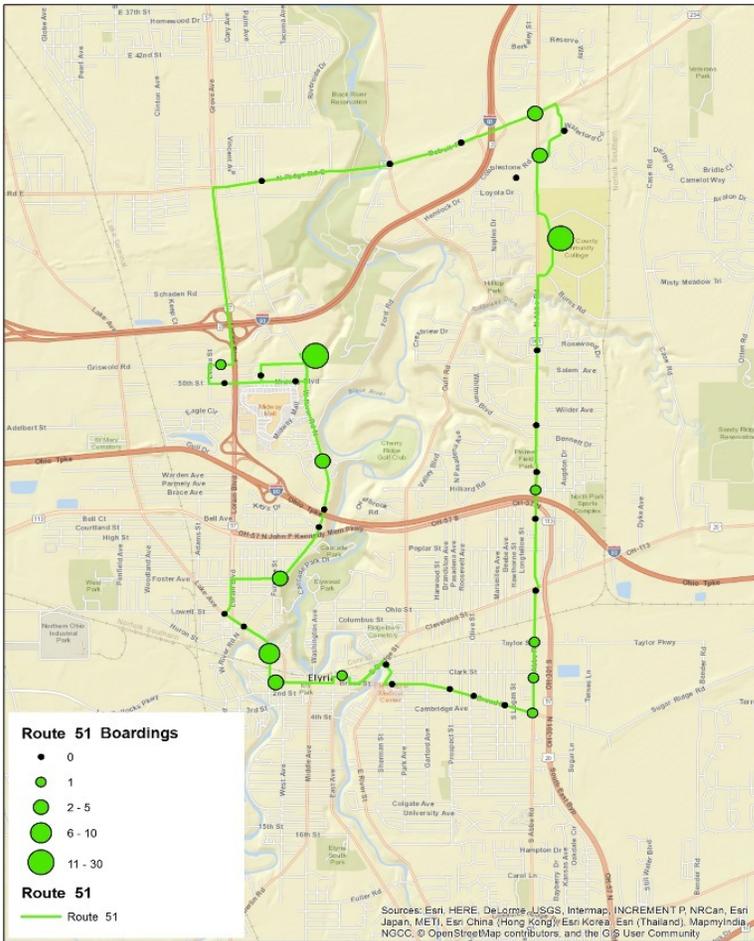


Figure 31: Route 51 Boarding & Alighting Activity

Figure 31 shows Lorain County Community College is clearly the most popular location on Route 51, followed by Life Skills High School. Other popular locations include Harr

Plaza on Chestnut Street, Broad Street at West Avenue, downtown Elyria, and

Cobblestone Square and Ohio Business College.



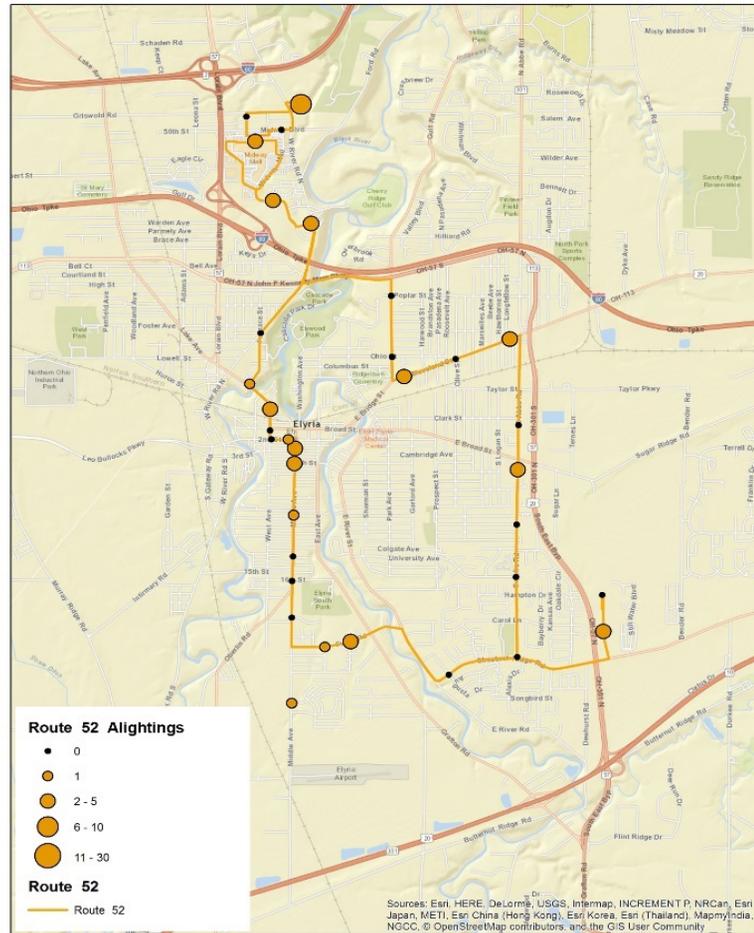
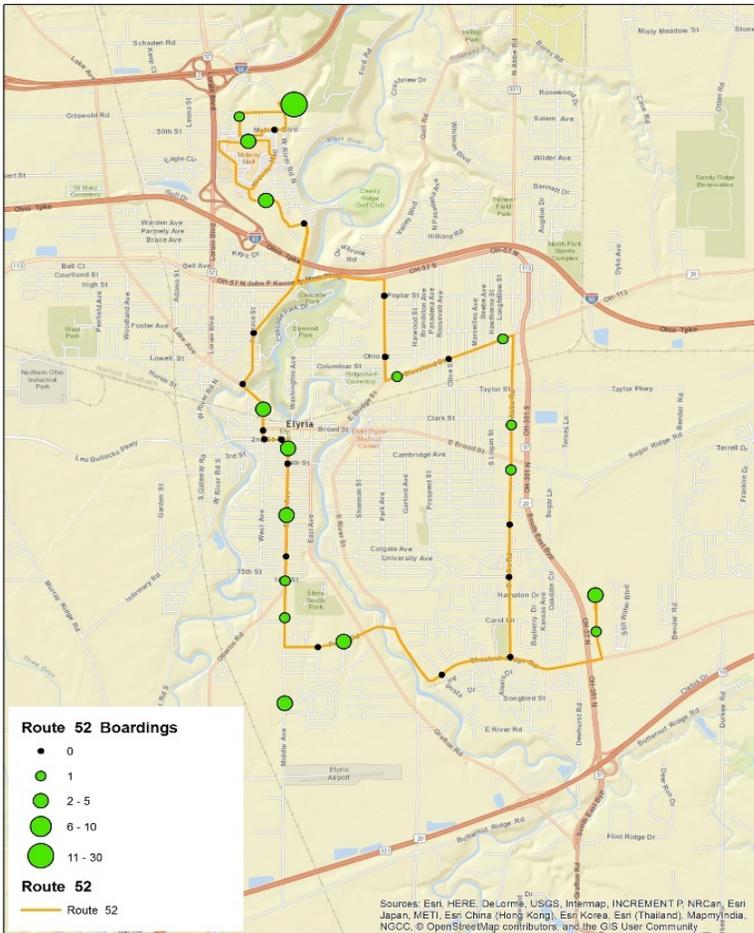


Figure 32: Route 52 Boarding & Alighting Activity

Like Route 2, Route 52 has a similarly dispersed distribution pattern of boarding and alighting activity, shown in Figure 32. Aside from Life Skills High School, downtown Elyria appears to be the only location that

has relatively concentrated activity at Middle Avenue and East 4th Street, Lorain County Administration Building, and the Police Station. Other frequent stop locations include Midway Mall, Market Square,

Chestnut Commons (by request), Wilkes Villa on Fuller Road, and Middle Avenue at East 9th Street.





4.5 Park-and-Ride Market Analysis - Overview

Park-and-ride is a transit activity in which travelers, in most cases regular commuters, park their vehicles at a parking lot or other location and complete their trips using transit or carpooling.

Park-and-ride transit riders often use parking lots dedicated to that purpose. Transit agencies, state departments of transportation or other governmental entities often purchase or lease land and construct purpose-built park-and-ride lots. These facilities can range from simple unpaved gravel lots to elaborate facilities with paved and well-lighted parking and passenger waiting facilities. In other cases, transit agencies or other governmental entities will lease existing space in lots owned by private entities or government agencies. Some of these lots have excess spaces that are rarely used. Others belong to businesses or institutions that use their parking spaces less during the workday hours when commuter park-and-ride users would occupy them. For example, parking lots at theaters, churches, and public parks are lightly used during weekday daylight hours. Arrangements in which governmental entities offer private spaces for park-and-ride use usually are formalized by legal

agreements, whether the property owner is being paid for use of the spaces or not.

In addition, informal park-and-ride activity can occur when park-and-ride users park in nearby parking lots or in on-street spaces. This often happens in locations where high frequency or high-quality transit service is nearby and designated park-and-ride spaces are inconvenient or unavailable. In many cases, this type of parking is illegal or unauthorized by the property owner, and the users risk their vehicle being towed or impounded.

Park-and-ride lots can be used by car- or van-pools, and/or they can be served by buses or rail transit services. Travelers who have longer commutes (more than 10 miles each way) and whose combined travel and parking costs are higher are more likely to use a park-and-ride option. Areas where high-occupancy vehicle (HOV) lanes allow cars with two or more occupants, as well as buses, to bypass congested traffic, also see higher use of park-and-ride.

Most park-and-ride activity in Northeastern Ohio serve routes that are directed to and from downtown Cleveland, the region's largest and most densely-developed employment location. Greater Cleveland RTA operates a network of park-and-ride bus

routes that originate from park-and-ride lots, most of them owned and operated by RTA, throughout the periphery of Cuyahoga County. RTA also operates park-and-ride lots at many of its rail rapid transit lines. In addition, the transit agencies in several of the surrounding counties, including Laketran, PARTA (in Portage County), Akron METRO RTA, and SARTA (Stark County – Canton, Massillon), operate commuter bus service to Cleveland. Laketran and Akron METRO operate their own networks of park-and-ride lots to support their Cleveland commuter bus services.

In the past several years, the greater University Circle area has emerged as the region's second most popular destination for park-and-ride transit services. Located about 4.5 miles east of downtown Cleveland and with an employment base, size and density comparable to downtown Akron, several factors have contributed to its growth as a park-and-ride destination. These include growth at the Cleveland Clinic and other University Circle institutions which has resulted in higher employment and reduced the parking supply; improvements at Greater Cleveland RTA's University Circle area rapid transit stations, introduction of the HealthLine bus rapid transit, which has made transit access to the area much more convenient; and consolidation of the region's





Veterans' Administration (VA) medical services at the VA's facility on Wade Park Boulevard in University Circle. This facility has increased both employment and medical trips to the area. For the past several years, Akron METRO RTA and SARTA have extended their commuter bus routes from downtown Cleveland to University Circle, to serve both the commuter and medical travel markets.

4.6 LCT Park-and-Ride Market

Lorain County operated a park-and-ride bus service from September 10, 2012 through May 13, 2013. During this brief period, the park-and-ride service captured a total ridership of 5,673. The route operated between Lorain County Port Authority Complex (530 South Abbe Road) to downtown Cleveland at Public Square, with inbound and outbound stops at Lorain County Transportation Center in downtown Elyria, Lorain County Board of Elections on North Ridge Road, and West Side Market at Lorain Avenue, and West 25th Street in Cleveland. The single trip, one-way full fare was \$4.25.

The park-and-ride route initially operated with two-hour headways, with three morning trips (5:45AM to 10:45AM) and three afternoon trips (3:45PM to 8:45PM). The average daily ridership was 29 riders. By the



Figure 33: LCT Cleveland Commuter Service Monthly Ridership, October 2012 to April 2013

end of November 2012, this schedule was revised to align the arrival times with normal commuting times, and the number of trips was increased to eight trips per day. The revised schedule provided four morning trips (5:50AM to 8:05AM) and four afternoon trips (2:40PM to 6:10PM), operating with 50-minute headways. This service modification increased ridership from 29 to 36 riders per day. Figure 33 shows monthly ridership between October 2012 and April 2013.

The chart illustrates the positive impact of the revised schedule, evident in the increase in December 2012, right after the new

schedule was put in place. The route reached peak ridership at 785 riders in April 2013, before the route was suspended in May. Figure 34 shows ridership by stops and by morning and afternoon trips. During the morning, the Board of Elections stop captured roughly 40% more ridership than the Transportation Center stop in downtown Elyria. Most afternoon riders boarded the bus at the Cleveland stop.



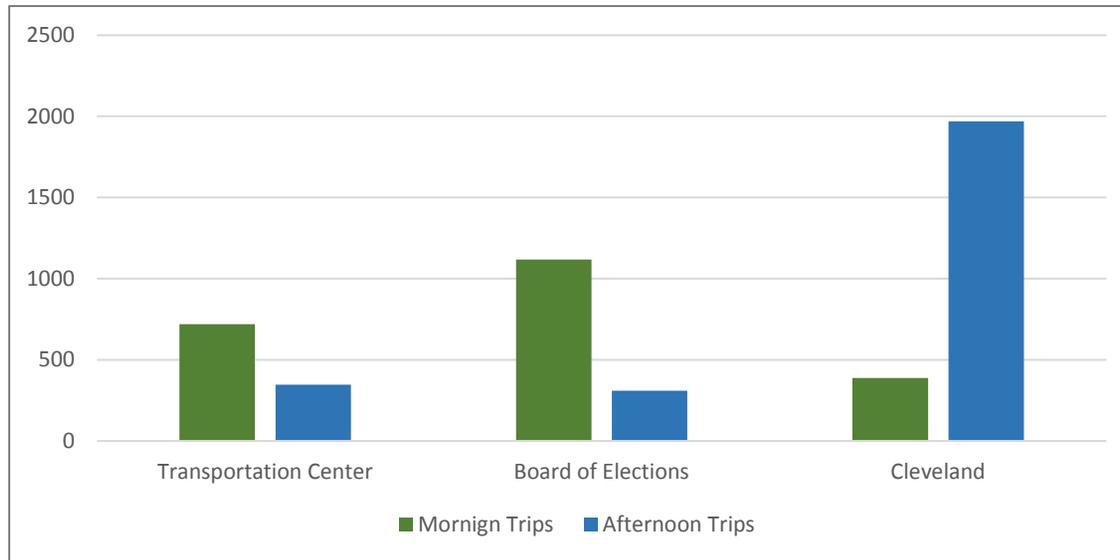


Figure 34: LCT Cleveland Commuter Service Ridership by Major Stops, October 2012 to May 2013





4.7 Lorain Vehicles Parked at RTA Park-and-Ride Lots

The 2013 regional origin-destination survey conducted for NOACA and Greater Cleveland RTA identified about 500 daily commuters using transit service to downtown Cleveland. This represents about 10% of the 5,000 daily commuters to downtown Cleveland, as recorded in US Census Journey to Work data (2013). To provide current data, WSP staff counted vehicles at park-and-ride lots likely to be used by Lorain County residents traveling to downtown Cleveland and other Cuyahoga County locations. These counts confirm that the magnitude of park-and-ride activity generated by Lorain County residents destined to Cleveland appears to be roughly 600-700 riders each day. These recent counts show the patterns of Lorain County residents' use of Greater Cleveland RTA park-and-ride services, and offer insights for Lorain County's efforts to serve the commuter park-and-ride market.

METHODOLOGY

WSP staff conducted vehicle counts at select RTA park-and-ride facilities on October 31, November 1 and November 2, 2017. Counts were performed between 10:00 AM and 3:00 PM to maximize capture of vehicles whose drivers arrived late or left early. Counts included the number of parked vehicles at

each park-and-ride facility and the number of vehicles whose license plates indicated registration in Lorain County. Shown in Figure 35, Ohio Bureau of Motor Vehicles, like many state government departments, use these 1 or 2-digit codes to identify Ohio counties; they reflect the sequential order of the alphabetized list of Ohio counties, from Adams (1) to Wyandotte (88). Lorain County's number is 47; Cuyahoga's is 18. Vehicles with the number 47 were assumed to be registered in Lorain County; those bearing other numbers, or whose numbers were missing or undecipherable, or that were bearing plates from another state or Canadian province, were counted as registered elsewhere. As such, counts in lots with a high percentage of vehicles registered in Lorain County may underrepresent the actual Lorain County residency, if some Lorain County vehicles had missing or undecipherable county numbers.

Counting vehicles that indicate registration in Lorain County is a reasonable, though imperfect, way to estimate the number of Lorain County residents commuting to Cleveland using RTA park-and-ride services. During peak periods, vehicles typically have an average occupancy of about 1.1 passengers per vehicle. As such, about one out of every 10 vehicles would have two occupants and, on average, 100 vehicles

would carry about 110 passengers. Vehicles parked at park-and-ride lots typically have lower occupancy rates, between 1 and 1.1 occupants per vehicle. Therefore, it is reasonable to assume that the data collected represents the number of passengers within less than +10%.

Another potential variation is that a small number of vehicles with plates indicating registration in Lorain County may actually be located in Cuyahoga County or other counties. Some vehicle owners may fail to register their vehicles at their place of residence upon moving, instead waiting until the next mandated registration renewal,



Figure 35: Ohio License Plate County Code





required every two years. Additionally, some vehicle owners register their vehicles outside of Cuyahoga County to avoid paying higher Cuyahoga County insurance rates. As such, a small number of vehicles with plates registered in Lorain County may not belong to Lorain County residents; although it may be equally likely that some vehicles registered in Cuyahoga County or other counties are owned and operated by Lorain County residents.

Finally, there is a possibility that some Lorain County residents are dropped off at RTA park-and-ride lots or other locations where they can access RTA bus or rail services, or they are parking and riding at locations other than designated park-and-ride locations to access RTA bus services. This may occur in Westlake and North Olmsted, where RTA bus routes operate near the Lorain County boundary. Quantifying these riders would require extensive analysis to document what is likely a small number of riders. Given the distances of RTA’s park-and-ride facilities from Lorain County, the number of Lorain County residents being dropped off at those facilities is likewise likely to be very low.

The findings of the license plate survey are described for the bus park-and-ride lots below, followed by the RTA Rapid Transit park-and-ride lots.

RTA BUS PARK-AND-RIDE LOTS

RTA operates a series of bus park-and-ride lots that are located throughout suburban Cuyahoga County. Most are owned and operated by RTA and include paved parking spaces, bus shelters for passenger waiting, and bus turnaround areas. These facilities are connected to downtown Cleveland (and often other locations) by RTA bus routes. Some park-and-ride facilities are served by commuter bus service, these commuter routes are typically dedicated to serving one specific park-and-ride lot and their service differs significantly from a standard RTA local or express route:

- They are usually limited to picking up and dropping off passengers at the park-and-ride lot or in downtown Cleveland.
- Most of the routes are along interstate highways without stops, resulting in a faster trip to downtown Cleveland than would be provided by a local bus operating on arterial roads and city streets.
- Schedules are designed to accommodate travel patterns of nine-to-five commuter trips to Cleveland, with service limited to rush hour periods and often in only the rush hour direction of travel with travel to

Cleveland between 6:00 and 9:00 AM, travel from Cleveland 3:00 to 6:00 PM.

- Because these trips are usually longer than typical bus trips, and because they run at higher speeds, they operate with specially equipped buses that provide more comfortable seating and other amenities not typically found on a transit bus, like reading lights and tray tables. Due to their high-speed operations, standee passengers are usually not accepted. Bus capacity is therefore limited to the number of passenger seats.
- These routes charge a premium fare due to the longer trip lengths and use of special buses. RTA park-and-ride bus users pay a single trip fare of \$2.75, compared to \$2.50 for other bus and rail service. Additionally, discounted and multi-use fares are more costly than for other comparable RTA services.

In some cases, park-and-ride lots are served by local or express bus services in addition to commuter service. These routes provide slower trips to downtown, but some offer all-day service in both directions and more frequent service.





Four of RTA's bus park-and-ride lots are located where they are likely to capture significant numbers of commuters from Lorain County:

- Westlake Park-and-Ride is located near the Columbia Road and I-90 interchange
- Clague Road Park-and-Ride is located near the Clague Road and I-90 interchange
- North Olmsted Park-and-Ride is located near the Columbia Road and I-480 interchange
- Strongsville Park-and-Ride is located near the Pearl Road and I-80 interchange

The count data for the bus park-and-ride lots are shown in Figure 36.

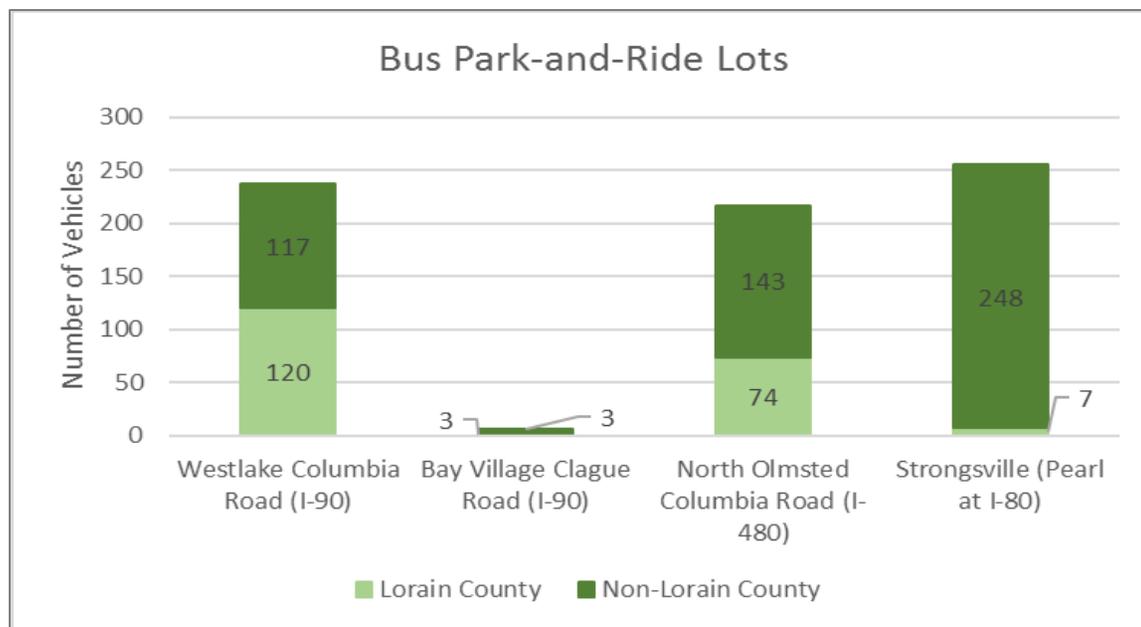


Figure 36: Vehicles with Lorain County License Plates Parked in RTA Bus Park-and-Ride Lots, October 31-November 2, 2017



Westlake Park-and-Ride

RTA's Westlake Park-and-Ride lot is located at 24800 Sperry Drive in Westlake, about one-half mile east of Columbia Road and immediately north of the Columbia Road I-90 interchange. The lot has 715 parking spaces. Satellite images of the lot, and the lot's location in relation to the I-90 interchange, are shown in Figure 37 and Figure 38.

Two bus routes serve the Westlake Park-and-Ride, RTA's Route 246 – Westlake Park-and-Ride, and Route 25 – Madison-Detroit. Route 246 is a dedicated commuter bus route that serves downtown Cleveland via I-90. This route operates nine weekday inbound trips (to downtown) between 6:00 and 9:00 AM, and nine weekday outbound trips (from downtown) between 3:00 and 7:00 PM. Travel time for most trips is 37 minutes in the morning and 41 in the afternoon.

Route 25 provides local service between the West 117th-Madison Rapid Station, Westlake Park-and-Ride, and Crocker Park, a mixed-use development in Westlake located south of the Crocker-Bassett interchange and about 3.5 miles west of the park-and-ride lot. The route travels on via local streets, passing through Rocky River and Lakewood.

Transit riders can use this route, with a transfer to the Red Line at the West 117th-

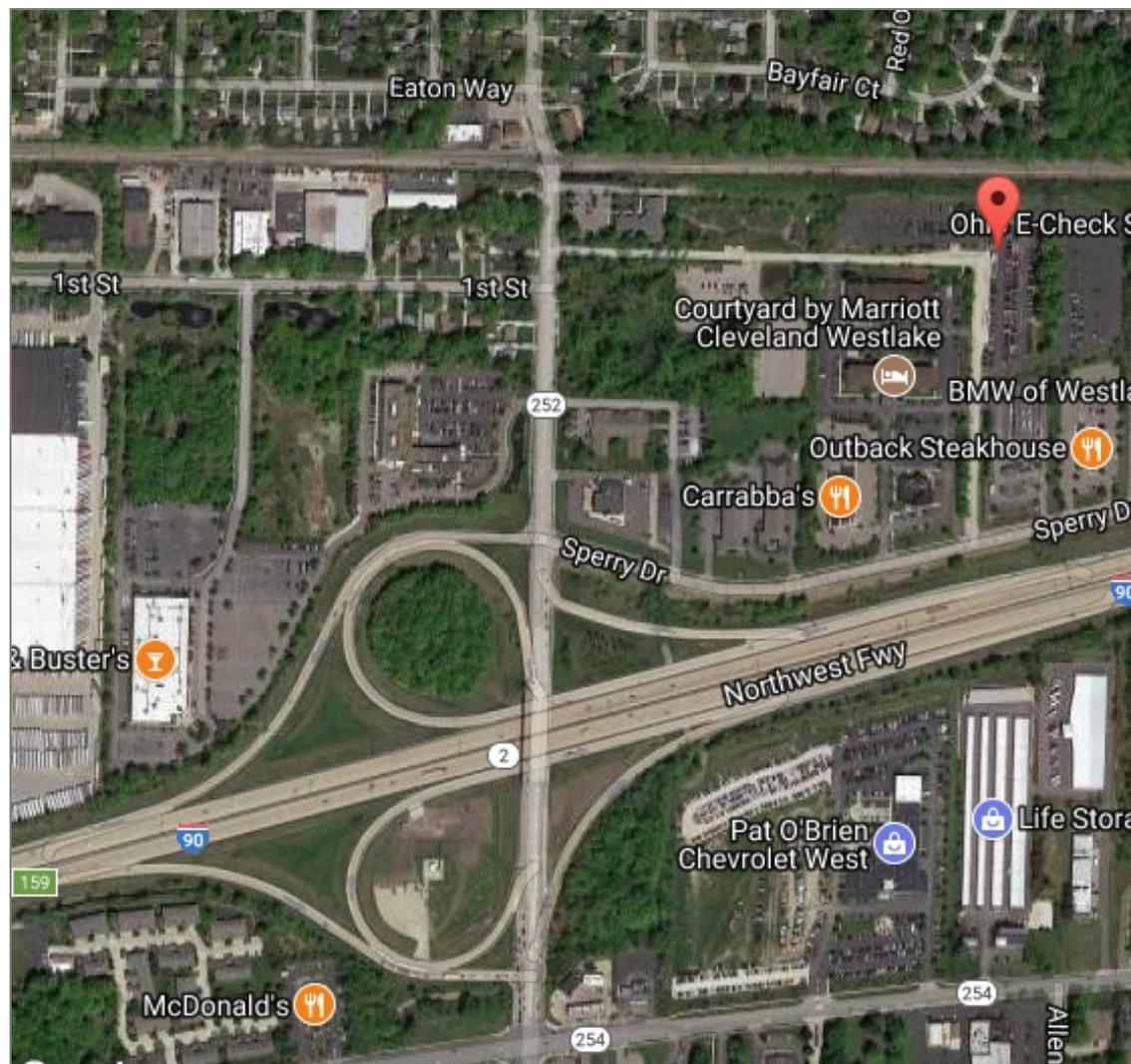


Figure 37: Westlake Park-and-Ride Adjacent to I-90 and Columbia Road Interchange

Madison Station, to get to and from downtown Cleveland. Five westbound trips stop at the Westlake Park-and-Ride between 11:39 AM and 3:39 PM, providing commuters with the ability to return to the park-and-ride lot during the midday period. No eastbound service to the Westlake park-and-ride lot is provided by Route 25. Travel time for the midday westbound trip is 39 minutes from the West 117th Street Rapid Station; resulting in overall commute travel time of 51-52 minutes with the travel time from Tower City to West 117th Street, plus the time required for the transfer between the Red Line and Route 25. The Westlake Park-and-Ride does not provide eastbound service during the midday and evening peaks. In addition, there is no weekend service.

The vehicle count data for the Westlake Park-and-Ride are provided in Table 7.

Table 7: Lorain County Vehicles at Westlake Park-and-Ride, October 31-November 2, 2017

Park-and-Ride Lot Vehicles	Westlake Columbia Road (I-90)
Lorain County	120
Non-Lorain County	117
Total	237
Percent Lorain	50.6%

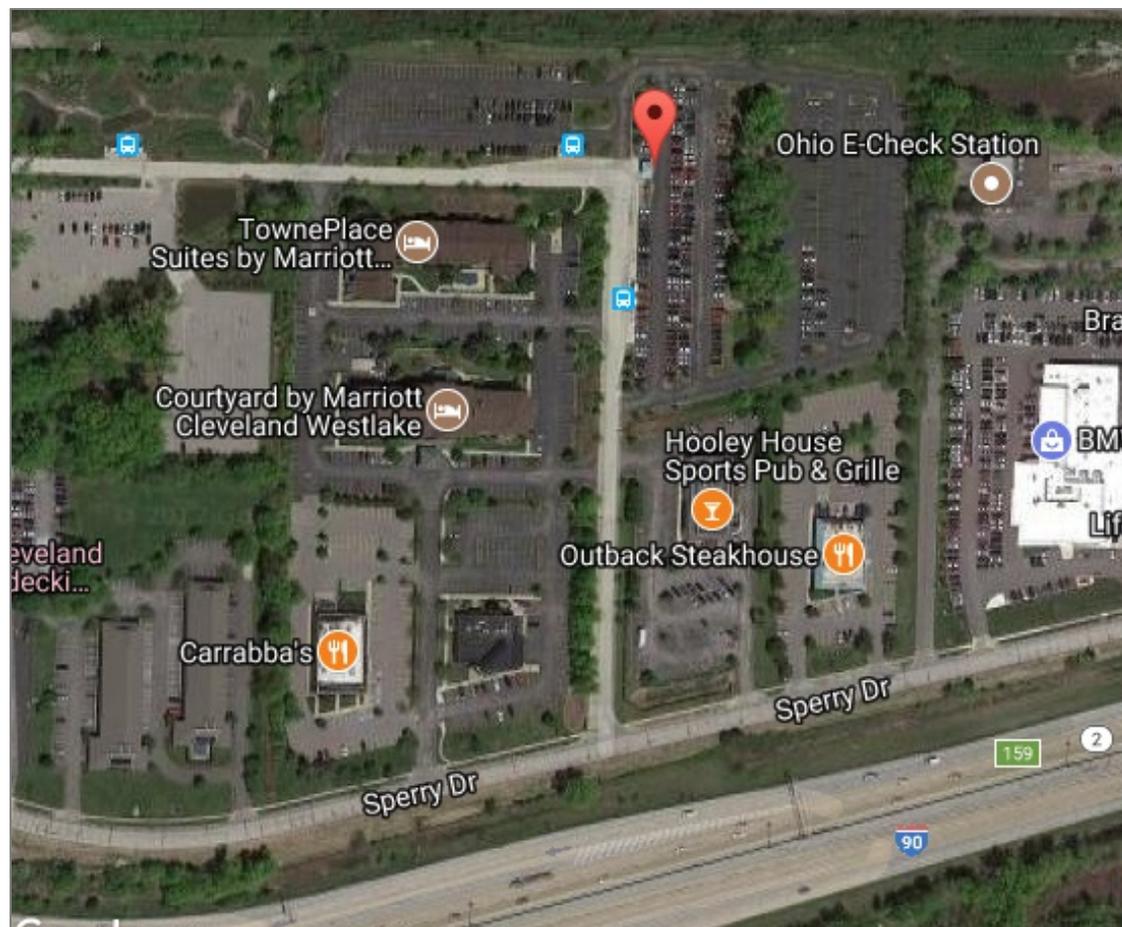


Figure 38: Westlake Park-and-Ride lot

Given its location as the western-most park-and-ride facility on the I-90 corridor and with its proximity to the I-90 interchange, the Westlake Park-and-Ride attracts the largest number of Lorain County commuters of all

RTA facilities. It also attracts a few riders from counties west of Lorain County. As the data shows, Lorain-registered vehicles are a slight majority of users at the Westlake Park-and-Ride. A smaller number of vehicles were



registered outside of Cuyahoga and Lorain Counties, including Erie, Huron and Sandusky Counties which are located along the I-90 corridor and to the west of Lorain County. Other vehicles were registered in other counties or states. Vehicles registered in Cuyahoga County represented significantly less than half the total vehicles.



Clague Park-and-Ride

With 40 parking stalls, the Clague Park-and-Ride is a small facility located at 301 Clague Road in Bay Village near the intersection of Clague and Wolf Roads. The lot provides parking for Bay Village’s Reese Park, and is used by commuters during weekdays when the park is lightly used. The Route 55B bus stop and shelter are located across the street from the parking lot.

The Clague Park-and-Ride (Figures 39 and 40) is less than one-half mile from the I-90/Clague Road interchange. This interchange does not provide full access because it lacks an eastbound exit. Travelers from the west exit at Columbia Road, less than 2.5 miles west of Clague Road, and complete the trip to the Clague Park-and-Ride via Sperry Drive, taking them past the Westlake Park-and-Ride. As such, the Clague Park-and-Ride primarily serves the residents of Bay Village, who approach the lot via Lake or Wolf Roads, and residents of Westlake, who approach via Clague Road. Travelers that would prefer to use the Route 55 “Cleveland State Line” via Rocky River and Lakewood may also prefer to use this lot rather than the nearby Sperry Drive route.

The Clague Park-and-Ride is served by one bus route, RTA’s Route 55B – Bay Village, one of the “Cleveland State Line” routes, which

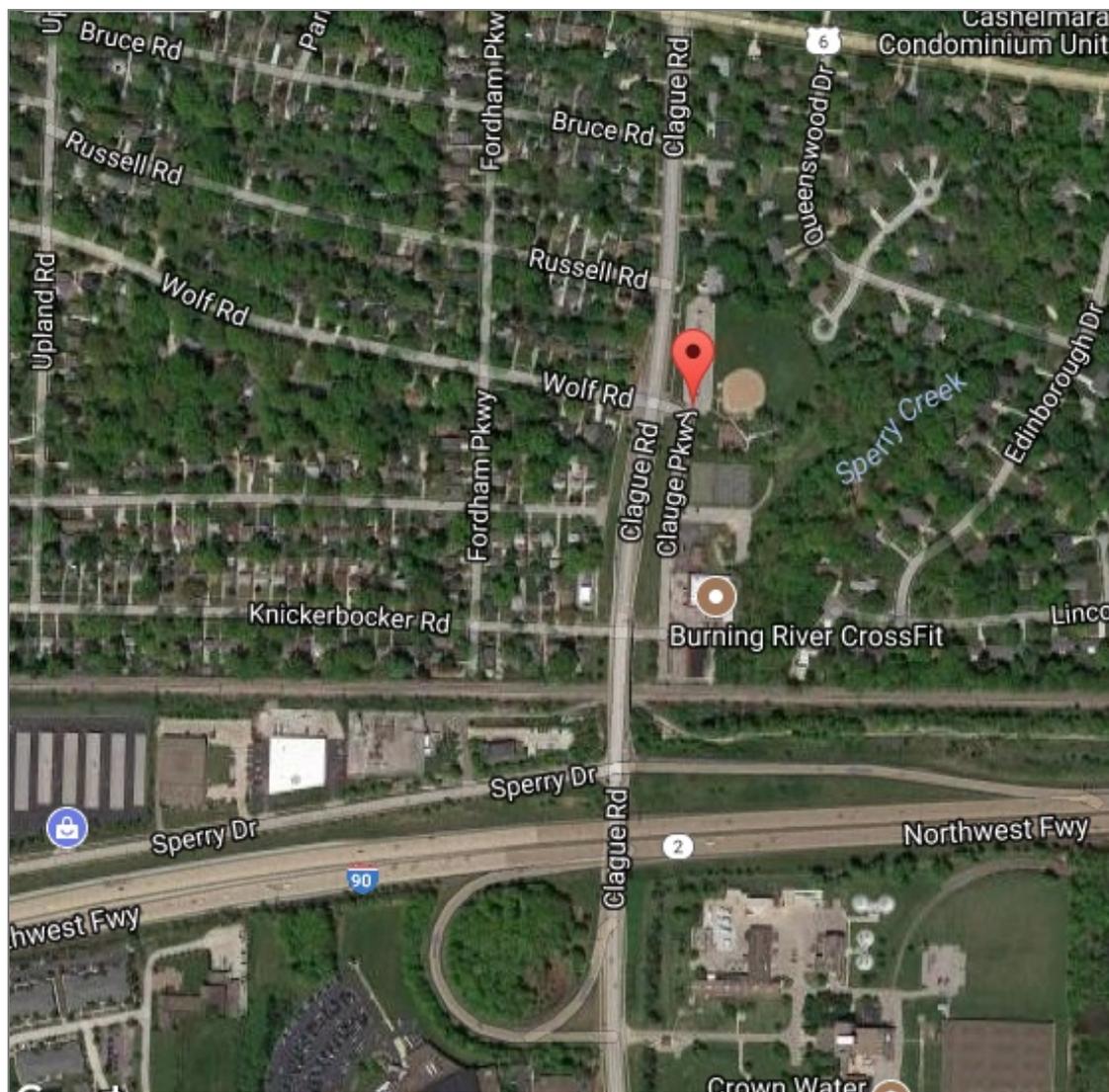


Figure 39: Clague Park-and-Ride Adjacent to I-90 and Clague Road Interchange

uses four miles of improved Bus Rapid Transit (BRT) lanes through Lakewood and Cleveland; buses travel in dedicated lanes with fewer stations per mile and using optimized traffic signals which together provide faster bus travel.

Route 55B (inbound/eastbound) begins at Cahoon Road in Bay Village, travels west on Lake Road, turns south on Bradley Road, then heads east on Wolf Road and Osborne Road to the Clague Park-and-Ride. East of Clague, the 55B travels east into and through downtown Cleveland, with service terminating at Cleveland State University.

The route operates four buses that serve Clague Park-and-Ride in the morning (6:07 to 8:04 AM). Seven buses run from CSU to Clague during the evening peak (3:52 to 7:00 PM). Service is not provided during the off-peak, in the reverse direction, or on weekends. Travel time for most trips between the Clague Park-and-Ride and CSU is 37 minutes to downtown, and 49 minutes to CSU. Return trips have scheduled travel times of 30 minutes from downtown and 42 minutes from CSU to Clague Park-and-Ride.

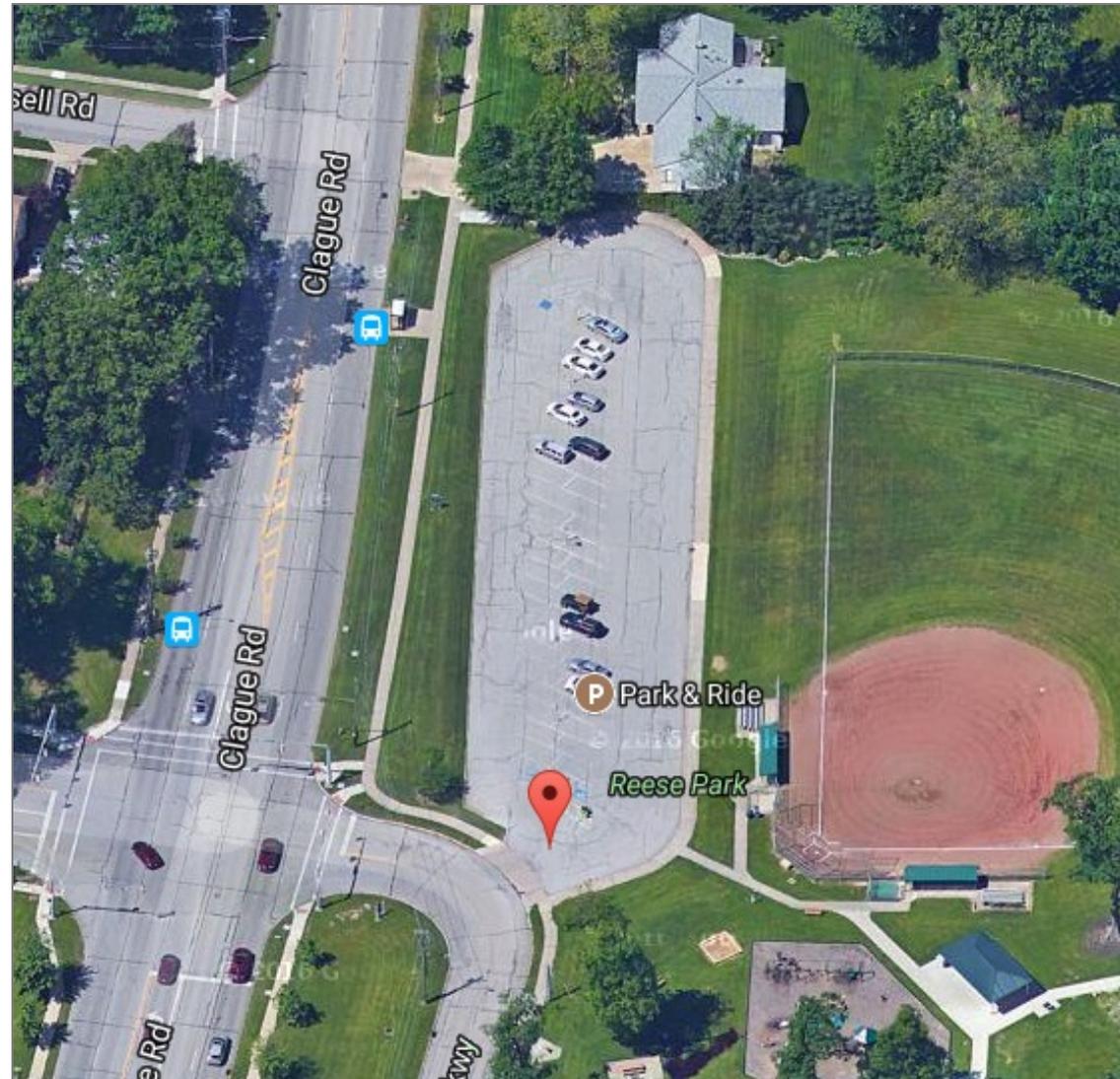


Figure 40: Clague Park-and-Ride Lot



The parking count data for the Clague Park-and-Ride is shown in Table 8.

Table 8: Lorain County Vehicles at Clague Park-and-Ride, October 31-November 2, 2017

Park-and-Ride Lot Vehicles	Clague Road (I-90)
Lorain County	3
Non-Lorain County	3
Total	6
Percent Lorain	50.0%

The low count at the Clague Park-and-Ride lot may be explained by the fact that it is located further from Lorain County than the Westlake and North Olmsted facilities. Compounded by the access challenges for drivers traveling from the west, it is not surprising that few vehicles use this facility. Despite the low number of vehicles, it is notable that half of the cars in this lot are from Lorain County.



North Olmsted Park-and-Ride

The North Olmsted Park-and-Ride lot, with 489 spaces, is located at 5575 Great Northern Boulevard in North Olmsted, just south of the I-480/Great Northern Boulevard interchange. It is a dedicated RTA facility, with an enclosed shelter and concrete bus loop. Access to the lot is via the access road on Great Northern Boulevard across from the I-480 westbound exit ramp. The intersection is signalized, providing easy access from all directions. The facility opened in 2002 with 320 parking spaces and was expanded in 2007 to its current capacity. The lot and its location adjacent to the I-90 interchange, are shown in Figures 41 and 42.

The park-and-ride lot is served by two RTA bus routes, Route 263 – North Olmsted Park-and-Ride, and Route 75 – Lorain. Route 263 is a dedicated commuter route connecting the lot to downtown Cleveland via I-480 and I-71. The route serves several downtown locations, terminating at Stephanie Tubbs Jones Transit Center at Cleveland State University. The route operates nine inbound trips from the lot to downtown on weekdays between 5:59 and 8:19 AM, and nine outbound from downtown between 3:15 and 6:47 PM. Travel time to Tower City is 26-28 minutes; to CSU it is 40 minutes in the morning and 42-46 minutes in the afternoon.

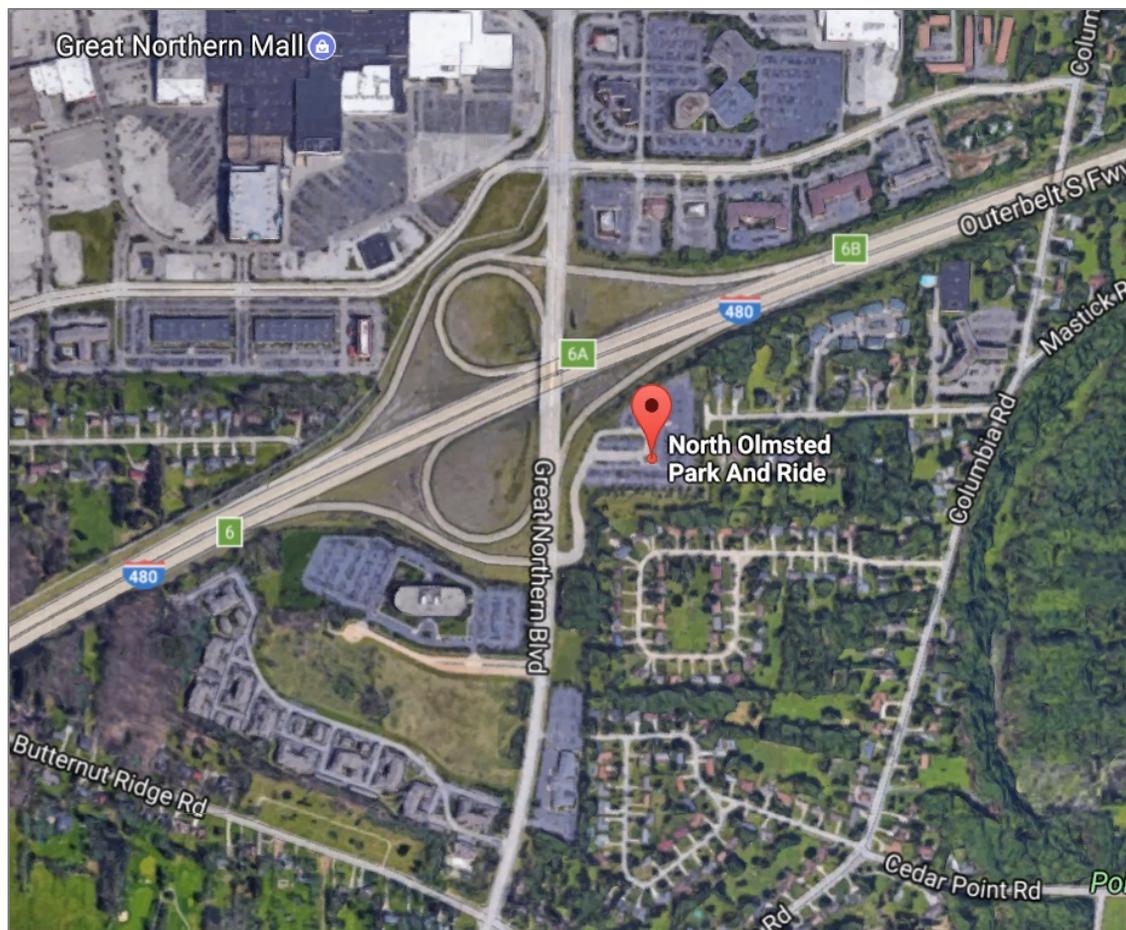


Figure 41: North Olmsted Park-and-Ride Adjacent to I-480 and Great Northern Boulevard Interchange

Route 75 is a local route that operates along Lorain Road through North Olmsted and Fairview Park before terminating at the West Park Rapid Station, located near Lorain Road east of West 150th Street in Cleveland. Route

75 also serves the Great Northern Mall and Fairview Hospital.

Four Route 75 trips divert to the North Olmsted Park-and-Ride lot in the morning

(between 5:50 and 7:48 AM), and eleven westbound trips stop there in the afternoon (between noon and 7:30 PM), both to pick up park-and-ride customers and to accommodate transfers to Route 263. Travelers to downtown that do not transfer to Route 263 complete their trip from West Park Station on the Red Line Rapid Transit line to Tower City. Travel time using Route 75 from North Olmsted Park-and-Ride lot to the West Park Station is 25-28 minutes; this is in addition to a 16 -minute trip from Tower City to West Park Station, plus time required for the transfer between the Red Line and Route 75. Route 75 runs seven days a week, but does not stop at the park-and-ride lot on weekends. The parking count data for the North Olmsted Park-and-Ride Lot is shown in Table 9.

Table 9: Lorain County Vehicles at North Olmsted Park-and-Ride, October 31-November 2, 2017

Park-and-Ride Lot Vehicles	North Olmsted (I-480)
Lorain County	74
Non-Lorain County	143
Total	217
Percent Lorain	34.1%

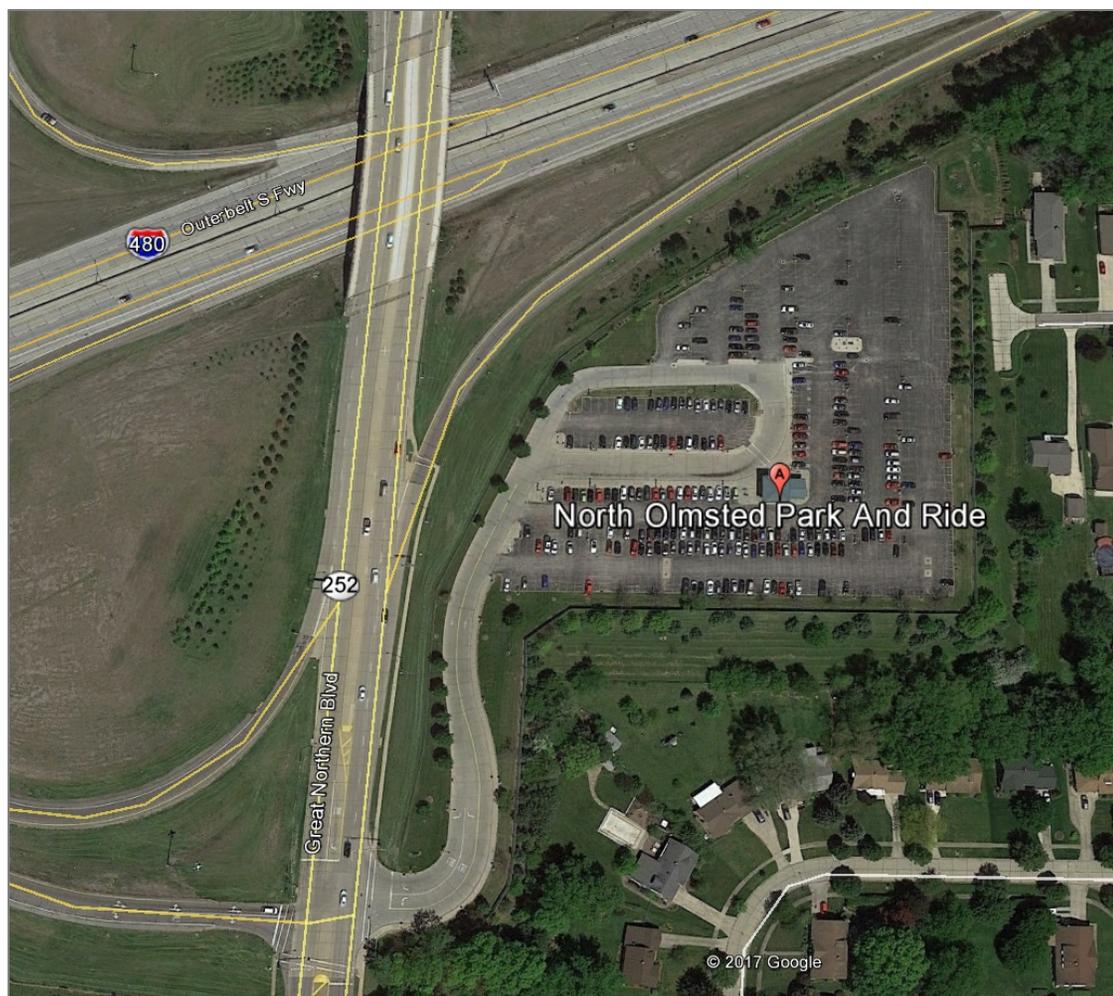


Figure 42: North Olmsted Park-and-Ride Lot

As the western-most RTA park-and-ride lot on the I-480 corridor, with easy access from the I-480 interchange at Great Northern Boulevard, the North Olmsted Park-and-Ride

lot attracts substantially more Lorain County commuters as compared to the Clague and Strongsville Park-and-Ride facilities, which are located further east.

Strongsville Park-and-Ride

The Strongsville Park-and-Ride lot, with 650 parking spaces, is located on an Ohio Turnpike (I-80) ramp off Pearl Road (US42), near the I-71 and I-80 interchange (Figure 43 and 44). The lot is a dedicated RTA park-and-ride lot with an enclosed shelter and concrete bus loop. The lot and its location relative to the I-71 and I-80 interchanges are shown in Figure

The Strongsville Park-and-Ride lot is served by two RTA bus routes, Route 251 – Strongsville Park-and-Ride, and Route 51 – West 25. Route 251 is a dedicated commuter route connecting the park-and-ride to locations in downtown Cleveland via I-71. The route serves several downtown locations and terminates at the Stephanie Tubbs Jones Transit Center at CSU. The southern end of Route 251 is at Laurel Square in Brunswick. The route operates ten weekday inbound trips from the lot to downtown between 5:50 and 8:08 AM, and nine weekday outbound trips from downtown between 4:10 and 6:50 PM. Travel time on most trips is 42-48 minutes in the morning and 45-46 minutes in the afternoon. There is no reverse commute, midday, evening or weekend service.

Route 51 is a local route that connects the Strongsville Park-and-Ride lot to downtown via Pearl Road, West 25th Street, and Superior Avenue, and is the primary bus



Figure 43: Strongsville Park-and-Ride Adjacent to I-80, I-71 and Pearl Road (US 42)

route operating on the MetroHealth Line, a branded priority bus route. Buses run throughout the day, from 4:00 AM to 11:00 PM on weekdays, and the route operates seven days a week. Transfers to the Red Line Rapid Transit can be made at the West 25th Street Station in Ohio City. Travel time to or

from downtown at Superior Avenue and West 3rd Street typically takes an hour each way. In addition to serving the park-and-ride facility, this route also serves MetroHealth Hospital, the West Side Market, Lutheran Medical Center, Southland Shopping Center and South Park Mall.

The count data for the North Olmsted Park-and-Ride are shown in Table 10. Only a handful of vehicles from Lorain County were found at this lot, likely due to most of Lorain County’s population being located north of this facility, and because it is south of I-480, out of the direction of travel for those ultimately headed to downtown Cleveland, resulting in a much longer bus trip than continuing in their cars to reach their destinations.

Table 10: Lorain County Vehicles at Strongsville Park-and-Ride, October 31-November 2, 2017

Park-and-Ride Lot Vehicles	Strongsville (Pearl Road/I-80)
Lorain County	7
Non-Lorain County	248
Total	255
Percent Lorain	2.7%

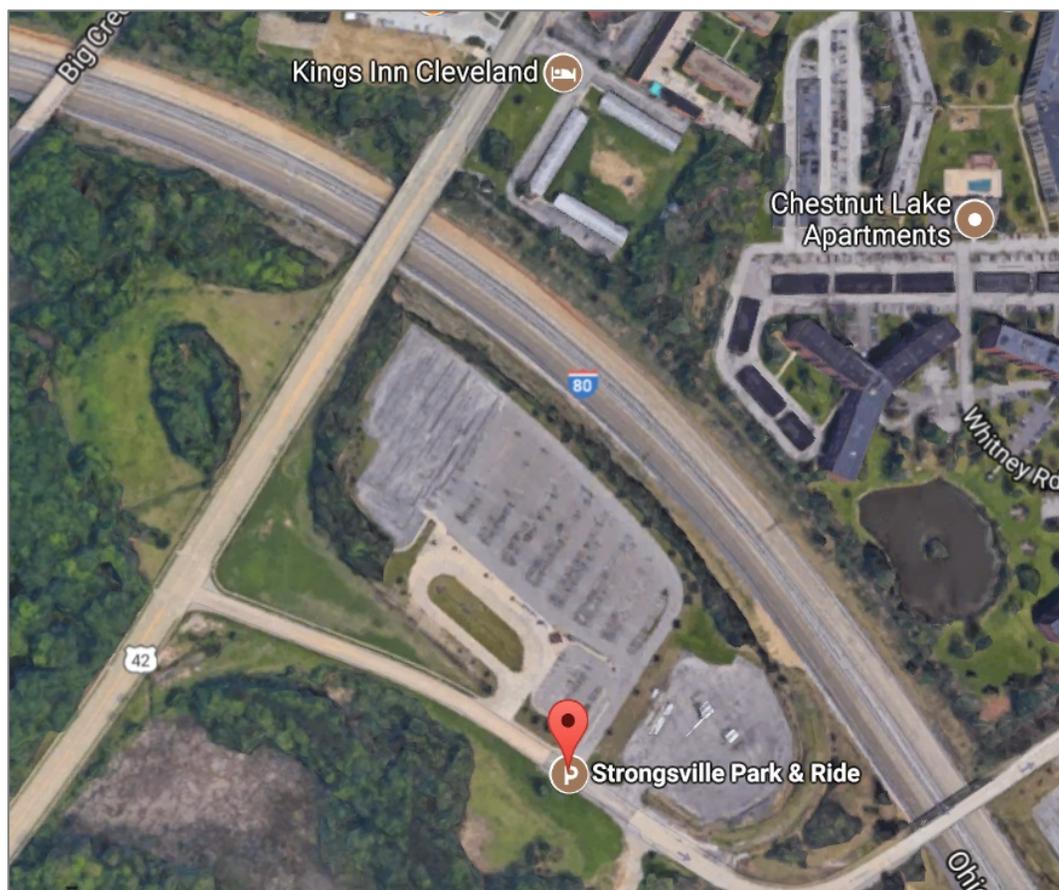


Figure 44: Strongsville Park-and-Ride Lot



RAPID TRANSIT STATION PARK-AND-RIDE FACILITIES

RTA’s Red Line is a rail rapid transit line that runs from Cleveland Hopkins International Airport through Tower City in downtown Cleveland, continuing east to Lewis Stokes-Windermere Station in East Cleveland. The Red Line provides connections to the other rail rapid transit lines (Blue, Green and Waterfront Lines) as well as numerous bus routes at Tower City and Public Square in downtown Cleveland and at other stations along the line. Service runs at four-minute intervals during weekday peak periods, with service spanning nearly 23 hours a day beginning at 3:00 AM, seven days a week.

There are park-and-ride facilities located at six stations on Cleveland’s west side that are logical places for Lorain County commuters to access the Red Line. Figure 45 shows the number of vehicles registered in Lorain County that were parked at each of the Red Line park-and-ride locations, as well as the number of non-Lorain County vehicles to provide a basis for comparison.

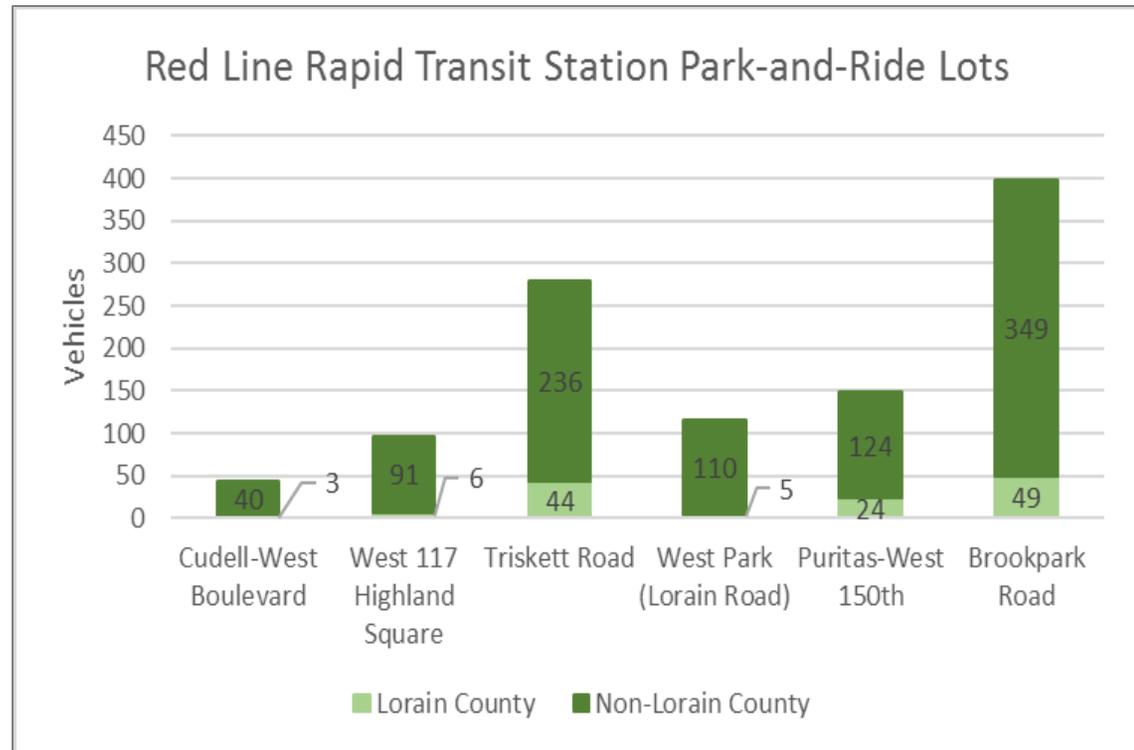


Figure 45: Vehicle Counts at Red Line Station Park-and-Ride Facilities, October 31-November 2, 2017



Cudell-West Boulevard Station

This station serves Cleveland’s Cudell-Edgewater neighborhood. The Cudell-West Boulevard Station is located on the north side of Detroit Avenue near the intersection of West Boulevard, Cudell Avenue and West 101st Street. It is less than one mile north of the West Boulevard exit on I-90. The station includes a climate-controlled passenger waiting area, a parking lot with 100 spaces, and a concrete bus loop with space to accommodate multiple buses. Figure 46 and 47 show the station and its location in the context of nearby roads.

Of the 43 cars parked at the West Boulevard station on the day of the count, only three bore Lorain County license plates. Lorain County residents entering Cuyahoga County via I-90 and intending to use the Red Line rapid would pass two more conveniently located stations—at West 140th Street and Triskett Road and West 117th Street and Madison—before reaching West Boulevard. Commuters using I-90 eastbound begin to encounter traffic back-ups before reaching West 140th Street, making it desirable to exit the highway before reaching West Boulevard.

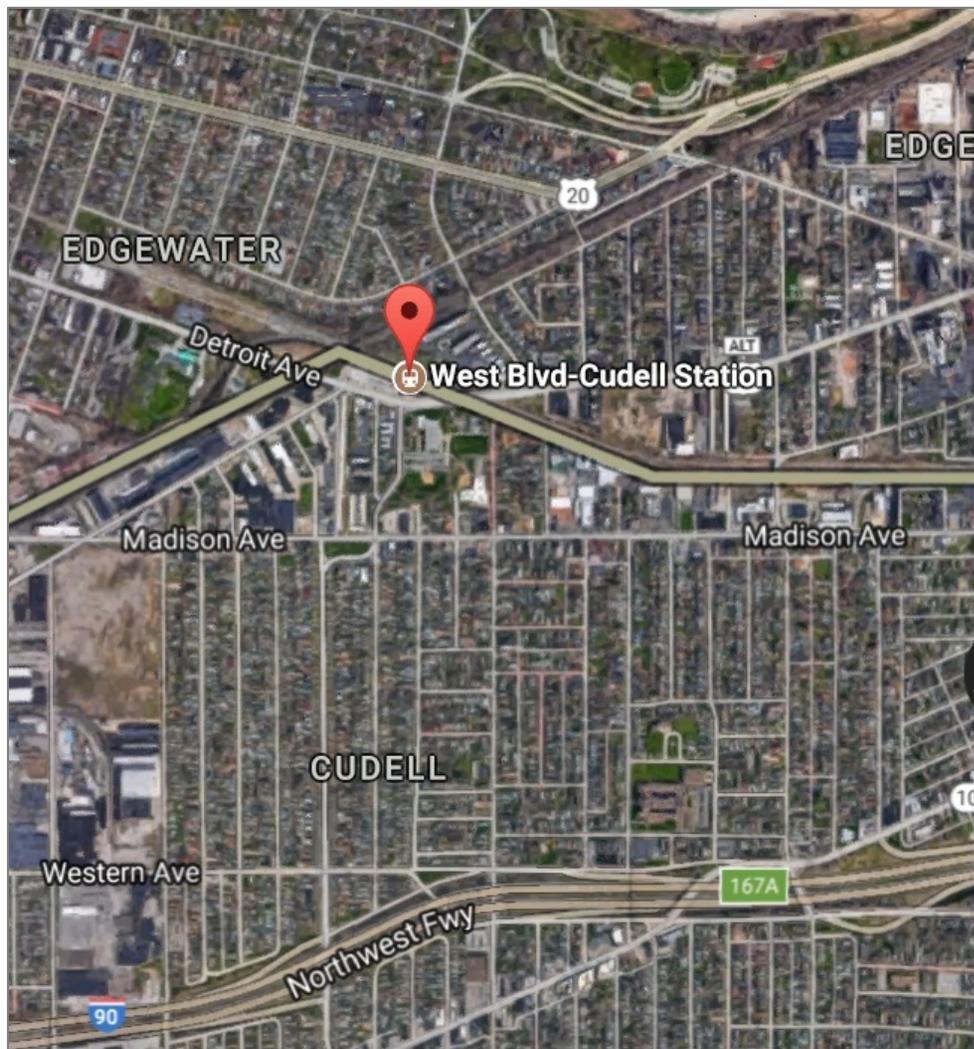


Figure 46: Cudell-West Boulevard Station Park-and-Ride Adjacent to I-90 and City Streets



Figure 47: Cudell-West Boulevard Station Park-and-Ride

West 117th – Madison Station

This station, also known as the Highland Square Station after an old neighborhood name, is located on the southeast corner of Madison Avenue and West 117th Street. It is located on the border of Cleveland and Lakewood. The station is less than one mile north of the I-90 exit at West 117th Street. The station is climate-controlled, and the lot contains 146 parking spaces and a concrete bus loop with space for multiple buses. Figure 48 and 49 show the station and its location within the context of nearby roads.

Like the Cudell-West Boulevard station, the West 117th-Madison station attracts few Lorain County commuters. Of the 97 vehicles parked at West 117th-Madison on the day of the count, only 6 bore Lorain County plates. The station is less conveniently accessed from the I-90 than the station at West 140th and Triskett, and is beyond the point where commuters begin encountering traffic congestion along I-90 during the morning rush hour period.

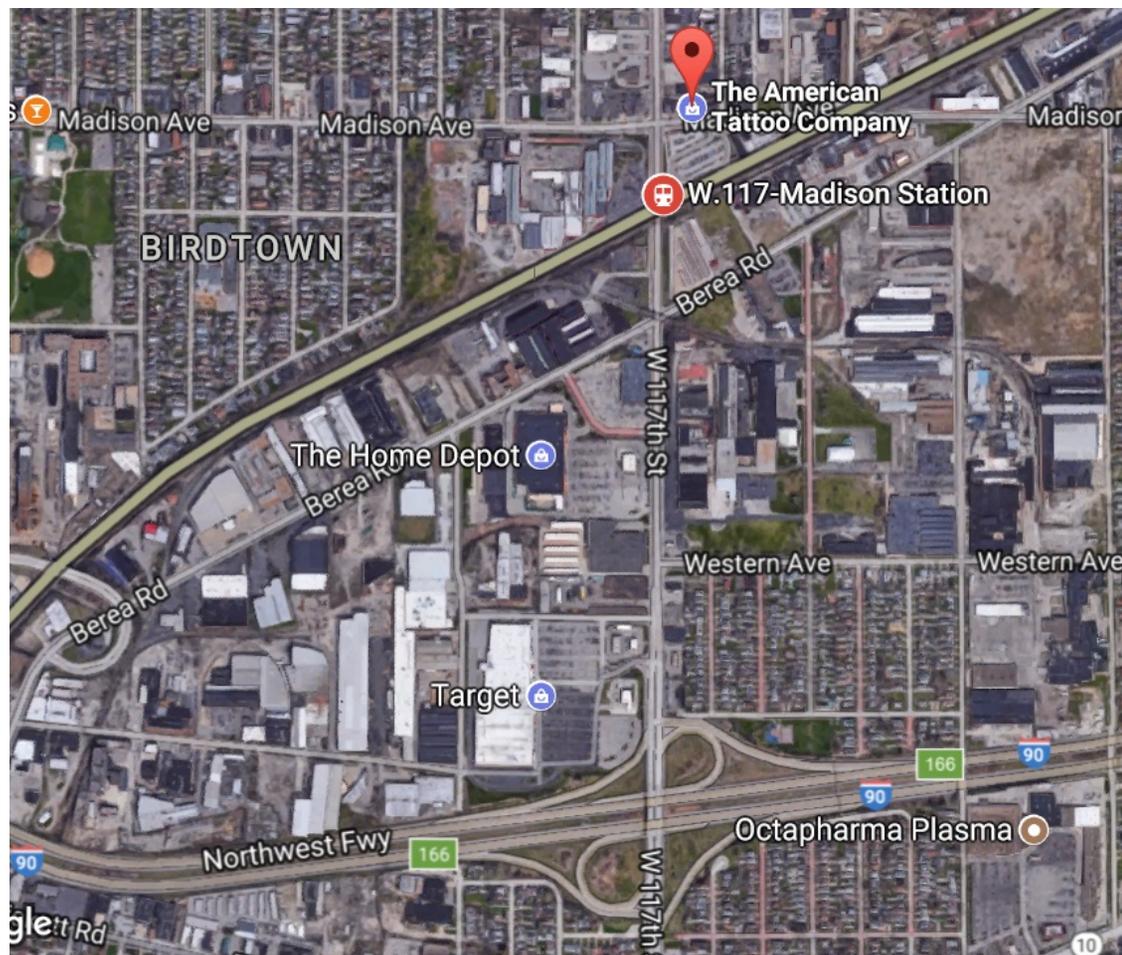


Figure 48: West 117th-Madison Station Park-and-Ride Adjacent to I-90 and City Streets

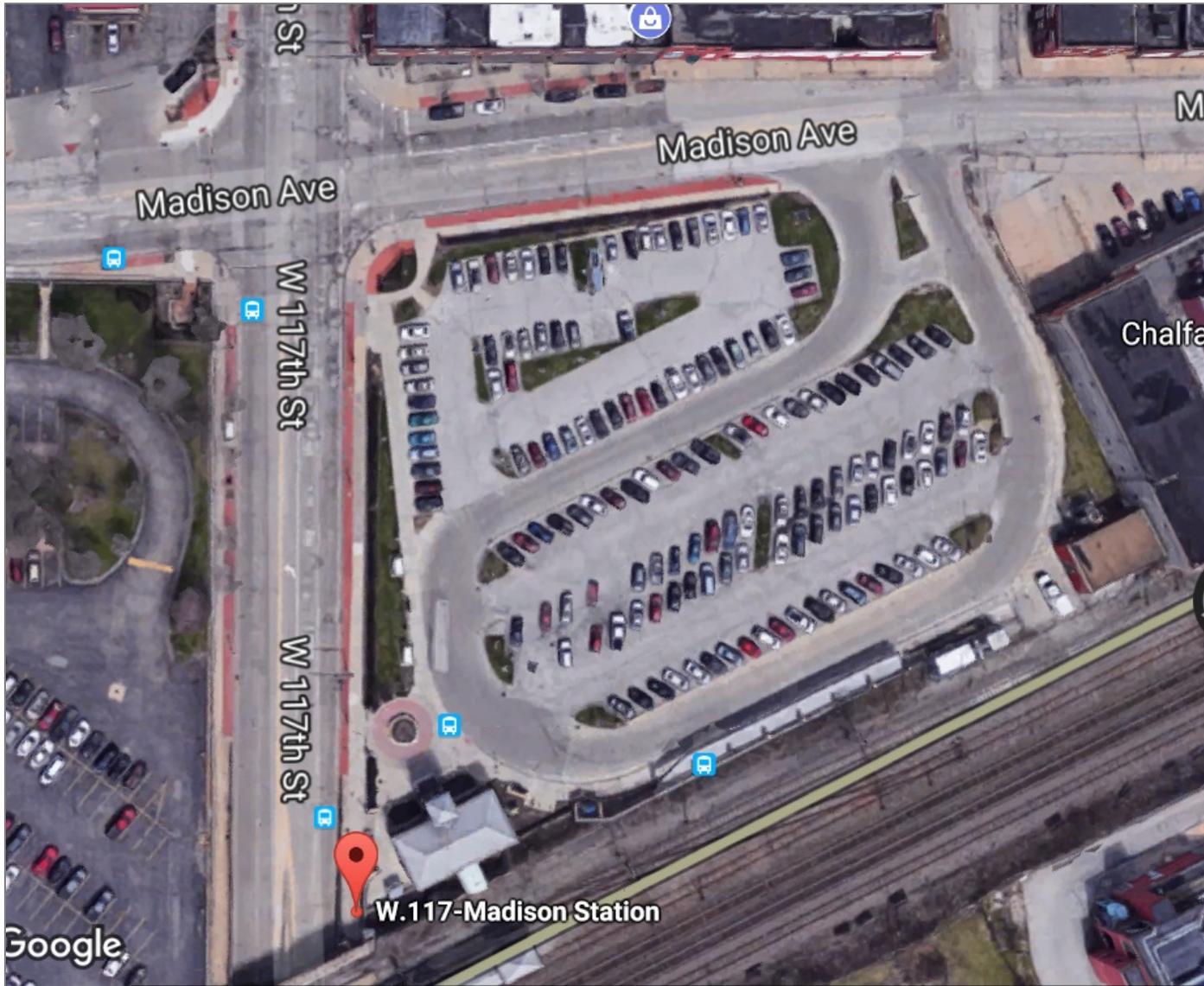


Figure 49: West 117th-Madison Station Park-and-Ride Lot

Triskett Station

This station is located near the I-90 exit at Warren Road/Bunts Road/West 140th Street, and serves Lakewood and Cleveland's West Park neighborhood. The station is less than 5 minutes from the interchange and is accessed either via Lakewood Heights Boulevard or Triskett Road. The station is adjacent to RTA's Triskett Bus garage, and I-90 passes over the station property, making the station visible from I-90, albeit from a point east of the interchange. The station includes a climate-controlled station building and a concrete bus loop with space for multiple buses. The lot is one of the largest in the RTA system, with 669 parking spaces,

Survey data indicates that it is used by Lorain residents, showing that 44 of 280 vehicles parked at the station (15.7%) with Lorain County license plates. The high usage at this station is likely because it is the westernmost Red Line park-and-ride lot along the I-90 corridor.

Figure 50 and 51 show the station and its location in the context of nearby roads.



Figure 50: Triskett Station Park-and-Ride

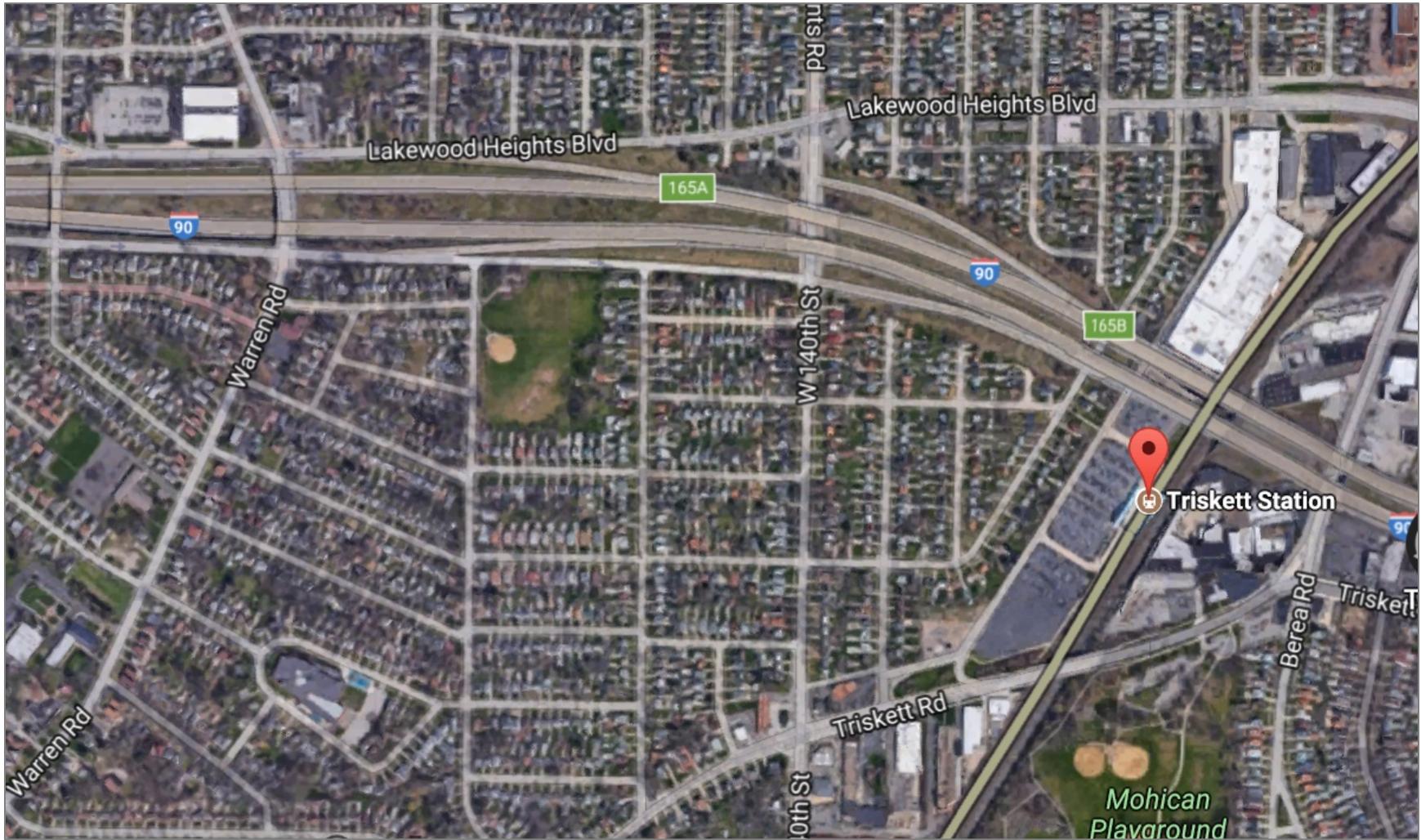


Figure 51: Triskett Station Park-and-Ride Adjacent to I-90 and Other City Streets

West Park (Lorain Road) Station

This station serves Cleveland's West Park neighborhood. It lies north of Lorain Avenue and east of West 147th Street. The station is located about 1.8 miles from the I-71 exit at West 150th Street. This trip, however, would take the driver past the West 150th Street-Puritas station, making this trip unlikely. It also can be accessed from I-90 via the Warren Road/Bunts Road/West 140th Street exit, but the driver would pass the Triskett Station on the way to the West Park Station, making this trip also unlikely. The station is primarily used by residents of the West Park neighborhood surrounding the station and travelers who approach the station from the west along Lorain Road.

The West Park lot has 351 parking spaces, an enclosed station building and a concrete bus loop with an extended shelter for multiple buses.

The parking data indicates that West Park Station is not heavily used by Lorain residents which is not surprising, given that it is not directly accessible from the Interstate system.

Figure 52 and 53 show the station and its location in the context of nearby roads.

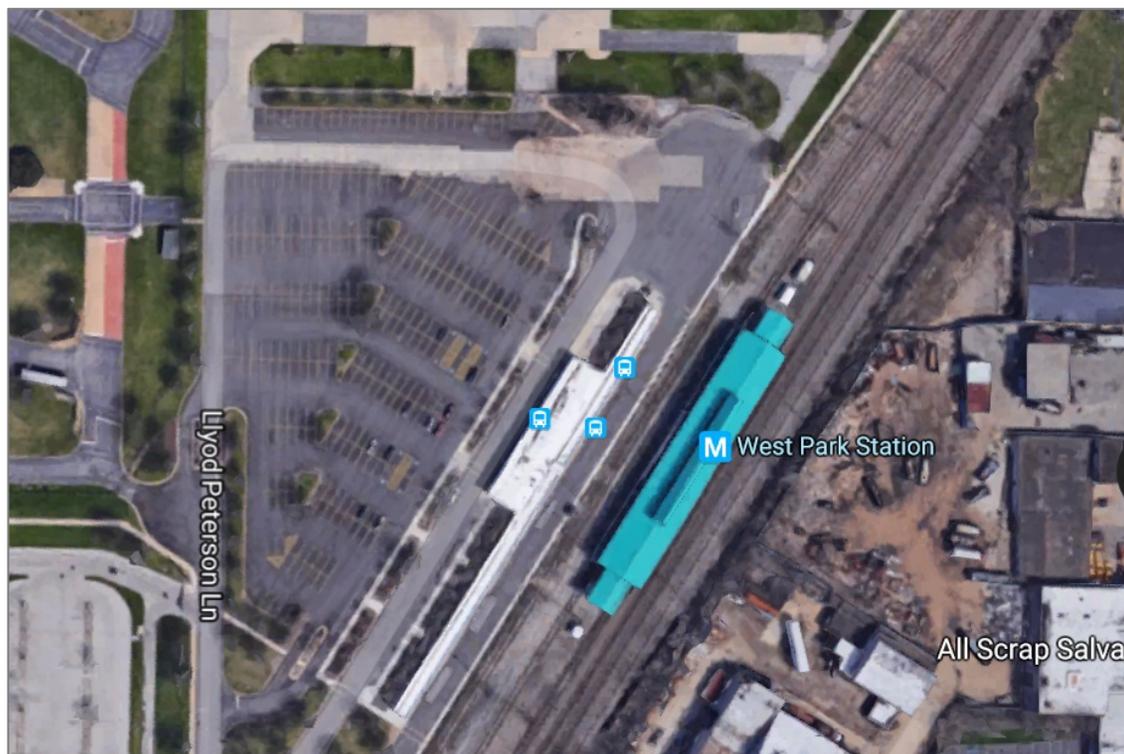


Figure 52: West Park (Lorain Road) Station Park-and-Ride

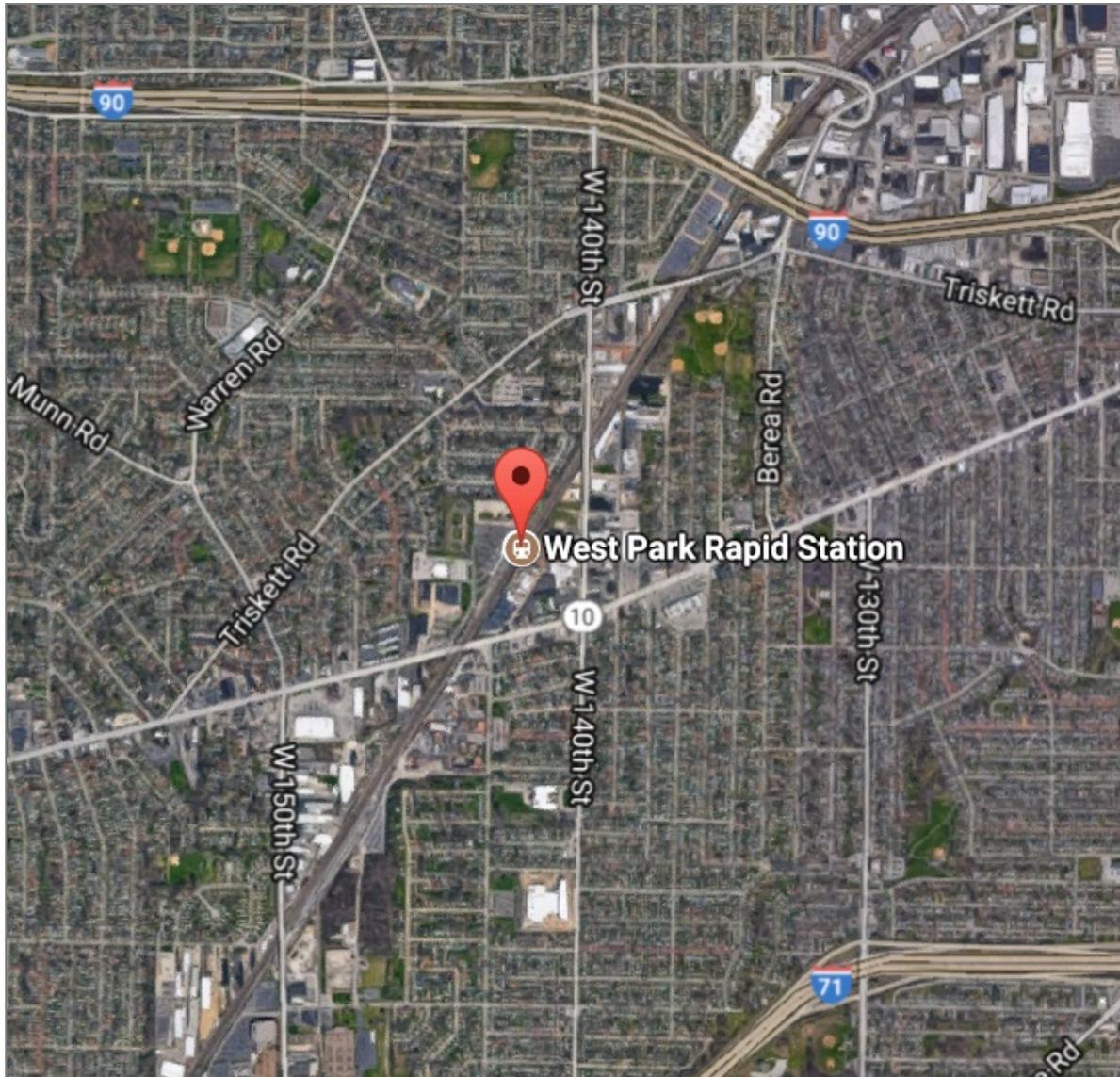


Figure 53: West Park Station Park-and-Ride Adjacent to I-90, I-71 and Other City Streets

Puritas (West 150th Street) Station

Puritas Station is located on the northwest quadrant of the I-71 exit at West 150th Street in Cleveland's West Park neighborhood. The station is easily accessible from both northbound and southbound I-71. The parking lot has 558 spaces, an enclosed station building and a concrete bus loop with space for multiple buses.

The parking survey data indicates that 24 of the 148 cars at the station (16.2%) were from Lorain County.

Figure 54 and 55 show the station and its location in the context of nearby roads.

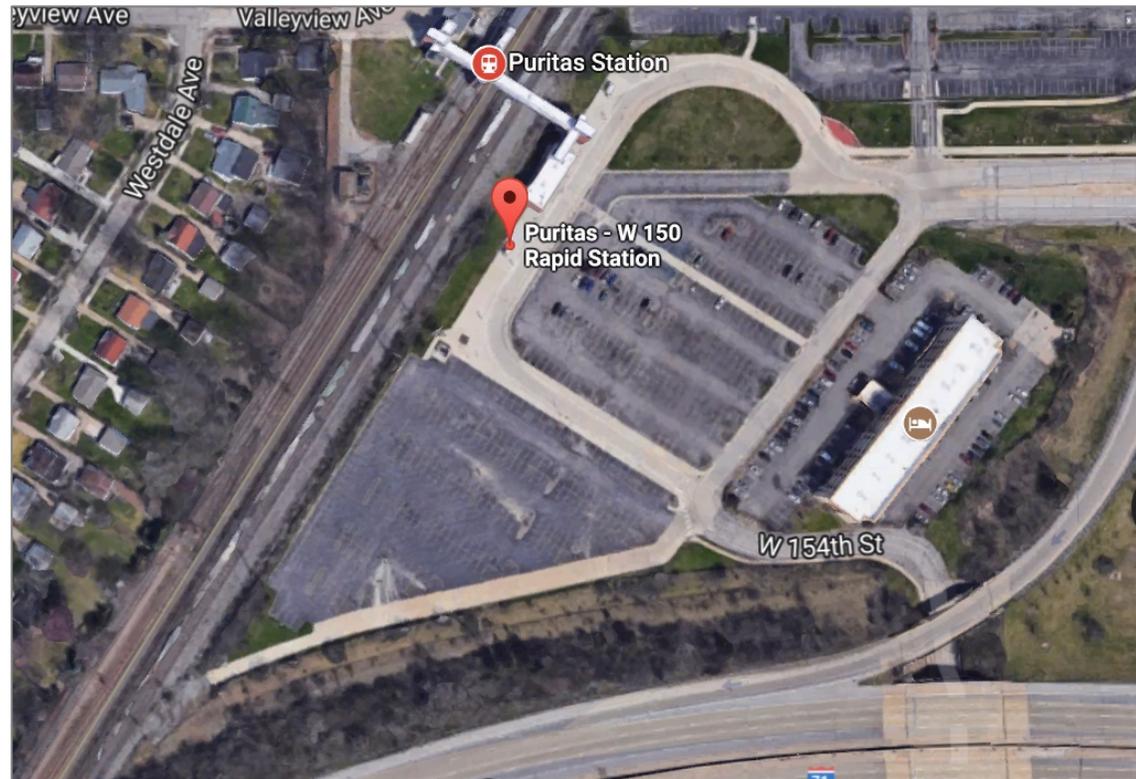


Figure 54: Puritas-West 150th Street Station Park-and-Ride

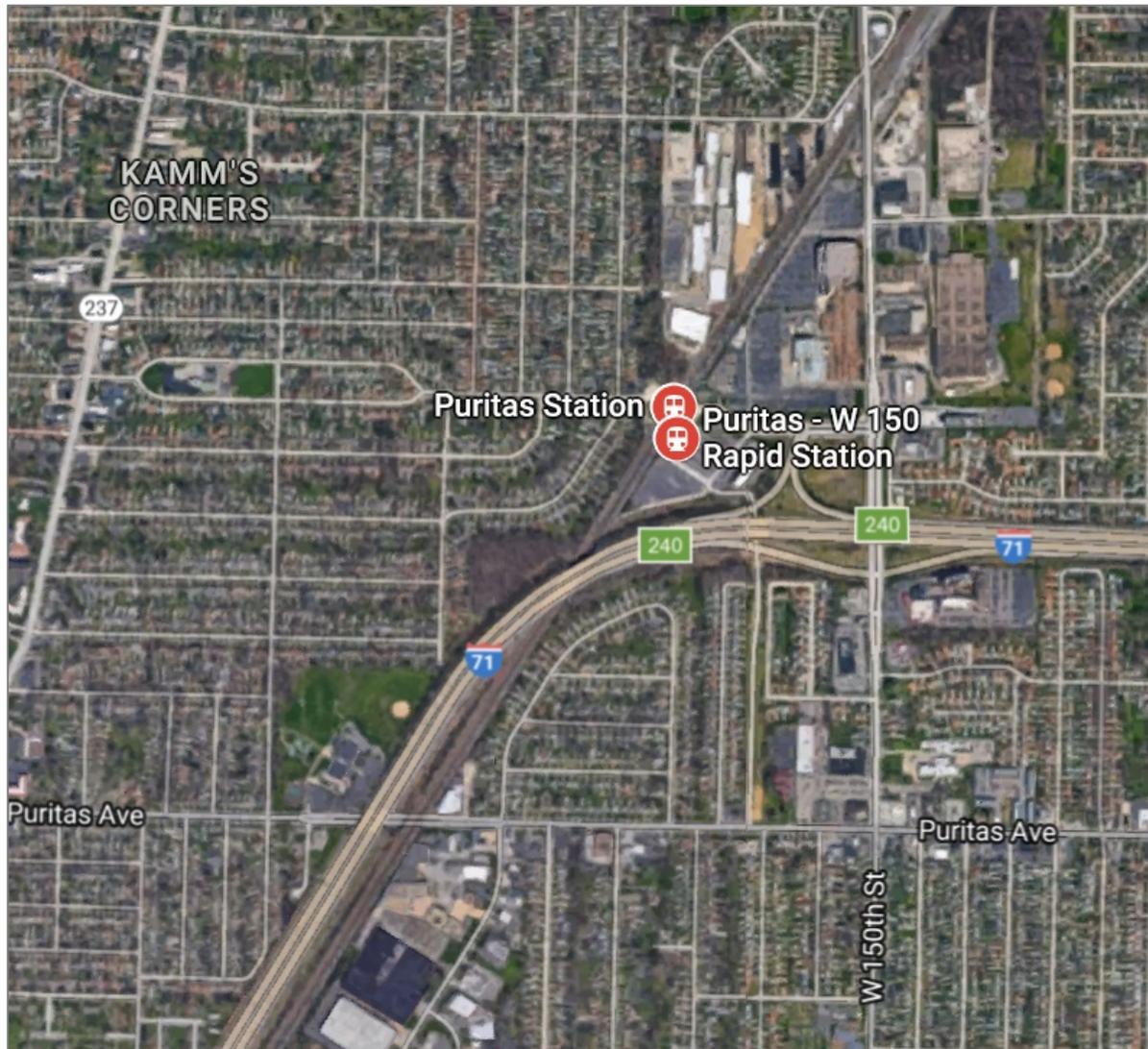


Figure 55: Puritas-West 150th Street Park-and-Ride Adjacent to I-71 and Other City Streets

Brookpark Station

As the last park-and-ride facility before the Red Line terminus at Cleveland-Hopkins Airport, Brookpark Station is located on the border of Cleveland and Brookpark, south of the I-480/I-71 interchange. It is easily accessible from the airport and from I-480. It is less accessible from I-71. Drivers in this area traveling from Lorain County to downtown Cleveland are more likely to be traveling on I-480 than I-71 and as such, this station would be available and accessible to them.

The Brookpark Park-and-Ride has 971 parking spaces. As the figures show, there are two parking lots, one on each side of the shared RTA/freight railroad corridor. The parking lot on the west side is currently under construction. Brookpark Station is configured with a center platform, located between the northeast bound and southwest bound Red Line tracks and accessible from both east and west parking lots via a tunnel under the tracks. The platform includes an enclosed waiting area. All buses serving Brookpark Station stop at the bus bay on the east side of the station.

The parking survey indicates that 49 of the 398 cars parked at the station (12.3%) were from Lorain County. Although this is a lower percentage than at Triskett Station, it is the

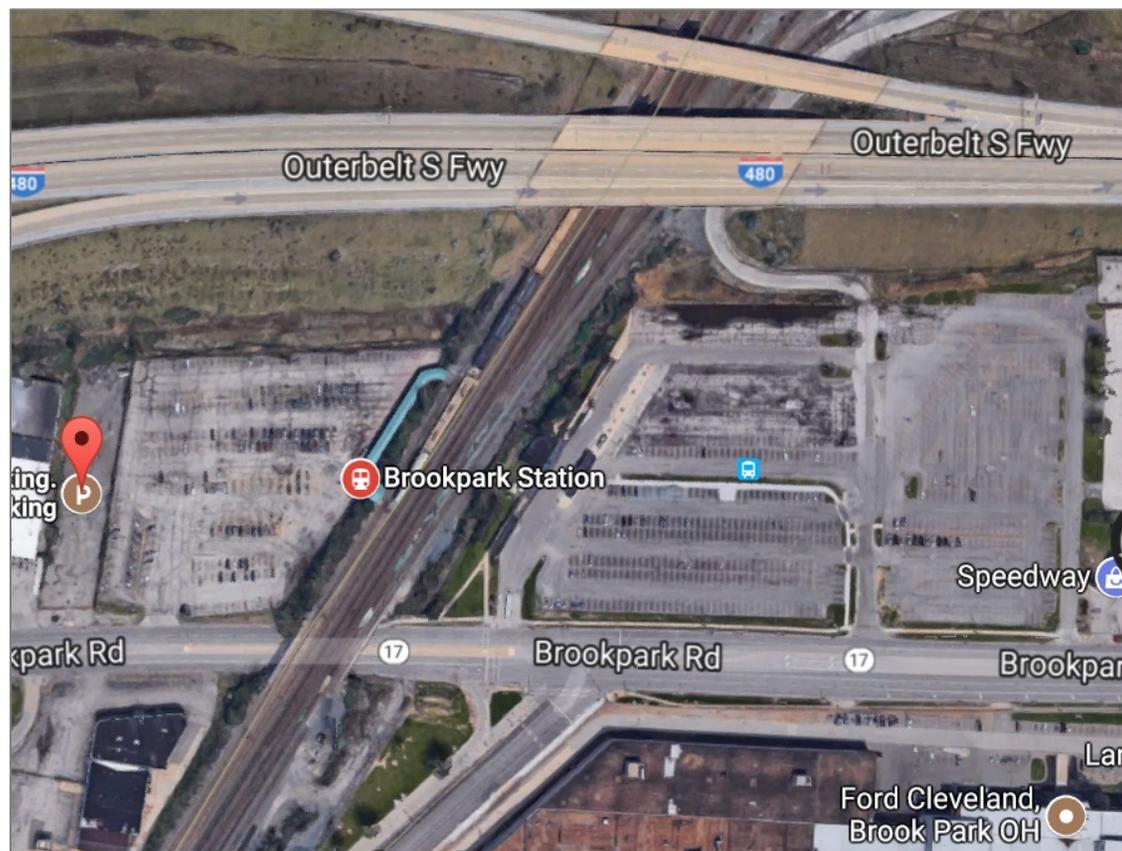


Figure 56: Brookpark Station Park-and-Ride

highest number of Lorain County vehicles identified at all the Red Line station park-and-ride lots. For residents coming from Elyria and other central or southern parts of Lorain County, I-480 is their most likely commute route to Cleveland. Brookpark Station is the closest and easiest Red Line

facility to access from I-480, which explains the high number of vehicles with Lorain County license plates.

Figure 56 and 57 show the station and its location in the context of nearby roads.

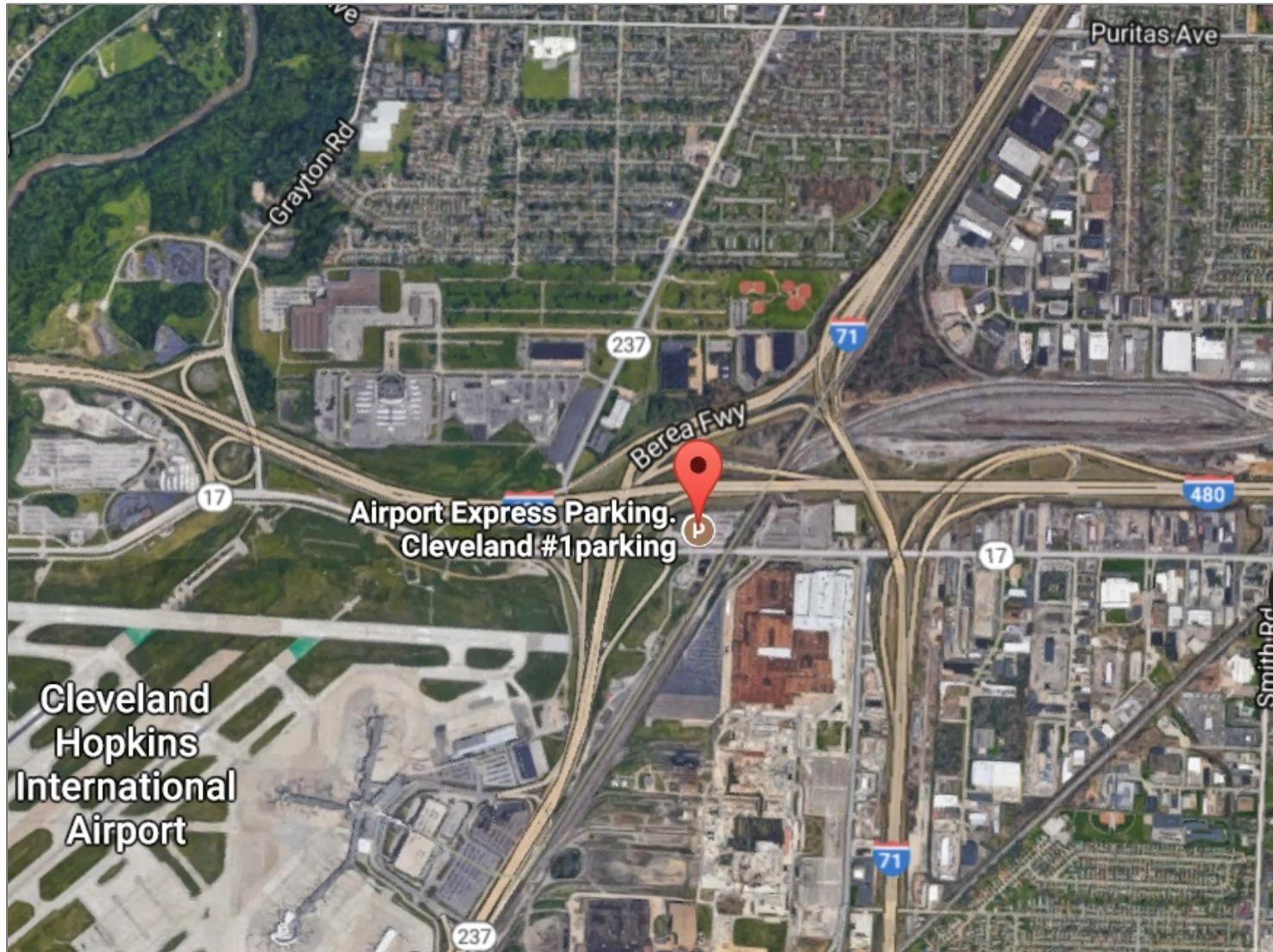


Figure 57: Brookpark Station Park-and-Ride Adjacent to I-480, I-71 and Other City Streets



5. Peer Comparison

This section examines statistics at similarly-sized transit agencies to assess LCT service and operations, and to identify opportunities to improve LCT effectiveness and efficiency. Eleven counties and their respective transit agencies were identified for this peer comparison.

Eight were selected based on size of service area and adjacency to a large urban center:

- Laketran – Lake County, Ohio
- Butler County Regional Transit Authority – Butler County, Ohio
- Clermont Transportation Connection – Clermont County, Ohio
- Delaware Area Transit Agency – Delaware County, Ohio
- Waukesha Metro Transit – Waukesha County, Wisconsin
- Belle Urban System – Racine County, Wisconsin
- Westmoreland Transit – Westmoreland County, Pennsylvania
- Freedom Transit – Washington County, Pennsylvania

Three other transit providers were added to allow for comparison with urban agencies serving similar-sized urban counties in Ohio.

- Toledo Area Regional Transit Authority – Lucas County, Ohio
- Stark Area Regional Transit Authority – Stark County, Ohio
- Western Reserve Transit Authority – Mahoning County, Ohio





Table 11 and Table 12 show the locations and the size of population for each peer agency, along with service area information.

Data used in the peer comparison are from the National Transit Database (NTD) 2016 Annual Data Report, reported by each agency. A total of six metrics were used to assess LCT and its peer agencies:

- Annual Operating Expenses
- Annual Unlinked Passenger Trips
- Annual Revenue Hours
- Annual Revenue Miles
- Base Fare
- Farebox Recovery Ratio

Table 11: Peer Agencies Serving Similar Sized Counties

Transit Provider	County	Adjacent Urban Center	2016 Population Estimate
Lorain County Transit	Lorain County, OH	Cleveland	306,365
Laketran	Lake County, OH	Cleveland	228,614
Butler County Regional Transit Authority	Butler County, OH	Cincinnati	377,537
Clermont Transportation Connection	Clermont County, OH	Cincinnati	203,022
Delaware Area Transit Agency	Delaware County, OH	Columbus	196,463
Waukesha Metro Transit	Waukesha County, WI	Milwaukee	398,424
Belle Urban System	Racine County, WI	Milwaukee	195,140
Westmoreland Transit	Westmoreland County, PA	Pittsburgh	355,458
Freedom Transit	Washington County, PA	Pittsburgh	207,981

Table 12: Peer Agencies Serving Similar Sized Urban Counties

Transit Provider	County	2016 Population Estimate
Toledo Area Regional Transit Authority	Lucas County, OH	432,488
Stark Area Regional Transit Authority	Stark County, OH	373,612
Western Reserve Transit Authority	Mahoning County, OH	230,008





ANNUAL OPERATING EXPENSE

Defined by the National Transit Database, annual operating expenses are the expenses associated with the operation of the transit agency, including purchased goods and services. The purchased items should be consumable, while having a useful life equal to one year or less. Figure 58 shows the annual operating expense of LCT and the selected peer agencies. At \$792,038, LCT has the lowest operating expense among all the selected agencies.

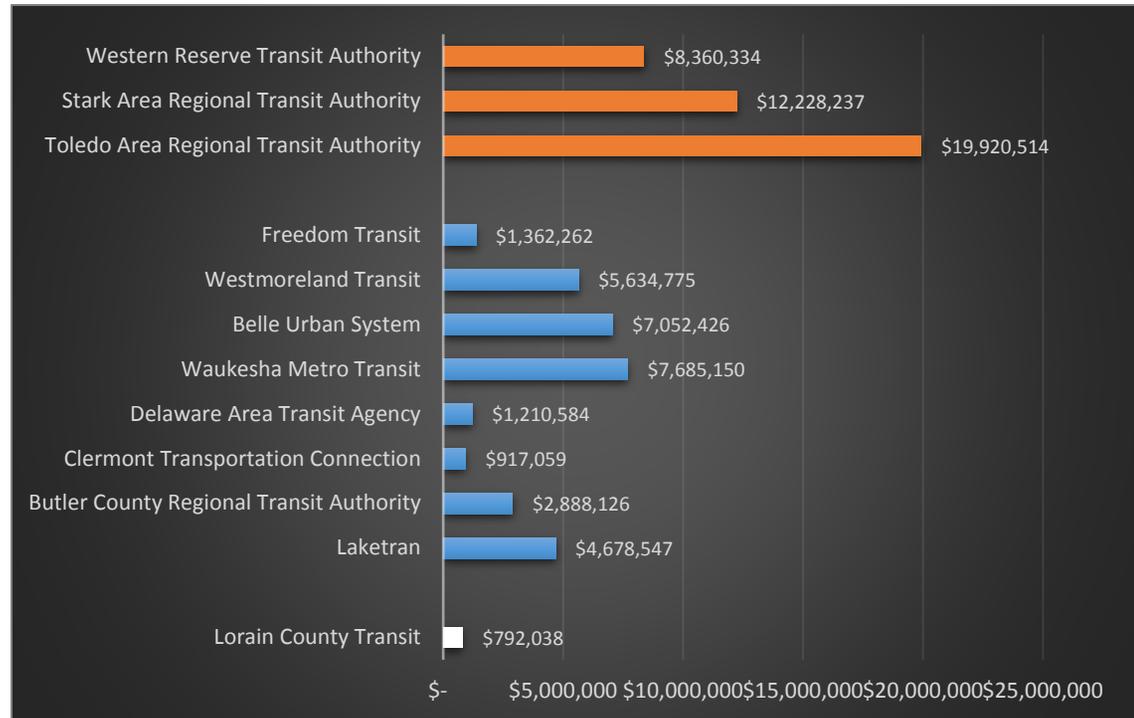


Figure 58: Peer Cities Operating Expenses





ANNUAL UNLINKED PASSENGER TRIPS

Representing the annual volume of passengers using transit, unlinked passenger trips are the number of passengers who board the transit vehicles. Unlinked trips are counted each time a passenger boards a vehicle, regardless of whether the trip is a complete (origin-to-destination) trip, or a segment of a trip (e.g., a transfer). LCT has the lowest number of unlinked passenger trips among all the selected agencies, with a total of 38,989 unlinked trips, shown in Figure 59.

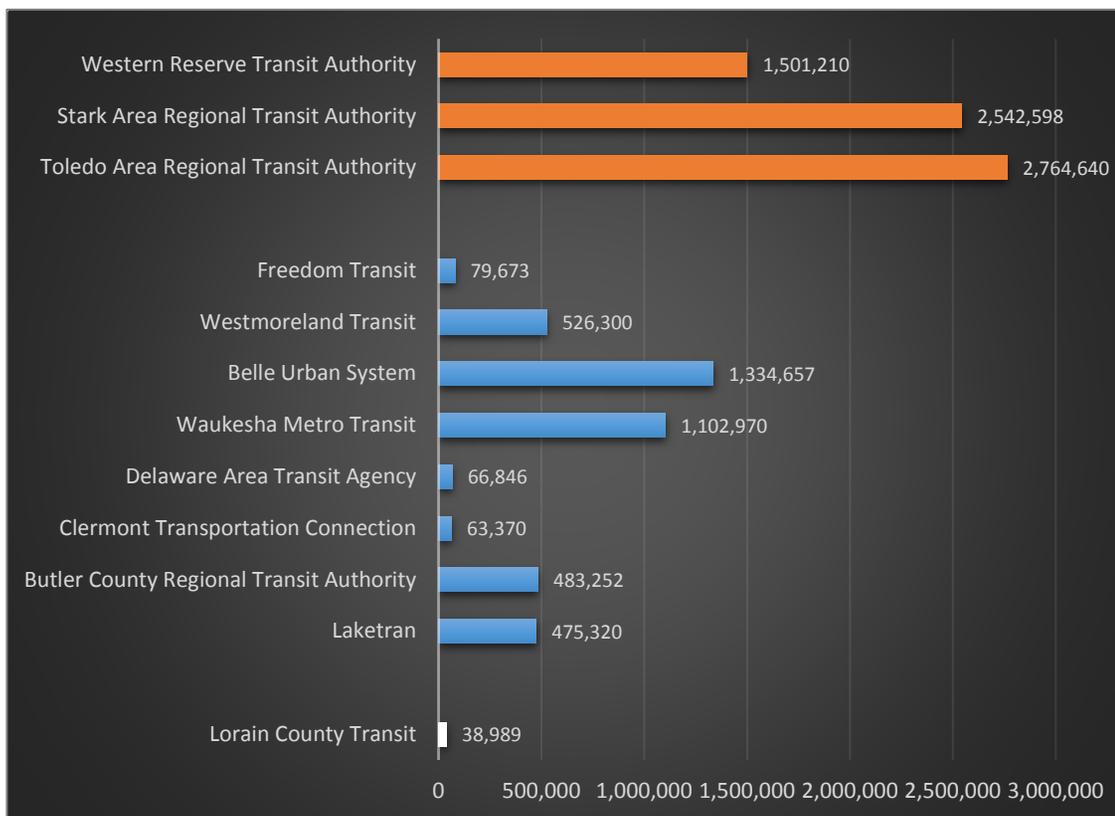


Figure 59: Annual Unlinked Passenger Trips





ANNUAL REVENUE HOURS

As defined by the National Transit Database, revenue hours measure the time that a transit vehicle is available to the public and can expect to carry passengers, including layover and/or recovery time. It does not include the time a bus is driven between the bus depot and the first stop of a route, which is referred to as deadhead time. Annual revenue hours reflect the total volume of service that a transit agency provides each year. LCT has the second lowest annual revenue hours among the selected peer agencies, just above Clermont Transit Connections, shown in Figure 60.

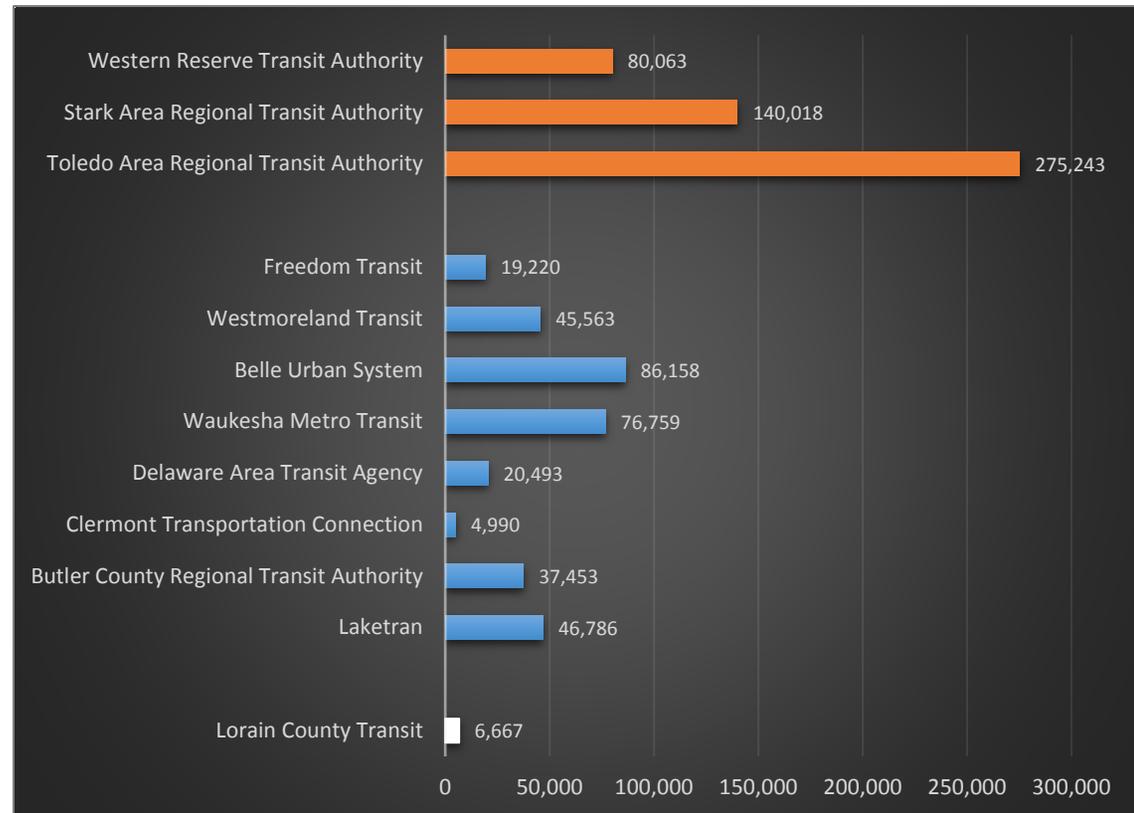


Figure 60: Peer Cities Annual Revenue Hours





ANNUAL REVENUE MILES

Similar to revenue hours, revenue miles are defined as the number of miles a transit vehicle travels when it is in revenue service. Annual revenue miles measure the total distance travelled by the agency's vehicles when providing revenue services each year. With 96,978 annual revenue miles, LCT is, again, the lowest among its peers, shown in Figure 61.

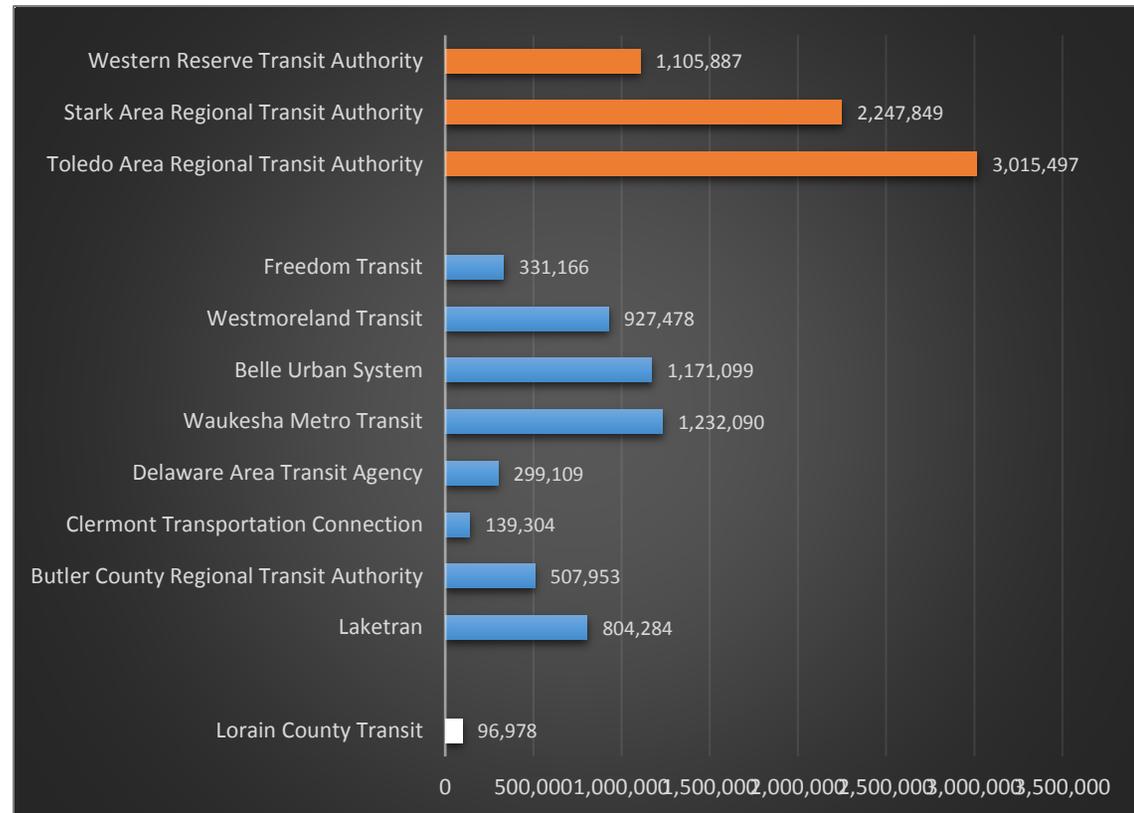


Figure 61: Peer Cities Annual Revenue Miles





BASE FARE

The base fare is the amount of money that a transit passenger pays for the service each time they start a trip (or board the transit vehicle if there is no transfer policy); it does not include any form of discount. At \$4.10, LCT has the highest base fare among its selected peer agencies, twice as high as the average base fare, shown in Figure 62.

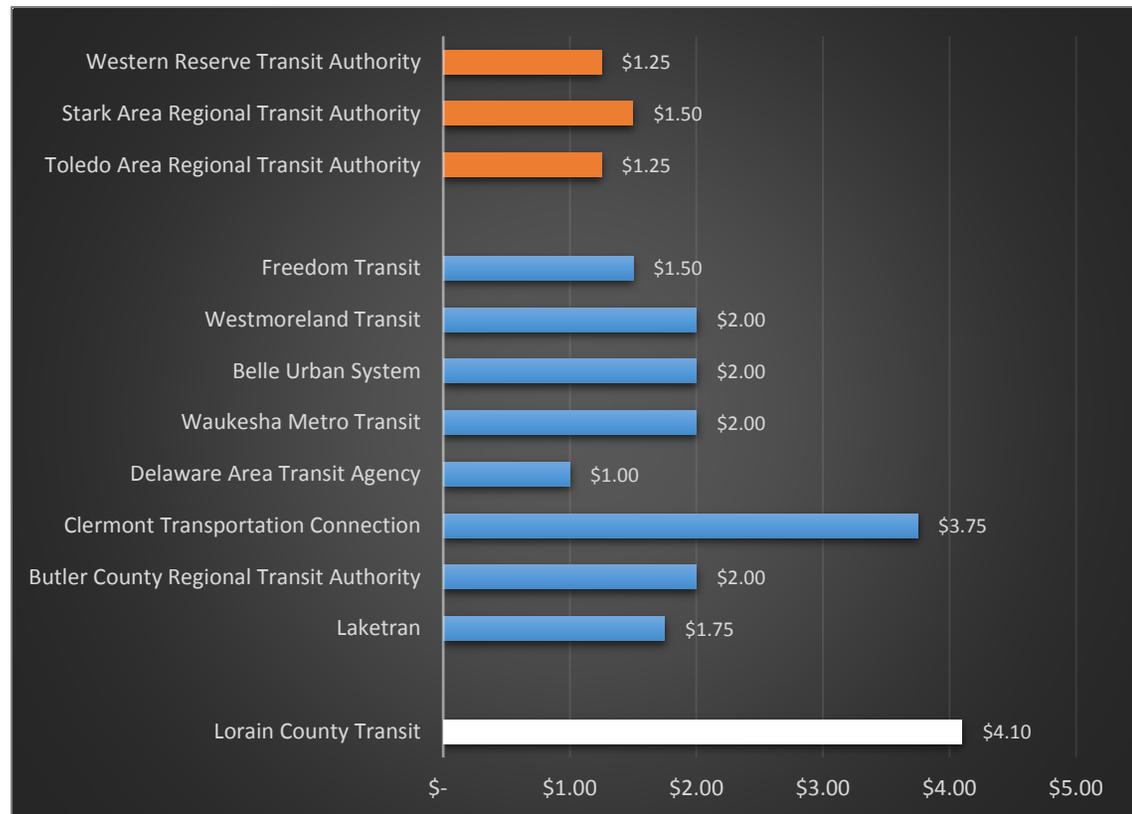


Figure 62: Peer Cities Base Fare





FAREBOX RECOVERY RATIO

This metric measures the ratio of income that comes solely from the collected fare and is represented as a percentage of total operating expense. It also indicates the level of subsidization that a transit agency relies on. At 9%, LCT has the second lowest farebox recovery ratio, albeit, not much lower than Western Reserve Transit Authority and Freedom Transit at 11%, shown in Figure 63.

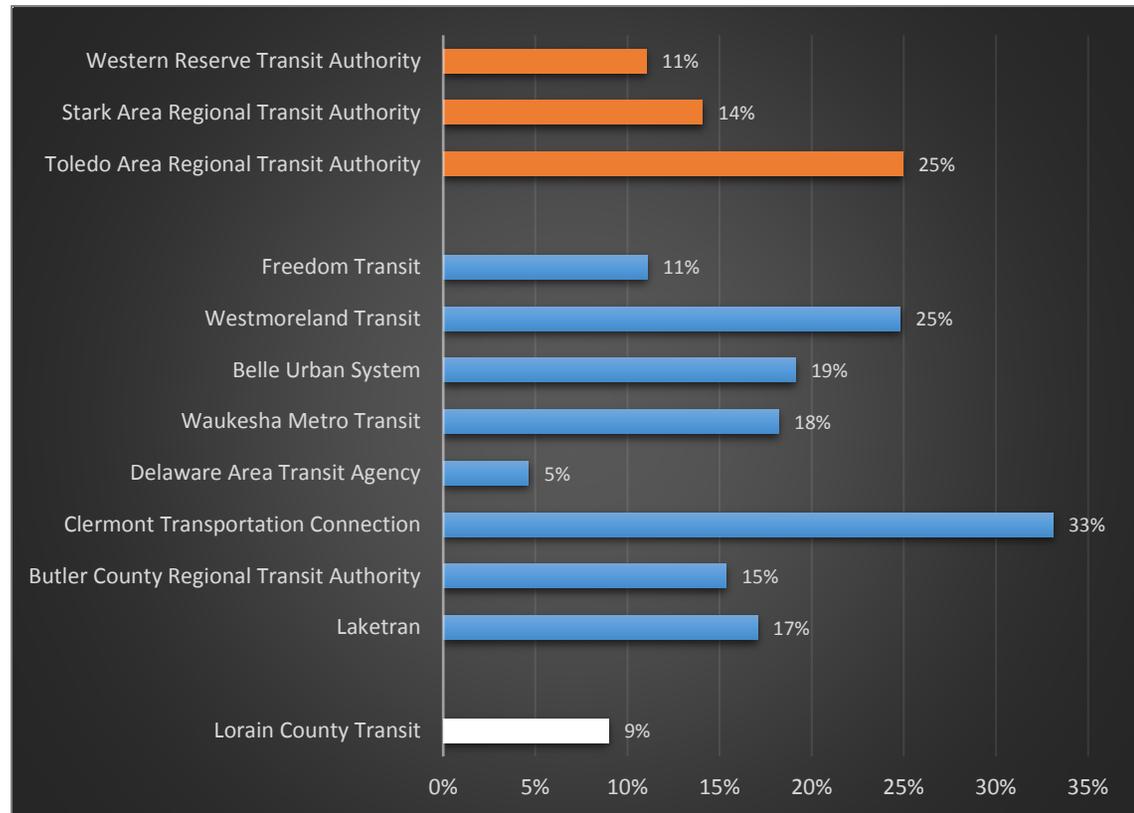


Figure 63: Peer Cities Farebox Recovery Ratio





6. Summary of Existing Conditions and Peer Comparisons

Based on the Peer Analysis, it is evident that LCT has the smallest budget, lowest ridership, and highest cash fare. The two-hour headways, high fare cost, and short service span are three main factors that keep existing riders from increasing their use of the LCT transit service and limit the opportunity to gain new riders. As such, LCT's fixed route service is primarily used by people who are transit-dependent due to low income, inability to drive/lack access to a car, or disability. These combined factors have created a downward spiral for LCT – with lower ridership providing a justification for reducing service levels, and reduced service levels further driving down ridership.

Compounding the problem, employment growth in the county is largely concentrated in a few areas of Avon, North Ridgeville and other areas that are outside of LCT's current service area. In contrast, the concentrations of unemployed residents are found mainly in Elyria and Lorain, areas which are served by LCT. This represents an opportunity for LCT

to provide service from Elyria and Lorain to Avon and North Ridgeville, as well as Crocker Bassett, Cleveland Clinic, and Independence-Rockside Road, providing access to employment from areas where it is most needed.

As the population ages, the increasing population of elderly and disabled that are spread-out among low density areas will increase demand for county-wide ADA paratransit service. This will pose another challenge to LCT's long-term budget outlook.

Regarding the out-of-county commuter market, there is a large and growing number of middle-income Lorain County residents working in Cuyahoga County. However, the work employment destinations in most parts of Cuyahoga County are not as concentrated as would be needed to efficiently serve with dedicated commuter routes. The highest demand would be for a service from Elyria or Lorain to downtown Cleveland, however, only about 11% of Lorain residents working in Cuyahoga County report that they work downtown. Further, at least 10% of Lorain County commuters who work downtown are already using RTA's park-and-ride services for their commute trips.

Making the Case for Public Transit

There are a number of reasons for expanding transit service to accommodate the currently unmet demand and to improve service to existing customers. These include:

- Public transit connects lower-income, transit-dependent and disabled residents to jobs, and helps unemployed people reach employment.
- Viable public transit provides the potential to reduce public welfare costs when unemployed residents are provided access to jobs
- Public transit connects people to educational and training opportunities that improve their future employment prospects.
- Employers with access to transit-dependent employees seeking entry-level jobs can expand their pool of potential employees and thus making their businesses more viable.
- Public transit improves access to medical facilities, shopping and other daily activities, improving health outcomes, as well as building a stronger local economy.
- Public transit provides personal mobility and freedom to riders as an alternative to driving, especially for the transit-dependent, elderly and disabled.





- Investment in public transit has been shown to improve the local economy through increases in economic returns, employment levels, and retail sales.





7. Recommendations

A series of recommendations were presented at a workshop in December 2017. The recommendations include changes to the current transit system that were influenced by multiple factors: demographics and existing system performance analyses conducted by the consultant; transit operation best practices; input from the public, stakeholders, and agency staff. Recommendations were also developed for fares, routes, and other aspects of LCT operations.

Following the workshop, the project team (LCT staff and the consultant team) met to refine recommendations after receiving input from the Lorain County Commissioners and members of the public. The resulting recommendations, as presented below, include changes to the LCT transit service to improve service over the next several years. The recommendations are organized as listed below.

- Passenger fare structure
- Fixed route service and Dial-A-Ride service changes
 - Recommendations within existing budget
 - Short-term expansion

- Long-term expansion
- Other recommendations, including signage and amenities, vehicle equipment, organizational changes, and staffing

The section concludes with an overview of estimated costs and a review of potential funding sources.

7.1 Passenger Fares

The existing fare of \$4.10 is the highest fare based on the comparison of peer agencies, and it may make LCT the most expensive transit service in the country for local fixed route service. In addition, the \$0.10 increment added to the \$4.00, presents difficulties to both the customers and the drivers; it is an awkward amount for the customer to pay and requires additional attention for the driver to monitor payment. Given the amount and increment of the current fare and its impact on ridership, ***the fare for fixed route service should be reduced to approximately 50% of the current fare.*** Table 10 summarizes the existing and proposed fare structures.

Even at this proposed reduction, a single one-way full fare of \$2.00 for LCT would still be higher than any surrounding transit system, except Greater Cleveland RTA.

Additionally, ***all LCT fares should be based upon use of only whole dollars or quarters for all fare types, including Dial-A-Ride.***

Furthermore, LCT should ***work with Lorain County Community College (LCCC) to develop a student/staff pass program.***

Initiating a transit pass program with LCCC will dramatically increase transit use and be of benefit to the college.

LCT is likely to see a loss in annual fare revenue because of this fare reduction, as the ridership increases generated by the fare reduction may not be enough to offset the loss of revenue due to the reduced fare. Table 11 on page 101 summarizes the anticipated revenue impact associated with implementation of the recommended fare reduction. The information includes the fare reduction and the anticipated increase in ridership due to only the fare reduction, with a 15% ridership increase for fixed route services and a 5% increase for demand-response services. Based solely on the impact of fare reduction and without implementing other changes that would further increase ridership, reduction in fares is estimated to result in a decrease in annual revenue from \$25,000 to \$35,000 in the first year.

Lorain County Commissioners accepted the proposed fare structure and implemented the fare reduction on December 1st, 2017.





Table 13: Existing and Proposed Fare Structure

Fare Type	Full Fare		Senior/Disabled		Student	
	Existing	Proposed	Existing	Proposed	Existing	Proposed
Single Ride	\$4.10	\$2.00	\$2.05	\$1.00	\$1.80	\$1.00
Day Pass	\$6.75	\$4.50	N/A	\$2.25	N/A	\$2.25
10-Ride	\$36.90	\$18.00	\$18.45	\$9.00	\$18.00	\$9.00
Monthly Pass	\$164.00	\$72.00	\$82.00	\$36.00	N/A	\$36.00
Dial-a-Ride	\$9.25	\$9.00	\$4.60	\$4.50	N/A	\$4.50





7.2 Fixed Route Service and Dial-A-Ride Service Changes

There are three levels of service changes recommended for LCT fixed route service: 1) Within existing budget, 2) Short-term expansion, and 3) Long-term expansion.

The first category of service changes are strategies that are assumed to be cost neutral, with the following characteristics:

- They can be made within existing budget and fleet; They can be implemented without increasing operating hours, number of buses in the fleet, or operating budget;
- They are unlikely to generate additional Dial-A-Ride trips or costs. Dial-a-Ride costs are likely to be increased when route alignments are expanded or changed, because LCT is required under the Americans with Disabilities Act (ADA) to provide Dial-a-Ride service to disabled customers within 3/4ths of a mile of fixed route alignments.

Expanding service span also may trigger additional Dial-a-Ride costs, as LCT is required to provide Dial-a-Ride service to disabled customers whenever fixed route service is in operation.

There are two sub-levels within the first level: 1) **Minor** refinements that LCT should implement immediately to avoid route deviations (routes leaving main routes to enter shopping centers or operate on local streets), connect to more destinations and to avoid safety risks; 2) **Major** changes to two LCT routes to operate on the same street in both directions rather than as one-way loops.

The second and third categories of service changes should follow implementation of the major route changes. They will require budget increase and additional funding.

Potential changes to LCT service, that stay within existing budget, would have little to no impact on Dial-A-Ride service. However, short- and long-term changes that would expand LCT service would have associated cost impacts and could also affect the cost of Dial-A-Ride services. By law, paratransit service like Dial-A-Ride must be provided in areas that are currently served by local fixed route public transit. If the local fixed route service area and/or service hours are expanded, then paratransit service must also be expanded to match the upgraded service. This would generate increased demand for both new and longer Dial-A-Ride trips.





WITHIN EXISTING BUDGET

Route 1

As illustrated in Figure 64, under its current alignment, Route 1 originates at the Life Skills High School transfer point in Elyria, travels along West River Road and North Ridge Road, serving Sheffield Center, Gathering Hope House, and the Nord Center; it then turns onto Broadway, Oakdale, and Washington, stops at Meridian Plaza, then returns to the Life Skills High School transfer point via the same route, in reverse. In addition, Route 1 serves Mercy Cancer Center (Shadden Road) upon request only.

After completing its trip in Lorain, Route 1 becomes Route 51 and heads to Elyria. There are two at-grade railroad crossings on this route, one on Washington Avenue after West 12th Street, the other on North Ridge Road before Pearl Avenue. The Route 1 bus also makes an uncontrolled left turn (meaning that the intersection is not signalized, and the left turn is made across oncoming traffic that doesn't stop) from West 5th Street to Washington Avenue; in addition to making a left turn without a traffic signal, this turn has very limited sight distance. Route 1 makes another uncontrolled left turn from North Ridge Road onto Floral Drive to serve Gathering Hope House and Sheffield Center on the outbound trip. The at-grade rail

crossings and uncontrolled left turns are potential safety hazards.

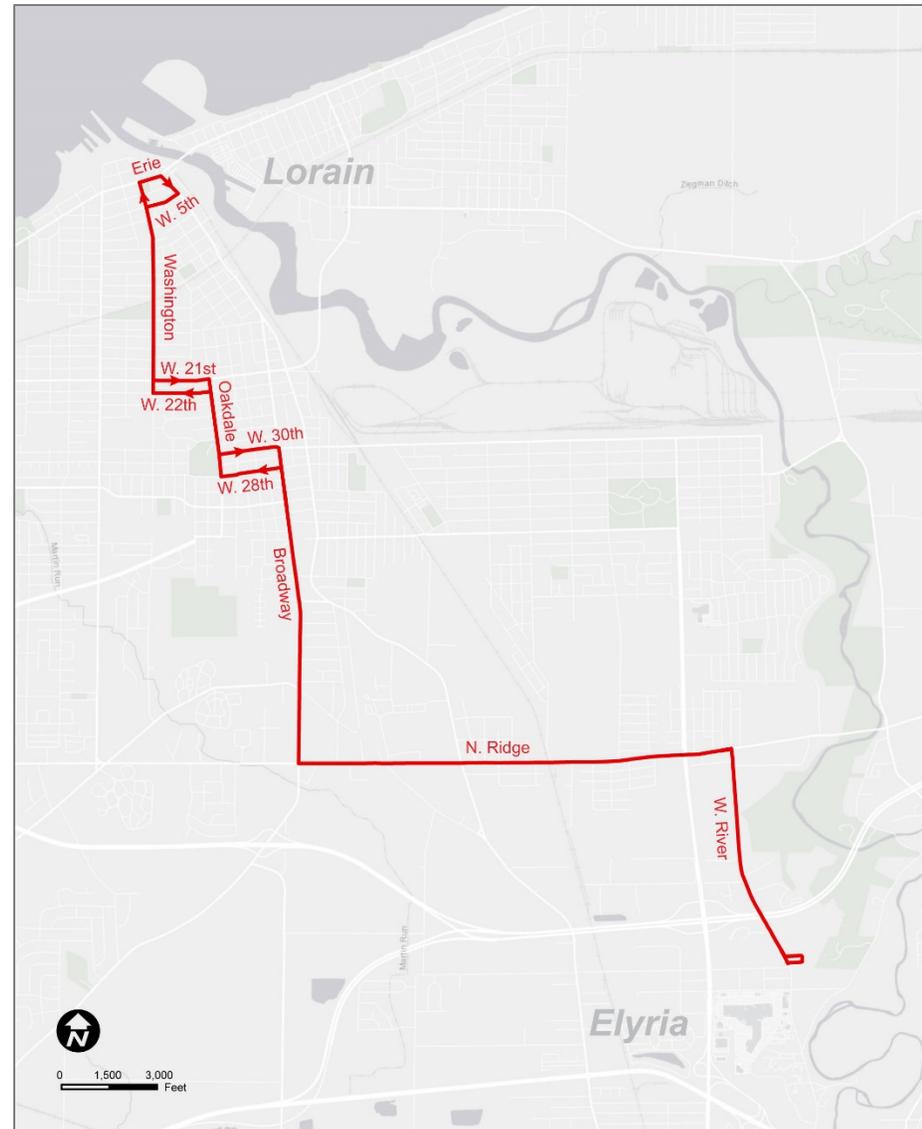


Figure 64: Existing Route 1 Alignment





Route 1 Minor Refinements

Recommended Route 1 refinements are:

- Relocate the Meridian Plaza Stop from West 5th Street and Reid Avenue to West 6th Street and Reid Avenue. This route modification will avoid uncontrolled left turns at West 5th Street and Washington Avenue on outbound trips. With this recommended route revision, inbound Route 1 will operate on Washington Avenue, turn right on Erie Avenue, right on Broadway, right on West 6th Street, and left onto Washington Avenue to continue the outbound trip.
- Modify the stop location for the Marcs/Apples Plaza to an on-street location along North Ridge Road, rather than circulating through the plaza parking lot. The route will continue to serve the plaza, Mental Health Board (Gathering Hope House), and Lorain County Job & Family Services Center, but from on-street stop locations. Add crosswalk improvements at major intersections along North Ridge Road to improve passenger access and safety.

These refinements are shown in Figure 65; they will not require additional funding and will not increase Dial-A-Ride costs. No major route changes are proposed for Route 1.

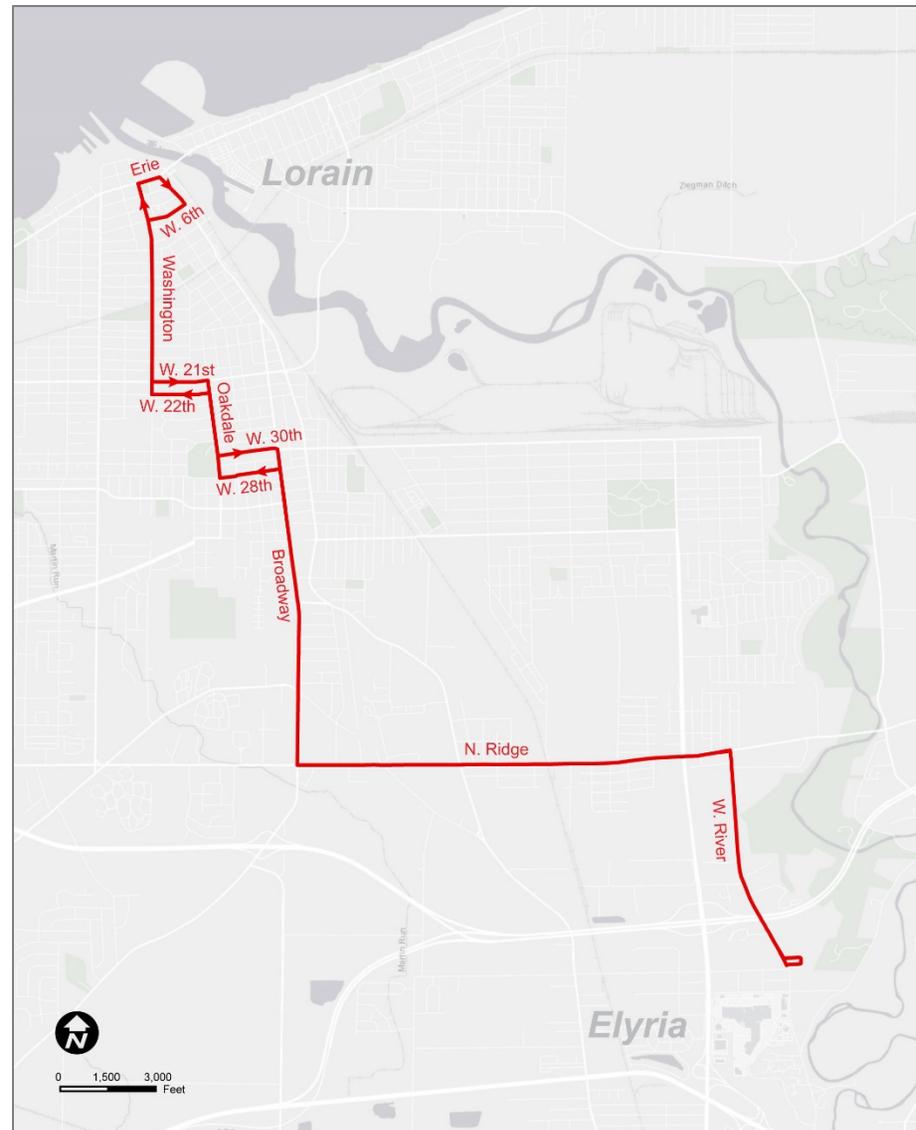


Figure 65: Proposed Route 1 Alignment - Minor Refinements





ROUTE 2

As shown in Figure 66, under its existing alignment, Route 2 originates at the Life Skills High School transfer point, then travels north along OH-57 to Fairless Drive, Pearl Avenue, Homewood Drive, East 30th Street, East 28th Street, and Broadway. Route 2 turns at Meridian Plaza and travels back to Life Skills High School via the same route, in the southbound direction. Route 2 serves Kennedy Plaza, Haven Center, International Plaza, and Lorain High School. Upon request, Route 2 also diverts from its route to serve Lorain County Health & Dentistry (Broadway & 12th Street), and Sacred Heart Chapel (Pearl & East 42nd Street). After finishing its trip in Lorain, Route 2 becomes Route 52 and heads to Elyria.

Like Route 1, Route 2 makes an uncontrolled left turn from Washington Avenue to West 5th Street. Other potentially unsafe movements on Route 2 include uncontrolled left turns at East 30th Street and Fulton Road, and at East 30th Street and Pearl Avenue. Both movements require crossing against relatively low volumes of traffic, but traffic may travel at high speed.

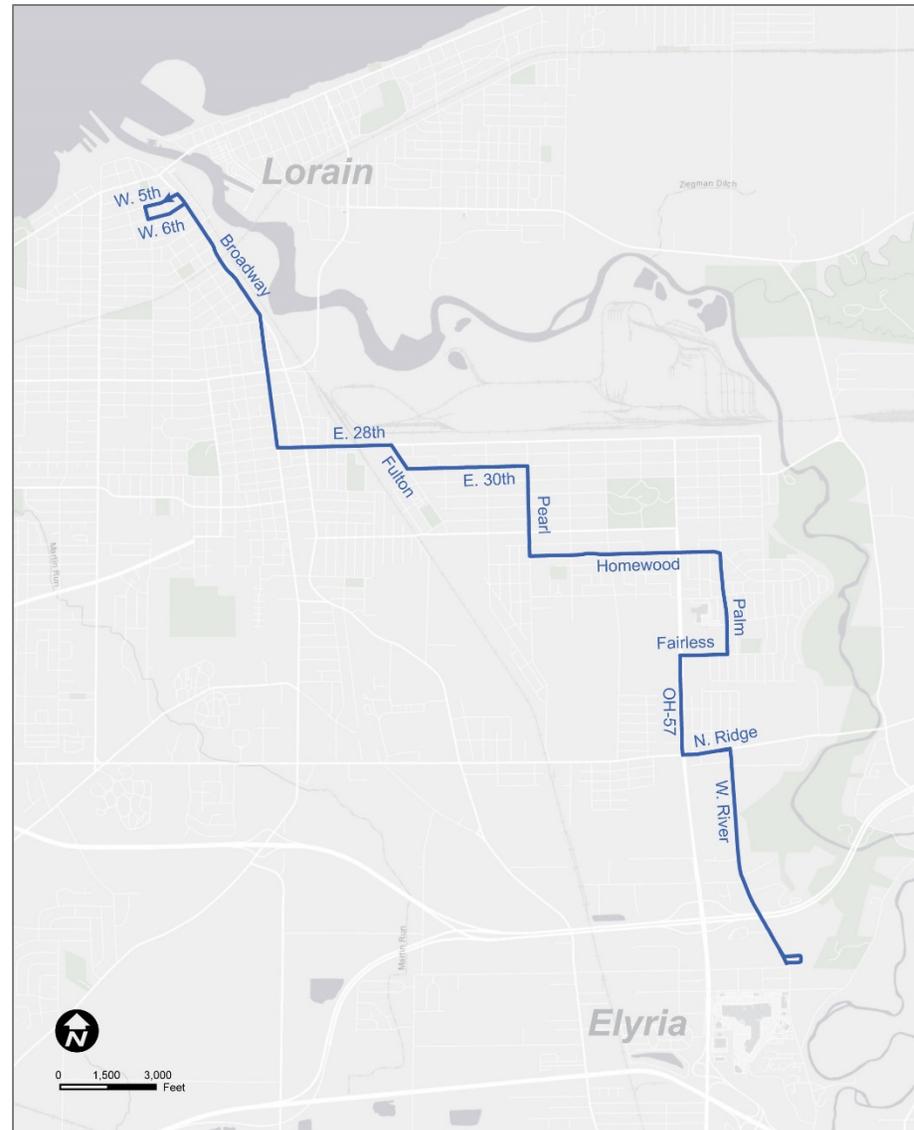


Figure 66: Existing Route 2 Alignment





Route 2 Minor Refinements

Like on Route 1, the Meridian Plaza stop should be relocated to West 6th Street and Reid Avenue to avoid the uncontrolled left turns at West 5th Street and Washington Avenue on outbound trips. Route 2 will operate in a clockwise loop in downtown Lorain. The inbound trip will turn left onto West 6th Street from Broadway, and convert to an outbound trip at Meridian Plaza, turning right on Washington Avenue, right on Erie Avenue, right on Broadway, and then continuing the rest of the trip.

The County should initiate discussions with Lorain City and other transportation officials to install traffic signals at the intersections of East 30th Street with Fulton Road and Pearl Avenue, to provide for controlled left turn movements for buses. Signal installation requires a warrant analysis and the consent of local and possibly county or state transportation officials, and have a significant capital and small ongoing maintenance cost.

Minor refinements of Route 2 will not require additional funding and will not increase Dial-A-Ride costs. Figure 67 illustrates the proposed minor refinements to the Route 2 alignment. No major route changes are proposed for Route 2.

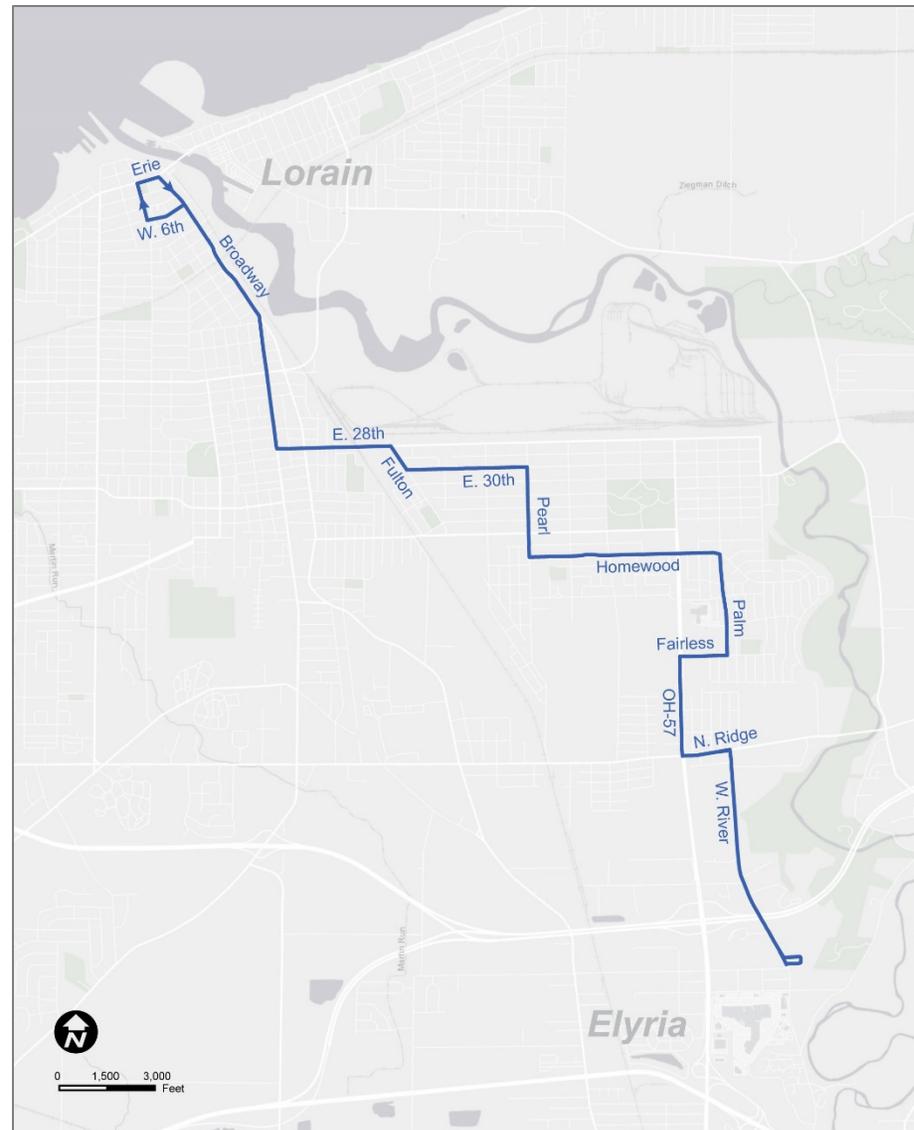


Figure 67: Proposed Route 2 Alignment - Minor Refinements





ROUTE 51

As shown in Figure 68, on its existing alignment, Route 51 runs in a counter-clockwise loop, beginning at the Life Skills High School transfer point and traveling along the following roads: West River Road, Foster, Chestnut, Broad Street, Route 301 (Abbe Road), and Route 254 (Detroit Road); it then turns south onto Route 57 to return to the transfer point. This route serves Elyria Public Library (West River Branch), Harr Plaza, Elyria City Health Department, Lorain County Health & Dentistry, EMH/Gates Medical, Amtrak, Tri-City Family Medicine, DaVita Dialysis Center, Kensington Square Apartments, Sheffield Crossings, Lorain County Community College (LCCC), Fresenius Medical Care Elyria, Ohio Business College, and EMH Sheffield Medical Building. By request, Route 51 can divert from its normal alignment to serve Bell Avenue & Furnace, Burger King (off Cleveland Street), Cobblestone, Schadden Road and Marc's (near Midway Mall).

Potential safety issues on Route 51 include the intersection at Foster Avenue and Furnace Street, where traffic on Furnace Street does not stop and may travel at high speeds; the at-grade railroad crossing on Abbe Road South; and uncontrolled left turns from Waterford Drive to Detroit Road after stopping at Ohio Business College.

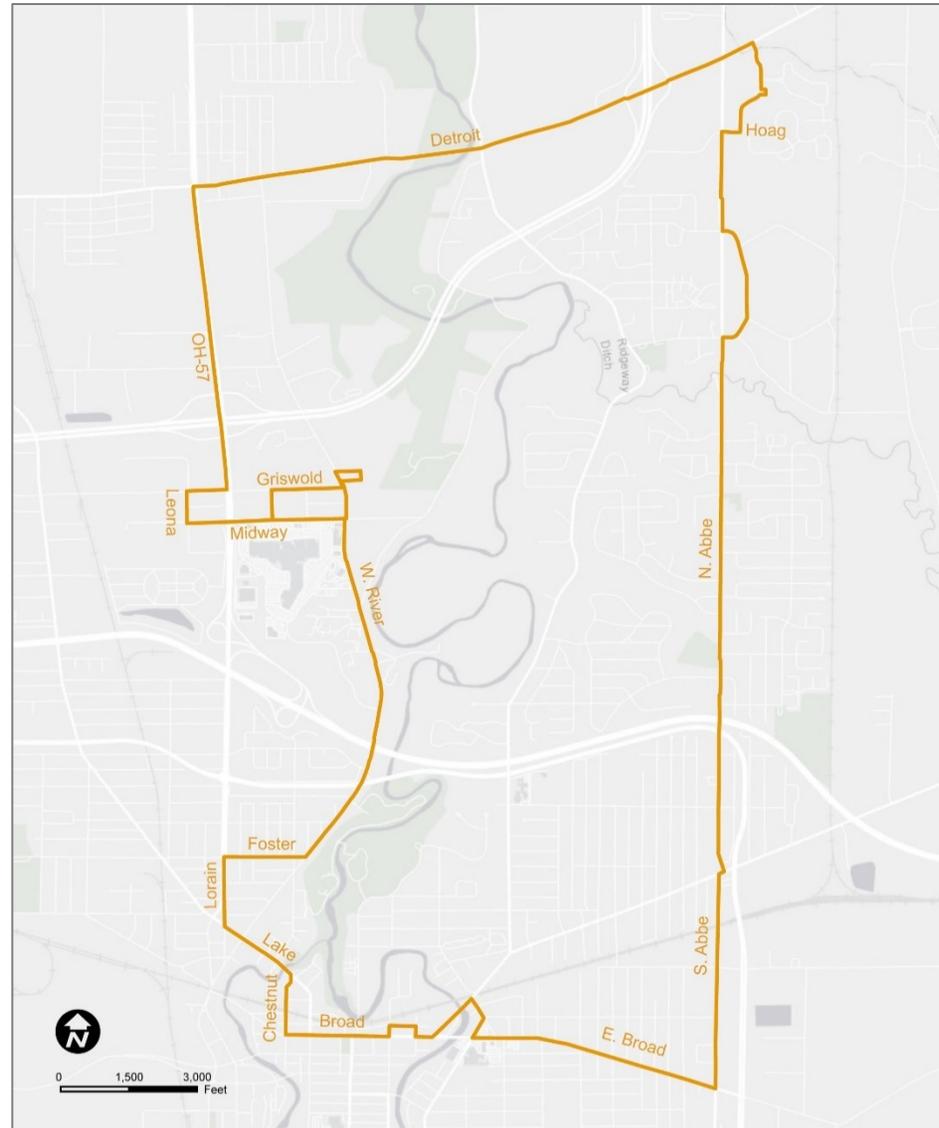


Figure 68: Existing Route 51 Alignment



Route 51 Minor Refinements

Minor refinement recommendations are:

- Eliminate the segment on Foster Avenue and Lorain Boulevard before entering downtown Elyria to save time and to avoid crossing uncontrolled traffic at Foster Avenue and Furnace Street.
- Buses should turn around at Ohio Business College on Waterford Drive, and operate in and out to North Abbe Road to avoid uncontrolled left turns from Waterford Drive to Detroit Road.

Minor refinements of Route 51 will not require additional funding or add costs to existing Dial-A-Ride service. Figure 69 shows the proposed minor refinements to Route 51.

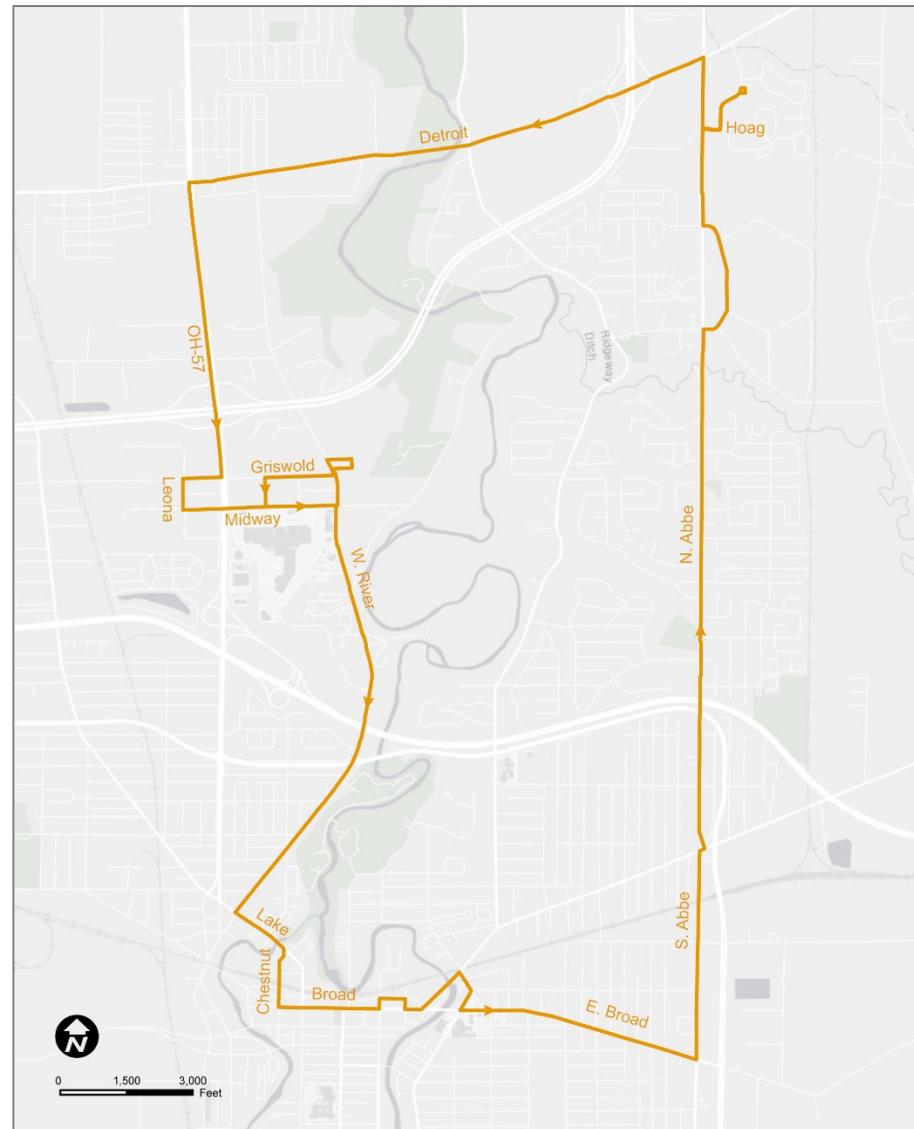


Figure 69: Proposed Route 51 Alignment - Minor Refinements

Route 51 Major Changes

A major redesign of Route 51 would have the route operate on the same streets in both directions, with a small loop at the route's southern end. Service will be streamlined on Abbe Road to serve Lorain County Community College (LCCC) in both directions. On the south loop, Route 51 will serve both Cleveland Street and Broad Street, in addition to downtown Elyria and University Hospital in Elyria. "By-request" deviations will be suspended to make the route travel time shorter and more reliable. Furthermore, buses will use I-90/OH-2 between the Life Skills Center and North Abbe Road to make the route faster and more direct.

The recommended major changes for Route 51 will not add additional cost to the fixed route budget or to the Dial-A-Ride budget. Figure 70 illustrates the proposed major changes in alignment for Route 51.

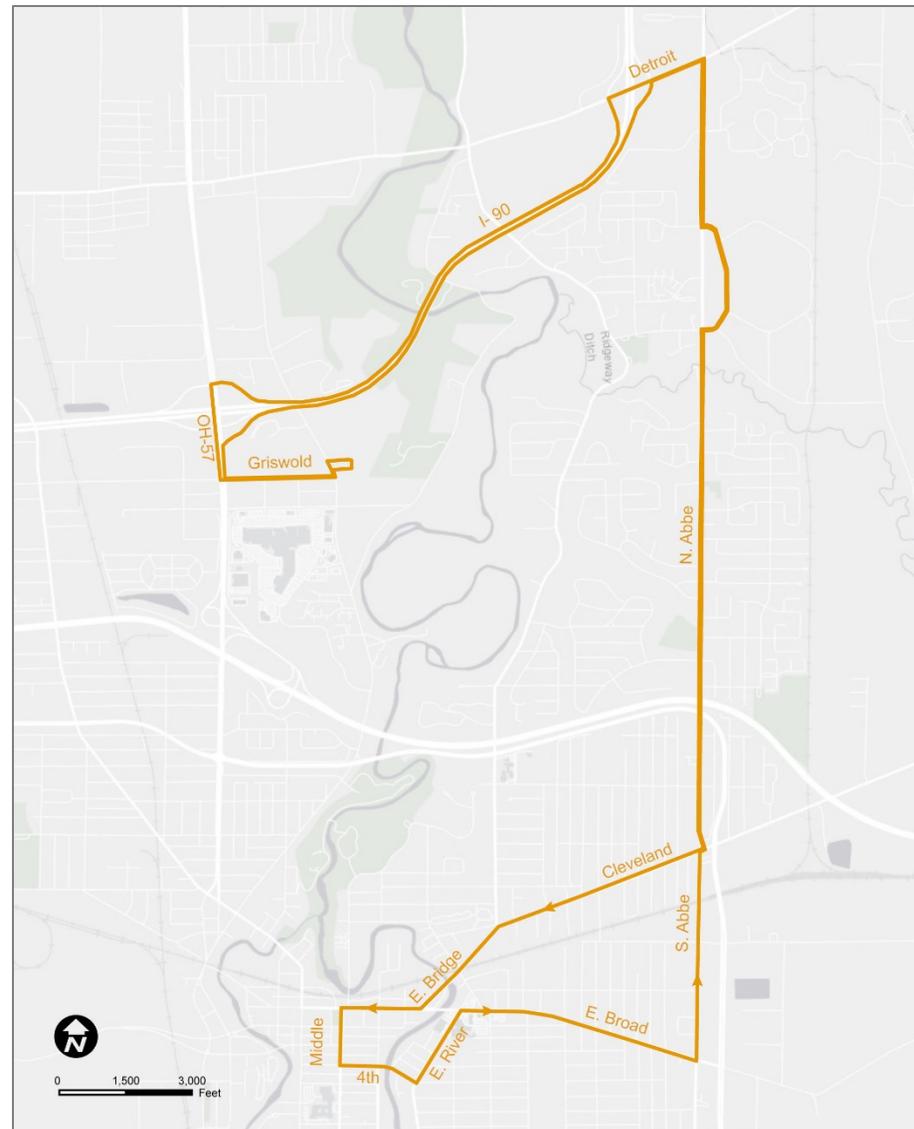


Figure 70: Proposed Route 51 Alignment - Major Changes

ROUTE 52

Shown in Figure 71, Route 52 travels in a clockwise loop south of OH-52 in Elyria. Starting at Life Skills High School, Route 52 stops at the Midway Mall and takes service road to Market Square then goes to West River Road; it turns east on OH-57, south on Gulf Road, east on Cleveland Street to OH-301 (Abbe Road). Traveling south on Abbe Road, Route 52 heads west on Chestnut Ridge and Fuller, then north on Middle Avenue and West River Road, left onto Market Square service road to the Midway Mall, and back to Life Skills High School. Route 52 serves Elyria Catholic High School, Elyria United Methodist Home, and Elyria High School. Upon request, Route 52 deviates from its regular route alignment to serve Taylor Woods Industrial Park, Ternes/Reaser Industrial Parks Complex, Sugar Lane/Sullinger Industrial Park Complex, Fresenius Medical Care Heritage, Chestnut Commons (stop is located near Burger King), and Colonial Oaks Mobile Home Park.

Potential safety hazard locations along Route 52 include uncontrolled left turns from East River Road to Fuller Road, and the at-grade railroad crossing on Abbe Road South.

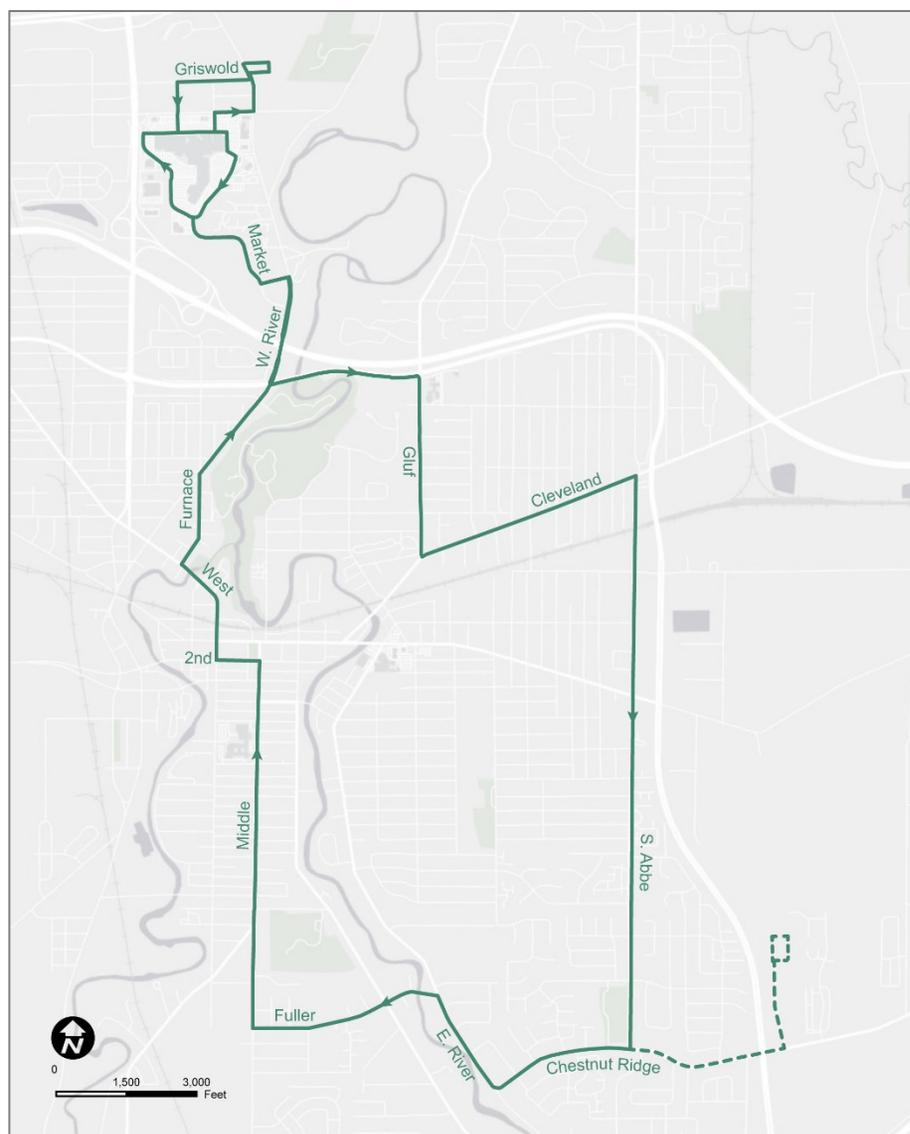


Figure 71: Existing Route 52 Alignment



Route 52 Minor Refinements

Minor refinements proposed for Route 52 are:

- Extend route to serve Chestnut Commons (which includes a Walmart store), instead of serving it on a “by-request” basis. Operate buses on the perimeter road within Midway Mall rather than approaching mall buildings, and skip South Abbe Road by operating on John F Kennedy Memorial Parkway, to reduce travel time and improve schedule reliability.
- Eliminate other “by-request” deviations to make the route faster and more direct.

These minor refinements will not require any additional funding and will not increase Dial-A-Ride costs. Figure 72 shows the proposed minor refinements to the Route 52 alignment.

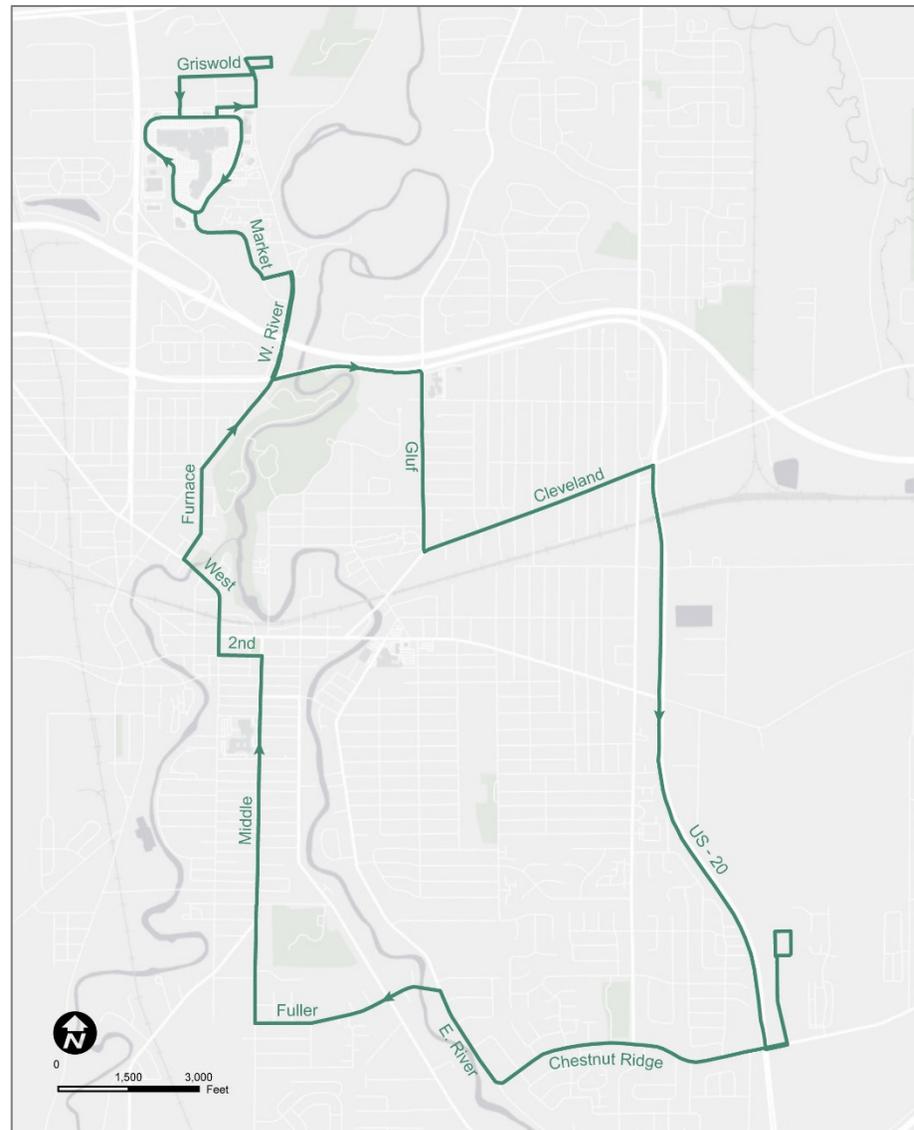


Figure 72: Proposed Route 52 Alignment - Minor Refinements



Route 52 Major Changes

Like Route 51, a redesigned Route 52 would realign the route to operate in both directions on the same streets, from Life Skills Center to Chestnut Commons. Service will be streamlined on West River Road, Middle Avenue, and Chestnut Ridge Road to reduce deviations from major streets, reducing travel time and making the route more direct. To increase speed, Route 52 will only go into Midway Mall and Market Square on trips outbound from Life Skills Center, serving the mall and shopping center from the street on inbound trips

These major changes to Route 52 will not add cost to the fixed route service or to Dial-A-Ride. Figure 73 shows the proposed major changes to the route alignment for Route 52.

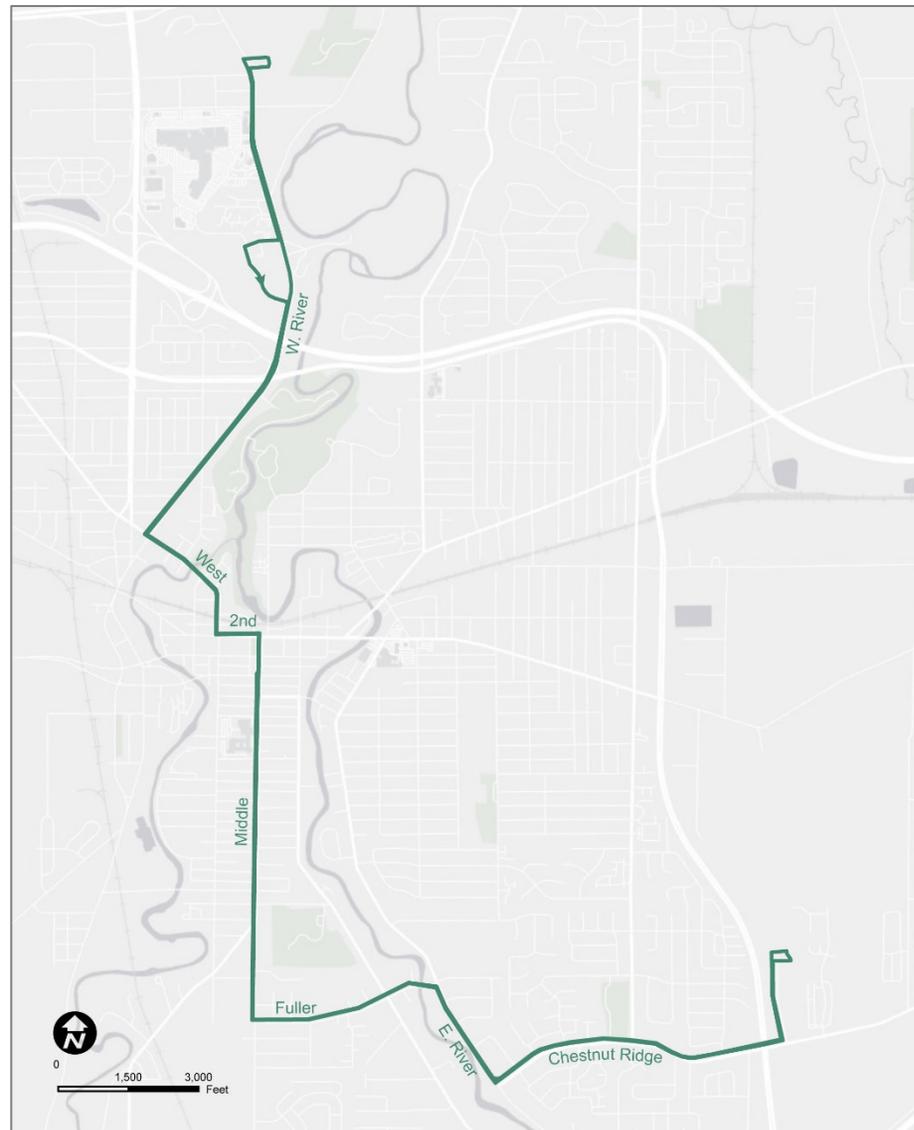


Figure 73: Proposed Route 52 Alignment - Major Changes



7.3 Short-Term Expansion

The recommendations for short-term expansion to the LCT transit service, as described in this section, will add cost to fixed route service and to Dial-A-Ride service. Implementing the two changes outlined below would increase budget by an estimated \$964,000 per year, and would increase the fleet requirement by two vehicles. Half of the added cost (\$482,000) would be eligible for funding by Federal formula grants, meaning that Lorain County would be responsible for only half of the total cost.

INCREASE FREQUENCY TO HOURLY SERVICE ON ALL ROUTES

The two-hour gap between successive trips on each route is probably the factor that most limits existing LCT system’s usefulness to current and prospective users. Operating a minimum of hourly service on all routes would reduce customer wait times and significantly improve the user experience. All four routes would operate on hourly schedules from 5:30 AM to 6:30 PM. Transfers would be facilitated by all four routes “pulsing” (converging at the same point and same time each hour) at Life Skills Center on the half-hour, to allow passengers to transfer among all four routes, increasing the connectivity of the system.

Providing hourly service will generate an estimated additional annual operating cost of \$620,000. Half of the cost (\$310,000) would be covered by available Federal funds. Operating hourly service also would require expansion of the fixed route bus fleet, from the existing two vehicles to four.

OPERATE EVENING AND WEEKEND SERVICE

Evening and weekend service is the second most critical need for existing and potential LCT users, many of whom work service jobs with schedules that include evening, night and weekend shifts, or take classes that end after LCT’s current shutdown between 6:00 and 7:00 PM. The proposed short-term expansion would keep LCT’s four routes continuing to meet hourly at Life Skills Center for transfers until 10:30PM. This additional service would add \$310,000 to the cost of fixed route service and \$34,000 to Dial-A-Ride service due to extended service times. The evening Dial-A-Ride estimate assumes the evening demand is 8% of the average daily demand.

Evening operating costs could be reduced by shutting down earlier at 8:30PM or 9:30PM, operating evening service every two hours, or operating special evening or weekend routes. Evening bus service often carries relatively few riders, even at large transit

agencies. For this reason, improving daytime service should be prioritized over evening and weekend service improvement options.

LCT may wish to consider alternatives to adding evening service, including subsidized taxi, Transportation Network Companies (TNC) like Uber and Lyft, or non-profit transportation providers formed to provide service during hours when the fixed route system does not operate.





7.4 Long-Term Expansion

The recommendations for long-term expansion to the LCT transit service are individual improvements, including:

- New and extended local routes;
- Adding commuter bus service to Cuyahoga County

These changes could be implemented independently over time and should build on the proposed short-term expansion improvements. The cost and benefit scenarios described in this section assume the short-term improvements are in place.

The long-term expansion improvements will increase operating costs and require additional vehicles. Also, implementation of new and extended local routes could lead to significant increases in Dial-A-Ride costs due to the expanded area of fixed route coverage. Note that adding commuter routes will not increase Dial-A-Ride costs, as these do not trigger ADA paratransit requirements.



AVON CONNECTOR

Avon Connector is a proposed new local route that operates between Life Skills Center and Avon Commons. It would connect LCT users to job, shopping and medical opportunities in areas of Sheffield Village and Avon, including Avon Commons, Walmart, and Cleveland Clinic (Lear-Nagle), that are now inaccessible using LCT's existing routes.

As shown in Figure 74, the Avon Connector would operate on North Ridge Road and I-90 between the hub and Avon to save travel time and avoid operating on lightly developed roads between Elyria and Avon, would operate hourly from 5:30 AM to 10:30 PM, and would connect with the other routes hourly at Life Skills Center for transfers.

Implementation of this route would increase LCT's annual fixed route operating cost by \$155,500, and would add an estimated additional cost of \$42,000 to Dial-A-Ride costs due to the increased coverage area.

Although this improvement is included in the long-term expansion, it may be a better short-term investment than providing evening service on existing routes, which has a similar cost. The Avon Connector likely would provide more benefit to existing and potential LCT users, and generate greater ridership increases, than evening service.

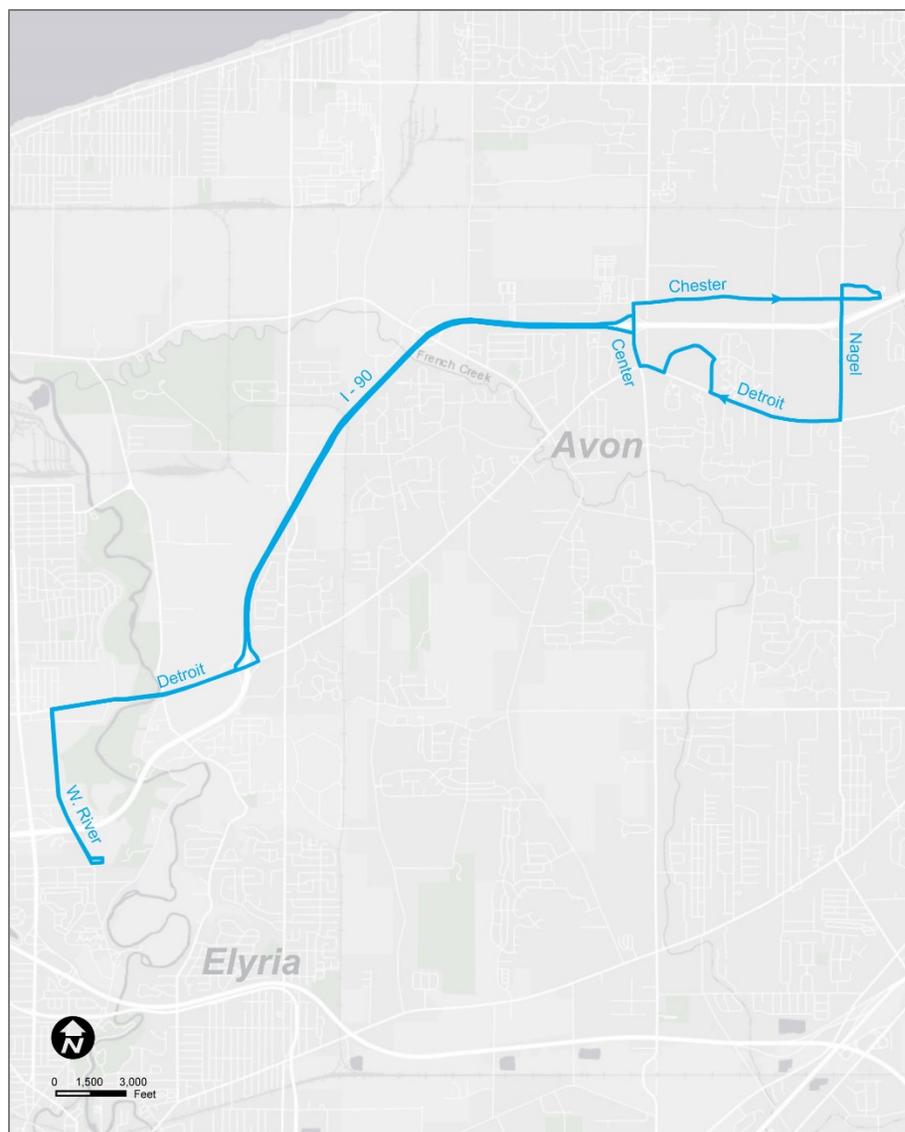


Figure 74: Proposed Avon Connector Alignment



LORAIN WEST

Lorain West is a proposed new local route connecting Midway Mall to existing destinations including Lorain County Job & Family Center on North Ridge Road as well as Walmart on North Leavitt Road and the Mercy Regional Medical Center on Kolbe Road, neither of which can now be reached using LCT's existing routes.

Figure 75 shows the proposed alignment for Lorain West. The route would operate from Life Skills Center to Mercy Regional Medical Center, via Lake Avenue, North Ridge Road, Leavitt Road, Jaeger Road, and Kolbe Road, in both directions. Transfers would be available hourly at Life Skills Center.

Implementation of the Lorain West route would add \$310,000 to the fixed route annual costs, and \$42,000 to Dial-A-Ride annual costs due to the increased coverage. Half of the total increased costs – \$176,000 – would be covered by available Federal funds. The route would require adding a bus to the fixed route fleet.

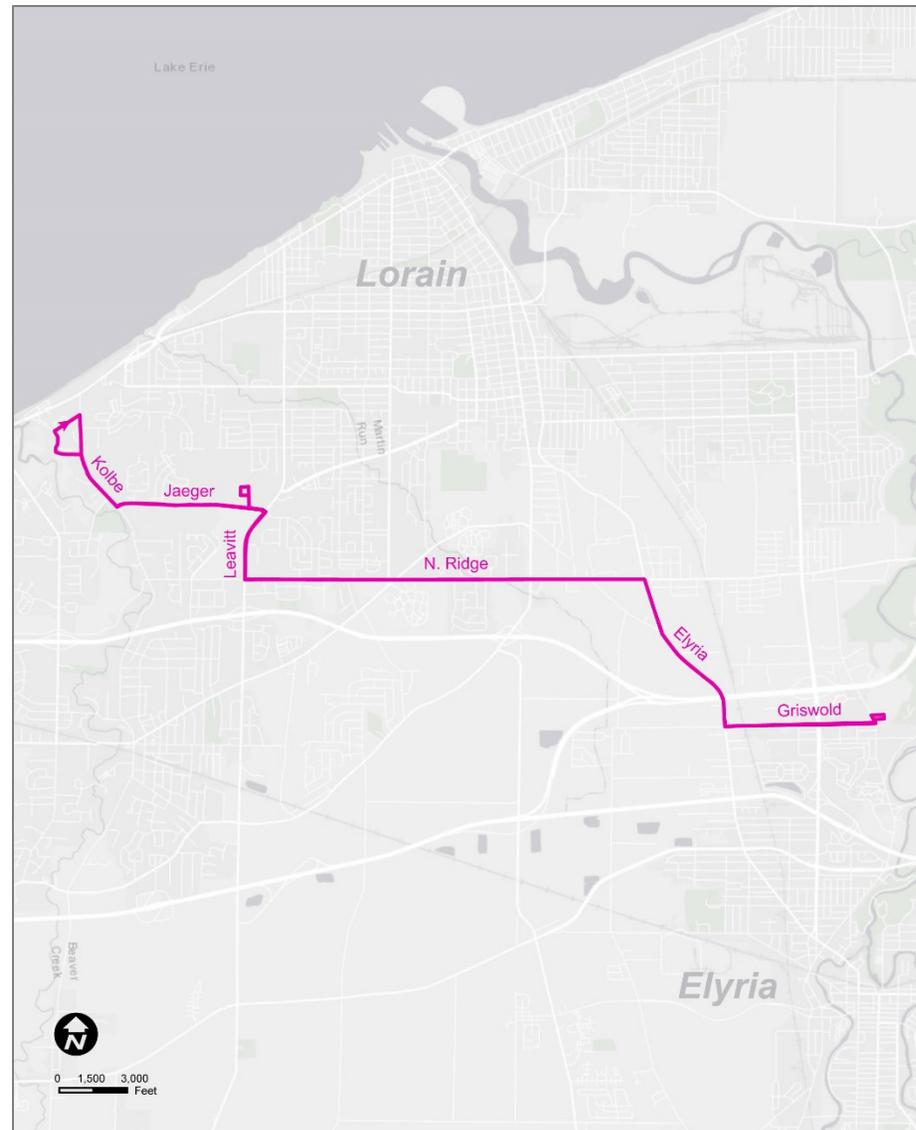


Figure 75: Proposed Lorain West Alignment



ELYRIA CENTRAL

Elyria Central is a proposed new local route that would connect Midway Mall to downtown Elyria, Gates Medical Center, Chestnut Commons, residences in Parkwood Estates, and destinations along South Abbe Road. The route would improve connections to some of these locations while providing service to currently unserved areas and locations within Elyria, and would allow further streamlining of existing routes 51 and 52.

Figure 76 shows the proposed alignment for Elyria Central. The route would operate hourly from Life Skills Center to Chestnut Commons, operating on the same streets in both directions, except for a small loop in downtown Elyria.

Implementation of the Elyria Central route would add \$310,000 to annual fixed route costs. Half of the increased costs – \$155,500 – would be covered by available Federal funds. The route would add no additional costs to Dial-A-Ride service.

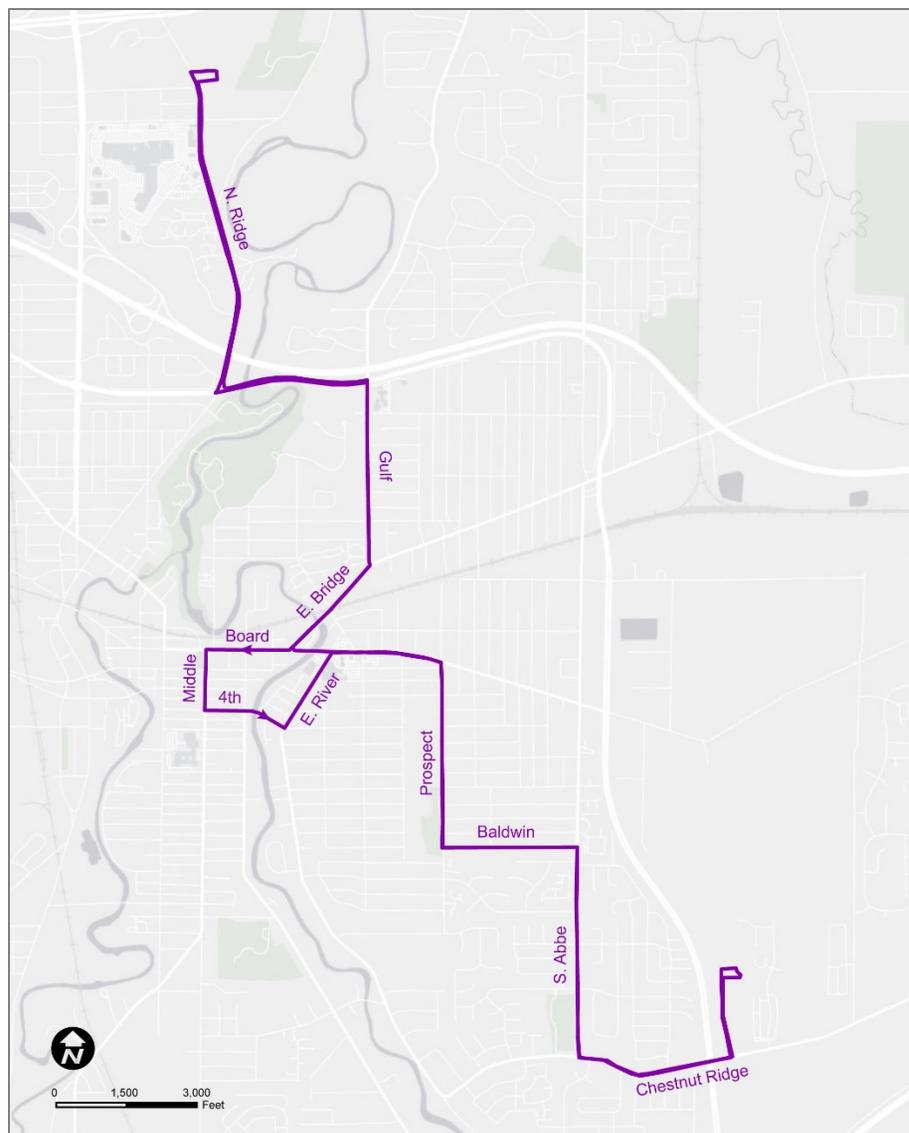


Figure 76: Proposed Elyria Central Alignment



AVON PARK-AND-RIDE ROUTE

Avon Park-and-Ride Route is a proposed commuter express service that would operate between the Transit Hub in downtown Elyria and downtown Cleveland via I-90. The route also would serve Midway Mall and the park-and-ride lot at Sprenger Stadium. Figure 77 shows the Lorain County portion of the Avon Park-and-Ride alignment.

The route would operate three trips to Cleveland in the morning, and three trips from Cleveland in the afternoon, with one trip from each operating only between Sprenger Stadium and downtown Cleveland.

Implementation of this route would add \$670,000 to fixed route annual costs, of which \$335,000 could be covered by available Federal funds, and would add two vehicles to LCT's fleet requirement. In addition, the Avon Park-and-Ride Route could require capital investment for infrastructure and equipment such as a park-and-ride lot and station/stop amenities, in addition to the new buses.

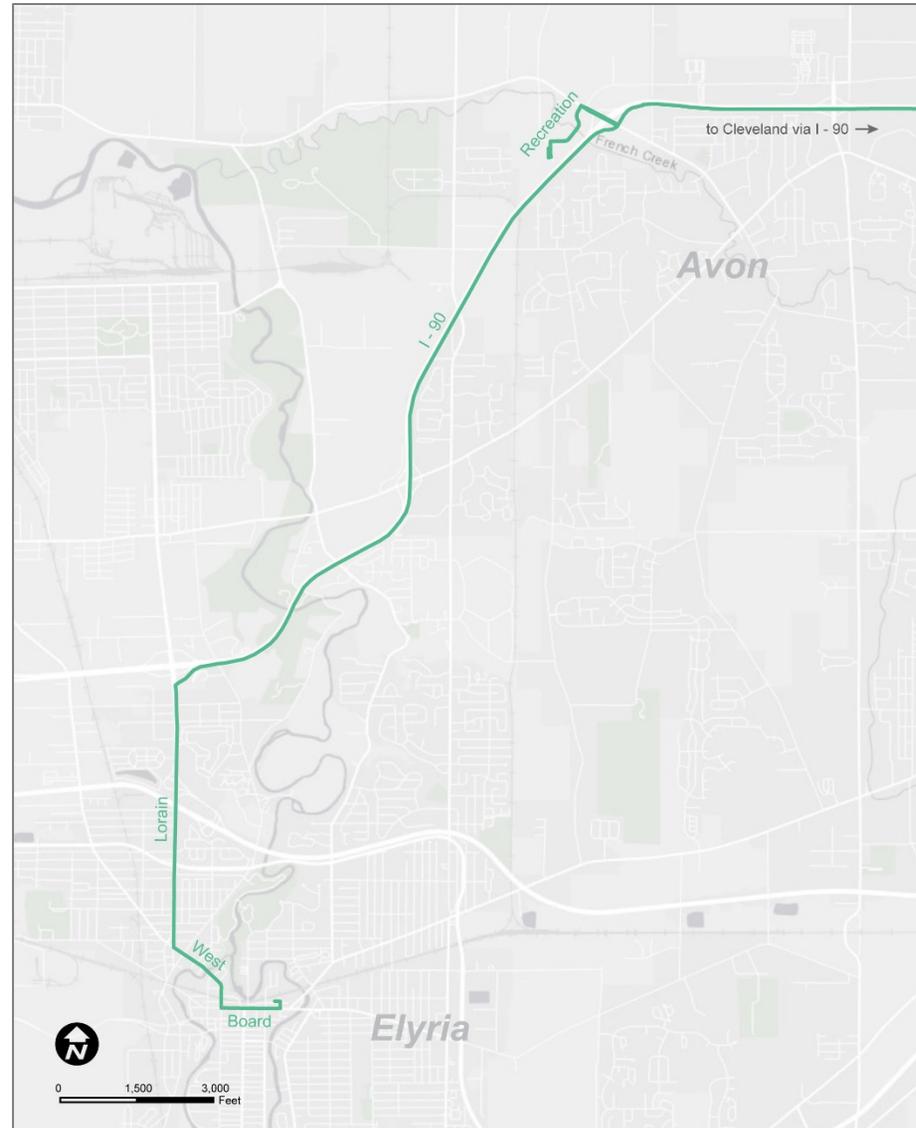


Figure 77: Proposed Avon Park-and-Ride Route Alignment - within Lorain County



NORTH RIDGEVILLE PARK-AND-RIDE ROUTE

North Ridgeville Park-and-Ride Route is a proposed commuter express service operating between Life Skills Center and downtown Cleveland via I-480 and I-71. Figure 78 shows the alignment of North Ridgeville Park-and-Ride Route within Lorain County. The route would serve Midway Mall, the Transit Hub in downtown Elyria, and a park-and-ride lot at a site to be determined in North Ridgeville.

Like the Avon Park-and-Ride route, the North Ridgeville route would operate three trips to Cleveland in the morning, and three trips from Cleveland in the afternoon, with one trip from each operating between the park-and-ride lot in North Ridgeville and downtown Cleveland.

Implementation of this route would add \$670,000 to annual fixed operating costs and require two additional vehicles, in addition to capital investment for infrastructure and equipment, such as the park-and-ride lot property and station/stop amenities.

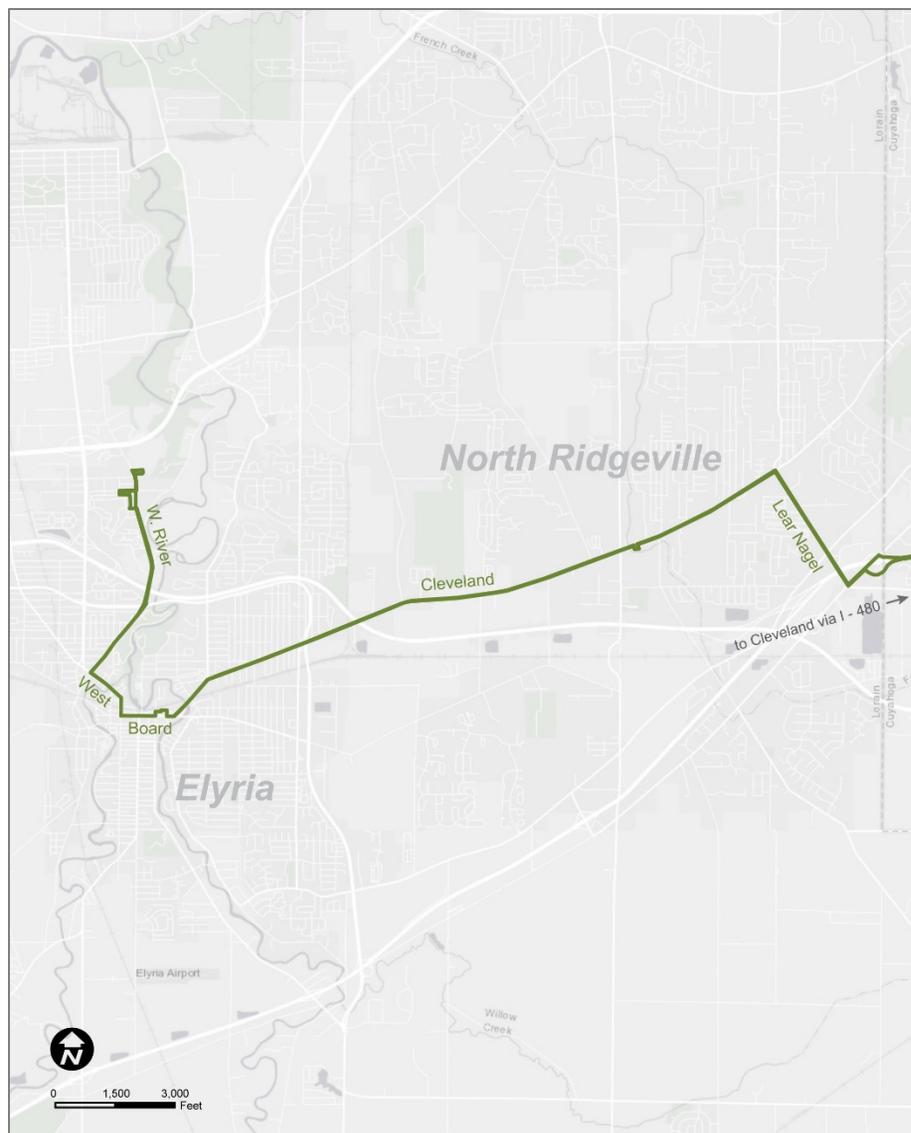


Figure 78: Proposed North Ridgeville Park-and-Ride Route Alignment



7.5 Other Recommendations

TRANSFER HUB LOCATION AND FACILITY

LCT's existing transfer hub at Life Skills Center is convenient for students and others traveling to the center itself, and provides the space necessary to allow two, or four, vehicles to park during layovers and to allow for transfers among routes. However, Life Skills has many drawbacks as a transfer location. The current transfer location is invisible from the street, and there are no signs or markings indicating that there is a transit stop behind Life Skills, much less that it is the system's main transfer hub. This invisibility not only fails in promoting transit use; it also invites crime and mischief, particularly during periods when it is dark or during hours when Life Skills is closed.

The lack of signal controls along West River Road, not only at the entrance and exit to the site but at the nearby intersection at Griswold Road, requires buses to make unprotected left turns in and out of the site in an area where crossing traffic routinely operates at speeds above 45 miles per hour. As the system grows and the number of buses entering and leaving the site increases, the problem of unprotected left turns will increase.

The third issue with the Life Skills site is the lack of passenger and operator amenities on the site. The current transfer facility, in fact, is not a facility at all, but merely a paved area where buses can stop and wait, and where passengers can board or alight the bus and transfer between vehicles. There are no amenities such as shelters, seating, lighting or garbage cans, to help make LCT customers safe and comfortable while waiting for buses. There also is no rest room or break room for the use of operators. The pavement would be inadequate for any bus larger or heavier than the small cutaway vehicles that currently comprise LCT's fixed route fleet.

In the short-to-medium term, LCT should identify and secure a more appropriate site for a transfer hub, and develop a permanent transfer facility, in the Midway Mall area. The location should be within convenient distance to Life Skills, but also convenient to the stores and other amenities in the mall area, and should allow buses to enter and exit the facility at an existing or new signalized intersection. The site should be visible from the street to advertise the service and to promote safety, and should be large enough to accommodate up to twelve full-sized, fixed route buses plus several Dial-a-Ride vehicles and supervisor vehicles. The

facility should be paved in reinforced concrete of sufficient depth to support full-sized transit or coach vehicles, to prevent pavement damage. The facility should include a small, climate-controlled passenger waiting area and a small comfort station and break room for operator.

Until such a facility is developed, several improvements should be made at the existing Life Skills hub to enhance passenger and operator safety and comfort at the site, including:

- Signage along West River Road warning drivers that buses enter and leave the site;
- Bus stop signs and other signage along West River Road and within the Life Skills parking lot where transfer activities take place, to provide proper way-finding for customers looking for the transfer location;
- One or two shelters and seating to provide customers with a more comfortable place to wait; and
- Garbage cans, to discourage customers from littering in the transfer waiting area.





SIGNAGE AND AMENITIES

LCT should consider conducting a bus stop location signage project to identify safe and convenient bus stop sites, replace missing signs, remove misplaced signs, and update the stop database and online maps and schedules. LCT also should establish policies for locations of bus stops based on stop spacing standards, traffic and roadway conditions and other factors, and for allocating bus shelters and other amenities at stops within a hierarchy of stop types, based on the number of customers using the stop, the destinations surrounding the stop, and other factors. Based on these policies, LCT, the County and/or local municipalities should adjust stop locations and install shelters and other amenities. In addition, LCT should work with cities to install or improve crosswalks, sidewalks, pedestrian paths, and bike infrastructure, to promote non-motorized transportation and provide improved, safe access to bus stops for LCT customers.

VEHICLES

A bicycle is an effective tool to solve the “first-mile, last-mile” problem often faced by transit in lower-density, suburban areas. With the development of bicycle lanes and other infrastructure, LCT is likely to see more customers who want to transport their bicycles on the bus. To promote “bike-and-ride” use, LCT should consider adding bike

racks to the buses, to allow more customers to use bikes to complete their trips, without sacrificing seating space within the bus or blocking the wheelchair lift.

LCT also should consider installing registering fareboxes (which collect fares and record data on fare payment type, ridership and travel time information by trip), automatic passenger counters (count passenger boardings and alightings on each trip), and vehicle location systems (allow agency supervisors to track vehicle locations, and to record travel time and on-time performance data for planning purposes). These types of equipment provide data for both planning and management purposes, and will reduce the level of effort required in planning and implementing future improvements. In addition, while implementing improvements on existing fare collection equipment, LCT should consider the compatibility with electronic fare collection methods such as phone or mobile application payment.

In the long term, LCT should transition to larger, diesel-powered or hybrid buses for some fixed routes to reduce maintenance costs. Also, longer distance commuter routes, if implemented, should use buses outfitted for longer and higher speed trips, for both improved passenger comfort and safety.

ORGANIZATION

LCT should establish and periodically update service and performance standards to help in managing the system and planning future improvements, and to continue building on the ongoing improvement of the system. Passenger counts should be conducted annually, at least for the short term, until automatic counting systems are in place, to aid in planning and developing the service. In addition, customer satisfaction surveys should be conducted periodically to gather customer input on LCT’s services.

After the proposed fixed route improvements are in place, LCT should consider making Dial-A-Ride qualifications more stringent to encourage customers to use fixed route service, and provide travel training to existing Dial-a-Ride customers who live a short distance from fixed route stops to encourage their use of the fixed route system. Shifting Dial-a-Ride users to fixed route service will reduce the cost of Dial-A-Ride service and generate ridership on the fixed route system, increasing the efficiency of the combined fixed route and Dial-a-Ride system. This will allow funds now being used for providing Dial-a-Ride service to be used for funding for additional improvements to the fixed route system.





STAFFING

With all the changes and improvements proposed, LCT will require at least one additional administrative staff member to assist in management and planning the system and to oversee the improvement programs proposed. This new staff member should be capable of performing or assisting in the following tasks:

- Establish and manage bus stop sign and shelter programs
- Establish service standards and performance management system
- Establish and manage disability certification for Dial-A-Ride service
- Provide travel-training to encourage disabled customers to use the fixed route system
- Implement new technology programs such as automatic passenger counters and electronic fare payment
- Work with cities to improve crosswalks and pedestrian environment
- Coordinate with local, regional, and state transportation and planning agencies
- Perform ongoing planning and organizational development tasks

The estimated annual cost for such a staff member at current County wage and benefit levels would range from \$75,000 to

\$100,000, depending on expertise, responsibilities, and years of experience.





7.6 Cost Summary

Table 14 on the next page provides an overview of the budget impact of each recommendation to fixed route, Dial-A-Ride, and staffing. The costs listed in this table are additions to the existing LCT budget, which is \$210,000 in 2017, and to the existing bus fleet. This cost estimate provides only operating cost estimates, and assumes no fleet replacement or other capital investments. The cost estimates were developed based on 2017 cost of service from First Transit. All costs are calculated and displayed in 2017 dollars.





Table 14: Annual Operating Costs and Vehicle Requirements for Recommendations

Improvement	Annual Operating Cost and Vehicle Requirements					Increase in Maximum Vehicle Requirement
	Fixed Route	Dial-a-Ride	Total	Federal Share	Local Share	
Changes Within Existing Budget						
Changes to existing routes	-	-	-	-	-	-
Short-Term Expansion						
One-hour headway all routes	\$620,000	-	\$620,000	\$310,000	\$310,000	2
Extend service to 10:30 PM	\$310,000	\$34,000	\$344,000	\$182,200	\$161,800	-
Total Short-Term Expansion	\$930,000	\$34,000	\$964,000	\$492,200	\$471,800	2
Longer-Term Expansion						
Lorain West	\$310,000	\$42,000	\$352,000	\$188,600	\$163,400	1
Avon Connector	\$310,000	\$42,000	\$352,000	\$188,600	\$163,400	1
Elyria Central	\$310,000	\$42,000	\$352,000	\$188,600	\$163,400	1
<i>Subtotal-Local Service</i>	<i>\$930,000</i>	<i>\$126,000</i>	<i>\$1,056,000</i>	<i>\$565,800</i>	<i>\$490,200</i>	<i>3</i>
Avon Park-and-Ride	\$670,000	-	\$670,000	\$335,000	\$335,000	2
North Ridgeville Park-and-Ride	\$670,000	-	\$670,000	\$335,000	\$335,000	2
<i>Subtotal-Park-and-Ride Service</i>	<i>\$1,340,000</i>	<i>-</i>	<i>\$1,340,000</i>	<i>\$670,000</i>	<i>\$670,000</i>	<i>4</i>
Total Longer-Term Expansion	\$2,270,000	\$126,000	\$2,396,000	\$1,235,800	\$1,160,200	7
Total Short and Long Term	\$3,200,000	\$160,000	\$3,360,000	\$1,728,000	\$1,632,000	9
New LCT Administrative Staff			\$75,000	\$37,500	\$37,500	
Total			\$3,435,000	\$1,765,500	\$1,669,500	9





7.7 Potential Funding Sources

As noted above, Federal funding is available to cover half of operating expenses of the proposed additional services. Past LCT experience has shown, and the analysis of other peer agencies confirms, that fare revenues are unlikely to cover more than a small part—probably 10% or less in the short term—of the additional cost of service. Most northern Ohio transit agencies cover the local portion of their transit costs with a voter-approved, dedicated sales tax. Taxation levels range from 0.25% at Laketran and SARTA to 1% at Greater Cleveland RTA. Lorain County voters have rejected transit taxes on several occasions since the 1980s. However, this does not mean that Lorain County voters could not support a future transit tax referendum given the right combination of message, package of proposed services, and political support. One potential option for generating additional funding to support transit costs is to include funding for transit and other transportation and infrastructure improvements as part of a county-wide transportation tax. A transportation sales tax would be limited to ¼ to ½ of one percent, and could be divided among various transportation programs. One possible division is illustrated below.

- Allocate the larger portion of the tax (60-80%) to expanding and improving transit service.
 - Making fixed route bus service more frequent, run later, serve more locations
 - Expanding and improving Dial-a-Ride service
 - Creating partnerships with taxi companies and TNCs (like Uber and Lyft) to provide subsidized transportation connections to unserved areas of the county.
- Allocate the remainder of the tax receipts (20-40%) to other non-motorized and transit-supportive transportation improvements throughout the county.
 - Sidewalks, crosswalks, bicycle lanes and other facilities, pedestrian and multi-use paths, hiker-biker trails
 - Bus stop improvements such as paved bus stop pads, shelters, and benches
 - Green-and complete-streets projects that integrate streetscape, bus stop, bicycle and pedestrian improvement to improve transit, bicycle and pedestrian conditions to make a corridor more attractive and to

improve safety and amenities for transit and non-motorized travelers

- Other roadway and transportation infrastructure improvements that benefit public transit and non-motorized transportation, such as right turn lanes that could be used as transit queue jump lanes, or traffic signal improvements that benefit transit movements.

These funds could be used to support local projects, or to leverage Federal and State funds from infrastructure grant programs that require local match, to make investments in local communities throughout Lorain County.

Including funding for transit-supportive and non-motorized transportation projects in a proposed sales tax offers the potential to expand support for the tax beyond those who use, or would like to use, public transportation, to include those who use pedestrian and bicycle facilities and/or would like to see those facilities improved and expanded in their local communities. Such a tax likely would attract support from local municipal officials seeking an additional funding source for transportation and streetscape investments in their jurisdictions.





8. Public Comments

LORAIN COUNTY TRANSIT REDEVELOPMENT PLAN PUBLIC COMMENTS – DECEMBER 17TH, 2017 PUBLIC MEETING

Zachary Horvath

- I really like the LCT Redevelopment Plan. I would recommend imposing the major changes for the current LCT bus routes as soon as possible. I think they will greatly benefit the residents. I would love to see the long-term plan in action soon.

JD Smith

- My biggest concern is that you are missing the density in those routes. People who need those services tend to live in the most densely populated area, right? That, and you are not connecting people to jobs on the west side of Cuyahoga County, or to grocery stores other than Walmart. Also moving the “hub” to Midway will only further cripple Elyria’s core, and won’t save the mall. Keep it central, invest in your community, not the mall, which we know is failing with malls around the country. Encourage walkable, transit-

oriented neighborhoods is much more sustainable than moving hub to a mall.

- Use Facebook for comments! But make sure you listen to the people who need the services rather than those who don’t want to pay for it because they can afford vehicles.
- Transportation is the highest medication of economic mobility, so if you are not investing in these people you are crippling your county.

David Smith

- Use of technology for customer service. App that shows where the bus is, electric fare collection, etc.
- Lack of Service in high poverty density areas, trailer park in South Elyria, housing projects in West Lorain, and all of East Lorain.
- Like ideas about intra-county to Cleveland, can’t we just bus people (over) to RTA Park-and-Ride?
- Like subsidized Lyft/Uber to create jobs. Perhaps county could have work position around this.
- Like ideas about integrating bike travel into system, bike racks on buses, etc.
- Need some kind of circulation through low income neighborhoods to connect to main routes.

Anonymous

- Oberlin residents need to be addressed as many non-profit agencies in Elyria service Oberlin residents and low-income Oberlin residents don’t have transportation to get to jobs in Lorain & Elyria.
- Also, what is being done for Veterans who can’t use the VSC Transportation because they use a private doctor?

Sue Penny

- Need a location in Lorain to purchase tickets, get transit IDs for senior/disabled.
- Need to move further on route expansion to West Lorain – it’s not just Walmart & Mercy Hospital, but folks can’t get to BMV or Lorain Free Clinic.
- Need non-profit rate for tickets

OTHER COMMENTS

Anuj Gupta.

- It will be helpful if buses from Avon starts for Downtown. I commute every day from Westlake Park N Ride and I live in Avon. The Redevelopment plan will help many of us to commute better with this new plan.

Thank you.





David Covell, RS, MPH, Health Commissioner,
Lorain County Public Health

Part 1:

- The Statement about Service Markets to University Circle is confusing. It is hard to determine whether the plan is suggesting connecting the Cleveland/Cuyahoga Transit systems, or branching out to the East Side via LCT systems.

Part 4:

- Great feedback on bike rack capability on buses
- Can language be added that recommends bike supports for safety and parking at actual transit stops?
- This section should also include support for walking/biking to transit along routes. For example, safe walk/bike route designations coordinating with transit routes. This would be particularly useful in Lorain, where safe community bike and walking routes have been identified in the Active Transportation plan.

