The AMATS Regional Public Transportation Plan

July, 2012

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Executive Summary

As the Metropolitan Planning Organization (MPO) for the Greater Akron region, the Akron Metropolitan Area Transportation Study (AMATS) is responsible for the creation of a comprehensive public transportation plan that best serves the needs of our region. There are two primary providers of public transportation in our region: METRO RTA, which serves Summit County, and the Portage Area Regional Transportation Authority (PARTA), which serves Portage County. Both agencies operate traditional fixed-route bus service, demand-response services for low-income, elderly and disabled passengers, and express bus service to key communities, such as Cleveland. AMATS partners with these local transit agencies in a common effort to provide the best possible public transportation service to our region.

For this planning process, AMATS has collected and analyzed a wide variety of data, leading to recommendations which, upon implementation, will improve existing service for those who already utilize transit, and will work to attract new choice-riders.

The first portion of the plan analyzes the breadth and effectiveness of the current transit system. The current METRO and PARTA systems generally provide very good coverage within their respective large, urbanized cities (Akron, Barberton, Cuyahoga Falls, Kent and Ravenna), and service tends to taper off in proportion to a community's distance from these urban cores. Both agencies have made recent improvements in their service frequencies, as explained in the level of service (LOS) analysis. Both run more frequent service during the day, with service reductions in the evening ranging from slight to significant.

In the next portion of the plan, demographic groups with strong correlations to transit ridership are analyzed to determine how well the existing system captures their geographical distribution. Similar to the population in general, these residents are most highly concentrated in larger, urban areas, and are well served by fixed-route transit. Significant concentrations in suburban/rural areas are highlighted, with mixed levels of coverage – some communities offer good access to transit, and some lack it altogether.

A number of land uses are responsible for driving transit ridership. The plan analyzes the distribution of these assets, such as employment centers, schools, government and recreational centers throughout the AMATS region, and superimposes the existing transit network. This allows us to identify concentrations of land uses that are well served by transit, and where they are not.

One important addition to this plan over previous versions is an in-depth dialogue regarding the operation of transit services beyond the home county's borders. Census data has been analyzed to determine "desire lines", or potential areas of strong transit demand. Lines between Akron and the communities of Aurora, Ravenna, Canton and Wadsworth show particularly strong potential for cross-county transit ridership.

All of the previous analyses lead to the identification of nine key transit corridors, where it is recommended that existing service be expanded upon, or if service is non-existent, that it be added when feasible. Key nodes or segments within these nine corridors have been identified for the potential implementation of transit oriented development/design. These areas could be greatly enhanced through the design of pedestrian friendly environments, transit, bike and pedestrian amenities, and building designs that embrace the street, rather than recede from it.

In addition to the key transit corridors, the aforementioned analyses were used to identify transit gaps at the community level. These gaps consist of municipalities showing strong potential for transit service (population densities, high growth, concentrated land uses and populations likely to use transit), yet lacking regular fixed-route service. The six communities with significant transit gaps are: Aurora, Copley Township, Green, the Village of Mantua, Streetsboro and Twinsburg.

A number of final recommendations are presented at the end of the report, divided into three possible categories of responsibility: regional-level, municipality-level and recommendations specific to the two area transit providers, METRO and PARTA. Some of the key recommendations include:

- Shifting existing service from lines that show very little ridership and/or growth to areas showing strong demand, allowing the AMATS region to best utilize its transit investments

- Encourage dialogue to overcome the barriers and study the feasibility of increasing cross-county transit service

- Municipalities should implement transit oriented development/design, as appropriate, to important nodes within identified key transit corridors

- Improve upon existing transit levels of service (i.e. bus frequency), particularly in the evening, to better service the existing ridership base, and to attract new choice-riders.

The implementation of the recommendations contained within the AMATS Regional Public Transportation Plan will lead to a robust, convenient public transportation system for the Greater Akron region. It is intended that this plan will help our region strike the delicate balance between providing enhanced service to existing, high-demand locations, and extending new service to outlying areas demonstrating a strong need for transit access.

Chapter 1: The Existing Transit System and Coverage

Existing System and Coverage

To more fully understand the direction in which AMATS and our regional transit agencies need to move forward, it is important to understand how well the current public transportation system is functioning. By looking at the current system, we can identify what is working well, and perhaps more importantly, identify where gaps exist, where demand is unmet and how to most efficiently meet the transit needs of our region.

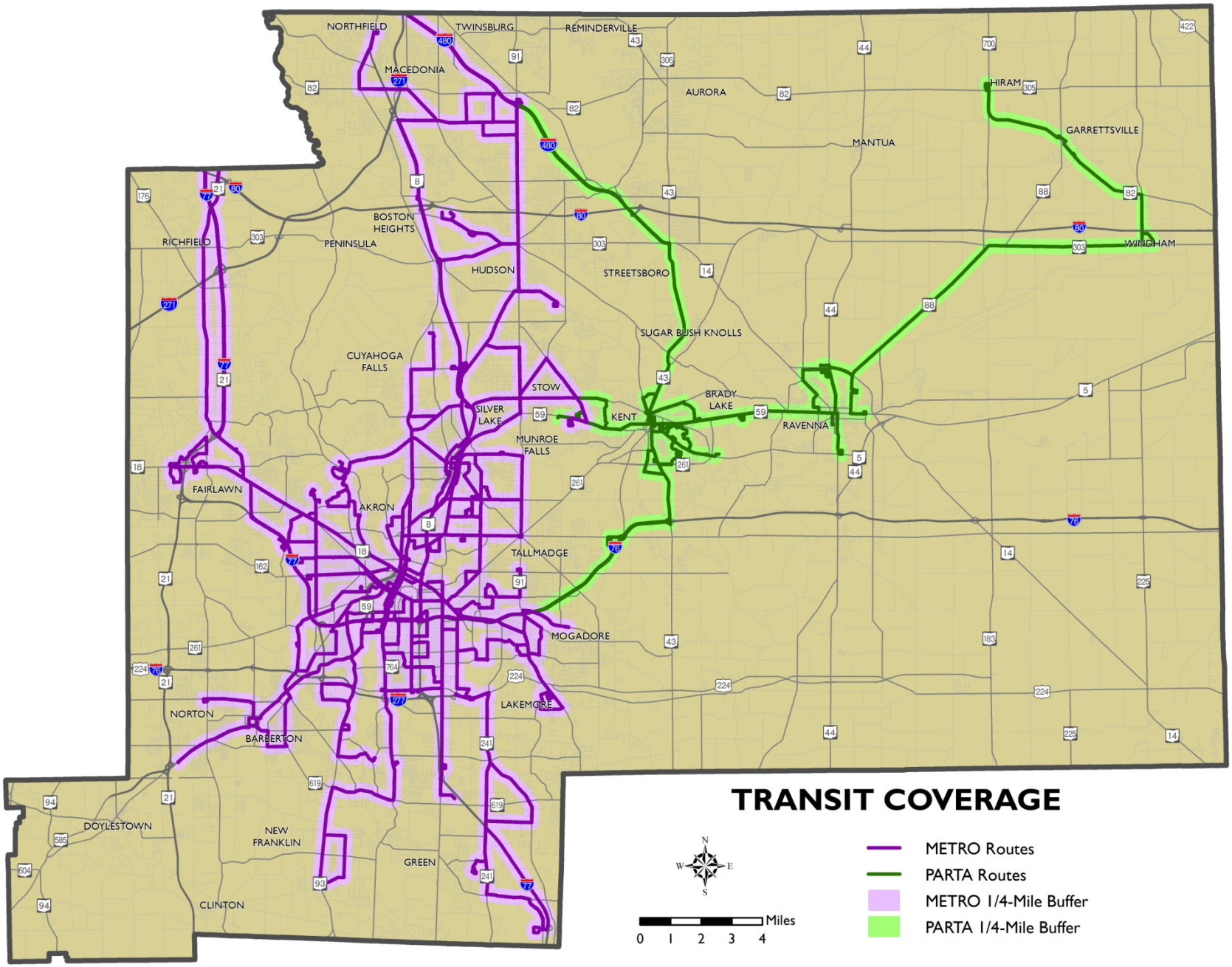
In the AMATS region, the majority of public transit riders use fixed-route service. Fixed-route service consists of traditional numbered bus routes, traveling the same routes and adhering to roughly the same schedule on a daily basis. Effective fixed-route service should be reliable, predictable and frequent, so that those who depend on it for their daily needs are able to count on it being there when they need it.

For the calendar year 2011, 1,445,600 passengers rode PARTA's fixed-route buses, whereas METRO transported 5,044,700 passengers. The following tables show the fixed-route service currently offered by PARTA and METRO, as well as a snapshot of the general level of ridership that could be expected during a one-month period:

Table 1: PARTA Fixed-Route Service - As of 12/31/2011

Route #	Description	Passengers Dec. 2011	% Change in Ridership '10-'11	Passengers Per Revenue Hour
6130	Interurban	18,139	26.1%	15.0
6130 S	Saturday Interurban	1,701	58.5%	16.4
6334	Black Squirrel	3,405	47.8%	29.1
6140	Suburban	4,707	17.6%	9.3
6140 S	Saturday Suburban	353	57.6%	6.7
6810	Raven	1,230	36.8%	2.6
7300	Windham-Garrettsville	1,016	21.7%	4.0
9110	Southeast Kent Circulator	424	9.3%	3.7
5110	Campus Loop	20,978	-9.4%	48.5
5500	Allerton	7,539	-3.1%	29.6
5800	Summit East via Stadium	31,940	7.5%	38.3
800	Weekend Stadium	2,159	12.2%	17.1
8900	Akron Express	1,687	10.2%	7.2
8300	Cleveland Express	695	23.2%	5.5
Total Fixed-Route Passengers in December, 2011:				**95,973**

Table 2: METRO RTA Fixed-Route Service - As of 12/31/2011				
Route #	Description	Passengers Dec. 2011	% Change in Ridership '10-'11	Passengers Per Revenue Hour
1	West Market	42,217	10.3%	27.0
2	Arlington	40,622	-1.0%	29.6
3	Copley/Hawkins	27,927	12.9%	24.1
4	Delia/White Pond	14,384	5.2%	16.2
5	East Market/Ellet	6,586	18.9%	13.4
6	East Market/Lakemore	18,029	22.0%	19.2
7/7A	Cuyahoga Falls Ave	14,623	11.5%	18.2
8	Kenmore/Barberton	21,206	13.4%	21.2
9	Wooster/East Ave	13,458	4.4%	20.1
10	Howard/Portage Trail	21,128	-3.1%	20.2
12	Tallmadge Hill	15,316	-0.5%	17.5
13	Grant/Firestone	19,838	31.2%	26.3
14/14X	Euclid/Barberton XP	18,823	-11.5%	12.0
17	Brown/Inman	24,159	26.3%	27.3
18	Thornton/Manchester	14,723	-0.9%	18.0
19	Eastland	19,878	21.5%	24.0
23	Portage/Graham	1,882	1.5%	4.5
24	Lakeshore	5,636	15.0%	24.1
28	Merriman Valley	3,760	13.3%	10.4
30	Goodyear/Darrow	10,610	7.7%	14.9
31	Stow Express	1,587	N/A	3.5
33	State Rd/Wyoga Lake	6,362	67.3%	24.1
34	Cascade Village/Uhler	16,053	-2.3%	15.7
50	Montrose Circulator	1,908	34.3%	4.1
59	Chapel Hill Circulator	1,280	-21.4%	4.1
X-60	Northcoast Express - Chapel Hill	1,488	19.7%	9.8
X-61	Northcoast Express - Montrose	4,842	17.3%	15.6
101	Richfield/Bath	1,488	-32.8%	4.6
102	Northfield/Twinsburg	3,651	19.1%	5.4
103	Stow/Hudson	2,737	23.9%	5.9
110	Green/Springfield	1,851	33.5%	5.0
111	South Main/Waterloo	1,551	-2.0%	4.8
Total Fixed-Route Passengers in December, 2011:				**399,603**


NORTHFIELD
TWINSBURG
REMINDERVILLE
MACEDONIA
AURORA
HIRAM
GARRETTSVILLE
MANTUA
BOSTON HEIGHTS
RICHFIELD
PENINSULA
HUDSON
STREETSBORO
WINDHAM
SUGAR BUSH KNOLLS
CUYAHOGA FALLS
STOW
BRADY LAKE
SILVER LAKE
KENT
RAVENNA
MUNROE FALLS
FAIRLAWN
AKRON
TALLMADGE
MOGADORE
LAKEMORE
NORTON
BARBERTON
DOYLESTOWN
NEW FRANKLIN
GREEN
CLINTON
TRANSIT COVERAGE
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Miles
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METRO Routes
PARTA Routes
METRO 1/4-Mile Buffer
PARTA 1/4-Mile Buffer

Table 3 – Total Population Transit Coverage by Community

(Includes *Only* Communities with Access to Fixed-Route Transit Service)

Community Name	2010 Census Population	Total Population w/in 1/4 Miles of Transit	% Transit Coverage
Akron	199,110	158,835	79.8%
Barberton	26,550	12,895	48.6%
Bath	9,702	2,337	24.1%
Boston Twp	1,272	31	2.4%
Boston Heights	1,300	213	16.4%
Brady Lake	464	41	8.8%
Brimfield Twp	10,376	1,213	11.7%
Charlestown Twp	1,799	4	0.2%
Copley Twp	17,304	2,060	11.9%
Coventry Twp	10,945	4,434	40.5%
Cuyahoga Falls	49,652	32,597	65.7%
Fairlawn	7,437	2,540	34.2%
Franklin Twp	5,527	3,329	60.2%
Freedom Twp	2,843	319	11.2%
Garrettsville	2,325	174	7.5%
Green	25,699	6,497	25.3%
Hiram	1,406	63	4.5%
Hiram Twp	2,411	169	7.0%
Hudson	22,262	5,726	25.7%
Kent	28,904	17,936	62.1%
Lakemore	3,068	1,212	39.5%
Macedonia	11,188	2,932	26.2%
Mogadore	2,846	151	5.3%
Munroe Falls	5,012	710	14.2%
Nelson Twp	3,148	2	0.1%
New Franklin	14,227	2,799	19.7%
Northfield	3,677	1,390	37.8%
Northfield Center Twp	5,839	1,398	23.9%
Norton	12,081	726	6.0%
Ravenna	11,724	5,459	46.6%
Ravenna Twp	9,209	2,685	29.2%
Richfield Twp	6,165	276	4.5%
Richfield	3,648	890	24.4%
Sagamore Hills	10,947	380	3.5%
Shalersville Twp	5,670	10	0.2%
Silver Lake	2,519	1,651	65.5%
Springfield Twp	14,644	3,058	20.9%
Stow	34,837	16,914	48.6%
Streetsboro	16,028	1,906	11.9%
Sugar Bush Knolls	177	19	10.7%
Tallmadge	17,257	5,073	29.4%
Tallmadge (Portage)	280	84	30.0%
Twinsburg	18,795	5,052	26.9%
Windham	2,209	131	5.9%
Windham Twp	1,865	399	21.4%
Total Population with Transit Access:		**306,720**	**43.0%**

Total Population Coverage Analysis

Based on data provided by the U.S. Census Bureau, the above table illustrates the overall level of fixed-route transit coverage in the AMATS region. The table shows the number and percent of residents that live within a comfortable walking distance (1/4 mile is the typical standard used for this calculation). Please note that this table does not include *every* community within the AMATS region – only those with at least some access to fixed-route transit.

Out of the entire AMATS region's population of 713,412 (as of 2010), 306,720 people (or approximately 43% of the population) have access to fixed-route transit. Older, industrial cities (Akron, Barberton, Kent, etc.) generally offer the highest level of transit access, but surprisingly, some smaller, more suburban communities (Coventry and Franklin Townships, Lakemore and Silver Lake) also offer excellent coverage. As would be expected, remote, highly rural communities (Charlestown, Nelson and Shalersville Townships, for example) offer very low levels of transit access.

Transit Level of Service Analysis

One way of showing the convenience of a transit line to potential riders is by calculating its level of service (LOS). Unlike highway LOS, which rates the level of congestion of a particular roadway, transit LOS represents the *convenience* of a transit line to potential passengers (*not* how close to capacity the buses are). Specifically, transit LOS represents the average headway, or time between bus arrivals at a particular location. A high LOS means that buses arrive frequently and service is highly attractive, whereas a low LOS means that bus arrivals are sparse and passengers are likely to experience long wait times. Each transit line is assigned an LOS letter grade, from 'A' through 'F', based on the specifications shown in the key below:

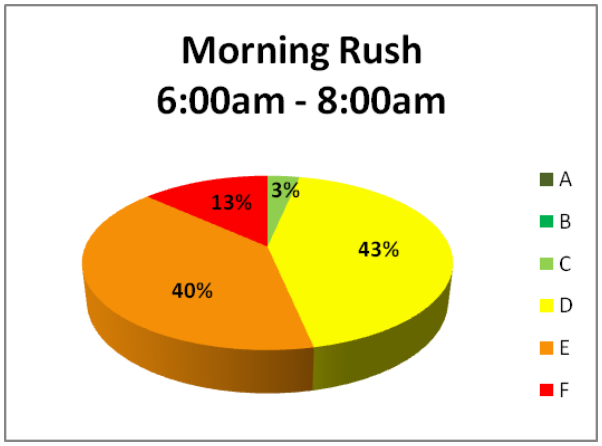
Transit LOS Key:

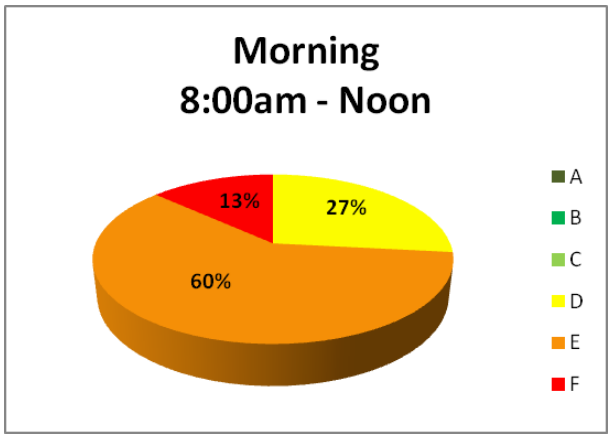
LOS	Headway (min)	Veh/Hr	Comments
A	< 10	> 6	Passengers don't need schedules
B	10-14	5-6	Frequent service, passengers consult schedules
C	15-20	3-4	Maximum desirable time to wait if bus missed
D	21-30	2	Service unattractive to choice riders
E	31-60	1	Service available during hour
F	> 60	< 1	Service unattractive to all riders

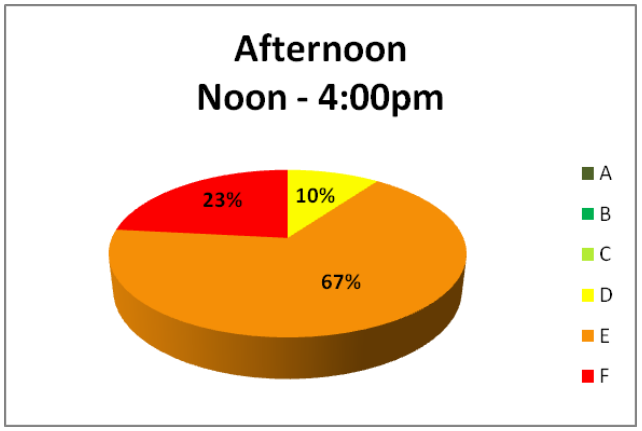
Source: Transportation Research Board

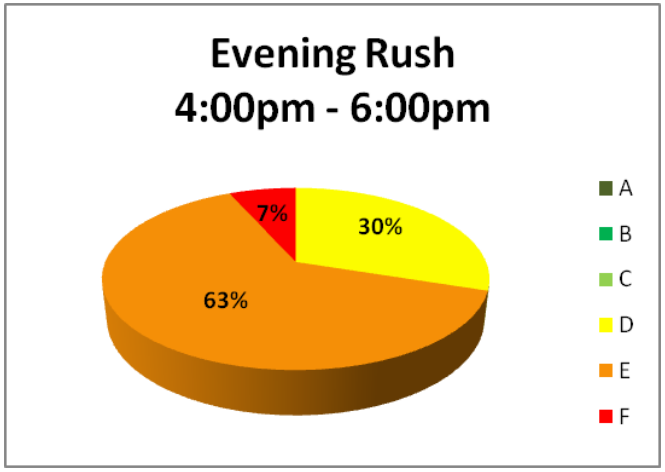
For this LOS analysis, five different weekday time periods were selected, based on predominant travel patterns observed in the AMATS planning area. Using the most recently published timetables for each METRO and PARTA fixed-route line, inbound trips were separated into one of the five standard time periods, and the average time between buses was calculated. This average time was compared to the transit level of service table (as seen above) and an LOS grade applied accordingly. Each colored wedge represents the percentage of METRO/PARTA fixed-route lines that operate at that particular LOS during the time period. The results of this analysis are shown on the following two charts:

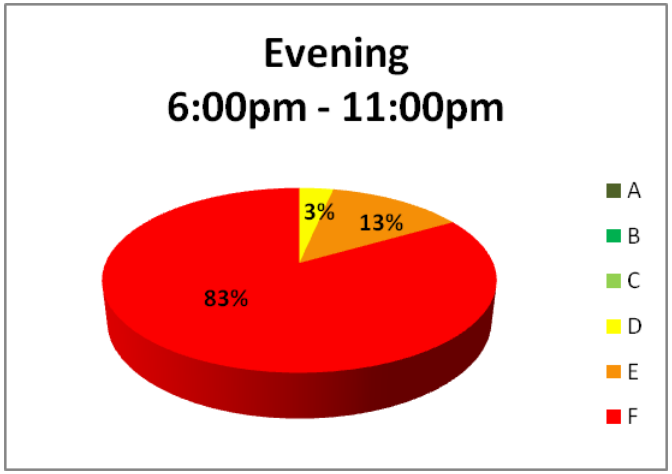
METRO Fixed-Route LOS Analysis



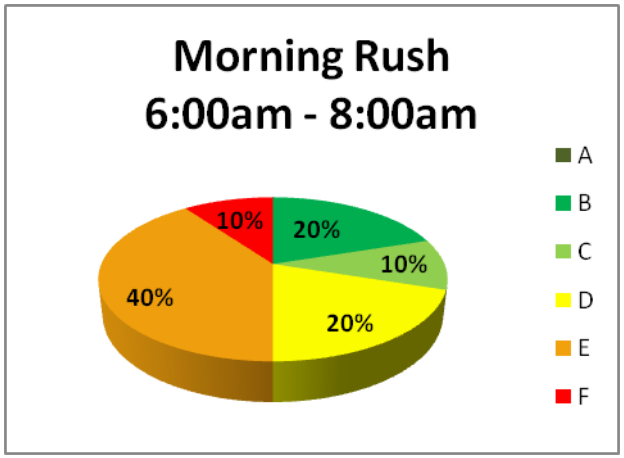


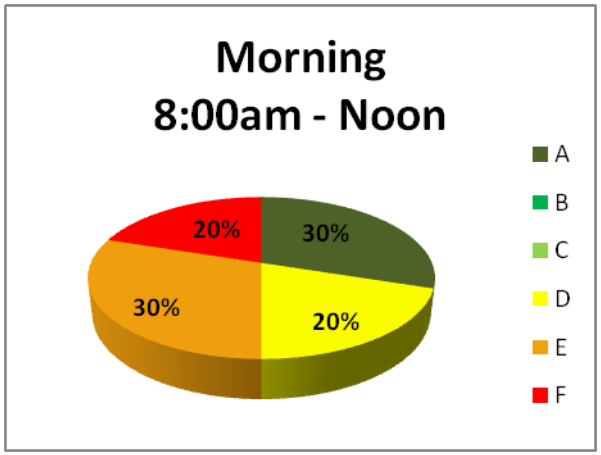


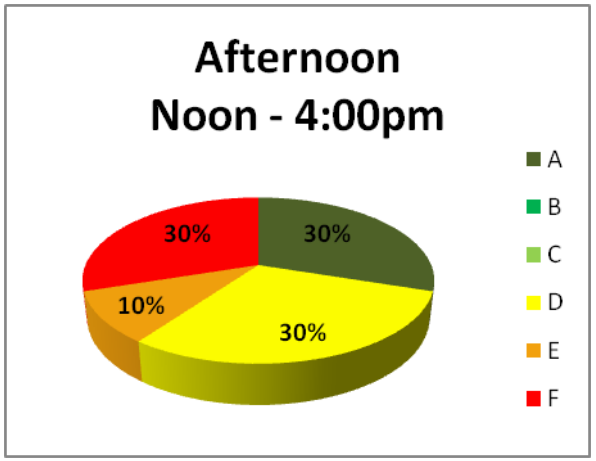


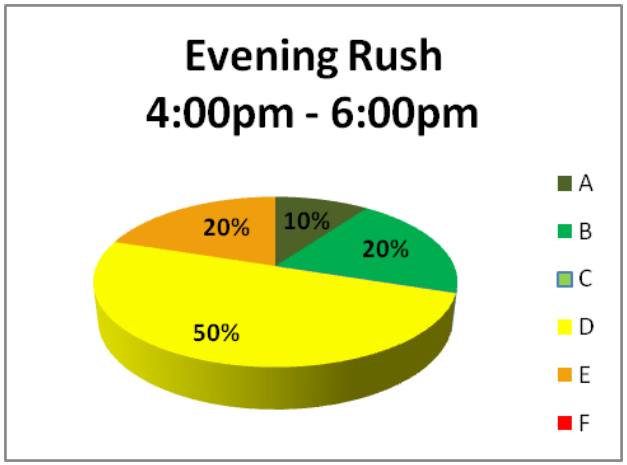


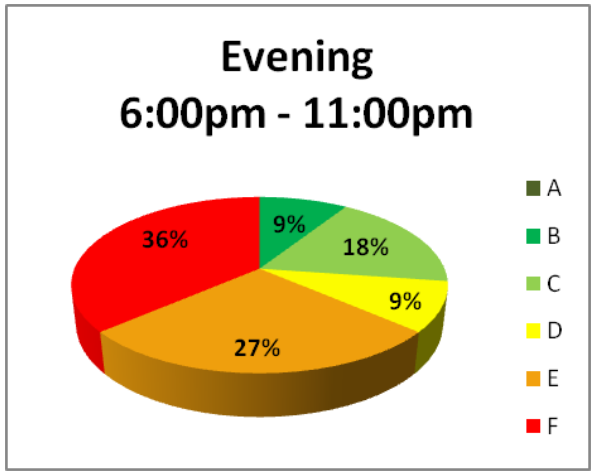
PARTA Fixed-Route LOS Analysis











LOS Analysis

A transit LOS analysis like the one above was performed by AMATS in 2010 as part of the agency's *Connecting Communities* initiative. In the two years that have passed since the previous analysis, noticeable improvement has been made in regards to LOS. The troubled economy and ridership declines that forced agencies to cut back services have slowly started to show improvement. As a result, METRO and PARTA have begun the process of restoring previously cut services and/or implementing new service to areas demonstrating increased demand for transit service.

<u>METRO RTA</u>
METRO levels of service are showing slow-and-steady improvement. Although bus lines offering service at a LOS 'A', 'B' or 'C' are nearly non-existent, there has been a strong increase in the number of bus lines offering a LOS 'D', and those operating at 'E' or 'F' have decreased proportionally. Note that although 'D' rated service generally precludes choice ridership (i.e. those who have access to personal automobiles or other transportation), it provides reasonable frequency to those who depend on transit. In all actuality, the differentiation between 'C' and 'D' service might only be a matter of minutes.

As can be seen in the existing bus service map (pg. 7), METRO's fixed-route service provides broad coverage in central Summit County, particularly within older cities such as Akron, Barberton and Cuyahoga Falls. With limited funding and buses/operators available, any transit agency faces a trade-off between maximum geographical coverage and frequency on each particular route. METRO strikes a good balance, providing wide coverage and acceptably frequent service, especially on its highest ridership routes.

One area in need of service improvement is during the 6:00pm to 11:00pm evening hours. Fixed-route service is very infrequent, with 83% of routes exhibiting an LOS of 'F'. This creates a transportation burden on second-shift workers, particularly those in lower-paying service industries, who are among the most likely to use transit to commute to their places of employment.

<u>PARTA</u>
PARTA's fixed-route service is very different from METRO's, as the two agencies' LOS statistics indicate. Whereas METRO provides broad service within most portions of highly urbanized Summit County, PARTA is able to focus its assets on the small number of urban areas that exist within mostly rural Portage County. With most service concentrated in the compact college town of Kent and the nearby county seat of Ravenna, PARTA is able to run frequent service in its compact geographical area.

Service in and around Kent State University is very frequent, with nearly 1/3 of fixed-routes operating at LOS 'A' during mid-day time periods. Most of the lines classified as LOS 'D', 'E' or 'F' are the periodic trips to the farthest reaches of the county, or express trips to Akron or Cleveland. Long-haul express trips typically run infrequently for any transit agency, often once per hour for a very limited number of hours each day. When isolating City of Kent, Ravenna and Kent State University routes, service is frequent and highly attractive.

Similarly to METRO (and most transit agencies), service drops off significantly in the evening and at night. Yet, even at night, a moderate percentage of PARTA's fixed routes provide LOS 'B' and 'C', which is beneficial to the local college students and city residents.

Meet the Fleet – Current Transit Assets

METRO and PARTA maintain a diverse fleet of transit vehicles and other transportation assets, allowing these agencies great flexibility in providing an array of services, both now and in the future. Some of the more innovative of these assets include the following:

Compressed Natural Gas (CNG) Buses

CNG buses emit significantly fewer greenhouse gas pollutants, reduce our dependence on foreign petroleum, and cost on average 30% less to refuel. METRO is working to convert its entire fleet to CNG, and PARTA will soon be building a CNG filling station, allowing them to convert their fleet as well.

Articulated Buses

METRO will soon be procuring articulated buses, which will allow the agency to operate high-capacity service on its highest ridership lines. Articulated buses are frequently used for Bus Rapid Transit (BRT) service, drawing extra attention due to their distinctive design.

Commuter Buses

Used for METRO's Northcoast Express commuter service to Cleveland, these buses offer comfortable seats for longer trips, and offer a variety of conveniences to travelers, including wireless internet access, computer charging stations and bicycle storage.

Rail Portfolio

METRO owns an extensive network of rail lines, connecting Akron to key communities such as Kent, Hudson and points south towards Canton. The agency will soon be undertaking a feasibility study to examine the potential of operating passenger rail between Akron's Merriman Valley and Goodyear's world headquarters.

Demand-Response Buses

These smaller buses are used by METRO and PARTA to provide door-to-door service for qualified riders. Trips on these vehicles are scheduled in advance, and routes are coordinated so that multiple riders may share the use of the vehicle, when possible.

MV 1 Vehicles

METRO has started using these modern vehicles to supplement its SCATS/ADA service. Produced in a former Hummer manufacturing plant, these sleek vehicles transport up to 5 passengers, and allow those using mobility devices to sit up front and facing forward, next to the driver.

Chapter 2: Transit Ridership & Demographics Analysis

Transit Ridership

Those who use public transportation generally fall into one of two different groups of riders:

Transit Dependent – These riders generally form the primary base of transit ridership. For any number of reasons, this population does not have access to personal transportation, or is unable to use it. Some demographic groups with a strong correlation to transit ridership include:

- The Disabled
- Elderly
- Low Income
- Minority
- Students

Choice Riders – This population *has* access to personal automobile transportation, but chooses to use public transportation for a variety of reasons, including (but not limited to):

- It is inexpensive compared to automobile transportation
- It is more convenient in areas of high congestion or limited/expensive parking
- Time spent traveling can be used productively
- Less stressful – only the driver needs to worry about traffic
- Safer – particularly in snowy or other inclement weather conditions

A more detailed discussion on choice riders, and the benefits they provide local transit agencies, may be found on page 52.

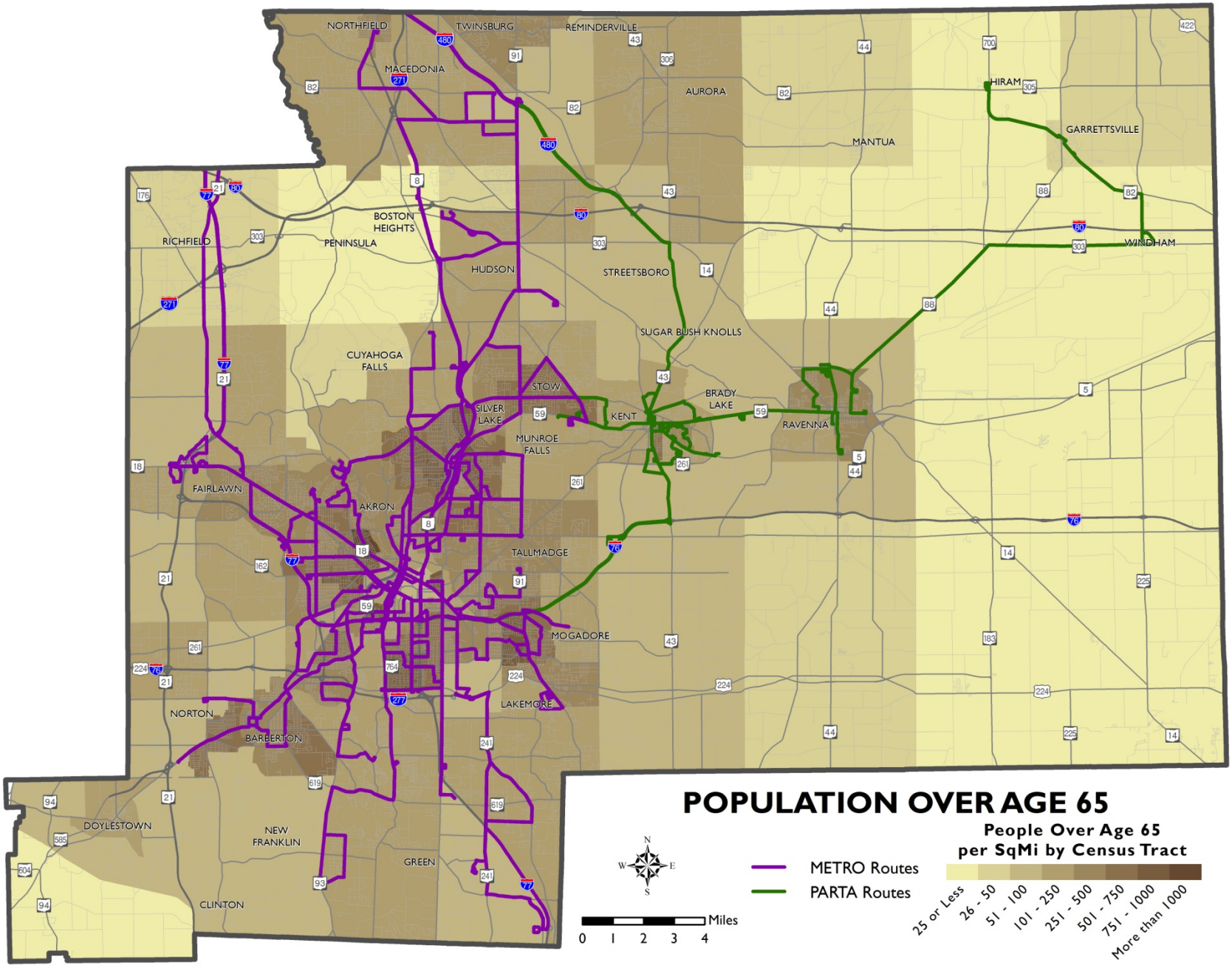
Demographics Analysis

The following series of maps illustrates the geographical dispersion of the following transit dependent demographic groups listed above:

- The Elderly
- Low Income
- Minority

The disabled population was unable to be mapped, as 2010 census data for this population is only available at the county level; please see page 26 for a discussion on the AMATS region's disabled population. Also, the distribution of students is difficult to determine using available census data, so the "School Locations" map in the "Ridership Generative Land Uses" section (see pages 36-37) will serve as a proxy for the student population.

Population data for the elderly, low income and minorities was gathered from 2010 census data and mapped at the census tract level. Next, all existing METRO and PARTA transit lines were then overlaid. Using geographical information systems (GIS) software, a ¼ mile buffer was calculated on each side of the transit lines. This buffer represents the transit "catchment area", which is the population living within a comfortable, convenient walking distance to transit. Finally, using GIS population distribution formulas, the number of residents (both transit dependent and total) living within the transit catchment area was calculated, and percentages were calculated based on the results.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HUDSON
STREETSBORO
WINDHAM
SUGAR BUSH KNOLLS
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DOYLESTOWN
NEW FRANKLIN
GREEN
CLINTON
POPULATION OVER AGE 65
People Over Age 65 per SqMi by Census Tract
25 or Less
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51 - 100
101 - 250
251 - 500
501 - 750
751 - 1000
More than 1000
METRO Routes
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Table 4 – Elderly Population Transit Coverage

(Includes *Only* Communities Offering Fixed-Route Transit Service)

Community Name	Total Elderly Population	Elderly w/in 1/4 Miles of Transit	% Transit Coverage
Akron	25,166	19,205	76.3%
Barberton	4,388	1,873	42.7%
Bath	1,748	457	26.1%
Boston Twp	203	5	2.5%
Boston Heights	157	30	19.1%
Brady Lake	60	6	10.0%
Brimfield Twp	1,194	129	10.8%
Copley Twp	2,596	286	11.0%
Coventry Twp	1,713	693	40.5%
Cuyahoga Falls	7,576	4,953	65.4%
Fairlawn	1737	538	31.0%
Franklin Twp	719	255	35.5%
Freedom Twp	393	44	11.2%
Garrettsville	322	23	7.1%
Green	3,735	922	24.7%
Hiram	68	7	10.3%
Hiram Twp	335	18	5.4%
Hudson	2,632	765	29.1%
Kent	2,143	1,139	53.1%
Lakemore	436	186	42.7%
Macedonia	1,646	406	24.7%
Mogadore	447	23	5.1%
Munroe Falls	818	127	15.5%
New Franklin	2,525	548	21.7%
Northfield	487	185	38.0%
Northfield Center Twp	1,024	245	23.9%
Norton	1,944	114	5.9%
Ravenna	1,745	907	52.0%
Ravenna Twp	1,428	383	26.8%
Richfield Twp	1,121	50	4.5%
Sagamore Hills	2,073	66	3.2%
Shalersville Twp	650	1	0.2%
Silver Lake	496	324	65.3%
Springfield Twp	2,585	506	19.6%
Stow	4,805	2,535	52.8%
Streetsboro	1,880	180	9.6%
Sugar Bush Knolls	35	3	8.6%
Tallmadge	3,398	913	26.9%
Tallmadge (Portage)	16	8	50.0%
Twinsburg	2,730	729	26.7%
Windham	211	16	7.6%
Windham Twp	290	49	16.9%
Total Elderly Pop. with Transit Access:		**39,852**	**44.4%**

Elderly Transit Coverage Analysis

Providing sufficient public transportation for our rapidly aging population is one of the most important issues facing transportation planners today. Advances in medicine have extended the average lifespan, and more people than ever are choosing to remain in their homes as they age. According to the Ohio Public Transit Association, the average person will outlive their ability to drive a vehicle by 8 to 10 years. Curb-to-curb service is provided by METRO and PARTA (see pgs. 27-28) and many social services agencies assist with these trips, but at certain times, available resources can barely accommodate medical trips alone. The most efficient and cost-effective way to get seniors to the shopping, recreational and social events they wish to attend is through the provision of regular and reliable fixed-route public transportation service.

Existing fixed-route transit lines provide good coverage for a large portion of the AMATS region's elderly population, particularly in dense, urban areas such as Akron, Cuyahoga Falls and Kent. Some smaller communities, such as Silver Lake and Lakemore, provide a high level of access as well.

A cursory glance at the elderly population map (page 17) reveals that there are other areas, however, with significant elderly populations but little to zero transit coverage. The Cities of Aurora and Streetsboro show significant elderly populations, lacking access to fixed-route transit service. Other areas with large elderly populations but little fixed-route coverage are as follows:

- **Summit County**: Copley Township, potions of Fairlawn and Green, Norton, Sagamore Hills, Tallmadge and Twinsburg.
- **Portage County**: Cities of Aurora and Streetsboro.
- **Wayne County (AMATS Portion)**: Doylestown.

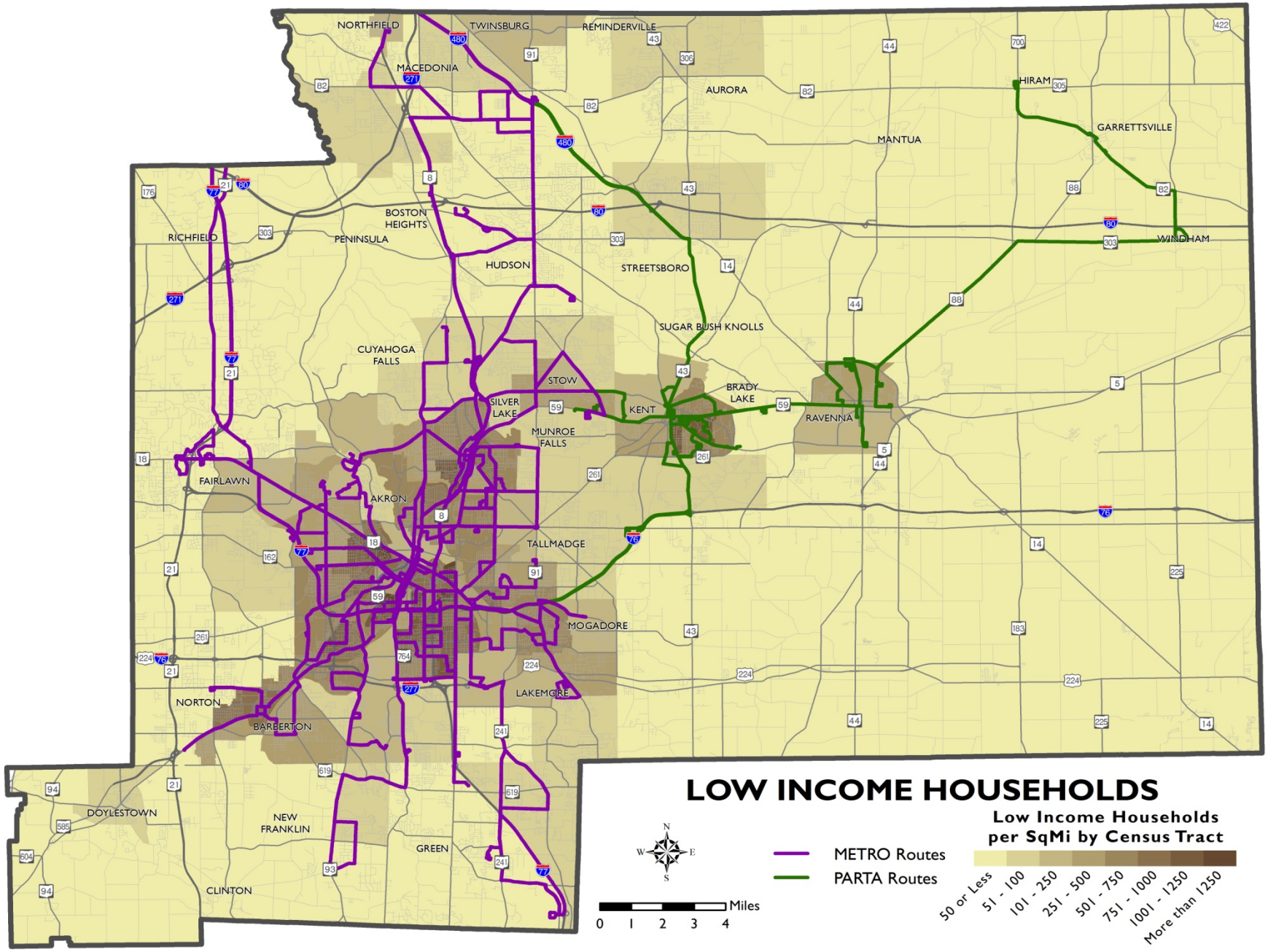

LOW INCOME HOUSEHOLDS
Low Income Households per SqMi by Census Tract
50 or Less
51 - 100
101 - 250
251 - 500
501 - 750
751 - 1000
1001 - 1250
More than 1250
METRO Routes
PARTA Routes
Miles
0 1 2 3 4
NORTHFIELD
TWINSBURG
REMINDERVILLE
MACEDONIA
AURORA
HIRAM
GARRETTSVILLE
MANTUA
BOSTON HEIGHTS
RICHFIELD
PENINSULA
HUDSON
STREETSBORO
WINDHAM
SUGAR BUSH KNOLLS
CUYAHOGA FALLS
STOW
SILVER LAKE
KENT
BRADY LAKE
RAVENNA
MUNROE FALLS
FAIRLAWN
AKRON
TALLMADGE
MOGADORE
LAKEMORE
NORTON
BARBERTON
DOYLESTOWN
NEW FRANKLIN
GREEN
CLINTON

Table 5 – Low Income Population Transit Coverage

(Includes *Only* Communities Offering Fixed-Route Transit Service)

Community Name	Total Low Income Households	Low Income w/in 1/4 Miles of Transit	% Transit Coverage
Akron	44,912	35,876	79.9%
Barberton	5,612	2,891	51.5%
Bath	423	109	25.8%
Boston Twp	152	2	1.3%
Boston Heights	64	17	26.6%
Brady Lake	81	5	6.2%
Brimfield Twp	973	154	15.8%
Charlestown Twp	299	1	0.3%
Copley Twp	1,063	123	11.6%
Coventry Twp	1,721	700	40.7%
Cuyahoga Falls	8,022	5452	68.0%
Fairlawn	844	277	32.8%
Franklin Twp	1,012	759	75.0%
Freedom Twp	275	31	11.3%
Garrettsville	439	24	5.5%
Green	2,681	692	25.8%
Hiram	88	3	3.4%
Hiram Twp	120	9	7.5%
Hudson	875	305	34.9%
Kent	5,760	3,512	61.0%
Lakemore	581	209	36.0%
Macedonia	679	166	24.4%
Mogadore	498	24	4.8%
Munroe Falls	425	53	12.5%
New Franklin	1,337	328	24.5%
Northfield	338	127	37.6%
Northfield Center Twp	451	108	23.9%
Norton	1,393	100	7.2%
Ravenna	2,719	1,250	46.0%
Ravenna Twp	1,238	504	40.7%
Richfield Twp	361	16	4.4%
Richfield	225	52	23.1%
Sagamore Hills	835	22	2.6%
Shalersville Twp	371	1	0.3%
Silver Lake	144	100	69.4%
Springfield Twp	2,334	499	21.4%
Stow	3,497	1,878	53.7%
Streetsboro	1,701	168	9.9%
Sugar Bush Knolls	8	3	37.5%
Tallmadge	1,779	608	34.2%
Twinsburg	1,437	380	26.4%
Windham	470	23	4.9%
Windham Twp	239	69	28.9%
Total Low Income Pop. with Transit Access:		**57,630**	**58.5%**

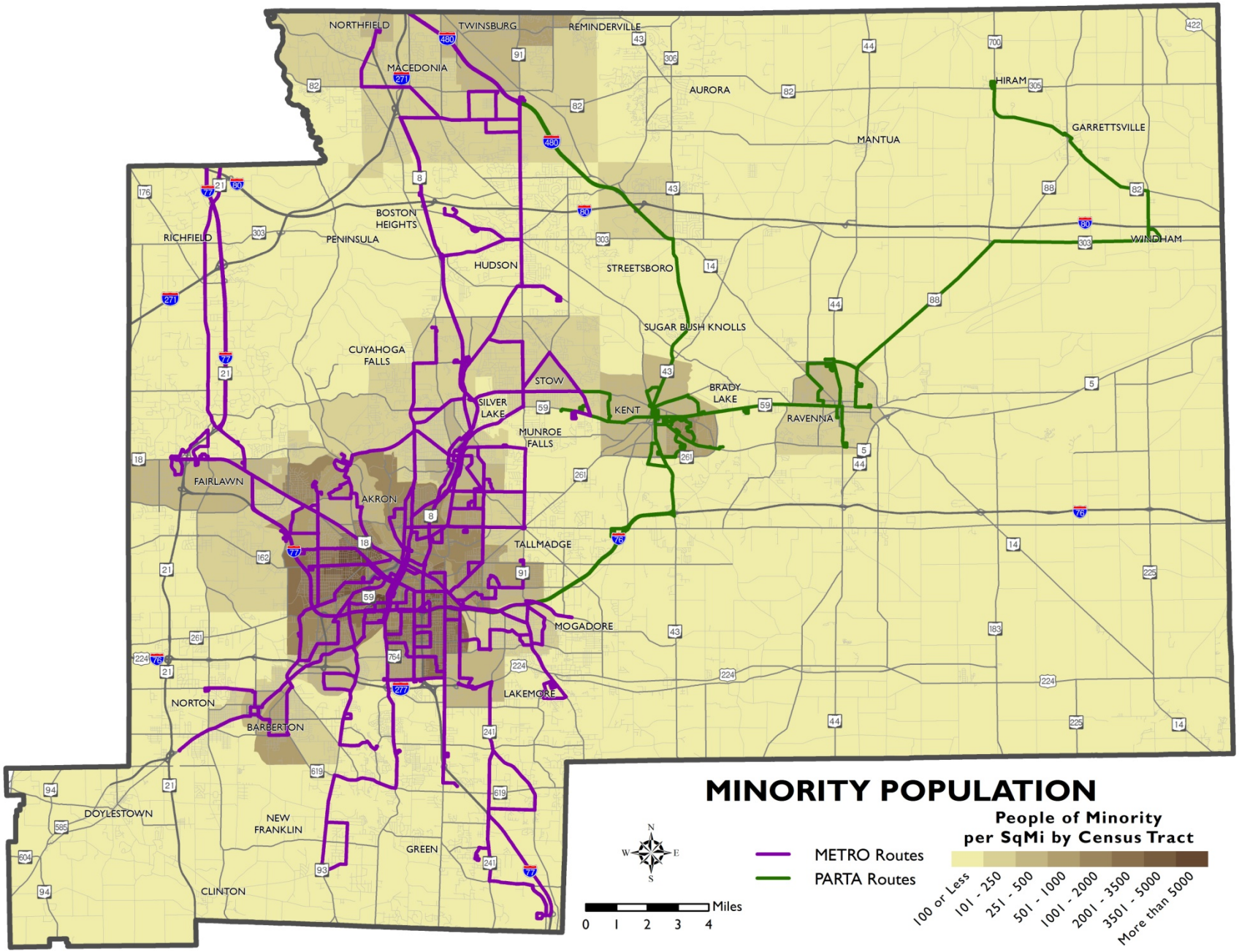
Low Income Transit Coverage Analysis

In this report, low income households are defined as those with annual household incomes below 150% of the national poverty level. Based on 2010 census data, this threshold is set at $34,999 or below. Previous AMATS reports used lower overall thresholds and at the individual level, but limitations in data availability for the most recent census cycle necessitated these changes.

Generally speaking, METRO and PARTA provide very good coverage of the census tracts identified as containing a significant number of low income households. Large numbers of low income households are concentrated in the central portions of the older industrial cities within the AMATS region (i.e. Akron, Barberton, Cuyahoga Falls, Kent and Ravenna), and each of these core cities is served by transit relatively well.

Based on an analysis of the low income household distribution map on page 20, the following areas contain significant numbers of low income households and no fixed-route transit service:

- **Summit County**: portions of Barberton, Springfield Township and Twinsburg.
- **Portage County**: the northern portions of Aurora and Streetsboro, as well as the southern half of Ravenna and Ravenna Township.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BOSTON HEIGHTS
RICHFIELD
PENINSULA
HUDSON
STREETSBORO
WINDHAM
SUGAR BUSH KNOLLS
CUYAHOGA FALLS
STOW
BRADY LAKE
SILVER LAKE
KENT
RAVENNA
MUNROE FALLS
FAIRLAWN
AKRON
TALLMADGE
MOGADORE
LAKEMORE
NORTON
BARBERTON
DOYLESTOWN
NEW FRANKLIN
GREEN
CLINTON
MINORITY POPULATION
People of Minority per SqMi by Census Tract
METRO Routes
PARTA Routes
100 or Less
101 - 250
251 - 500
501 - 1000
1001 - 2000
2001 - 3500
3501 - 5000
More than 5000
N
W
E
S
Miles
0 1 2 3 4

Table 6 – Minority Population Transit Coverage

(Includes *Only* Communities Offering Fixed-Route Transit Service)

Jurisdiction	Total Community Population	Total Minority Population	% Minority	Minority Population w/in 1/4 Miles of Transit	% Transit Coverage
Akron	199,110	77,164	38.8%	62,310	80.8%
Barberton	26,550	2,634	9.9%	1,247	47.3%
Bath	9,702	669	6.9%	149	22.3%
Boston Twp	1,272	43	3.4%	1	2.3%
Boston Heights	1,300	62	4.8%	9	14.5%
Brady Lake	464	29	6.3%	2	6.9%
Brimfield Twp	10,376	786	7.6%	110	14.0%
Copley Twp	17,304	3,485	20.1%	442	12.7%
Coventry Twp	10,945	489	4.5%	211	43.1%
Cuyahoga Falls	49,652	3,713	7.5%	2213	59.6%
Fairlawn	7,437	1,434	19.3%	438	30.5%
Franklin Twp	5,527	443	8.0%	443	100.0%
Freedom Twp	2,843	89	3.1%	8	9.0%
Garrettsville	2,325	64	2.8%	3	4.7%
Green	25,699	1,512	5.9%	358	23.7%
Hiram	1,406	225	16.0%	4	1.8%
Hiram Twp	2,411	44	1.8%	10	22.7%
Hudson	22,262	1,906	8.6%	422	22.1%
Kent	28,904	5,309	18.4%	2,901	54.6%
Lakemore	3,068	160	5.2%	47	29.4%
Macedonia	11,188	1,941	17.3%	556	28.6%
Mogadore	2,846	94	3.3%	4	4.3%
Munroe Falls	5,012	270	5.4%	30	11.1%
New Franklin	14,227	415	2.9%	60	14.5%
Northfield	3,677	559	15.2%	199	35.6%
Northfield Center Twp	5,839	728	12.5%	166	22.8%
Norton	12,081	546	4.5%	30	5.5%
Ravenna	11,724	1,157	9.9%	597	51.6%
Ravenna Twp	9,209	848	9.2%	291	34.3%
Richfield Twp	6,165	298	4.8%	12	4.0%
Sagamore Hills	10,947	1,083	9.9%	40	3.7%
Silver Lake	2,519	103	4.1%	50	48.5%
Springfield Twp	14,644	684	4.7%	223	32.6%
Stow	34,837	2,783	8.0%	1,135	40.8%
Streetsboro	16,028	2,153	13.4%	309	14.4%
Sugar Bush Knolls	177	15	8.5%	1	6.7%
Tallmadge	17,257	1,226	7.1%	453	36.9%
Tallmadge (Portage)	280	18	6.4%	9	50.0%
Twinsburg	18,795	4,169	22.2%	1,288	30.9%
Windham	2,209	213	9.6%	8	3.8%
Windham Twp	1,865	56	3.0%	23	41.1%
Total Minority Population with Transit Access:				**76,812**	**64.2%**

Minority Transit Coverage Analysis

In this analysis, AMATS used 2010 census data to find the number of white, non-Hispanic residents in each of the municipalities within the region. This number was subtracted from the total population of each community to derive the number of residents representing any minority group. Using a population distribution algorithm in GIS, the total minority population was distributed throughout each community. Finally, GIS was used to calculate how many people from a minority group lived within a ¼ mile, comfortable walking distance from an existing fixed-route transit line.

The minority population map (page 23) indicates that census tracts with significant minority populations enjoy excellent access to public transportation within the AMATS region. Nearly every large community with a significant minority population (Akron, Barberton, Kent and Ravenna) enjoys a high level of access to transit. Several smaller communities have equally small minority populations, yet offer high levels of transit access, including: Coventry and Franklin Townships, Silver Lake and Northfield Village.

There are a few communities showing significant gaps in the availability of transit for their minority populations. Communities with significant minority populations and less-than-optimal fixed-route transit access include:

- **Summit County**: Portions of Fairlawn, Macedonia and Twinsburg.
- **Portage County**: the southern portion of Ravenna and Ravenna Township, as well as portions of Streetsboro.

Disabled Transit Coverage Analysis

As previously mentioned, the 2010 census only provides disabled population data at the county level and for a few of the largest cities within the region. This paucity of data does not lend itself well to mapping as the previous demographics datasets were. The following table shows the available data for the counties comprising the AMATS region, as well as the few cities for which data has been provided. Note that although Chippewa Township is the only portion of Wayne County within the AMATS region, this analysis assumes that the countywide percentage applies equally to Chippewa Township.

Table 7: AMATS Region - 2010 Disabled Population

Municipality	# of Disabled Persons	%
Summit County	68,909	12.9%
Akron	31,609	16.1%
Barberton	4,446	16.9%
Cuyahoga Falls	6,563	13.3%
Green	2,397	9.5%
Hudson	1,149	5.2%
Stow	2,813	8.2%
Portage County	18,948	11.8%
Kent	2,704	9.4%
Wayne County	N/A	14.4%

One of the main takeaways from this data is that the percentage of people with a disability is very similar at the county level, whether urban (Summit County) or largely rural (Portage/Wayne Counties). Interestingly, largely rural Wayne County has a higher percentage than heavily urbanized Summit County does. At the city level, older, core cities like Akron and Barberton have a substantially higher disabled population than more suburban cities do. This is most likely attributable to the fact that these areas have higher population densities in general, but is also likely due to their high concentrations of medical and social services facilities, as well as access to transportation services, whether public (METRO/PARTA) or private (United Disability Services and similar providers).

Recently, the AMATS region has experienced the rapid decentralization of medical facilities - moving outward from the older, urban cores and into suburban communities like Twinsburg, Green and Streetsboro. Although the increase in medical service providers in our region is a positive development, we must work to ensure that these facilities remain accessible to those who will benefit most greatly from their presence in the community (i.e. disabled and elderly residents).

Demand-Response Services

METRO and PARTA both offer demand-response services. These are transit trips provided by small buses, MV 1 vehicles or accessible vans, which generally provide door-to-door, shared ride service. Unlike fixed-route transit or taxi services, demand-response services are not available for same-day service; rather, passengers must call at least 24 hours in advance to schedule a ride. The vehicles will take any variety of routes in order to pick up additional riders and transport them all to their scheduled destinations in the most efficient route possible. At this time, METRO's services are available only to elderly and/or disabled customers. PARTA's service is available to anyone, with lower fares for those with certain qualifications. Specific details for each provider are as follows:

METRO

- SCAT: a curb-to-curb shared ride service for Summit County residents over the age of 65 OR having a disability which prevents them from using regular fixed-route service. Rides are $2.00 each way, and must be scheduled at least 24 hours in advance. Passengers must plan for a vehicle arrival of up to 20 minutes before or after their scheduled time. Service is available seven days a week.

- ADA: a curb-to-curb, shared ride service that is to be viewed as a "safety-net" for those with disabilities. ADA rides cost $2.50 each way, and *must* begin and end within ¾ of a mile from a METRO fixed-route. Service is available seven days a week.

PARTA

- Dial-a-Ride: a door-to-door, shared ride service available to *all* Portage County residents. As a first-come/first-serve service, routes may vary in order to pick up other passengers, based on the most efficient route to reach all destinations. All trips must be scheduled at least 24 hours in advance. The general fare is $4.00 each way, but a reduced fare of $2.00 each way is available to qualified passengers (children, senior citizens and those with disabilities). Service is available Monday through Friday, and service to the more remote portions of Portage County may be limited to only certain days of the week.

Coordination of Demand-Response Services

In 2008, AMATS published its *Coordinated Public Transit-Human Services Transportation Plan*, which established regional strategies and priorities for improving transit services for seniors, the disabled and low income residents. The foremost recommendation was the creation of a regional mobility management system – with the ultimate vision of creating a computer database that could be used by passengers to schedule demand-response trips, and by transit and public services agencies to fulfill the requests by instantly evaluating available assets and capacity, and assigning trips in the most efficient manner possible.

After many years of planning and significant monetary investments into software and technology, this system is near fruition. The NEORide system, developed through a joint effort spearheaded by PARTA, is close to the testing phase. Upon full implementation, NEORide will consolidate asset availability

information for all transit and public service agencies, offering real-time vehicle availability to fulfill scheduled trips in the most efficient manner possible. The NEORide system could be compared to an internet-based airline booking system: various airlines submit their available flights and capacities to the system, and those wishing to book a trip can enter their dates and destinations and receive real-time information regarding the options available to them.

NEORide will be rolled out on a limited pilot basis within one year, and a full-scale implementation is expected shortly afterward.

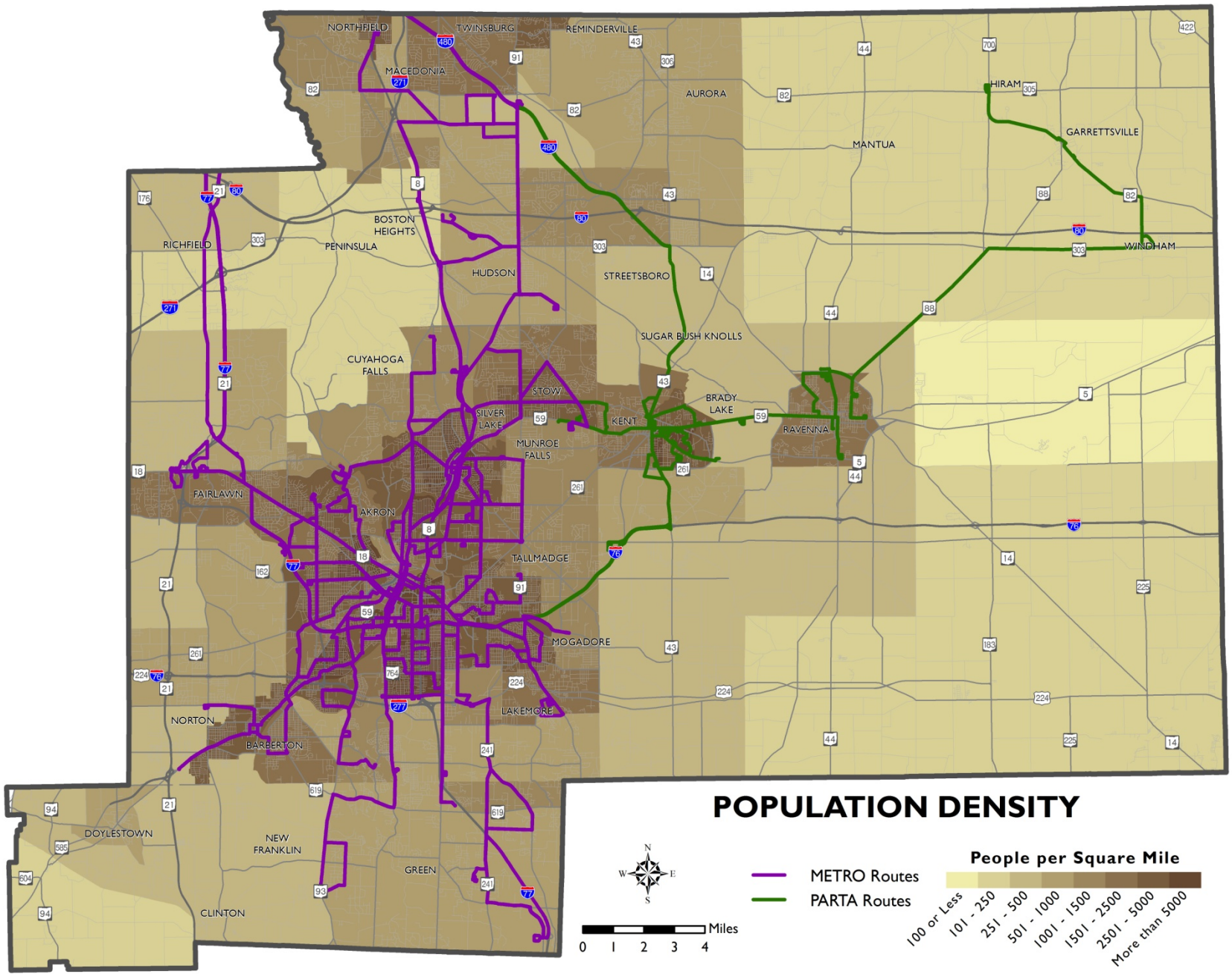
Chapter 3: Transit, Land Use & Density

Ridership Generative Land Uses

A number of land uses tend to generate a greater-than-average concentration of transit trips. Among these land uses are:

- Areas of dense population
- Job/commercial centers
- Schools/universities
- Transportation nodes (park and ride lots, train stations, airports, etc.)
- Cultural centers/sports facilities
- Government buildings/centers

The following maps illustrate the geographical dispersion of the aforementioned land uses throughout the AMATS region.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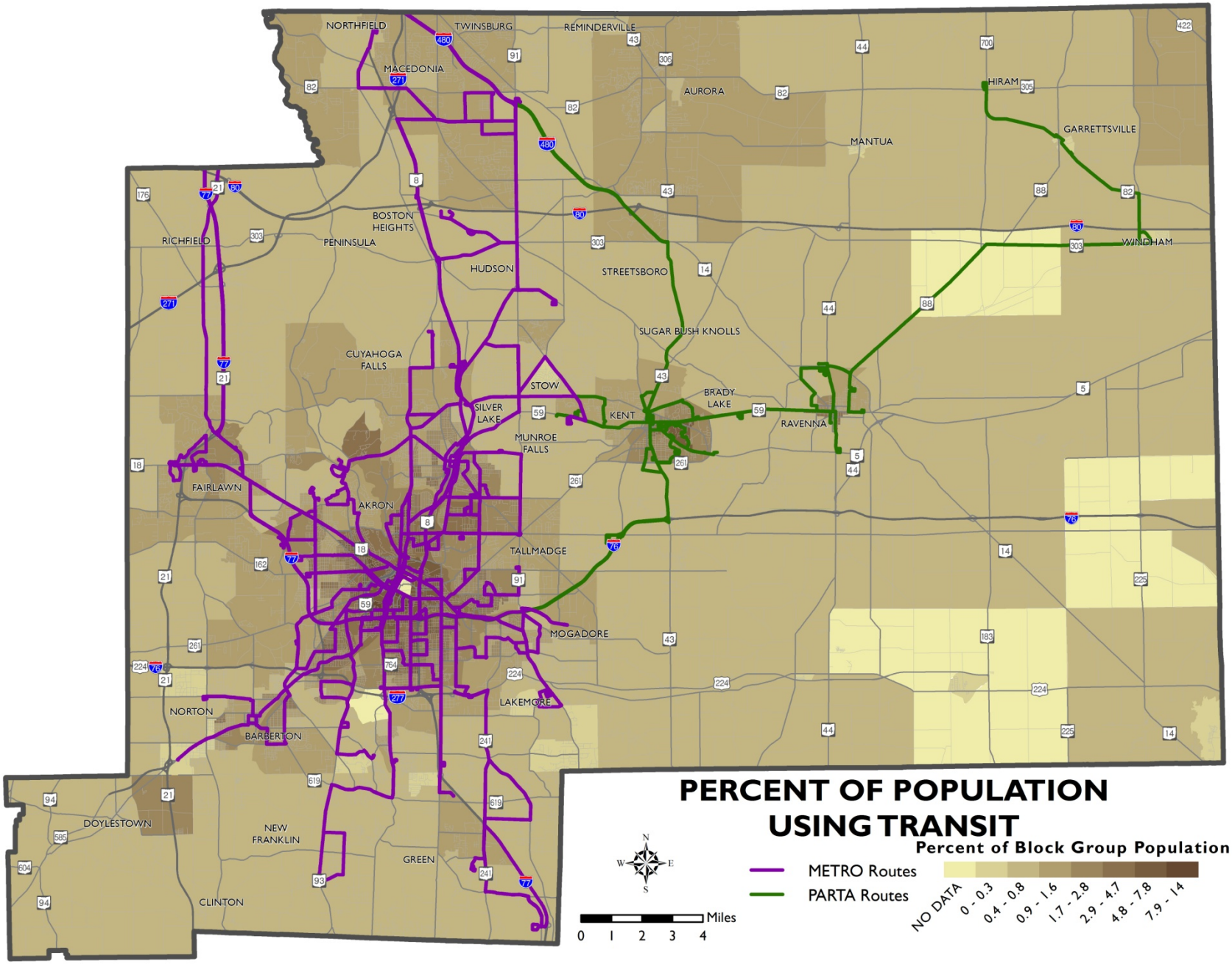
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BRADY LAKE
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FAIRLAWN
AKRON
TALLMADGE
MOGADORE
LAKEMORE
NORTON
BARBERTON
DOYLESTOWN
NEW FRANKLIN
GREEN
CLINTON
PERCENT OF POPULATION USING TRANSIT
Percent of Block Group Population
METRO Routes
PARTA Routes
NO DATA
0 - 0.3
0.4 - 0.8
0.9 - 1.6
1.7 - 2.8
2.9 - 4.7
4.8 - 7.8
7.9 - 14
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Population Density Analysis

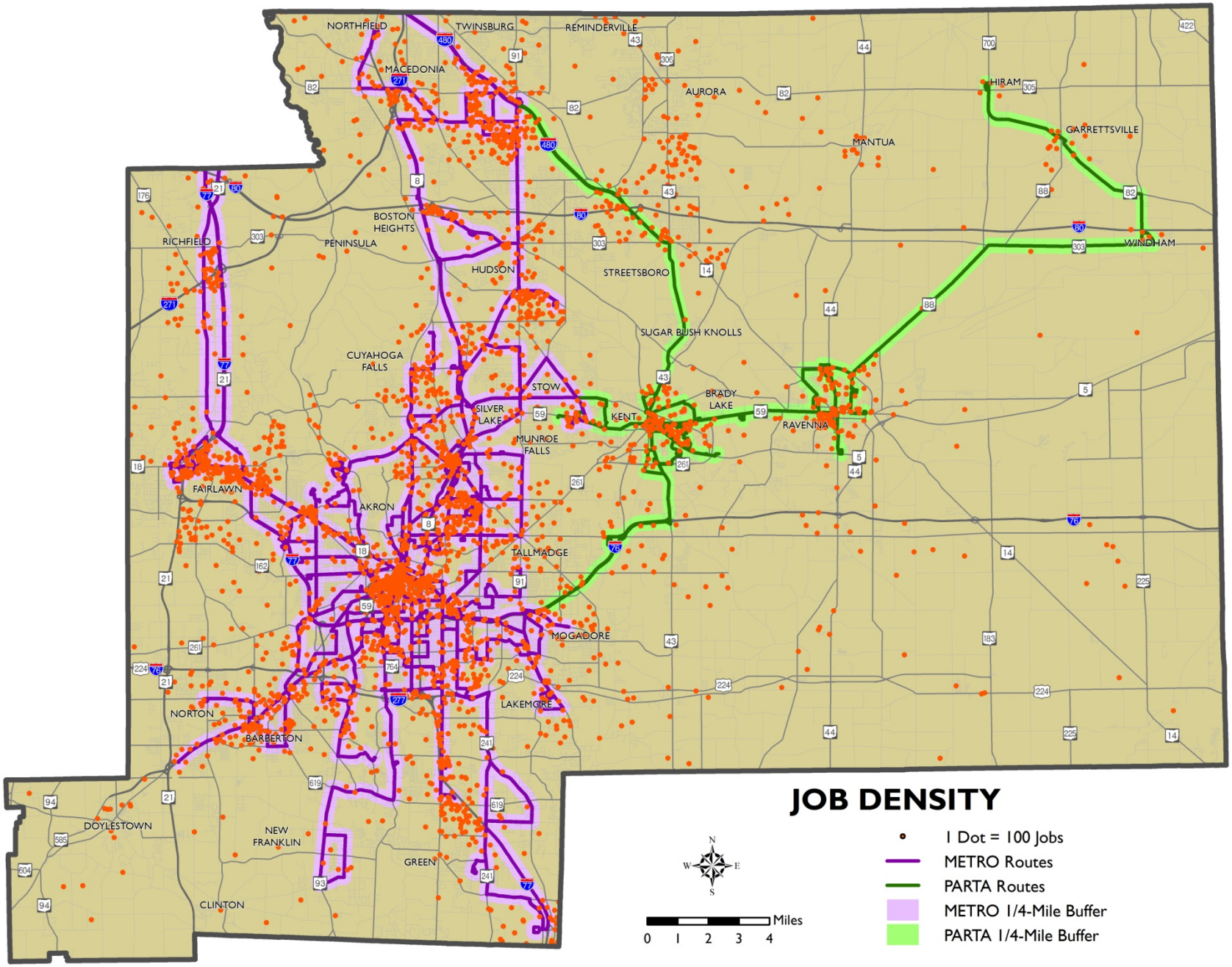
The population density map on page 31 shows that, for the most part, the most densely populated areas within the AMATS region are served by fixed-route transit. In particular, older, industrial cities such as Akron, Barberton, Cuyahoga Falls and Kent are well served. In most instances, suburban cities, villages and townships have moderate levels of service.

There are, however, some notable gaps in transit service to areas with higher population density. The cities of Twinsburg and Aurora, in the north-central portion of the AMATS region, are more densely populated, yet Twinsburg is only served by infrequent commuter and express routes, and Aurora lacks transit service altogether.

Small clusters of population are scattered throughout the southern half of Portage County, as well as in the Village of Doylestown in Wayne County, and fixed-route transit service is entirely absent. However, their populations are too sparse and their locations are generally too remote to justify regular transit service at this time.

The map on page 32 shows existing transit users, based on survey data gathered from the U.S. Census Bureau. Communities that exhibit moderate ridership but no service overlap strongly with those unserved in the general population density map – mainly Aurora, Twinsburg and Streetsboro. Other areas include Copley Township, Doylestown, Norton and Sagamore Hills.

Key Transit Gaps: Aurora, Copley Township, Fairlawn, Sagamore Hills, Streetsboro, Twinsburg and Northfield Village.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TALLMADGE
MOGADORE
LAKEMORE
NORTON
BARBERTON
DOYLESTOWN
NEW FRANKLIN
GREEN
CLINTON
JOB DENSITY
1 Dot = 100 Jobs
METRO Routes
PARTA Routes
METRO 1/4-Mile Buffer
PARTA 1/4-Mile Buffer
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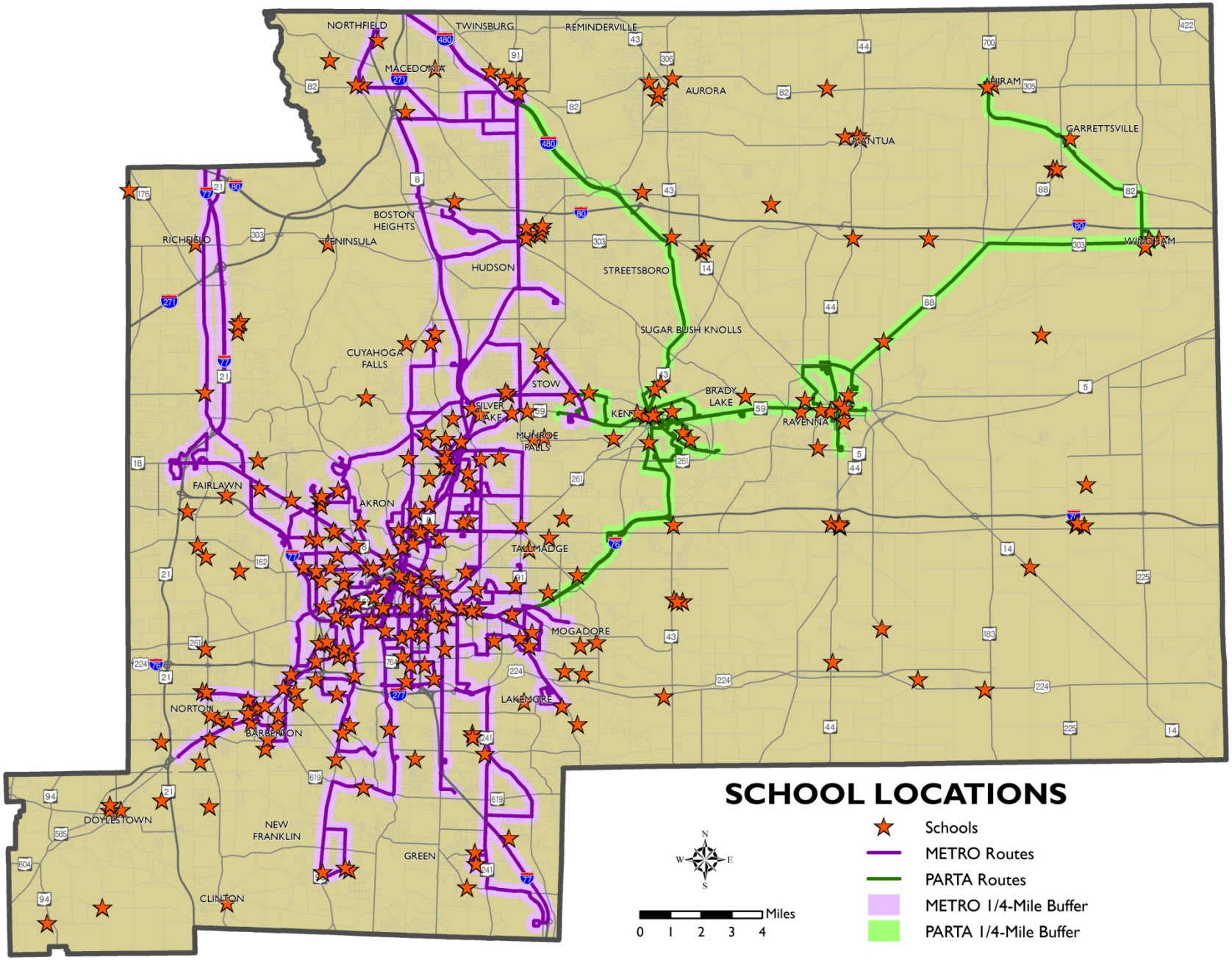
Job Density Analysis

METRO and PARTA are to be commended in their efforts to provide transit service to key employment zones within the AMATS region. Both agencies regularly speak with local employers and attempt to not only serve businesses with transit service, but to coordinate bus runs with shift start or ending times. AMATS encourages coordination between employers and local transit providers, as these mutually beneficial relationships will enhance ridership growth and reduce area congestion.

Most of the zones with the greatest concentrations of employment have regular access to transit. In Akron, the Downtown, Montrose, West Market Street and South Arlington Street corridors have among the highest concentrations of employment in the AMATS region, and also enjoy the most frequent transit service available. Other cities with major employment centers, such as Barberton, Cuyahoga Falls, Hudson, Kent and Ravenna have varying degrees of satisfactory fixed-route transit service.

Notable gaps in transit service to key employment center are Aurora, portions of Green and Streetsboro, the Village of Mantua and Copley Township. The Village of Richfield and the Cities of Streetsboro, Twinsburg and Macedonia have very large employment concentrations, but are only served by infrequent express or commuter bus routes. Each of these communities could benefit from more regular transit or new transit service to connect the region's employment base to these key employment zones.

Key Transit Gaps: Aurora, Copley Township, Green, Mantua Village, Macedonia, Richfield Village, Twinsburg and Streetsboro.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KENT
BRADY LAKE
RAVENNA
MUNROE FALLS
FAIRLAWN
AKRON
TALLMADGE
MOGADORE
LAKEMORE
NORTON
BARBERTON
DOYLESTOWN
NEW FRANKLIN
GREEN
CLINTON
SCHOOL LOCATIONS
Schools
METRO Routes
PARTA Routes
METRO 1/4-Mile Buffer
PARTA 1/4-Mile Buffer
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0 1 2 3 4

School Coverage Analysis

Fixed-route bus access to local schools is important in ensuring that students (both children and adults) have a safe, comfortable and reliable alternative in the absence of traditional school buses, automobile access or other forms of transportation. Although grade school students typically have access to buses or live within easy walking distance of their home school, inclement weather, late arrivals/early releases and other unpredictable circumstances could require access to public transit.

Students of colleges and universities of all types, from two-year trade and technical schools to four-year institutions, could all benefit from transit connections between their home communities and institutions of higher education. The main campuses of the University of Akron and Kent State University both have excellent access to transit service. However, smaller for-profit technical and trade schools, as well as branch campuses of large universities (KSU's Twinsburg center, for example) are rapidly being built in suburban locations. As long as their growth leads to critical masses of potential transit riders, area transit providers should assess the feasibility of serving them with fixed-route transit lines.

In general, the largest clusters of school facilities in the AMATS region are served by transit. Most township schools are not served, but do not have sufficient student populations to feasibly provide fixed-route service. The two areas which may have the greatest need for transit service based on significant school clusters would be the Village of Mantua and Copley Township. The City of Hudson also shows a cluster of schools unserved by transit.

Key Transit Gaps: Aurora, Copley Township, Doylestown, eastern Hudson and Mantua Village

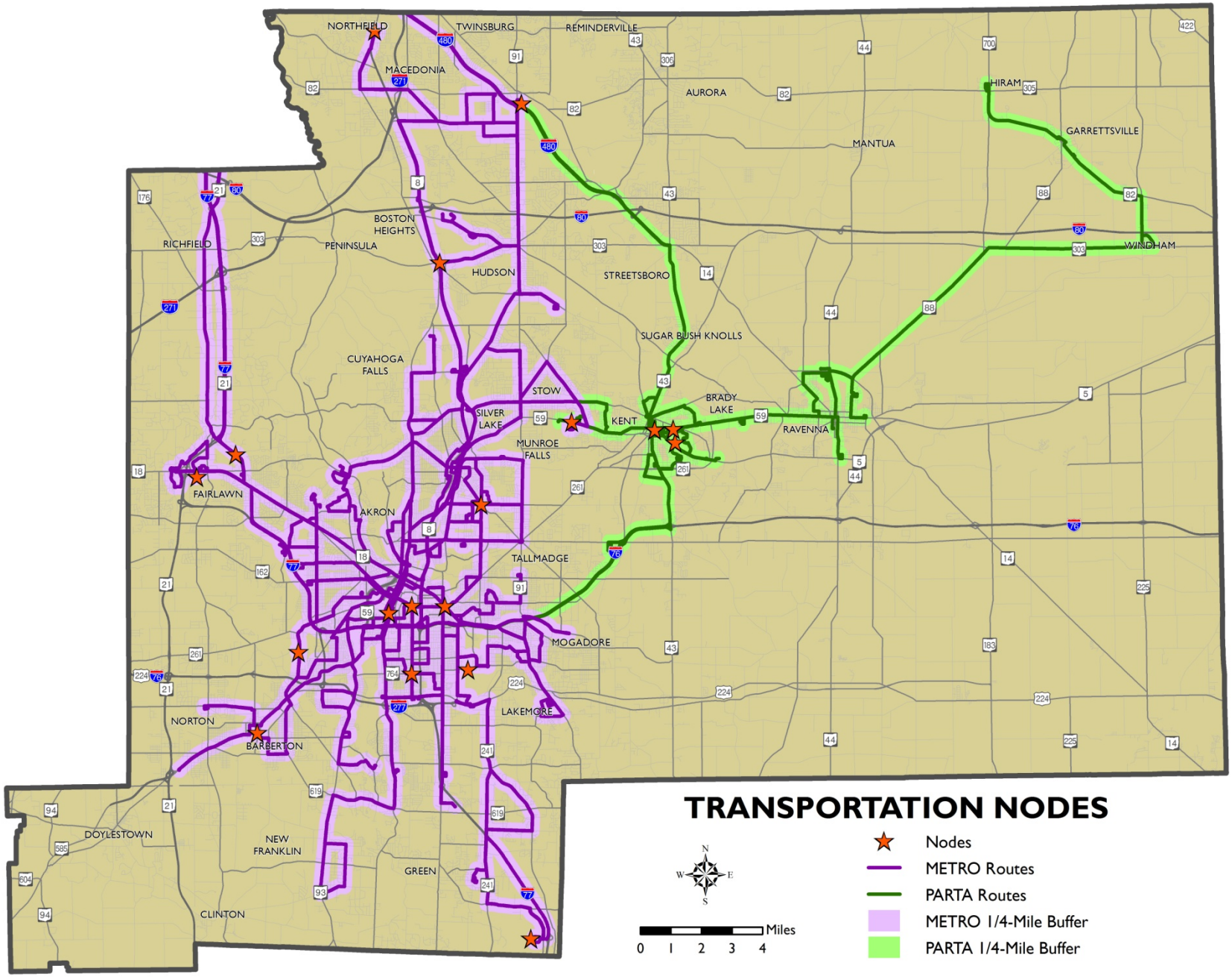
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Table 8: AMATS Regional Transportation Nodes

Transit Node	Location	City	Significance
Akron Fulton Airport-AKR	1600 Triplett Blvd	Akron	General and business airport. Close to numerous major employers and attractions
METRO Transit Center	631 S Broadway St	Akron	Downtown hub for fixed-route service. Amenities available for passengers. Connections to PARTA, Greyhound and SARTA (Stark County transit provider)
METRO Fixed-Route Transfer Area	Brown St & Wilbeth Rd	Akron	An important transfer point in south Akron, served by three fixed-routes
Rolling Acres Transit Center	Romig Rd (Former Rolling Acres Mall parking lot)	Akron	Served by two routes covering most of Akron's west side and Barberton
University of Akron Transfer Area	Brown & Exchange Streets at the UA Campus	Akron	A transfer point served by three routes, serving Downtown, south, east and west Akron
East Akron Transfer Area	S. Arlington, E. Exchange and E. Market Streets	Akron	The convergence of five METRO routes, serving numerous commercial, residential, employment and other areas
Chapel Hill Transfer Area	Chapel Hill Mall Area, primarily Buchholzer Blvd and Howe Ave	Akron/ Cuyahoga Falls	The convergence of five METRO routes, serving one of the region's most important commercial corridors. Commuter service to Cleveland
Downtown Barberton Transfer Area	2nd St NW and West Tuscarawas Ave	Barberton	Where both routes serving Downtown Barberton converge; an important commercial corridor
James Fisher Park and Ride Lot	438 Ghent Rd	Bath	Large, well-lighted parking area where METRO offers express service between Richfield and Downtown Akron, as well as commuter service to Cleveland
ODOT Park and Ride Lot	6100 Chittenden Rd	Boston Heights	Small parking area near the intersection of SR 8 and SR 303 offering convenient commuter service to Cleveland
Montrose Transfer Area	Flight Memorial & Brookwall Drives	Fairlawn	The convergence of two METRO lines, serving the largest commercial area in the AMATS region; Ample parking for park and ride commuting to Downtown Akron
Kent Central Gateway (opening 2013)	E. Erie and S. Depeyster Streets, Downtown Kent	Kent	Large, multi-modal transit center serving as the hub of all PARTA service; Serves Downtown Kent and Kent State University
Kent State Student Center Transit Center	Risman Drive	Kent	Large, sheltered bus stop in the heart of the Kent State campus, served by frequent, fare-free bus service
Kent State Midway Transit Center	Terrace Annex: Terrace Dr at (approx.) Midway Dr	Kent	Large, sheltered bus stop in the heart of the Kent State campus, served by frequent, fare-free bus service

Transit Node	Location	City	Significance
Akron - Canton Airport (CAK)	5400 Lauby Rd	Green	The region's rapidly growing passenger airport, providing non-stop service to many major cities
Summit Plaza Park and Ride	10392 Northfield Rd (near Rt 8)	Northfield	Park and ride facilities offering express service to Downtown Akron. Could play pivotal role upon completion of casino/entertainment complex at Northfield Park
Target Plaza - METRO/ PARTA Connection	4246 Kent Rd	Stow	One of the few points where passengers can transfer between PARTA and METRO services
Creekside Park and Ride	2690 Creekside Dr	Twinsburg	Parking area for access to METRO commuter service to Cleveland

Transportation Nodes Analysis

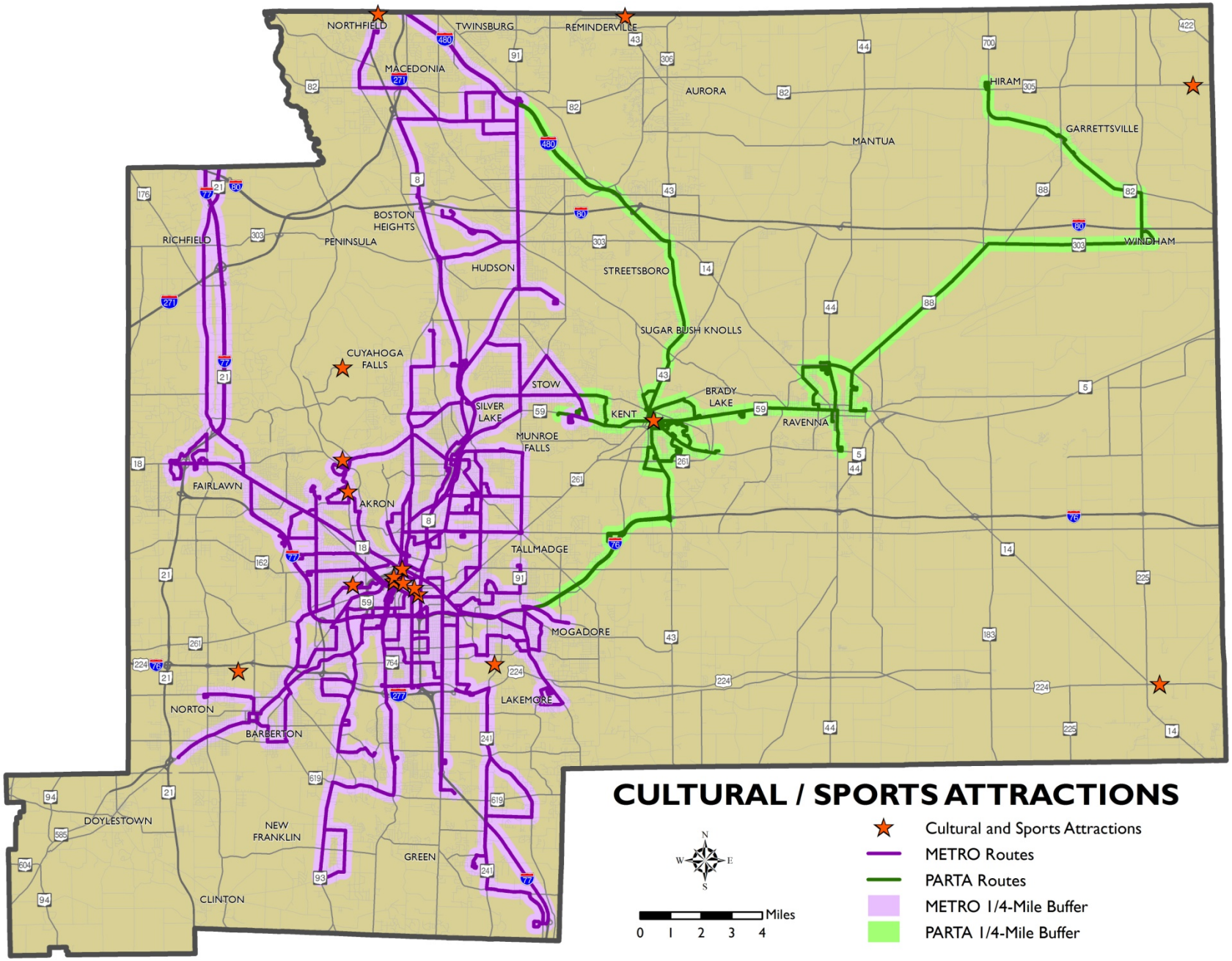
Unlike the other land use maps and analyses in this section, all of the transit nodes fall within the current transit network, as their existence on the network is one of the primary factors for their selection. That being said, it may still be possible to determine gaps in coverage, in the way of key omissions in service from nearby bus lines, as well as identifying nodes likely to warrant greater frequency in service than they are currently receiving, whether now or in the future.

The most significant service gap among transportation nodes is the Akron-Canton Airport (CAK). CAK has experienced rapid passenger growth, due to its convenient size, relatively low airfares, an increasing roster of service providers and number of non-stop destinations served. Although METRO serves CAK with its Green/Springfield (110) route, the route only stops at the airport five times each day: twice in the early morning, once at mid-day, and two closely-spaced stops in the early evening. In contrast, CAK's online departures schedule shows flights leaving every 10 to 40 minutes from 10:00 am through 8:00 pm. METRO's two morning arrivals (20% of its service) arrives two to three hours before the first daily flights arrive or depart. Likewise, bus service ends more than an hour before daily flights cease. This lack of frequency could be hampering the potential growth of this transit line, due to the lack of convenience posed to airline passengers. Another issue is that the 110 bus does not run on weekends.

Perhaps the reason that METRO's service to CAK is infrequent is that the Stark Area Regional Transit Authority (SARTA – the Canton area's bus transit provider) *does* provide hourly service to CAK throughout the day. This line, SARTA's "Canton/Akron Express" also serves the City of Green and the METRO transit center in Downtown Akron. One issue is that three of METRO's five daily buses to CAK arrive at the same time as SARTA's buses, which is an inefficient duplication of services. An optimal solution would be for METRO to provide reciprocal service, timing routes to alternate with SARTA's, thus providing bus service every half-hour and a high level of convenience to airline passengers.

Not so much a gap, but perhaps more of an inefficiency in the local transit infrastructure, is that two METRO park and ride lots are served by only one line, while additional routes pass nearby. The ODOT and Creekside park and ride lots are served only by the Northcoast Express (X60) route to Cleveland, yet the Northfield/Twinsburg (102) route passes very nearby. Re-routing the 102 bus to stop here would add a few minutes to the total route time, but could potentially add to the ridership, as well as improve the utilization of these park and ride assets.

Key Transit Gaps: Akron-Canton Airport (Green), service to park and ride lots.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DOYLESTOWN
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Cultural and Sporting Attractions Analysis

The large crowds and difficult parking situations that often accompany cultural center and sporting events lend themselves to transit service. In general, cultural and sporting event facilities in the AMATS region are served well by transit. In some cases, such as college football games, special transit service is offered for that specific event.

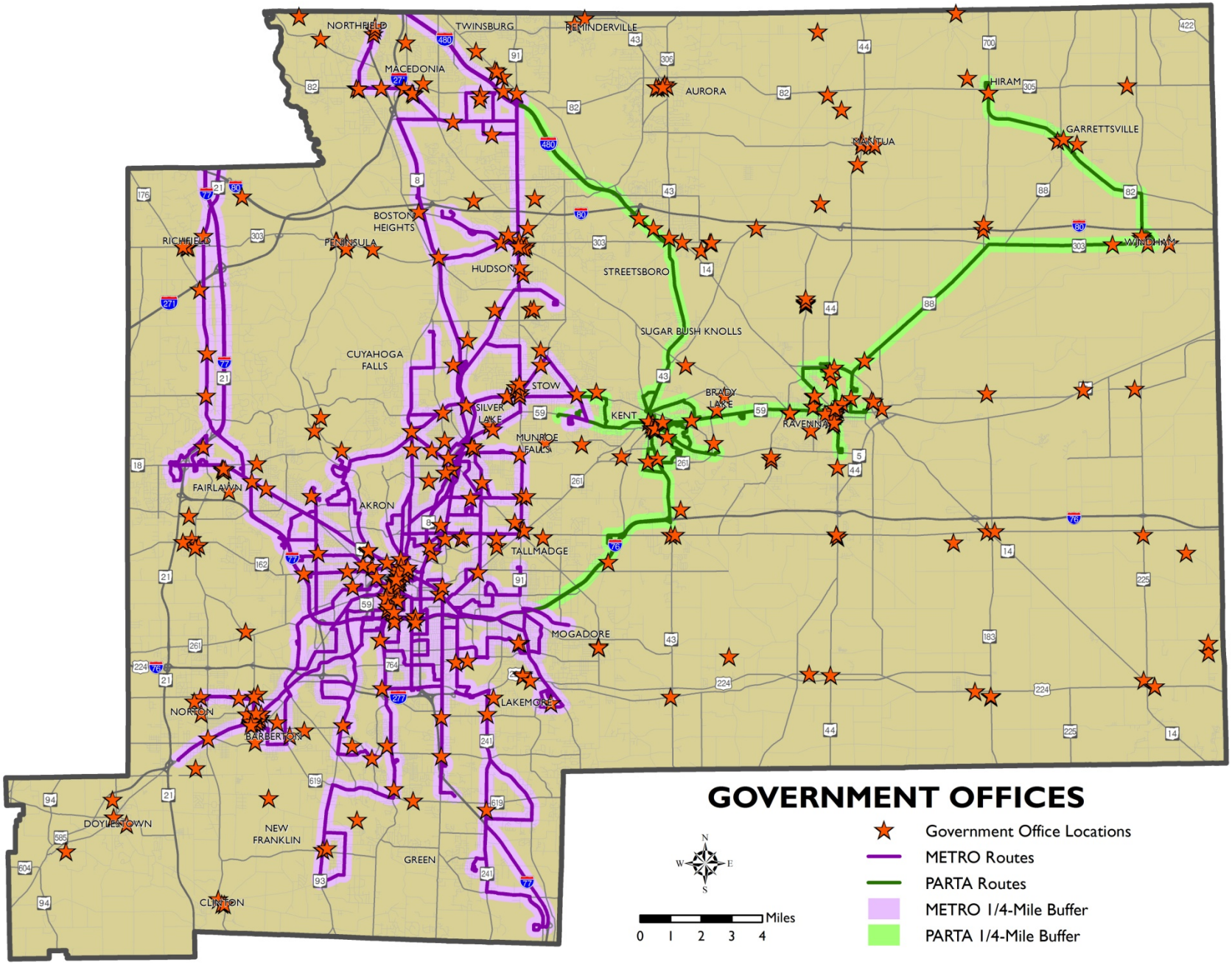
The entertainment venues *not* served by fixed-route transit are as follows:

- Barberton Speedway – an automobile race track in the Norton/Barberton area
- Blossom Music Center – a large, outdoor concert venue in Cuyahoga Falls
- Deerfield Raceway – a motorsports raceway in Deerfield Township
- Firestone Country Club – Home of the PGA's World Golf Championship Bridgestone Invitational – an annual golf tournament that welcomes an international audience
- Geauga Lake's Wildwater Kingdom – a large water park in Aurora
- Nelson Ledges Road Course – a motorsports race track in Nelson Township, near Garrettsville
- Northfield Park – a harness racing track in the Village of Northfield; potentially being redeveloped into a regional casino and entertainment venue

Of these facilities with no transit access, two are of special concern. Blossom Music Center hosts numerous popular music, Cleveland Orchestra and other music events each year. With a capacity of over 19,000 concert goers, events tend to gridlock area roads before and after every show. Even if area demographics do not allow for a permanent fixed-route bus line, special event shuttles leaving from key park and ride locations such as Downtown Akron, Downtown Cuyahoga Falls or the Merriman Valley could help eliminate a large amount of pre and post-concert congestion from area streets.

Also of concern is the lack of transit access to Northfield Park. Currently, METRO's Northfield/Twinsburg Express Route (Route 102) terminates approximately ½ mile south of the race track. Recently, it was announced that Northfield Park and Hard Rock International would collaborate to develop a $275 million casino, restaurant and entertainment complex on the existing property. If approved and developed, this entertainment complex would become a top regional attraction, and would generate heavy demand for transportation to the area. If feasible, it is recommended that the METRO route to Northfield be extended to the Northfield Park property, and run with more regularity than the existing express route does.

Key Transit Gaps: Blossom Music Center (Cuyahoga Falls) and Northfield Park Harness Racing Track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Government Buildings/Centers Analysis

Transit access to government buildings and centers is important for the fact that some of the primary reasons people visit these offices are related to the lack of personal transportation (i.e. BMV issues, traffic tickets, etc.) or for those with economic situations that cause them to be transit dependent (i.e. social services agency needs, disability services, centers for aging, unemployment services, etc.).

As the map indicates, the highest concentration of government services are located in the downtown cores of the AMATS region's larger cities (Akron, Barberton, Ravenna, etc.), most of which are well served by transit. There are a few clusters, however, with no transit access. The most notable of these are Aurora, Copley Township, Doylestown, Mantua and Streetsboro. The majority of offices in the previous map which are not served by transit are in rural townships and villages, none of which generally have a population density that could be realistically served by fixed-route transit.

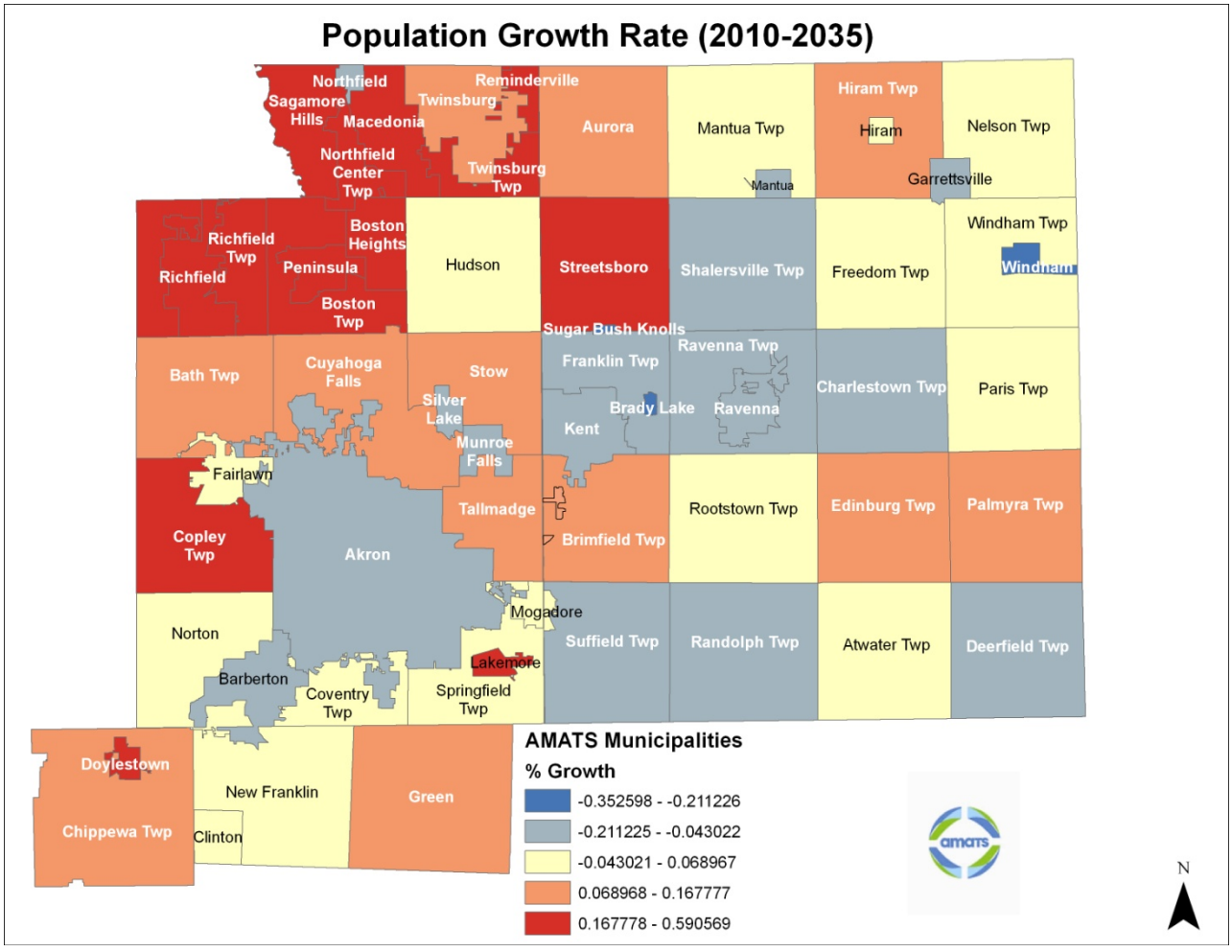
Key Transit Gaps: Aurora, Copley Township, Doylestown, Mantua Village and Streetsboro.

Projected Transit Need: Population Growth

In addition to identifying concentrations of people likely to use transit, as well as land uses likely to generate additional transit trips, it is important to forecast areas of strong population growth to estimate where demand for transit service may increase in the future.

The *AMATS 2035 Regional Population Forecast* projected the region's population through 2035. The report concluded that although older core cities such as Akron, Barberton and Ravenna are predicted to lose population over the forecasting period, moderate to strong growth is projected elsewhere in the AMATS region. Cities and townships lying to the north of Akron, particularly those adjacent to Cuyahoga County, are expected to see the strongest population growth.

When comparing these high-growth municipalities to METRO and PARTA's service areas, it's clear that transit service is sparse (and in many cases, completely absent) in these communities. The following map illustrates AMATS forecasted population growth through 2035 (still in draft form as of the time of this writing).



Chapter 4: Cross-County Service

Cross-County Service

The operating expenses of Ohio's public transportation systems are largely paid for through a transit dedicated fraction of the local county sales tax - a funding structure which to this point has encouraged agencies to provide service only within their own county borders. It is important to note that although the greatest demand for service will certainly lie within an agency's home county, people living outside the county borders likely pay a significant share of those sales tax revenues during their visits to the county. The primary charge of a transit agency is to assist anyone living, visiting or working in the county (and therefore, paying county sales tax) in getting where they need to go, and that may include those outside of the established county line.

The population growth map on page 45 shows a preponderance of the AMATS region's high-growth areas lying along the Cuyahoga, Stark and Medina County lines. In many instances, these communities function as bedroom communities lying just beyond a county line from important job centers. The U.S. Census Bureau provides journey-to-work data, which allows us to identify the demand for transportation between various communities. Based on this data, the following tables illustrate daily work commuting patterns between cities in the AMATS region, and those beyond the Summit, Portage and Chippewa Township borders. Once demand is determined, planners can make decisions as to whether transit connections might be warranted.

Table 9: Job Inflow/Outflow Totals - By County

County	Daily Commuters Entering *from* Other Counties	Daily Commuters Commuting *to* Other Counties	Workers Residing and Working Within the Same County
Portage	26,366	42,251	19,565
Summit	114,728	92,091	124,495
Cuyahoga	249,426	105,989	393,373
Medina	28,136	51,363	22,660
Stark	51,933	59,448	86,935

The above table illustrates the significance of surrounding counties' contributions to our local workforce. Nearly half of Summit County workers arrive each day from other counties. This trend is even more prominent in Portage County, where the *majority* of employees call other counties home. Portage and Summit Counties also export a significant number of workers daily, most often to adjacent counties (shown in gray, and included for purposes of comparison).

Areas Demonstrating Demand

The following two tables list the communities attracting the most daily commuters from outside the county, as well as those exporting the most workers daily to other outside counties.

Table 10: Significant Cross-County Trip Destinations

Community	Avg Daily Commuters *Arriving*
Akron	2,970
Canton	2,111
Wadsworth	1,400
Cleveland	1,307
Stow	1,300
Streetsboro	902
Cuy. Falls	735
Aurora	729

Table 11: Significant Cross-County Trip Origins

Community	Avg Daily Commuters *Leaving*
Kent	2,066
Twinsburg	1,400
Green	1,373
Streetsboro	1,308
Wadsworth	1,126
Solon	1,104
Aurora	838
Ravenna	689
Canton	652
Medina	538

Note that the above trips do not represent *all* trips to or from the respective communities, but are limited to communities showing the highest prevalence of cross-county travel, according to census data. That being said, it is of significance that certain communities outside of the AMATS region are competitive with Cleveland in their demand for daily work commuters. Canton (Stark County) and Wadsworth (Medina County) both draw a large number of commuters from the AMATS region. Akron and Stow are important employment destinations for workers outside of Summit County (which would include those commuting from Portage County). Likewise, a significant portion of the populations of Kent, Twinsburg, Green and Streetsboro leave their home counties daily to work in adjacent ones.

One of the primary purposes of an analysis such as this one is to identify communities showing strong reciprocity in their demand for daily workers. The analysis shows that there are strong workforce ties between the communities of Akron and Canton, Wadsworth and Akron, Solon and several communities in the northern portion of the AMATS region, and strong ties between Kent/Ravenna and several central Summit County communities. Through an analysis of the Census' journey-to-work data, several sets of contiguous communities show strong relationships to one another, and demonstrate the types of daily commuting patterns that could lend themselves to popular fixed-route, cross-county commuter bus/rail lines. The following table illustrates these potential cross-county commuter service lines:

Table 12: Potential Cross-County Commuter Routes
(Flow in order of highest demand)

						Potential Daily In-Bound	Potential Daily Reverse Commute
Aurora	Streetsboro	Hudson	Stow	Cuy. Falls	Akron	10,479	9,834
Akron	Cuy. Falls	Stow	Kent	Ravenna		9,829	8,210
Akron	Green	N. Canton	Canton			6,242	2,428
Akron	Barberton	Norton	Wadsworth			5,993	3,222
Kent	Tallmadge	Akron				2,426	2,138
Solon	Aurora	Streetsboro				1,336	288
Macedonia	Twinsburg	Aurora	Streetsboro			1,334	677
Green	Massillon					343	N/A
Medina	Akron					299	N/A

This planning level analysis does not attest to the economic feasibility of the proposed commuter routes shown above; it simply illustrates the important economic and employment relationships between communities within and just beyond the AMATS region's borders. The relationships between Akron and Cleveland, and Kent and Akron have been well established, and are currently served by METRO and PARTA commuter lines. The intent of the above analysis is to bring attention to relationships at a smaller scale – communities that are in some cases mere feet apart (i.e. Twinsburg and Solon), yet public transportation between them is entirely absent. The above relationships may warrant a more detailed feasibility analysis, and if practical, then subsequent consideration for service.

The map on page 51 illustrates the potential cross-county commuter routes proposed in Table 12.

Areas Demonstrating Lack of Demand

The identification of areas demonstrating a lack of cross-county transit service demand is just as important as identifying those where it *does* exist. No one benefits from wasting limited resources on routes that few, if anyone, desire. The analysis of the U.S. Census' journey-to-work data revealed certain areas of very weak interrelationships (at least in regards to daily work commuting patterns), and therefore cross-county service may not be warranted at this time. Some of these key areas include:

- Cleveland/Cuyahoga County *to* AMATS Counties – at the county level, there are relatively few people commuting to Summit or Portage counties. Cleveland and its Cuyahoga County suburbs (with the notable exception of Solon) seem to interact independently.

- Akron City to Portage County – Although a number of Akronites commute to Medina and Stark counties, census data indicates that there is not a lot of commuting to neighboring Portage County. Akronites are largely employed within Akron or Summit County.

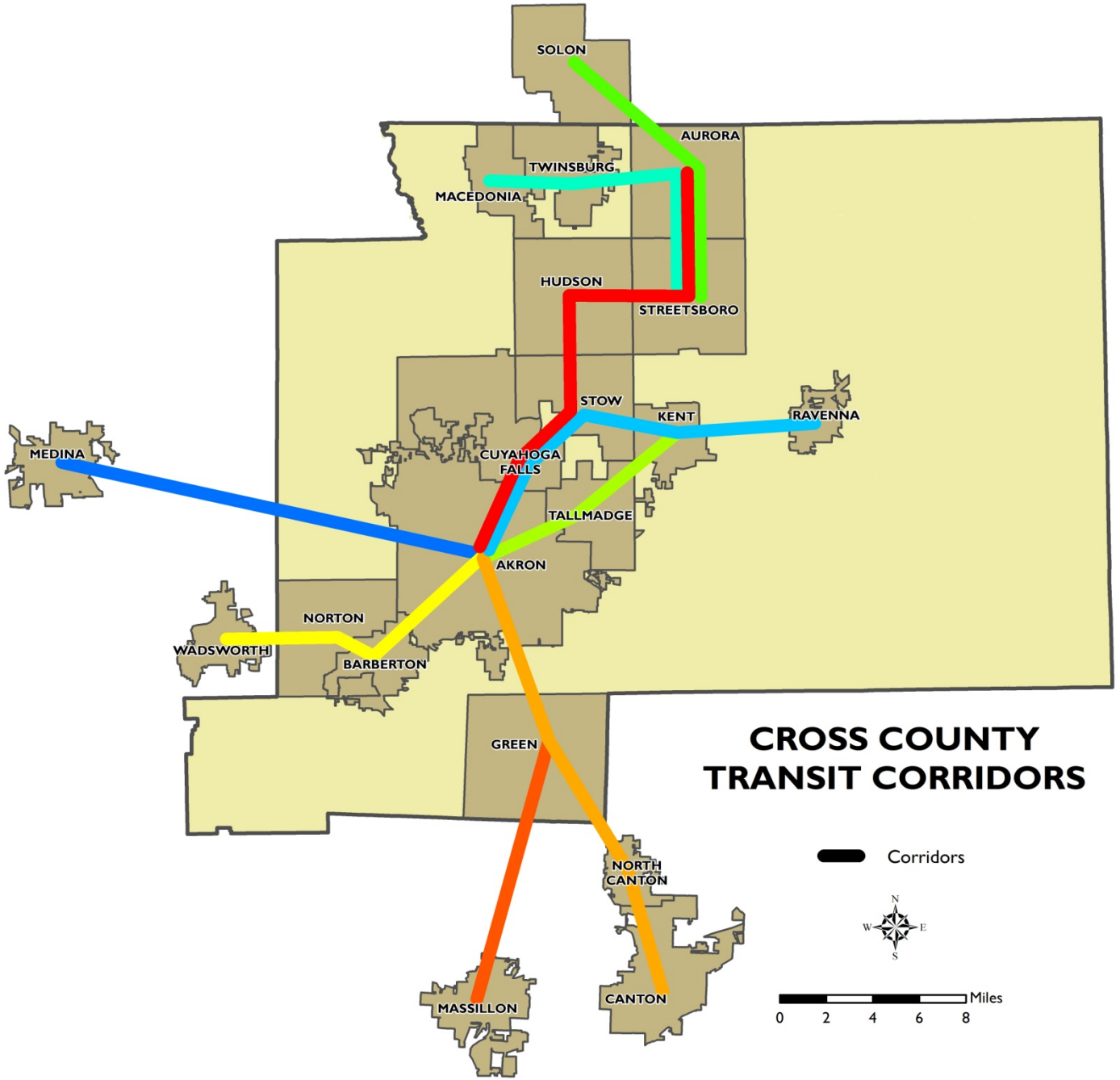
- Chippewa Township/Doylestown – Although 17.6% and 16.4% (respectively) of daily work trips from this area leave Wayne County for other counties, the actual number of trips is very small. Transit service to these municipalities would not be cost effective, and therefore, is not recommended at this time.

- Mahoning/Trumbull Counties – a study of census data shows that there are only a handful of daily work commutes between these Eastern Ohio counties and the AMATS region. Regular commuter service does not appear to be in demand, and would not be cost effective.

The demand for a range of cross-county transit service seems clear. And in several instances, local transit agencies are already providing it. METRO, PARTA and the Stark Area Regional Transit Authority (SARTA – the public transportation provider for Canton/Stark County) provide limited express services that cross county lines:

- METRO Northcoast Express – two lines connecting Downtown Akron to Downtown Cleveland
- PARTA Cleveland Express – service between Kent and Downtown Cleveland
- PARTA Akron Express – service between Kent and Downtown Akron
- SARTA Canton/Akron Express – connects Downtown Canton to Akron-Canton Airport and Downtown Akron

These cross-county connections provide an excellent opportunity for long-distance travel throughout the region, and most of them have experienced steady ridership growth. At this time, cross-county service is infrequent, with no more than a handful of round-trips each business day, and no weekend service available.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Cross-County Service and Choice Riders

The primary use of cross-county transit service is likely to be for daily work commutes, but is not limited to that purpose. Regular transit service with effective connections will allow for residents of Summit and Portage Counties to visit the abundant medical, cultural, entertainment and recreational attractions in Cleveland, Canton and portions of Medina County. Likewise, business owners in our region could enjoy an increased customer base arriving from these counties.

A large percentage of riders using existing cross-county service to Cleveland and Akron are choice riders – those who have access to a personal automobile, but choose transit for its affordability, convenience, and numerous other reasons. If kept affordable and running at an acceptable frequency throughout the day, evenings and weekends, enhanced services could attract further choice riders to the attractions mentioned above. Cleveland, in particular, offers a number of major attractions that, if acceptable transit options were offered, could allow for significant growth in ridership. Under current conditions, the *only* option for a resident of the AMATS region to attend an evening or weekend sporting event, concert, or other major event in Cleveland is to drive to the area.

In addition to the traditional attractions offered in the Cleveland area, the newly opened downtown casino (and potentially another in the Village of Northfield) could prove to be a major generator of transit trips. Large charter buses are a common sight at essentially any casino, providing concrete evidence that the demand for transit exists. Concerns regarding limited and expensive parking around the casino have already surfaced in the local media and discourse, further adding to the attractiveness of bus service to this important regional attraction.

Although the primary goal of our local transit agencies should be to provide affordable, efficient and convenient transportation services to their existing ridership base, many of the greatest potential benefits of transit service will be realized through growth in choice ridership. Some of these benefits include:

- Ridership Growth – as alluded to, transit dependent riders choose transit out of necessity, and provide a stable or slow growth ridership base. Attracting and retaining choice riders is the ticket to rapid ridership growth.

- Economic – Attracting and retaining choice riders is an effective way of increasing farebox revenue, which in turn, allows transit agencies to provide even more service, thanks to the corresponding increase in operating revenue. In addition, choice riders are likely to have higher incomes than transit dependent individuals, and are more likely to utilize transit options with necessarily higher fares (i.e. commuter buses or passenger rail, which often charge higher base fares than standard local bus services do).

- Congestion Alleviation – Since choice riders are by definition those who have access to personal vehicles, every choice rider drawn to transit takes essentially one car off of local streets and highways.

- Environmental – Each vehicle taken off of area roads leads to incremental reductions in emissions related pollution, noise pollution and fossil fuel consumption.

Challenges to Cross-County Service

We know that in Northeast Ohio, a densely populated region with demonstrated interrelationships between several urban centers, demand for cross-county service is salient. Census data and sustained ridership on existing cross-county commuter routes provide tangible evidence of the demand for these services.

The primary setback to cross-county travel is that transit operations are largely funded through local county sales taxes. The counties in the AMATS region have proven very supportive of local transit operations through voter approval of sales tax increases dedicated to transit, even during periods of significant financial difficulty. The above tables illustrate the heavy volume of travel between the counties in and around the AMATS region, and increasing cross-county transit service should be an important goal for local transit agencies.

Although each county generally pays for its own transit, the volume of cross-county travel seems to warrant the potential for in-kind, reciprocal cross-county service. For example, tax payers in Summit County could construe any service that METRO would provide in Cuyahoga County as a leakage of funding from their home county. However, if Cleveland's GCRTA were to provide service of equal value within Summit County, the expenditures are balanced. This scenario is complicated by the findings of the previous analyses (pages 47-50), which show many Summit and Portage county residents commuting to Cuyahoga County and/or Cleveland, yet very few Cuyahoga County/Cleveland residents commuting to the AMATS counties. In cases where the proportion of commuters differs substantially from one county to another, a weighting system could be used in the determination of equitable in-kind service. Reciprocal service between Cleveland's GCRTA and METRO/PARTA seems most warranted in the Twinsburg/Aurora/Solon vicinity.

We must remember that those paying sales taxes, so important to transit operating revenue, are often from other counties. Although it cannot be precisely calculated, one may infer that Summit/Portage county residents pay a large amount of sales tax in Cuyahoga, Stark and Medina counties. To the many taxpayers who travel across county lines for work trips, reciprocal service enhances the value of their transit investment.

AMATS feels it is important for local transit agencies and municipal governments to create mutually beneficial solutions to provide cross-county transit service. The benefits of such service will result in convenient commuting, congestion reduction and the maximum leveraging of transit allocated resources. Demonstrated successes in coordinated, cooperative transit funding might also lead to additional state and/or federal assistance.

AMATS, many of its member communities and several other Northeast Ohio communities and organizations joined forces in January 2011 to form the Northeast Ohio Sustainable Communities Consortium (NEOSCC). It is funded by a $4.25 million grant from, and overseen by, the U.S. Departments of Transportation, Housing and Urban Development and the Environmental Protection Agency. The primary task of the organization is to develop a master plan for the twelve county Northeast Ohio region, with an emphasis on coordinated and integrated planning in regards to the region's land use, transportation, economic and workforce development and infrastructure investments. NEOSCC has devoted an entire work stream to the creation of goals and policies to facilitate transportation (both public and private) throughout the Northeast Ohio region. NEOSCC has provided an excellent forum for the discussion of cross-county transit issues, and is working to provide solutions capable of reaching fruition.

Cross-County Demand-Response Service

Although the existing demand-response services offered by METRO and PARTA (see pages 27-28 for more details) stay within the agencies' home counties, the two agencies will be meeting with other Northeast Ohio transit agencies and AMATS to discuss the potential to coordinate and offer these services across county borders. Although services have to be scheduled in advance, and are therefore not an ideal substitute to fixed-route, cross-county service, such a service provides an excellent "foot-in-the-door" solution to the overall expansion of cross-county transit service. Its successes would further illustrate the need for expanded service, and any complications would serve as valuable learning experiences

Chapter 5: Key Transit Corridors and TOD Nodes

Putting it all Together: Corridors, Nodes and Gaps

Key Transit Corridors and Transit Oriented Development Nodes

Through the previous analyses, we have identified where those most likely to use transit live, as well as the geographical distribution of their likely destinations. We have also projected where these trip origins and destinations are likely to grow in the distant future. By tabulating this information, one can identify key transit corridors, or areas of priority for increased transit service.

As a result of the current economic downturn, transit funding is limited, and is likely to remain that way for some time. The identification of transit corridors is essential in best determining where to concentrate this limited funding. The concentration of frequent, convenient service in key corridors will help build transit service from the ground up, leading to an environment and ridership culture that may work to increase transit feasibility for other areas that we may not have considered previously.

Transit corridors not only guide us in the investment of transit service and infrastructure - when implemented correctly, they can guide overall community development and investment. Popular transit corridors and the heavy foot traffic they generate create a perfect opportunity to develop complementary land uses (for example: residential, retail, office, etc.) within close proximity to each other. Developments of this type are known as “mixed-use developments” in the planning vernacular. Mixed-use developments spurred by, and complementary to, transit corridors are also known as transit oriented developments (TOD).

There are a number of benefits to transit oriented development. Generally compact in nature, these developments are designed to be comfortable for non-motorized transportation, such as walking or bicycling. One can easily walk from their home to work, dine or simply relax in an aesthetically pleasing green space. The close proximity of many of one’s daily needs, combined with readily available transit service, can greatly reduce one’s reliance on the use of their automobile.

The automobile is fully accommodated for in transit oriented development. It simply receives a slightly subordinate status to walking (for example, parking is located behind the buildings, rather than in front of them); the trade-off being attractive, livable communities that generally maintain their property values and sense of community. Transit oriented development comes in many varieties: from the streetcar suburbs of our urban past, to the current efforts in urban design.

Much of the existing development in the AMATS region was designed with the automobile in mind, and the transit corridors identified in the next section are no exception. Although the style of TOD used by some cities is not possible (nor appropriate) in some portions of these corridors, AMATS recommends that at key nodes (major intersections, concentrated areas of commerce, etc.), communities in the region should consider changes to zoning that would allow for higher density, mixed-use development. New construction, ownership changes and other key transition periods could provide the opportunity to retrofit existing developments at these nodes to better accommodate transit and pedestrians.

The map on page 61 identifies the key transit corridors within the AMATS region, as well as potential nodes/segments where TOD principles should be considered by local communities. Appendices A and B illustrate a variety of transit oriented development styles and treatments that can occur within mixed-use, transit-friendly environments – both best practices used by other cities, as well as existing examples within our own region. Additional information about TOD, mixed-use development and livable communities may be found in AMATS' *Connecting Communities* report (see pg. 39 of that report), which may be viewed at www.amatsplanning.org.

Identification of AMATS Key Transit Corridors and TOD Nodes

Table 13: Key Transit Corridors

#	Corridor	From	To	Affected Communities
1	Market Street	Crystal Lake Rd (Bath Twp)	S. Arlington St (Akron)	Akron, Bath Twp, Copley Twp, Fairlawn
2	S. Arlington St	SR 619 (E. Turkeyfoot Lake Rd) (Green)	SR 18 (E. Market St) St) (Akron)	Akron, Green, Coventry Twp, Springfield Twp
3	SR 91	US 224 (E. Waterloo Rd) (Springfield Twp)	Solon Rd (Solon)	Akron, Hudson, Lakemore, Munroe Falls, Springfield Twp, Stow, Tallmadge, Twinsburg Twp, Twinsburg, Solon
4	Main Street/State Rd	W. Waterloo Rd (Akron)	Steels Corners Rd (Cuyahoga Falls)	Akron, Cuyahoga Falls
5	Kenmore Blvd/ Wooster Rd N.	W. Tuscarawas Ave (Barberton)	METRO Transit Center (Akron)	Akron, Barberton
6	SR 82	Olde 8 Rd/Brandywine Rd (Northfield Center)	SR 306 (N. Chilicothe Rd) (Aurora)	Aurora, Macedonia, Northfield Center Twp, Twinsburg, Twinsburg Twp
7	Graham Rd/ Fairchild Ave	State Rd (Cuyahoga Falls)	Kent Central Gateway	Cuyahoga Falls, Kent, Silver Lake, Stow
8	SR 59	Broad Blvd (Cuyahoga Falls)	SR 44 (Ravenna Twp)	Cuyahoga Falls, Kent, Franklin Twp, Ravenna, Ravenna Twp, Silver Lake, Stow
9	SR 14	SR 82 at SR 91 (Twinsburg)	N. Chestnut at SR 59 (Ravenna)	Ravenna, Ravenna Twp, Streetsboro, Twinsburg, Twinsburg Twp

Table 14: Potential TOD Nodes

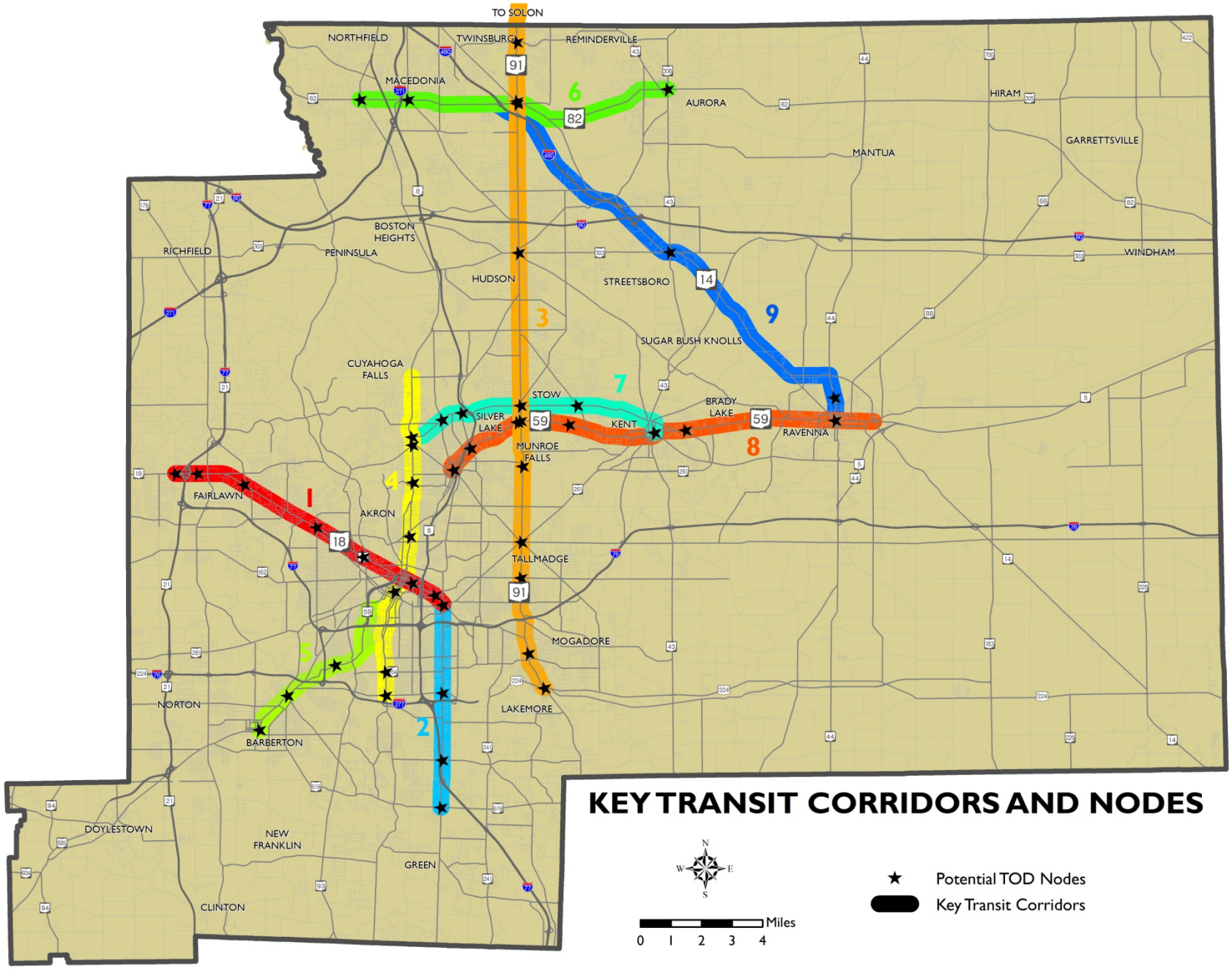
Node ID	Intersection/Segment	Community	Ridership Attractions/Generators
#1: Market Street Corridor			
1A	Crystal Lake Rd/Montrose W. Ave at SR 18	Bath and Copley Twps	Medical Center, Restaurant/Retail, Office, Residential
1B	Flight Memorial Pkwy at SR 18	Bath and Copley Twps	Major Commercial/Retail Hub
1C	Ghent Rd at SR 18	Fairlawn	Commercial/Retail, Medical, Hotel, Residential
1D	S. Hawkins Ave/W. Exchange St at SR 18	Akron	Dense Residential, Commercial, Park Space
1E	Highland Square: SR 18 from Portage Path to Merriman Rd	Akron	Existing Mixed-Use Community: Retail/Commercial, Entertainment, Residential, Educational
1F	Downtown Akron: SR 18 from Main St SR 8	Akron	Existing Mixed-Use Community: Retail/Commercial, Employment, Residential, Educational, Entertainment
1G	University Park: SR 18 from SR 8 to S. Arlington St	Akron	Medical Center, University Area, Retail, Residential
#2: South Arlington Street Corridor			
2A	SR 619 (E. Turkeyfoot Lake Rd) at S. Arlington Rd	Green	Office, Retail, Developable Land
2B	Kilian Rd at S. Arlington Rd	Coventry and Springfield Twps	Employment, Retail/Commercial, Medical, Residential
2C	E. Waterloo Rd at S. Arlington Rd	Akron and Coventry Twp	Employment, Educational, Retail/ Commercial, Residential
2D	E. Exchange St/E. Market St at S. Arlington St	Akron	Commercial/Retail, Employment, Educational, Residential
#3: State Route 91 Corridor			
3A	US 224 (E. Waterloo Rd) at SR 91	Lakemore, Springfield Twp	Retail/Commercial, Residential
3B	Ellet: from Albrecht Ave to Wedgewood Dr	Akron	Retail/Commercial, Residential
3C	Eastwood Ave at SR 91	Akron and Tallmadge	Retail/Commercial, Residential, Park
3D	Tallmadge Circle	Tallmadge	Retail/Commercial, Government, Park, Residential, Medical/Office
3E	Downtown Munroe Falls: from S. River Rd to Munroe Falls Ave at SR 91	Munroe Falls	Retail/Commercial, Government, Residential, Office, Park
3F	SR 59 (Kent Rd) at SR 91	Stow	Retail/Commercial, Library, Office/Medical
3G	Graham Rd at SR 91	Stow	Government, Commercial/Retail, Residential
3H	Downtown Hudson: Aurora St at SR 91	Hudson	Commercial/Retail, Government, Park, Office, Residential
3I	Downtown Twinsburg: Ravenna Rd at SR 91	Twinsburg	Commercial/Retail, Government, Park, Office, Residential
3J	Glenwood Dr at SR 91	Twinsburg	Commercial/Retail, Office/Medical, Residential
3K	Bainbridge Rd at SR 91	Solon	Commercial/Retail, Park, Government

Table 14: Potential TOD Nodes

Node ID	Intersection/Segment	Community	Ridership Attractions/Generators
#4: Main Street/State Road Corridor			
4A	Waterloo Rd at S. Main St	Akron	Commercial/Retail, Residential
4B	Wilbeth Rd at S. Main St	Akron	Employment, Retail, Residential, Park, Entertainment
4C	Downtown Akron: S. Main St from Bartges St to North St	Akron	Existing Mixed-Use Community: Commercial, Office/Medical, Park, Government, Residential, Educational
4D	North Hill: N. Main St from E. Tallmadge Ave to E. Cuyahoga Falls Ave	Akron	Existing Mixed-Use Community: Commercial/Retail, Residential, Library
4E	South State Rd: from Grant Ave to Broad Blvd	Cuyahoga Falls	Retail/Commercial, Residential, Medical
4F	Portage Trail at State Rd	Cuyahoga Falls	Retail/Commercial, Residential, Park, Educational, Religious Institutions
#5: Kenmore Boulevard/Wooster Road North Corridor			
5A	Downtown Barberton: W. Tuscarawas Ave at Wooster Rd N.	Barberton	Existing Mixed-Use Community: Park, Retail/Commercial, Employment, Government, Residential, Educational
5B	W. State St at Wooster Rd N.	Barberton	Retail/Commercial, Towpath Trail, Employment, Residential, Educational
5C	Kenmore Town Center: from 17th St to 11th St	Akron	Existing Mixed-Use Community: Retail/Commercial, Residential, Educational
#6: State Route 82 Corridor			
6A	Northfield Center Town Center: Olde 8 Rd/ Brandywine Rd at SR 82	Northfield Center Twp	Retail/Commercial, Park, Government, Educational, Residential
6B	Valley View Rd at SR 82	Macedonia	Retail/Commercial, Office/Medical, Government
6C	Downtown Twinsburg: SR 91 (Darrow Rd) at SR 82	Twinsburg	Retail/Commercial, Educational, Park, Government, Residential
6D	SR 306 (N. Chilicothe Rd) at SR 82	Aurora	Retail/Commercial, Residential, Park, Educational

Table 14: Potential TOD Nodes

Node ID	Intersection/Segment	Community	Ridership Attractions/Generators
#7: Graham Road/Fairchild Avenue Corridor			
7A	State Rd at Graham Rd	Cuyahoga Falls	Retail/Commercial, Residential, Park
7B	Wyoga Lake/Oakwood Dr at Graham Rd	Cuyahoga Falls/Stow	Retail/Commercial, Government, Residential
7C	Hudson Dr at Graham Rd	Cuyahoga Falls/Stow	Retail/Commercial, Residential, Office
7D	SR 91 (Darrow Rd) at Graham Rd	Stow	Retail/Commercial, Government, Park, Residential
7E	Fishcreek Rd at Graham Rd	Stow	Retail/Commercial, Government, Park, Educational, Residential
7F	Kent Central Gateway: SR 59 at Erie St	Kent	Existing Mixed-Use, Multi-Modal District: Retail/Commercial, Educational, Park, Government, Entertainment, Residential
#8: State Route 59 Corridor			
8A	Downtown Cuyahoga Falls: Front St at Broad Blvd	Cuyahoga Falls	Office/Employment, Government, Park, Educational, Retail/Commercial, Entertainment, Residential
8B	Hudson Dr at SR 59	Cuyahoga Falls	Retail/Commercial, Office/Medical, Park, Residential
8C	SR 59 (Kent Rd) from Sycamore Dr to SR 91	Stow	Retail/Commercial Corridor, Office, Library, Residential
8D	Stow Target Plaza: 4200 Kent Rd	Stow	Retail/Commercial, Residential, Multi-Modal Connection
8E	Kent Central Gateway: SR 59 at Erie St	Kent	Existing Mixed-Use, Multi-Modal District: Retail/Commercial, Educational, Park, Government, Entertainment, Residential
8F	Kent State Campus: SR 59 from S. Lincoln St to SR 261	Kent	Educational, Retail/Commercial, Park, Employment, Residential
8G	Downtown Ravenna: N. Chestnut St at SR 59 (Main St)	Ravenna	Existing Mixed-Use Community: Retail/ Commercial, Employment, Government, Residential
#9: State Route 14 Corridor			
9A	Downtown Twinsburg: SR 91 (Darrow Rd) at SR 82	Twinsburg	Retail/Commercial, Educational, Park, Government, Residential
9B	SR 43/SR 303 at SR 14	Streetsboro	Retail/Commercial, Medical, Employment, Residential
9C	N. Chestnut St at Chestnut Hill Dr	Ravenna	Medical, Employment, Educational, Office
9D	Downtown Ravenna: N. Chestnut St at SR 59 (Main St)	Ravenna	Existing Mixed-Use Community: Retail/ Commercial, Employment, Government, Residential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HIRAM
GARRETTSVILLE
MANTUA
BOSTON HEIGHTS
RICHFIELD
PENINSULA
HUDSON
STREETSBORO
WINDHAM
SUGAR BUSH KNOLLS
CUYAHOGA FALLS
STOW
SILVER LAKE
KENT
BRADY LAKE
RAVENNA
MUNROE FALLS
FAIRLAWN
AKRON
TALLMADGE
MOGADORE
NORTON
LAKEMORE
BARBERTON
DOYLESTOWN
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KEY TRANSIT CORRIDORS AND NODES
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Potential TOD Nodes
Key Transit Corridors

Chapter 6: Key Transit Gaps

The Identification of Key Transit Gaps

Using the above analyses, we can identify gaps in the current transit system. From AMATS' regional perspective, "gaps" may generally be defined as communities with concentrated populations, land uses and attractions which could support transit service, yet are locations where fixed-route transit service is either non-existent or limited.

These gaps do not necessarily mean that transit service is automatically assumed to be feasible, nor do we propose specific routes or locations to address the gaps. Each transit provider should complete a more detailed economic assessment of these areas to make those specific determinations. Rather, these gaps are included to bring attention to areas that correlate a lack of service with transit ridership potential.

Table 15: AMATS Transit System Gaps

Community	Preliminary Warrants for Increased Transit Service	Possible Route(s)
Aurora	Low Income Population, Minority Population, General Unserved Population, Job Concentration, Government Centers, Population Growth	SR 82 (Garfield Rd), SR 43 (N. Aurora Rd/Chilicothe Rd), SR 306 (Chilicothe Rd)
Copley Twp	Elderly Population, Low Income Population, Minority Population, General Unserved Population, Job Concentration, Schools, Government Centers, Population Growth	SR 162 (Copley Rd) S. Cleveland-Massillon Rd
Green	Elderly Population, Low Income Population, Job Concentration, Airport Service, Population Growth	S. Arlington Rd SR 241 (Massillon Rd) SR 619 (E. Turkeyfoot Lake Rd) Lauby Rd (CAK Airport)
Mantua	Elderly Population, Low Income Population, Job Concentration, Schools, Government Centers	SR 44 (Painesville Ravenna Rd) High St/Mennonite Rd
Streetsboro	Elderly Population, Low Income Population, Minority Population, General Unserved Population, Job Concentration, Government Centers, Population Growth	SR 14 (Cleveland East Liverpool Rd) SR 303 (Streetsboro Rd) SR 43 (Cleveland Canton Rd)
Twinsburg	Low Income Population, Minority Population, General Unserved Population, Job Concentration, Park and Ride, Population Growth	SR 82 (Aurora Rd) SR 91 (Darrow Rd) Ravenna Rd

Chapter 7: Transit Recommendations

Recommendations

The purpose of the AMATS Transit Plan is to aid in the development of the most convenient, efficient and cost effective public transit network possible for our region. Upon full consideration of the previous analyses, as well as the informative input of local transit agencies, community officials and area residents, AMATS presents the following list of recommendations to accomplish this task.

To assist in the assigning of responsibility for each recommendation, they have been divided into three categories, based on the general jurisdiction that each would tend to fall under:

· Regional-Level Recommendations

· Municipality-Level Recommendations

· Transit Agency-Level Recommendations

Regional-level recommendations are quite broad in their scale, and would generally be best implemented only after dialogue between all stakeholders, which could include the transit agencies, local officials, local residents and other concerned parties.

Municipality-level recommendations would generally include changes to local zoning ordinances, which only the local legislative body would have the authority to address.

The majority of recommendations in this plan are at the transit agency level. They primarily involve increasing or expanding transit services, most of which would be implemented from the operating budgets of the two area transit agencies. The majority of the federal funds that AMATS allocates to METRO and PARTA may only be used for capital expenditures, *not* for operating expenses. Therefore, the transit providers must carefully study the feasibility of each proposed recommendation prior to implementation.

Regional Recommendations

RECOMMENDATION 1

Reduce/Eliminate Service on Low-Ridership Lines

In an era of limited funding for public transit services, it is of utmost importance that METRO and PARTA focus their assets on areas in which they will get the most “bang for their buck”. Feasibility studies should be conducted for fixed-route transit lines that are showing very low ridership numbers and are not growing at a level to justify their continued operation.

As was demonstrated during PARTA’s recent attempt to eliminate its Raven line, at least some residents rely greatly on *any* transit line, even those with weak ridership statistics. The outright elimination of a line is extremely difficult, and is certain to be met with at least some level of public outcry. PARTA set an excellent example of the solutions that can be worked out when the transit agency communicates with its customer base - instead of outright elimination of the line, service was reduced to an amicable level, and a common ground solution was found.

PARTA's example of leadership and collaboration should be replicated for similar low ridership/low growth transit routes to establish the most efficient system possible.

RECOMMENDATION 2

Policy Discussion Regarding New Cross-County Transit Service

Public transportation in Ohio has historically been funded through a dedicated portion of the county sales tax. Because of this funding structure, there has been a long-standing culture of only operating services within an agency's home county.

The U.S. Census' journey to work data confirms the AMATS region's interconnectedness with several key communities beyond the Summit and Portage county borders. Travel between various communities in Portage and Summit Counties (i.e. Stow to Kent, Streetsboro to Akron, etc.) shows strong demand, as does travel between certain AMATS communities and Canton, Medina and Solon.

It is recommended that transit agencies from all throughout Northeast Ohio and representatives from the communities driving the demand for cross-county transit service (i.e. population centers, job centers, entertainment destinations, etc.) engage in a policy discussion as to how best to provide reciprocal transit service where it is in demand and feasible.

Cross-county service is a key strategy to growing overall transit ridership and a positive transit culture in our region. Please see pages 47-54 in the plan for a detailed analysis of cross-county transit service possibilities.

KEY CROSS-COUNTY CORRIDORS

- Aurora - Streetsboro - Hudson - Stow - Cuyahoga Falls – Akron
- Akron - Cuyahoga Falls - Stow - Kent – Ravenna
- Akron - Green - North Canton – Canton
- Akron - Barberton - Norton – Wadsworth
- Solon - Aurora - Streetsboro

Municipality Recommendations

RECOMMENDATION 3

Establish Transit Oriented Development/Design Codes at Key Transit Nodes

Certain intersections or neighborhoods are particularly viable for frequent transit service. Transit stops with characteristics such as high population and job densities, proximity to popular destinations and overall neighborhood vitality may be greatly enhanced through the establishment of transit oriented development/design (TOD) codes.

TOD codes are typically located within a municipality's zoning, development or urban design ordinance, and usually established as an overlay district on the existing zoning map. These codes encourage a variety of design treatments to create pedestrian, bicycle and transit friendly neighborhoods. Successful implementation can lead to vibrant, livable neighborhoods.

Please see pages 58-60 for specific TOD recommendation areas.

COMMON TOD TREATMENTS

- Wide, pedestrian friendly sidewalks
- Buildings containing a mixture of uses, and built near the street, facing towards the street
- Incorporating an inviting ground-level feel: active uses, transparency, pedestrian shelter, attractive signage, etc.
- Parking located behind the building, typically with alleyway access
- Well designed bus shelters and bus pull-offs for comfortable waiting and loading/unloading

Transit Agency Recommendations

RECOMMENDATION 4

Increase Service Frequency/Capacity in Nine Key Transit Corridors

As a result of the analyses performed in the AMATS Regional Public Transportation Plan, nine key corridors have been identified as warranting new or expanded service. Each of these corridors connects multiple densely populated communities, contain large concentrations of demographic groups likely to use public transit, and dense clusters of land uses known to generate transit ridership.

In some of these corridors (Market St., S. Arlington St., etc.) service is already present. The analyses of this plan, however, show that an increase in bus frequency would address unmet demand and capacity issues.

In other corridors (SR 82 and SR 91), bus service is largely absent, yet analyses indicates that they have the potential to attract significant ridership. It is recommended that service be implemented in these corridors as METRO/PARTA determine feasible.

Please see pages 57 and 61 for detailed corridor descriptions.

KEY TRANSIT CORRIDORS

Corridor #1: Market Street

Corridor #2: South Arlington Street

Corridor #3: State Route 91

Corridor #4: Main Street/State Road

Corridor #5: Kenmore Blvd/Wooster Road North

Corridor #6: State Route 82

Corridor #7: Graham Road/Fairchild Ave

Corridor #8: State Route 59

Corridor #9: State Route 14

RECOMMENDATION 5

Provide New Fixed-Route Service to Close Transit Gaps

The analyses performed in the plan indicate that, for the most part, existing transit service adequately covers the larger, urban areas in the AMATS region. However, as the population has decentralized over recent decades, transit service has not kept up with the pace of outward migration. In many cases, suburban/rural densities are far too low to justify fixed-route service. However, there *are* locations that seem to contain sufficient population densities, employment opportunities and clusters of attractions to warrant fixed-route transit service.

Six communities exhibit precisely these qualities - clusters of population, jobs and attractions but lacking regular fixed-route service, and are designated by this plan as "gaps" in the existing public transportation system.

It is recommended that starter service is run to the centers of these "gap" communities, as determined feasible by the transit agencies. If warranted, service could be increased in the future.

KEY TRASIT "GAPS"

- City of Aurora
- Copley Township
- City of Green
- Village of Mantua
- City of Streetsboro
- City of Twinsburg

RECOMMENDATION 6

Increase Service Frequency/Extend Service Hours on Existing Cross-County Services

In the "Regional Recommendations" section, a policy discussion on new cross-county service is discussed. Currently, both METRO and PARTA operate very popular cross-county service to Cleveland and between Akron and Kent.

In their current form, these services are aimed almost exclusively at first-shift, Monday-through-Friday commuters. The region could greatly benefit if these existing services increased the number of daily round trips and extended their hours of operation so that commuters working later shifts or choosing to take transit for non-work trips may do so.

Very important to this recommendation is the recent opening of the new casino in Downtown Cleveland, as well as a proposed casino in Northfield. Casinos are proven generators of bus ridership. Although the casinos would be one of the key generators of 24-7 traffic, existing attractions such as professional sporting events, concerts, conventions and general business between Cleveland and Portage/Summit Counties would also be greatly enhanced by the expansion of these services.

RECOMMENDATION 7

Study Feasibility of Providing New Cross-County Service

Whereas Recommendation #2 in the "Regional Recommendations" section encourages a discussion on the political feasibility and funding mechanisms to allow for new cross-county transit service, the level of detail required for the actual implementation of the recommended lines would best be left in the hands of METRO and PARTA.

In Chapter 4, nine potential cross-country transit lines are analyzed at a planning level of detail. It is recommended that the transit agencies perform further feasibility analyses, based on their own budgets, ridership projections and overall experience. Only the agencies themselves have tools specific enough to officially estimate the effectiveness of any of the proposed routes, and to fund their eventual implementation.

RECOMMENDATION 8

Increase Hours of Operation on Existing Services

In Chapter 1 of this plan, an analysis of the level of service (LOS) was conducted for various timeframes throughout the day for both area transit agencies. Unlike highway LOS ratings, which rate the level of congestion on a particular roadway, transit LOS measures the overall convenience of a transit route to potential riders; the higher the LOS, the more frequently a bus arrives, thus the more appealing potential riders will find that particular route.

Starting with the key transit corridors (see Recommendation #4), and growing as ridership and/or funding allows, it is recommended that METRO and PARTA increase service frequency on existing fixed-routes, especially in the evenings.

Routes serving communities with high population and job densities should receive priority for increased service.

RECOMMENDATION 9

Form Partnerships with Large Regional Employers

Although METRO and PARTA have excellent track records of working with major employers in their respective counties to coordinate transit service, it is recommended that this communication continues, particularly as new businesses emerge in our region.

Several communities in the AMATS region have attracted major employers over recent years, and soon their offices will be opening. Early in the process, local transit agencies should meet with these employers to understand needs such as shift starting and ending times, the number/percentage of employees expected to use transit, and whether any mutually beneficial arrangement might be worked out to provide reduced or free bus fare to employees.

Chapter 8: Implementation

Implementation

In order to implement the recommendations proposed in the previous section of this report, adequate funding is essential. In addition to local revenues, which are typically expended on operating expenses (salaries, fuel, maintenance, etc.), a number of state and federal grant/funding programs are administered by AMATS to aid in the acquisition of capital assets (buses, facilities, etc.). State, federal and AMATS attributable funding are also used for special projects or initiatives, such as specific plans or special services. The following list describes the current funding mechanisms available for the implementation of transit recommendations.

Federal/State Funding Programs (administered at the state level by the Ohio Department of Transportation) – Generally used for capital expenses

- FHWA Surface Transportation Program (STP) – versatile funding for a wide variety of projects
- Congestion Mitigation Air Quality Program (CMAQ) – funding for projects demonstrating an improvement in air quality. Examples: CNG buses, park and ride lots, etc.
- FTA Urbanized Area Formula Program (Section 5307) – transit dedicated funding which may be used for capital expenses such as new buses, equipment, preventive maintenance and planning.
- FTA Elderly and Disabled Program (Section 5310) – Funding assistance to qualified social service agencies for the purpose of providing transportation for the elderly and disabled.
- FTA Job Access/Reverse Commute Program (JARC) (Section 5316) – Funding for projects that improve access to employment opportunities for welfare recipients and low income individuals.
- FTA New Freedom Program (Section 5317) – Funding for new transportation services for those with disabilities, which go above and beyond ADA minimum requirements.
- FTA Section 5309 Grant Program – competitive grants typically dedicated for the purchase of new buses or facilities. Several initiatives fall under the 5309 funding umbrella including the State of Good Repair, New Starts, and Bus Livability programs.

Local Funding – Generally used for operations and to match federal capital funds

- Farebox Revenue – funds received from fare-paying riders. Typically accounts for 10% - 20% of operating budget, varying substantially by month and by route.
- Transit Dedicated Local Sales Tax – local levies, approved by voters, dedicating a fixed percentage of the county sales tax to the local transit authority.
    - Summit County/METRO = 0.50%
    - Portage County/PARTA = 0.25%

http://tax.ohio.gov/divisions/tax_analysis/tax_data_series/sales_and_use/documents/salestaxmapcolor.pdf

Chapter 9: Conclusion

Conclusion

In general, the Greater Akron region has a strong existing public transportation system. Especially in the larger, established cities, the existing fixed-route system serves the majority of the populations most likely to rely on transit for their transportation needs.

Demand-response service in our region is excellent, and is currently undergoing technological enhancements so that anyone in the region may telephone a central location, and the most efficient transit provider will be scheduled to assist them. Although this door-to-door, demand-response service has historically been limited to serving the elderly and disabled only, PARTA now offers this service to anyone who would like to schedule it. Although door-to-door service is extremely convenient, it is far from cost-effective, and those wishing to use it must schedule their trip in advance; immediacy is simply not an option.

Fixed-route service is the key to making the most effective and efficient use of the limited transportation dollars available to our region. Fixed-route service is predictable, and when properly planned and implemented, can carry large groups of passengers to their desired destinations on a frequent basis. The more passengers each bus carries, the lower the cost-per-passenger expenses are, improving the effectiveness of transit investments.

The primary purpose of the AMATS Regional Public Transportation Plan is to assist in achieving a balance between providing the best service to the existing public transit passenger base, while expanding in a way to best capture the demands of choice riders. Existing transit riders provide the foundation upon which the current system is built, and choice riders allow for true ridership growth.

The land use and demographics analyses performed in this report indicate that the vast majority of population and business growth in the AMATS region has been away from traditional city centers, and is now primarily in suburban locations. By focusing on nine key corridors within the region, we can provide service to these communities, and potentially influence future growth to occur inward (rather than continuing outward), thus preserving undeveloped land and maximizing the utility of that which is already developed.

Public transportation will never completely replace the automobile for most people. However, we must not forget that in tough economic times and with a rapidly aging population, an increasing percentage of people may come to rely on transit. Everyone pays for transit (through federal and state income taxes, federal and state gas taxes and the county sales tax), so we should strive to build a transit system that benefits as many people as possible. Great transit planning leads to great service. Great service will result in increasing numbers of riders, allowing them to use travel time more productively and save money. Any increase in transit use will decrease congestion and pollution in our region, which is something that everyone can agree is beneficial.

Appendices

Appendix A: Transit Oriented Development – National Best Practices Examples

Appendix B: Transit Oriented Development – Local Best Practices Examples