2045 LONG RANGE PLAN

Washtenaw Area Transportation Study

WASHTENAW
AREA
TRANSPORTATION
STUDY

2019

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INTRODUCTION

In a region with stagnant growth due to tightening labor markets, Washtenaw County remains a growing economic engine. Population and employment growth are both expected to significantly outpace the rest of the region and state. That growth means more trips. Those trips are shaped by policy and technology. This plan addresses policy issues surrounding transportation and provides guidance on how to plan for rapidly changing transportation technology and trip making behavior.

Introduction

POPULATION

Demographic forecasts predict 26% population growth (94,240 increase) in Washtenaw County by 2045, with the most significant increases in the City of Ann Arbor and urban Townships. As the County's population continues to grow, local land use decisions will affect the way these trips impact the built and natural environment. Dense, mixed-use development, along with responsible rural preservation is encouraged as it allows for efficient use of the existing transportation network. This, in turn, allows a greater share of resources to be spent on enhancing and connecting the current system rather than unnecessary highway expansions and road widenings. To this end, the impact that transportation projects have on people, communities and tourism should be considered and prioritized over increasing car throughput.

JOBS AND THE ECONOMY

Peak period commute trips are the primary source of congestion in Washtenaw County. With the total jobs in the county expected to increase 13% by 2045, these trips will continue to contribute to that congestion if they are primarily taken in single occupancy vehicles. Reducing the number of and duration of peak period commute trips is a policy priority that extends the value of previous investments and creates a more enjoyable travel experience for system users.

Projects that simply expand capacity fail to address the underlying factors driving traffic growth and prioritize a short term reduction of congestion with long term maintenance liabilities and expectations of future expansions. Policy makers should encourage implementing agencies to consider a broad range of infrastructure and policy solutions. Some of those solutions include:

- Expanding the scope and frequency of transit services
- Encouraging employer based trip reduction strategies
- User fees that discourage both peak period parking and travel on congested facilities
- High occupancy vehicle lanes or other solutions that prioritize travel for shared ride trips

Introduction

TRANSPORTATION AS A SERVICE

While the basic needs for access and mobility have not changed, the solutions available for travelers have expanded drastically, as technology enables new and innovative travel modes. Some of these services include:

- Ride-sharing
- Delivery services
- Bike and scooter sharing
- Mobility devices (e-bikes/e-scooters)

Washtenaw County should encourage both public and private providers to pilot and deploy these types of services locally. However, these services must respect the policy goals of local jurisdictions and be deployed in partnership with local agencies. Most importantly, priority should be given to services accessible to as many Washtenaw County residents as possible, regardless of socioeconomic status, geographic location, or physical or cognitive ability.

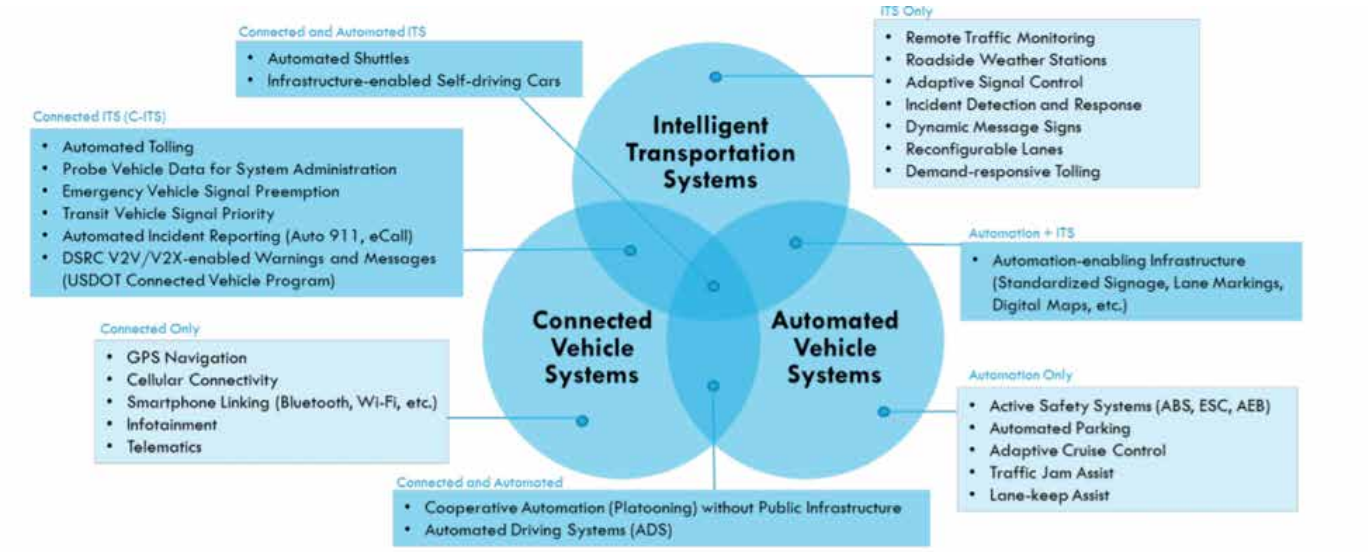
Introduction

AUTONOMOUS VEHICLES

Autonomous vehicles have the potential to significantly improve the lives of Washtenaw County residents. However, their actual impacts remain speculative, and outcomes range from immensely positive to environmentally catastrophic. The actual outcome is likely near the middle of this range, but decision-makers have the ability to encourage positive outcomes through policies that encourage vehicle sharing, promote transit use, protect the safety of pedestrians and cyclists, and changing land use patterns to encourage positive behavior.

The term *Autonomous* is regularly used for a host of technologies that are better understood separately, that, in combination, could lead to what most people think of as self-driving cars and buses. Those include:

- **Intelligent Transportation Systems (ITS):** ITS Systems are systems that use sensors, communication devices, and other electronics to improve the safety and efficiency of the transportation system.
- **Connected Vehicle Systems:** Connected vehicle systems provide a platform for exchanging information between vehicles, and between vehicles and the infrastructure around it.
- **Automated Vehicle Systems:** Automated Vehicle Systems are those that allow automated systems in a vehicle to act independently from driver control based on input from the world around them.



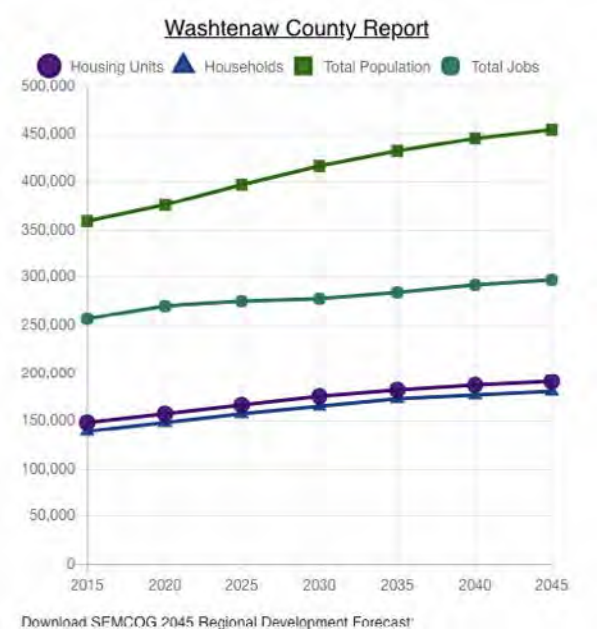
(source: Center for Automotive Research)

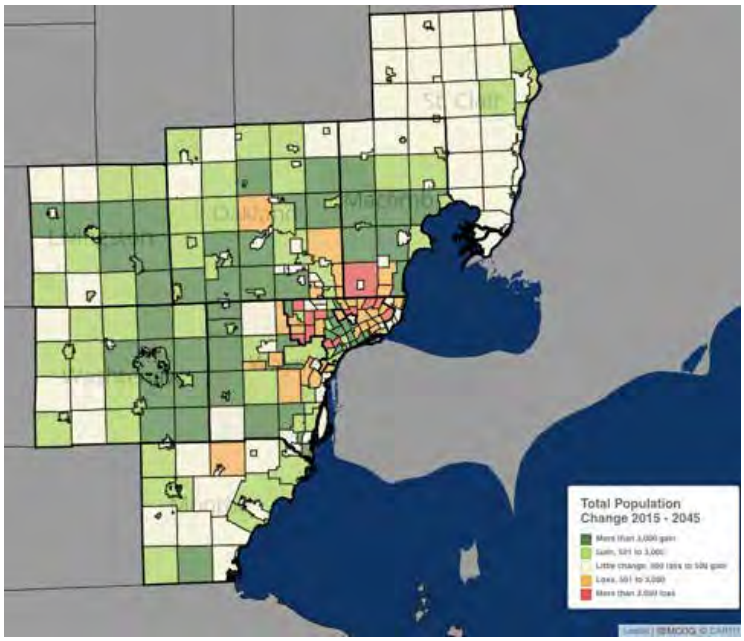
As policy-makers think about the long-term impact of these technologies, it is critical that they consider policies that encourage positive outcomes; reduced congestion, transit ridership growth, increased vehicle occupancy, and more equitable access to shared transportation options. Otherwise, these technologies could significantly contribute to congestion with Zero Occupant trips, undermine public transportation providers, and make communities less friendly to pedestrians and bicyclists.

Introduction

EQUITY

While significant portions of the county are thriving, other parts are struggling—specifically communities of color. All public investment presents an opportunity to rectify the historic injustices that led to these disparate outcomes. As WATS considers transportation investments across all categories, equity should be a determining factor in the selection of projects.

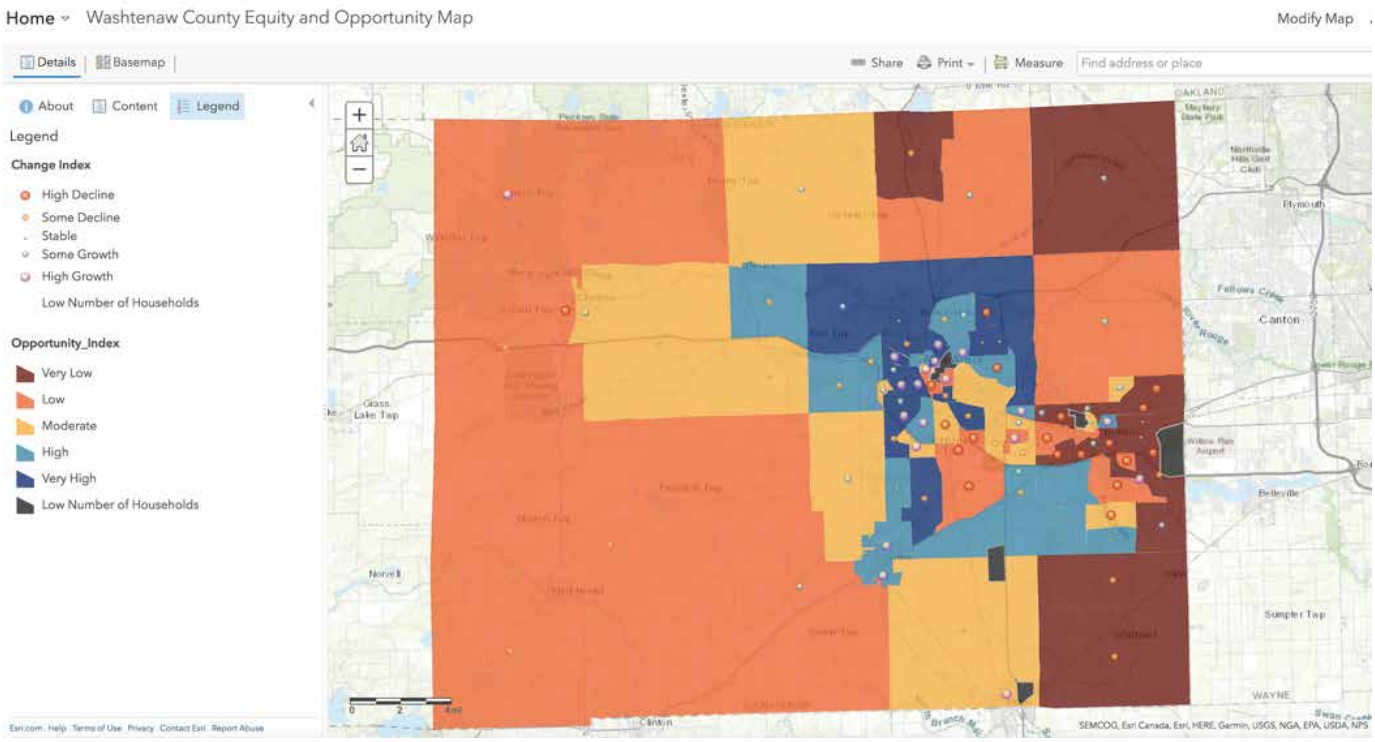




As local agencies prepare to accommodate the forecast growth in population and jobs, WATS will continue to focus on equity objectives, including reversing the effects of institutional racism. The Washtenaw County Opportunity Index identifies areas where the resident's social determinants (health, college, life expectancy) indicate low opportunities for upward mobility.

Introduction

WASHTENAW COUNTY OPPORTUNITY INDEX



The Washtenaw County Opportunity Index illustrates the geographically and racially disparate distribution of opportunity by mapping socioeconomic data. This helps identify where and for whom to prioritize resources.

Working with an equity special interest representative the WATS Technical Committee will explore proposed projects and policies noting the impact on racial and socioeconomic equity. WATS initial participation in the County's effort to impact opportunity through equity includes a geographic review to note if low-opportunity areas are receiving adequate investment and if improvements address needs for households with minimal access to a vehicle.

Introduction

EXPECTATIONS FOR A TRANSPORTATION SYSTEM

People have reasonable expectations of what their transportation system should provide.

These include:

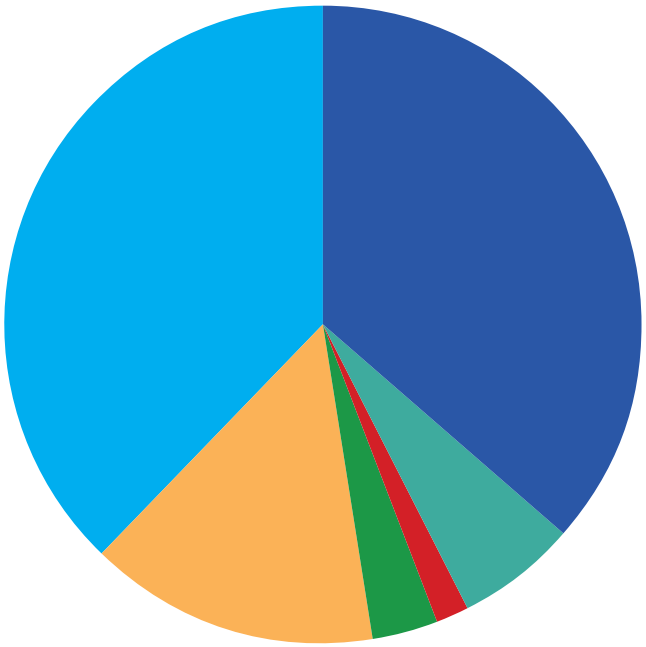
- A safe place to travel, regardless of mode
- Access to opportunity
- Preservation of the community's assets over additional capacity
- A commitment to consider the needs of all users

These fundamental expectations should be considered as this plan is implemented.

This plan identifies the use of $748 million to address the deficiencies in the transportation network in context of the issues discussed in the introduction. These projects were identified in consultation with local road and transit agencies, anticipating their needs over the next 25 years.

Introduction

2045 PROJECT TYPE TOTALS



Pavement - $273,129,456

Safety - $46,569,408

Bridges - $11,560,000

Environment - $24,347,367

Non-motorized - $110,371,781

Transit Capital - $282,319,193

Goals

INTRODUCTION

WATS Long Range Plan Goals serve as the foundation for the 2.1 billion dollars of investment in this plan and a starting point to guide policy decisions. Where possible, WATS has developed measures for each goal to gauge progress on achieving local targets and federal requirements. The following section contains background on the plan goals, a baseline measure and 2020 target. Targets are set at 5-year increments so WATS can monitor near-term progress and provide guidance to the WATS Policy Committee if the targets are not achieved. WATS believes these goals provide a framework that support state performance measures.

NOTE: *some targets are directional rather than specific values.*

EQUITY	Neither your race nor your zip code should determine your chances in life
SAFETY	Reduce crash rates across all modes
ENVIRONMENT	Reduce emissions and promote active transportation
LINK TRANSPORTATION + LAND USE	Increase accessibility of core services throughout the region
ACCESS + MOBILITY	Reduce travel time by increasing access and options
INVEST STRATEGICALLY	Improve pavement quality and invest in non-motorized options and efficient transit service
ENGAGE	Increase interaction with the public online and in person

EQUITY

Investment in Environmental Justice Areas
Investment in Low Opportunity Areas
Investment in Very Low Opportunity Areas

WATS evaluates equity using Environmental Justice and Opportunity measures. The Environmental Justice process is a requirement that provides participation by potentially affected communities in the transportation decision making process. The Washtenaw County Opportunity Index identifies populations whose options for upward mobility is limited. By monitoring investment in each focus area, WATS Committees can evaluate if enough investment is being made to balance environmental benefits and burdens and to disrupt the effects of historic injustice.

DOLLARS IN THE 2020-2023 TIP IN EJ AREAS

$72,998,050

BASELINE (2020) PERCENTAGE OF TIP TOTAL		TARGET (2023) PERCENTAGE OF TIP TOTAL	
69.4 PERCENT	80th percentile Environmental Justice	^	Environmental Justice
23.6 PERCENT	90th percentile Environmental Justice	^	Low Opportunity
43.2 PERCENT	Low and Very Low Opportunity	^	Very Low Opportunity

WATS measures the total investment of TIP and LRP projects in Environmental Justices population census tracts and Low and Very Low Opportunity areas. This review provides an opportunity to make adjustments in the case of disproportionate investment and to make targeted impacts to benefit vulnerable populations. WATS forwards feedback from county residents to implementing agencies to inform the projects selected for funding.

SAFETY

Number of Serious Car Crashes
Severe Car Crash Rate
Number of Serious Non-motorized Crashes

Roadway safety is a top priority locally and across all tiers of infrastructure development. Crash data informs the location and nature of countermeasures that improve the transportation system. Crashes are measured by frequency, rate (crashes normalized to traffic volume), and severity. Crash severities include Fatal, Incapacitating, Non-incapacitating, Possible Injury, and Property Damage Only. Crash data is evaluated annually and reviewed at local, state and federal levels, as well as by law enforcement.

SAFETY PROJECTS IN THE 2045 LRTP

$46,569,408

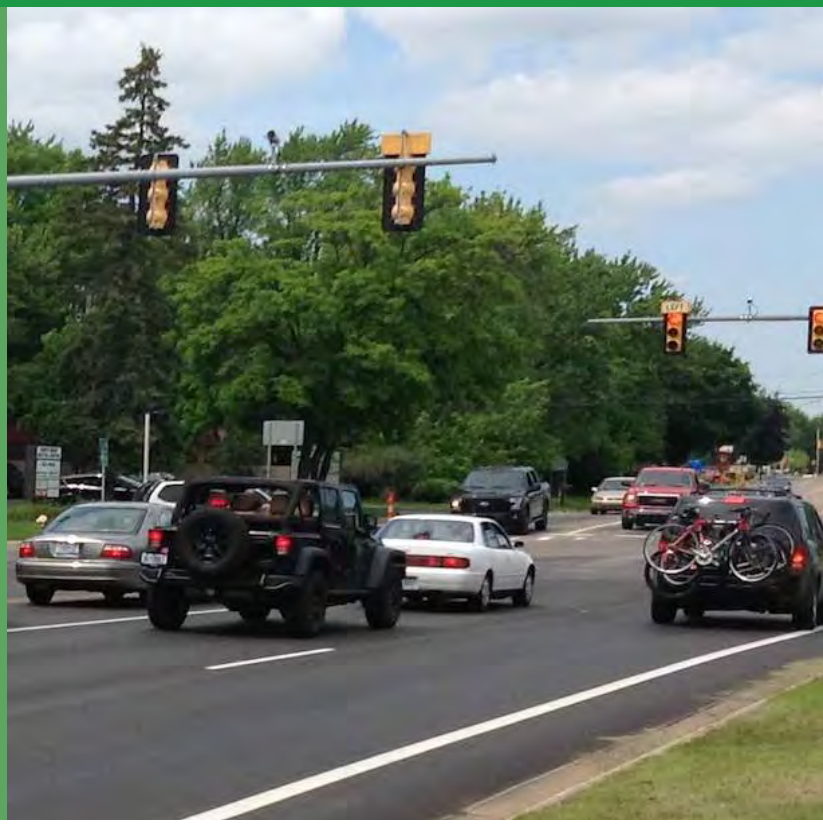
BASELINE (2015) 5 YEAR AVG		TARGET (2020) 5 YEAR AVG	
151 PER YEAR	Serious Injuries	⌄	Serious Injuries
4.2 PER YEAR	Serious Injuries per 100 million VMT	⌄	Serious Injuries per 100 million VMT
24 PER YEAR	Pedestrians and Cyclists Serious Injuries	⌄	Pedestrians and Cyclists Serious Injuries

Tracking the number and rate of **serious *(fatal and incapacitating)*** crashes in Washtenaw County provides a basic measure of the transportation network's safety. Crash rates are determined by comparing the five-year rolling average of crashes per 100 million vehicle miles traveled. Crash data can vary with seasonal factors such as weather conditions or increases/decreases in vehicle miles traveled. WATS uses the five-year average of crash data to normalize for these variations. A reduction in the 5-year average indicates an overall improvement in system safety.

ENVIRONMENT

Per Capita Non-Commercial VMT

Greenhouse gases from human activity trap heat and warm the planet. Transportation provides 27% of US greenhouse gases. Emissions can be derived from vehicle-miles-traveled (VMT), which provides a benchmark across jurisdictions. With VMT on the rise, providing travel alternatives (non-motorized and transit/carpool) can help reduce the pace at which VMT is increasing.



BASELINE (2015)

10,210 PER CAPITA | VMT PER YEAR

Vehicle Miles Traveled (VMT) helps to assess the relationship between transportation and land-use, and subsequent availability and usage of transportation alternatives. WATS has a goal of investing 10% of urban Surface Transportation Block Grant funds in non-motorized and 10% in transit focused activities. However, Washtenaw County has limited affordable housing near employment centers which dilutes the effectiveness of these investments.

TARGET (2020)

10,400 PER CAPITA | VMT PER YEAR

ENVIRONMENT

Per Capita Transit Ridership

Transit provides clean, efficient, and reliable transportation for thousands of Washtenaw County residents and visitors. More transit trips means fewer single occupant vehicles contributing to congested roadways and full parking lots and structures. Per Capita transit ridership provides insight to the amount of trips utilizing transit which helps WATS monitor its impact on the goal of protecting and enhancing the environment.

BASELINE (2015) 5 YEAR AVG	
39.6 PER CAPITA	VMT PER YEAR

TARGET (2020) 5 YEAR AVG	
40.0 PER CAPITA	TRIPS PER YEAR

The 2045 Long Range Plan has identified more than $1.9 billion in transit funding for both capital purchases and operation. The Plan also recognizes a concentrated growth model as the preferred growth strategy. Developed communities should focus on infill development, while emerging and urbanizing areas should focus development near existing resources.

ENVIRONMENT

Alternative Transportation Mode Share

Alternative transportation mode share includes any trip completed outside of a single occupant vehicle. Measuring the use of alternative modes assesses their effectiveness within the transportation network. Many trips within the urban portion of Washtenaw can be completed as a pedestrian or on a bike, while longer trips often combine transit and walking/biking. Commuters coming in from rural areas or outside of the county are encouraged to carpool if alternative modes cannot be used.

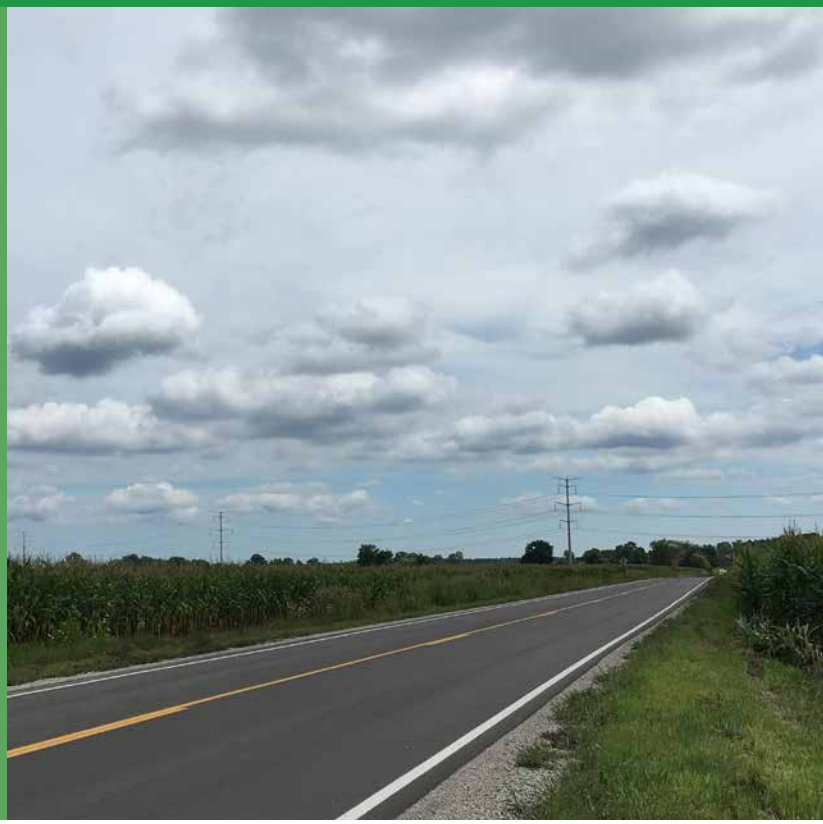
BASELINE (2015) 5 YEAR AVG	
20.7%	Of Mode Split

TARGET (2020) 5 YEAR AVG	
22%	Of Mode Split

The Washtenaw County Non-motorized Plan establishes a vision of a non-motorized transportation system that supports and encourages safe, comfortable and convenient ways for people to travel throughout Washtenaw County. Plan implementation seeks context appropriate solutions to continue connecting and building out the county's non-motorized network. The current network features; 151 miles of bike lanes, 273 miles of sidewalks, and 105 miles of shared use pathways along the federal aid network.

ENVIRONMENT

The EPA provides guidance and standards aimed at preserving and improving the nation's air quality. Pollutants have varying effects on health, agriculture, and infrastructure and are subject to different quality standards. Transportation's impacts on air quality are often focused on reducing congestion, and increasing non-motorized and transit trips. Land-use decisions that add density and foster these alternative modes of travel should be supported and pursued.



BASELINE (2015)
AIR QUALITY ATTAINMENT

↔

TARGET (2020)
AIR QUALITY MAINTENANCE

OZONE
CARBON MONOXIDE
SULFUR DIOXIDE
FINE PARTICULATE MATTER

WATS and SEMCOG work together toward Air Quality Attainment. The process measures and models various pollutants and the impact the region's TIP and LRP projects will have on them. Projects that change air quality (intersection/signal projects, road-diets, transit and operations improvements) are often funded by Congestion Mitigation and Air Quality (CMAQ) funds. The SEMCOG region prioritizes $16M of funding annually towards projects that improve air quality. Projects are encouraged to facilitate environmental and traffic operations benefits.

LINK TRANSPORTATION AND LAND USE

Percent of Work Trips Accessible within 30 Minutes

The coordination of land use and transportation enables efficient use of the transportation system, where users have a range of modal choices based on the type of trip they are taking. Measuring the time that it takes users to access their destinations by various modes will provide insight into land use and transportation linkages, and a way to monitor changes over time. Travel time data is collected and produced on two levels. First, the Census Bureau produces estimates of travel times by mode as part of their American Community Survey. Second, WATS and SEMCOG maintain regional transportation models that can be used to estimate travel times.

BASELINE (2015)

5 YEAR AVG

69.4 PERCENT	Percent Of Work Trips Accessible Within 30 Minutes

A more in depth review of travel times reveals that only 53% of transit work trips are shorter than 30 minutes, substantially less than the 69% accessible in the same time by personal automobile. Biking and Walking trips have the highest share of trips accessible within 30 minutes, 83% and 95% respectively, which reflect the shorter trip lengths of these modes.

TARGET (2020)

5 YEAR AVG

68 PERCENT	Percent Of Work Trips Accessible Within 30 Minutes

WATS anticipates that the share of Work Trips Accessible within 30 minutes will decrease slightly as the economy improves. Policy makers should track these changes over time to identify and implement appropriate countermeasures.

ACCESS + MOBILITY

Average Work Trip Travel Time
Daily Per Vehicle Travel Delay

Accessibility and mobility goals blend the interests of moving efficiently with travelers' ability to reach destinations. A variety of factors such as density, land use, and mode share impact the functionality of the transportation system. The commute time measure is an average of all trips between home and work and represent a combination of proximity between work and home and system efficiency. Daily per vehicle travel delay represents the amount of time vehicles are delayed due to congestion.

CMAQ PROJECTS PROGRAMMED SINCE 2015

$15,572,016

BASELINE (2015)	
23.4 MINUTES	Average Commute Time (5 Year Average)
7.62 MINUTES	Daily Per Vehicle Delay (Derived from Model)

TARGET (2020)	
24.5 MINUTES	Average Commute Time (5 Year Average)
N/A PER YEAR	Daily Per Vehicle Delay

Congestion Mitigation and Air Quality (CMAQ) funds are targeted to help reduce congestion in Washtenaw County. Projects include signal operations, intersection improvements and transit capital purchases that aid in the overall efficiency of the system. Access and mobility are also linked to the design of an area. Increased system connectivity and alternative modes provide for a more efficient transportation system.

ACCESS + MOBILITY

Proximity of People and Jobs to Transit Paratransit NetworkCoverage

Transit connects people with places by offering a safe method of travel. The transportation system works better when transit is a viable option for as many people as possible. As fewer young people choose to drive and cities are flooded with young professionals, transit needs will increase.

Paratransit provides service to individuals in need of transportation outside of traditional fixed route service. Paratransit is a critical component of services for vulnerable citizens.

PARATRANSIT PROJECTS IN THE 2045 LRTP

$40,000,000

BASELINE (2015)		TARGET (2020)	
63.2 PERCENT	Residential Proximity To Transit	^	Residential Proximity To Transit
67.7 PERCENT	Job Proximity To Transit	^	Job Proximity To Transit
89 PERCENT	Paratransit Coverage	^	Paratransit Coverage

Paratransit services are largely funded by federal formula funds under a program referred to as 5311. Investment in these services provides critical service to those who rely on transit but are not able to utilize fixed route services. In addition to spending capital and operating services on transit service, dense and mixed use development helps increase the percentage of residences and jobs accessible by transit.

ACCESS + MOBILITY

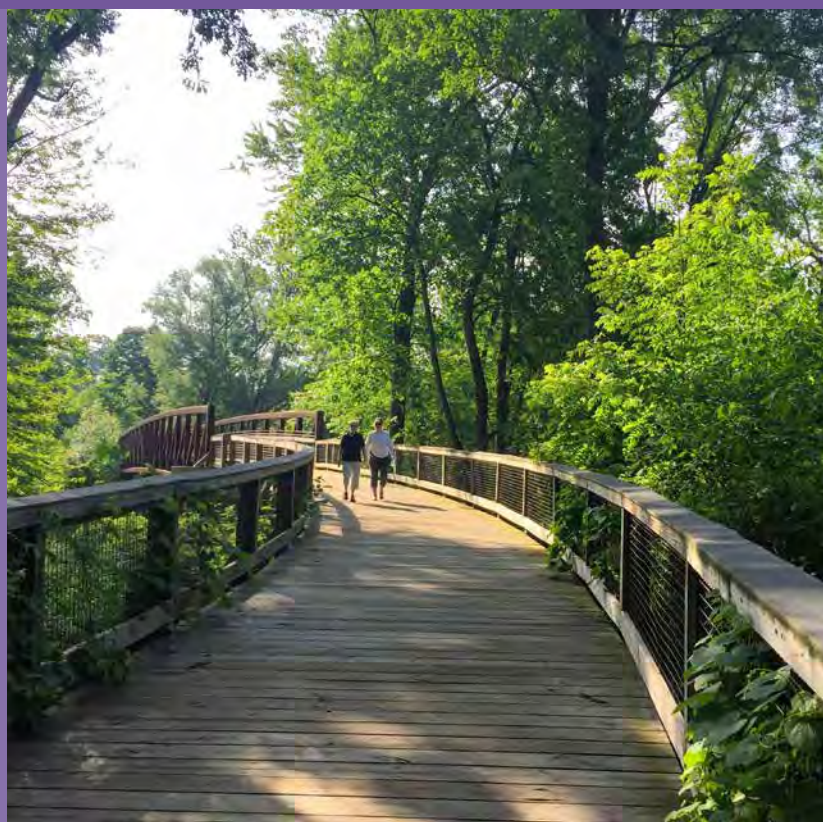
Non-motorized Network Coverage

Complete bicycle and pedestrian networks are paramount to a connected, equitable transportation system. Sidewalks and other pedestrian facilities provide access for users all over the county. Availability of a safe facility reduces conflicts between vehicles and people.

While the appropriate type of non-motorized facility differs based on the surrounding land use, overall coverage of the network is a good way to measure progress.

ESTIMATE OF NON-MOTORIZED FUNDING IN 2020–2023 URBAN PROGRAM

$3,130,974



BASELINE (2015) 5 YEAR AVG		TARGET (2020) 5 YEAR AVG	
40.8 PERCENT	Pedestrian Coverage	^	Pedestrian Coverage
29.9 PERCENT	Bicycle Coverage	^	Bicycle Coverage

WATS has a policy target to spend 10% of Urban Surface Transportation Program funds on non-motorized improvements. Corridors should be constructed or reconstructed as complete streets. The Transportation Alternatives Program provides funding for non-motorized transportation and enhancement. In addition to WATS' 10% funding policy, this plan adopts a Vision Zero philosophy which aims to eliminate all transportation related fatalities by designing systems the protect users. All system users are fallible, so we must work together to design a system that protects everyone. The availability of safe facilities for non-motorized system users is an important component of a vision zero transportation system.

INVEST STRATEGICALLY

Roads in Good Repair
Closed Bridges/Culverts

The surface condition of the roadways is identified as a key priority by citizens. Given decreasing budgets and increasing costs, transportation agencies have also made system preservation a priority. Data collection of the transportation network condition drives the timing and location of preservation projects.

Pavement Surface Evaluation Rating (PASER) is the standard that all Act 51 agencies in MI use to asses the surface condition of roadways. The PASER data as part of an asset management strategy informs the best treatment per road type and condition.

INFRASTRUCTURE PROJECTS IN THE 2045 LRTP

$156,559,377

BASELINE (2015) 5 YEAR AVG	
43.6 PERCENT	Good Repair
11 CLOSED	Bridges
54 WEIGHT LIMIT	Bridges

TARGET (2020) 5 YEAR AVG	
50 PERCENT	Good Repair
NA NO TARGET	Tracking
NA NO TARGET	Tracking

Tracking the percentage of roads in good condition provides a basic measure of surface conditions of federal aid roadways throughout Washtenaw County.

Likewise, the number of closed bridges along with bridges that are under weight restrictions provides baseline data on the need for investment in this infrastructure area. No target is provided for bridges due to the way that bridges are funded in MI, through a competitive grant program across the state.

INVEST STRATEGICALLY

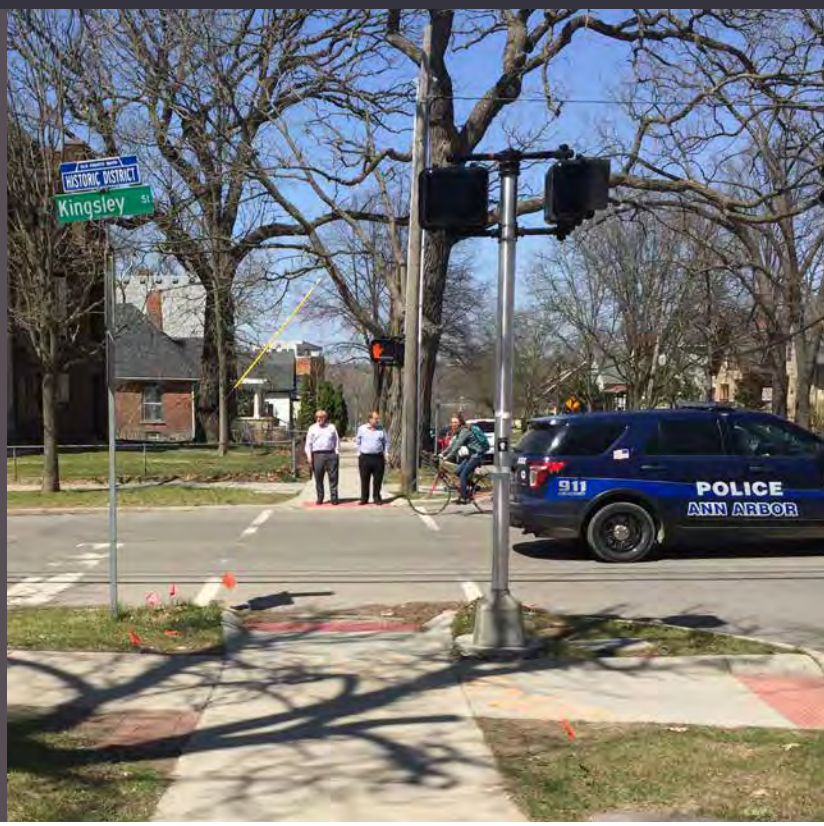
Invest in Active Transportation
Fixed Route Operating Expense

Active transportation investment, including transit and non-motorized facilities, allow for transportation choices and enhances communities' livability and sustainability. Tracking the investment in active transportation along with the cost of providing transit service provides an indication of whether the investment made matches the priority being placed upon multi-modalism.

ACTIVE TRANSPORTATION PROJECTS IN THE 2045 LRTP

$110,371,782

***total does not include transit operations**



BASELINE (2015) 5 YEAR AVG	
20 PERCENT	Non-Motorized And Transit Investment
$4.38 PER TRIP	Fixed Route Operating Expense Per Unlinked Passenger Trip

TARGET (2020) 5 YEAR AVG	
20 PERCENT	Non-Motorized And Transit Investment
NA NO TARGET	Tracking

TheRide uses the per trip passenger expense to compare their service costs to peers across the country. This measure highlights this expense at one point in time. The next evaluation of this will not be done for 3–5 years.

The WATS Policy Committee approved an investment target policy for transit and non-motorized transportation in 2006 where the investments in each would be no less than 10%.

ENGAGE

Online Engagement
Offline Engagement

An equitable transportation system depends on an informed, ongoing discussion with the public. WATS' public involvement strategies adapt to evolving transportation policy, design, and technology. Communication should be succinct, well crafted and relevant to the needs at hand; using all necessary tools to bring the public's voices, regardless of physical or cognitive ability, to the decision makers who shape their community.

2017 PUBLIC ENGAGEMENT

37 Meetings

BASELINE (2017)		TARGET	
975 INTERACTIONS	Active Online Engagement	^	Active Online Engagement
4,684 INTERACTIONS	Passive Online Engagement	^	Passive Online Engagement
10 ATTENDEES	Offline Engagement Standing Meetings	^	Offline Engagement Standing Meetings
160 ATTENDEES	Offline Engagement Special Meetings	^	Offline Engagement Special Meetings

These indices are a measure of the engagement efforts that WATS undertakes throughout the year. Tracking the engagement efforts over time will allow WATS to evaluate the effectiveness of different strategies implemented and their impacts online and offline.

Policy Bins

Introduction

INTRODUCTION

The 2045 Long Range Plan prioritizes the allocation of Washtenaw County's federal transportation funds by categorizing projects in one of several policy bins. These bins are meant to guide investments over the course of the entire Long Range Plan. Investments in year-to-year categories may not match the percentages identified here. Each policy bin provides background on the issue, describes deficiencies, showcases an example project, and lists projects by primary work type. WATS believes these investment targets strongly support both state and locally identified performance measures.

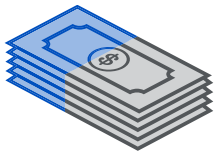
Note, many, if not most projects pursue goals that exist in more than one policy bin. For the purpose of this plan, projects are grouped by their primary work type, and not split by their various components.

Policy Bin Targets

EQUITY & JUSTICE

While significant portions of the county are thriving, other parts are struggling—specifically communities of color. All public investment presents an opportunity to rectify the historic injustices that led to these disparate outcomes. As WATS considers transportation investments across all categories, equity should be a determining factor in the selection of projects.

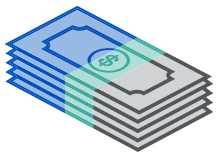
45%



PAVEMENT

Active transportation, freight and auto trips rely on a high-quality road system. Chronic underinvestment in the transportation system has resulted in poor ride quality and higher maintenance costs. WATS will invest the greatest share of federal funds in the preservation of the road network.

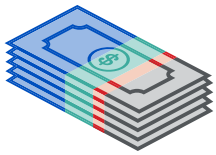
20%



SAFETY

Each year more than 30,000 people die on the nation's roadways. Policies adopted by the state and region, including Toward Zero Deaths and Vision Zero, promote safe travel for all users. WATS is committed to improving safety through spending 20% of federal funds on safety improvements.

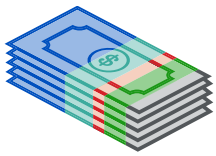
10%



BRIDGES

Bridges connect communities, reduce trip lengths and provide alternate routes. Many of Washtenaw's 400+ bridges are approaching the end of their service life, representing the largest long-term asset risk in the transportation system. Investing 10% of federal funds in bridges promotes safety and security throughout the county.

15%



ENVIRONMENT AND CONGESTION

Land-use patterns that require lengthy automobile trips lead to traffic congestion and adverse impacts on the environment. Projects that reduce emissions promote healthy and resilient communities and mitigate travel's contribution to climate change. WATS is committed to improving communities through spending 15% of federal funds on environment and congestion improvements.

10%

NON-MOTORIZED

Not all roads in Washtenaw County provide safe access to all users. Expanding mode choice through additions to the non-motorized system will improve the quality of life of all Washtenaw County residents and visitors. Investing 10% of federal funds in livability improvements will help achieve this goal.

TRANSIT

While transit agencies are eligible for Federal Highway funds, Federal Transit funds are their primary funding source. In Washtenaw County, the majority of FTA funds go to TheRide. WATS works with TheRide to prioritize investments in capital and operations as they consider the transit needs of county residents. This plan proposes spending 85% of FTA funds on transit capital and 15% on operations.

Equity & Justice

Equity & Justice

BACKGROUND

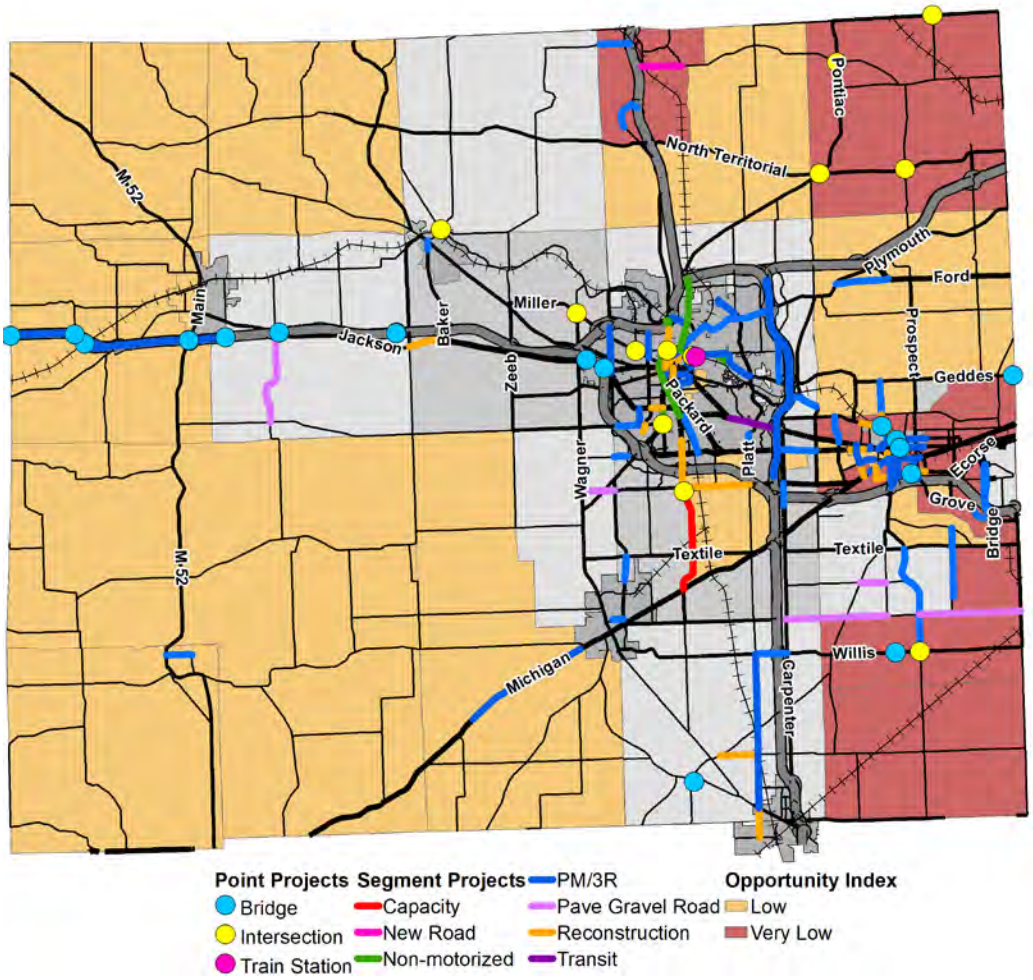
Agencies across Washtenaw County have begun to explore the roots and consequences of structural racism and institutional bias. The effects of these practices are wide-ranging and require a major shift in the way government evaluates its investments and their effects on areas of low opportunity.

Historically, transportation funding has focused on moving automobiles further and faster as opposed to a people-first approach that prioritizes equal access and the values of a community. While transportation investment alone can not fix the equity issues facing Washtenaw County, it can effect positive change in those areas.

WATS uses two different methods of evaluating investment in equity and justice areas; Opportunity Index Analysis and Environmental Justice Analysis.

Deficiency Criteria

MAP 1 - WASHTENAW COUNTY EQUITY AND OPPORTUNITY MAP



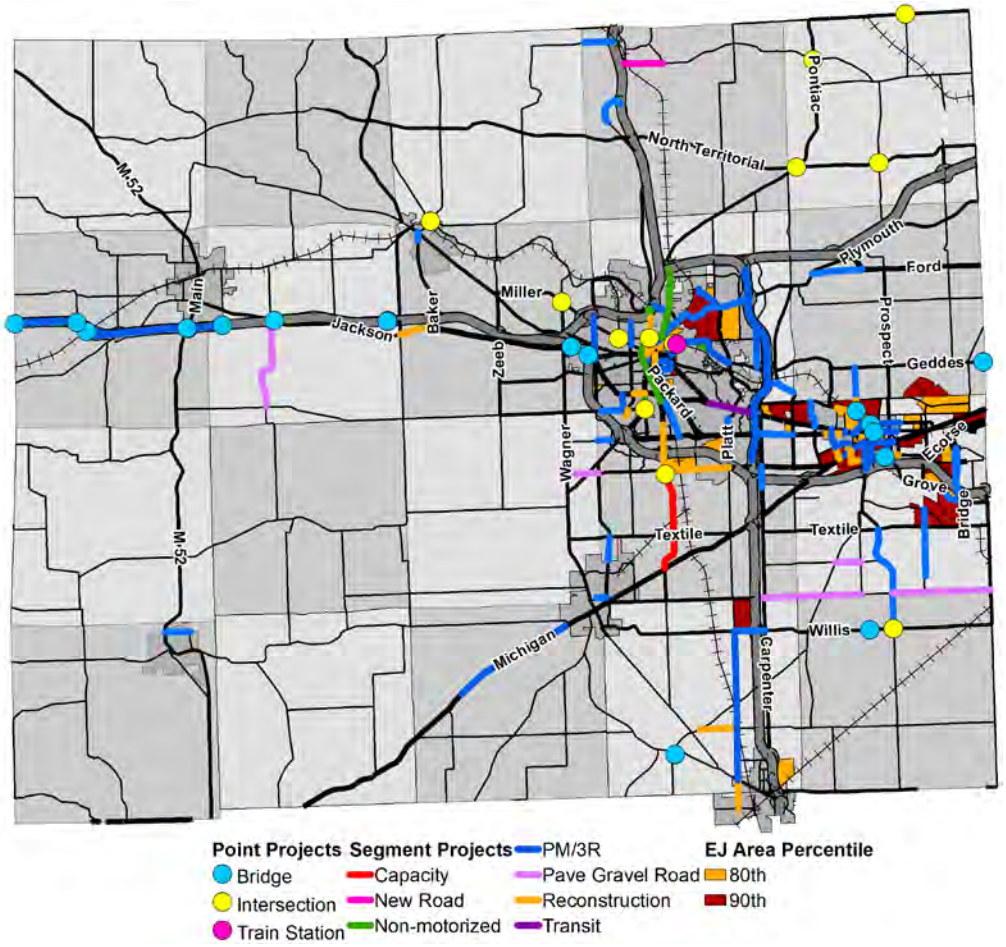
OPPORTUNITY INDEX ANALYSIS

The Opportunity Index uses a broad spectrum of indicators such as health, education, job access, economic vitality, and neighborhood safety and stability to identify local areas of inequity. WATS tracks the investment in areas identified as “low” or “very low” opportunity.

The first four years of this plan contains $45,567,977 that benefit low opportunity areas.

Deficiency Criteria

MAP 2 - MAP OF ENVIRONMENTAL JUSTICE



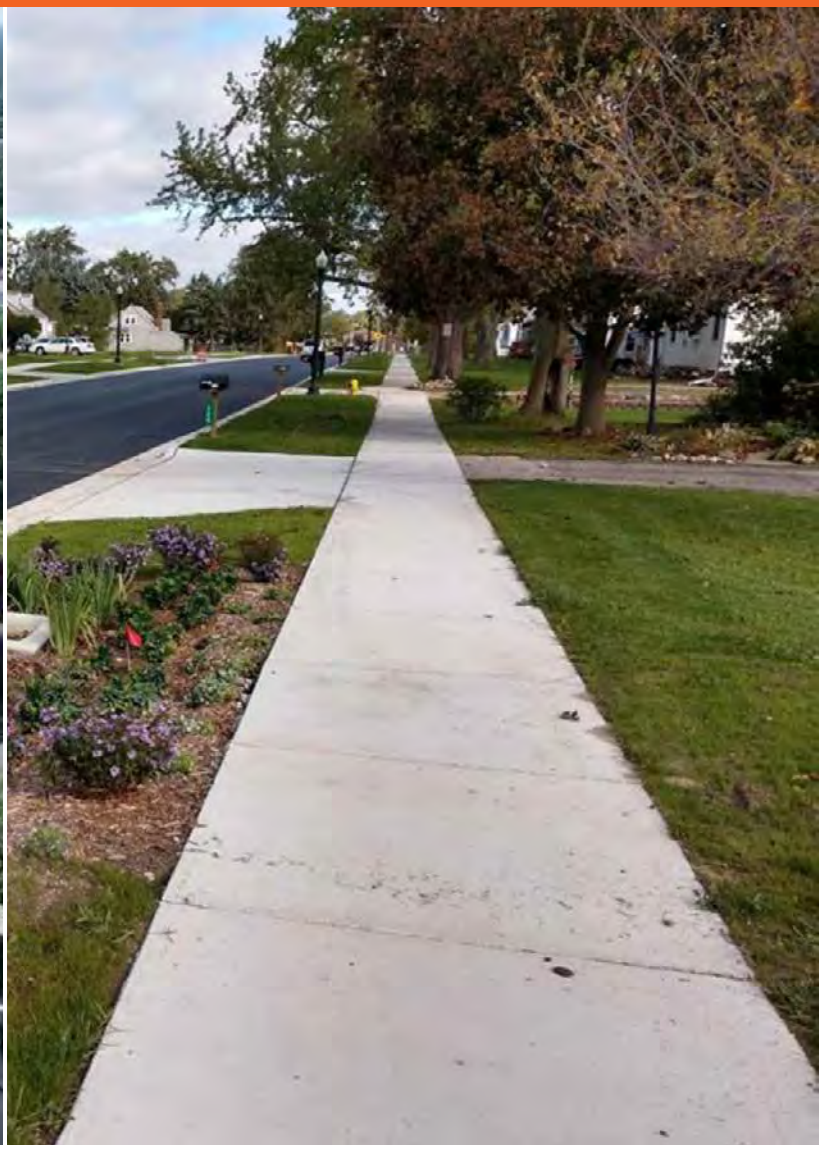
ENVIRONMENTAL JUSTICE ANALYSIS

Environmental Justice (EJ) review evaluates fair distribution of benefits and burdens in EJ and Non-EJ areas. In addition, the EJ review evaluates projects for adverse social, economic, and environmental effects.

The first four years of this plan contains $72,998,050 that benefit Environmental Justice areas.

To examine the impacts of projects in this plan on EJ communities, WATS ranks census tracts by their combined percentage of minority and low income residents, using the 20th percentile as the EJ area threshold. Projects within ½ mile of a EJ area are considered to affect that area. WATS does not anticipate the cumulative impacts of projects in this plan to have major adverse effects on environmental justice populations although some projects may have temporary adverse effects. However, this determination is made with the assumption that the Huron/I-94 non-motorized crossing project will be completed within the timeframe of the first four years of the plan. The inability to complete this project would represent a major transportation policy failure.

Feature Project



HARRIS ROAD RECONSTRUCTION

Despite funding challenges, local transportation agencies have accomplished some transformative projects within areas of low opportunity. In 2018, the Washtenaw County Road Commission completed a total reconstruct of Harris Road from Michigan Ave. to Holmes.

The Harris Road Project includes:

- Reconstruct Harris Road between Michigan Avenue (US-12) and Holmes Road.
- Install a "complete street" infrastructure including bike lanes, concrete curb, driveway approaches, sidewalk, and street lights.
- Install new green infrastructure, including rain gardens, to help with drainage.
- Install new utility infrastructure, including water main and storm sewer.

Achieving Equity & Justice

ACHIEVING EQUITY AND JUSTICE

WATS can help correct the transportation decisions that have separated, under served or otherwise negatively altered communities. To promote racial and economic equity, more money must be spent on transportation projects that benefit the residents in the areas identified in WATS' equity analysis. There are several ways for the WATS Policy Committee to help facilitate this shift in funding priority.

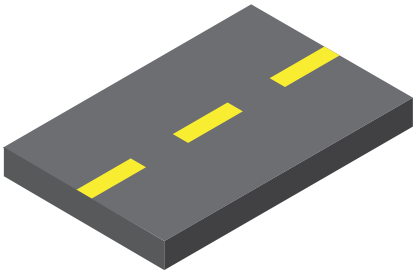
- Establish a minimum amount of funding to be spent in Environmental Justice or low opportunity areas over a four-year Transportation Improvements Plan cycle
- Increase the points awarded to projects in identified geographies
- Increase funding for transit
- Work with local communities to apply for more projects in identified geographies

Pavement

Pavement

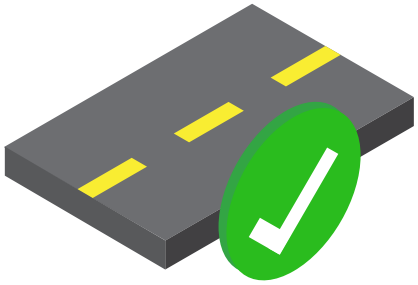
BACKGROUND

Roads are the backbone of the transportation system. Whether driving, riding the bus, or biking, a comfortable commute depends on a high quality road system. However, a poor quality road network causes more than just an uncomfortable commute, it increases car maintenance costs, decreases safety, and can contribute to congestion.



WATS rates nearly **900 miles** of roadway as part of its asset management data collection

46.6% of Washtenaw County's Roads are in Good Condition



ROAD CONDITION

Michigan is a leader in its use of data driven analysis to monitor and prioritize roadways for improvement. WATS participates in collecting this data, called PASER (Pavement Surface Evaluation and Rating), alongside MDOT, SEMCOG, and local agencies.

The PASER system evaluates, on a rating scale from 1 to 10, the surface distresses pavement develops over time. These ratings support the pavement asset management system which encourages municipalities to think strategically to reduce the life-cycle cost of roadways. The pavement asset management system promotes preserving the existing roadway through lower cost interventions before more intensive and costly improvements are required. Based on the ratings, pavement segments are grouped into subgroups of Good, Fair and Poor pavement condition, each requiring a different intensity of improvement.

Deficiency Criteria

RECONSTRUCTION

A full scale pavement reconstruction is recommended when the pavement is so deteriorated that all of the asphalt and some of the sub-base must be removed and replaced.

A complete pavement reconstruction may be necessary if:

- There is clear damage to the sub-base.
- Alligator or block cracking is prevalent.
- The pavement is not able to support current traffic loads.
- There are water or drainage problems.

PREVENTIVE MAINTENANCE

Preventive maintenance is required as part of a planned strategy of cost-effective treatments to an existing roadway system to extend the life of the pavement, prevent future deterioration, and maintain or improve the functional condition of the system (without increasing the structural capacity).
Preventive maintenance may be required to:

- Improve structurally sound pavement
- Joints and cracks are beginning to deteriorate
- Address surface roughness

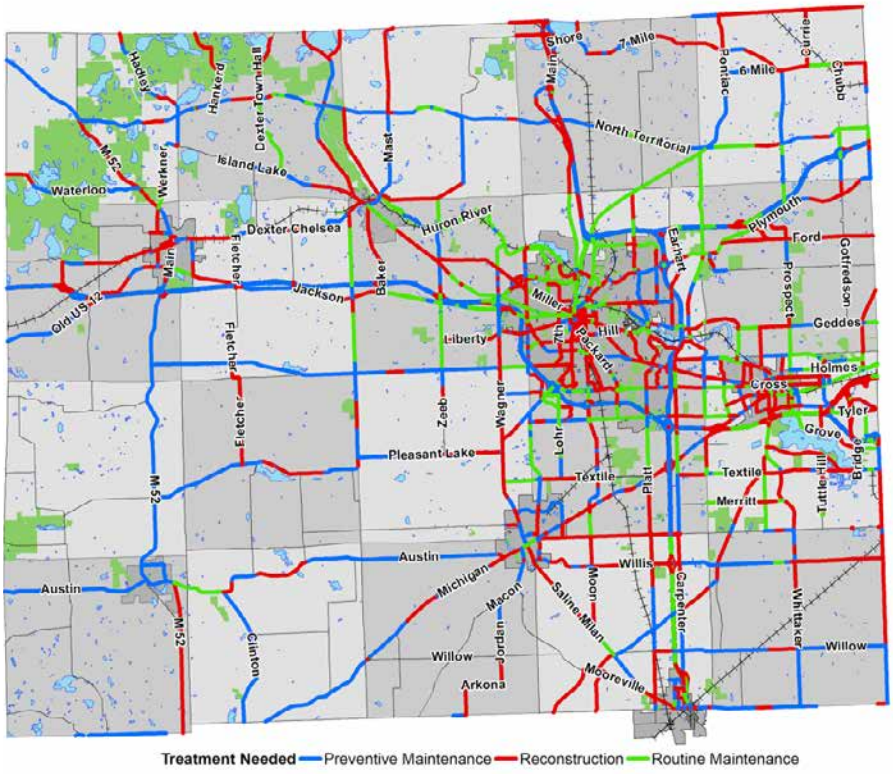
ROUTINE MAINTENANCE

Routine maintenance is used to keep pavement in the Good subgroup as long as possible at minimal cost. Routine maintenance often involves spot specific application of preventive maintenance techniques.

Routine maintenance may be required to:

- Address minor pavement issues
- Fill small cracks in pavement to prevent growth

MAP 3 - TREATMENT REQUIRED TO BRING ROAD TO GOOD CONDITION



Feature Project

WASHTENAW COUNTY ROAD COMMISSION PREVENTATIVE MAINTENANCE

The Washtenaw County Road Commission utilizes federal funds to bolster local investment to extend the life of roads through a preventative maintenance program. The road commission invested $1,918,252 federal dollars on preventative maintenance in 2018.

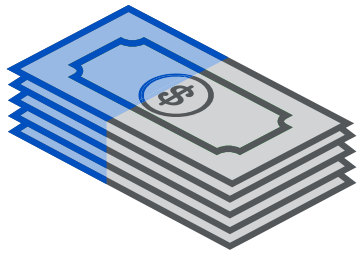
Issues:

- Freeze/thaw cycle
- Previous underinvestment
- No additional funds for winter maintenance
- Increase in Vehicle Miles Traveled

Project List

This plan sets a policy target of spending **45%** of available federal funds on pavement.

45%



PROJECT LIST

PROJECT	LOCATION	PROPOSED WORK	YEAR	TOTAL COST	AGENCY
Barton	M-14 to Pontiac	Rehabilitate Roadway	2020	$600,000	Ann Arbor
Division	Hoover to Madison	Rehabilitate Roadway	2020	$1,275,000	Ann Arbor
Main	Huron to William	Rehabilitate Roadway	2020	$475,000	Ann Arbor
Plymouth	US 23 to Broadway	Rehabilitate Roadway	2020	$800,000	Ann Arbor
S. Industrial	Stimpson to Eisenhower	Rehabilitate Roadway	2020	$1,600,000	Ann Arbor
S. University	State to E. University	Rehabilitate Roadway	2020	$430,000	Ann Arbor
Zina Pitcher	at Catherine	Rehabilitate Roadway	2020	$280,000	Ann Arbor
Dutch Drive	Village of Manchester	Rehabilitate Roadway	2020	$479,351	Manchester
US-12	US-12 FELDKAMP TO SALINE WEST CITY LIMITS	Rehabilitate Roadway	2020		MDOT
Hewitt	Washtenaw to HRD	Rehabilitate Roadway	2020	$531,250	WCRC
Maple	Saline City Limit to Textile	Rehabilitate Roadway	2020	$375,000	WCRC

Project List

PROJECT	LOCATION	PROPOSED WORK	YEAR	TOTAL COST	AGENCY
Preventive Maintenance	County-wide Rural	Rehabilitate Roadway	2020	$141,166	WCRC
Rehabilitate Roadway	County-wide	Rehabilitate Roadway	2020	$308,103	WCRC
Six Mile/Whitmore Lake	Whitmore Lk Rd to US-23; Five Mile Rd to Six Mile Rd	Rehabilitate Roadway	2020	$306,250	WCRC
Waters	Township Line to Oak Valley	Rehabilitate Roadway	2020	$418,750	WCRC
Whittaker	Willis to Textile	Rehabilitate Roadway	2020	$750,000	WCRC
West Cross Street	Platt Rd to Carpenter	Reconstruction	2020	$1,705,000	Ypsilanti
PM/3R	ACC - South Industrial (Stimpson to Eisenhower)	AC Payback	2021	$283,316	Ann Arbor
Scio Church	7th to Maple	Rehabilitate Roadway	2021	$2,450,000	Ann Arbor
Seventh	Scio Church to Greenview	Rehabilitate Roadway	2021	$1,300,000	Ann Arbor
Earhart	Geddes to Greenhill	Rehabilitate Roadway	2021	$915,000	Ann Arbor
Huron Pkwy/Tuebingen	Nixon to Traver	Rehabilitate Roadway	2021	$1,210,000	Ann Arbor
Moore	at Swift and Pontiac	Rehabilitate Roadway	2021	$410,000	Ann Arbor
N. University	State to Fletcher	Rehabilitate Roadway	2021	$380,000	Ann Arbor
Platt	Huron Pkwy to Packard	Rehabilitate Roadway	2021	$1,220,000	Ann Arbor
Scio Church	Seventh to Greenview	Rehabilitate Roadway	2021	$1,300,000	Ann Arbor
Scio Church	Maple to Seventh	Rehabilitate Roadway	2021		Ann Arbor
Baker Rd.	Grand to Main	Rehabilitate Roadway	2021	$541,200	Dexter
Bemis	Platt Rd to Carpenter	Rehabilitate Roadway	2021	$418,750	WCRC
CPM Work	County-wide	Rehabilitate Roadway	2021	$532,852	WCRC
Ford	Plymouth-Ann Arbor Rd-M-153	Rehabilitate Roadway	2021	$700,000	WCRC
Packard	Carpenter to Golfside	Rehabilitate Roadway	2021	$750,000	WCRC
Preventative Maintenance	County-wide Rural	Rehabilitate Roadway	2021	$418,198	WCRC
Wiard	I-94 - Airport Dr	Rehabilitate Roadway	2021	$1,218,800	WCRC
Harriet	1st to Hawkins	Reconstruct	2021	$919,000	Ypsilanti
CPM	Unknown	Rehabilitate Roadway	2022	$800,000	Ann Arbor

Project List

PROJECT	LOCATION	PROPOSED WORK	YEAR	TOTAL COST	AGENCY
Earhart Rd	Geddes to Greenhills	Rehabilitate Roadway	2022	$1,140,000	Ann Arbor
Platt Rd	Huron-Parkway to Packard	Rehabilitate Roadway	2022	$1,300,000	Ann Arbor
Scio Church	ACC - Seventh to Maple	AC Payback	2022	$953,701	Ann Arbor
Earhart	Geddes to Greenhill	Rehabilitate Roadway	2022	$915,000	Ann Arbor
Huron Pkwy/Tuebingen	Nixon to Traver	Rehabilitate Roadway	2022	$1,210,000	Ann Arbor
Platt	Huron Pkwy to Packard	Rehabilitate Roadway	2022	$1,220,000	Ann Arbor
Scio Church	Maple to Seventh	Rehabilitate Roadway	2022	$1,870,000	Ann Arbor
Broad and 3rd	Central to 5th	Reconstruct	2022	$1,370,500	Dexter
M-17/US-12 BR (Cross Street)	NORMAL TO MICHIGAN, I-94 TO MICHIGAN, HAMILTON TO ECORSE	Rehabilitate Roadway	2022		MDOT
US-23RB (Main Street)	-94 BL TO M-14	Rehabilitate Roadway	2022		MDOT
Barker	end of Pavements to US-23	Rehabilitate Roadway	2022	$418,750	WCRC
Carpenter	N. Cloverlane to Ellsworth	Rehabilitate Roadway	2022	$543,510	WCRC
CPM	County-wide	Rehabilitate Roadway	2022	$231,250	WCRC
Grove	Harris to Bridge Rd	Rehabilitate Roadway	2022	$825,000	WCRC
LeForge	Clark to Geddes	Rehabilitate Roadway	2022	$275,000	WCRC
Preventive Maintenance	County-wide Rural	Rehabilitate Roadway	2022	$955,188	WCRC
Tuttle Hill	Martz to Huron River Dr	Rehabilitate Roadway	2022	$625,000	WCRC
Cornell	Washtenaw-Kingwood	Reconstruct	2022	$1,144,000	Ypsilanti
Cornell	Kingwood-Huron River Dr	Reconstruct	2022	$1,360,000	Ypsilanti
Harriet	Hawkins-Huron	Reconstruct	2022	$790,000	Ypsilanti
Various	Various	Rehabilitate Roadway	2022	$689,000	Ypsilanti
Brooks	Miller to Sunset	Rehabilitate Roadway	2023	$1,230,000	Ann Arbor
Church	Geddes to S. University	Rehabilitate Roadway	2023	$242,000	Ann Arbor
CPM	Unknown	Rehabilitate Roadway	2023	1289358	Ann Arbor
Detroit St	Brick Street	Brick Street Reconstruction	2023	$3,000,000	Ann Arbor

Project List

PROJECT	LOCATION	PROPOSED WORK	YEAR	TOTAL COST	AGENCY
Earhart	Greenhills to US-23	Rehabilitate Roadway	2023	$1,735,000	Ann Arbor
Greenview	Stadium to Scio Church	Rehabilitate Roadway	2023	$1,290,000	Ann Arbor
Stadium	Hutchins to Main	Reconstruction	2023	$6,100,000	Ann Arbor
State	Kingsley to Fuller/Depot	Reconstruction	2023	$750,000	Ann Arbor
State	S. University to Packard	Rehabilitate Roadway	2023	$540,000	Ann Arbor
I-94	WASHTENAW/ JACKSON COUNTY LINE TO FREER	Rehabilitate Roadway	2023		MDOT
Clark St.	N. Harris to Maple	Rehabilitate Roadway	2023	$512,500	Saline
CPM	Unknown	Rehabilitate Roadway	2023	$775,000	WCRC
Huron River Dr	Hospital Entrance to Hogback	Rehabilitate Roadway	2023	$350,000	WCRC
Preventive Maintenance	County-wide Rural	Rehabilitate Roadway	2023	$1,220,377	WCRC
Huron River Dr.	Cornell to LeForge	Reconstruct	2023	$3,222,000	Ypsilanti
N Huron River Dr	LeForge-Forest	Reconstruct	2023	$1,989,000	Ypsilanti
Platt	Redman to Willis	Reconstruct/Rehabilitate	TBD	TBD	Milan/WCRC
Pavement Preservation EDDF	County-wide EDDF	Rehabilitate Roadway	2024	$158,935	WCRC
Pavement Preservation Rural	County-wide Rural	Rehabilitate Roadway	2024	$338,478	WCRC
Pavement Preservation Urban	County-wide Urban	Rehabilitate Roadway	2024	$3,010,000	WCRC
Pavement Preservation EDDF	County-wide EDDF	Rehabilitate Roadway	2025	$164,839	WCRC
Pavement Preservation Rural	County-wide Rural	Rehabilitate Roadway	2025	$1,110,294	WCRC
Pavement Preservation Urban	County-wide Urban	Rehabilitate Roadway	2025	$3,074,000	WCRC
Summitt	Washtenaw to Cross	Rehabilitate Roadway	2025	$1,104,000	Ypsilanti
State	Oakbrook to Ellsworth	Reconstruct	2026–2029	$7,831,800	Ann Arbor
Bemis	Stony Creek to Hitchingham	Pave Gravel Road	2026–2029	$8,000,000	WCRC
Jackson Phase 4	Dino to Parker	Reconstruct Roadway - Center Left Turn Lane	2026–2029	$12,000,000	WCRC

Project List

PROJECT	LOCATION	PROPOSED WORK	YEAR	TOTAL COST	AGENCY
Pavement Preservation EDDF	County-wide EDDF	Rehabilitate Roadway	2026–2029	$844,000	WCRC
Pavement Preservation Rural	County-wide Rural	Rehabilitate Roadway	2026–2029	$5,625,000	WCRC
Pavement Preservation Urban	County-wide Urban	Rehabilitate Roadway	2026–2029	$11,226,498	WCRC
1st Avenue	Harriet to Michigan	Reconstruct	2026–2029	$1,071,000	Ypsilanti
Ballard	Michigan to Washtenaw	Reconstruct	2026–2029	$650,000	Ypsilanti
LeForege	Huron to Clarck	Reconstruct	2026–2029	$1,499,000	Ypsilanti
Broadway	Beakes to Maiden Lane	Rehabilitate Roadway	2030–2034	$868,773	Ann Arbor
Fuller	Fuller to Huron Parkway	Rehabilitate Roadway	2030–2034	$1,074,648	Ann Arbor
State	I-94 to Oakbrook	Reconstruct + nonmotorized + blvd	2030–2034	$20,000,000	Ann Arbor
Bemis	Whittaker to Rawsonville	Pave gravel road	2030–2034	$4,000,000	WCRC
Mansfield	Michigan to Congress	Reconstruct	2030–2034	$1,500,000	WCRC
Pavement Preservation EDDF	County-wide EDDF	Rehabilitate Roadway	2030–2034	$844,000	WCRC
Pavement Preservation Rural	County-wide Rural	Rehabilitate Roadway	2030–2034	$5,625,000	WCRC
Pavement Preservation Urban	County-wide Urban	Rehabilitate Roadway	2030–2034	$15,418,787	WCRC
Whittaker	at Willis	Improve Intersection - Traffic Operations	2030–2034	$750,000	WCRC
Maus St	Prospect-Emerick	Reconstruct	2030–2034	$1,143,000	Ypsilanti
N Congress St	Congress-Elm	Rehabilitate Roadway	2030–2034	$224,000	Ypsilanti
N Huron St	Huron-Cross	Reconstruct	2030–2034	$1,369,000	Ypsilanti
S Congress St	Mansfield-Congress	Reconstruct	2030–2034	$841,000	Ypsilanti
Spring St	Huron-Prospect	Rehabilitate Roadway	2030–2034	$1,496,000	Ypsilanti
W Michigan Ave	City Limit-Hamilton	Rehabilitate Roadway	2030–2034	$1,711,000	Ypsilanti
Division	Packard to Huron	Rehabilitate Roadway	2035–2039	$5,223,221	Ann Arbor
Maple	Miller to M-14	Rehabilitate Roadway	2035–2039	$839,061	Ann Arbor
Bemis Road	Carpenter to Stony Creek	Pave gravel road	2035–2039	$4,000,000	WCRC
Ellsworth Road	from Wagner to Maple	Pave gravel road	2035–2039	$750,000	WCRC

Project List

PROJECT	LOCATION	PROPOSED WORK	YEAR	TOTAL COST	AGENCY
Fletcher Road	from Scio Church to I-94	Pave gravel road	2035–2039	$3,600,000	WCRC
Merritt Road	Stony Creek to Hitchingham	Pave gravel road	2035–2039	$1,000,000	WCRC
Pavement Preservation EDDF	County-wide EDDF	Rehabilitate Roadway	2035–2039	$844,000	WCRC
Pavement Preservation Rural	County-wide Rural	Rehabilitate Roadway	2035–2039	$5,625,000	WCRC
Pavement Preservation Urban	County-wide Urban	Rehabilitate Roadway	2035–2039	$14,477,067	WCRC
State Street	from Textile to Morgan	Widen from 2 to 4-lane boulevard	2035–2039	$1,600,000	WCRC
College Pl	Cross-Forest	Rehabilitate Roadway	2035–2039	$149,000	Ypsilanti
E Cross	Huron River-City Limits	Rehabilitate Roadway	2035–2039	$1,159,000	Ypsilanti
E Forest Ave	Rice-City Limits	Rehabilitate Roadway	2035–2039	$1,039,000	Ypsilanti
Grove St	Michigan-Prospect	Rehabilitate Roadway	2035–2039	$727,000	Ypsilanti
Lowel St	Forest-Huron	Rehabilitate Roadway	2035–2039	$510,000	Ypsilanti
Mansfield	City Limits - Washtenaw	Rehabilitate Roadway	2035–2039	$566,000	Ypsilanti
N River St	Michigan-Forest	Reconstruct	2035–2039	$2,580,000	Ypsilanti
Oakwood St	Cross-Washtenaw	Rehabilitate Roadway	2035–2039	$109,000	Ypsilanti
W Forest Ave	Colleg Pl-Rice	Rehabilitate Roadway	2035–2039	$782,000	Ypsilanti
Pavement Preservation EDDF	County-wide EDDF	Rehabilitate Roadway	2040–2045	$844,000	WCRC
Pavement Preservation Rural	County-wide Rural	Rehabilitate Roadway	2040–2045	$5,625,000	WCRC
Pavement Preservation Urban	County-wide Urban	Rehabilitate Roadway	2040–2045	$21,716,185	WCRC
Seven Mile Road	Main St to Seven Mile Rd	Construct new 2 lane road	2040–2045	$1,600,000	WCRC
State Street	US-12 to Textile	Widen from 2 to 4-lane boulevard	2040–2045	$12,000,000	WCRC
Willow Road	Stony Creek to Platt	Pave gravel road	2040–2045	$2,400,000	WCRC

Safety

Safety

BACKGROUND

This plan adopts the Vision Zero philosophy. Knowing that humans make mistakes, vision zero places the onus of responsibility on the system rather than system users.

This plan will assist local agencies identifying the county's key safety needs and guide investment decisions to reduce fatalities and serious injuries for all users of the transportation system, especially those that are most vulnerable, including pedestrians and bicyclists. Using adopted policies by the state and region Toward Zero Deaths and Vision Zero, the aim is to promote safe travel for all modes.

In 2015, WATS and agencies across southeast Michigan worked with SEMCOG in the development of a Regional Safety Plan. The Plan's established four high priority emphasis areas:

- Intersection
- Lane departure
- Pedestrian
- Drivers age 24 and younger

Equity and Safety

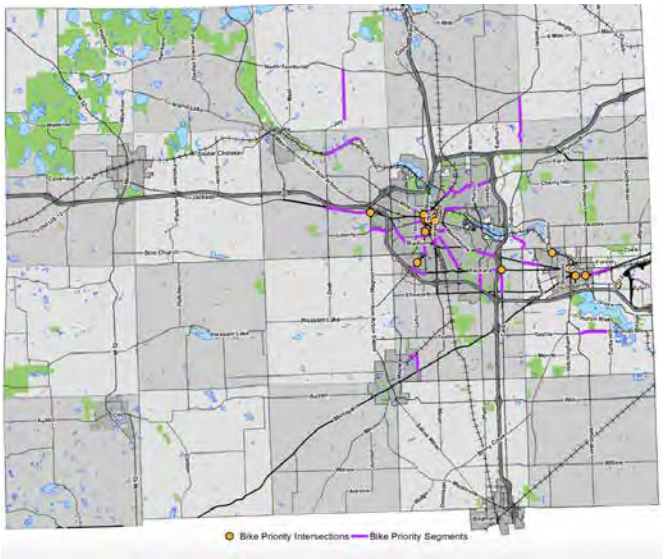
Non-white individuals account for 34.9% of the national population but make up 46.1% percent of pedestrian deaths

Older adults are similarly at higher risk: individuals 65 years or older are 50% more likely than younger individuals to be struck and killed by a care while walking

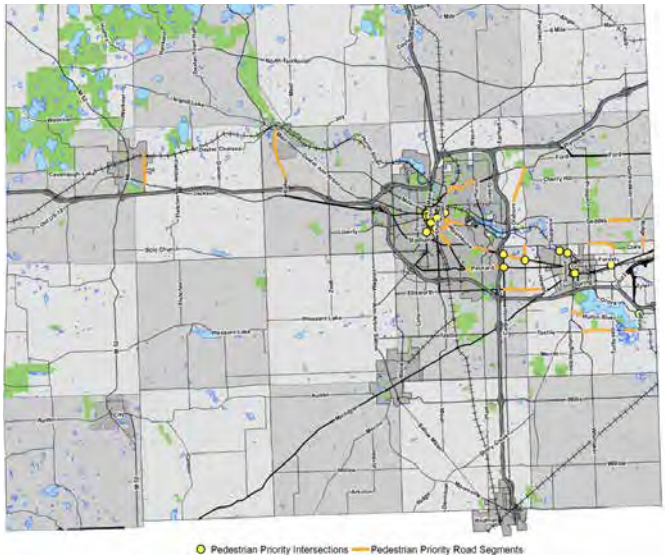
Deficiency Criteria

The maps below show locations identified as priority crash intersections and segments based on five years of crash data. The maps use a SEMCOG analysis which groups facilities by type, ranks them by crash frequency, and selects the top 5%. WATS removed locations where only one crash occurred in the five year period. This analysis is a high level data-based review, and is only meant to inform projects as they are developed, rather than dictate needs. Each road segment is different, and there may be many confounding factors that lead to a higher crash rate on specific segments.

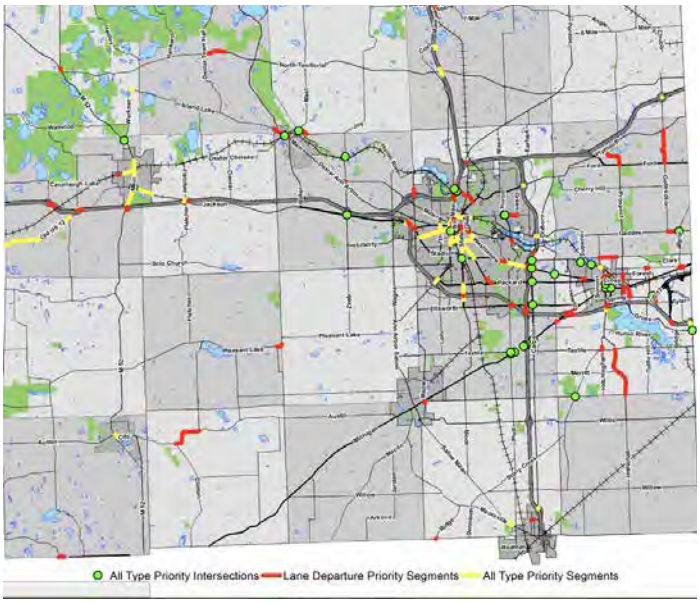
MAP 4 - BIKE SAFETY PRIORITY LOCATIONS



MAP 5 - PEDESTRIAN SAFETY PRIORITY LOCATIONS



MAP 6 - CRASH SAFETY PRIORITY LOCATIONS (ALL TYPES)



Feature Project

RECTANGULAR RAPID FLASHING BEACONS TEXTILE BETWEEN STATE AND LOHR

The lack of consistent safe and accessible pedestrian crossings throughout the county force pedestrians and bicyclists to make decisions that endanger their safety of all users of the transportation system. To provide safe crossings, transportation agencies in the county have been putting in rectangular rapid flash beacons, better known as RRFBs.

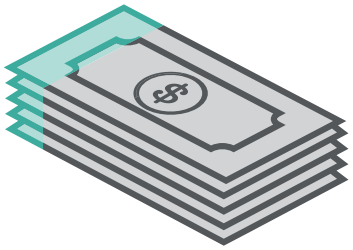
RRFBs provide a lower cost alternative to traffic signals and hybrid signals that are shown to increase driver yielding behavior at crosswalks, a FHWA-sponsored experimental implementation and evaluation conducted in St. Petersburg, Florida found that RRFBs at pedestrian crosswalks are dramatically more effective at increasing driver yielding rates to pedestrians than traditional overhead beacons.

These solutions have been deployed throughout Washtenaw County such as: Textile Rd (Pittsfield Township), Jackson Rd (Scio Township), Washington at 7th (City of Ann Arbor), Plymouth Rd, Stadium Blvd.

Project List

This plan sets a policy target of spending **20%** of available federal funds on safety.

20%



PROJECT	LOCATION	PROPOSED WORK	YEAR	TOTAL COST	AGENCY
Miller	at Wagner	Roundabout	2020	$1,000,000	WCRC
Vision Zero Safety	Citywide	Implement Safety Program	2021	$1,000,000	Ann Arbor
Currie	at Eight Mile	Reconstruct	2021	$375,000	WCRC
Vision Zero Safety	Citywide	Implement Safety Program	2022	$1,000,000	Ann Arbor
Main Street	at Lake Shore	Traffic Signal	2022	$500,000	Ann Arbor
Vision Zero Safety	Citywide	Implement Safety Program	2023	$1,000,000	Ann Arbor
State	at Airport	Safety Geometrics	2024	$300,000	Ann Arbor
Vision Zero Safety	Citywide	Implement Safety Program	2024	$1,250,000	Ann Arbor
Vision Zero Safety	Citywide	Implement Safety Program	2025	$1,250,000	Ann Arbor
State	over I-94 Bridge and ramps	Safety-ops	2026–2030	$10,000,000	Ann Arbor
Vision Zero Safety	Citywide	Implement Safety Program	2026–2030	$5,000,000	Ann Arbor
North Territorial	at Curtis	Improve Intersection - Traffic Operations	2026–2030	$1,000,000	WCRC
Plymouth-Ann Arbor Road	at Dixboro	Improve Intersection - Traffic Operations	2026-2030	$1,000,000	WCRC
Vision Zero Safety	Citywide	Implement Safety Program	2030-2034	$6,250,000	Ann Arbor
Vision Zero Safety	Citywide	Implement Safety Program	2035–2039	$6,250,000	Ann Arbor

Project List

PROJECT	LOCATION	PROPOSED WORK	YEAR	TOTAL COST	AGENCY
Miller	at Newport	Safety Operations	2040–2045	$1,250,000	Ann Arbor
Scio Church	at Main	Safety Operations	2040-2045	$263,158	Ann Arbor
State	Interchange Study	Safety Operations	2040–2045	$381,250	Ann Arbor
Vision Zero Safety	Citywide	Implement Safety Program	2040–2045	$7,500,000	Ann Arbor

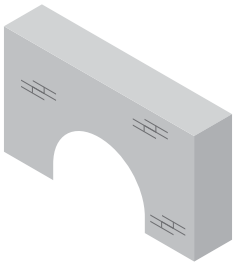
Bridges

Bridges

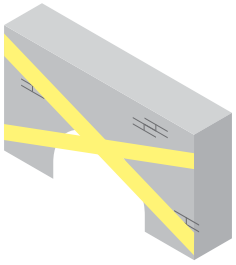
BACKGROUND

Bridges are an essential component of our transportation infrastructure. They provide connections between roadways, allow them to traverse natural features of the landscape, and provide security and emergency response connections. When a bridge no longer serves its purpose, homes and businesses can become isolated and the flow of people, goods, and services can be interrupted.

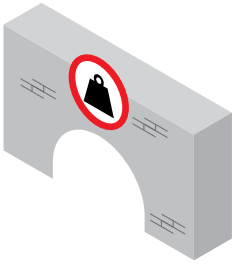
As Washtenaw County's bridges age, the issue of funding for repair and replacement of bridges becomes more urgent, as does monitoring their condition. MDOT oversees the collection and monitoring of bridge conditions in the state in its Michigan Structure Inventory and Appraisal (MSIA) database. The MSIA database is updated in the spring and summer months as bridge inspections are completed. This database describes in detail the bridge ownership, usage, condition, and age of the state's bridges.



400+
bridges in Washtenaw



6
closed bridges



50
weight restricted bridges

BRIDGE AGE

Bridges are a major, long term investment in the transportation system with an expected lifespan of at least 50 years. However, many of Washtenaw County's bridges are operating well beyond their anticipated lifespan. While this is a testament to the county's dedication to maximizing the lifespan of its past investments, many of these bridges require replacement. On the right is a chart of the age of bridges in Washtenaw County. Note that 38 of the county's bridges were built before 1950 and that the majority of the county's bridges have crossed or are approaching their 50 year service life, and may require replacement or substantial improvement to extend their life.

CONSTRUCTION YEAR	NUMBER OF BRIDGES
Before 1926	7
1926–1950	31
1951–1975	298
1976–2000	84
2001–2018	47
TOTAL	**467**

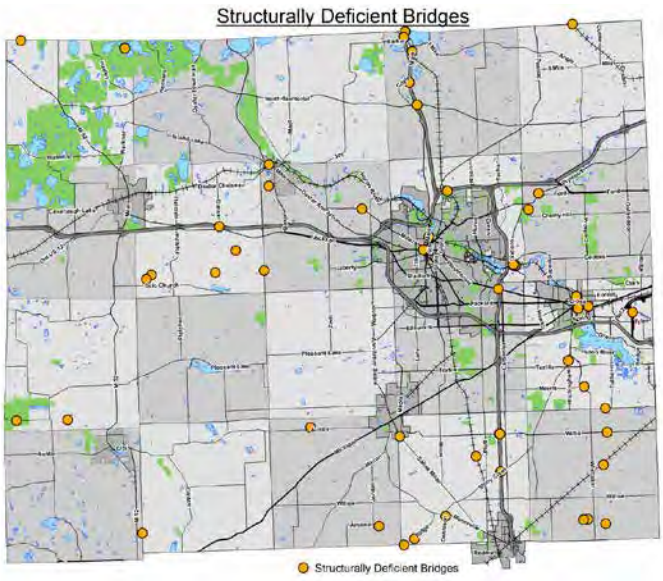
Deficiency Criteria

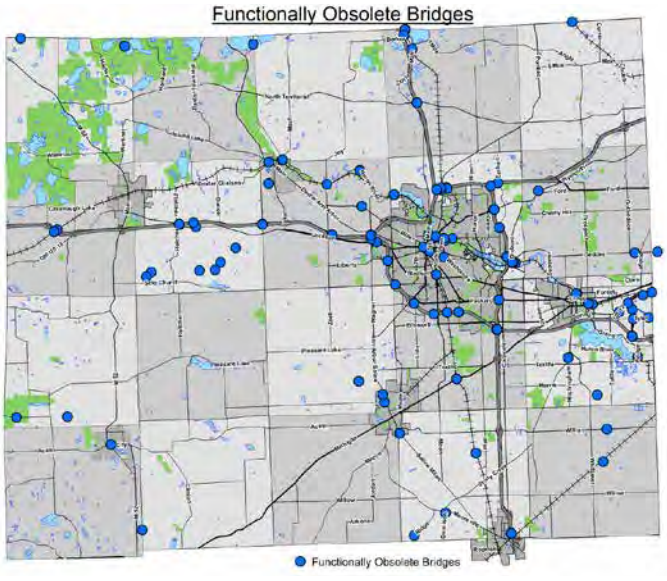
BRIDGE CONDITION

STRUCTURALLY DEFICIENT (SD): A bridge is classified as structurally deficient if the deck, superstructure, substructure, or culvert is rated in "poor" condition (0 to 4 on the National Bridge Inventory (NBI) rating scale). Also, a bridge can be classified as structurally deficient if its load carrying capacity is significantly below current design standards or if a waterway below frequently over-tops the bridge during floods.

FUNCTIONALLY OBSOLETE (FO): Bridges classified as functionally obsolete are not necessarily structurally deficient, but their design is outdated. They may have lower load carrying capacity, narrower shoulders or less clearance underneath than bridges built to the current standard.

Below are maps of Structurally Deficient and Functionally Obsolete bridges throughout Washtenaw County.





Feature Project

ANN ARBOR SALINE ROAD BRIDGE PROJECT PROFILE

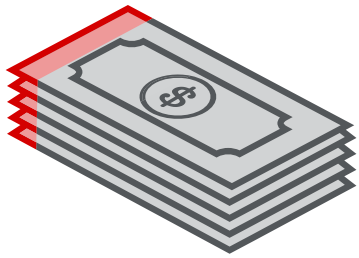
In 2014 the Washtenaw County Road Commission, City of Ann Arbor, and MDOT participated on an improvement to the Ann Arbor Saline Road Bridge over I-94. The bridge had been identified by the city and Pittsfield Township as a critical connection that linked the two communities to each other and to the regional transportation system as well. However, when originally constructed, it didn't include adequate non-motorized facilities. Over the years as both residential and commercial development occurred on both sides of the bridge, and the need for non-motorized facilities became apparent.

Since the scope of the project was the replacement of the bridge deck, rather than a full replacement of the bridge itself, expanding the bridge was not an option. The project team was able to identify a creative solution that narrowed travel lanes on the bridge, providing space for a painted bike lane on one side of the bridge, and an improved sidewalk on the other.

Project List

This plan sets a policy target of spending **15%** of available federal funds on bridges.

15%



PROJECT	LOCATION	PROPOSED WORK	YEAR	TOTAL COST	AGENCY
Dennison	Over Saline River	Replace Bridge	2021	1140000	WCRC
Cross	over Huron River	Replace Bridge	2021	6488000	Ypsilanti
Factory	over Huron River	Bridge Rehabilitation	2021	59000	Ypsilanti
I-94	I-94 OVER I-94 BL	OVERLAY - EPOXY	2023		MDOT
I-94	I-94 EB OVER MILL CREEK	OVERLAY - EPOXY	2023		MDOT
I-94	I-94 WB OVER MILL CREEK	OVERLAY - EPOXY	2023		MDOT
I-94	I-94 EB OVER CONRAIL	OVERLAY - EPOXY	2023		MDOT
I-94	NOTTEN ROAD OVER I-94	OVERLAY - EPOXY	2023		MDOT
I-94	KALMBACH ROAD OVER I-94	OVERLAY - DEEP	2023		MDOT
I-94	M-52 OVER I-94	OVERLAY - EPOXY	2023		MDOT
I-94	FREER ROAD OVER I-94	OVERLAY - EPOXY	2023		MDOT
I-94	OLD US-12 OVER I-94	OVERLAY - EPOXY	2023		MDOT
I-94	JACKSON AVENUE WB, I-94 BR OVER I-94 RAMP		2023		MDOT
Geddes	Over Fowler Creek	Replace Bridge	2026-2030	$1,200,000	WCRC
LeForege	over Huron River	Bridge Rehabilitation	2026-2030	$258,000	Ypsilanti
Willis	over Paint Creek	Replace Bridge	2030-2034	$1,200,000	WCRC
Forest	Huron River	Bridge - other	2030-2034	$1,215,000	Ypsilanti

Policy Guidance

BRIDGES AND NON-MOTORIZED INFRASTRUCTURE

Bridges provide critical access and connections for automobile traffic, freight, emergency servcies, and non-motorized travel. The nature of bridge investments, with a lifetime of at least 50 years, requires long term thinking and planning for the types of uses that may occur on that bridge in the future, as well as recognizing the limitations of those expectations. WATS' Non-motorized plan identifies bridges as a critical priority for non-motorized infrastructure, and with the understanding that if investments are made today without those non-motorized facilities, unanticipated future growth could make those structures functionally obsolete for non-motorized use. Therefore bridges using federal funding are required to have appropriate non-motorized infrastructure, even if they are outside of the urban area.

Environment & Congestion

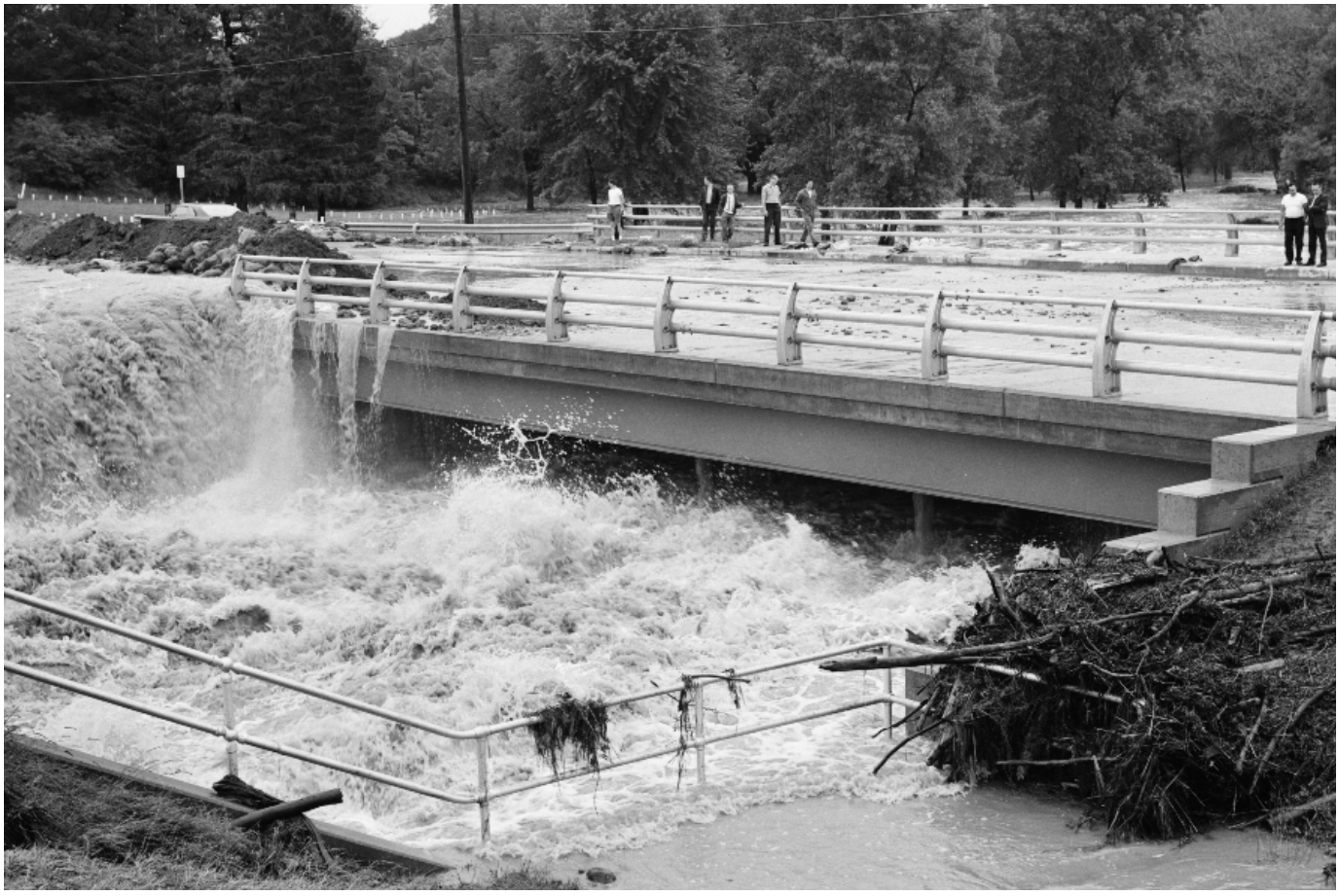
Environment & Congestion

BACKGROUND

The transportation system's relationship to the environment is multifaceted. Many transportation options impact the environment and variability in the climate impacts the condition of infrastructure. Personal and commercial vehicles create air pollution and impervious roads impact storm-water infiltration pollutant loading and create heat islands. Similarly local travel relies on a transportation network in good repair. Warmer winters with more freeze/thaw cycles and increasing vehicle-miles-traveled will have increasingly severe impacts on roads. Storm events are also becoming more extreme causing engineers to design infrastructure for the 100-year storm rather than the previous 20-50-year designs.

Climate change is an increasingly demanding planning factor. Communities should be aware of the potential challenges to be faced, and incorporate environmental sustainability and resiliency into transportation planning.

This resiliency planning should recognize the potential for communities to be separated from each other and cut off from resources by impassable roads due to deteriorated road conditions, flooding and other climate influenced impacts. To help fortify the transportation network against these affects, a multidisciplinary approach to project planning and implementation should be considered that aides in environmental sustainability. To this end, project planning should include coordination between transportation, land-use, water management and forestry departments, resulting in strategic projects.



Deficiency Criteria

Possible Project Impacts, 2045 Regional Transportation Plan for Southeast Michigan

Project Type (Total Number of Projects Planned)	Number of Projects Potentially Impacting Resources										
	Water Resources[1]	Wetlands	Flood Prone Areas	Groundwater Resources[2]	Woodlands	Parks $ Rec Areas	Historic Sites	Cemeteries	Heritage Routes Natural Beauty Roads	Historic Bridges	Nonmotorized Facilities
Bridge (8 projects)	1	0	2	1	7	1	0	0	1	0	0
Congestion - Capacity (27 projects)	24	21	12	1	27	4	0	1	1	1	7
Congestion - Non-Capacity (2 projects)	2	2	1	0	2	1	1	0	0	0	0
Pavement (27 projects)	23	23	15	2	27	13	3	4	3	0	5

[1]Water resources consist of lakes and streams, designated trout lakes/streams, and Natural Rivers.
[2]Groundwater resources consist of wellhead protection areas and sinkholes.

SEMCOG completes an environmental sensitivity analysis for the seven county region. This analyzes potential effects to natural and cultural resources. This analysis is shown below. Local transportation agencies work with the Washtenaw Water Resources Commissioner to deploy onsite stormwater management treatment into transportation construction projects when possible.

Deficiency Criteria

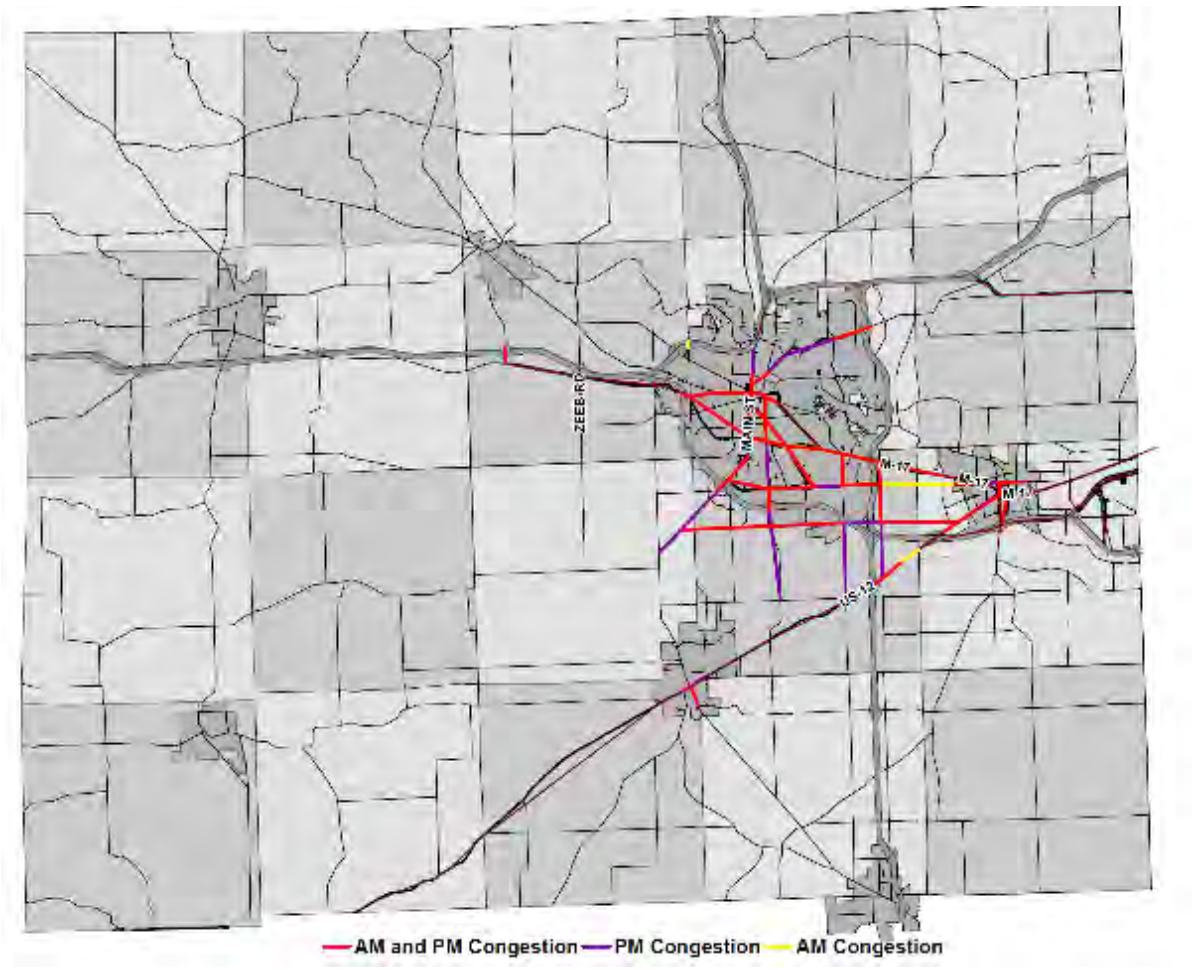
CONGESTION DEFICIENCIES

BACKGROUND: Congestion limits the effectiveness of previous roadway investments, delaying travelers, increasing the risk of vehicular crashes, and degrading regional air quality. As vehicle volume on a corridor increase, the number of people passing through a corridor grows, until a point where the road becomes saturated and reaching its highest capacity. Any additional vehicle volume decreases the person throughput of the roadway, referred to as the capacity cliff.

ARTERIAL CONGESTION: Arterial segments are considered congested if the average speed is less than or equal to 20 mph for any hour during AM peak (7–8 and 8–9 AM) and PM peak (4–5 and 5–6 PM) periods for any worst month.

PLANNING TIME INDEX: The planning time index represents how much total time a traveler should allow to ensure on-time arrival 95% of the time (Adequate 19 out of 20 Days). The planning time index compares near-worst case travel time to a travel time in light or free-flow traffic. For example, a planning time index of 1.60 means that, for a 15-minute trip in light traffic, the total time that should be planned for the trip is 24 minutes (15 minutes x 1.60 = 24 minutes).

MAP 7 - ARTERIAL ROAD CONGESTION MAP



Feature Projects

BAKER ROUNDABOUTS

Transportation improvements with direct environmental benefits are often Congestion Mitigation and Air Quality funded projects.

In 2018 the Washtenaw County Road Commission constructed two roundabouts on Baker at Shield and at Dan Hoey to reduce peak hour congestion. The roundabouts accommodate commuter traffic and the drop-off/pick-up peaks for Dexter schools. The project was a partnership between WCRC, City of Dexter and Dexter Schools.

LOW EMISSION BUSES

Transit service allows dense land uses that would otherwise overwhelm the transportation network with single-occupancy-vehicle trips. Offering compelling transit that both serves the community, and is a cornerstone for adding dense development, relies on bus fleet capable of brief headways and robust routes. CMAQ funding have helped TheRide to purchase 11 low-emission buses since 2016.

Project List

This plan sets a policy target of spending **15%** of available federal funds on the environment.

15%

PROJECT	LOCATION	PROPOSED WORK	YEAR	TOTAL COST	AGENCY
Pontiac	at Seven Mile	Improve Intersection Operations	2020	$750,000	WCRC
North Territorial Rd	at Pontiac Trail	Improve Intersection Operations	2021	$750,000	WCRC
Fuller/Maiden/E. Medical Center		Reconstruction	2023	$20,400,000	Ann Arbor
Plymouth	US-23 to Broadway	Safety-ops	2026–2030	$315,789	Ann Arbor
State	I-94 to Huron	Safety-ops	2026–2030	$315,789	Ann Arbor
Washtenaw	US-23 to Huron	Safety-ops	2026–2030	$315,789	Ann Arbor
Huron River Dr	At Mast/Joy	Improve Intersection - Traffic Operations	2026–2030	$1,500,000	WCRC

NOTES

Protecting the environment requires action from governmental agencies, private companies and consumers/citizens. As new technologies emerge, the economy rebounds, development pressures mount, and an aged infrastructure demands reconstruction, we have the opportunity for better integration between transportation and land use. Complete-Streets, Green-Streets, Intelligent Transportation Systems (ITS), and transit service (including the emergence of autonomous vehicles and ride-share programs) all have potential to reduce the impacts of travel on the environment, but must be integrated system-wide and in concert with land use planning.

CMAQ funding remains the only specifically environmentally targeted funding opportunity, however, holistic environmental stewardship must be at the center of all infrastructure investment decisions in order to offer a compelling alternative to unsustainable practices.

Non-Motorized

Non-Motorized

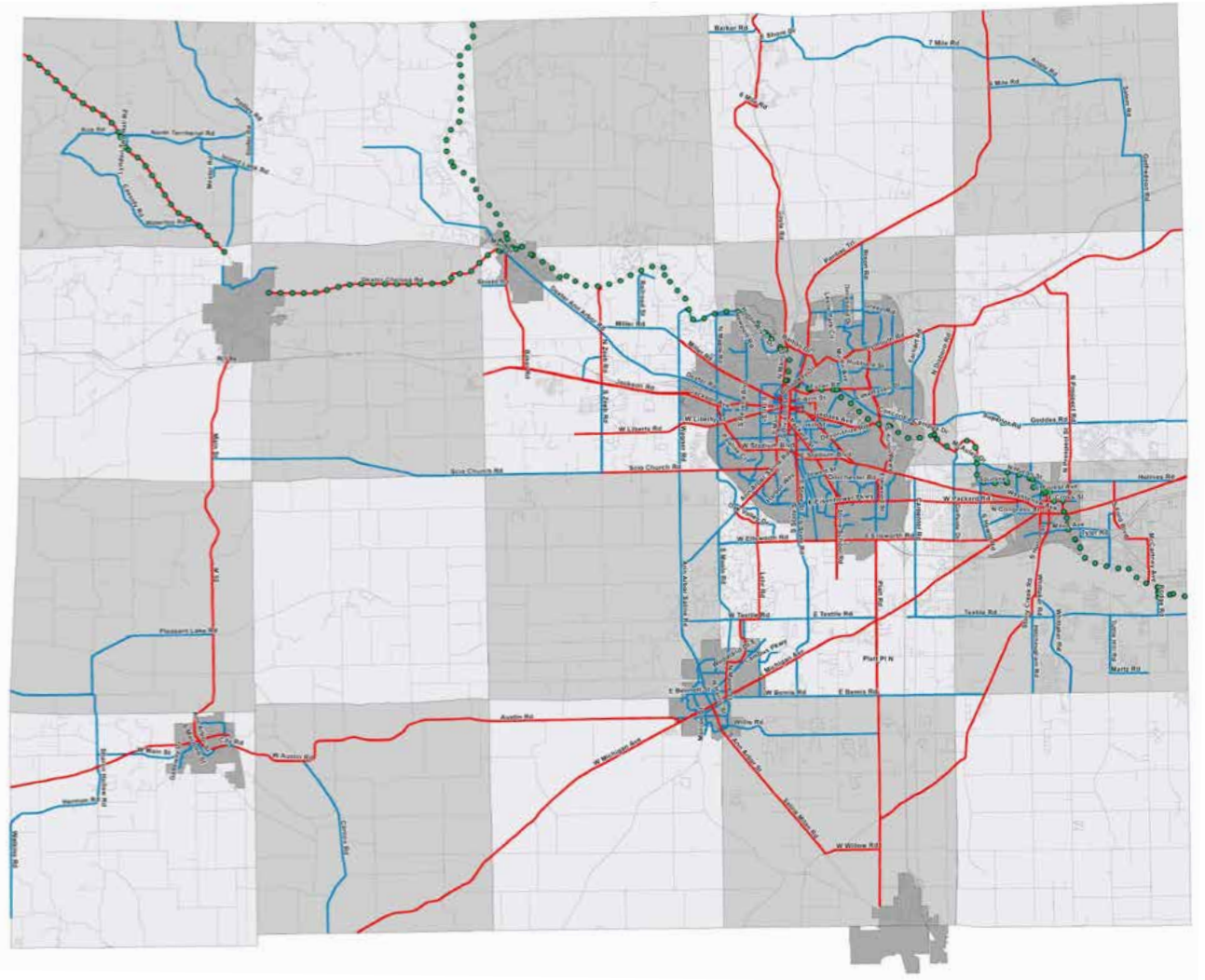
BACKGROUND

All trips, whether by car, foot, bike, bus, or mobility device begin and end as non-motorized trips, and depend on quality, connected non-motorized infrastructure to reach destinations. WATS believes that expanding mode choice options through a context sensitive expansion of the non-motorized system will improve the quality of life of all Washtenaw County residents.

By unifying planning efforts around the county, identifying priority corridors and establishing timely implementation strategies, WATS seeks to facilitate the creation of a safe and equitable, universally accessible regional active transportation system. **MAP 8** depicts these unified planning efforts and feedback from local agencies.

Deficiency Criteria

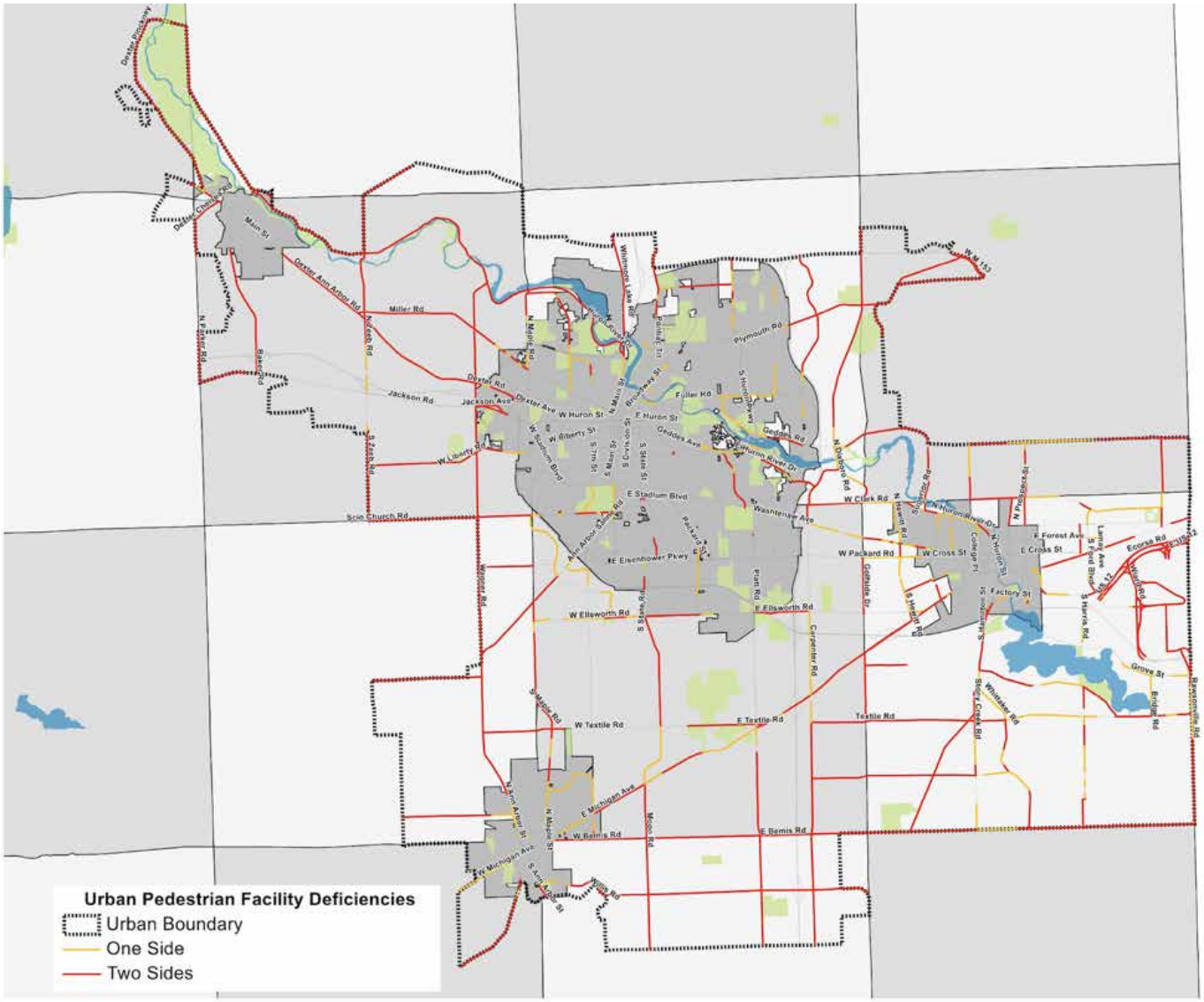
MAP 8 - PRIMARY AND LOCALLY IDENTIFIED ROUTES



As society and infrastructure developed towards a more automobile-focused transportation system, people and businesses were able to reach further away from the central downtown areas. The ability to walk and bike to destinations became more challenging as the transportation system was increasingly designed to move more cars quickly.

Deficiency Criteria

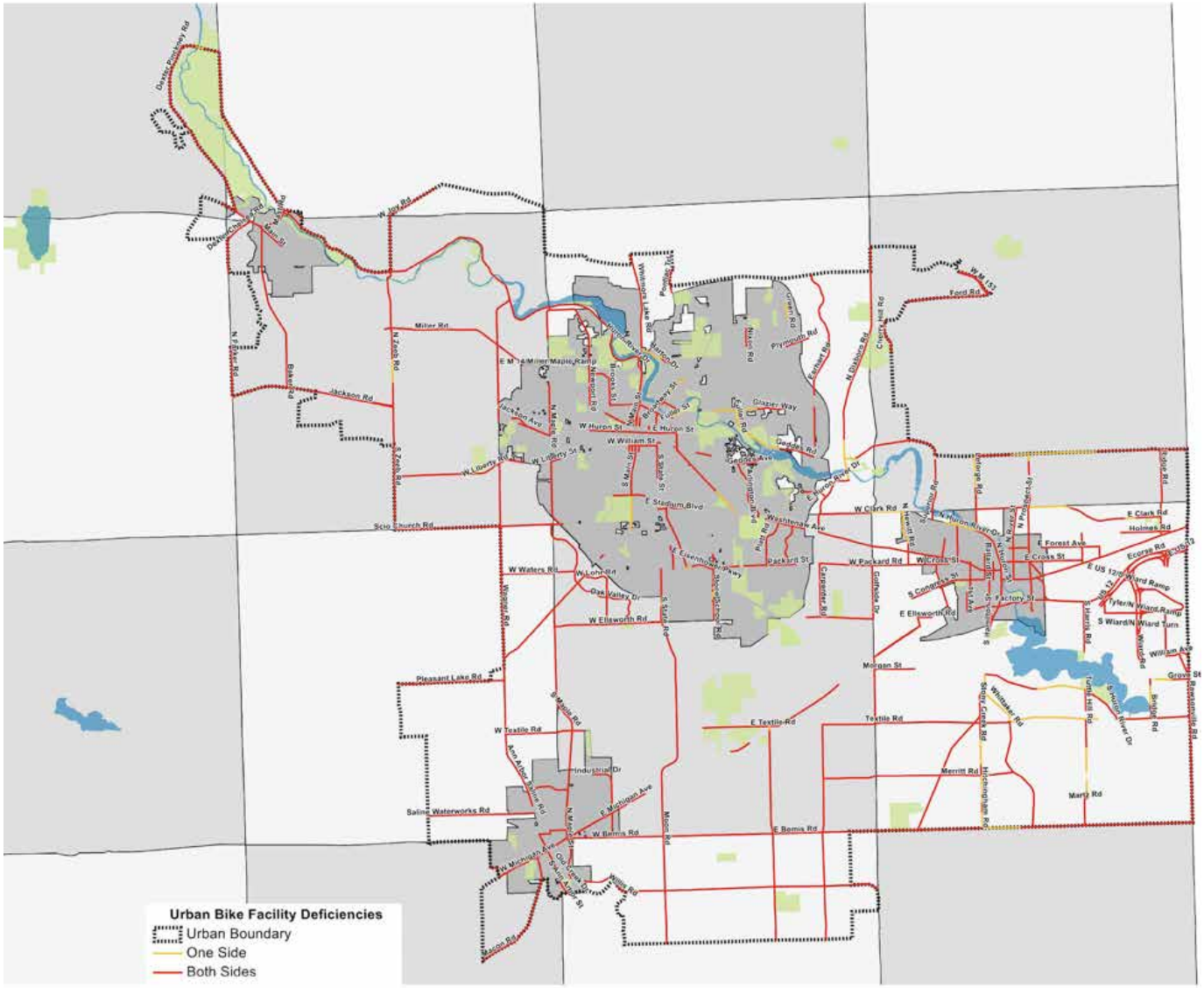
MAP 9 - URBAN PEDESTRIAN FACILITY DEFICIENCIES



MAP 9 highlights pedestrian facility deficiencies in the urban area of Washtenaw County. Federal Aid road segments are considered deficient where there is no sidewalk or shared use path in the urban area. Many segments have facilities on only one side of the road (those in orange). This map is meant as a high-level review of the presence of pedestrian facilities, and does account for the context of each road segment. For example, some of the facilities identified as deficient on one side may, in practice, be contextually appropriate for the level and pattern of pedestrian activity in those areas.

Deficiency Criteria

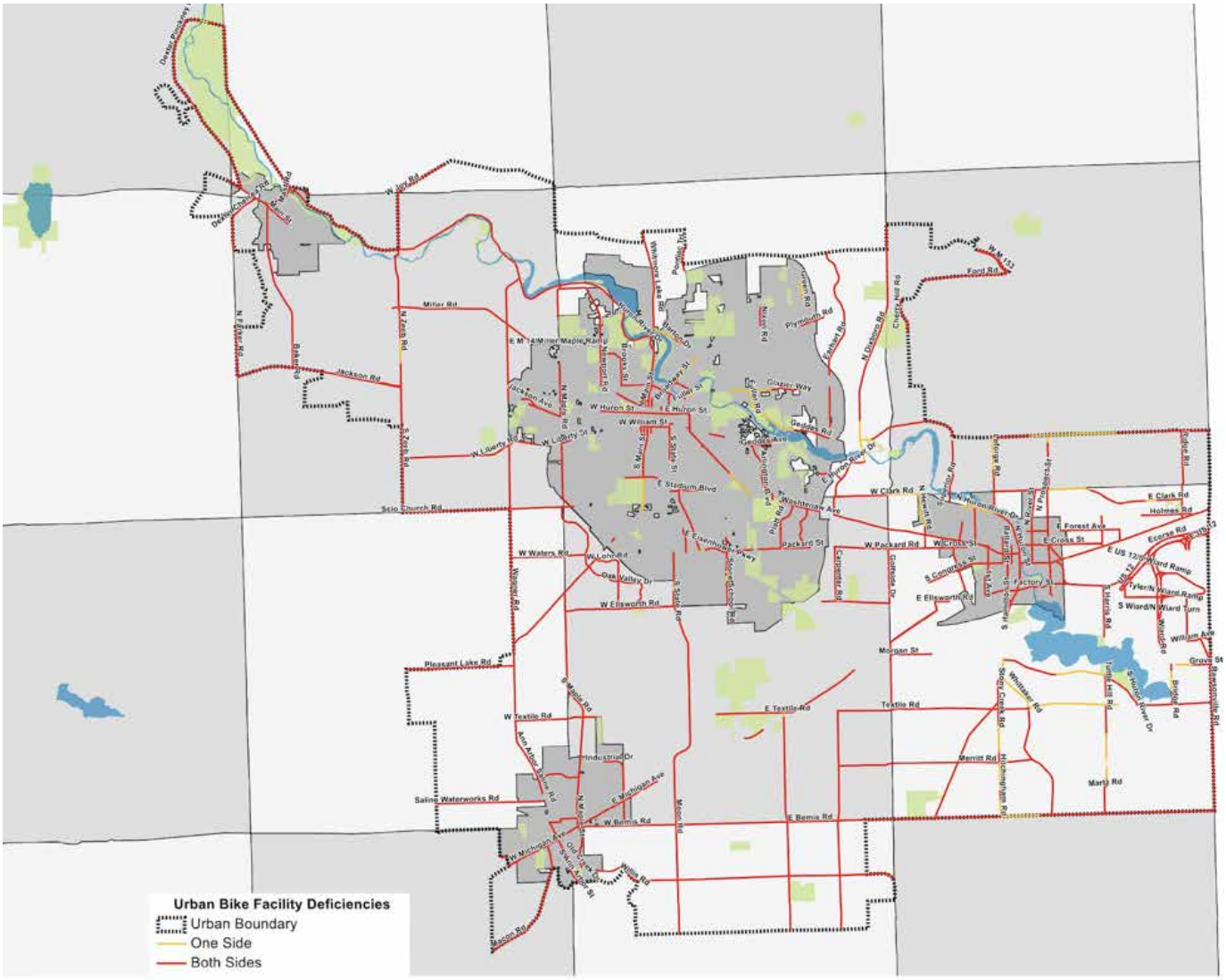
MAP 10 - URBAN BIKE FACILITY DEFICIENCIES



MAP 10 highlights bicycle facility deficiencies in the urban area of Washtenaw County. Federal aid road segments are deficient where there is no bike lane, shared use path, sharrow, or wide shoulder. Some segments have facilities on only one side of the road; shown in orange. This map is meant as a high-level review of the presence of bike facilities and does account for the context of each road segment. When projects are engineered, evaluating the amount of vehicle traffic, bike traffic, and land use of the adjoining areas should be noted.

Deficiency Criteria

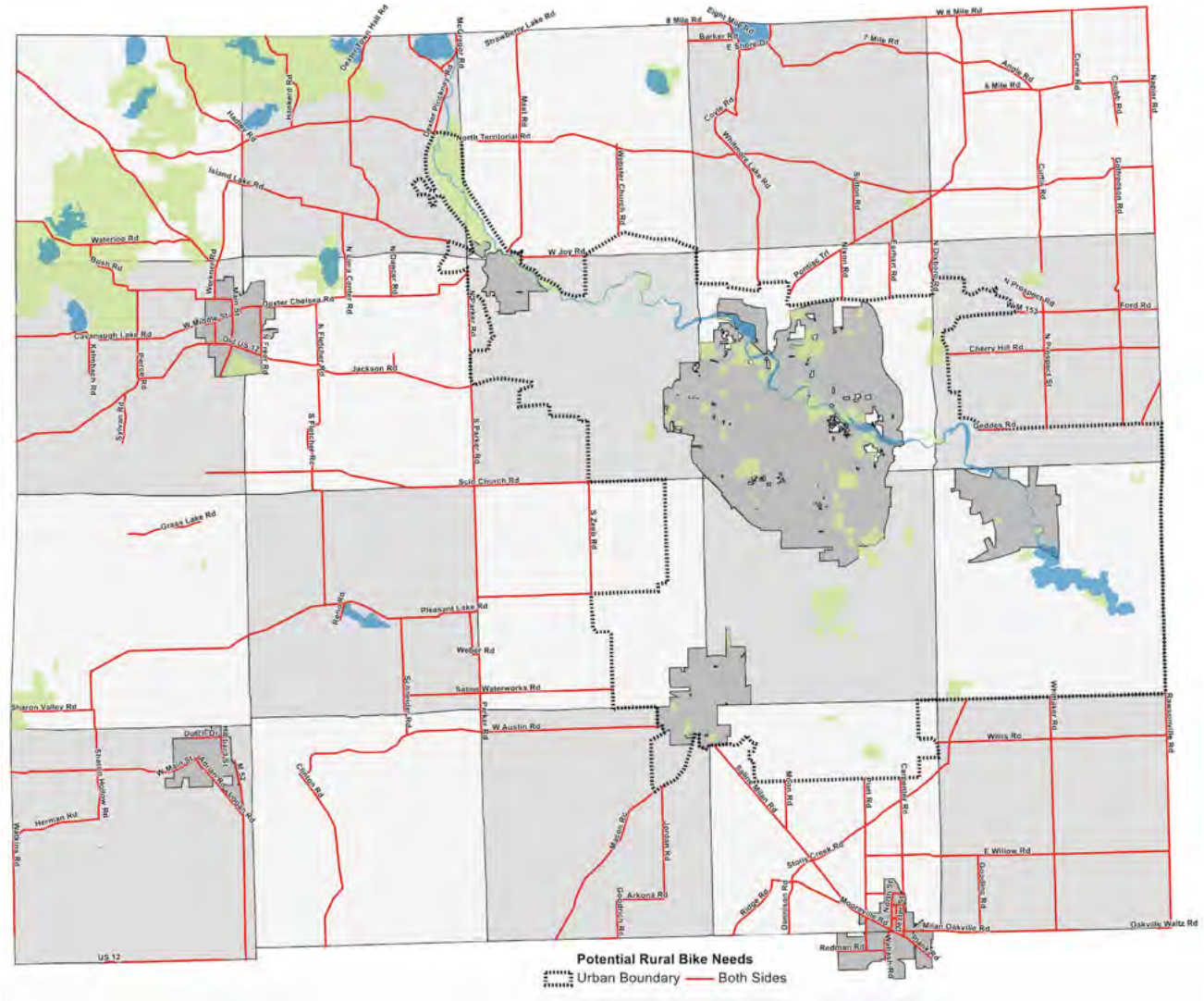
MAP 11 - POTENTIAL RURAL PEDESTRIAN NEEDS



MAP 11 highlights road segments without pedestrian facilities in the rural area of Washtenaw County. Rural Federal Aid road segments could be deficient where no sidewalk, shared use path, or wide shoulder is available. Since, in most segments, the level of pedestrian activity in the rural area is much lower than that of the urban area, additional evaluation for adding facilities is warranted. In many parts of the rural area, a trail targeting users over a broad area may be more appropriate. WATS includes prioritization of such regional connections on **MAP 8, PRIMARY AND LOCALLY IDENTIFIED ROUTES.**

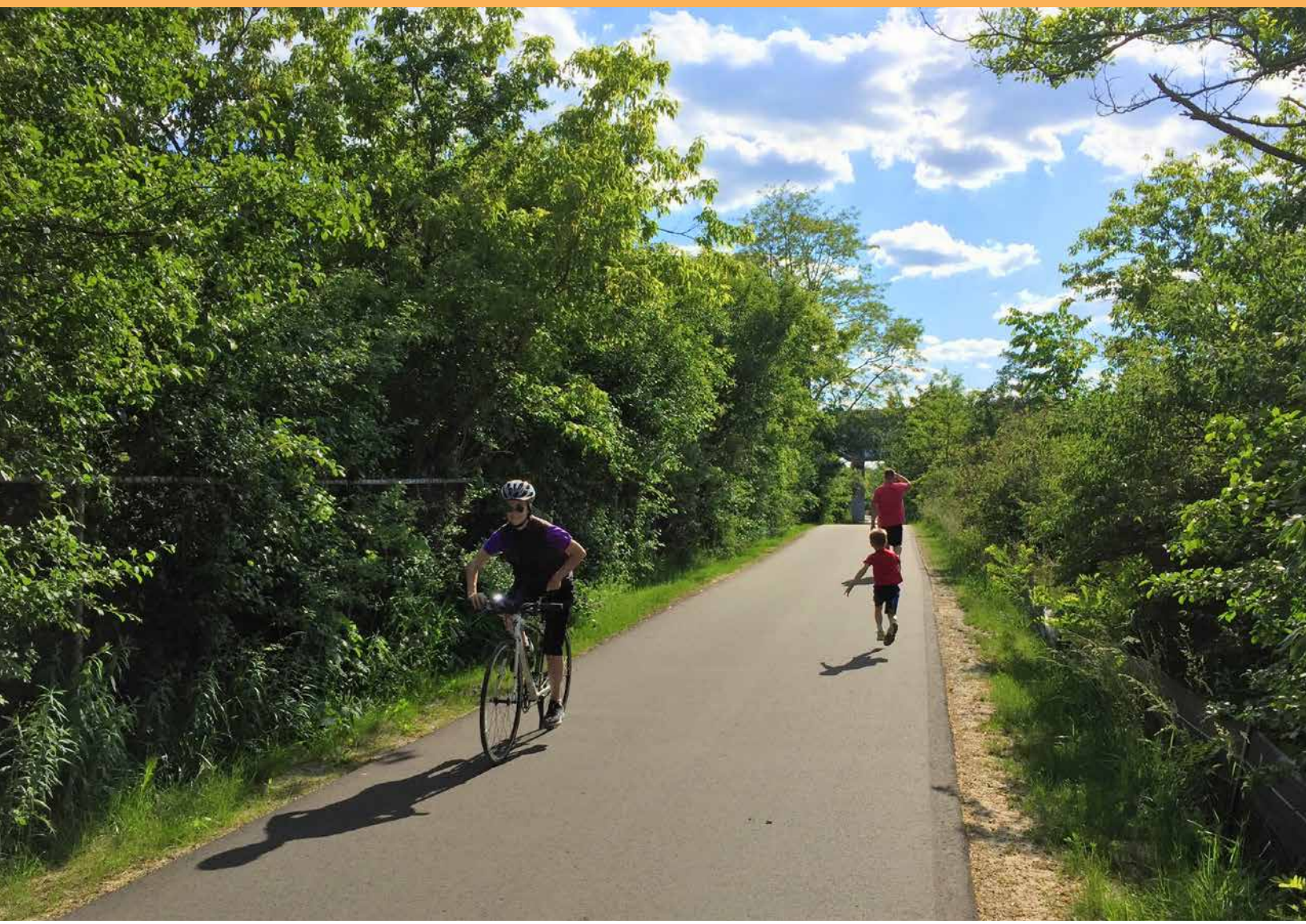
Deficiency Criteria

MAP 12 - POTENTIAL RURAL BIKE FACILITY NEEDS



MAP 12 highlights road segments without bike facilities in the rural area of Washtenaw County. Rural Federal Aid road segments could be deficient where there is no shared use path, or wide shoulders available. In the rural area, the various types of users for the facilities should be considered when evaluating improvements. Many touring and competitive cyclists use the County's rural roads and have different expectations for facilities compared to commuters or casual bikers. These touring cyclists may only expect a well-maintained surface on roads with low vehicle traffic, while casual cyclists prefer trails. WATS includes prioritization for facilities in the rural area on **MAP 8, PRIMARY AND LOCALLY IDENTIFIED ROUTES.**

Feature Project



WASHTENAW COUNTY'S BORDER TO BORDER TRAIL

The Border to Border (B2B) Trail will span across Washtenaw County, roughly following the Huron River and extend toward the northwest corner of the County. The pathway will connect communities, parks, and educational facilities, and be approximately 50 miles in length. Other non-motorized facilities, such as bike lanes, will connect into the Border To Border trail, helping create a larger non-motorized network in the County, 24 miles of the B2B has been constructed. Recently, Washtenaw County Parks has teamed up with the Huron Waterloo Pathways Initiative (HWPI) to expand the B2B. Once complete, the addition of the Huron Waterloo Pathways will make nearly 70 miles of continuous, non-motorized pathways within Washtenaw County.

Project List

This plan sets a policy target of spending **10%** of available federal funds on non-motorized activities.

10%

PROJECT	LOCATION	PROPOSED WORK	YEAR	TOTAL COST	AGENCY
Fuller Ct		Sidewalk Gap-Ann Arbor	2020	$350,000	Ann Arbor
Washtenaw Service Drive	Huron Pkwy to Pittsfield	Shared Use Path	2020	$175,000	Ann Arbor
Passenger Area Facilities	Unknown	Transit/Non-motorized	2021	$312,500	AAATA
Active Transportation	Citywide	Implement Non-motorized Program	2021	$500,000	Ann Arbor
S. Main St. Sidewalk Gap	(Stadium to Ann Arbor Saline	Stand alone non-motorized	2021	$2,230,000	Ann Arbor
Passenger Area Facilities	Unknown	Transit/Non-motorized	2022	$312,500	AAATA
Active Transportation	Citywide	Implement Non-motorized Program	2022	$500,000	Ann Arbor
Main Street	Depot to M-14	Active Transportation Improvements	2022	$5,000,000	Ann Arbor
Non-motor improvements	Citywide	Non-motorized Improvements	2022	$600,000	Ann Arbor
Bandemer	to Barton	Non-motorized tunnel	2022	$5,000,000	Ann Arbor
Passenger Area Facilities	Unknown	Transit/Non-motorized	2023	$312,500	AAATA
Active Transportation	Citywide	Implement Non-motorized Program	2023	$500,000	Ann Arbor
Non-motorized improvements	Citywide	Non-motorized Improvements	2023	$600,000	Ann Arbor

Project List

PROJECT	LOCATION	PROPOSED WORK	YEAR	TOTAL COST	AGENCY
Passenger Area Facilities	Unknown	Transit/Non-motorized	2024	$312,500	AAATA
Active Transportation	Citywide	Implement Non-motorized Program	2024	$500,000	Ann Arbor
Passenger Area Facilities	Unknown	Transit/Non-motorized	2025	$312,500	AAATA
Active Transportation	Citywide	Implement Non-motorized Program	2025	$500,000	Ann Arbor
Treeline Urban Trail	N. Main from Argo to Miller	Non-motorized	2021–2025	$32,161,136	Ann Arbor
Bandemer	to Huron River Dr	Non-motorized path	2022–2025	$5,000,000	Ann Arbor
Active Transportation	Citywide	Implement Non-motorized Program	2026–2030	$2,500,000	Ann Arbor
Pontiac Trail	Broadway to US-23	Non-motorized	2026–2030	$66,151	Ann Arbor
Treeline Urban Trail	Miller to Washington	Non-motorized	2026–2030	$7,791,504	Ann Arbor
Active Transportation	Citywide	Implement Non-motorized Program	2030–2034	$3,125,000	Ann Arbor
Treeline Urban Trail	Washington to William	Non-motorized	2030–2034	$14,424,039	Ann Arbor
Active Transportation	Citywide	Implement Non-motorized Program	2035–2039	$3,125,000	Ann Arbor
Treeline Urban Trail	William to Stimson	Non-motorized	2035–2039	$20,411,452	Ann Arbor
Active Transportation	Citywide	Implement Non-motorized Program	2040–2045	$3,750,000	Ann Arbor

Transit

Transit

BACKGROUND

Washtenaw County is served by a combination of transit service providers, with various levels of service and service areas. The urban core is served by the Ann Arbor Area Transportation Authority, while rural parts of the county are served by a mix of small public and private transit services. Urban transit service has been expanded greatly since over last five years, since the 2040 Long Range Plan; Ypsilanti and Ypsilanti Township have joined the Ann Arbor Transportation Authority to form the Ann Arbor Area Transportation Authority and the passage of additional funding has made it possible to add and extend routes and hours of operation. Rural providers have also succeeded in adding new services supportive of their local ridership needs (shopping and commuter routes).

TheRide Strategy

INFORMATION TECHNOLOGY STRATEGY

Information technology is increasingly part of every aspect of operations. What strategies make the most sense? Do we have enough resources for technology? An internal assessment will help guide future discussions.

FACILITY REHABILITATION AND ASSET MANAGEMENT

Coinciding with an increased push from the federal government on asset management, TheRide will more closely review the needs of buildings to ensure they continue to serve customers and staff in a cost-effective manner.

INVEST IN STAFF

Valuing and investing in staff helps drive organizational performance. To be fulfilled in their work, staff needs guidance, skills, coaching, training, and empowerment.

TheRide's Strategic Business Plan can be found here:
http://www.theride.org/Portals/0/Documents/5AboutUs/BudgetsandPlans/aaata_strategic_business_plan_v3.pdf?ver=2018-07-13-121131-670

Transit Coordination

WASHTENAW COORDINATED HUMAN SERVICES PUBLIC TRANSIT PLAN

Within Washtenaw County and throughout much of Michigan, the demand for public transportation and the requirements of riders with special needs, has increased and will continue to do so. This can be attributed to our ability to live longer and with more independence than in the past; increased independence for individuals with disabilities through the Americans with Disabilities Act (ADA); and stricter work requirements for welfare recipients. Access to affordable and dependable transportation, especially within rural areas of Washtenaw County, continues to be a barrier to employment, health care, and other important services among these target populations.

This document serves as the Coordinated Public Transit-Human Services Plan for both the Ann Arbor Urbanized Area and the Rural Areas of Washtenaw County, given the needs to coordinate services between the urban and rural areas.

STRATEGIES IDENTIFIED IN THE COORDINATED PLAN

Based on review of public and stakeholder input, the plan strategies seek to frame activities that will improve the mobility of seniors, people with disabilities, and those with low income.

The identified strategies equally important and of equal priority.

- Expand availability of fixed route and Inter- Urban transportation services in the Ann Arbor Urbanized Area, Small Urban, and Rural Areas.
- Expand availability of demand-response and specialized services to provide additional trips for older adults, people with disabilities and people with low - incomes.
- Expand access to private transportation providers.
- Provide flexible transportation options and more specialized and one to one services through expanded use of volunteers
- Expand access to affordable Non-Emergency Medical Transportation
- Ensure the safety and access of individuals that use all modes of public transportation
- Continue to support mobility management and coordination programs among public transportation providers and other human service agencies providing transportation
- Expand the established centralized point of access that provides information on available transportation options in the area
- Build coordination among existing public and human service transportation providers
- Establish linkages to make more efficient use of funding
- Support the Transportation Coordinating Committee as it works with appropriate policy makers to reduce barriers to providing transportation services and monitor implementation of the Coordinated Plan
- Develop requirements for and implement an Inter-Operable Data Collection Program involving all transit agencies/providers
- Establish dedicated stable operating funds to enable long term planning and consistent services

Transit Coordination

- Continue to support capital needs of coordinated human service/public transportation providers
- Develop and implement a comprehensive Customer Education and Marketing Program for the Ann Arbor Urbanized Area

The Coordinated Plan can be found here:
https://miwats.org/tcc

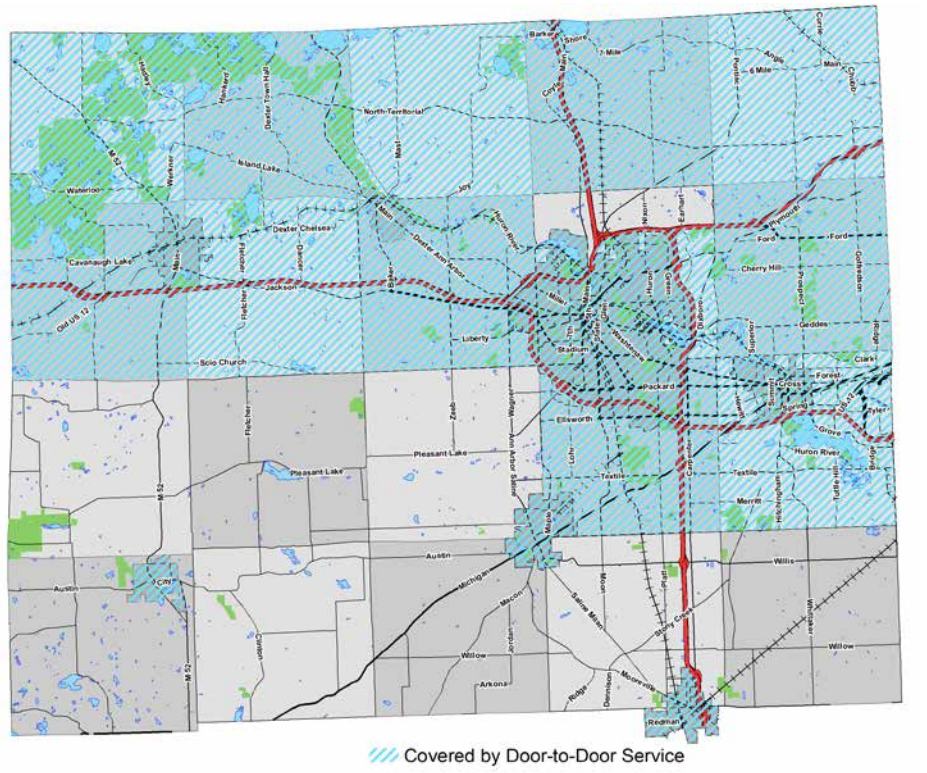
TRANSIT DEFICIENCIES

Transit is a significant factor in Washtenaw County's continual efforts to become a more livable and sustainable community. In the Urban Area, fixed route transit is a critical component of the transportation system, with tens of thousands of trips taken daily. These trips provide options for choice riders, those unable to drive, and help bridge gaps between affordable housing and employment. County-wide, Door-to-Door transit service address the needs of those unable to drive or use traditional fixed route transit. These services connect people to medical appointments, jobs, family, and daily errands. In rural areas, these services are even more important, with distance potentially isolating those unable to drive.

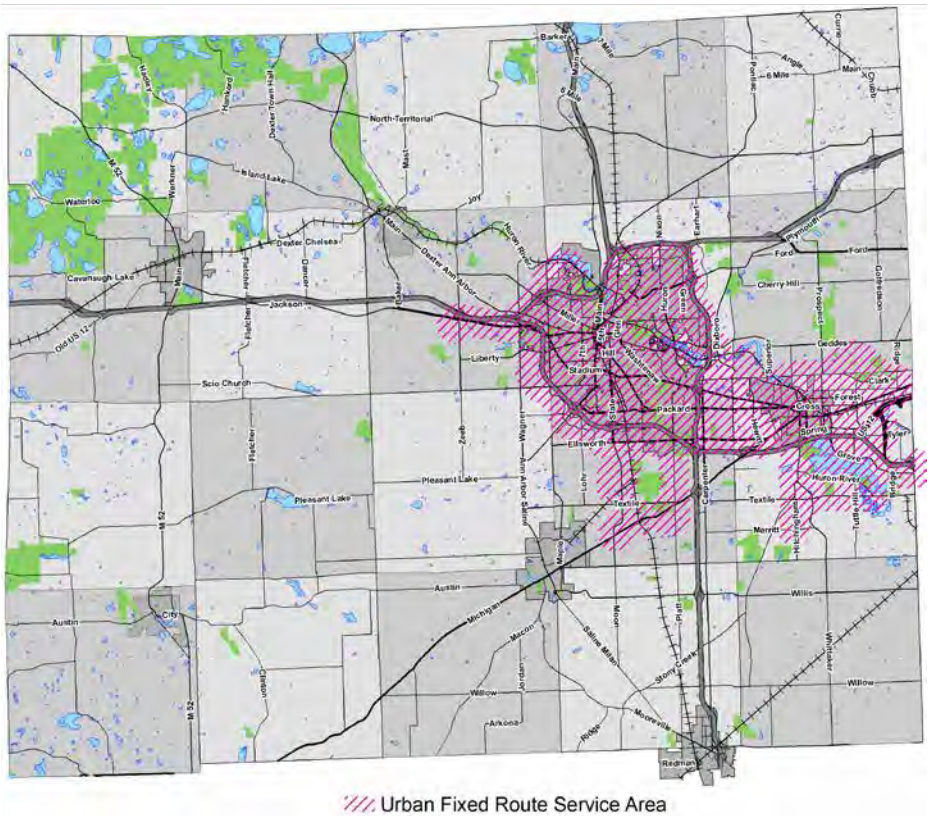
The following maps show areas that are covered by transit service. In the urban area, any area not covered by fixed route service or door-to-door service is considered deficient. In the rural areas, only areas not covered by door-to-door service are considered deficient.

Transit Services Areas

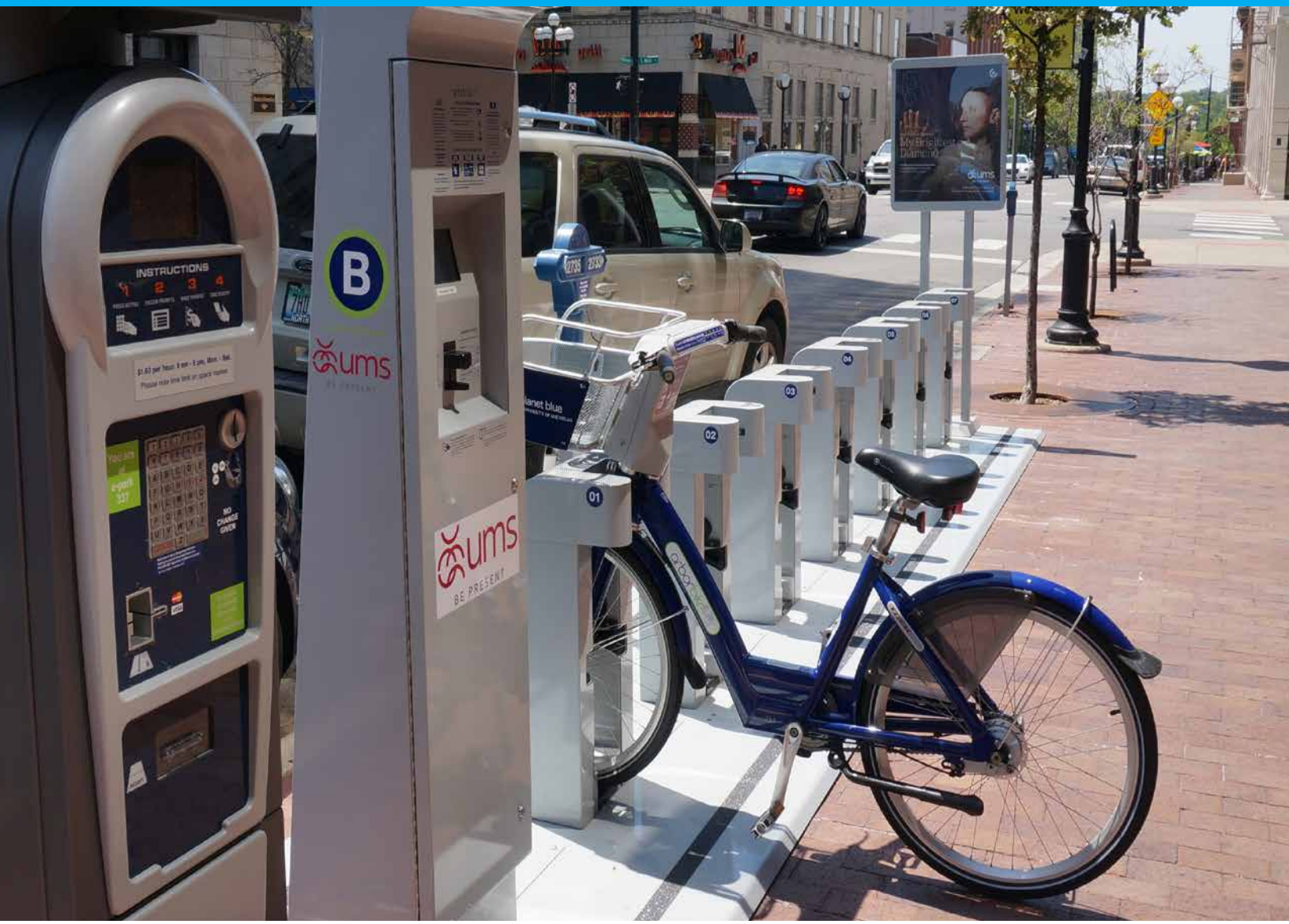
MAP 13 - DOOR-TO-DOOR TRANSIT SERVICE



MAP 14 - URBAN FIXED ROUTE TRANSIT SERVICE



Feature Project



ARBOR BIKE, BIKE SHARING PROGRAM

Proving transit service has evolved to include more than operating bus routes. Services such as last-mile connections help more travelers provision public transit as part their commute. ArborBike bike-share from TheRide provides greater access to transit service, and an option for transit-riders to complete local trips outside of peak service hours. 125 bikes spread over 14 stations cover portions of downtown Ann Arbor and University of Michigan campus.

ArborBike benefits:

- Reduce congestion
- Reduce greenhouse gas emissions
- Increase transit use
- Enhance intermodal connections
- Encourage healthy, active transportation

Transit Funding

NOTES

WATS continues to focus on diversifying mode-share, and enhancing the transportation network in low opportunity and environmental justice areas. While transit agencies are eligible for FHWA CMAQ funding, STBG Funding, and TAP Funding, the primary federal source of transit funds is the FTA. In Washtenaw County, the majority of those funds are given to the direct recipient, TheRide. TheRide undergoes its own long range planning process with TheRide Board oversight and approval. Transit specific funds are included and approved as part of the TIP. Given the differences in how those funds are administered, WATS is providing the total Long Range Plan funding for those projects as information, but not as a target.

Capital - 15.3% ($289,392,481)
Operations - 84.7% ($1,602,391,873)

PROJECT	LOCATION	PROPOSED WORK	YEAR	TOTAL COST	AGENCY
Transit Capital	AAATA Service Area	Capital Cost of Contracting	2020	$760,000	AAATA
Transit Capital	AAATA Service Area	Associated Capital Maint	2020	$720,000	AAATA
Transit Capital	AAATA Service Area	Improve Boarding Locations	2020	$155,000	AAATA
Transit Capital	AAATA Service Area	Computer Equipment	2020	$150,000	AAATA
Transit Capital	AAATA Service Area	Large Bus Replacements	2020	$2,000,000	AAATA
Transit Capital	AAATA Service Area	Large Bus Replacements	2020	$1,240,000	AAATA
Transit Capital	AAATA Service Area	Large Bus Replacements	2020	$1,421,506	AAATA
Transit Capital	AAATA Service Area	Small Bus Replacement	2020	$185,000	AAATA
Transit Capital	AAATA Service Area	Support Vehicles	2020	$100,000	AAATA
Transit Capital	AAATA Service Area	Facility Rehabilitations	2020	$800,000	AAATA
Transit Capital	AAATA Service Area	Architecture & Engineering	2020	$380,000	AAATA
Transit Capital	AAATA Service Area	Furnishings	2020	$75,000	AAATA
Transit Capital	AAATA Service Area	Purchase Small Vehicles	2020	$0	AAATA

Project List

PROJECT	LOCATION	PROPOSED WORK	YEAR	TOTAL COST	AGENCY
Transit Capital	AAATA Service Area	Facility Rehabilitations	2020	$250,000	AAATA
Transit Operations	AAATA Service Area	Preventive Maintenance (CAPITAL)	2020	$880,000	AAATA
Transit Operations	AAATA Service Area	Mobility Management (CAPITAL)	2020	$137,500	AAATA
Transit Operations	AAATA Service Area	Operating Assistance	2020	$33,100,000	AAATA
Transit Operations	AAATA Service Area	5311 Operating	2020	$1,127,000	AAATA
Ann Arbor Station	Ann Arbor	Final Design	2020	$5,000,000	Ann Arbor
Transit Capital	AAATA Service Area	Capital Cost of Contracting	2021	$760,000	AAATA
Transit Capital	AAATA Service Area	Associated Capital Maint	2021	$447,000	AAATA
Transit Capital	AAATA Service Area	Improve Boarding Locations	2021	$312,500	AAATA
Transit Capital	AAATA Service Area	Computer Equipment	2021	$169,000	AAATA
Transit Capital	AAATA Service Area	Large Bus Replacements	2021	$2,000,000	AAATA
Transit Capital	AAATA Service Area	Large Bus Replacements	2021	$1,240,000	AAATA
Transit Capital	AAATA Service Area	Large Bus Replacements	2021	$1,449,936	AAATA
Transit Capital	AAATA Service Area	Small Bus Replacement	2021	$191,000	AAATA
Transit Capital	AAATA Service Area	Support Vehicles	2021	$103,000	AAATA
Transit Capital	AAATA Service Area	Facility Rehabilitations	2021	$1,000,000	AAATA
Transit Capital	AAATA Service Area	Architecture & Engineering	2021	$210,000	AAATA
Transit Capital	AAATA Service Area	Purchase Small Vehicles	2021	$0	AAATA
Transit Operations	AAATA Service Area	Preventive Maintenance (CAPITAL)	2021	$880,000	AAATA
Transit Operations	AAATA Service Area	Mobility Management (CAPITAL)	2021	$85,000	AAATA
Transit Operations	AAATA Service Area	Operating Assistance	2021	$33,000,000	AAATA
Transit Operations	AAATA Service Area	5311 Operating	2021	$1,127,000	AAATA
Transit Capital	AAATA Service Area	Capital Cost of Contracting	2022	$760,000	AAATA

Project List

PROJECT	LOCATION	PROPOSED WORK	YEAR	TOTAL COST	AGENCY
Transit Capital	AAATA Service Area	Associated Capital Maint	2022	$320,000	AAATA
Transit Capital	AAATA Service Area	Improve Boarding Locations	2022	$312,500	AAATA
Transit Capital	AAATA Service Area	Computer Equipment	2022	$174,000	AAATA
Transit Capital	AAATA Service Area	Large Bus Replacements	2022	$2,000,000	AAATA
Transit Capital	AAATA Service Area	Large Bus Replacements	2022	$1,240,000	AAATA
Transit Capital	AAATA Service Area	Large Bus Replacements	2022	$1,478,935	AAATA
Transit Capital	AAATA Service Area	Small Bus Replacement	2022	$197,000	AAATA
Transit Capital	AAATA Service Area	Support Vehicles	2022	$106,000	AAATA
Transit Capital	AAATA Service Area	Facility Rehabilitations	2022	$369,000	AAATA
Transit Capital	AAATA Service Area	Purchase Small Vehicles	2022		AAATA
Transit Operations	AAATA Service Area	Preventive Maintenance (CAPITAL)	2022	$880,000	AAATA
Transit Operations	AAATA Service Area	Mobility Management (CAPITAL)	2022	$82,900	AAATA
Transit Operations	AAATA Service Area	Operating Assistance	2022	$33,000,000	AAATA
Transit Operations	AAATA Service Area	5311 Operating	2022	$1,127,000	AAATA
Transit Capital	AAATA Service Area	Capital Cost of Contracting	2023	$760,000	AAATA
Transit Capital	AAATA Service Area	Associated Capital Maint	2023	$320,000	AAATA
Transit Capital	AAATA Service Area	Improve Boarding Locations	2023	$312,500	AAATA
Transit Capital	AAATA Service Area	Computer Equipment	2023	$174,000	AAATA
Transit Capital	AAATA Service Area	Large Bus Replacements	2023	$2,000,000	AAATA
Transit Capital	AAATA Service Area	Large Bus Replacements	2023	$1,240,000	AAATA
Transit Capital	AAATA Service Area	Large Bus Replacements	2023	$1,508,514	AAATA
Transit Capital	AAATA Service Area	Small Bus Replacement	2023	$197,000	AAATA
Transit Capital	AAATA Service Area	Support Vehicles	2023	$106,000	AAATA

Project List

PROJECT	LOCATION	PROPOSED WORK	YEAR	TOTAL COST	AGENCY
Transit Capital	AAATA Service Area	Facility Rehabilitations	2023	$369,000	AAATA
Transit Capital	AAATA Service Area	Purchase Small Vehicles	2023		AAATA
Transit Operations	AAATA Service Area	Preventive Maintenance (CAPITAL)	2023	$880,000	AAATA
Transit Operations	AAATA Service Area	Mobility Management (CAPITAL)	2023	$68,000	AAATA
Transit Operations	AAATA Service Area	Operating Assistance	2023	$33,000,000	AAATA
Transit Operations	AAATA Service Area	5311 Operating	2023	$1,127,000	AAATA
Local Bus Operations	AAATA Service Area	Local Bus Operations	2024	$26,981,203	AAATA
Transit Capital GPA	AAATA Service Area	Transit Capital	2024	$8,287,216	AAATA
Transit Operations GPA	AAATA Service Area	Transit Operations	2024	$22,385,100	AAATA
Local Bus Operations	AAATA Service Area	Local Bus Operations	2025	$27,581,956	AAATA
Transit Capital GPA	AAATA Service Area	Transit Capital	2025	$8,529,262	AAATA
Transit Operations GPA	AAATA Service Area	Transit Operations	2025	$22,782,635	AAATA
Local Bus Operations	AAATA Service Area	Local Bus Operations	2026	$28,193,741	AAATA
Transit Capital GPA	AAATA Service Area	Transit Capital	2026	$8,778,377	AAATA
Transit Operations GPA	AAATA Service Area	Transit Operations	2026	$23,189,427	AAATA
Local Bus Operations	AAATA Service Area	Local Bus Operations	2027	$28,816,722	AAATA
Transit Capital GPA	AAATA Service Area	Transit Capital	2027	$9,034,767	AAATA
Transit Operations GPA	AAATA Service Area	Transit Operations	2027	$23,605,722	AAATA
Local Bus Operations	AAATA Service Area	Local Bus Operations	2028	$29,451,064	AAATA
Transit Capital GPA	AAATA Service Area	Transit Capital	2028	$9,298,639	AAATA
Transit Operations GPA	AAATA Service Area	Transit Operations	2028	$24,031,794	AAATA
Local Bus Operations	AAATA Service Area	Local Bus Operations	2029	$30,096,936	AAATA
Transit Capital GPA	AAATA Service Area	Transit Capital	2029	$9,570,221	AAATA

Project List

PROJECT	LOCATION	PROPOSED WORK	YEAR	TOTAL COST	AGENCY
Transit Operations GPA	AAATA Service Area	Transit Operations	2029	$24,467,888	AAATA
Ann Arbor Station	Phase 1 Construction	Transit	2021–2026	$55,000,000	Ann Arbor
Local Bus Operations	AAATA Service Area	Local Bus Operations	2030–2034	$159,758,175	AAATA
Transit Capital GPA	AAATA Service Area	Transit Capital	2030–2034	$52,307,178	AAATA
Transit Operations GPA	AAATA Service Area	Transit Operations	2030–2034	$140,338,354	AAATA
Local Bus Operations	AAATA Service Area	Local Bus Operations	2035–2039	$176,385,935	AAATA
Transit Capital GPA	AAATA Service Area	Transit Capital	2035–2039	$60,491,317	AAATA
Transit Operations GPA	AAATA Service Area	Transit Operations	2035–2039	$162,296,119	AAATA
Ann Arbor Station	Phase 2 Construction	Transit	2035–2039	$32,000,000	Ann Arbor
Local Bus Operations	AAATA Service Area	Local Bus Operations	2040-2045	$236,060,967	AAATA
Transit Capital GPA	AAATA Service Area	Transit Capital	2040–2045	$85,209,378	AAATA
Transit Operations GPA	AAATA Service Area	Transit Operations	2040–2045	$228,613,823	AAATA

Regional Priorities

Regional Priorities

EQUITY

Washtenaw County provides a high quality of life to its residents with a healthy, thriving populace. Key prosperity markers are on the rise, including: wealth, median incomes, housing prices, educational attainment, and job growth. However, looking more closely, opportunity indicators are not equitably distributed. While significant portions of the county are thriving, other parts are struggling - specifically communities of color.

WATS can help correct the transportation decisions that have separated, underserved or otherwise negatively altered communities. WATS evaluates investments in low opportunity areas and reports these findings with TIP amendments. Low opportunity area investments, to be effective, must include the needs identified by local communities and their residents. The Policy Committee may wish to designate a portion of WATS federal funds be spent in low opportunity areas to encourage projects identified by these communities.

Regional Priorities

HURON I-94 NON-MOTORIZED CROSSING

The Huron St. bridge over I-94 is the primary connection between the City of Ypsilanti and Ypsilanti Township and is M-17 and I-94 interchange. The facility currently has a high level-of-service for traffic, but does not provide safe access for non-motorized travel. As a result this bridge is a major barrier which separates communities, leaves a disconnect between people and jobs and is a hazardous place for non-motorized travel.

Every effort should be made to construct this project and connect these communities.

Issues affecting the area:

- Separates communities
- Barrier between people and jobs
- Hazardous route for non-motorized travel
- Potential interface issues with road-diet to north
- Existing structure has useful life remaining and is outside MDOT planning horizon

In 2014 WATS and local stakeholders, including MDOT, completed work funded by a HUD Sustainable Communities grant that determined a non-motorized crossing preferred alternative and initiated design work. MDOT work on Huron and Hamilton streets in Ypsilanti is planned for 2022. This adjacent project presents the best opportunity to integrate needs on the Huron I-94 bridge and to complete non-motorized crossing design work. Though no funding has been identified yet for the crossing, MDOT's TAP program is well-suited to fund the project. WATS federal funding policies also allow up to $100,000 of local federal funding allocation to aid in MDOT project implementation.

Regional Priorities

BORDER TO BORDER

The Border to Border trail forms the backbone of the regional nonmotorized system in Washtenaw County. When completed, the 70 miles of planned trail (40 miles are complete), will connect 13 Washtenaw Communities. The project will also link to the planned Treeline in Ann Arbor, a separated trail that will provide a much needed recreational link between Ann Arbor's Downtown and neighborhoods.

Goals of the Border to Border Trail include

- Completion of 35 miles of the Huron River Greenway - a paved shared-use pathway connecting Ypsilanti, Ann Arbor, and Dexter along the Huron River
- Completion of 29 miles of the Huron Waterloo Pathway - a paved shared use path connecting Dexter, Chelsea, Stockbridge, the Lakelands Trail, and Pinckney in a "Loop"
- Provide opportunities for transportation, recreation, river access, and links to neighboring counties
- To the maximum extent possible, rout the trail away from roads to create a safe a fun experience for a wide range of users

WATS has supported the project through participation in multiple committees that identify and prioritize trail improvements and expansions. WATS funded portions of the trail through STP funds and has signed several letters of support for federal TAP funds.

Regional Priorities

YPSILANTI TRANSIT CENTER

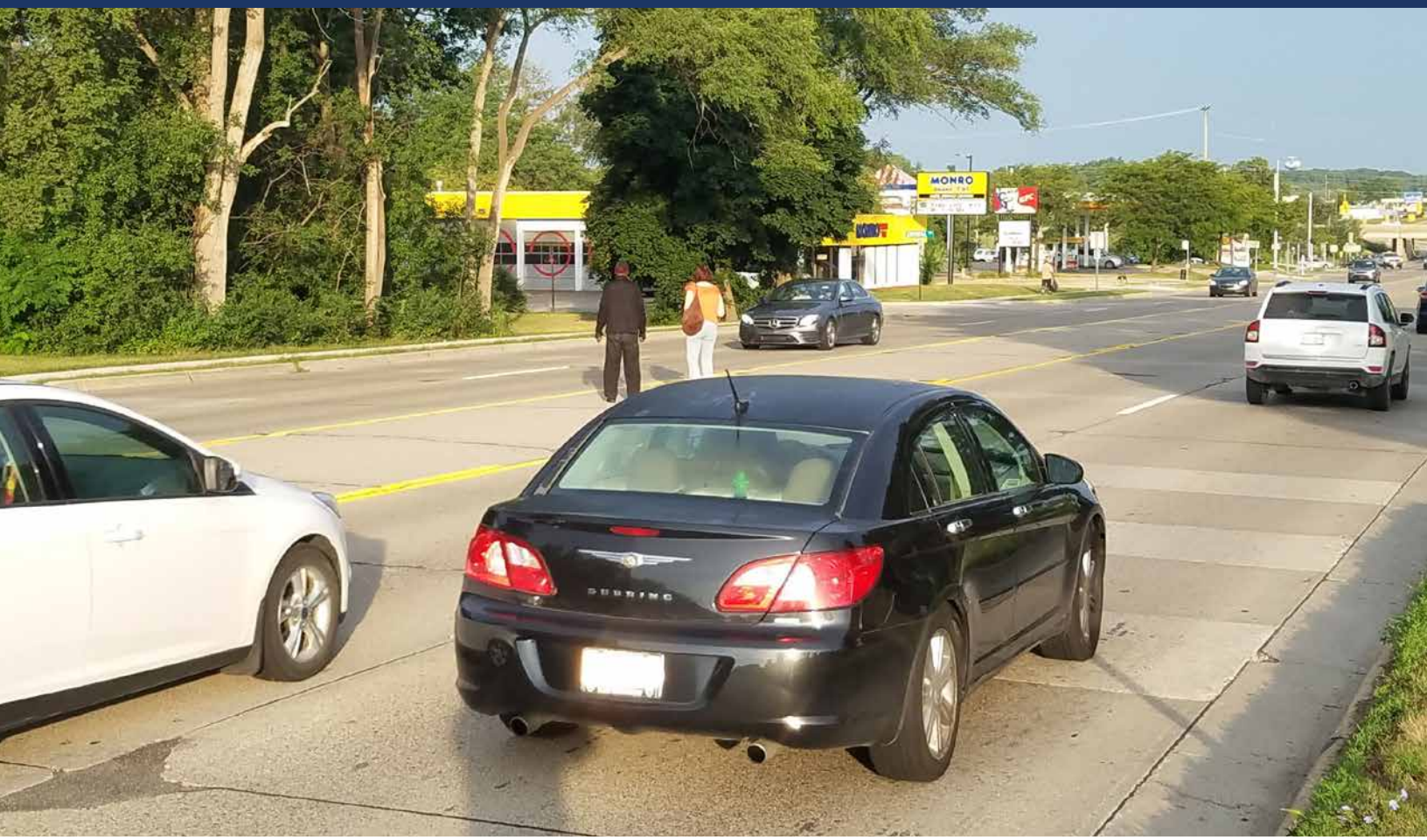
The YTC serves as a transit center with indoor and outdoor passenger waiting areas, driver facilities, office area, and six bus stop bays. Since 2012, AAATA has significantly increased service between Ann Arbor and Ypsilanti, and use of the YTC has grown.

Issues facing the transit center

- The increased number of routes delivering more riders than ever before has increased the pressure on the YTC facility
- The YTC appears to have reached its limits in terms of the physical space needed to support operations and customer needs

Given the likelihood of continued growth, TheRide has initiated an effort to develop a new Ypsilanti Transit Center. Options are being considered at the existing space, at the Water Street Property, and on Michigan Ave at Hamilton. WATS can support these efforts through participation in the plan development and by prioritizing the center in funding decisions.

Regional Priorities



NON-MOTORIZED SYSTEM GAPS

Despite improvements in non-motorized infrastructure, highway interchanges, bridges, and major corridors often remain challenging and uncrossable barriers. Many facilities were initially designed with minimal expected pedestrian traffic, but as the surrounding community developed, the need for non-motorized travel increased.

Some of the challenges that impede filling these non-motorized system gaps:

- Limited funding
- Limited right of way
- Areas with the most extensive needs are often the least able to afford new infrastructure
- Existing bridges without non-motorized infrastructure may have decades of remaining service life, and there are few options to expand the bridge to accommodate non-motorized travel

Undeterred by these challenges, Washtenaw County's communities are making all users a priority at interchanges. Since the 2040 plan, new facilities were added along Washtenaw Avenue in Pittsfield Township. In 2014, the City of Ann Arbor and the Washtenaw County Road Commission improved the I-94/Ann Arbor-Saline Road interchange with new bike and pedestrian facilities. WATS can support these efforts through federal funding, and through prioritizing these types of projects in low opportunity areas.

Regional Priorities

NORTH MAIN

North Main Street between Huron and M-14 in the City of Ann Arbor is a state-owned trunkline road which, over the course of its 1.25 mile length transitions from a highway on/off ramp to a downtown cross-section. MDOT currently plans to improve this corridor in 2021, however, the project budget does not provide for any improvements outside the existing roadway.

Issues affecting the corridor:

- Limited right of way
- Directional peak periods of congestion
- A barrier to Border to Border and Treeline connectivity
- Potential growth around Ann Arbor City owned 721 N. Main property
- Lack of adequate non-motorized crossings
- Gaps in both bicycle and pedestrian facilities

The City of Ann Arbor's N. Main Task Force produced a report in 2013 which provided infrastructure recommendations along the corridor to reflect the City of Ann Arbor and surrounding community's interests. Additional funding is necessary to implement the vision of the N. Main Task Force regional priority.

Regional Priorities

REIMAGINE WASHTENAW

The nearly five-mile stretch of Washtenaw Avenue (M-17) between Stadium Blvd in Ann Arbor and Summit Street in Ypsilanti connects four communities. The Michigan Department of Transportation owned M-17 intersects with roads owned by the City of Ann Arbor, City of Ypsilanti and Washtenaw County Road Commission. Carrying tens of thousands of people per day from the US-23 corridor and between the four communities, this corridor presents both planning and engineering challenges.

Issues affecting the corridor include:

- 50,000 vehicles per day
- 5,000 transit boardings per day
- Significant sidewalk gaps
- Lack of adequate non-motorized crossings
- Access Management issues
- Non-uniform rights-of-way

In 2009 the four communities, MDOT, Washtenaw County OCED, The Ride and WATS partnered to commence the ReImagine Washtenaw effort, a truly collaborative, regional planning effort with clear goals to transform the Washtenaw Avenue corridor from a sprawling, auto-oriented corridor, into a multi-modal, vibrant, mixed-use corridor. WATS supports the implementation of this vision through continued collaboration between projects partners.

Regional Priorities

RURAL PRESERVATION

Rural communities in Washtenaw County continue to experience housing development. Development provides much needed resources but should be planned for in a way that minimizes the impact on the transportation system. This can be done by focusing development near existing centers and providing a suite of transportation options to residents.

Issues affecting rural areas

- Aging in place requires adequate transportation services
- Preservation of agriculture lands and rural character
- Long term maintenance of roadways
- Lack of high speed internet for businesses and residents
- Lack of transportation options such as non-motorized and transit
- Continued aging demographic
- Balance of the preservation of natural space and dedication to growth

Regional Priorities

CHELSEA AREA AND DEXTER AREA PLANNING

Growth in the Chelsea and Dexter area is largely focused in the townships but impacts the transportation system for everyone. Partnerships that promote connectivity for non-motorized transportation needs should be pursued. Additionally, the lack of north-south connections constrict the flow of travel.

Planning challenges affecting the area:

- The CAPT/DART area population is anticipated to grow to 65,044 by 2045
- Increased traffic
- Lack of high-frequency fixed-route transit
- Dexter viaduct

Regional Priorities

US-12

The US-12 corridor from the western border of Saline to I-94 is the most severely congested corridor in Washtenaw County. Carrying approximately 26,000 cars per day, much of the corridor operates ineffectively. US-12 is one of the few alternative east-west connection through Washtenaw County to I-94. Significant development is anticipated in this area in local master plans.

Major issues affecting the corridor

- Extended peak period congestion
- High Truck Traffic
- Lack of alternative east-west access
- Planned development along the corridor
- Safety (High crash segments/intersections - check)

MDOT is evaluating improvements at the US-23 and US-12 interchange to improve operations of the corridor, MDOT is also working with the Washtenaw County Road Commission to make improvements near Platt Road.

Model

Model

PURPOSE OF THE MODEL

To address federal requirements, WATS maintains a Regional Transportation Demand Model, a tool that forecasts future travel behavior. This model can be used to forecast congestion, estimate the growth in both traffic and transit ridership, and study the impact of changing demographics on regional infrastructure. Critically, the model also allows WATS to study the types of infrastructure that might meet the travel needs of the county, and how those changes will affect regional travel behavior.

The model is developed with several key inputs:

- Current and Estimated Future Demographic Data
- Current and Estimated Future Employment Data
- Traffic Counts
- Transit Ridership data
- Household Travel Survey data - a detailed sampling of travel behavior throughout the region

PROJECT EXAMPLES

Over the life of the existing model, the tool has been used to study numerous projects. Some of those uses are described below.

US-23 PROJECT

In 2013, MDOT representatives approached WATS to discuss modeling the impacts of the US-23 Flex Lane project. Local officials had questions related to the impact of the project on the local roadway network, so the WATS model was utilized to review its potential impacts. However, the project used multiple innovative technologies new to Michigan and staff had not modeled a similar project previously. WATS worked in partnership with SEMCOG, its model consultant, and MDOT to evaluate strategies that would enable using the WATS model to support the study. The analysis found that there were modest increases in traffic on some local roadways, with many traffic pattern changes occurring on the MDOT network. MDOT staff balanced these findings against the safety and traffic benefits of the US-23 Flex Lane project before bringing the project to the WATS Policy Committee for approval.

ANN ARBOR CONNECTOR

WATS participated in a multi-year project with the University of Michigan, TheRide, and City of Ann Arbor evaluating the potential for high capacity transit on a route between the Plymouth Road Corridor, North Campus, and Central Campus. WATS worked with consultants to produce ridership estimates for Bus Rapid Transit and Light Rail, informing the projects recommendations.

BACKGROUND GROWTH RATES

WATS staff work with local governments, property developers, and engineering firms on a weekly basis providing estimates of traffic growth over requested time horizons. These estimates help scale developments and infrastructure appropriately to expected demand.

Model

ESTIMATING THE IMPACTS OF CHANGING DEMOGRAPHICS

Once staff have a model that provides a reasonable estimate of future traffic demand based on current and anticipated population and employment data, that data can be modified to evaluate alternative scenarios. For this plan, staff increased the amount and concentration of employment and households to test the impact of growth on the local transportation network. These scenarios provide insight into the resiliency of the local transportation network.

ANALYZING THE EFFECTS OF NETWORK (ROAD AND TRANSIT) CHANGES

Similar to estimating the impacts of changing demographics and employment, staff can instead modify the network to monitor the impacts on traffic flow and transit ridership. Example modifications include the addition of lanes to a roadway or increasing the frequency of transit service. WATS regularly works with local road and transit agencies to evaluate the effectiveness of transportation improvements.

DEMOGRAPHICS

Despite relatively stagnant growth region-wide, Washtenaw County continues to grow and emerge as a thriving economic hub. The universities and the talented workforce they attract helped the county weather the recession and propel its continued economic growth.

POPULATION FORECAST

Washtenaw County is expected to add nearly 100,000 new residents by 2045. These new residents, attracted by the county's relatively healthy job market, will put additional strain on already burdened transportation infrastructure. Household and population growth are relatively well distributed throughout the county, however, the majority of growth occurs within the existing urban area of Washtenaw County.

Model

	2015	2025	2035	2045	CHANGE 2015–45 NUMBER	CHANGE 2015–45 PERCENT
Total Population	**358,551**	**395,790**	**431,785**	**452,791**	**94,240**	**26.30%**
Population Age 0–4	18,579	20,186	21,567	22,110	3,531	19.00%
Population Age 5–17	51,382	52,254	56,114	56,817	5,435	10.60%
Population Age 18–24	63,961	65,094	65,050	66,428	2,467	3.90%
Population Age 25–54	136,831	145,273	158,512	164,414	27,583	20.20%
Population Age 55–64	42,779	44,870	43,246	47,226	4,447	10.40%
Population Age 65–84	39,155	60,181	71,912	72,165	33,010	84.30%
Population Age 85+	5,864	7,932	15,384	23,631	17,767	303.00%

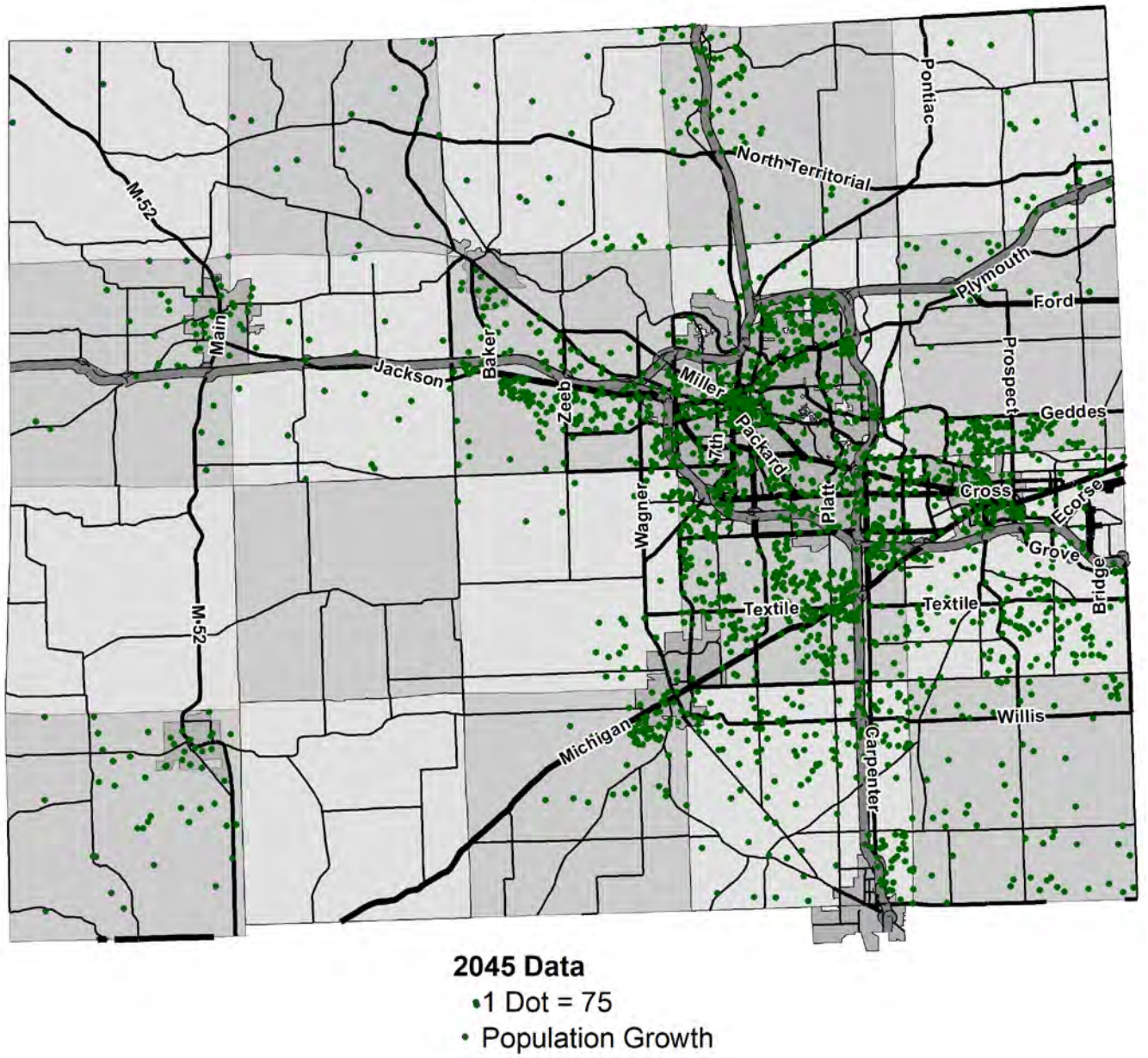
TABLE 1

TABLE 1 shows the breakdown of population growth over time and by age. Note the rapid growth of the population of Seniors by 2045. In 2015, individuals over 65 comprise 12.6% of the county's population, by 2045 that number grows to 21.2%. These seniors are less likely to drive themselves or used fixed route transit, as many will depend on costly door-to-door style services to address their transportation needs.

MAP 15 shows the anticipated distribution of population growth by 2045. Note the concentration of growth in the eastern half of Washtenaw County and within the existing urbanized area. This growth pattern presents challenges, as infrastructure is most burdened in the urbanized area, but also opportunities in encouraging active travel choices and innovative solutions to transportation demand.

Model

MAP 15 - POPULATION GROWTH DISTRIBUTION

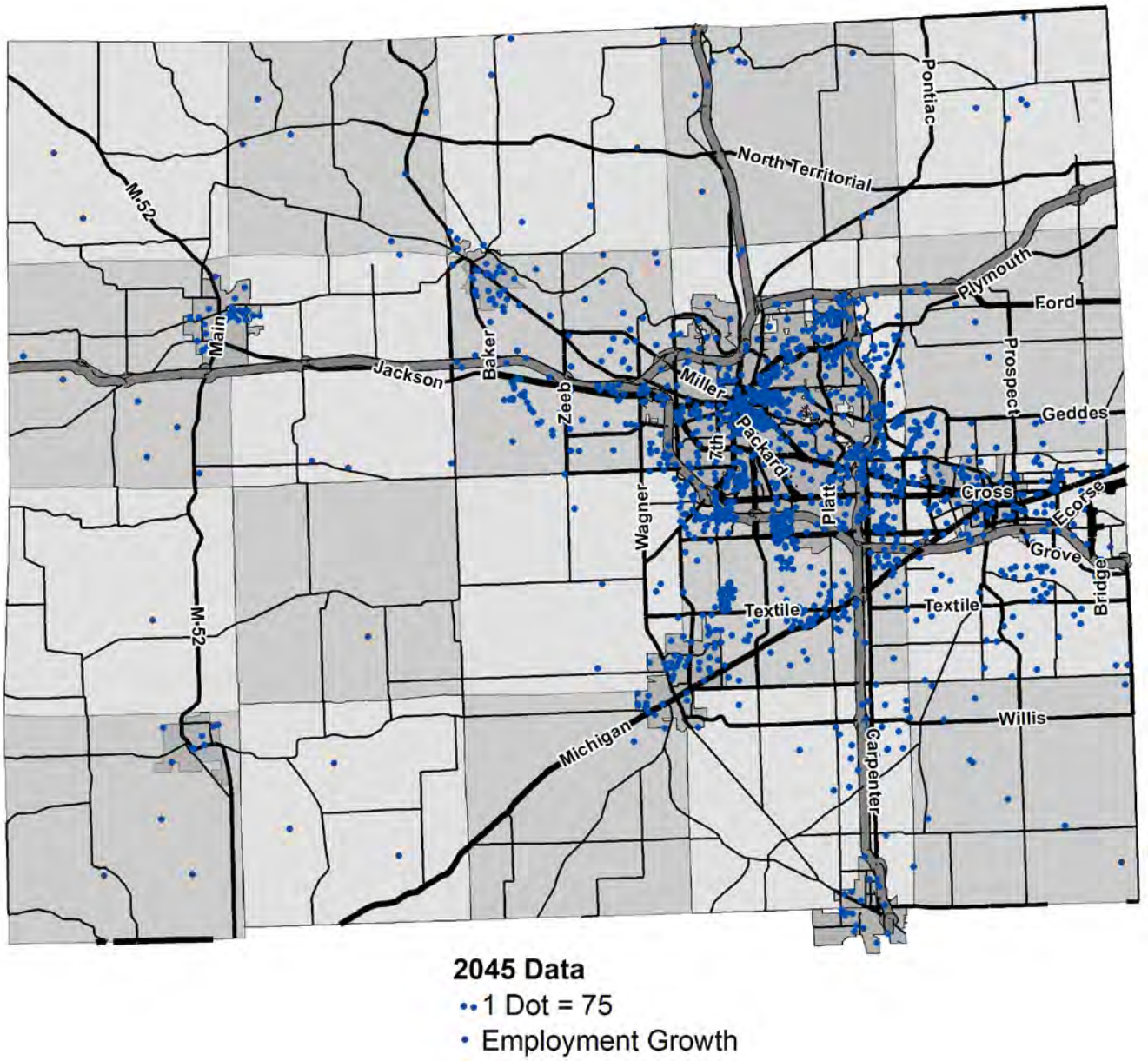


EMPLOYMENT FORECAST

Washtenaw County is expected to add nearly 40,000 jobs by 2045, a 15.5% increase. Most of the the county's job growth occurs in the sectors that already comprise the largest share of jobs in the county: Education Services, Healthcare Services, and Professional and Technical Services. The forecast for manufacturing jobs continue to decline, currently representing 6.1% of total employment, but forecasted to decrease to 4.1% of total employment by 2045.

The service sectors that the Washtenaw County job market specializes in continue to be well paid and highly in demand. This could increase the number of out-of-county commuters, who are likely to drive if transit alternatives are inconvenient. **MAP 16** shows the distribution of growth throughout the county. The majority of growth is anticipated in the existing urban area of the county.

MAP 16 - EMPLOYMENT GROWTH DISTRIBUTION



Model

TABLE 2 below shows the 2045 employment forecast by economic sector. Note that the top three sectors, Education Services, Healthcare Services, and Professional and Technical Services, comprise 53% of total employment by 2045.

					CHANGE 2015–45	
	2015	2025	2035	2045	NUMBER	PERCENT
Total Jobs	**256,651**	**274,110**	**283,994**	**296,410**	**39,759**	**15.50%**
Education Services	51,494	55,226	57,471	59,494	8,000	15.50%
Healthcare Services	50,991	56,125	60,100	65,630	14,639	28.70%
Prof. and Tech. Services & Corp. HQ	25,489	28,514	31,550	34,861	9,372	36.80%
Information & Financial Activities	22,367	22,363	22,277	22,456	89	0.40%
Leisure & Hospitality	21,469	23,363	24,476	25,630	4,161	19.40%
Retail Trade	19,236	20,546	19,811	19,260	24	0.10%
Manufacturing	15,668	14,714	13,279	12,136	-3,532	-22.50%
Admin., Support, & Waste Serv.	13,936	15,371	16,589	17,840	3,904	28.00%
Other Services	10,994	11,649	11,872	12,082	1,088	9.90%
Nat. Resources, Mining, & Const.	8,159	8,915	9,107	9,380	1,221	15.00%
Public Administration	5,862	6,154	6,325	6,463	601	10.30%
Wholesale Trade	5,586	5,752	5,708	5,675	89	1.60%
Trans., Warehousing, & Utilities	5,400	5,418	5,429	5,503	103	1.90%

TABLE 2

Model

LIMITATIONS OF THE MODEL AND OF THE CAPACITY FIRST TRANSPORTATION SYSTEM

While Transportation Demand models are useful tools for analyzing how changes to the transportation network might impact travel behavior, there are limitations that should be considered before its application. Additionally, the model should be understood as a technical tool in a decision space that integrates both policy and technical factors. This section explores some of the limitations of models that WATS considers before applying its own.

MODELS ARE DESIGNED TO UNDERSTAND CAPACITY

The primary task of the transportation model is to explain the relationship between observed travel behavior, the capacity of the roadway and transit network, population, and employment. If the user considers observed behavior, population, and employment as fixed values, then capacity and congestion are the only tools available to produce travel behavior change. However, there are numerous factors that determine travel behavior, most of which are difficult to model. Specifically, the model lacks real tools to analyze the relationship between land use and transportation. While it is possible to reallocate growth in future years for exploratory purposes, that type of analysis doesn't look at how transportation network changes, like highway widenings, might produce large scale land use changes in the future. The best tools for these types of discussions are still policy tools and policy discussions, and the limitations of models in these types of discussions must be well understood by policy makers.

MODELS ARE BASED ON TODAY'S ASSUMPTIONS AND TECHNOLOGIES

Consider the process for developing a transportation model:

- Survey the travel behavior of individuals in a region
- Observe traffic counts and transit ridership throughout the region
- Relate these numbers to current employment and household data
- Create future year forecasts of employment and household data
- Use the current relationship of travel behavior and population/employment to derive a future estimation of travel behavior using the forecasted datasets

Note, that the forecast of travel behavior in the future is completely dependent on the decisions and factors that explain the current transportation system. New technologies, policy changes, and many of the other issues that are discussed when considering the future of transportation at a policy level are not considered in the model. While this is largely due to a lack of tools to accurately forecast the impacts of policy decisions, it should introduce skepticism when considering model results for long term investments.

As large-scale freeway widening projects are considered, WATS' Policy Committee should require agencies to complete robust consideration of reasonable alternatives consistent with local land use policies. Alternative analysis should be scoped to include suites of policy alternatives, transit investments, HOV lanes, HOT lanes, employer based trip reduction programs, among others. Additionally, such projects should also be considered alongside the emergence of self driving vehicles, which may temper the need for addition travel lanes. Priority should be given to human focused improvements that account for the complex relationship between land use, local culture, and the transportation network.

Additional capacity should only be considered as a last resort, as it provides short term travel speed improvement at the expense of long term financial stability. For a large scale widening project to move forward, the project must have technical and policy merits, and the implementing agency should work with local leaders to define both the problem and its solution.

CONGESTION IS NOT INHERENTLY BAD

Transportation models were initially developed and required for the broad purpose of identifying and addressing congestion, assuming all congestion is bad. However, the transportation planning and engineering fields have developed more nuanced views regarding congestion, recognizing that congestion can be an indication of economic health and greater urbanization. Travel in general is a derived demand, it is a means to an end, rather than an end in itself.

DATA CONCERNS

After reviewing data produced by the University of Michigan that SEMCOG used to develop the Regional Data Forecast used by this model, WATS staff have some general concerns that the 2045 forecast may under-estimate growth. The data produced by the University of Michigan suggest that labor markets in Michigan will tighten over time as the population ages and immigration to the state declines. However, the regional economy is estimated to perform relatively well, with wages growing in some sectors, growing enough that it may encourage seniors to remain in the workforce. However, the tightness of the labor market is forecasted to suppress regional growth.

WATS staff view this as a mismatch between the job market and labor market, which should be address by higher wages that encourage immigration. Washtenaw County also has regular sources of immigration through its universities, which, to staff, would seem to balance labor market tightening. However, WATS staff do not have the technical capacity to review these numbers in enough detail to make specific recommendations for improvements. Over time, as new forecasts are produced that incorporate observations of the evolving labor market, a clearer picture will emerge.

Due to this uncertainty, WATS staff have chosen to include a high growth scenario in the model alternatives analysis. This is only meant for illustrative purposes as policy leaders consider the range of future growth in the county.

WATS MODEL FORECAST

The core forecast of the model, which estimates the growth of traffic demand between the base year (2015) and horizon year (2045) of the model is the primary dataset used by WATS staff to provide growth rates. This comparison uses the 2015 and 2045 household and employment data forecasts provided by SEMCOG.

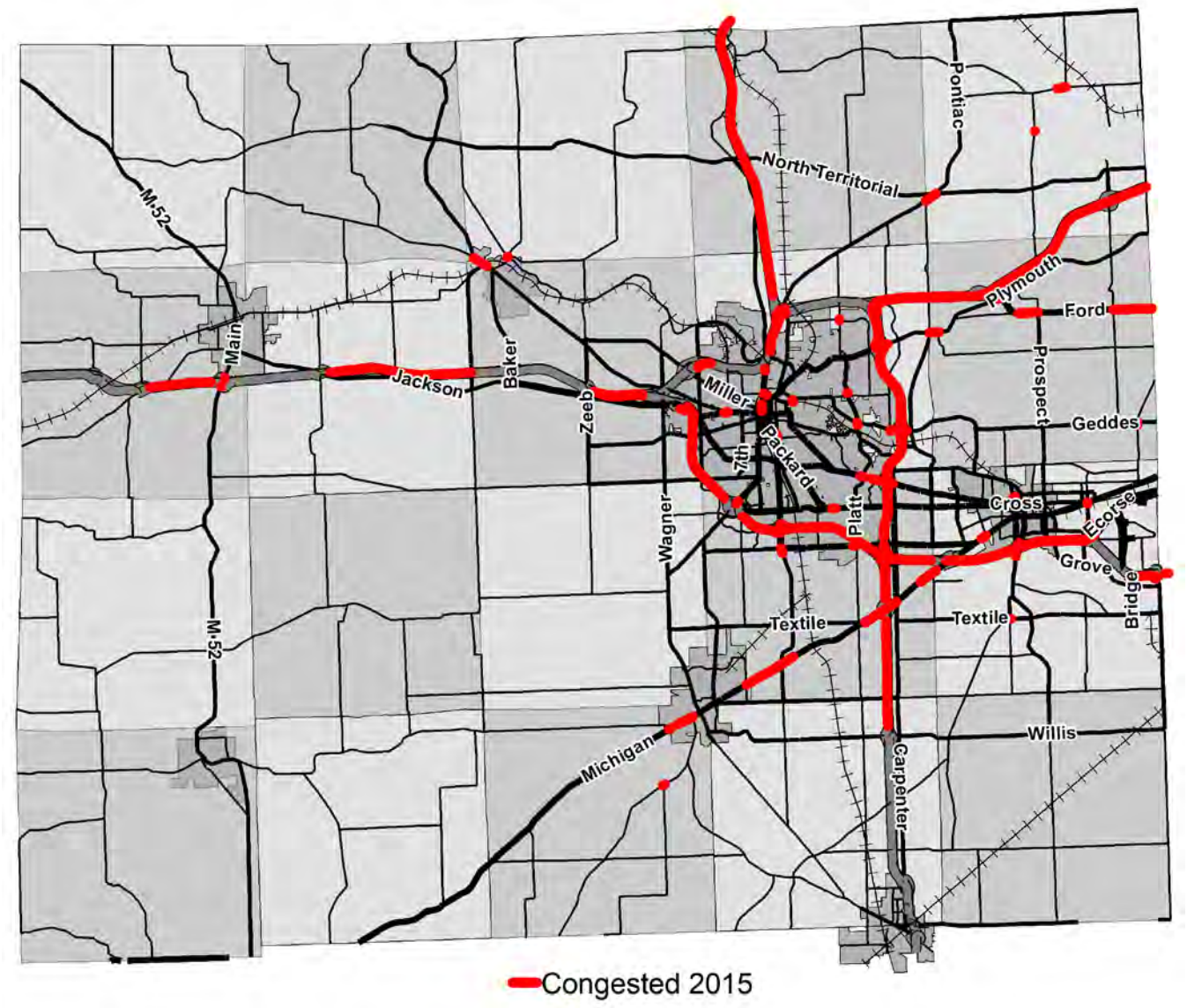
CONGESTION FORECAST

Congested is expected to grow over time as new residents and employment come to the county. While the demands on the system will increase, infrastructure and capacity are not anticipated to expand significantly. This may encourage some travelers to use transit, walk, or bike, but vehicle travel remains

the primary mode in the future year forecasts. Transit vehicles also suffer from the increase in congestion on their routes, and without dedicated infrastructure, their appeal to choice riders is limited.

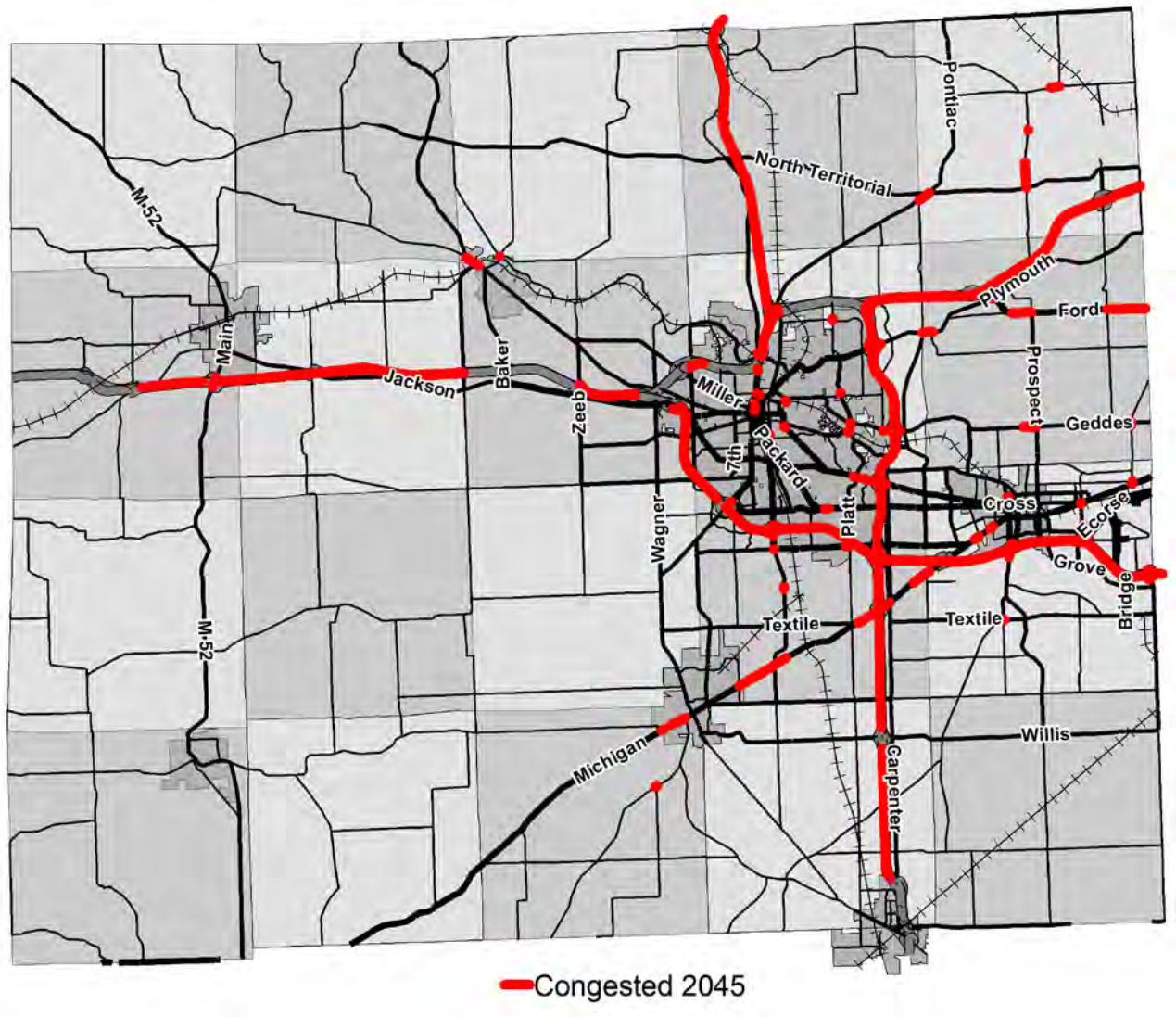
The maps below show the distribution of congestion throughout the county in 2015 and 2045.

MAP 17 - 2015 CONGESTION FORECAST MAP



Model

MAP 18 - 2045 CONGESTION FORECAST MAP



In general, the corridors that currently experience congestion are expected to continue to be the primary concentrations of congestion in Washtenaw County. Most of these corridors are trunkline roadways managed by MDOT.

Model

TRAVEL DELAY AND VMT

	2015	2045	Percent Change
AM Peak VMT	1,673,688	1,771,954	6%
AM Peak VHT	42,688	47,510	11%
AM Peak Total Delay (Hours)	7,034	10,122	44%
AM Peak Per Capita Delay (Minutes)	1.18	1.53	30%
PM Peak VMT	3,270,576	3,445,752	5%
PM Peak VHT	83,157	92,012	11%
PM Peak Total Delay (Hours)	14,336	19,737	38%
PM Peak Total Delay (Minutes)	2.40	2.99	25%

TABLE 3

Congestion growth is expected in both the morning and evening peak travel periods. Growth is anticipated both in absolute numbers, as well as per capita delay. This is expected given that many of the roads forecasted to be congested currently experience congestion, so new trips are degrading travel times on the same roadways, rather than expanding the scope of congestion. The table below shows that trips are expected to remain similar length to the model base year.

DISTRIBUTION OF TRIPS BY LENGTH

	2015	2045
0 - 3 Miles	48.4%	48.8%
3 - 10 Miles	38.5%	38.6%
> 10 Miles	13.1%	12.6%

TABLE 4

WATS MODEL ALTERNATIVES

HIGH GROWTH SCENARIO

Method and Justification

Given the strength of Washtenaw County's economy and the expectation that the universities will continue to drive growth, WATS staff developed a high growth scenario. In this scenario, the 2045 household and employment forecasts were increased by 15%. All additional growth was distributed to the urban area, and was distributed using two methods

- Half was weighted by the 2045 forecasted size of the household or employment number. For example, if a transportation analysis zone (TAZ) had 25% of the total urban area population, it would get 25% of the additional households in this distribution method.
- Half was weighted by the growth in employment or households between 2015 and 2045. For example, if a TAZ accounted for 10% of all the urban area employment growth, then that TAZ would get 10% of the employment growth in this distribution method.

The 15% number was chosen as a significant but reasonable departure of the SEMCOG 2045 forecasts.

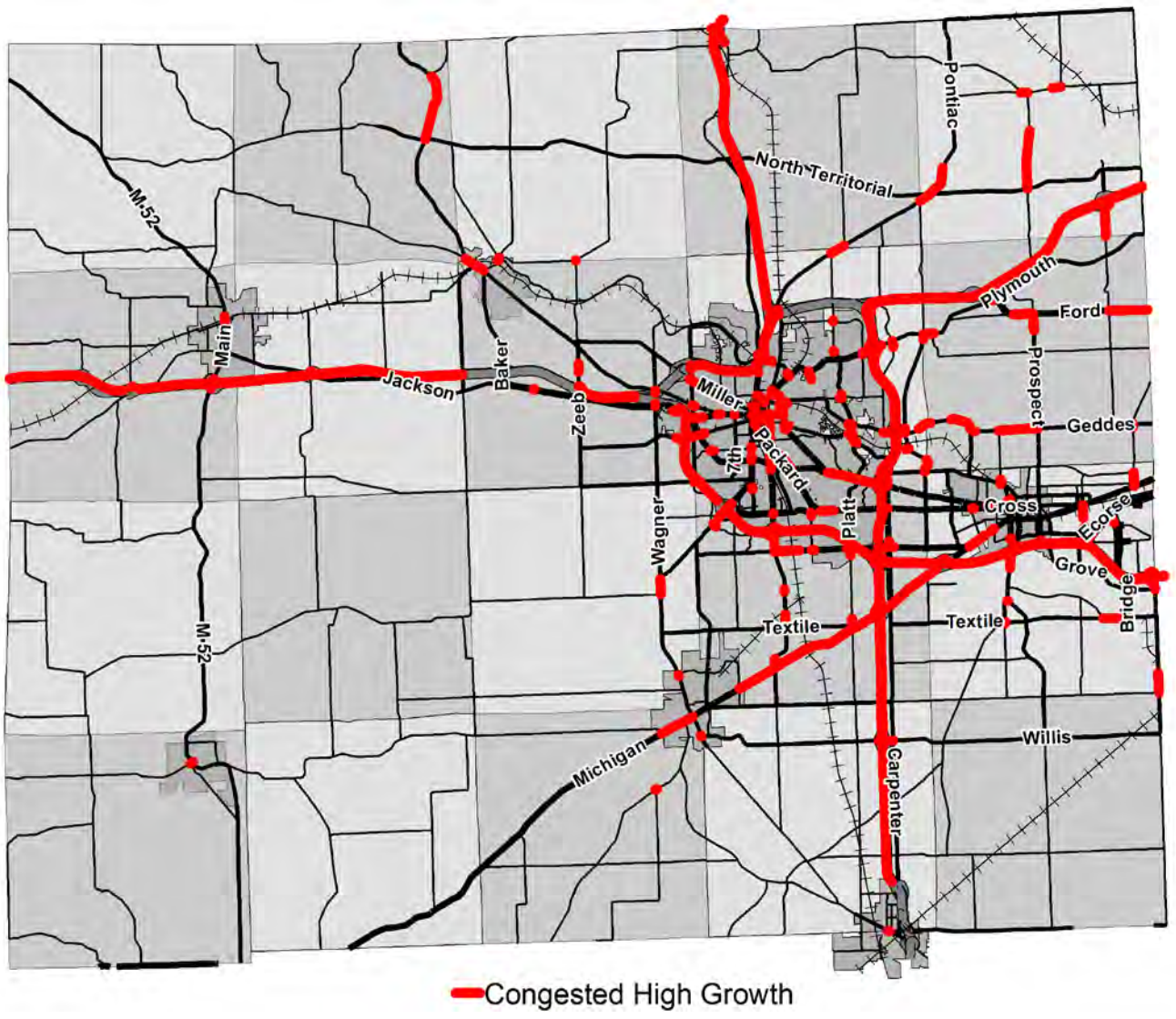
While that level of growth may not be realized, demonstrating its implications is important for policy makers to consider as they consider investment decisions.

Congestion Forecast

The High Growth Scenario demonstrates the limited ability of the existing transportation network to handle significant growth in vehicle traffic. That 15% increase in population and employment more than doubles the amount of congestion the average driver would experience. While this forecast is based off of existing travel patterns, it reveals the negative outcomes that would be associated with substantial growth without shifts in mode share or large scale infrastructure investment.

Compared to the distribution of congestion in the 2045 Forecast, congestion in the High Growth Scenario is pervasive throughout urban Washtenaw County. Travel speed degrades on currently congested roadways, and spreads to non-congested corridors as well.

MAP 19 - 2015 CONGESTION FORECAST MAP



Model

TRAVEL DELAY AND VMT

	2015	2045	Percent Change
AM Peak VMT	1,673,688	2,227,643	33%
AM Peak VHT	42,688	71,225	67%
AM Peak Total Delay (Hours)	7,034	22,912	226%
AM Peak Per Capita Delay (Minutes)	1.18	3.47	195%
PM Peak VMT	3,270,576	4,263,395	30%
PM Peak VHT	83,157	134,902	62%
PM Peak Total Delay (Hours)	14,336	42,135	194%
PM Peak Total Delay (Minutes)	2.40	6.39	166%

TABLE 5

A high growth scenario also forecasts significantly more time in congestion than the base scenario. The scenario adds approximately 2 million more miles of daily vehicle miles travelled and 70,000 more hours of daily delay to the network. As the high growth scenario increases both households and employment in the urban area, the average length of trips shortens.

DISTRIBUTION OF TRIPS BY LENGTH

	2015	2045
0 - 3 Miles	48.4%	53.0%
3 - 10 Miles	38.5%	36.5%
> 10 Miles	13.1%	10.5%

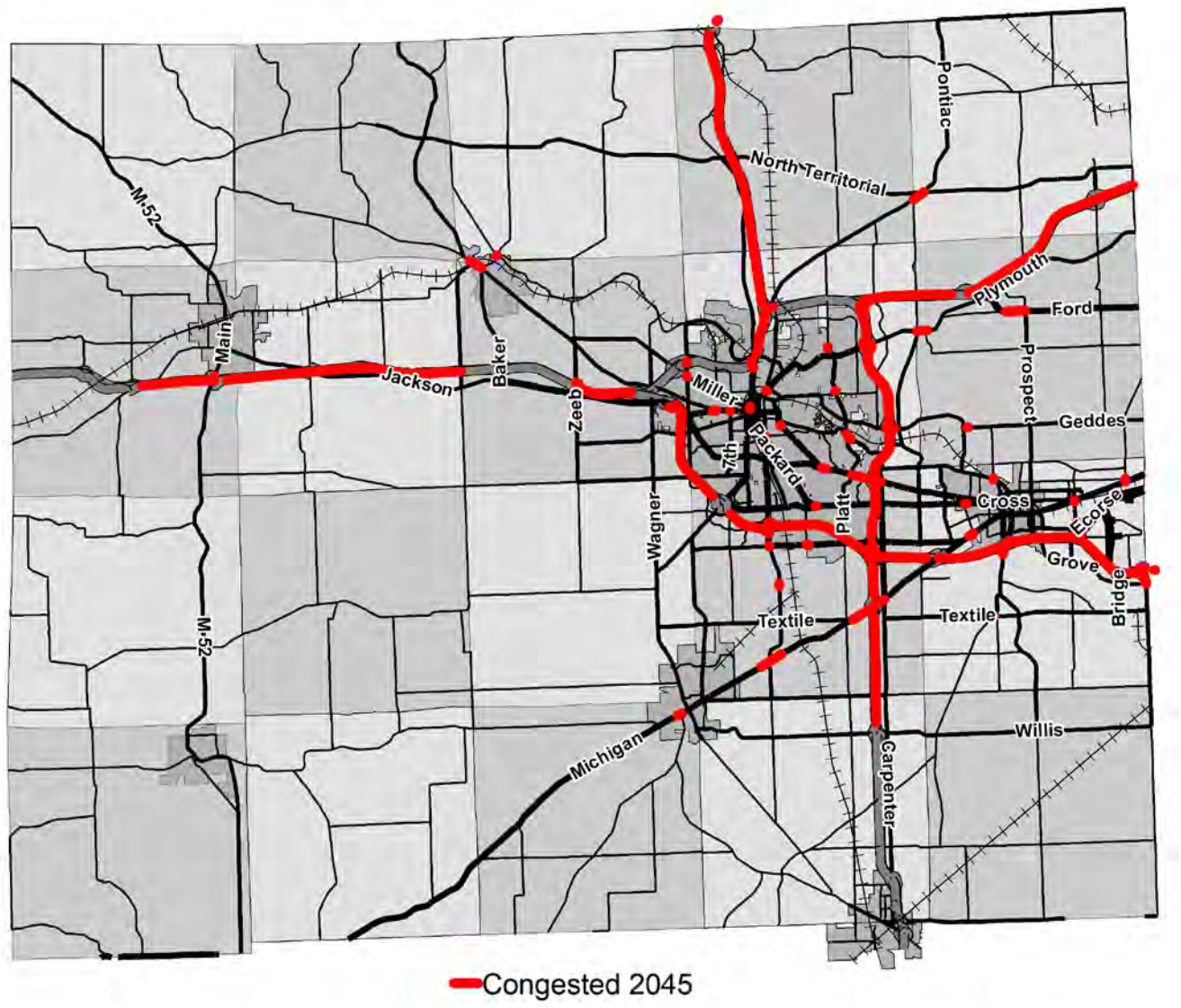
TABLE 6

MANAGED DEMAND SCENARIO

Method and Justification

Managing traffic demand is a powerful but underutilized strategy for reducing congestion on the transportation network. The specifics of implementation vary, but at a high level the focus is reducing peak period single occupancy vehicle trips. Working with employers to move their shift changes to non-peak hours, offering bus passes, or encouraging work from home are a small subset of such programs. For the purpose of modeling, WATS staff chose to reduce trips to and from work by 20%. This simplified approach, while it does not account for strategies that encourage transit or ride-sharing, is trivial to implement in the model, and the results demonstrate how the county could accommodate substantial economic growth without increases in congestion.

MAP 20 - 2015 CONGESTION FORECAST MAP



Model

TRAVEL DELAY AND VMT

	2015	2045	Percent Change
AM Peak VMT	1,673,688	1,728,025	3%
AM Peak VHT	42,688	45,729	7%
AM Peak Total Delay (Hours)	7,034	9,364	33%
AM Peak Per Capita Delay (Minutes)	1.18	1.42	21%
PM Peak VMT	3,270,576	3,372,371	3%
PM Peak VHT	83,157	80,051	-4%
PM Peak Total Delay (Hours)	14,336	11,392	-21%
PM Peak Total Delay (Minutes)	2.40	1.73	-28%

TABLE 7

The forecast of congestion in 2045 for a managed demand scenario produces significantly less congestion than the existing forecast. This is expected given the reduction in trip rates, but it demonstrates the impact that reduced single occupancy vehicle travel could have. The effect is most pronounced in the PM peak, when traffic is at its worst, which the model shows would have less congestion than in the 2015 base year.

RECOMMENDATIONS

Washtenaw County has been and is expected to continue growing over the next 25 years. New residents and employment will require some adjustment in the transportation system, either travelers will have to grow accustomed to greater levels of congestion or policymakers will need to choose to invest in a more effective system. Given the desire to provide a high quality of life in the county, WATS recommends the latter, but encourages the Policy Committee to consider a broad range of alternatives that could improve both quality of life and the operations of the transportation system. Managing traffic demand, investments that improve the operations without widening, encouraging transit use, and encouraging non-motorized travel are viable alternatives to the costly last resort of capacity expansion.

Financial

Financial

FINANCIAL BACKGROUND

The current transportation bill, **Fixing America's Surface Transportation (FAST) Act** authorizes $305 billion over fiscal years 2016 through 2020 for highway, highway and motor vehicle safety, public transportation, motor carrier safety, hazardous materials safety, rail, and research, technology, and statistics programs. Congress must approve the funding through their budget and appropriations process. The appropriations process can be for a full year and others are for several weeks to months. Each state then receives their allocation from the appropriate federal agency and MDOT provides targets (estimates) of how much funding can be expected for various federal programs. There are limitations on how much of the federal allocations can be spent. Presently, we can only spend up to 92-93% of the allocation. We highlight this to indicate the complexity of receiving and spending funds.

SEMCOG provides a full financial chapter for the entire region that highlights the financial future of the region and how it impacts transportation. WATS manages the federal urban and rural funds that come directly to Washtenaw County.

These federal funds are received from the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA). In order to receive funds from FHWA, must provide a 20% match. Local match generally comes in the form of local millages, Michigan Transportation Funds (MTF), or general funds. FTA funds also require a local match, that match comes from transit millages, farebox revenue, and from the state of Michigan's Comprehensive Transit Fund (CTF). All federal funds and matching funds must be programmed in General Program Accounts for SEMCOG's 2045 LRP which highlights all the local funds needed to receive these funds.

Financial

FHWA AND FTA DIRECT FUNDS

FUNDING SOURCE	2021	2022	2023	2024	2025
FHWA	$6,286,038	$6,413,697	$6,543,981	$6,676,945	$6,812,644
FTA	$10,161,223	$10,460,979	$10,769,579	$11,087,281	$11,414,356
Local	$1,257,208	$1,282,739	$1,308,796	$1,335,389	$1,362,529
Total Funds	$17,704,469	$18,157,415	$18,622,356	$19,099,615	$19,589,529

TABLE 8

FUNDING SOURCE	2026 – 2029	2030 – 2034	2035 – 2039	2040 – 2045
FHWA	$28,690,494	$38,227,620	$43,191,473	$61,273,883
FTA	$49,125,465	$70,012,065	$80,966,365	$114,050,973
Local	$5,738,099	$7,645,524	$8,638,295	$12,254,777
Total Funds	$83,554,058	$115,885,209	$132,796,133	$187,579,633

TABLE 9

LOCAL MATCH

The local match in the table above only indicates the funding that road agencies in Washtenaw County need to contribute to receive FHWA funds. FTA funds are matched for transit agencies by the State of Michigan's Comprehensive Transit Funds (CTF).

Financial

SMALL URBAN FUNDS

The Small Urban Program provides federal Surface Transportation Program (STP) funding to areas with an urbanized population of 5,000 to 49,999. Road and transit capital projects are eligible for STP funds. Washtenaw County has two small urban areas Milan and Chelsea. Washtenaw County small urban areas receive at most $375,000 every odd year. Washtenaw County can anticipate the following funds throughout the 2045 LRP.

FUNDING SOURCE	2021	2022	2023	2024	2025
Small Urban	$750,000	Non-funding Year	$750,000	Non-funding Year	$750,000
Local	$150,000		$150,000		$150,000
Total Funds	$900,000		$900,000		$900,000

TABLE 10

FUNDING SOURCE	2026 – 2029	2030 – 2034	2035 – 2039	2040 – 2045
Small Urban	$1,500,000	$1,500,000	$2,250,000	$2,250,000
Local	$300,000	$300,000	$450,000	$450,000
Total Funds	$1,800,000	$1,800,000	$2,700,000	$2,700,000

TABLE 11

AWARDED FUNDS

WATS' local agencies have been successful in receiving grant funds such as Bridge, Safety, Transportation Alternative Program (TAP), and CMAQ. These funds are not directly allocated to local agencies in Washtenaw County and therefore cannot be directly counted as funds that can be expected. However, if local agencies submitted projects that have traditionally been funded by one of these programs, the project has been listed to reflect the project's need and in anticipation of applying in an upcoming call for projects.

Public Engagement

Public Engagement

PUBLIC ENGAGEMENT PHILOSOPHY

WATS believes implementing an effective and equitable vision for Washtenaw County's transportation system depends on a well-informed, ongoing discussion with the public.

WATS outlines its strategy for public engagement in the Public Participation Plan. This plan outlines various methods on how WATS engages with the public, including active and passive engagement, and online and in-person interactions. The full plan can be found at miwats.org.

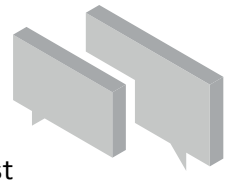
2045 LRP ENGAGEMENT EFFORTS

WATS began the development of the 2045 LRP in July of 2017 with the consultation process. The plan development continued into 2018 and will conclude with a 45-day public comment period during February and March 2019.

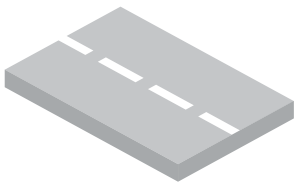
WATS utilized different input strategies throughout the development of the plan. The agency hosted 15 traditional public input meetings, participated in Ann Arbor's Green Fair in 2017 and 2018, utilized social media (Facebook and Twitter), and collected comments and questions with the assistance of SEMCOG during their LRP development process.

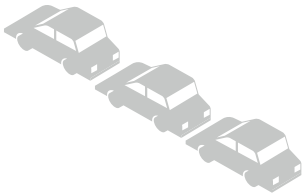
Throughout the plan development and at public input meetings, there were several recurring topics:

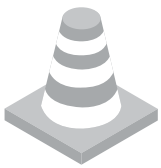
1. Pavement quality and condition
2. Transportation options such as transit, pedestrian and bicycle facilities, and rail
3. Congestion worsening on corridors around the county
4. Continued efforts to improve the safety of the transportation system and to invest in projects that promote safety



For specific comments collected throughout the plan development process, WATS staff shared the comment and location with the relevant implementing agency. A full list of those comments can be found in the Appendix.





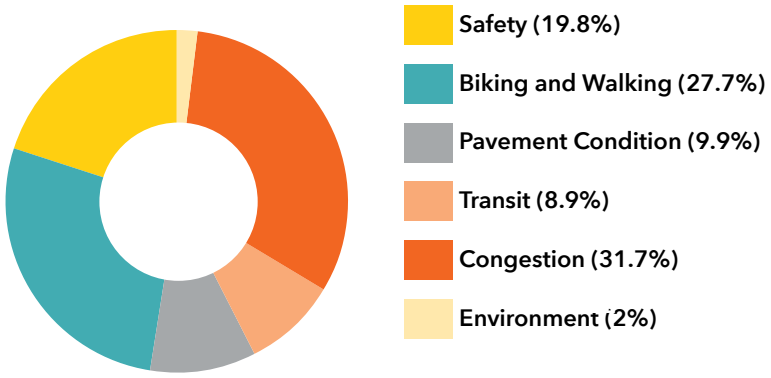


Public Engagement

2045 RTP ENGAGEMENT EFFORTS

SEMCOG also conducts public participation efforts as part of the Regional Transportation Plan development. These efforts focus on the entire seven-county region, including outreach and public meetings in Washtenaw County. A regionwide summary can be found in the RTP at SEMCOG.org.

FIGURE 1 - WASHTENAW COUNTY TRANSPORTATION PRIORITIES



Broad topics the public focused on at the Washtenaw RTP meetings include autonomous vehicles, transit service, non-motorized transportation, safety, pavement and the environment. The 2045 RTP Public Meeting Summary - Washtenaw is in the Appendix.

With the assistance of SEMCOG's regional public engagement survey MetroQuest, WATS gathered comments specific to Washtenaw County's transportation priorities. Figure 1 highlights those priorities.

CONSULTATION

The goal of the consultation agency outreach process is to provide specific public and private agencies expanded involvement opportunities in the planning process. The consultation process included early involvement, direct outreach, information and data sharing, plan comparison, and evaluations that meet federal regulations in the FAST Act. Although there is overlap between the consultation agency and public engagement processes, the two efforts are separate. The primary difference is the target audience for consultation agencies is comprised of formal groups and organizations, while public outreach is directed towards individuals.

Agencies involved in the consultation outreach are planning partners across the region in various capacities including natural resources, education, conservation, environmental justice, community and economic development, tribal interests, freight, transit, border crossings, aviation, and more outlined in the Appendix.

Consultation between these various agencies and planning partners is an opportunity to confer on needs of the larger community, to compare and coordinate planning approaches, and to generally communicate about the vision for the overall transportation system that crosses multiple jurisdictions.

Performance Measures

Performance Measures

TRANSPORTATION PERFORMANCE MEASURE LEGISLATION

Transportation legislation in recent years has moved to create performance and outcome-based programs for the investment of resources in projects that collectively make progress toward the achievement of nationally set goals. This emphasis was continued in Fixing America's Surface Transportation (FAST) Act. As part of the bill, national performance goals were created for roads and highways along with public transportation. WATS' funding application provides a scoring matrix supportive of WATS goals and State and Federal performance measures. The regional Congestion Management Process administered by SEMCOG provides additional opportunities to evaluate and support system performance and prioritization to achieve performance based outcomes.

ROADS AND HIGHWAYS NATIONAL PERFORMANCE GOALS

23 CFR 150 outlines the national goals for the federal aid highway program around which the federally required performance measures were created. Below is a listing of those seven areas followed by a brief description of each goal.

GOAL AREA	DESCRIPTION
Safety	To achieve a significant reduction in traffic fatalities and serious injuries on all public roads
Infrastructure Condition	To maintain the highway infrastructure asset system in a state of good repair
Congestion Reduction	To achieve a significant reduction in congestion on the National Highway System
System Reliability	To improve the efficiency of the surface transportation system
Freight Movement	To improve the national freight network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development
Environmental Sustainability	To enhance the performance of the transportation system while protecting and enhancing the natural environment
Reduced project delivery delay	To reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion through eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies/work practices.

TABLE 12

MAP-21 also mandated the Federal Transit Administration (FTA) to develop a rule establishing a strategic and systematic process of operating, maintaining, and improving public capital assets effectively through their entire life cycle.

GOAL AREA	DESCRIPTION
Rolling Stock	Means a revenue vehicle used in providing public transportation, including vehicles used for carrying passengers on fare-free services
Equipment	Means an article of nonexpendable, tangible property has a useful life of at least one year
Facilities	Means a building or structure that is used in providing public transportation
Infrastructure	Means the underlying framework or structures that support a public transportation system

TABLE 13

Performance Measures

IMPLEMENTATION SCHEDULE

The timeline for implementation of the national performance measures is determined upon when a final rule establishing when the date for the rule is effective. The table outlines the effective date of the final rule and when States and MPOs must take action.

FINAL RULE	EFFECTIVE DATE	STATES SET TARGETS BY (1 YEAR)	MPOS SET TARGETS BY	MTP AND TIP INCLUSION	REPORTING REQUIREMENT
Safety Performance Measures	April 14, 2016	August 31, 2017	Up to 180 days after the states set targets, but not later than Feb. 27, 2018	Updates or amendments on or after May 28, 2018	Annually (August 31)
Pavement/ Bridge Performance Measures	May 20, 2017	May 20, 2018	No later than 180 days after the State(s) sets target November 16, 2018	Updates or amendments on or after May 20, 2019	Every 2 years
System Performance Measures	May 20,2017	May 20, 2018	May 27, 2018	Updates or amendments on or after May 20, 2019	Every 2 years
Statewide non-metropolitan and metropolitan planning	May 27, 2016				
Asset Management Plan	October 2, 2017	By April 30, 2018 State DOTs submit initial plans describing asset management plan processes. By June 30, 2019 State DOTs submit fully compliant asset management plan.			
Transit Asset Management Plan	October 1, 2016	January 1, 2017		Optional reporting year for 2017 and mandatory for 2018. State will set targets for rural transit providers and urban providers will set own targets.	
Transit Safety Plan	Currently no regulation has been adopted to enact this rule.				

TABLE 14

Performance Measures

TARGETS

TARGET COORDINATION WITH MDOT

Within one year of the US DOT final rule on performance measures, states are required to set performance targets in support of those measures. To ensure consistency, each state must to the maximum extent practicable:

- Coordinate with an MPO when setting performance targets for the area represented by that MPO
- Coordinate with public transportation providers when setting performance targets in an urbanized area not represented by an MPO [(102; 23 US 135(d)(2)(B)]

Performance target coordination between MPOs and MDOT began in January of 2017. As Michigan MPOs, MDOT, and FHWA staff meet monthly as part of the Michigan Transportation Planners Association (MTPA), it was convenient to follow scheduled MTPA meetings with a Target Coordination Meeting led by MDOT. The Target Coordination Meetings give MDOT and FHWA the opportunity to provide updates on performance measures and target setting to the MPOs. These meetings also give the MPOs an opportunity to ask questions and provide feedback on the methods used by MDOT to set performance targets.

In addition to the MDOT led Target Coordination Meetings, MTPA members have been meeting with various MDOT agencies in the development of language and timelines to implement the targets. This MDOT Transportation Performance Measures Metro Team has met monthly to ensure the timely delivery of these targets for MPOs to incorporate into their local planning documents. MPOs have also been coordinating with MDOT to develop a process for reporting MPO performance targets and the recommended action to be taken by MPO Policy Committees on setting performance targets.

WATS ACTION ON STATEWIDE PERFORMANCE TARGETS

While WATS is not the MPO and final action rests with SEMCOG, WATS has taken action on each performance measure targets released from MDOT to support the statewide targets and support the MPO. Below is the list of dates taken by the WATS Policy Committee on the various targets:

Safety: January 17, 2018 for 2018 Targets, February 20, 2019 for 2019 Targets

AAATA State of Good Repair Transit Targets for 2018: April 18, 2018

Pavement/Bridge/CMAQ/Reliability: January 16, 2019

STATE ROAD AND HIGHWAY TARGETS

MDOT and MPOs have already started the process of incorporating performance measures into their local plans and taking action on those targets as well. Those dates of inclusion can be found below. As the targets are set and published by the state DOT, the MPOs will take action either through adoption of the state targets or development of MPO specific targets. SEMCOG, has decided to support the statewide targets instead of creating their own targets. The following are the performance measures that do not currently have set targets to date. Each target will show the data and a chart to display that data.

Performance Measures

Safety (Target due annually by MDOT by August 31 of each year for the next calendar year)

The safety targets for 2018 have been adopted by MDOT and approval from WATS is pending. Safety is being measured by four metrics:

- Number of fatalities
- Fatality rate
- Number of serious injuries
- Serious injury rate
- Number of non-motorized fatalities and serious injuries

SAFETY PERFORMANCE	BASELINE THROUGH CALENDAR YEAR 2016	CALENDAR YEAR 2018 STATE SAFETY TARGET	CALENDAR YEAR 2019 STATE SAFETY TARGETS
Fatalities	963.0	1,003.2	1,023.2
Fatality Rate	1.00	1.02	1.02
Serious Injuries	5,273.4	5,136.4	5406.8
Serious Injury Rate	5.47	5.23	5.41
Non-motorized fatalities & Serious Injuries	721.8	743.6	759.8

TABLE 15

Performance Measures

1. Interstate and NHS pavements—23 CFR 490.307 (Target Due May 20, 2018)
Current coordination efforts include evaluation of the pavement condition on the interstate and non-interstate NHS system. The evaluation of the pavement will be evaluated by four metrics:

- International Roughness Index (IRI)
- Cracking Percent
- Rutting/Faulting (depending on road construction material)

This rule designates that MDOT is required to establish two and four year targets for pavement condition on the National Highway System (NHS). There are two sets of targets, one for the Interstate System, and the other for the Non-Interstate NHS. The first performance period takes place for January 1, 2018 to December 31, 2022, with MDOT targets due on May 20, 2018. MDOT is required to submit biennial progress reports to FHWA. There are four performance measures for assessing pavement condition based on composite analysis of the metrics:

- % of Interstate pavement of Good Condition
- % of Interstate pavement in Poor Condition
- % of Non-Interstate NHS pavement in Good Condition
- % of Non-Interstate NHS pavement in Poor Condition

One requirement within this rule is that no more than 5% of the Interstate System be in poor condition.

PAVEMENT MEASURES	MEASURE	BASELINE CONDITION (CY 2017)	2-YEAR TARGETS	4-YEAR TARGETS
Pavement	Percent of Interstate Pavement in Good Condition	56.80%	NA	47.80%
Pavement	Percent of Interstate Pavement in Poor Condition	5.20%	NA	10%
Pavement	Percent of Non-Interstate NHS percent in Good Condition	49.70%	46.70%	43.70%
Pavement	Percent of Non-Interstate NHS percent in Poor Condition	18.60%	21.60%	24.60%

TABLE 16

Performance Measures

2. NHS bridges—23 CFR 490.407 (Target Due May 20, 2018)

Current coordination efforts include evaluation of the condition of the substructure, superstructure, deck, and culverts for all bridges on the NHS system. The evaluation of the bridges will use the National Bridge Inspection Standards (NBIS). Each substructure, superstructure, deck, and culvert are rated on a 0-9 scale and recorded in the National Bridge Inventory (NBI) database. The NBI Condition ratings are broken up into three categories below:

- **Good Condition:** Rating of 7–9
- **Fair Condition:** Rating of 5–6
- **Poor Condition:** Rating of 0–4
- **Serious or Critical Condition:** Rating of 2–3
- **Imminent Failure or Failed Condition:** Rating of 0–1

This rule designates that MDOT is required to establish two and four year targets for bridge condition on the NHS. MDOT targets due on May 20, 2018. MDOT is required to submit three performance reports to FHWA within the four year performance period. There are two performance measures for assessing bridge condition:

- % of NHS bridges in Good Condition
- % of NHS bridges in Poor Condition

The minimum penalty threshold requires that no more than 10% of NHS bridges measured by deck area be classified as structurally deficient.

BRIDGE MEASURES	BASELINE CONDITION (CY 2017)	2-YEAR TARGETS	4-YEAR TARGETS
Percent National Highway System (NHS) Deck Area in Good Condition	32.70%	27.2	26.20%
Percent NHS Deck Area in Poor Condition	9.80%	7.2	7%

TABLE 17

3. Interstate and NHS reliability—23 CFR 490.507 (Target Due May 20, 2018)

In 2015, MDOT formed the Statewide Congestion Management Group (SCMG) to coordinate efforts between the Department and MPO's that address federal system performance measures. Since that time, this group has produced a congestion analysis white paper, reviewed and commented on draft performance measures, provided comment on a RFP for vehicle probe data, and discussed best practices and issues with measuring congestion.

By May 2018, MDOT will submit statewide targets for the federal system performance measures. MPO's will have six months to either support the statewide targets or develop their own. MDOT is working with the MPO's to discuss the process and methods for setting these targets, and the RITIS and INRIX platforms that can help agencies set their own targets if they desire. These tools are also available for agencies to review system performance as part of the congestion management process.

Performance Measures

The performance measures under this rule are:

- Travel Time Reliability
- Non-Interstate Travel Time Reliability
- Truck Travel Reliability Index

RELIABILITY

Travel Time Reliability (Separate Interstate and Non-Interstate Measures)
Travel time reliability is calculated by dividing the 80th percentile travel time by the 50th percentile travel time through four daily time periods, weekdays 6am—10am, weekdays 10am—4pm, weekdays 4pm—8pm, and weekends 6am—8pm. A ratio less than 1.5 is considered reliable. This number will be used to calculate the percentage of person travel miles that are reliable.

TRUCK TRAVEL TIME RELIABILITY

Travel time reliability is calculated by dividing the 95th percentile travel time by the 50th percentile travel time through five daily time periods, weekdays 6am–10am, weekdays 10am–4pm, weekdays 4pm–8pm, weekends 6am–8pm, and overnights 8pm to 6am.

RELIABILITY MEASURES	MEASURE	BASELINE CONDITION (CY 2017)	2-YEAR TARGETS	4-YEAR TARGETS
Reliability	Level of Travel Time Reliability of the Interstate	85.10%	75	75.00%
Reliability	Level of Travel Time Reliability of the Non-Interstate NHS	85.80%	NA	70%
Reliability	Freight Reliability Measure on the Interstate	1.38%	1.75	1.75%

TABLE 18

FOR NON-ATTAINMENT AREAS

This measure is designated for urbanized areas, that contain NHS miles, and have a population over 200,000. (Phase 1 of this reporting is only for populations with over 1,000,000). After 4 years this measurement will include urbanized areas over 200,000. As Ann Arbor is part of the SEMCOG region with a population over 1 million, this measure must be included in the applicable planning documents.

- Peak Hour Excessive Delay (PHED)
- Percentage of Non-Single Occupancy Vehicle Travel

Performance Measures

AIR QUALITY MEASURES	MEASURE	BASELINE CONDITION (CY 2017)	2-YEAR TARGETS	4-YEAR TARGETS
CMAQ	Annual hours of peak hours excessive delay per capita	18 hours, 30 minutes	NA	22 hours
CMAQ	percent of non-single occupancy vehicle travel	16.00%	14.4	14%
CMAQ	mobile source emission reduction for carbon monoxide	87,655.11	32,968.78	65,937.56
CMAQ	mobile source emission reduction for particulate matter	653.357	417.41	834.82

TABLE 19

PEAK HOUR EXCESSIVE DELAY

This measures the total excessive delay on the NHS measured in per capita hours. The threshold is travel speeds of 20 mph or 60% of the posted speed, whichever is greater. This number will be aggregated for all reporting segments throughout an urban area.

PERCENTAGE OF NON-SINGLE OCCUPANCY VEHICLE TRAVEL

This is a measure of the share that non-single occupancy travel comprises of an urban area's travel modes. These modes include but are not limited to carpooling, transit, biking, and walking. This data is reported in the *Census Bureau's American Community Survey*.

STATE OF GOOD REPAIR—TRANSIT

The Federal Transit Administration Transit Asset Management Rule requires a group Transit Asset Management (TAM) plan to set one or more performance targets for each applicable performance measure. The targets should be based on realistic expectations, and both the recent data available and the financial resources from all sources that are reasonably expected funding the TAM plan horizon period.The three asset classes to be in the Transit Asset Management plan are: Revenue Vehicles, Service Vehicles, and Facilities.

TRANSIT ASSET MANAGEMENT PLAN

Pursuant to (49 CFR 625.25) transit operators based upon their fleet size will develop a Transit Asset Management Plan (TAM) that includes an inventory of capital assets, a condition assessment of inventoried assets, a decision support tool, and prioritization of investments. MDOT will develop a group TAM plan while TheRide will develop their own. Plans are due to FTA on October 1, 2018.

Michigan Coordination efforts: Transit agencies input assets into the Public Transit Management System (PTMS) at the time of purchase. PTMS will be used for the listing in the TAM plan. Transit agencies were asked to review their information in PTMS and make any adjustments. MDOT will draft the narrative information and provide to the transit associations and the transit agencies for review.

Performance Measures

MICHIGAN STATEWIDE TRANSIT MEASURES

ASSET CLASSES	CURRENT CONDITION (2017)	2017 TARGET	CURRENT CONDITION (SET MARCH 2018)	2018 TARGET
1. REVENUE VEHICLES				
Small bus and vehicle 5311	11%	Not more than 10% will meet or exceed the FTA ULB	9%	
Small bus and vehicle 5310	0%	Not more than 10% will meet or exceed the FTA ULB	0%	
Large bus class 5311	62%	Not more than 10% will meet or exceed the FTA ULB	17%	
Large bus class 5310	0%	Not more than 10% will meet or exceed the FTA ULB	0%	
Service vehicles	58%	100% may not meet or exceed FTA ULB	Uncertain	100% may not meet or exceed FTA ULB
Facilities	Unknown	100% may be below a 3.0 rating on the FTA TERM	Unknown	100% may be below a 3.0 rating on the FTA TERM

TABLE 20

FUNDING 2017 ASSUMPTIONS		FUNDING 2018 ASSUMPTIONS	
5339	1.75 million	5339	1.75 million
5310	2.0 million	5310	2.0 million
State Match	unknown	State Match	unknown
TOTAL	**4,687,500**	**TOTAL**	**4,687,500**
All funds will be focused on revenue vehicle replacements		*All funds will be focused on revenue vehicle replacements*	

TABLE 21

Performance Measures

Ann Arbor's urban area transit provider must develop targets for their state of good repair (SGR). The table below highlights the targets set since 2017.

ANN ARBOR AREA TRANSPORTATION AUTHORITY TRANSIT MEASURES

	2017 PERFORMANCE %	2018 TARGET %	2019 TARGET %
Rolling Stock—Revenue Vehicles			
BU—Bus (large 35-40 ft)	6.48%	3.00%	
CU—Cutaway (small 25-30ft)	0.00%	0.00%	
Equipment—Support Vehicles		46.00%	
Automobiles		40.00%	
Trucks			
Facility—Percent of facilities rated below 3 on the condition scale (1-5)			
Passenger/Parking Facilities	0.00%	0.00%	
Administrative/Maintenance	0.00%	0.00%	

TABLE 22

Performance Measures

PROJECT ALIGNMENT WITH PERFORMANCE MEASURES

LONG RANGE TRANSPORTATION PLAN

WATS issued a call for projects as part of the 2045 LRP development process. This allowed agencies to consider projects in the short and long term. WATS received projects for local agencies except MDOT and were able to categorize those projects based upon their primary work type to support the state performance targets.

The chart below shows general program accounts (GPA) which are groupings of like projects designed to support state performance targets. Exceptions to projects being included within a GPA (referred to as stand-alone projects) include cost greater than $10 million, capacity improvements (adding lanes/road diets), reconstruction projects, advance construct projects, and projects that are regionally significant.

GPAS	2021	2022	2023	2024	2025
Pavement	$4,275,752	$5,364,355	$5,454,148	$3,633,678	$4,804,211
Safety/ Operations	$909,323	$599,624	$622,762	$2,072,012	$1,147,676
Livability	$426,245	$449,718	$467,071	$943,798	$860,757
Bridge	$674,718	$0	$0	$0	$0
Transit	$10,161,223	$10,460,979	$10,769,579	$11,087,281	$11,414,356
TOTAL FEDERAL FUNDS	**$16,447,261**	**$16,874,676**	**$17,313,560**	**$17,764,226**	**$18,227,000**

TABLE 23

GPAS	2026–2029	2030–2034	2035–2039	2040–2045
Pavement	$16,176,198	$26,699,647	$33,371,601	$43,381,141
Safety/ Operations	$5,600,000	$5,996,657	$6,546,581	$12,120,890
Livability	$2,000,000	$2,998,328	$3,273,291	$5,771,852
Bridge	$1,346,400	$2,532,988	$0	$0
Transit	$49,125,465	$70,012,065	$80,966,365	$114,050,973
TOTAL FEDERAL FUNDS	**$18,702,219**	**$19,190,223**	**$19,691,365**	**$20,231,322**

TABLE 24

Performance Measures

TRANSPORTATION IMPROVEMENT PROGRAM

As part of the continued focus on performance based planning WATS updated its TIP application and points to reflect the emphasis on performance.

TIP APPLICATION

The TIP application awards points and is linked to the goals of the LRP. Below is how points are awarded in each category:

- **Safety and Security:** 18 points
- **Invest Strategically:** 50 points
- **Access and Mobility:** 14 points
- **Protect and Enhance the Environment:** 8 points
- **Land Use:** 10 points

This alignment was done during the 2040 LRP development in anticipation of performance measures.

INVESTMENT STRATEGY

This focus on investment was codified by the WATS Policy Committee in September 2018 when they approved the following a federal funding investment strategy. These investment targets strongly support both state and locally identified performance measures. The amounts reflect the anticipated funds over the life of the 2045 LRP.

- **Bridge:** 10% ($35 million)
- **Congestion & The Environment:** 15% ($52 million)
- **Non-Motorized:** 10% ($35 million)
- **Pavement:** 45% ($156 million)
- **Safety:** 20% ($70 million)

The investment strategy will be evaluated at the development of the TIP to give a short term view of how investments are aligning at the initial development of the 4 year program. The same 4-year program will be evaluated at the end to account for additional federal funds being allocated to the County and to include awarded funds, from programs such as Safety, Bridge, and TAP. All federal funds will be counted in the short and long term tracking of investments over time.

TECHNICAL ADVISORY SUBCOMMITTEE

CHAIR:
Dieter Otto, *Eastern Michigan University*

VICE-CHAIR:
Nathan Voght, *Washtenaw County OCED*

Wiliam Degroot, *Ann Arbor Transportation Authority*
Raymond Hess, *City of Ann Arbor*
Amber Miller, *Ann Arbor DDA*
Christine Linfield, *City of Chelsea*
Courtney Nichols, *City of Dexter*
Matt Pitlock, *Michigan Department of Transportation*
Gary Roubal, *City of Saline*
Steve Dolen, *University of Michigan*
Matt MacDonell, *Washtenaw County Road Commission*
Bonnie Wessler, *City of Ypsilanti*
Charlotte Wilson, *Ypsilanti Township*
Evan Pratt, *Environment Representative*
John Waterman, *People with Disabilities Representative*
Cyrus Naheedy, *Non-motorized Representative*
Ruth Ann Jamnick, *Senior Community Representative*
Eric Rodriguez, *Equity Representative*

EX OFFICIO MEMBERS:
Andy Pickard, Federal Highway Administration
Christopher Klove, Southeast Michigan Council of Governments

WASHTENAW
AREA
TRANSPORTATION
STUDY

Appendix

Appendix

REGIONAL PARTNERSHIP

WATS is primarily responsible for conducting transportation planning and maintaining the federal eligibility of communities and transportation providers within Washtenaw County. SEMCOG develops products that cover a wide range of topics for the seven-county region, which includes Washtenaw County. These plans provide a more detailed view of topics where SEMCOG has technical expertise.

WATS is able to implement these plans for the benefit of the transportation providers within Washtenaw County.

Congestion Management Plan

A congestion management process (CMP) is a set of multi-modal alternative strategies used systematically to manage congestion and improve mobility for people and goods. The CMP helps to inform decision-makers on regional transportation planning, document transportation system performance, and project selection and prioritization.

ITS Plan

ITS (Intelligent Transportation Systems) involves the use of computer and electronic technologies, communications, or information processing to improve the safety and efficiency of the transportation system. The use of ITS in Southeast Michigan is not new. Examples currently in use include dynamic message signs, closed-circuit TV cameras, roadway vehicle detection sensors, coordinated signal systems, and transportation operations centers.

SEMCOG Safety Plan

SEMCOG partnered with the Michigan Department of Transportation (MDOT) to develop the Southeast Michigan Traffic Safety Plan, a data-driven comprehensive approach to identify key safety needs and guide investment decisions aimed to reduce fatalities and serious injuries.

Green Infrastructure Vission

Environmental mitigation is considered in several regional documents, including The Green Infrastructure Vission for Southeast Michigan, Low Impact Development Manual for Michigan and the Great Lakes Green Streets Guidebook

Water Resources Plan

These numbers define Southeast Michigan's water resource network and its identity as part of the Great Lakes state and are essential to the region's environment, economy, and quality of life.

Access to Core Services Plan

Access to Core Services in Southeast Michigan measures and benchmarks accessibility for seven core services – fixed-route transit, jobs, health care facilities, supermarkets, parks, schools, and libraries. These core services are major destinations that residents need to access on a regular basis.

SEMCOG

WASHTENAW AREA TRANSPORTATION STUDY

Appendix

Bicycle and Pedestrian Plan

Bicycle and pedestrian travel is a vital component of our region's transportation system. Communities across the region desire additional bicycle and pedestrian facilities to improve residents' quality of life. Almost every trip, including those made by automobile and transit, involves some walking or biking.

Economic Development

The strategy employs a comprehensive approach to grow the regional economy and jobs in order to improve and benefit Southeast Michigan's economy and residents.

Freight Planning

Maximizing the efficiency of the transportation network continues to be a focus of local and regional planning efforts. This strategy includes providing modal options for travelers and having an understanding of the region's varying freight movements to ensure ongoing regional prosperity.

SEMCOG

WASHTENAW AREA TRANSPORTATION STUDY

Appendix

WASHTENAW AREA TRANSPORTATION STUDY

Application for Rural Federal STP Funds

Primary Contact:_____

Agency:_____

Number:_____

Email:_____

Project Details			
Improvement Type	☐ Reconstruction ☐ PM ☐ 3R ☐ Bridge		
Project Name		**Project Length**	
LRP Project #		**LRP Year**	
Total STP Rural Funds Requested	$	**Total State D Funds Requested**	
Additional Funding Source 1	$	**Year Funds Requested**	
Additional Funding Source 2	$		
Total Project Cost	$	**Freight: All Season Road**	Yes ☐ No ☐
Project is transit capital or transit operations improvement?	Capital ☐ Operations ☐		
Describe proposed work, include signage, signals, or other uncaptured details			

Appendix

WASHTENAW AREA TRANSPORTATION STUDY

Application for Federal STP Funds

Primary Contact:_____

Agency:_____

Number:_____

Email:_____

Section 1: Project Details

Project Name		**Project Year**	
LRP Project #		**LRP Year**	
Total STP Funds Requested	**Total Project Cost**	**Year Funds Requested**	
Project Limits		**Project Length**	
Approximate % of total cost invested in transit:		**Approximate** % of total cost invested in non-motorized:	
Funds used for ROW?	Yes ☐ No ☐	**Funds used for EPE?**	Yes ☐ No ☐
Standalone ROW project?	Yes ☑ No ☐ **If yes, you're done!**		

	Existing		Proposed	
Vehicle Lanes	General Purpose/Turning _____ _____	Parking Lane ☐ Yes ☐ No	General Purpose/Turning _____ _____	Parking Lane ☐ Yes ☐ No
Shoulder Surfacing	☐ Paved ☐ Unpaved	Width: _____	☐ Paved ☐ Unpaved	Width: _____
Sidewalk/path Details	**Placement** ☐ One Side ☐ Both Sides ☐ Intermittent ☐ None	**Type** ☐ Shared Use ≥ 8 ft ☐ Sidewalk <8 ft	**Placement** ☐ One Side ☐ Both Sides ☐ Gap Fill ☐ No Change	**Type** ☐ Shared Use≥8 ft ☐ Sidewalk < 8 ft
On Road Non-Motorized	☐ Bike Lane ☐ Sharrows ☐ Wide shoulders	☐ Other: _____ ☐ None	☐ Bike Lane ☐ Sharrows ☐ Wide shoulders	☐ Other: _____ ☐ None

Improvement Type	☐ Reconstruction ☐ PM ☐ 3R ☐ New Roadway ☐ Stand alone non-motorized
List any transit enhancements included	
List pedestrian crossing types included	
Describe proposed work, include signage, signals, or other uncaptured details	

Section 2.1: LRP Goal – Safety and Security

Project enhances safety for:	☐ Drivers ☐ Pedestrians ☐ Cyclists ☐ Transit Users	
How will this project improve safety?	☐ New infrastructure/ design targeting safety	☐ Operations improvement ☐ Better driving surface **only**
Describe safety improvement as needed		

Appendix

Section 2.2: LRP Goal - Invest Strategically				
Project included in agency CIP?	Yes ☐ No ☐ If no, attach financial commitment documentation			
Was project identified local planning documents?	Yes ☐ No ☐ If yes, which?			
Freight	☐ Provide direct access to freight facility/freeway ☐ No Through Truck Restrictions			☐ All Season road
Does project include bridge rehabilitation or reconstruction?	☐ Yes ☐ No	**Bridge Condition**	☐ SD ☐ FO	☐ Weight Restricted ☐ Closed
Is the treatment best Asset Management practice for the roadway condition?	☐ Yes ☐ No If not, why?			

Project Funding			
Source	**Fund Type**	**Amount**	**Potential/Committed?**
	Federal		
	Local		
TOTAL			

Section 2.3: LRP Goal – Access and Mobility			
Does the project improve access to transit?	☐ Yes ☐ No	**Does project connect with existing non-motorized facilities?**	☐ Pedestrian ☐ Bike ☐ None
Does the project reduce congestion?	☐ Yes ☐ No ; If so, how?		

Section 2.4 LRP Goal – Protect and Enhance the Environment	
Innovations to mitigate runoff, energy consumption, etc	

Section 2.5 LRP Goal – Link Transportation and Land Use	
Was this corridor identified as a regional priority in WATS' LRP?	☐ Yes ☐ No
Does the project improve **direct** access to	☐ Healthy Food ☐ Employment ☐ School ☐ Hospitals/Urgent Care ☐ Park

Appendix

Section 3 – Preventive Maintenance (Only)	
Does your agency develop your PM program as part of a comprehensive asset management strategy?	☐ Yes ☐ No
Is your agency planning to use these funds on any roads where the PASER ratings <5	☐ Yes ☐ No; If so, explain?
Is your agency considering non-motorized improvements as part of the PM program (includes restriping for wide shoulders)	☐ Yes ☐ No

Appendix

2045 RTP PUBLIC MEETING SUMMARY - WASHTENAW

AUTONOMOUS VEHICLES

Washtenaw is at the forefront of autonomous and connected vehicle development. The changing travel patterns resulting from driverless vehicles may have significant impacts and opportunities for the County. Vehicles will likely become safer and more efficient more efficient, however, we may see more extraneous traffic due to last mile connections with no passengers, etc.

At the 2045 Long Range/Regional Transportation Plan meetings, the following comments/concerns on autonomous vehicles were received:

- Single vehicle ownership/occupancy of self-driving vehicles may increase sprawl
- How will autonomous vehicles and human drivers coexist in traffic
- Will poor road conditions impact autonomous driving
- What is the liability structure in a crash involving an autonomous vehicle
- Safety enhancements such a preventing drunk driving would be
- How will autonomous vehicles handle non-motorized travelers on the shoulder or in areas with no non-motorized facilities
- Link benefits of autonomous vehicles to increase access to jobs and independence for people unable to drive and explore impacts to
- How will employment, particularly transit and delivery focused jobs, be impacted
- Structure autonomous vehicle use to help reduce carbon footprint and look for opportunities to repurpose land previously allocated less efficient vehicle use
- Encourage auto companies to share their projections for uptake of autonomous vehicles

TRANSIT

Public transportation has been instrumental in metropolitan areas around the country developing at high densities, by helping to curb automobile related land uses and ownership expenses and maintain air quality standards. While Michigan has struggled for some time to reinvigorate its once successful regional public transit system, TheRide and member agencies have been building a right-sized system and services that cover much of Washtenaw County's urban area.

At the 2045 Long Range/Regional Transportation Plan meetings, the following comments/concerns on public transit were received:

- Transit services seem disconnected from each other
- Shift passenger traffic to transit, anticipate more freight traffic from home deliveries/online shopping
- Transit will allow for a decrease and reallocation of parking

- There will be a learning curve for people new to the transit system
- Frequent headways and diverse destinations will keep transit competitive
- Transit use has health benefits
- Younger residents seek robust transit service when deciding where to locate
- People should be prioritized first in planning process and cars last
- Continue work on regional transit funding
- Rail should continue to be pursued as it usually avoids the delays of mixed flow transit service
- Equity is a concern when considering fee-based services

NON-MOTORIZED

Continuing to develop the County's non-motorized network provides new commuting and physical fitness options, as well contributing to the sense of place that is helping to define Washtenaw County as a desirable place to live, work and play. While the ideal non-motorized network would include bike and pedestrian facilities on all roadways, the reality is that limited funding requires prioritization of improvements to improve safety, provide connections and spur development.

At the 2045 Long Range/Regional Transportation Plan meetings, the following comments/concerns on non-motorized facilities were received:

- Make sure transit stops are accessible by adequate non-motorized facilities
- Crosswalks are important to non-motorized travel, they should have a consistent design, public education when necessary (and consideration for cyclists), and be located near bus stops
- Maintenance of non-motorized facilities is key to their usage
- Some cyclists/pedestrians do not feel safe, buffered bike lanes/shared use paths would increase the sense of safety
- The non-motorized infrastructure is the livable environment for people that do not drive

SAFETY, PAVEMENT, AND ENVIRONMENT

The safety of travelers and the quality of the environment must be at the forefront of transportation planning. The costs associated with global climate change and preventable traffic injuries are too high to not put these considerations as top evaluation criteria when planning new projects. Similarly, for economic development efforts to remain competitive, and for the smooth operation of the transportation network (commuting, freight, transit, etc.), an acceptable pavement condition must be maintained.

At the 2045 Long Range/Regional Transportation Plan meetings, the following comments/concerns on safety, pavement, and the environment were received:

- Funding issues: not enough funding, no good way to increase, the scope of need and construction costs going up
- Improvements do not last long enough

Appendix

- How will the public know funding is being spent in the appropriately
- Include traffic calming with safety improvements
- Consider improvements during road and transit projects that will benefit the environment
- Autonomous freight may be able to offset additional VMT from autonomous commuting
- Continue to maximize transit ridership

Appendix

COMMENTS RECEIVED THROUGHOUT PUBLIC PARTICIPATION

AUTONOMOUS VEHICLES

- Single vehicle ownership/occupancy of self-driving vehicles may increase sprawl
- How will autonomous vehicles and human drivers coexist in traffic
- Will poor road conditions impact autonomous driving
- What is the liability structure in a crash involving an autonomous vehicle
- Safety enhancements such a preventing drunk driving would be
- How will autonomous vehicles handle non-motorized travelers on the shoulder or in areas with no non-motorized facilities
- Link benefits of autonomous vehicles to increase access to jobs and independence for people unable to drive and explore impacts to
- How will employment, particularly transit and delivery focused jobs, be impacted
- Structure autonomous vehicle use to help reduce carbon footprint and look for opportunities to repurpose land previously allocated less efficient vehicle use
- Encourage auto companies to share their projections for uptake of autonomous vehicles
- 2 comments-Autonomous Vehicles Good for those who cannot or don't want to drive

TRANSIT

- Regional train system from Toledo to Ann Arbor to Howell
- Commuter or transit line in Milan
- Senior accessibility is served by Milan Senior bus but only for 50 and over
- Transit services seem disconnected from each other
- Shift passenger traffic to transit, anticipate more freight traffic from home deliveries/online shopping
- Transit will allow for a decrease and reallocation of parking
- There will be a learning curve for people new to the transit system
- Frequent headways and diverse destinations will keep transit competitive
- Transit use has health benefits
- Younger residents seek robust transit service when deciding where to locate
- People should be prioritized first in planning process and cars last
- Continue work on regional transit funding
- Rail should continue to be pursued as it usually avoids the delays of mixed flow transit service
- Equity is a concern when considering fee-based services
- 6 comments-More transit options such as mass transit and rail
- Wifi on buses
- Free far buses

Appendix

- Covered bus shelters
- More transit service along ellsworth and lohr
- Add transit stops to apartment on East Shore
- Add more transit service and carpool lots in Whitmore Lake connecting to U of M
- Communicate local programs, ect. on public transit
- Add Commuter rail service
- WWAVE not stopping enough
- WWAVE Need to go to shopping, appointments
- WWAVE Don't want people to walk too far or in a dangerous spot to get the bus
- WWAVE More communication with people that the WAVE is there, communicate with riders
- AAATA Need more convenient times to use the bus, timing not always work with commuters
- 2 comments-AAATA Frequency and timing and later service
- Need high capacity transit on Fuller and Washtenaw
- 2 comments-push for more light rail it is cheaper and lasts longer,
- Great, love the expansions
- Better service for morning, evening and weekend, and more frequent the expansion has been great
- Must improve bus depot for people to wait
- Park and ride on State St.
- Late night service
- Campus area south stay available later
- Dedicated right of way for transit
- Transit service in Dexter at Baker at I-94
- Transit service or rail from Ann Arbor to Detroit and also to Howell
- Rail service to northern Michigan
- Access to shopping, medical appointments without needing to drive
- Commuter rail line from Ann Arbor to Ypsilanti
- Route from Dexter to Ann Arbor to connect to the Miller Rd park and ride lot
- PEX bus has had history of not showing up for riders
- Expensive trips for PeX
- Letts bus is very limited
- Need a common spot to transfer from one county system to another
- Cross jurisdictional coordination is a must for transit
- Trip length is too long with waiting time for transit

Appendix

NON-MOTORIZED

- Sidewalks near 9 mile near marshall
- Need non-car way to connect major employers in the community to walk and bike connections
- Make sure transit stops are accessible by adequate non-motorized facilities
- Crosswalks are important to non-motorized travel, they should have a consistent design, public education when necessary (and consideration for cyclists), and be located near bus stops
- Maintenance of non-motorized facilities is key to their usage
- Some cyclists/pedestrians do not feel safe, buffered bike lanes/shared use paths would increase the sense of safety
- The non-motorized infrastructure is the livable environment for people that do not drive
- Sidewalk improvements near school on Newport and also Forsythe, Steiner and crossing the bridge there
- Bicycle/Ped access going from Vreeland/Hickman getting to Parker Mill Park to the east
- Bike lanes along portions of the portions of freeway like I-275 (US 23 and M-14)
- Elevated crosswalks on state st.
- Kayak with a shuttle back along huron river
- Create connection to trail on Dhu Varren
- Sidewalks and crosswalks along washtenaw ave (hewitt area)
- Complete the B2B
- Sidewalk connections by Whitmore Lake Elementary School
- Not enough street lights (East Shore, Main, Posey, Garfield, Eagle Gardens subdivision)
- Extend sidewalks on south side of Barker
- Add sidewalk north on Main from Brookside to apartment
- No sidewalks on wilkinson to end of city limits
- Enhanced crossings on wilkinson
- Crossing US12 and Main st is dangerous due to cars turning, all directions hard for peds to cross
- Need to get to community parks across M-52 very difficult - crossing M-52 throughout Chelsea is difficult
- Need sidewalks near Silver Maples along Old US 12 E
- Need to be able to walk
- Education for drivers that peds are vulnerable and to look for them first before turning
- Dexter-Chelsea Rd for bikes
- Need buffer on M-52 for peds, from road to sidewalk
- Sidewalks on Freer
- Sidewalks on Hays to connect parks

- Sidewalks from Jiffy area to Betts no buffer
- Newport Rd near Steiner School nothing for bikes
- Lack of sidewalks from Sylvan to southern Chelsea
- Difficult to cross I-94
- Need sidewalks on M-17 east near Dom's
- Bike lanes extend all the way on Packard into ypsi
- Education for drivers on stopping for peds
- Need to make Ypsi more walk bike friendly
    - » Problem areas
        - › MI at Huron
        - › Hamilton and Michigan
        - › Adams and Michigan
        - › Hamilton and Pearl
        - › Emmett and Huron
- More crosswalks and ADA accessible crossings at Washtenaw at Huron
- Slow traffic down
- Turn lanes allow people to not watch for peds
- Ped crossing lights and buttons do not work
- Do not add bike lanes on Main St, put on parallel streets
- want to see biking and walking trails for people who cannot drive but still want to get around Milan and connect outside of Milan, connect community parks and neighborhoods via non-motor facilities
- Bike trails good
    - » Use better materials
    - » Prioritize spending good quality materials see ohio
- E-scooters bad for peds especially not on sidewalk

SAFETY

- Include traffic calming with safety improvements
- Consider improvements during road and transit projects that will benefit the environment
- Autonomous freight may be able to offset additional VMT from autonomous commuting
- More enforcement of distracted driving
- US 23 has just shifted the traffic further away but can still be bad, 23 improvements helped
- US 23 and I-96 interchange is a hot mess
- Gene Dr - Wilkinson addition of a flashing light
- Speed limits on Old US-12 at wilkinson to main

- Main St. at pierson
- M-52 at Werkerner needs advance warning of roundabout / lighting at the roundabout
- Work on Geddes and Plymouth area for signal timing
- Traffic calming in Ypsi
- Reduce US 23/I-94 speed limit during peak period and enforce speed limits
- Lack of visual clearance on Merritt/Whittaker roundabouts
- 5 point intersection in Webster Township at Mast/Huron River Dr/Joy road very dangerous during peak times
- Congestion at railroad crossing in Dexter and trying to turn left onto main st. from Dexter Chelsea Rd.
- Expansion of Dexter Crossing housing and its impact on traffic
- Congestion on Washtenaw, Packard, Clark, Hogback, Geddes
- Railroad blocking road and emergency vehicles for long periods of time
- Harriet 1st to Ecorse
- Speed control on 1st and 2nd
- 1st Harriet step Beaker
- Hawking @orchard need lighting
- Protected bike lanes
- More transit service and regional
- Traffic circles and roundabouts for safety and congestion
- Traffic safety/bike security
- Continue providing alternatives
- MDOT issue: US 23 and M-14 I-94 express lanes due to delay and delay on US 23 going south, entrance ramp at Dexter Rd ramp not long enough, not left turn and why 2 exits from US 23 into Milan, accidents on expressway impacts local traffic, traffic speed at curve south of Carpenter between exits 25 and 27

PAVEMENT

- 2-Improvements do not last long enough
- 5-General pavement quality is poor
- Connect 7 Mile to Main St.
- 2 comments- Pave Fletcher Rd at US 12 and Dexter Chelsea Rd.
- Pave dirt roads or grade them better or more frequently
- How to drive on rural gravel roads
- State St. near Briarwood is very bad
- Need to pave the dirt portion of Arkona but neighboring community opposed

- 2 comments- Rd maintenance is a big issue for local roads, community needs funds from state
- Local roads in need of work: Firman, Canfield, Willana, Phillips, other half of Lewis, Second St, Allen, Marvin

ENVIRONMENT

- Much congestion near I-94 and Fletcher and at Freer
- Congestion due to schools and commuting
- Need alternate routes to Lyndon and Lima townships
- Limited signalized intersections
- More access routes
- Issue of the volume of truck traffic through town, need alternative for trucks to move about instead of thru town in Milan and Chelsea

FUNDING

- Funding issues: not enough funding, no good way to increase, the scope of need and construction costs going up
- How will the public know funding is being spent in the appropriately

EQUITY

- Equity importance in the county
- Promote equity and accessibility

Appendix

2045 LRTP CONSULTATION LIST

Organization Name	First Name	Last Name	Email	Contact Title	City
Ann Arbor/Ypsilanti	Diane	Keller	diane@A2YChamber.org	President/CEO	Ann Arbor
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City of Ann Arbor	Brett	Lenart	blenart@a2gov.org	Planning Manager	Ann Arbor
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The Greenway	Norman	Cox	norm@greenwaycollab.com	President	Ann Arbor
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Ann Arbor Area	Matt	Carpenter	mcarpenter@theride.org	CEO	Ann Arbor
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Michigan Association of	Steve	Vagnozzi	svagnozzi@comcast.net	Chair	
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washtenaw county parks	Coy	Vaughn	vaughnc@ewashtenaw.org;		
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Ann Arbor-Ypsilanti	Andy	LaBarre	andy@A2Ychamber.org	Executive Vice President	
Washtenaw County Walk	larry	deck	ldeck1@aol.com	Board member	
Clean Energy Coaltion	Scott	Grindle	scott@cec-mi.org	Project Manager - Cleaner	
Washtenaw County OCED	Andrea	Plevich	pleveka@ewashtenaw.org	Director	Washtenaw County OCED
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American Center for	John	Maddox			
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Manchester Mirror					
The Courant					Whitmore Lake