

# Urban Core Transit

Materials for Discussion Among the  
Local Elected Officials of the  
Washtenaw County Urban Core  
March 28, 2013



# Welcome and Thank You

Dear Urban Core Leaders,

Thank you for your commitment to finding a regional solution to the growing transit needs in the Greater Ann Arbor Area. We hope you found the initial meetings with your peer elected officials in the region productive and worthwhile. We've been happy to facilitate these meetings and provide a forum for discussion of transit issues in the Urban Core.

The attached package of information encapsulates several 'themes' or scenarios that have been set forth during these discussions. Each theme (Sustain / Improve / Expand) responds to different sets of needs that were expressed to us by local elected officials and their constituents. This is not a proposal; it is offered as a structured way to facilitate discussion, and decisions, among local elected officials seeking to address important public transit issues. We hope this will be useful as you prepare for the Urban Core Transit Meeting on March 28<sup>th</sup>.

The document describes each theme in terms of services included, their financial implications, and the benefits they can provide to the region and to individual communities.

The document also contains answers to the many questions we have heard, in meetings with and among elected leaders over

the past couple months. These are in the form of a simple, concise "Sidebars" section, with a table of contents to help you find the questions and answers that are most important to you.

When we meet on March 28<sup>th</sup>, we hope the participants can come to a consensus on a vision for service that we can then detail in preparation for the next question: How do we get there?

We are grateful to Mandy Grewal and Pittsfield Township for hosting this event at their township hall at 6201 W. Michigan Avenue (corner of Michigan Ave. and Platt Road.) We look forward to seeing you all on Thursday, March 28<sup>th</sup> at 5:00 p.m.

Sincere thanks,



Michael Ford, CEO  
Ann Arbor Transportation Authority



# Agenda

1. Welcome and General Introduction
2. Welcome by AATA Board – Charles Griffith, Chairman (4 minutes)
3. Background / Opening Remarks – Michael Ford, CEO, AATA (5 minutes)
4. Rundown of Agenda – Daniel Cherrin, Brian Pappas, Facilitators, State Bar of Michigan Alternative Dispute Resolution (5 minutes)
5. Introduction by Public Officials - What I want / expect out of this session (30 minutes)
  - Ann Arbor City
  - Ann Arbor Township
  - Dexter Village
  - Pittsfield Township
  - Saline City
  - Scio Township
  - Ypsilanti City
  - Ypsilanti Township
6. Staff Summary of Materials Provided in Advance (10 minutes)
7. Discussion (facilitated by Daniel Cherrin) (40 Minutes)
8. Next Steps (10 minutes)

# Goals of Today's Meeting

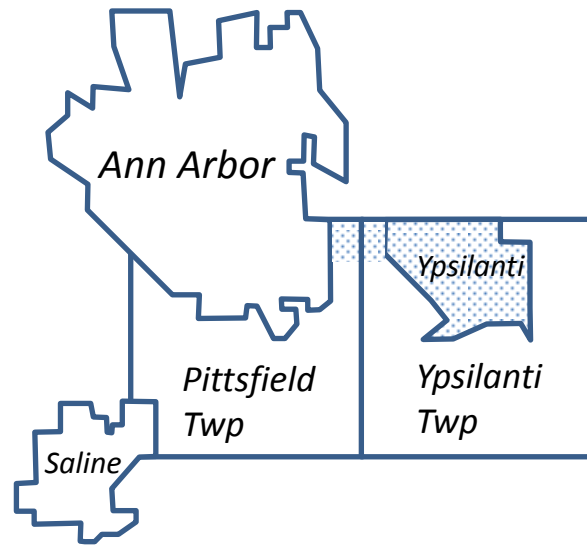
1. Gain Consensus on a Service Plan Theme
2. Establish Working Sub-Group for Financial Issues
3. Establish Working Sub-Group for Governance Issues

# Urban Core Transit - 3 Themes

(Problem Statement)

- **Sustain** - can we continue serving important travel needs?
- **Improve** - should we serve more travel needs within the existing service footprint?
- **Expand** - should we serve new travel needs in growing areas?

## Sustain



Maintain existing services so our current riders won't lose needed travel options

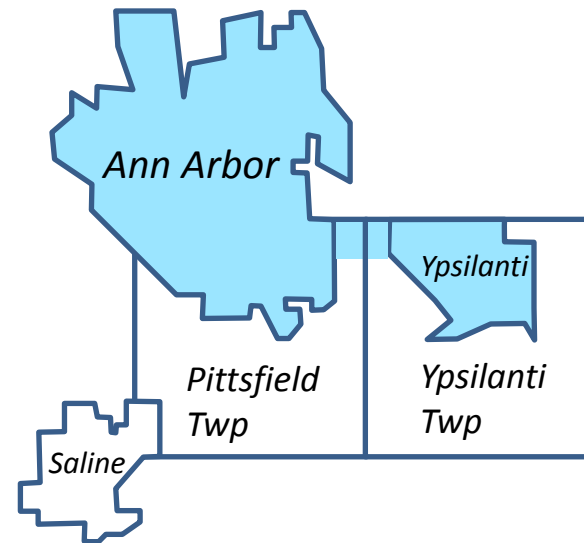
- Route #4 Washtenaw Improvements
- Ypsilanti, Ypsilanti Township, Pittsfield Township POSA Services
- NightRide Expansion into Ypsilanti, Ypsilanti Township and Pittsfield Township

New Annual Funding Needs - 2019  
\$180K (Ypsilanti - \$160K)

### Travel Needs Met

Providing 6.6M fixed route bus trips, and 167K dial-a-ride trips annually on services in Ann Arbor, Ypsilanti, Ypsilanti Township, Pittsfield Township and selected other communities.

## Improve



Enhance services within the existing AATA footprint to provide more travel options for the communities now served

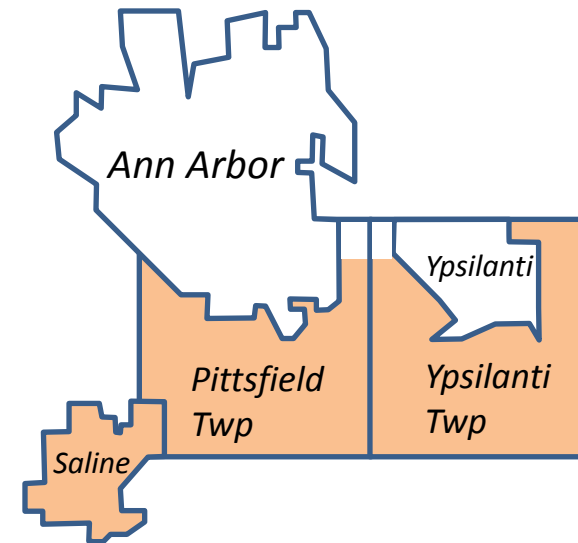
- Better evening service
- Better weekend service
- More frequent service
- More direct, convenient service
- Longer hours
- Expansion of ADA Dial-a-Ride

New Annual Funding Needs - 2019  
\$2.8 M

### Travel Needs Met

Add'l Trips Served (2020): 501K  
Addtl' Households within 1/4 mile  
Total: 9,540  
Seniors: 883  
Low Income: 960

## Expand



Extend services into new areas where population and employment growth needs transit support.

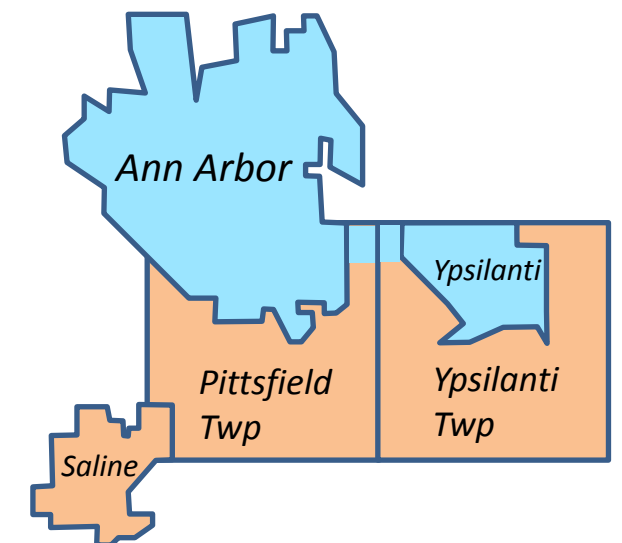
- Fixed route services to/from the Townships
- Township Dial-a-Ride Services
  - Seniors, People with Disabilities
  - General population

New Annual Funding Needs - 2019  
\$3.6 M

### Travel Needs Met

Add'l Trips Served (2020): 1.5M  
Addtl' Households within 1/4 mile  
Total: 21,125  
Seniors: 1,459  
Low Income: 2350

## Improve & Expand



Continue the evolution of the transit system by enhancing the existing network and connecting it to the areas of new growth.

- Better evening service
- Better weekend service
- More frequent service
- More direct, convenient service
- Fixed route bus to/from the Twps
- Township Dial-a-Ride Services
  - Seniors, People with Disabilities
  - General population

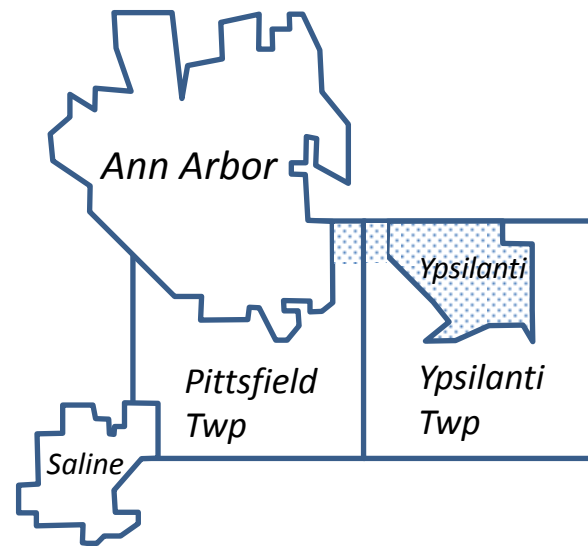
New Annual Funding Needs - 2019  
\$5.4M

### Travel Needs Met

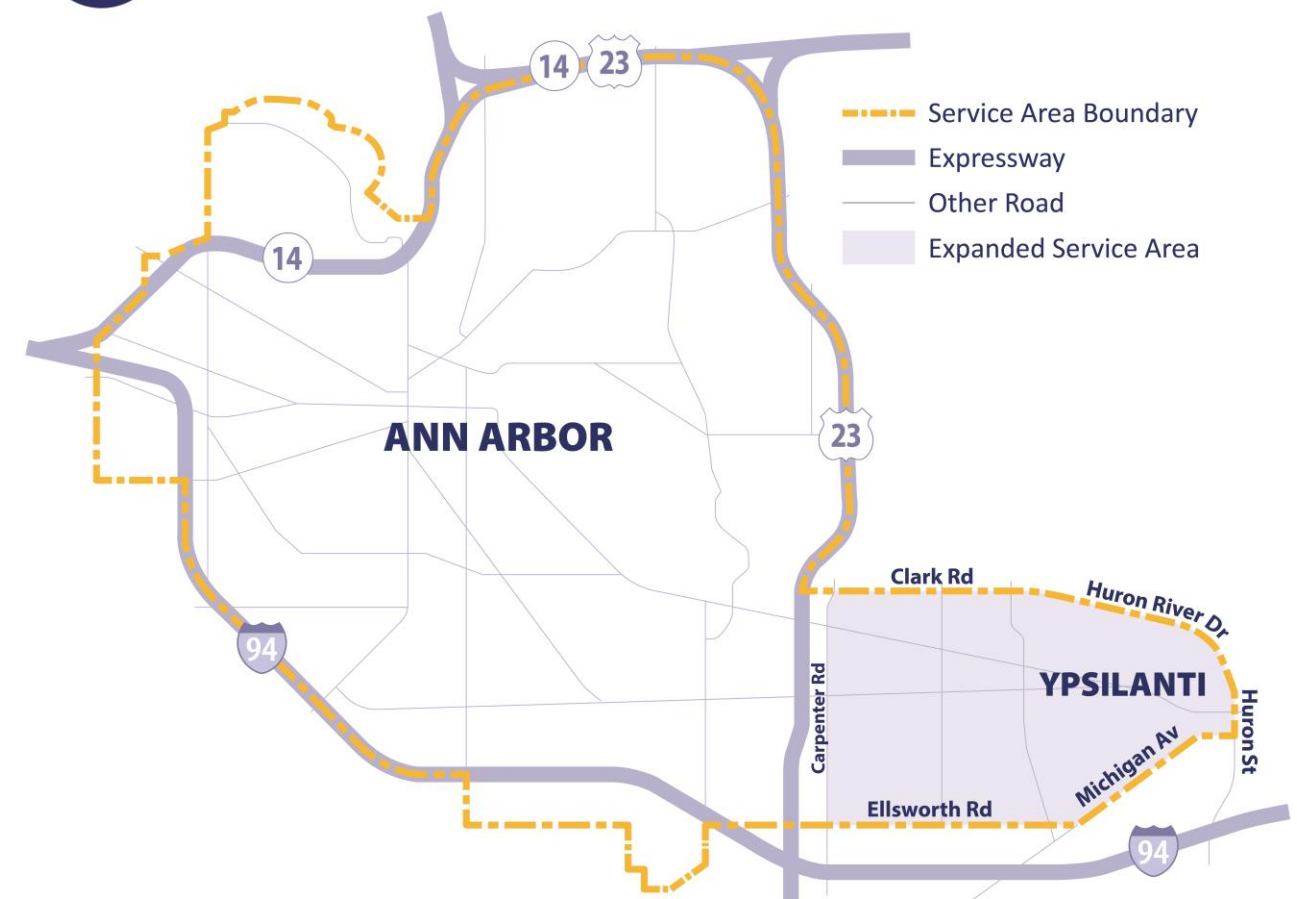
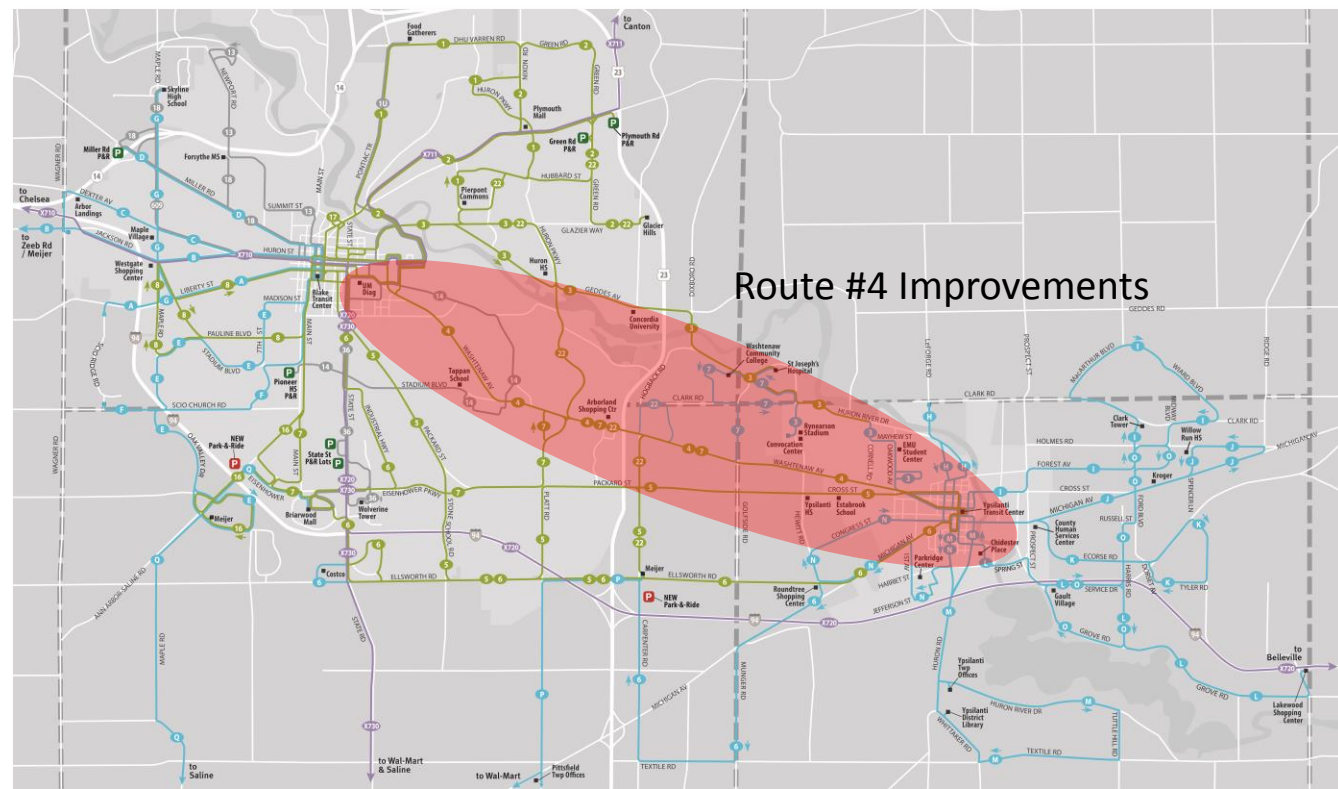
Add'l Trips Served (2020): 1.67M



# Sustain

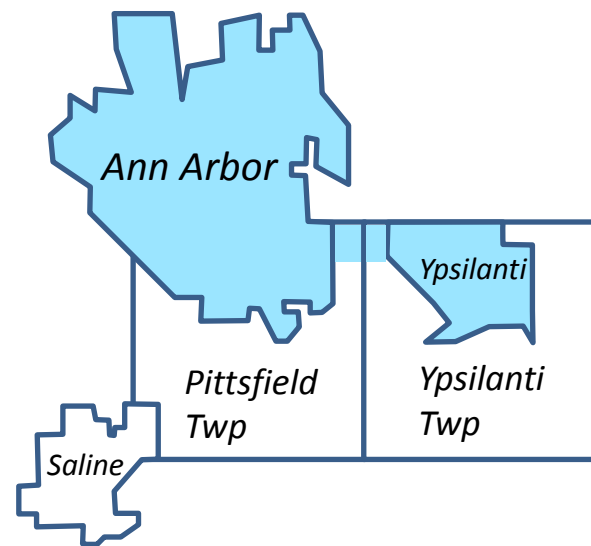


- Overall, the system is projected to experience a minor shortfall by 2019 - \$180,000.
- Cost increases associated with #4 and NightRide expansion are not currently allocated to POSA partners.
- Ypsilanti is not able to cover additional fully-allocated costs:
  - \$11,000 shortfall this year (2013)
  - \$130,000 shortfall in 2014
  - \$160,000 shortfall by 2019
- NightRide expansion costs are growing rapidly
- Critical service for downtown Ann Arbor workers and others
- Due to demand, costs have grown from \$324K to \$592K (78%) since service area expanded into Ypsilanti, Ypsilanti Township and Pittsfield Township and there remains **unsatisfied need** for the service.
- Expand Route #4 to 1 am? (adds cost, perhaps more efficient)





# Improve Ann Arbor (west)



## New Routes, More Direct Service

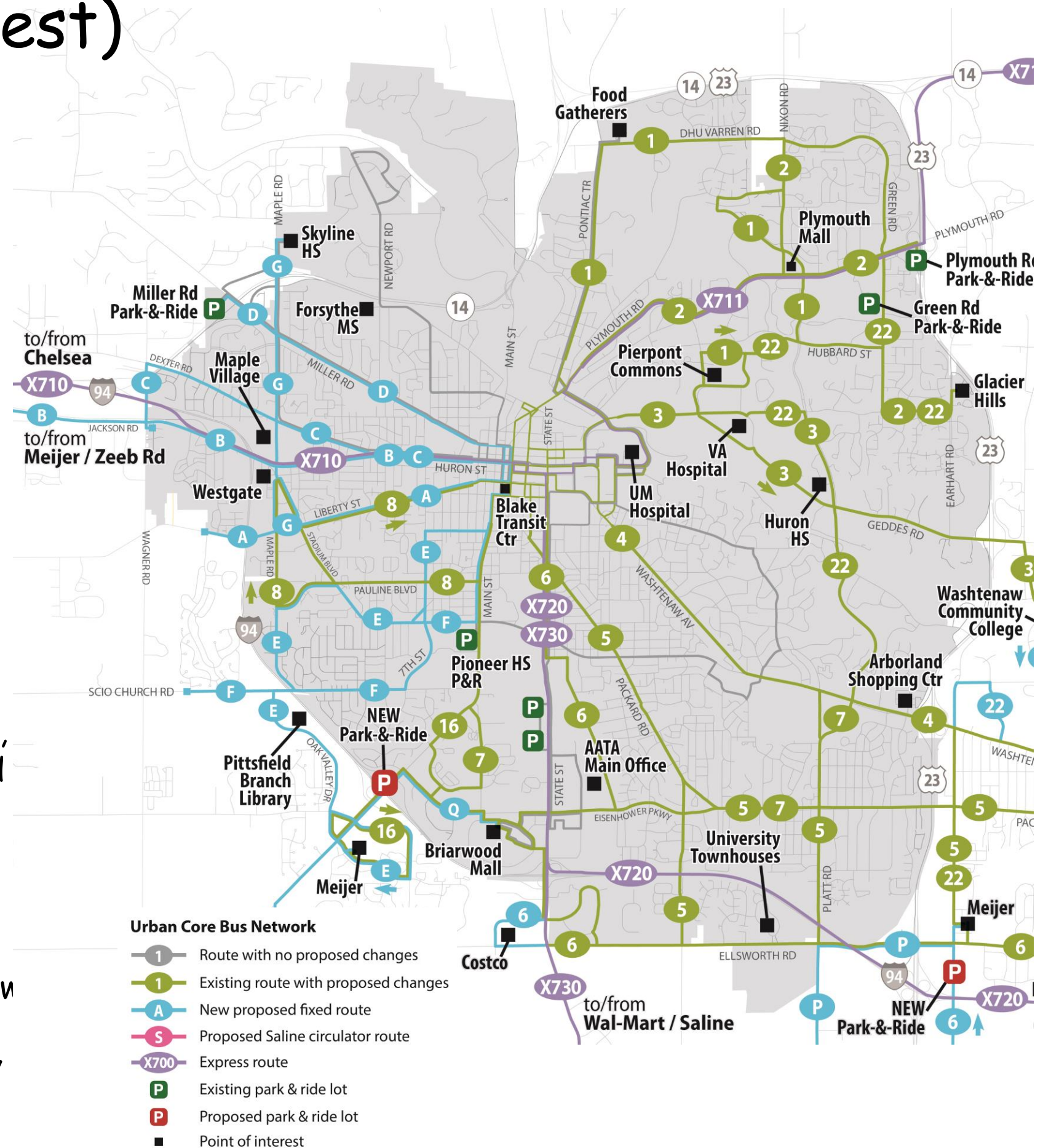
**Route 8 Pauline:** More frequent peak, extended hours

**Route 9 Jackson** becomes two new routes (B, C), providing greater coverage, extended hours and improved evening frequency

**Route 12 Miller/Liberty** becomes 3 new routes (A, D, G) providing greater coverage and extended hours

**Route 15 Scio Church/W Stadium** becomes 2 new routes (E, F) providing greater coverage, extended hours and improved midday frequency

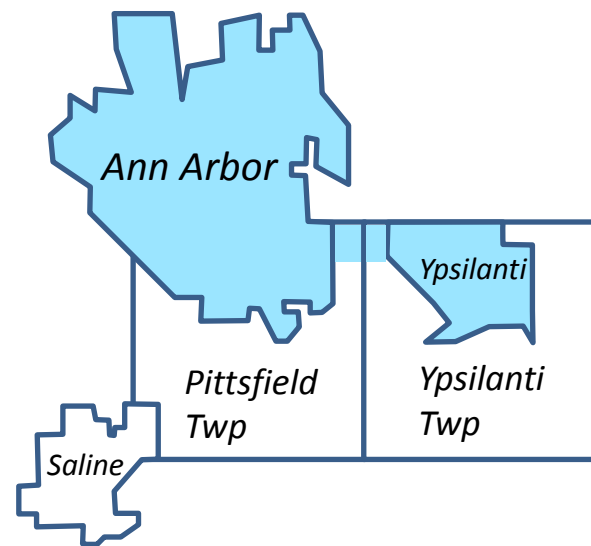
**16 Ann Arbor-Saline and 17 Amtrak-Depot St:** Extended hours



Includes 'budget neutral' (see p. 23) services: Ann Arbor Circulator (not shown), Chelsea Express, Canton Express  
All improved and expanded services include corresponding expansions of ADA dial-ride services.



# Improve Interurban (Ann Arbor ⇄ Pittsfield ⇄ Ypsi Twp ⇄ Ypsilanti)



## Better Crosstown Connections

**Routes 1 Pontiac-DhuVarren:** Extended hours

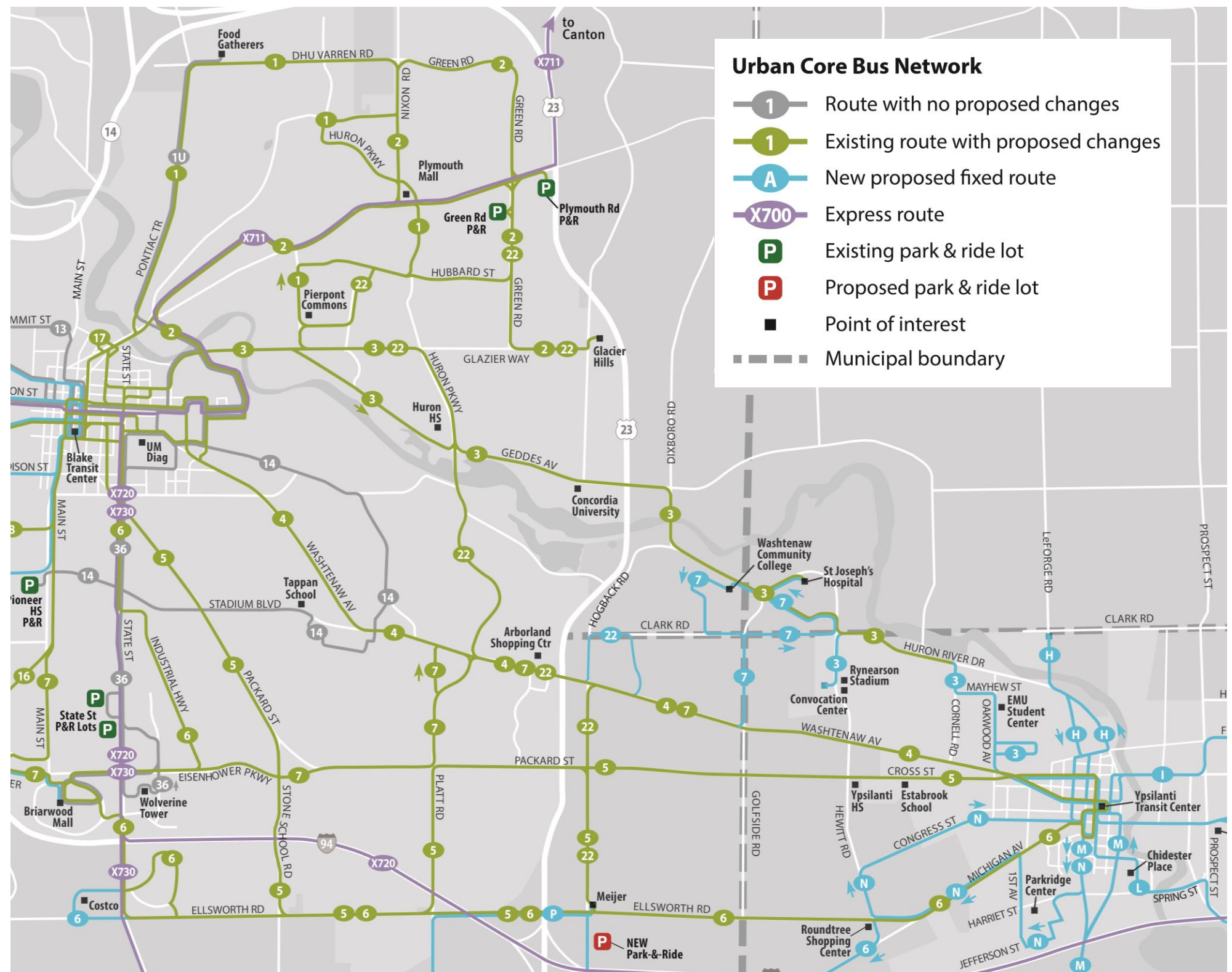
**Route 3 Plymouth:** More direct, extended hours

**Route 4 Washtenaw:** More frequent all day long, extended hours

**Route 5 Packard:** More frequent evenings, extended hours

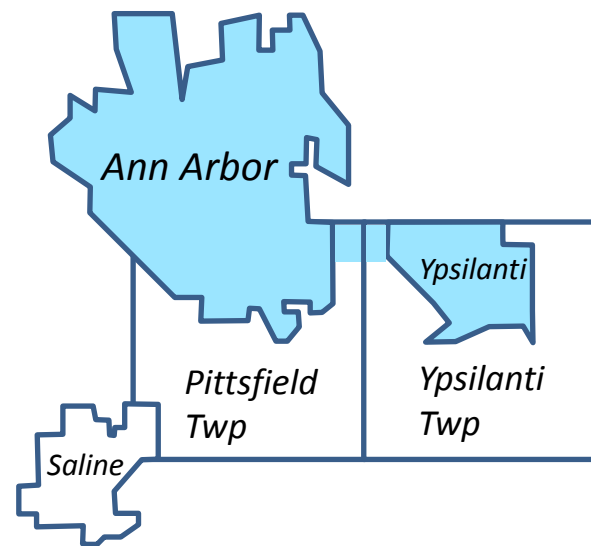
**Route 6 Ellsworth:** More frequent peak, extended hours

**Route 22 North-South:** Extended hours



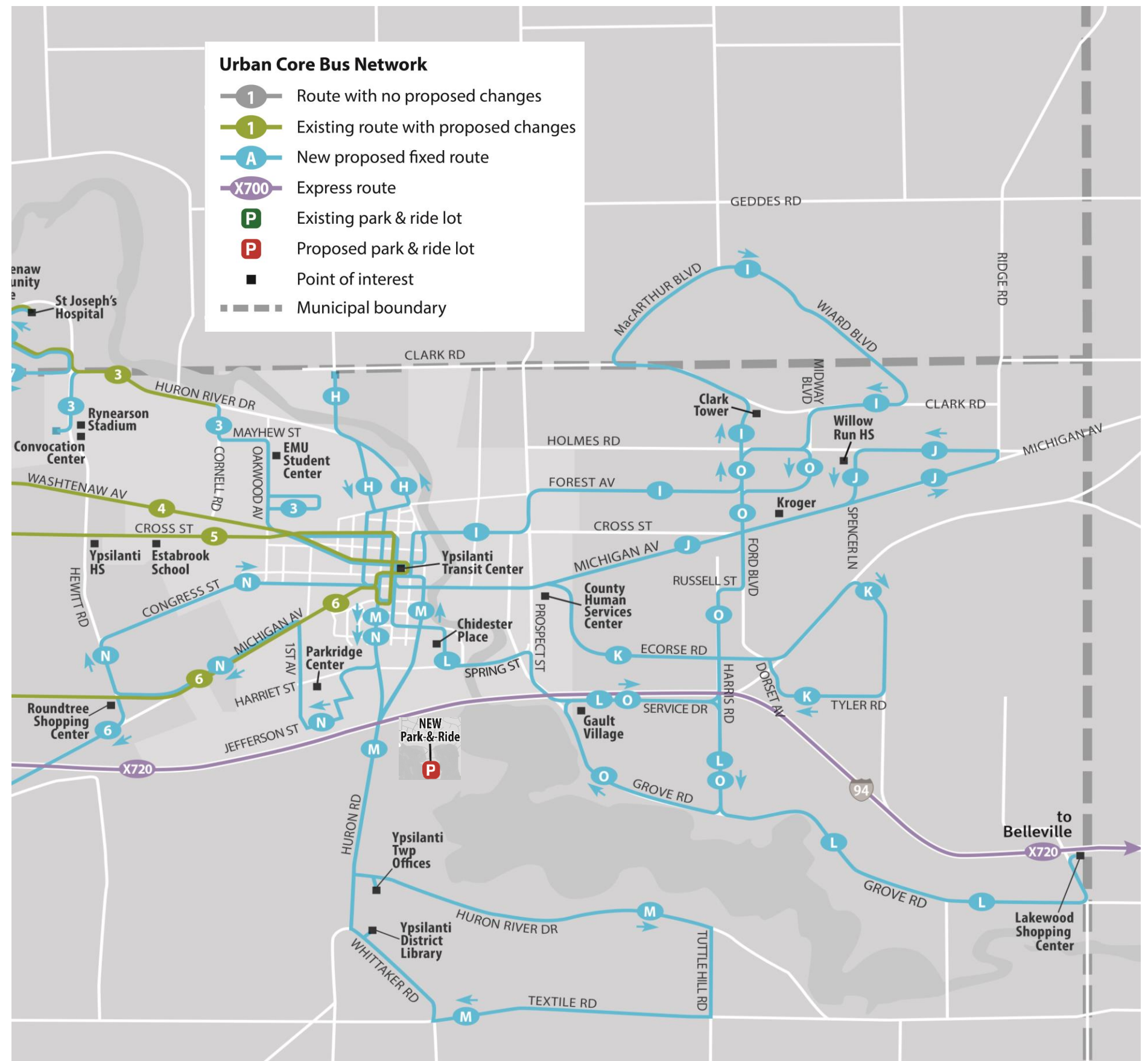
All improved and expanded services include corresponding expansions of ADA dial-ride services.

# Improve Ypsilanti and Ypsilanti Township



New Routes, More Frequent Service, More Direct Service, Weekend Service, Increased Evening Service

Routes 10 (Ypsilanti NE), 11 (Ypsilanti S) and 20 (Grove-Ecorse) become 7 new routes (I, J, K, L, M, N, O).

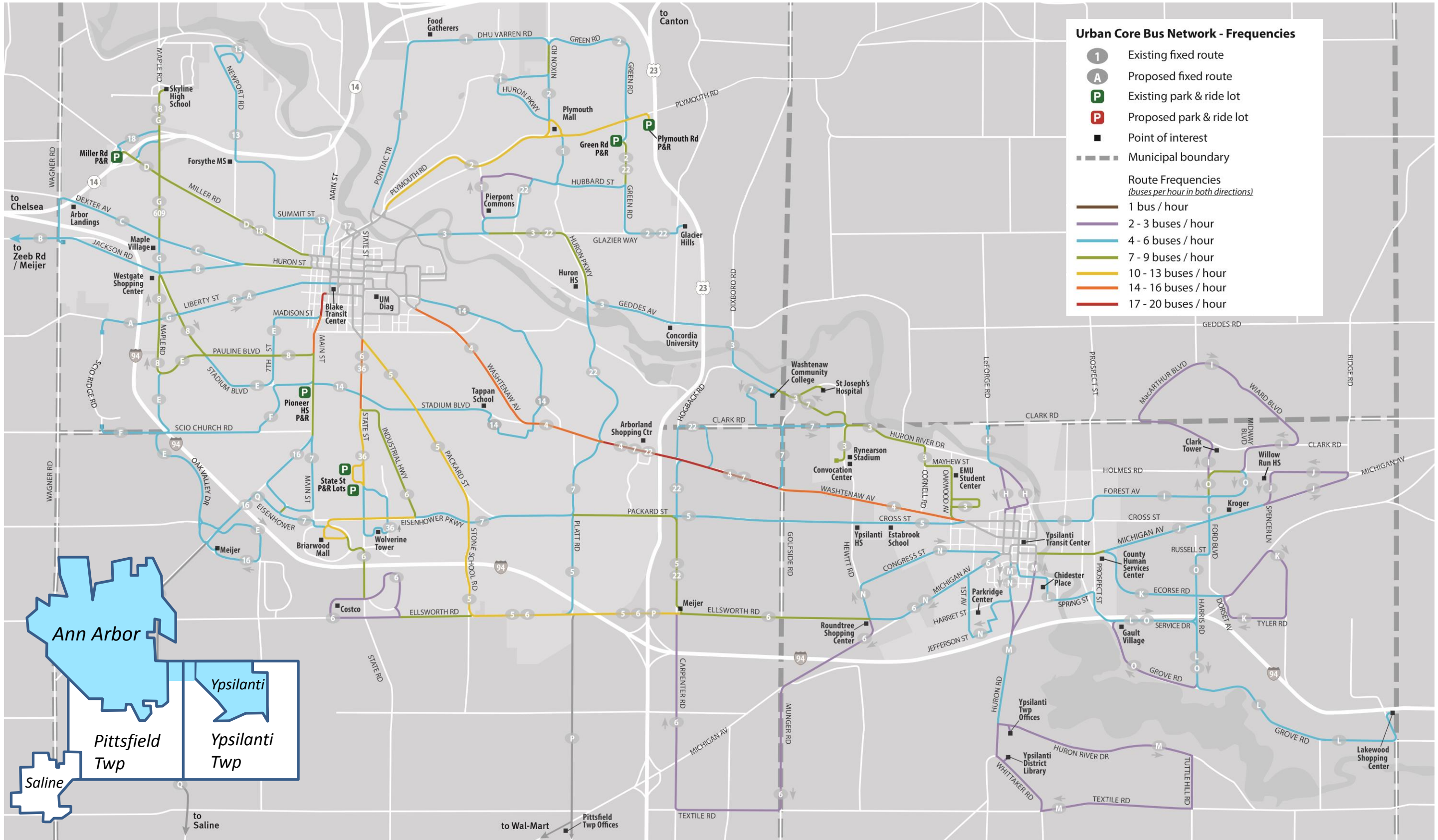




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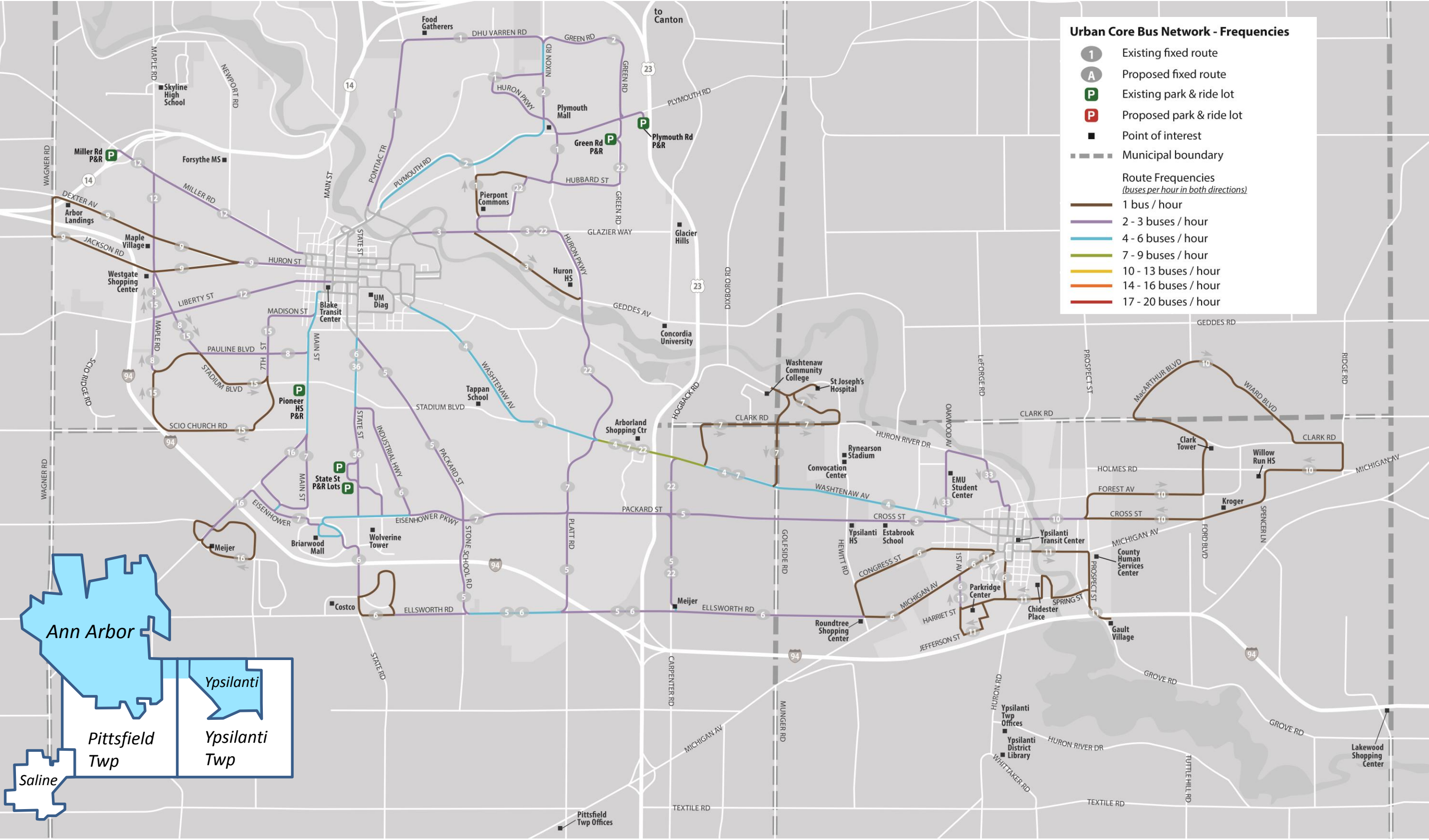


Service Frequency (buses/hour) - Weekday Peak - Improved System



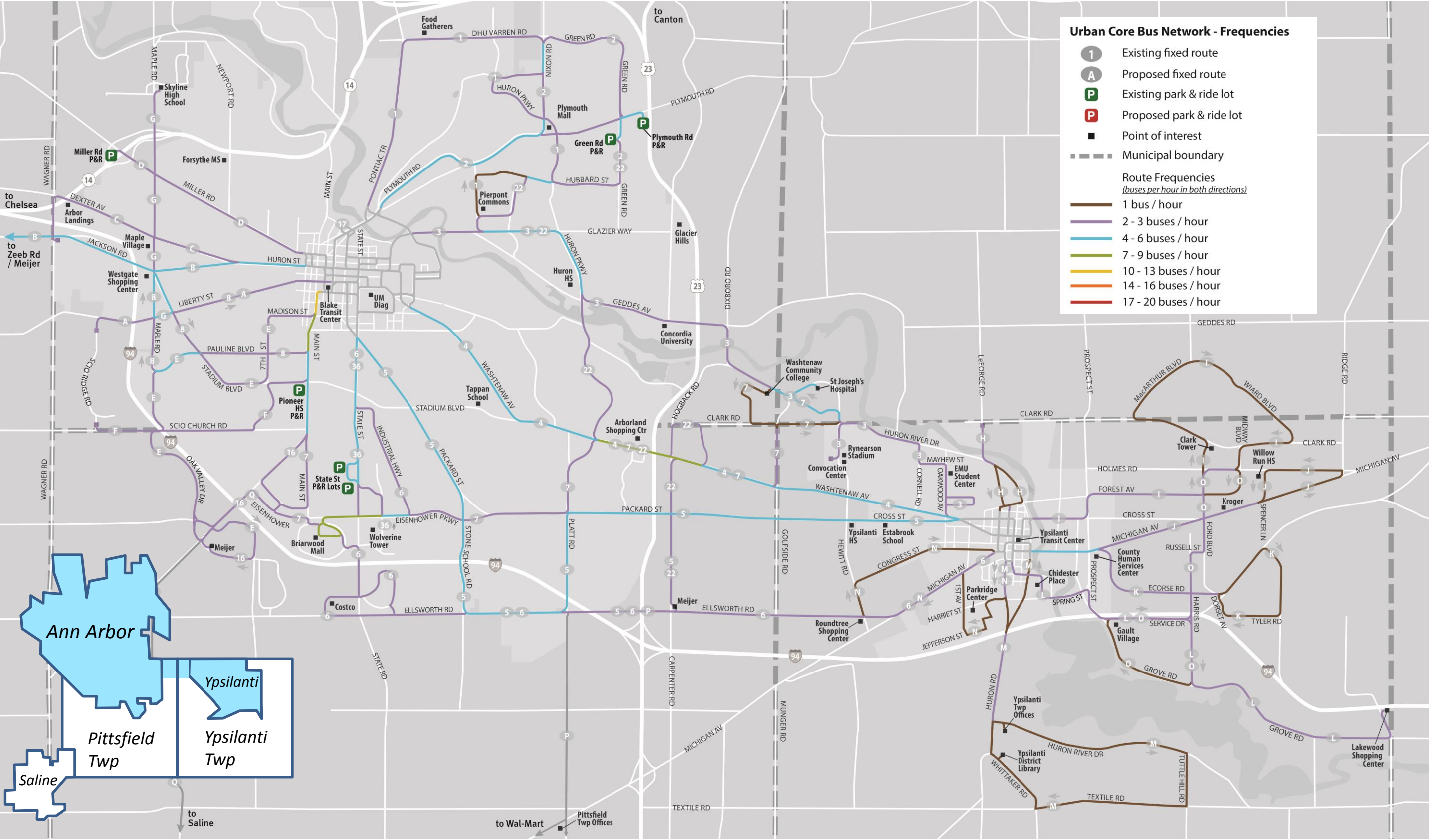


# Service Frequency (buses/hour) - Weekday Evening - Existing System



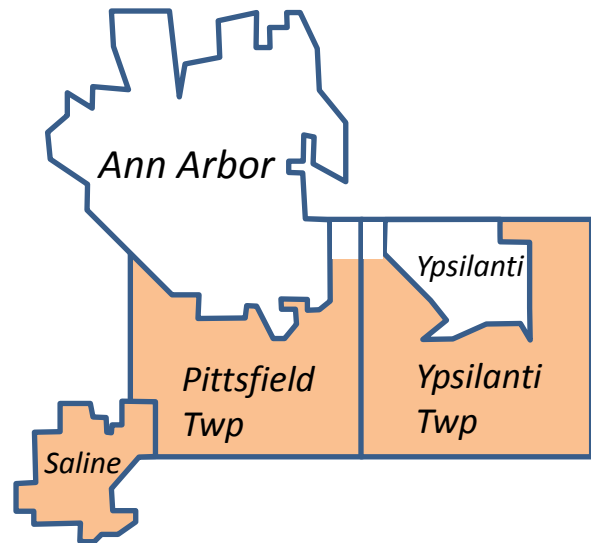


# Service Frequency (buses/hour) - Weekday Evening - Improved System

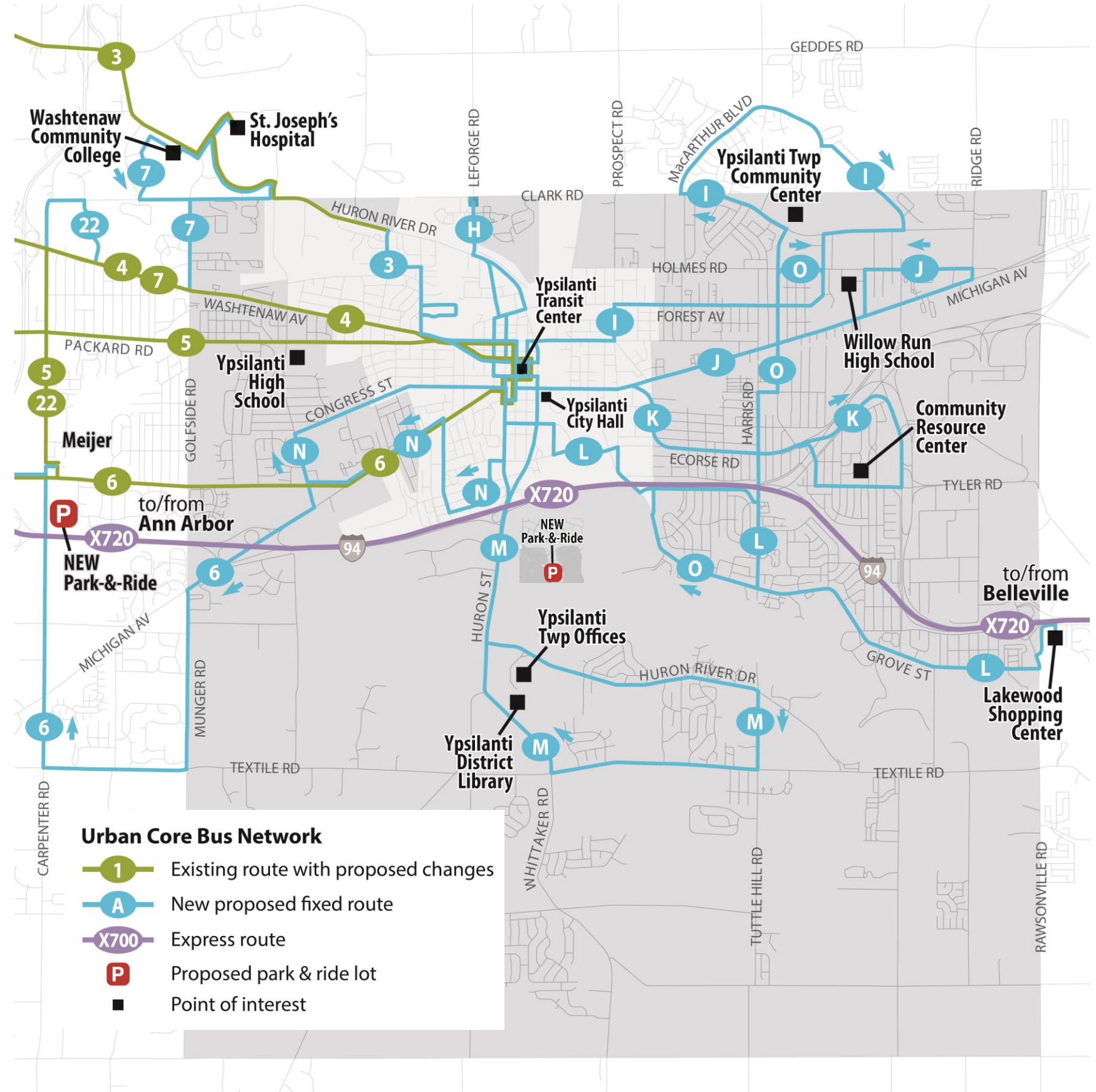




# Expand Ypsilanti Township



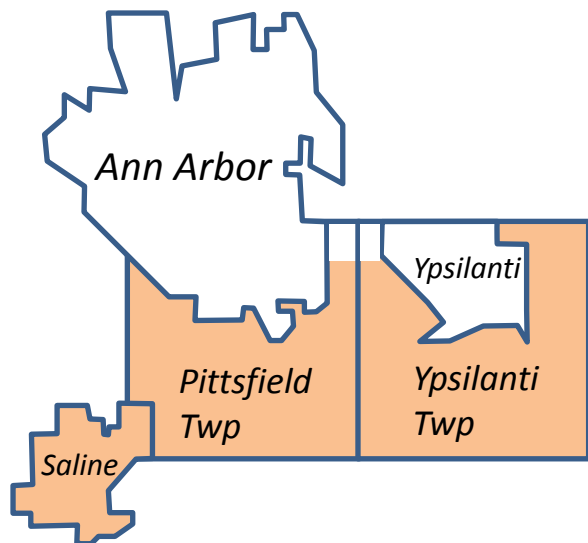
- **New and extended routes** serving residential areas, commercial areas, the Library and Ypsilanti Civic Center.
- **New ExpressRide** service to downtown Ann Arbor and University of Michigan
- **New Park and Ride** Lot vicinity of Huron St and I-94
- **Township-wide dial-a-ride** services for seniors, people with disabilities, and the general public, including connections to neighboring communities



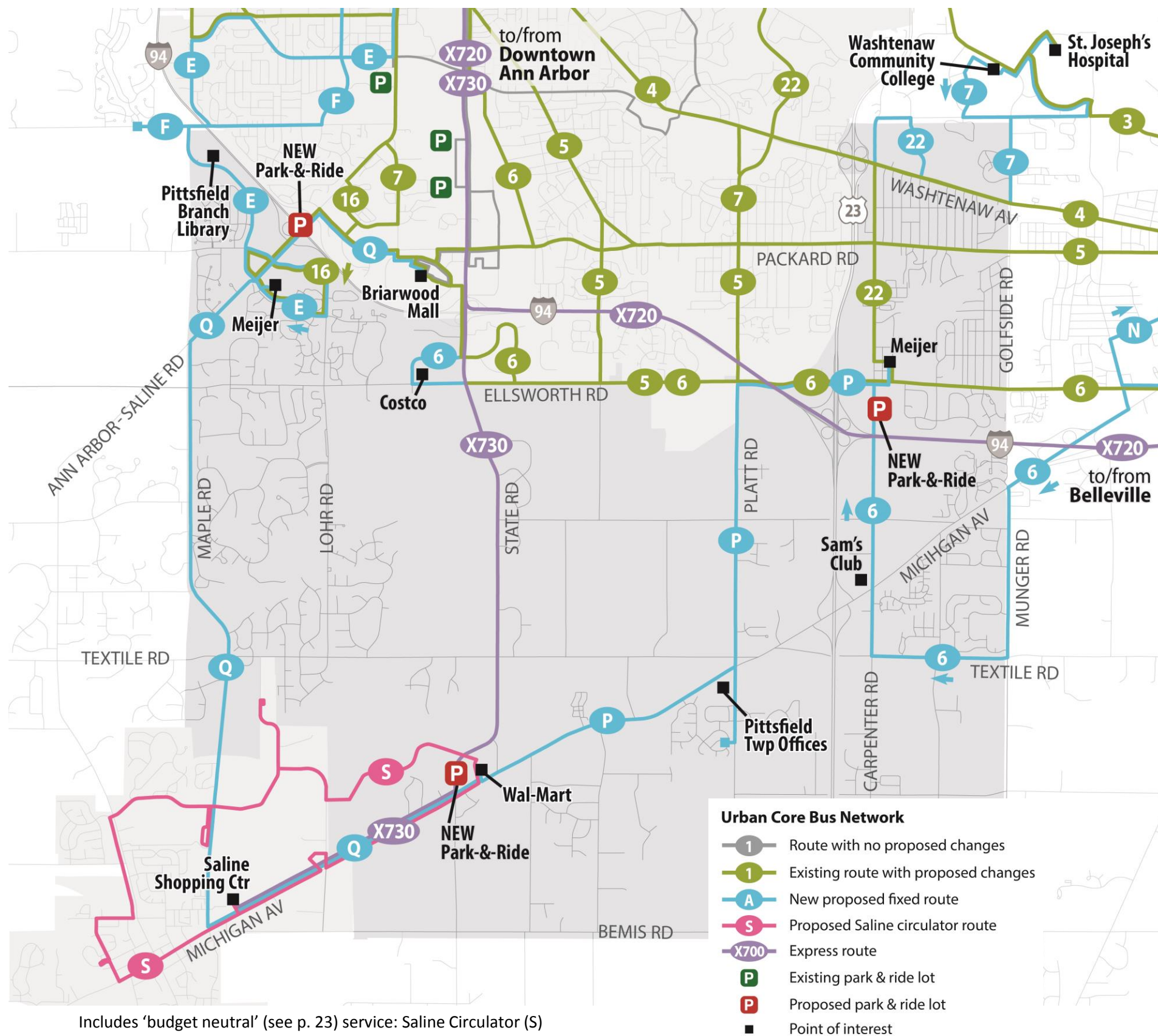
All improved and expanded services include corresponding expansions of ADA dial-ride services.



# Expand Pittsfield Township & Saline



- **New and extended routes** serving residential areas, downtown Saline, Briarwood, Walmart, Meijers, Pittsfield Twp offices and others.
- **New ExpressRide** service to downtown Ann Arbor and University of Michigan
- **New Park and Ride** Lots Meijers, Walmart and vicinity of Carpenter Rd and I-94
- **Township-wide dial-a-ride** services for seniors, people with disabilities, and the general public, including connections to neighboring communities



New Net Costs (\$000's), by Community, 2019 (Service Costs Allocated based on **Service Hours**)

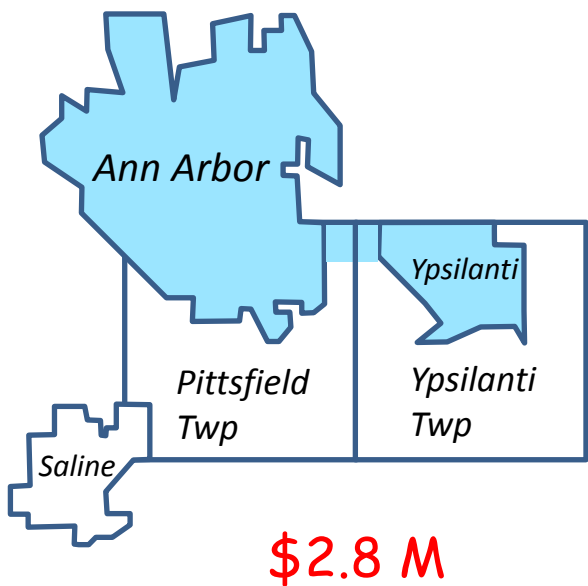
	City of Ann Arbor	City of Ypsilanti	Ypsilanti Township	Pittsfield Township	City of Saline
Sustain	<----- \$180 ----->				0
Improve	2,355	296	100	88	0
Expand	2,614	473	338	162	17
Expand & Improve	4,061	694	497	209	24

New Net Costs(\$000's), by Community, 2019 (Service Costs Allocated based on **Population**)

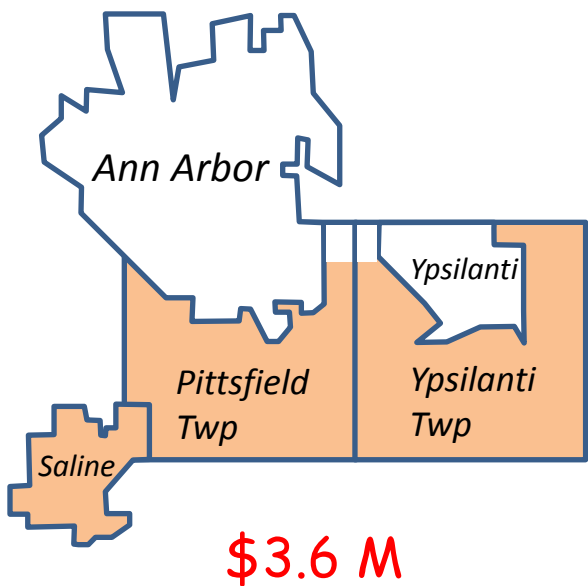
	City of Ann Arbor	City of Ypsilanti	Ypsilanti Township	Pittsfield Township	City of Saline
Sustain	<----- \$180 ----->				
Improve	1,461	249	684	444	0
Expand	1,784	304	835	543	138
Expand & Improve	2,716	463	1,272	826	210

# Distribution of Costs Among Jurisdictions - Different Approaches Create Different Results

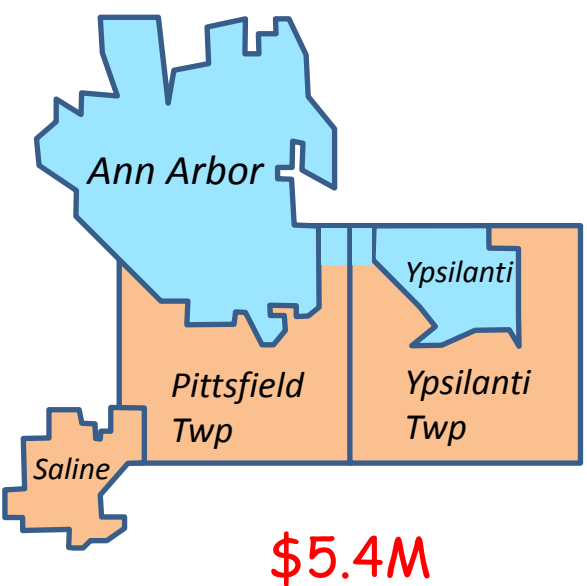
Improve



Expand

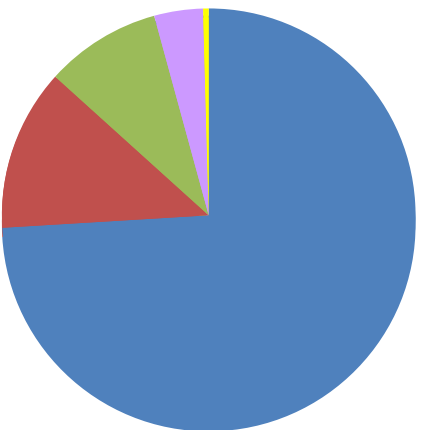
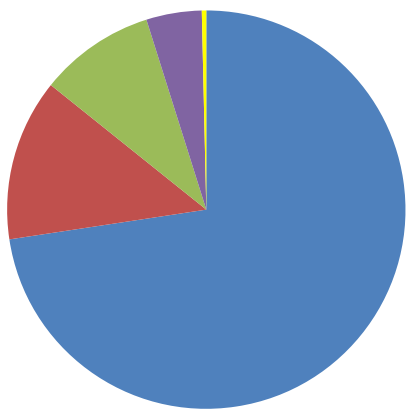
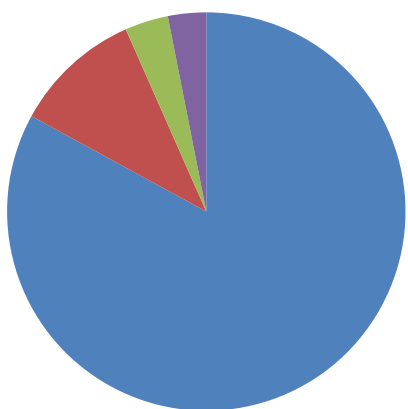


Improve & Expand

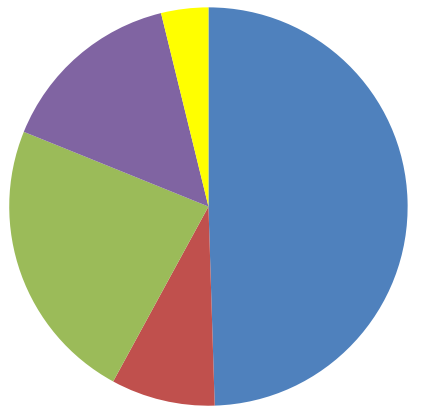
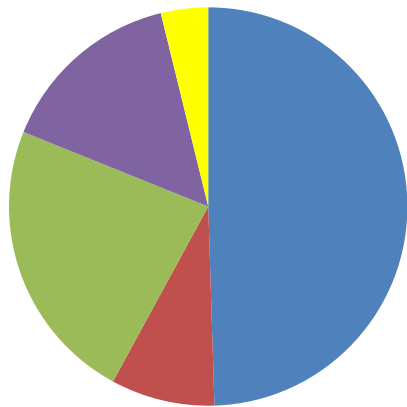
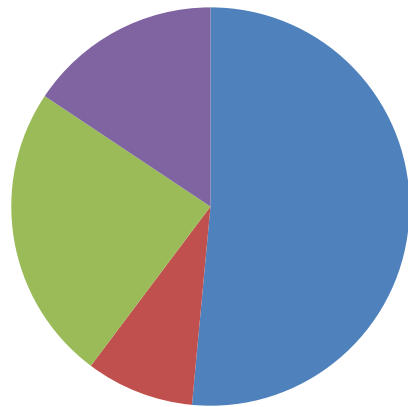


■ City of Ann Arbor ■ City of Ypsilanti ■ Ypsilanti Township ■ Pittsfield Township ■ City of Saline

Service Hours



Population



# Additional Households Within $\frac{1}{2}$ Mile of a Route - Weekdays

All Households	City of Ann Arbor	City of Ypsilanti	Ypsilanti Township	Pittsfield Township	City of Saline	TOTAL
Improve	158*	0*	921	15	0	10,387
Expand	158*	0*	7,632	10,252	7,319	25,203

Senior Citizens	City of Ann Arbor	City of Ypsilanti	Ypsilanti Township	Pittsfield Township	City of Saline	TOTAL
Improve	20*	0*	64	1	0	1,321
Expand	20*	0*	425	668	1,076	2,169

Low Income	City of Ann Arbor	City of Ypsilanti	Ypsilanti Township	Pittsfield Township	City of Saline	TOTAL
Improve	16*	0*	185	1	0	669
Expand	16*	0*	1,218	589	367	2,174

Numbers for Ann Arbor and Ypsilanti are low because most service improvements in these locations are related to improved bus frequency and time of day rather than geographic coverage. See pages 12 – 15 for depictions of how bus frequency increases for the “Improve” and “Expand” scenarios. For a graphical depiction of this information, see the Appendix “Buffer Maps”.



## Additional Households Within $\frac{1}{2}$ Mile of a Route - - Sat, Sun or Both

All Households	City of Ann Arbor	City of Ypsilanti	Ypsilanti Township	Pittsfield Township	City of Saline	TOTAL
Improve	1,693	1,316	11,995	15	0	15,019
Expand	1,693	1,316	18,706	6,742	0	28,457

Senior Citizens	City of Ann Arbor	City of Ypsilanti	Ypsilanti Township	Pittsfield Township	City of Saline	TOTAL
Improve	367	82	1,199	1	0	1,649
Expand	367	82	1,560	334	0	2,343

Low Income	City of Ann Arbor	City of Ypsilanti	Ypsilanti Township	Pittsfield Township	City of Saline	TOTAL
Improve	176	422	2,632	1	0	3,231
Expand	176	422	3,665	380	0	4,643

Numbers for Ann Arbor and Ypsilanti are low because most service improvements in these locations are related to improved bus frequency and time of day rather than geographic coverage. See pages 12 – 15 for depictions of how bus frequency increases for the “Improve” and “Expand” scenarios. For a graphical depiction of this information, see the Appendix “Buffer Maps”.

# Beyond the Urban Core

- Potential New Partnerships
  - Scio Township - service extensions
  - Ann Arbor Township - service extensions, dial-a-ride services
  - Superior Township - new local route, dial-a-ride services
  - Village of Dexter - new ExpressRide
  - City of Chelsea - preserve ExpressRide
  - Canton Township - preserve ExpressRide
  - City of Saline - create Circulator
  - City of Ann Arbor - create Circulator
- Manchester, Milan and other Washtenaw Communities
- Beyond Washtenaw County - AirRide, Detroit & other SE MI links
- New or Expanded Purchase of Service Agreements
  - A way for communities to initiate participation in the regional system
  - For newer partners or those with less developed service
  - Still can be used for existing POSA partners if participation in a regional organization is not feasible
  - "Budget Neutral" relative to a millage-funded authority, that is, participants' funding equals cost of service
  - Creates opportunities for combining private, institutional, and public funding to share costs commensurate with benefits



Urban Core Transit

# SIDEBARS

As we discuss the fundamental issue of what we will choose as our theme for Urban Core Transit (Sustain / Improve / Expand), there are many other issues that people ask about or have opinions on. We have assembled short 'sidebar' discussions of the issues most frequently raised and included them in the following sections.

# Sidebars: Table of Contents

## I. Planning Principles

1. Goals and Objectives, pg. 26
2. Key Transit Issues, pg. 27

## II. Transit Network Design

1. Understanding the Two Types of Transit Services in Ann Arbor, pg. 30
2. Why is Transferring necessary? Hub-and-Spoke vs. Grid System, pg. 31
3. Travel Patterns – Connections between Communities, pg. 33

## III. Funding Transit

1. How Transit is Funded, pg. 35
2. Purchase of Service Agreements, pg. 37
3. How does AATA keep costs under control? Pg. 38

## IV. Trends in Public Support of Transit Initiatives: National, State, Local

1. Public Transit Referenda 2000 – 2012, pg. 39
2. October 2011 Public Support for Transit Expansion, pg. 40

# I. PLANNING PRINCIPLES

The key principles governing the creation of the Countywide Transit Master Plan have been carried forward into the current efforts that more closely focus on the Urban Core. These principles are described in two documents prepared by Steer Davies Gleave for AATA as part of the Countywide Transit Master Plan, entitled as follows: The “Shared Community Visioning Report”, published in October, 2010; and “The Transit Audit and Needs Assessment”, published November, 2010. Materials from each report are reproduced below.

## 1. GOALS AND OBJECTIVES

### What are the Goals and Objectives?

<b>Support economic growth in Washtenaw County</b>	<ul style="list-style-type: none"><li>•attracting investment;</li><li>•improving travel times and reliability; and</li><li>•improving access to labor markets.</li></ul>
<b>Promote livability in Washtenaw County</b>	<ul style="list-style-type: none"><li>•supporting sustainable housing and employment growth;</li><li>•improving access to leisure facilities; and</li><li>•protecting the natural landscape.</li></ul>
<b>Improve access for all</b>	<ul style="list-style-type: none"><li>•improving access to employment opportunities, particularly for socially deprived groups, rural communities and people with disabilities; and</li><li>•improving access to key services, particularly for socially deprived groups, rural communities and people with disabilities, seniors, young people, and children.</li></ul>
<b>Protect the environment</b>	<ul style="list-style-type: none"><li>•reducing air, noise, and water pollution from transportation;</li><li>•reducing the demands on the water supply; and</li><li>•tackling climate change through reduced carbon emissions.</li></ul>
<b>Improve safety and security for all</b>	<ul style="list-style-type: none"><li>•improving safety and security for all transportation users, particularly vulnerable users such as bicyclists, pedestrians, young people, children, seniors, and people with disabilities.</li></ul>
<b>Facilitate a healthier community</b>	<ul style="list-style-type: none"><li>•facilitating healthier and more active lifestyles.</li></ul>



Goals and objectives were derived through a review of nearly 50 plans prepared by organizations within the region.



## 2. KEY TRANSIT ISSUES

(from the “Transit Audit and Needs Assessment Report”)

We have distilled the specific needs identified in this assessment into five overarching transportation issues in Washtenaw County.

Addressing these issues will be essential to the improvement of transit service in the coming years. Each of the five issues is discussed in detail below.

### ***Insufficient access to lifeline destinations***

Limited access to vital destinations, such as grocery stores and medical facilities, can have serious health implications. This is especially relevant in low-income areas and areas with large senior and disabled populations. In addition, many of these vital destinations also represent key employers. Limited accessibility of these destinations creates a barrier between transit-dependent residents and desirable jobs, which is a negative for both residents and employers.



Accessibility of lifeline destinations within the City of Ann Arbor, which contains approximately a third of Washtenaw County residents, is fairly robust. However, the 61% of County residents that live outside Ann Arbor and Ypsilanti have no fixed-route service providing access to grocery stores, medical offices, and other essential destinations. Demand-responsive service is available in many of the outer cities and villages, but is generally limited to certain groups, and offers service to a limited set of destinations. The majority of the 6% of County residents that live in the City of Ypsilanti have service to most lifeline

destinations during weekdays, but very limited service at night and on weekends.

If transit access to key destinations continues to be limited, it is likely that the existing income gaps between different parts of the County will widen, as areas with limited access will continue to be seen as undesirable places to live and work.

### ***Increasing road congestion***

As the demand for travel across Washtenaw County increases, roads in the area are expected to become significantly more congested, increasing trip lengths for all road users. SEMCOG forecasts that in Ann Arbor, population will increase by 1.1% from 2010 to 2035, while employment will increase by 13.3%, indicating that an increasing number of people will be traveling to and within Ann Arbor for work.

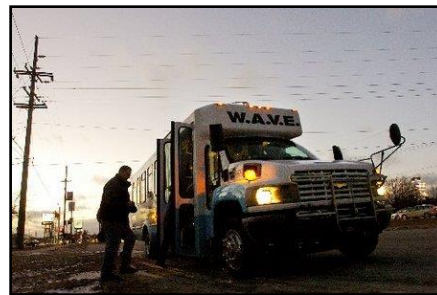
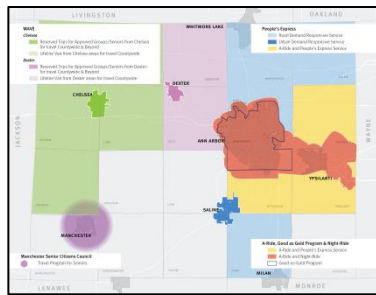


Among the most prominent corridors/areas of expected congestion growth are I-94 west of Ann Arbor, US 23 north of Ann Arbor, Michigan Avenue between Saline and Ypsilanti, many of the corridors between Ann Arbor and Ypsilanti, and Western Ann Arbor. Many of these are key travel corridors, and if increasing congestion is not addressed, connectivity throughout the County will suffer considerably. Unchecked increases in congestion will also drive dispersed development, particularly of employment locations, and have a negative impact on economic efficiency.



### ***Lack of transit connectivity throughout the County***

Currently, connections between the cities and villages of Ann Arbor, Ypsilanti, Chelsea, Dexter, Manchester, Saline, and Milan are very limited. Improved connectivity will allow outer cities and villages to strengthen economic ties with each other and with Ann Arbor and Ypsilanti and make it easier for these locations to market themselves as ‘destinations.’ This will support the development of the regional economy. On the other hand, if connectivity does not improve, many residents of the outer cities and villages will remain isolated from other activity centers in the County.



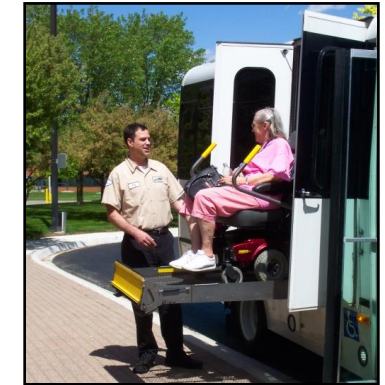
Of the outer cities and villages in Washtenaw County, only Chelsea and Dexter are currently connected to Ann Arbor by fixed-route transit. Manchester, Milan, and Saline are currently not served by any fixed-route transit. Demand-responsive transit is available in these areas, but is generally limited to certain groups, and offers service to a limited set of destinations. According to the 2009 AATA Onboard Survey, 39% of transit riders valued transit service outside of Ann Arbor-Ypsilanti as —very important or —of some importance.

### ***Increasing mobility needs due to an aging population***

Seniors 65 and above currently make up 9% of Washtenaw County's population, and seniors over the age of 85 account for 1% of County population. In 2035, seniors 65 and above are expected to make up approximately 23% of the population, and the population over the age of 85 is expected to grow considerably. As the population ages and seniors become more dispersed throughout the region, there will be an increasing need for transportation options for this market segment, in order to maintain individuals' current standards of living.



"I've driven  
all my life;  
what will I do  
if I can't?"



As drivers age, vision loss, hearing loss, reduced reaction times, as well as more serious conditions such as dementia frequently detract from the ability to safely drive a car. According to the National Institute on Aging, more than 600,000 American seniors stop driving every year; at this point, these seniors are completely dependent on others for their transportation needs. To the extent that public transit is viewed as a reliable means of transportation, it can play a major role in allowing seniors to maintain a sense of independence and social connections with others.

### ***Transit can increase its appeal to choice riders***

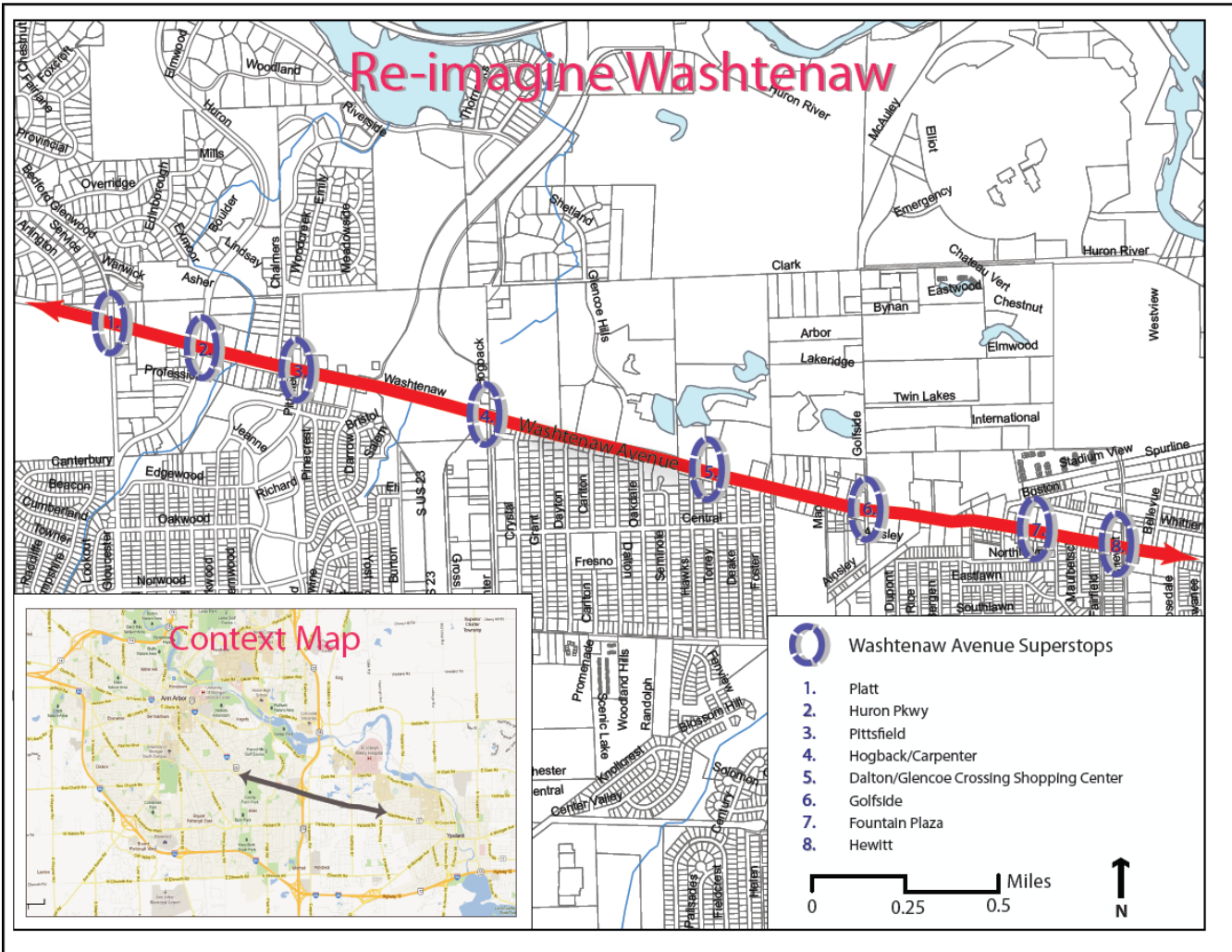
Among the additional benefits of improving transit service, and in turn attracting more riders, are increased safety and positive environmental impacts. Collision rates for public transit vehicles are much lower than for private autos. As a result, fewer crashes result when more people opt to take transit instead of driving. In addition, efficiently run bus service produces fewer emissions per passenger trip than private autos. To the extent travelers choose to use TheRide instead of driving, the negative environmental impacts of transportation in the County will be reduced.

Auto trips may often have a significant travel time advantage over transit trips. However, this is offset by the ability to use the time riding for other things such as reading or napping.



Additionally, route, schedule, and fare information can be challenging to find or to understand, making it difficult for new or infrequent riders to feel comfortable trying the service. Potential choice riders can also be discouraged by many other factors such as comfort, safety, and security.

According to the 2009 AATA Onboard Survey, 37% of *TheRide* riders own or have access to a car but choose to ride the bus. As *TheRide* looks to increase its share of these choice riders, it will need to make improvements in these areas to make transit more competitive with private auto.



To appeal to choice riders, AATA (TheRide) has introduced a wide variety of services aimed at specialized markets.

## II. TRANSIT NETWORK DESIGN

### 1. TWO TYPES OF TRANSIT SERVICES

#### **Comprehensive Transit Services**

A primary mission of the Ann Arbor Transportation Authority since its inception has been to provide bus service for people who don't drive. This includes seniors, youth, people with disabilities, low-income persons, and others without a personal vehicle.

Transit is the primary means of transportation for many people, and transit service needs to be comprehensive to meet their needs to get to and from work, school, medical appointments, shopping, and many other activities. For people who depend on transit, service is needed throughout the area, and at a broad range of times.

The basic structure of AATA's routes was designed to meet these comprehensive needs. It is a "pulse" system with coordinated connections at central points. That is, many routes converge at the transit center in downtown Ann Arbor with buses from most routes scheduled to meet at the same time (there are also timed connections at downtown Ypsilanti, Briarwood Mall, across from Arborland, and Meijer on Carpenter). This type of radial route design is used in nearly all U.S. cities under 500,000 population because it distributes trips efficiently. It makes it possible for a person can get from nearly anywhere in Ann Arbor to anywhere else in Ann Arbor with a travel time of no more than 45 minutes. This is generally true, even evenings and weekends when most routes only operate once every 60 minutes.

The most recent review of the system was done in a study undertaken in 2007 by transportation consultant Parsons Brinckerhoff at the behest of AATA, the City of Ann Arbor, the Ann Arbor Downtown Development Authority, and others. The analysis concluded that the current network design was most appropriate to the travel and geographical conditions of the service area, and that pursuit of a grid system is not recommended.

#### **Convenient Transit Services**

Increasingly, the AATA's bus service has been asked to help to reduce the growth in traffic congestion and parking demand in Ann Arbor. This requires different service. Traffic congestion is concentrated during weekdays, particularly in peak commute hours. Frequent, direct (i.e. without transferring) service is required to induce people to choose to use the bus when they have the option to drive and park. In addition, use of bus service is largely dependent on external factors, particularly the supply and price of parking. In Ann Arbor, this means that the opportunity for AATA to attract commuters is primarily downtown and the U of M campus where parking is limited and commuters have to pay to park.

Since 1993, the AATA has added a significant amount of service designed to serve this "choice" market, and much of the 57% increase in the number of riders over the last ten years has come from this market. In AATA's 2011 survey of bus passengers, 37% of riders reported that they could have driven, which is up from 18% in the 1998 survey. This increase is the result of new service combined with a major effort by AATA to work with large employers such as the University of Michigan, and downtown Ann Arbor with the AATA's getDowntown Program.

Even with this growth, the share of the commuter market served by AATA is relatively small. About 5-8% of all trips during peak-hours are taken by bus. However, as noted by the Federal Highway Administration, "The characteristics of highway traffic flow are such that a shift in a relatively small proportion of peak-period trips can lead to substantial reductions in overall congestion (FHWA, 1999, in TCRP Report # 65 p. 14-2, Transportation Research Board, 2003).

The AATA is continuing its efforts to attract commuters through promotional efforts, park and rides, VanRide, ExpressRide, and cooperative ventures with employers, universities and government agencies. At the same time, we are continuing our commitment to provide comprehensive service for people who depend upon bus service to meet their daily needs.



## 2. WHY IS TRANSFERRING NECESSARY?

### “HUB-AND-SPOKE VS. GRID SYSTEM”

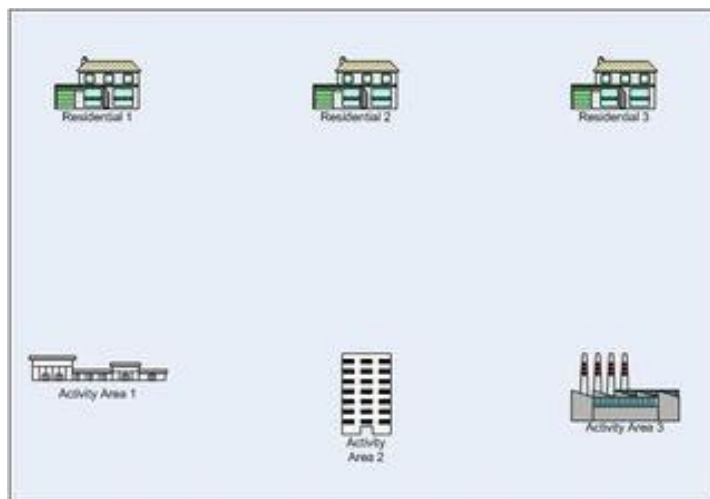
Excepted from Jarrett Walker’s blog Human Transit

<http://www.humantransit.org/2009/04/why-transferring-is-good-for-you-and-good-for-your-city.html>

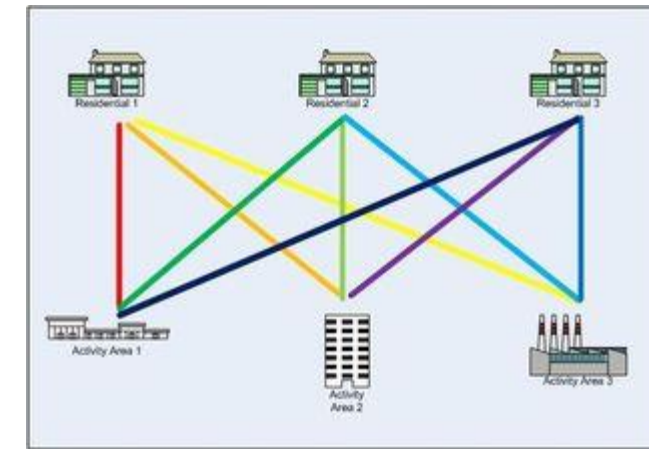
To complete your trip in a world-class transit system, you may have to make a connection, or "transfer" as Americans say. That is, you may have to get off one transit vehicle and onto another. You probably don't like doing this, but if you demand no-transfer service, as many people do, you may be demanding a mediocre network for your city.

There are several reasons for this, but let's start with the most selfish one: your travel time.

Imagine a simple city that has three primary residential areas, along the top in this diagram, and three primary activities of employment or activity, along the bottom.

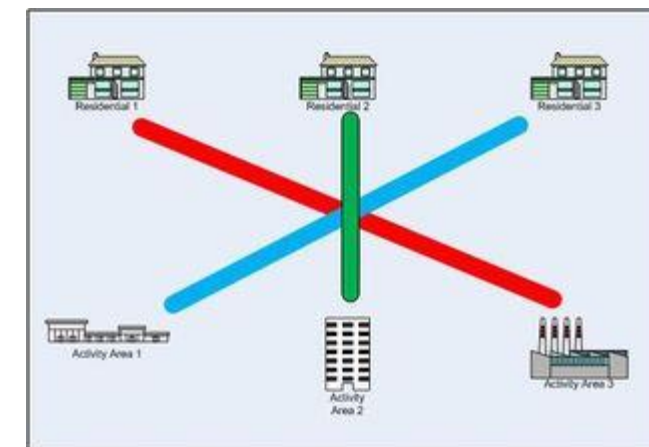


In designing a network for this city, the first impulse is to try to run direct service from each residential area to each activity center. If we have three of each, this yields a network of nine transit lines:



Suppose that we can afford to run each line every 30 minutes. Call this the Direct Service Option.

Now consider another way of serving this simple city for the same cost. Instead of running a direct line between every residential area and every activity center, we run a direct line from each residential area to one activity center, but we make sure that all the resulting lines connect with each other at a strategic point.



Now we have three lines instead of nine, so we can run each line three times as often at the same total cost as the Direct Service option. So instead of service every 30 minutes, we have service every 10 minutes. Let's call this the Connective Option.

Asking people to "transfer" is politically unpopular, so the Direct Service option is the politically safe solution, but if we want to maximize mobility with our fixed budget, we should prefer the Connective option.

The Connective Network is faster, even though it imposes a connection, *because of the much higher frequencies that it can offer* for the same total budget.

*As cities grow, the travel time advantages of the Connective Network increase.* For example, suppose that instead of having three residential areas and three activity centers, we had six of each. In this case, the direct-service network would have 36 routes, while the connective network would have only six. You can run the numbers yourself, but the answer is that the Direct Service network still takes 35 minutes, while the Connective network is down to only 25 minutes, because of the added frequency.

### **Other Advantages of Connective Networks**

Several factors support Connective networks over Direct Service networks.

- Average travel time is better than the worst-case time calculated above. In the Direct Service network, everybody's trip takes 35 minutes. In the Connective network, two-thirds of the market has a 30-minute trip, but one-third of the market (those still served by a direct route) has an even faster trip.
- The Connective network is made of more frequent services. Frequency makes connections faster but it also stimulates ridership directly, especially when we consider the needs of people who have to make several trips in a day, or who want to travel spontaneously, and who therefore need to know that service is there whenever they need it.
- The Connective network is simpler. A network of three frequent lines is much easier to remember than a network of nine infrequent ones. Marketing frequent lines as a Frequent Network can enhance the ridership benefits of this simplicity.

Most transit networks start out as Direct Service networks with relatively little focus on connections, but as the city grows bigger and more complex, connections become more important. In most cases, though, there's a transition from a Direct Service network to a Connective one, a transition that often requires severing direct links that people are used to in order to create a connection-based structure of frequent service that is more broadly useful and legible.

**More information on adding a new route:**

<http://www.humantransit.org/07box.html>

3. TRAVEL PATTERNS – CONNECTIONS BETWEEN COMMUNITIES

How do I benefit from services provided in other communities? Why should my community pay for services used by people who live in other communities?

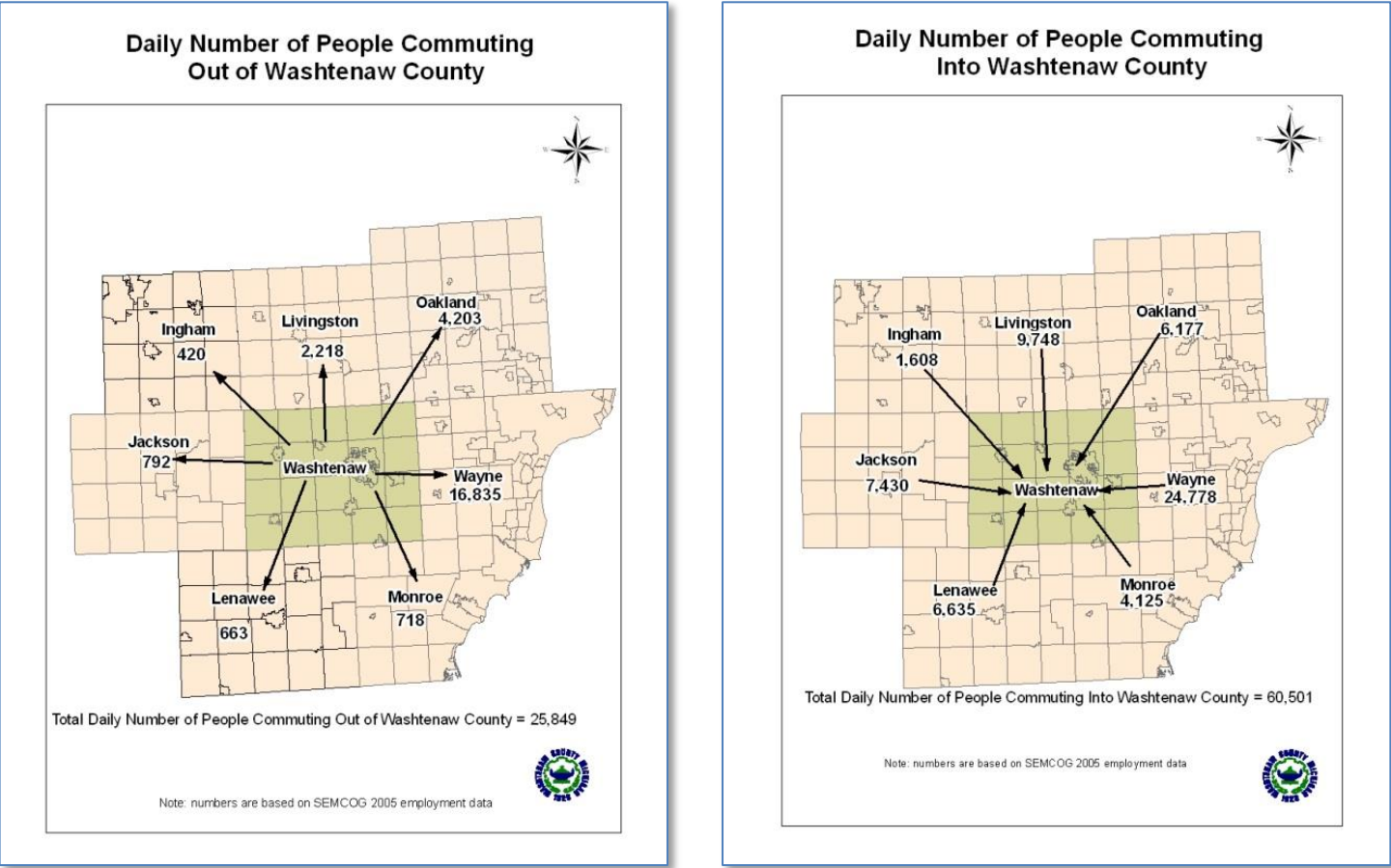
Many services cross community boundaries, and the cost for such service is not easily broken down and assigned to each community. AATA’s Route #4 Washtenaw travels through two cities (Ann Arbor and Ypsilanti) and two townships (Pittsfield and Ypsilanti).

Services often provide benefit to the ‘destination’ location as well as the ‘residence’ location. AATA’s Chelsea Express service attracts residents from Chelsea, Grass Lake, Manchester and Jackson. Many of these trips benefit Ann Arbor by removing cars from Ann Arbor streets and parking spaces. The more people that come into town without a car, the fewer parking spaces at up to \$50,000 per space – that are needed.

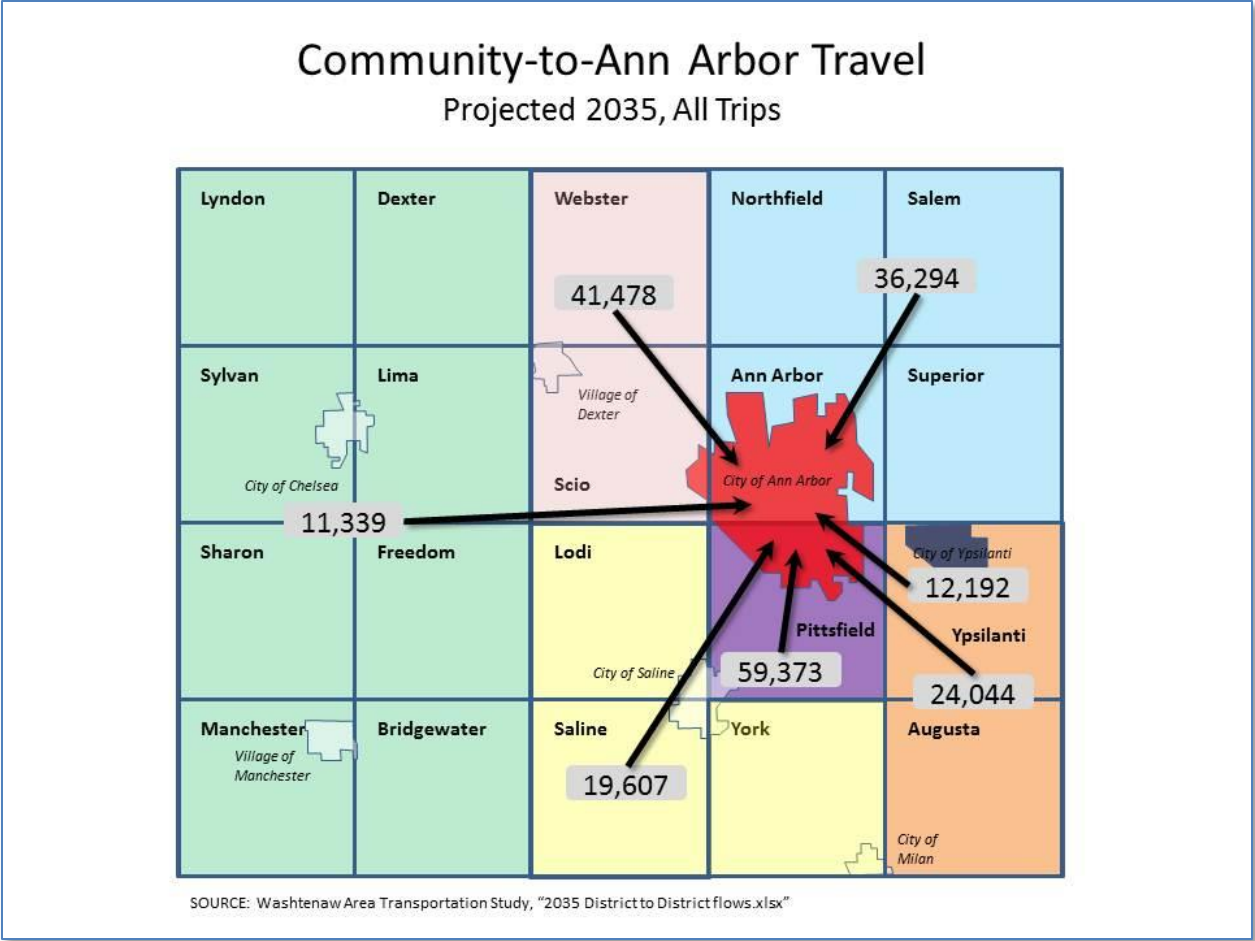
When transit brings people into a community from other areas, it boosts the local economy. Employers gain access to workers, schools gain access to students, and businesses benefit from purchases made by visitors and commuters.

When one community pays for the services used by residents of another community, it is often balanced out by the other community doing likewise. Wayne County sends over 25,000 commuters daily into Washtenaw County where those workers consume roadway, transit and parking resources. But Washtenaw Co sends about 17,000 commuters daily into Wayne Co.

Washtenaw County maintains its economic strength, in part, by drawing commuters into the county from other areas.



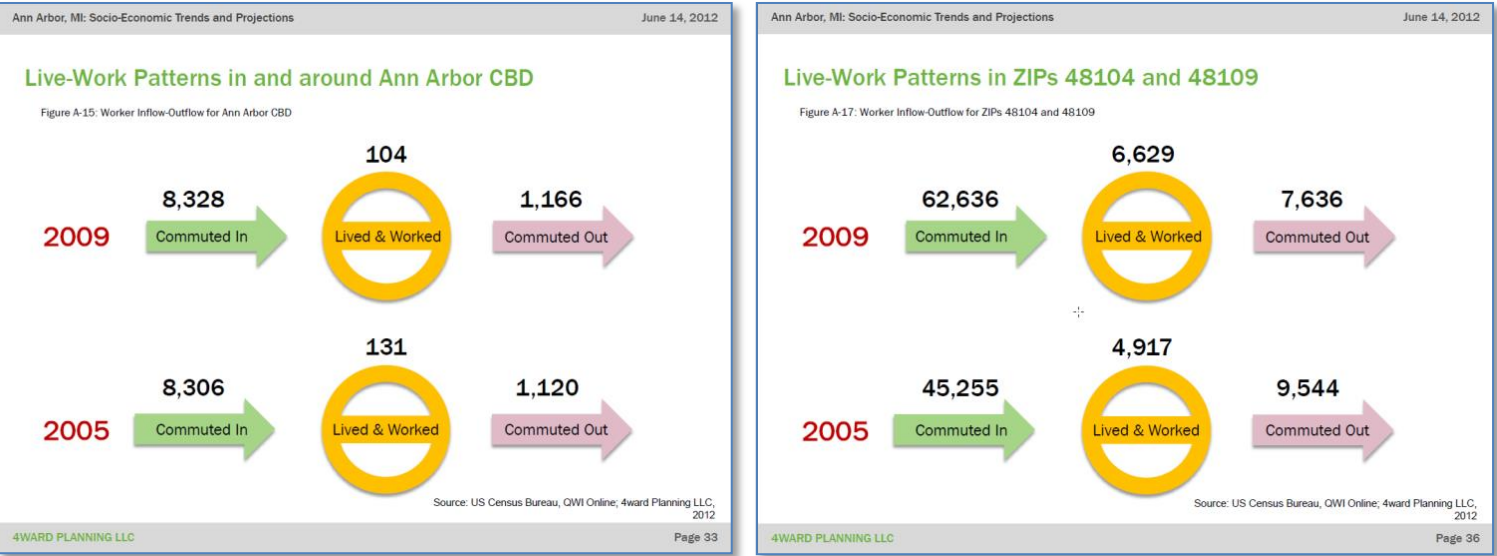
By 2035, 670,000 trips daily will end in Ann Arbor. Nearly one-third of those will come from neighboring communities.



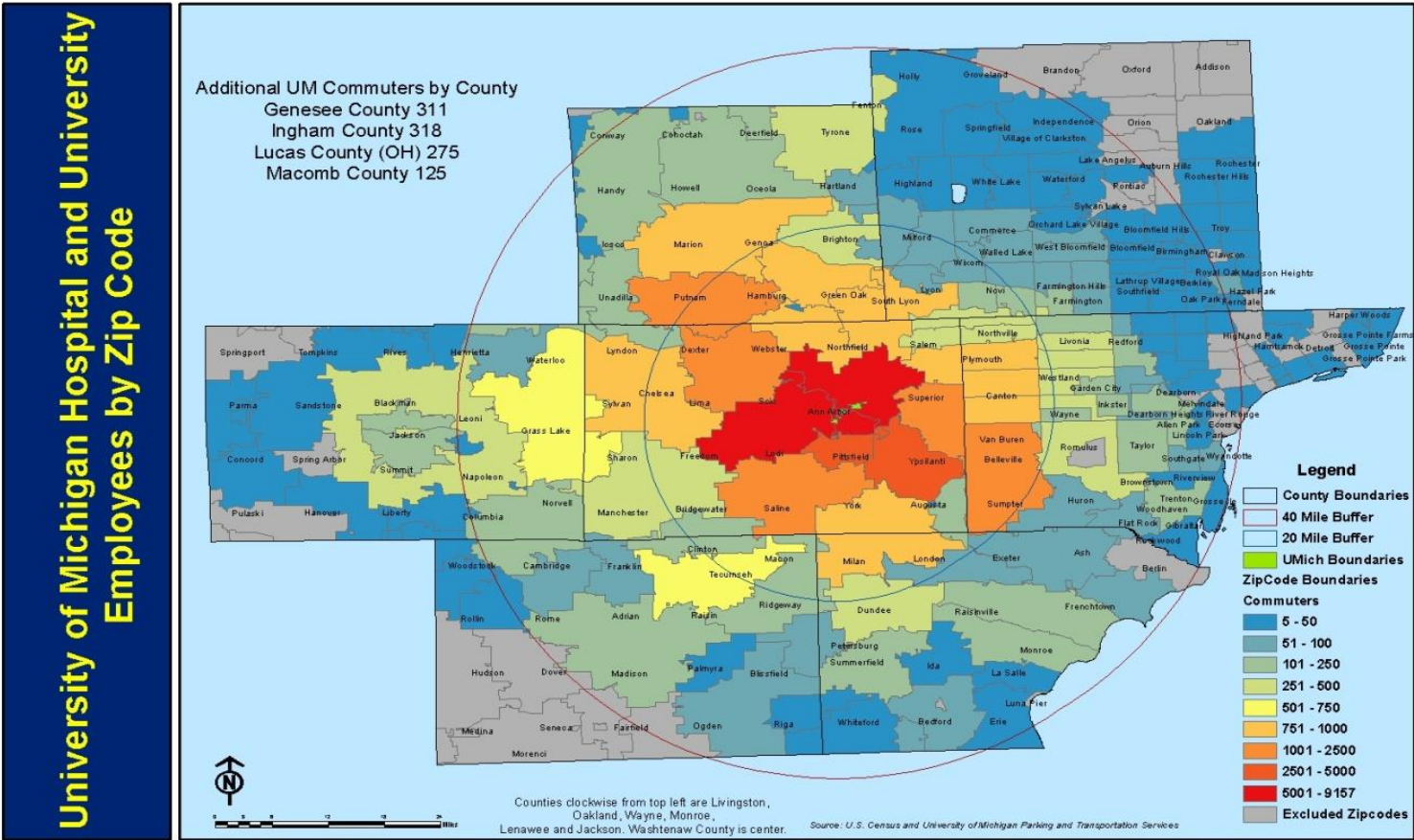
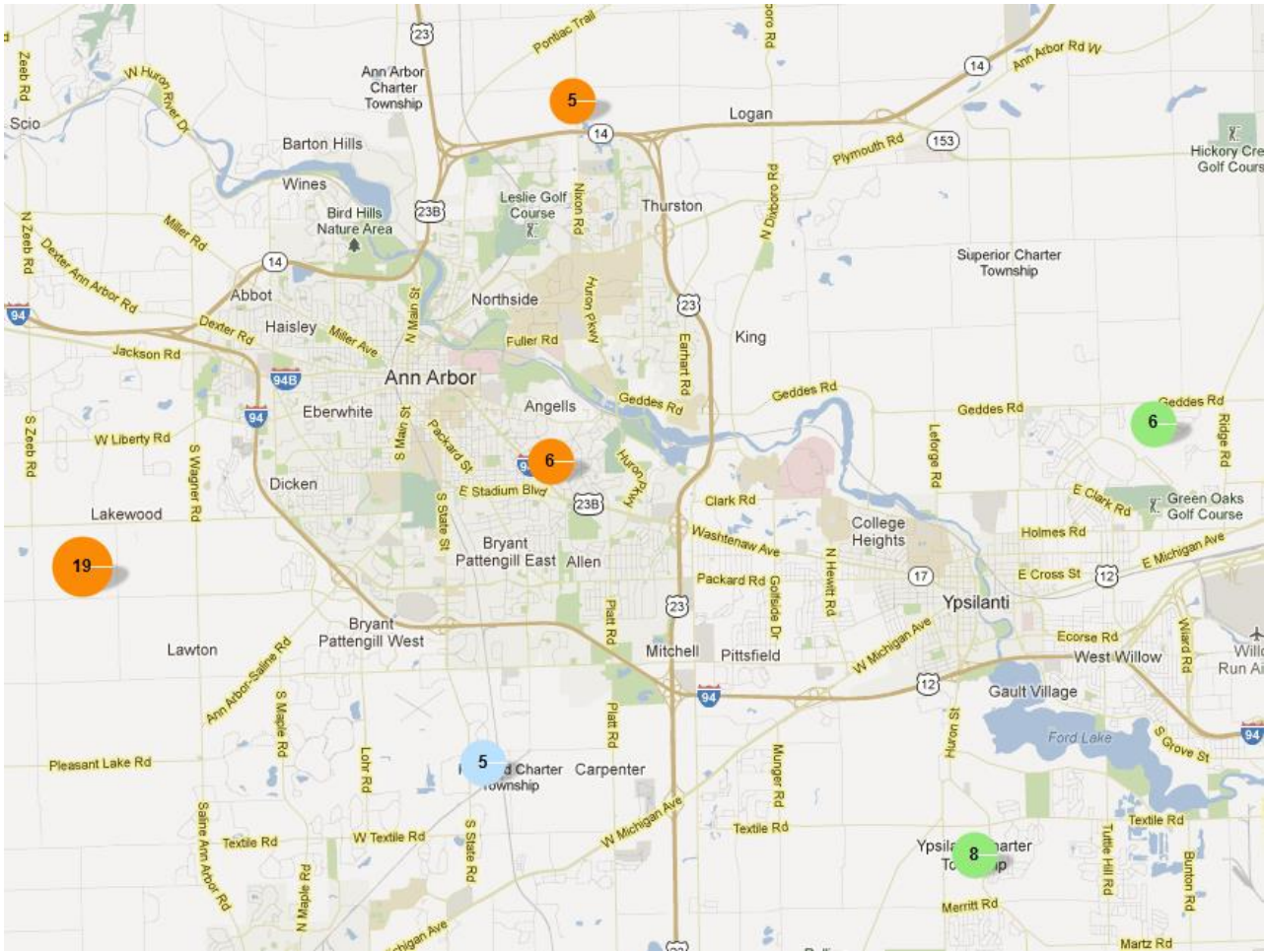


3. TRAVEL PATTERNS – CONNECTIONS BETWEEN COMMUNITIES (cont'd)

Currently, many more people commute in to Ann Arbor’s central area than commute out. (SOURCE: Connecting Williams Street Market Study)



A company like Zingerman’s depends on a wide reach to get its employees to work (below is a map showing Zingerman downtown employee origins by zip codes).



The University of Michigan attracts thousands of employees daily into Ann Arbor from all over Southeast Michigan.

### III. FUNDING TRANSIT

#### 1. HOW TRANSIT IS FUNDED

In Michigan, **local funding** provides the basis for transit service. State and Federal funds match local dollars and riders pay fares to use the services offered. Therefore, local funding is the primary determinant of the level and quality of transit services.

- Sufficient and consistent funding allows a local transit system to develop and flourish.
- Increased funding allows for improvement of services.
- Inconsistent funding results in an inconsistent system and does not allow for longer-term investments and growth of ridership.

The Ann Arbor area has been exceptionally fortunate with constant local support for transit, allowing AATA to offer a wide variety of services at a high level.

For every dollar spent on AATA transit, approximately:

- 33% is from local millages or Purchase of service agreements (POSA's)
- 30% is from State Operating Assistance
- 19% is from fares or 3<sup>rd</sup> party payment of fares
- 15% is from Federal sources
- 3% is from advertising and other sources

The Capital funding needed for purchasing buses, facilities, and equipment is a blend of 80% Federal grant funding and 20% State Matching Funds.

#### How to fund transit improvements

Local funding: Sustained improvements in service like increased frequencies and expanded night and weekend hours require local funding. Some new services have been supported for the first two years by federal Congestion Mitigation and Air Quality grants, but require local funding to continue.

In Michigan there are a few, but limited local options to fund transit through the transit agency (property tax, raising fares, and bonds for capital projects). Local governments may use several options for raising funds as enabled by the state: general funds, property taxes, employment taxes, etc.).

During the past few years the Federal and State Transit funding has remained untouched through the budget cuts. The Board of AATA approved a policy to retain a three month new assets program that will ensure a minimum safety net of our existing and future operating budgets for up to three months. As the Federal and State budgets become increasingly unpredictable and the expiration of Federal Programs, such as earmarks for transit, and Map 21 (current transit funding program), the leadership that AATA's Board has taken to place safeguards into our budget process will ensure the continued responsible spending of the Public's Funds on the transit needs for our community's future.

For a detailed analysis of how transit is funded, please see Todd Litman's *Local Funding Options for Public Transportation* which can be found here: <http://www.vtpi.org/tranfund.pdf>.

#### Funding Options for Sustaining, Improving or Expanding Urban Core Transit

**Questions:** What funding sources are available to pay for improvements to, or expansion of, the urban core transit system? What is available now? Why not wait for some of the funding sources we have been hearing about, like the RTA?

These options describe future State Budget Amendment opportunities for the transit industry. With each example there are timing issues related to how quickly funds may be available for use by a transit company. All of these options will take either future legislative support to become law and/ or a majority vote of local residents.



Funding Option	Local Amount (AATA)	Action Needed	Readiness
Local Millage levies under Act 55 or Act 196	Dedicated Transit Tax	Ballot measure in the affected area(s) and a majority in favor	No legislation or constitutional action required. Can be put in place within months of local decision.
General Fund	Discretionary	Local Board Approval	No legislation or constitutional action required. Can be put in place within months of local decision.
Passenger Fares	Fare change increment which may reduce ridership	AATA Board Approval and Public Input	No legislation or constitutional action required. Can be put in place within months of local decision.
<b>The following measures are all options proposed within the Governor's 2014 budget. ALL would require legislative approval first, then additional action as specified.</b>			
Wholesale Gas Tax Increase - \$0.19 cents per gallon	The Local Bus Operating Assistance Program would rise to approximately \$181 million for distribution to all Local Bus Operators per MDOT Formula. This would bring additional funds to AATA of approximately \$1 million	Change to the Constitution of Michigan which in turn requires approval of Statewide ballot vote.	Proposed as part of the Governor's 2014 Budget  One year to ramp up before fees could be dispersed to AATA
Sales Tax - 2% increase to all items but food and beverage	The Local Bus Operating Assistance Program would rise to approximately \$181 million for distribution to all Local Bus Operators per MDOT Formula. This would bring additional funds to AATA of approximately \$1 million	Change to the Constitution of Michigan.  Approval of Statewide ballot vote.	Proposed as part of the Budget  Would take two years to ramp up before fees could be dispersed to AATA.
Motor Vehicle Increase – Statewide for all vehicles	The Local Bus Operating Assistance Program would rise to approximately \$181 million for distribution to all Local Bus Operators per MDOT Formula. This would bring additional funds to AATA of approximately \$1 million	Twelve month ramp up in Secretary of State Offices in order change the computer system to collect the extra fees and a process to distribute to each County.	Legislative Concept
<b>Legislation in late 2012 created a Regional Transportation Authority, with limited ability to raise revenue. The RTA-related options are listed below:</b>			
RTA Area Wide Millage	Unknown as this depends on the RTA millage level requested	The RTA Board would have to meet and will have to approve a millage request  Ballot measure in the 4-county area and a majority in favor	Legislative Concept
Motor Vehicle Fee	If this was approved by the voters within the RTA Area then Washtenaw County may contribute approximately \$7.5 million  In which the RTA Board would have control over the distribution to AATA	The RTA Board would have to meet and will have to approve a millage request  Ballot measure in the 4-county area and a majority in favor	Legislative Concept

## 2. PURCHASE OF SERVICE AGREEMENTS

Currently the AATA has Purchase of Service Agreements (POSA's) with the City of Ypsilanti, Pittsfield Township, Superior Township, and Ypsilanti Township. Some of these agreements have existed for more than thirty years. Over the years as our service has changed so has the cost of the agreements. The Service Hour basic method for calculating the POSA rate has remained constant since the beginning of POSA agreements. This is the true measure of how many hours a fixed route bus travels through a community. Starting with the Service Hours the calculation is run through the following items:

1. Hours of service operated within a jurisdiction and route.
2. Cost Per Service Hour. This is the fully allocated cost to run the service for one hour. The full allocation includes all expenses for AATA.
3. Leveraged Funds. The amount of Operating Cost offset for running the route distributed by the Federal and State distribution formula, otherwise known as Formula Funds. The formula funds are a percentage to offset the cost of operating a route on the street. We would not receive the benefit if we did not operate the route. As of 2013 the State Operating Ratio is 30.65% and the Federal Ratio is 15%.
4. Accounting of fare revenue. AATA records each time a passenger gets on the bus, by route and location. We use this to determine the annual ridership by jurisdiction. To calculate the fare revenue for purchase of service agreements, the number of boardings for the jurisdiction is multiplied by the average fare per passenger.
5. The average fare per passenger is about \$0.86. It is well below the \$1.50 cash fare because of discount fares (passes, half fare for k-12 students and low-income persons, and free for seniors and people with disabilities) and transfers. A rider who pays a \$1.50 fare and transfers to a second route is paying \$0.75 to each route.

**NOTE:** A person who gets on the #10 route in Ypsilanti Township, and transfers to the #4 route at the Ypsilanti Transit Center is counted as one passenger boarding in each jurisdiction

6. Calculation in writing.

### Expenses:

1.  $(\text{Service Hours} \times \text{Cost Per Service Hour}) = \text{Total Cost of Service}$

### Revenues:

1. Total Cost of Service is then Multiplied by the Federal and State Percentages
2. Passenger Fares
3. Total Cost:  $(\text{Federal Operating Ratio} + \text{State Operating Ratio} + \text{Passenger Fares}) = \text{Revenue Subtotal}$

### Local Share:

1.  $\text{Local Share} = \text{Total Cost} - \text{Revenue Subtotal}$

The existing Purchase of Service Agreements (POSA) duration is limited to an annual agreement for each community. These agreements are assumed to end or be replaced with another funding mechanism. This mechanism could be a longer duration POSA, new general fund contribution for longer duration, or a local millage. The current method of service planning and industry standard for developing a successful route is a three year introductory process. This ensures consistent ridership, route adjustments and timing to ensure long term sustainability of the route. In the future, AATA requests that future POSA agreements are signed for a Three Year Period in keeping with industry standards.



### **3. HOW DOES AATA KEEP COSTS UNDER CONTROL?**

Higher costs for goods and services resulting from inflationary pressures in addition to declining state eligible operating revenue and lower property tax collections have been an ongoing challenge for a number of years. AATA has been diligent in implementing many cost saving measures and seeking out alternate revenue sources in order to maintain the level of service provided to the communities it serves each and every day.

#### **Wages, Employee Benefits and Legacy Costs:**

The AATA pension plan has always been a defined contribution plan. The AATA has no unfunded liabilities.

In 2007, AATA addressed its legacy costs by converting its defined benefit post-retirement health care benefit plan into a defined contribution health care savings plan and front loaded much of the future costs. This lowered the unfunded liability by \$8 million from \$10 million to \$2 million.

Even though health care costs have increased by an average of 10-12% each year since 1999, management employees pay 20% of the health care premiums and members of the labor union pay 10% now and will pay 20% of the health care premiums by 2016. This represents an annual savings of \$270,000.

In 2012, AATA instituted a wage freeze for all non-union employees and increased their contributions to healthcare from 10% to 20% for an estimated savings \$130,000

#### **Fuel Savings:**

The cost of diesel fuel has increased over 500% since 1998. By purchasing hybrid electric vehicles, AATA has been able to save \$1.1 million on fuel

costs since 2007. In addition, over the past five years, AATA has managed the ever increasing and volatile price of diesel fuel by participating in the fuel futures market and saving an additional \$500,000.

#### **Other Cost Saving Measures:**

In 2010, we began the process to increase the hiring of part-time Motor Coach Operators, switched from traditional phone service to Voice-Over Internet Protocol (VOIP), changed to a more cost effective health care plan, switched from #1 ultra-low sulfur bio-diesel (10%) to #2 ultra-low sulfur bio-diesel (20%) and upgraded our energy management system to control facility natural gas and electricity costs.

Over the five years (2003-2008), TheRide's cost-saving measures represented a mere 1.4% annual increase in fixed route service costs at a time when most of our peer transit agencies in our own state and across the country were seeing average cost increases of four percent.

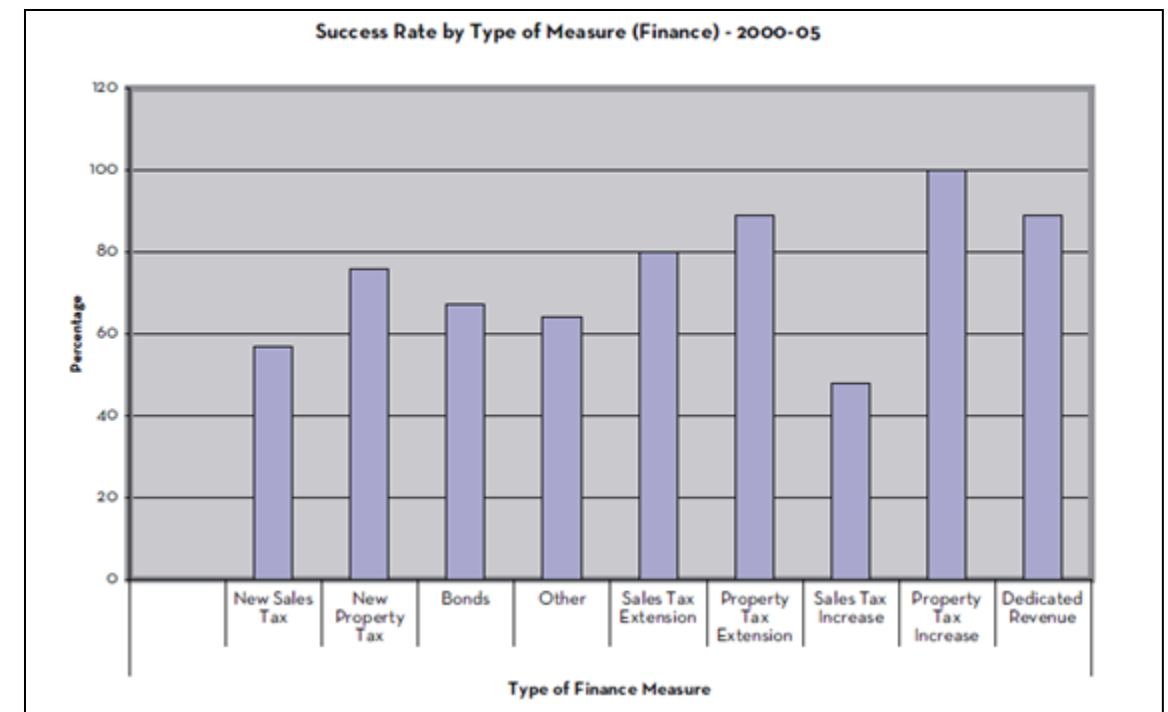
## IV. TRENDS IN PUBLIC SUPPORT OF TRANSIT INITIATIVES: NATIONAL, STATE, LOCAL

### 1. PUBLIC TRANSIT REFERENDA 2000 - 2012

The Center for Transportation Excellence reviewed and analyzed transportation ballot measures over the period 2000–2005 in its report titled Transportation Finance at the Ballot Box; Voters Support Increased Investment & Choice. According to the authors, **approval rates for transportation measures hit 80 percent in 2004 and 2005.** Early indications for 2006 suggested that this trend was to accelerate with several significant measures already approved in primary elections the year the report came out and 40 or more measures slated for consideration that fall. In the six elections reviewed in the report, voters in 33 states had approved 70 percent of all transportation measures generating funding conservatively estimated in excess of \$70 billion.

The use of property taxes has been particularly widespread in portions of the Midwest. In 2004 alone, fourteen property tax measures were on the ballot in various Michigan counties. Twelve of the fourteen measures were successful. In the first half of 2006, four additional Michigan counties had announced plans for a transportation property tax vote.

Property tax measures have the highest victory rate of any financing type. From 2000-2005, more than 80 percent of all property tax measures related to transportation were winners at the ballot box. From 2000 to 2005, no ballot measure increasing an existing property tax for transportation has been defeated, and only one property tax extension measure has gone down to defeat.



As you jump ahead to the past three years, you will find that transportation ballot measures continue to be very successful in Michigan.

In 2010 there were 21 transit ballot measures with 19 of them winning voter approval (**90% success rate.**) Of these initiatives, three were new millages, 14 were renewals and four were increases in existing transit millages.

In 2011 there were 12 transportation ballot initiatives with 11 out of 12 initiatives passing (**91% success rate.**) These measures were all property tax millages. Out of the 12 measures, one was a new transit millage, seven were renewals of transit millages and four were for increased transit funding.

In 2012 the number and success of transportation ballot measures jump dramatically to 33 with 32 initiatives passing (**97% success rate.**) Of these 33 ballot initiatives, seven were new transit millages, 16 were renewals, six were increases in transit funding, three were reinstatements of transit funding and one was to end access to transit services.

Data supplied by the Center for Transportation Excellence. For more information, please click here: [www.cfte.org](http://www.cfte.org).

2. OCTOBER 2011 PUBLIC SUPPORT FOR TRANSIT EXPANSION											
						The following service is "very" or "somewhat" important					
Defined Area	Communities Included	Respondents who say Public Transit is Important	Favorable view of TheRide	People who use or family uses public transit in the past year	Residents who support a 1-mill property tax to fund countywide transit	Dial-A-Ride	New Dial-a-Ride Plus	More frequency, nights, weekends in the cities	Express service to/from Park-and-Ride	Real-time bus info.	AirRide Service
City of Ann Arbor	City of Ann Arbor	80%	91%	66%	72%	87%	86%	84%	84%	81%	81%
Pittsfield and Ypsilanti	Ypsilanti, Ypsilanti Township and Pittsfield Township	80%	90%	40%	61%	89%	85%	84%	82%	79%	74%
City of Saline and Eastern Townships	City of Saline, Village of Dexter and Townships of Augusta, York, Saline, Lodi, Scio, Webster, Northfield, Ann Arbor, Salem and Superior	60%	87%	26%	53%	85%	79%	78%	75%	75%	71%

SOURCE: A COMMUNITY ATTITUDE SURVEY OF WASHTENAW COUNTY VOTERS REGARDING AATA - Survey Conducted - November 2011

Urban Core Transit

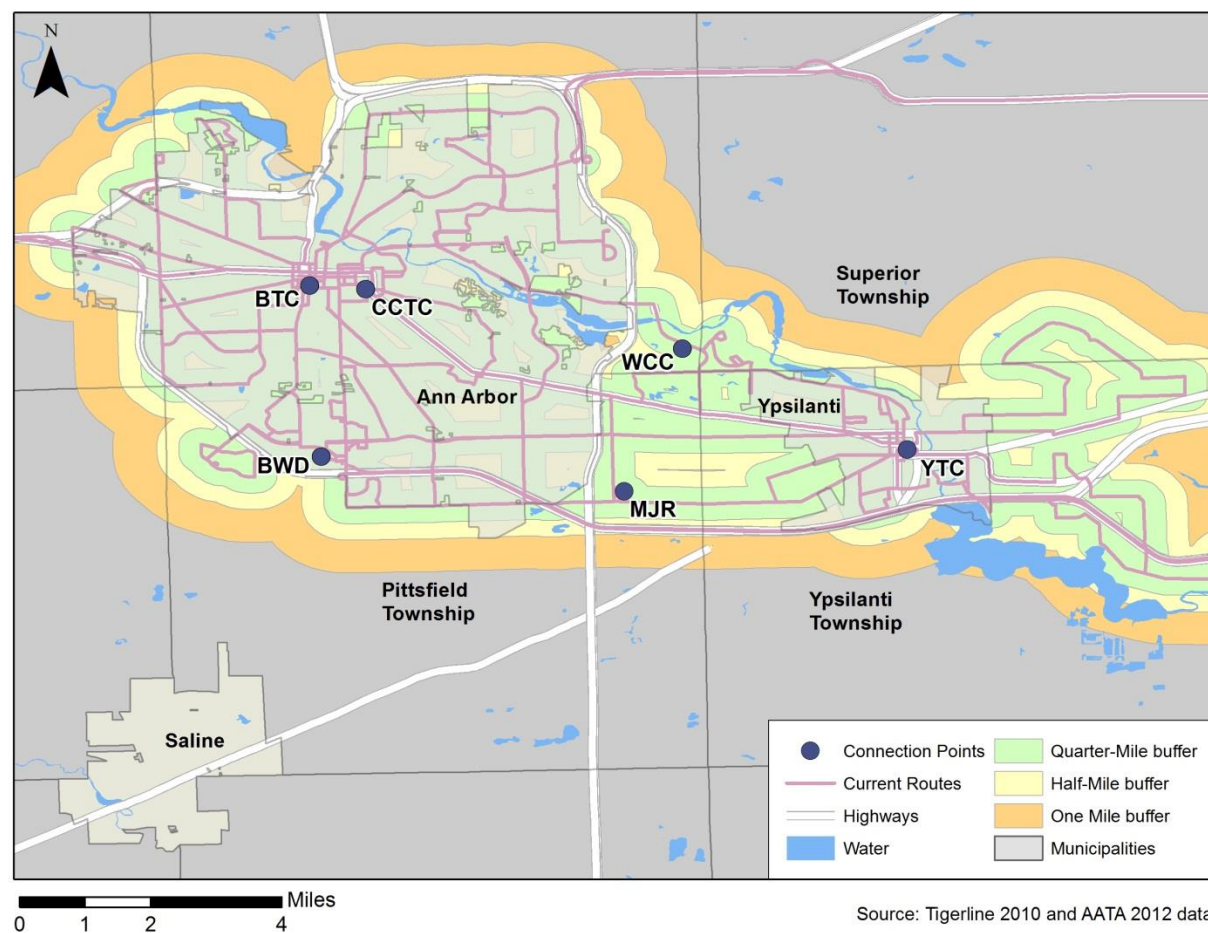
# **APPENDIX -BUFFER MAPS**



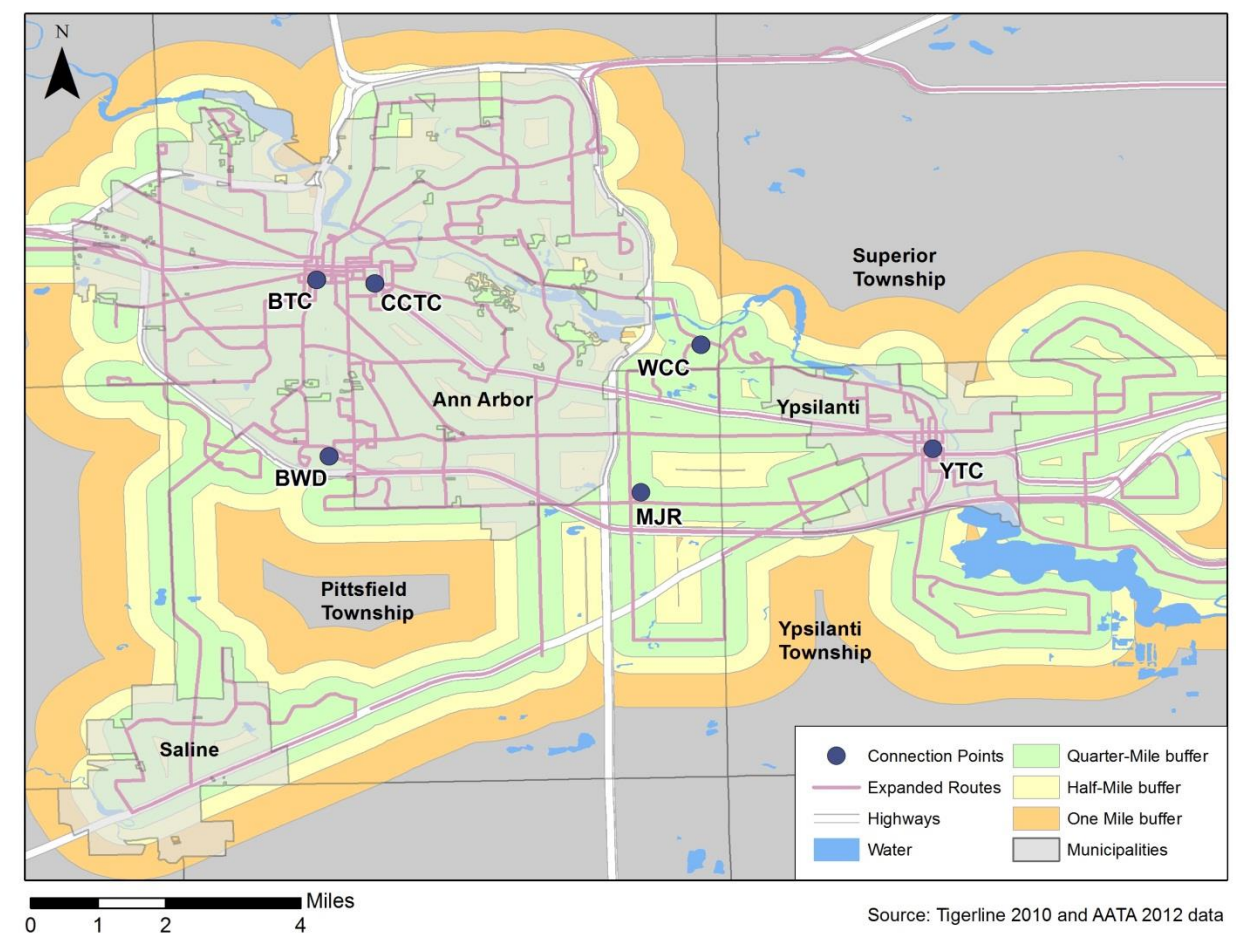
# Change in Transit Service Availability - Weekdays

Buffer maps depict the number of households within a certain distance of a transit line and can be used as one good measure of how changes in the transit system produce benefits for more people. In the maps below, we have shown the number of households within  $\frac{1}{4}$ ,  $\frac{1}{2}$  and 1 mile of the nearest transit line. By comparing the two maps, it is possible to discern visually how an expanded system might provide higher accessibility and mobility for greater numbers of people.

AATA Draft Sustained Route Accessibility



AATA Draft Expanded Route Accessibility

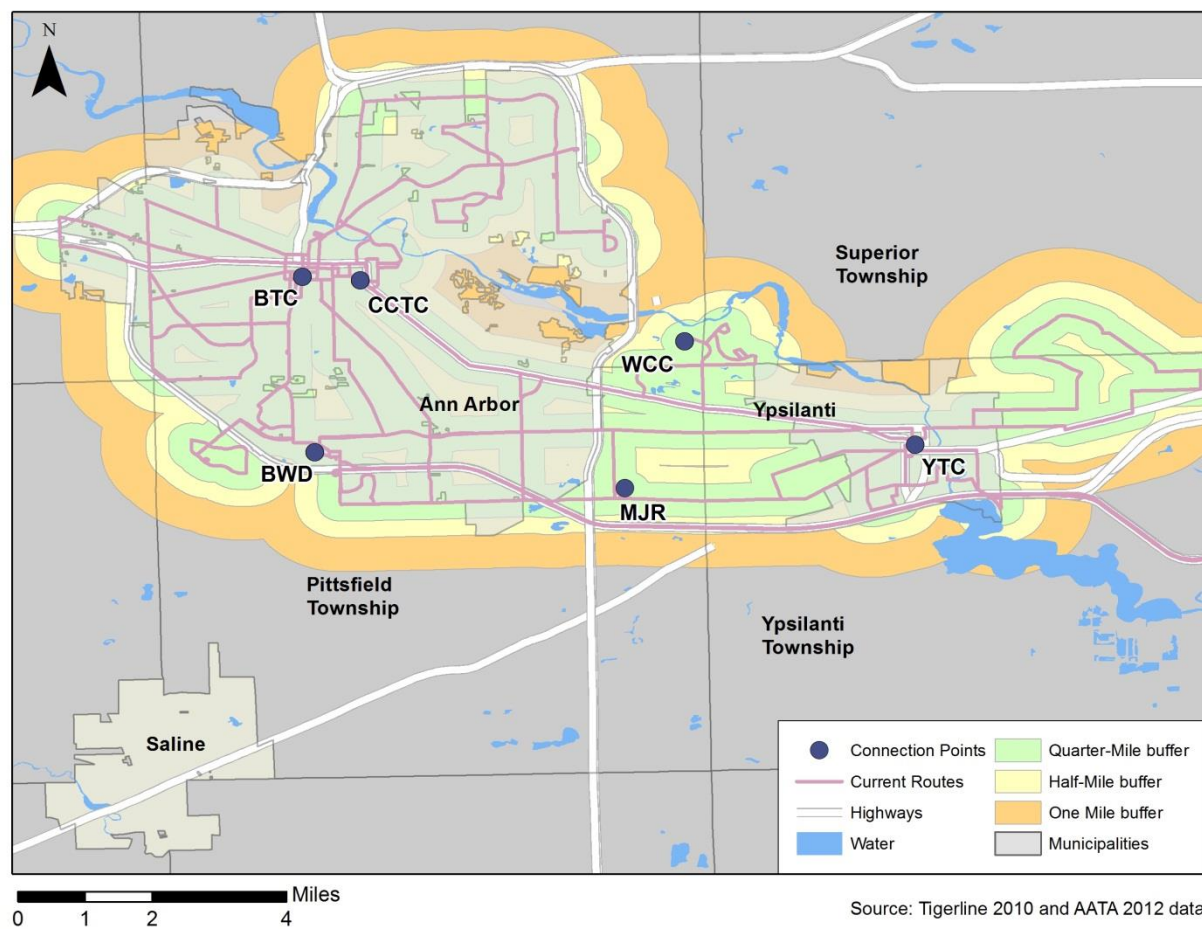




# Change in Transit Service Availability - Weekends

Buffer maps depict the number of households within a certain distance of a transit line and can be used as one good measure of how changes in the transit system produce benefits for more people. In the maps below, we have shown the number of households within  $\frac{1}{4}$ ,  $\frac{1}{2}$  and 1 mile of the nearest transit line. By comparing the two maps, it is possible to discern visually how an expanded system might provide higher accessibility and mobility for greater numbers of people.

AATA Draft: Sustained Weekend Route Access



AATA Draft: Expanded Weekend Route Access

