

# Chapter 4 - Transit



Public transit plays an important role in the transportation system by providing an option for people to travel without an automobile. There are several reasons a person may use public transit. Some people use transit out of necessity due to having no driver's license, no access to an automobile, or a disability that prevents them from driving. Others use transit as a lifestyle choice, because it is inexpensive, because it's convenient, or due to lack of driving experience.

Iowa has a network of urban, small urban, and rural transportation systems that provide transit service throughout the state. In the MPO, public transit service is provided by the Metropolitan (MET) Transit Authority which is the delegated transit provider under direction of a 28E agreement with Waterloo and Cedar Falls. MET provides fixed route and paratransit service to the general public.

#### **Transit Planning**

Transit planning has long been a function of the MPO. The Chair of the MET Board is a member of the MPO Policy Board, and the General Manager of MET Transit is a member of the MPO Technical Committee. MET projects and services that utilize federal funding are included in the MPO Transportation Improvement Program (TIP).

MET Transit, INRCOG, and the Regional Transit Commission (RTC) have a history of coordination. The RTC provides transit service to the remainder of INRCOG's six-county region outside the MPO. This service includes rides to and from the MPO area, for example from Waverly to Waterloo.

In 2005, SAFETEA-LU mandated a joint planning process between human service agencies and passenger transportation agencies. This process is intended to improve coordination between these agencies and result in better passenger transportation options for the public. This process is now reflected in the Passenger Transportation Plan (PTP).

The PTP is a joint document between the MPO and its regional counterpart the Iowa Northland Regional Transportation Authority (RTA). The PTP includes the following information:

- An inventory of passenger transportation services in the region
- Information about service, management, fleet, and facility needs
- Potential strategies for meeting those needs
- Funding sources
- Project recommendations

A full update of the document is completed every five years. The most recent PTP update was adopted in April 2014 for fiscal years 2015 to 2019. The most recently updated PTP can be downloaded at www.inrcog.org/pub.

### **Transit Advisory Committee**

The transit planning process and development of the PTP is coordinated through the Transit Advisory Committee (TAC). The TAC consists of human service organizations, representatives of local government, transit users, and transportation providers. These entities work cooperatively to recognize current transit shortfalls and identify the potential for new services and coordination possibilities in the region.

Some needs identified by the TAC over the past several years include the following:

- Providing service to the growing population of older adults
- Installation and maintenance of bus shelters
- Educating new populations on bus service, particularly those with limited English proficiency
- Marketing existing services

#### **Transit Demand**

The lowa Transportation Funding Study completed in 2009 identified current revenues and future needs of the state's transit systems. Central themes include the importance of mobility to quality of life and the ability of transit to reduce air pollution and fuel consumption. Overall trends identified by the study include the state's aging population, increased employment outside normal business hours, transportation needs of low-income workers, and an emphasis on security needs.

The study utilized a model to quantify passenger transportation demand by estimating the number of transit-dependent people within each transit service area. The number of transit-dependent people was based on variables including the population of seniors, people with low incomes, and people with disabilities. For the MET Transit service area, a baseline demand for these groups was estimated at 1,500,000 annual trips. Between July 2017 and June 2018, MET Transit provided 336,777 fixed route rides and 64,360 paratransit rides. Ridership would need to increase more than threefold to meet this estimated baseline demand.

The study also estimated intercity transit demand. In the MPO, two corridors had a significant number of trips. 10,000 person-trips were estimated between Independence and Waterloo, and an estimated 7,400 between Waverly and Waterloo. Waverly and Independence remain RTC's largest service areas, and expanded service in these communities is considered a need. RTC continues to work with these communities to respond to public input and transportation needs. Service was recently expanded to Chickasaw County and New Hampton which has been in high demand over the past couple of years.

In 2015, INRCOG conducted a Special Outreach Survey of non-English speaking and homeless residents in Waterloo. The results of this survey are described later in the Public Input section. The survey found a significant share of respondents rely on getting a ride from family or friends for transportation. However, very few non-English speaking respondents indicated they have ridden the bus in the past month or even

understand how to ride the bus. These results suggest there may be a significant unmet demand for passenger transportation service for this population.

#### **Transit Service**

MET Transit operates 13 fixed routes in Waterloo and Cedar Falls. Ten routes operate continuously all year long, and three routes operate depending on the academic calendar. Table 4.1 outlines each route's operations and annual ridership for fiscal year 2018

Table 4.1: MET Transit Fixed Routes

Route	Annual operations	Daily operations	Ridership (FY '18)	
Route 1/West	All year	All day	39,258	
Route 2/West	All year	All day	37,828	
Route 3/East	All year	All day	38,002	
Route 4/East	All year	All day	38,723	
Route 5/La Porte	All year	All day	29,070	
Route 5L/W 11th	All year	All day	58,524	
Route 6/CF University	All year	All day	29,789	
Route 7/CF Rainbow	All year	All day	47,440	
Route 8/West Loop	All year	No mid-day service	6,793	
Route 9/CF Loop	All year	No mid-day service M-F	11,349	
Route 10/HCC	Reduced summer service	No mid-day service	6,304	
Route 11/UNI	Academic year only	All day	21,129	
Route 12/Safe Ride	Academic year only	Fri and Sat nights only	2,731	

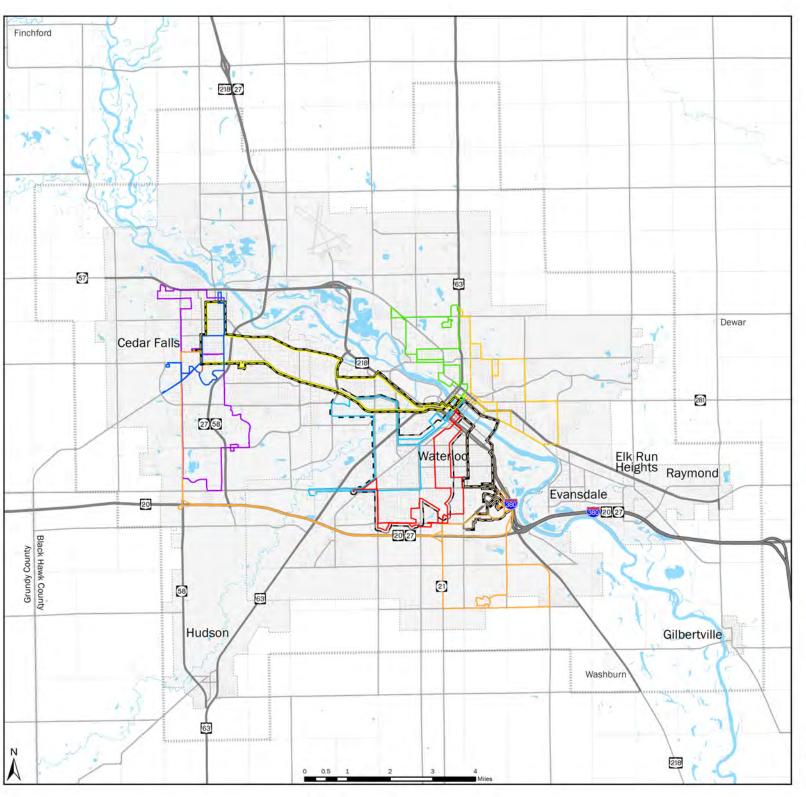
MET Transit's fixed route and paratransit hours of operation are 5:45 a.m. to 6:35 p.m. from Monday to Friday, and 7:15 a.m. to 6:00 p.m. on Saturday. Regular fixed route fares have remained the same for over a decade. Regular fares for adults are \$1.50 per ride, while fares for seniors, disabled, Medicare card holders, and students are \$0.75; and the cost of a 30-day pass is \$50 and \$45 respectively. Riders can also purchase 11 ride tickets at once for the price of 10 tickets.

Map 4.1 shows the location of MET Transit's current fixed routes. Route 10 serves the University of Northern Iowa (UNI), the Hawkeye Community College (HCC) main campus, and the Crossroads Mall area during the academic year, and continues service between HCC and the Crossroads Mall area during the summer. Route 11 operates entirely in and around the UNI campus. Route 12 serves the UNI campus and downtown Cedar Falls on Friday and Saturday nights only, and is free to the general public.

Paratransit service, which is also provided by MET Transit, provides transportation for people who are unable to use fixed route buses. To qualify for paratransit service, passengers must meet one of the following conditions established by the Americans with Disabilities Act (ADA):

- Inability to get on or off a bus
- Inability to get to or from a fixed route bus stop
- Inability to wait at a fixed route bus stop
- Inability to ride the fixed route buses or follow transit instructions because of a disability

ADA paratransit eligibility is based on a passenger's functional abilities rather than a medical diagnosis. MET Transit currently offers paratransit throughout Waterloo, Cedar Falls, and Evansdale, though it is only required to offer the service within 0.75 miles of fixed routes.



# **MET Transit Routes**

# **Downtown Cedar Falls**



#### **Downtown Waterloo**



## Legend



#### **Bus Routes**



Data Source: MET Transit and INRCOG



INRCOG
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## **Transit Ridership**

Total ridership steadily increased from around 2007 to 2013. Ridership peaked in 2013 and has since declined each subsequent year. Between fiscal years 2014 and 2018, annual fixed route ridership has decreased by 28.5 percent from 515,435 to 368,744 rides. This trend is not unique to MET Transit, as decreases in ridership have been seen in the majority of transit systems nationwide. Several factors might contribute to this decrease including the lower price of gas, construction detours, availability of ridesharing services, and recent changes in lowa's managed care organizations (MCOs) structure.

Figure 4.1 shows the total number of fixed route passenger-trips by month, and Figure 4.2 shows the total number of paratransit trips by month. As shown, fixed route ridership peaked in October 2013. On a month-to-month basis, ridership trends follow the academic calendar. Notable ridership increases are observed each year around March-April and September-October, and decreases are observed in June-July and in December.

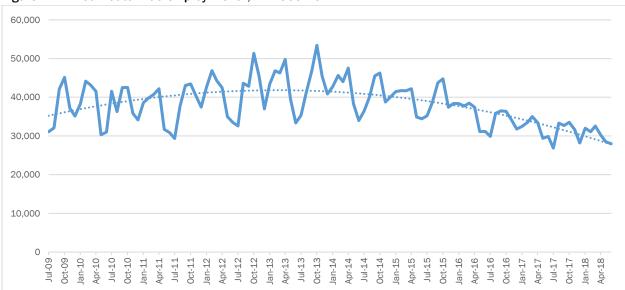


Figure 4.1: Fixed Route Ridership by Month, FY 2009-2017

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Figure 4.2: Paratransit Ridership by Month, FY 2009-2017

Overall changes in paratransit ridership have been less dramatic, though trends suggest paratransit ridership is decreasing as well. MET Transit aims to transition riders from paratransit to fixed route service where possible, as paratransit service is significantly more expensive to operate per ride. Figure 4.3 shows the number of paratransit rides as a percentage of total rides. Despite a slight decrease in paratransit ridership, fixed route ridership has decreased more so resulting in an increase in the share of paratransit rides as a percentage of total rides.

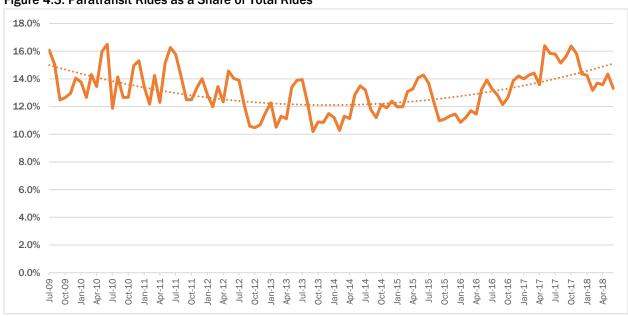


Figure 4.3: Paratransit Rides as a Share of Total Rides

Ridership trends can also be observed by individual route. Figure 4.4 shows the annual ridership on each bus route since fiscal year 2010. Two sets of routes are combined in this graph, Routes 5L and 5W11 and Routes 6 and 7, because they cover much of the same areas:

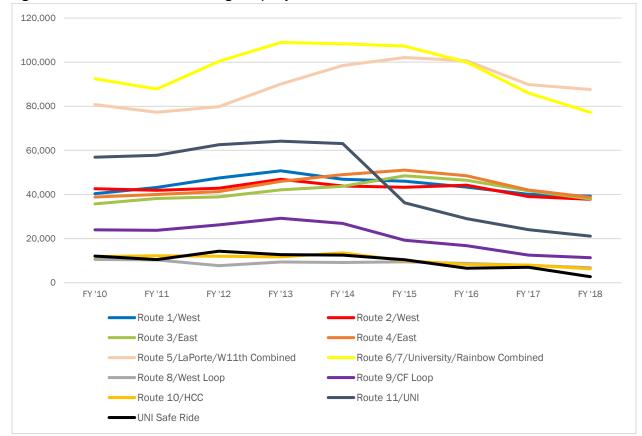


Figure 4.4: Annual Number of Passenger Trips by Route

Most fixed routes have seen an overall decrease in ridership since fiscal year 2010. Most notably, ridership on Route 11 dropped significantly in fiscal year 2015. Headways along this route were increased from 30 minutes to 35 minutes at that time so that buses could stay on schedule. Additional student housing near campus may have also contributed to the reduction in rides.

Annual passenger-trips only tell part of the story, however. Some routes have a greater number of revenue hours than others. Revenue hours are the number of hours of service available to passengers along a particular route. Routes 1, 2, 3, and 4 each have 70 revenue hours per week. Routes 5L and 5W11 combined have 125 revenue hours per week. Routes 6 and 7 combined have 145 revenue hours per week. Route 8 has 36 revenue hours per week, and Route 9 has 50.5 revenue hours per week.

Figure 4.5 shows the average number of passengers per revenue hour by route. Routes 10, 11, and 12 are excluded from this graph. Two different timeframes are used to show the average number of passengers per revenue hour: the nine-year average from fiscal year 2010 to 2018, and the fiscal year 2018 averages only. This graph helps show ridership demand for each route irrespective of the number of revenue hours currently dedicated to each route. It also compares ridership trends in fiscal year 2018 in relation to the historic trends over the past nine years. Routes 5L and 5W11 combined saw the smallest decrease in rides compared to the nine-year average, while Route 9 saw the largest decrease. Service along Route 9 was recently reduced from 11 hours to eight hours per day with mid-day service eliminated, which likely contributes to the noticeable decline. Funding for mid-day service had been available through the Job Access Reverse Commute (JARC) program. Local funds have not made up for the loss of JARC funds after 2014.



Figure 4.5: Average number of passengers per revenue hour by route

## **Ridership Forecasts**

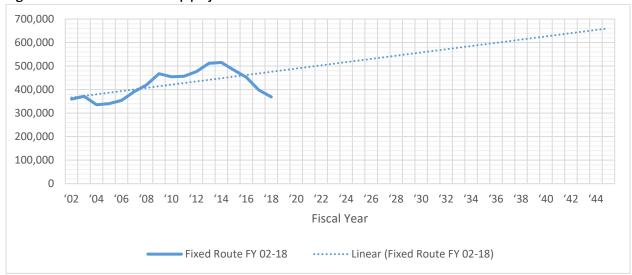
Forecasting future transit ridership can be challenging. Variations in economic conditions, demographic trends, alternate modes of transportation (e.g. ridesharing), and the fixed-route system itself will all have some impact on future ridership. For example, a substantial increase in gasoline prices could result in a sudden increase in ridership, whereas existing trends of declining ridership may continue if gas prices stay below three dollars per gallon.

To forecast ridership on MET Transit's fixed routes, a linear trendline is used based on each year's ridership from fiscal year 2002 to 2018. This forecast is based on almost two decades of historic data which show, in general, an overall increase in ridership. For example, while the recent decline in ridership is notable, total annual ridership is still not as low as it was in fiscal years 2004 and 2005. Interestingly, this projection estimates that annual ridership will increase to around 660,000 in fiscal year 2045, which is the same as the annual ridership observed in 1991. In other words, this projection shows that 27 years from now ridership will return to levels observed 27 years ago.

Ridership in recent years may have also been impacted by recent developments including road construction and changes in Medicaid. However, MET Transit staff believe these impacts will be temporary. Road construction on U.S. Highway 63 and University Avenue has resulted in lengthy detours and delays, particularly near downtown Waterloo. This has led to buses falling behind schedule and several bus detours that may be confusing for riders. Recent changes in lowa's Medicaid program have resulted in passengers using paratransit service in some cases, as there may not be a method in place for providing bus passes to Medicaid recipients. This issue is expected to be resolved over time as managed care moves out of this transitional period and local problems, like impacts to transit, are resolved.

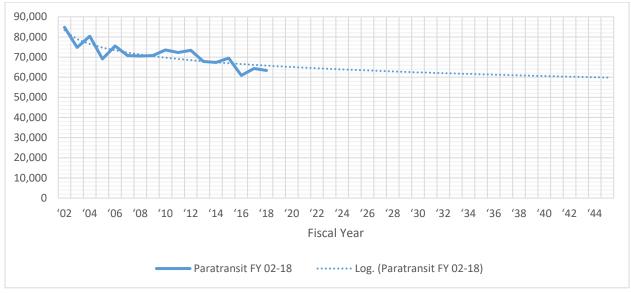
Figure 4.6 shows the projection for fixed route ridership. The solid line shows observed annual ridership totals, and the dotted line shows the linear trendline and projection out to fiscal year 2045.

Figure 4.6: Fixed route ridership projection



To forecast ridership on MET Transit's paratransit buses, a logarithmic trendline is used instead of a linear trendline. This is because ridership is expected to level out as the baby boomer generation ages and begins using paratransit service more. According to the American Community Survey five-year estimates in 2016, an estimated 23.3 percent of the population in Black Hawk County is between the ages of 50 and 70 years old. This is up from 21.5 percent according to the same survey in 2009. For this reason, paratransit ridership could actually increase rather than flatline over the next two decades. Figure 4.7 shows the projection for paratransit ridership.

Figure 4.7: Paratransit ridership projection



## **Transit Coverage**

Maps 4.2 through 4.6 show the relationship between MET Transit's current fixed routes and several economic and demographic characteristics: population, employment, non-White population, non-English speaking population, and population in poverty. Reviewing these characteristics may help to show gaps in coverage that should be considered for future expansion. However, having a transit route nearby does not necessarily mean it efficiently connects all potential passengers to their destinations.

In 2017, the MET Transit board voted to purchase a three-year license of the transit planning software, Remix. Staff at MET Transit and INRCOG have access to this software and have met on a regular basis to discuss the software's capabilities and opportunities for service improvement. Planners can analyze the effects of potential changes to fixed routes and how these changes would affect a route's coverage, service times, and connectivity to other routes. Table 4.2 shows various demographic data made available through Remix, based on a 0.25-mile radius of each fixed route:

Table 4.2: Demographic Characteristics within 1/4 mile of MET Transit Fixed Routes

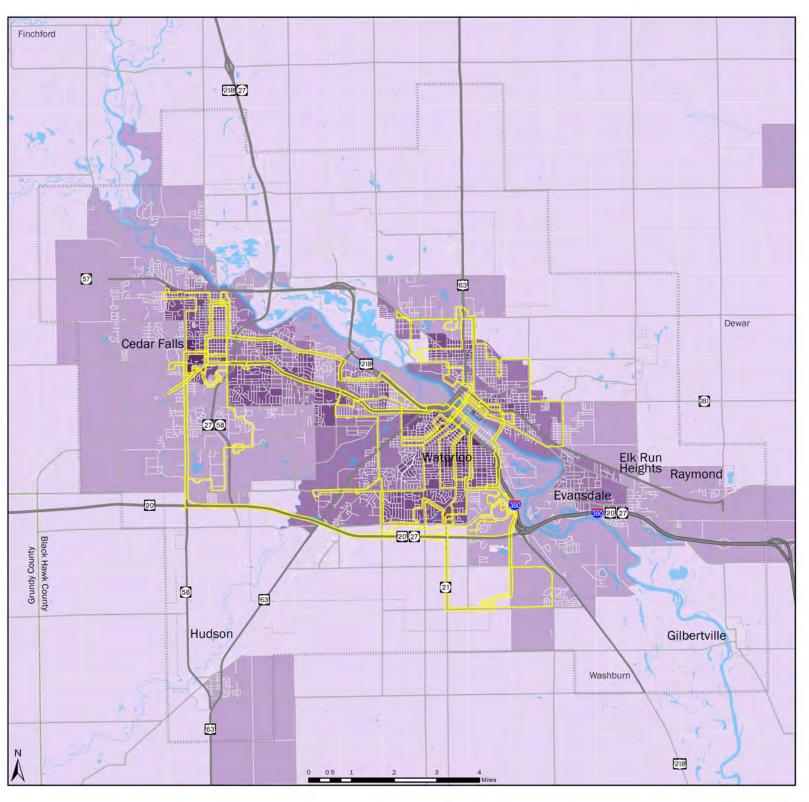
Route	Pop.	Jobs	Poverty	Minority	Seniors	Youth	Non-	Disability	No
							English		Vehicle
1/West	15,202	7,432	16.0%	23.7%	13.9%	15.5%	2.7%	11.7%	10.7%
2/West	17,052	9,174	12.5%	24.3%	15.6%	22.9%	3.0%	11.3%	10.3%
3/East	6,277	4,662	32.8%	46.0%	11.6%	25.4%	1.6%	17.2%	21.7%
4/East	8,773	4,998	31.2%	56.1%	11.9%	26.3%	1.4%	17.9%	16.1%
5/La Porte	8,686	7,420	19.4%	28.6%	13.2%	24.3%	3.7%	13.7%	12.6%
5/W 11th	8,948	7,609	19.4%	28.8%	12.9%	24.4%	3.7%	13.7%	12.7%
6/University	19,359	13,736	19.4%	12.9%	13.0%	16.1%	1.7%	10.1%	8.4%
7/Rainbow	19,815	14,009	19.5%	13.2%	12.9%	16.0%	1.6%	10.2%	8.7%
8/West Loop	20,710	10,580	15.2%	22.8%	14.4%	23.3%	2.2%	11.7%	10.3%
9/CF Loop	15,334	10,263	26.1%	8.4%	9.1%	12.0%	2.2%	6.8%	6.4%
10/HCC	9,296	7,422	29.1%	11.1%	10.9%	9.4%	2.5%	7.3%	7.2%
11/UNI	5,555	3,142	51.7%	9.4%	3.4%	2.8%	0.9%	4.4%	3.4%
12/Safe Ride	7,605	4,387	36.7%	9.7%	6.5%	8.0%	2.0%	5.7%	5.7%

MET Transit and INRCOG will continue using Remix software to determine the feasibility of more long-term changes to the fixed route system. The project is anticipated to be completed by the winter of 2020. Changes in development patterns over the past few decades have altered where people live and work and where transit service is most effective. Several small changes to individual bus routes have been made over the years, but the overall fixed route network has not been comprehensively updated for over two decades.

Remix software allows MET Transit to review data with INRCOG staff to identify entirely new fixed route network scenarios, which in turn can be compared against each other to identify routes that maximize ridership, coverage, frequency, and cost effectiveness. These analyses will also help identify new transfer locations, such as hospitals and shopping centers, where multiple routes from different directions can intersect. In addition, new routes can be explored that do not terminate at Central Transfer as most routes currently do. These new routes could include Central Transfer as a stop along a longer route, or operate separately from Central Transfer entirely.

Several alternative routes have been explored during preliminary discussions, and there is a desire to develop new routes that operate in both directions for sizable lengths. Such routes would provide many riders the same commute both to and from their destinations, reducing travel times for some and providing more dedicated service along high demand corridors. Planning considerations can be expanded in the future to include transit-oriented-development, where dedicated transit routes attract new higher density, mixed-use developments. This kind of development is most commonly seen in large metropolitan areas with light rail and commuter rail transit service.

Ultimately, service improvements are limited to available funding. Known coverage gaps exist in the Airline Highway, Cedar Terrace, and North Cedar neighborhoods, and evening service is not available which inherently limits the effectiveness of transit for some commuters. There may be some potential for increased ridership with the advent of ridesharing (e.g. Lyft, Uber), where a rider can make a bus trip in one direction and rideshare in the other direction.



# **MET Bus Routes and Population Per Square Mile**

**Downtown Cedar Falls** 



#### **Downtown Waterloo**



## Legend

City Boundary MPO Study Area

**Bus Route** 

Population per Square Mile

0 - 200 3,001 - 7,000

201 - 1,000 7,001 - 14,504

1,001 - 3,000

Data Source: INRCOG and U.S. Census Bureau 2012-2016 American Community Survey (ACS) Estimate, Census Block Group



## MET Bus Routes and Employment Per Square Mile

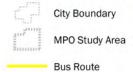
## **Downtown Cedar Falls**



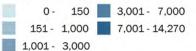
## **Downtown Waterloo**



## Legend



## Employment per Square Mile



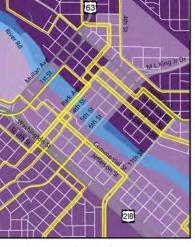
Data Source: INRCOG and U.S. Census Bureau 2012-2016 American Community Survey (ACS) Estimate, Census Block Group



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# the Population that is Non-White



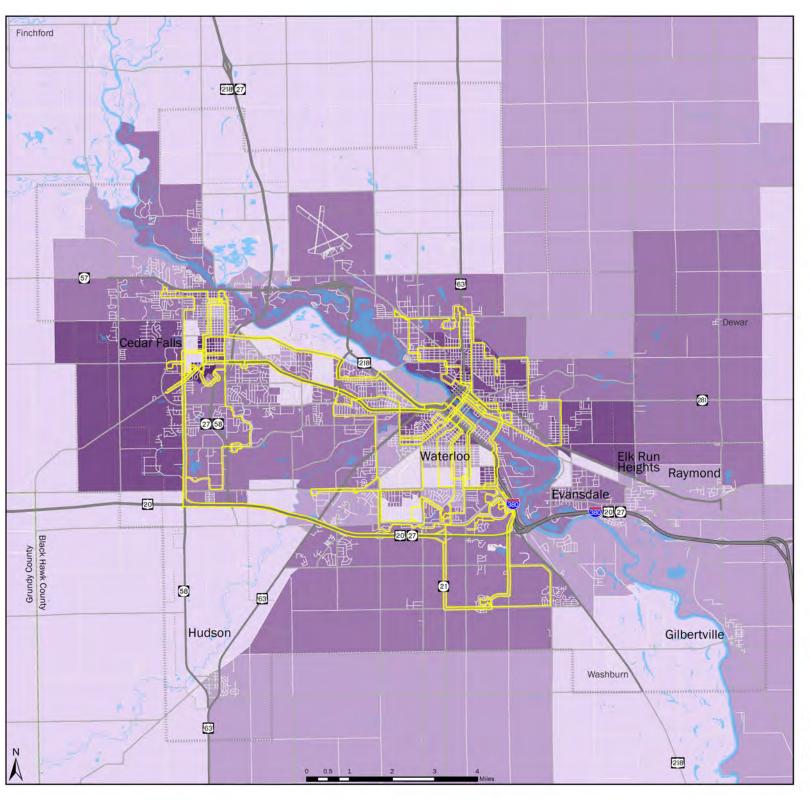


25.01% - 50.00% Over 50.00%

Data Source: INRCOG and U.S. Census Bureau 2012-2016 American Community Survey (ACS) Estimate, Census Block Group



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## MET Bus Routes and Percent of the Population that is Below Poverty Level

**Downtown Cedar Falls** 



## **Downtown Waterloo**



#### Legend

City Boundary

MPO Study Area

Bus Route

Percent Below Poverty Level

5.00% or Less 25.01 - 50.00%

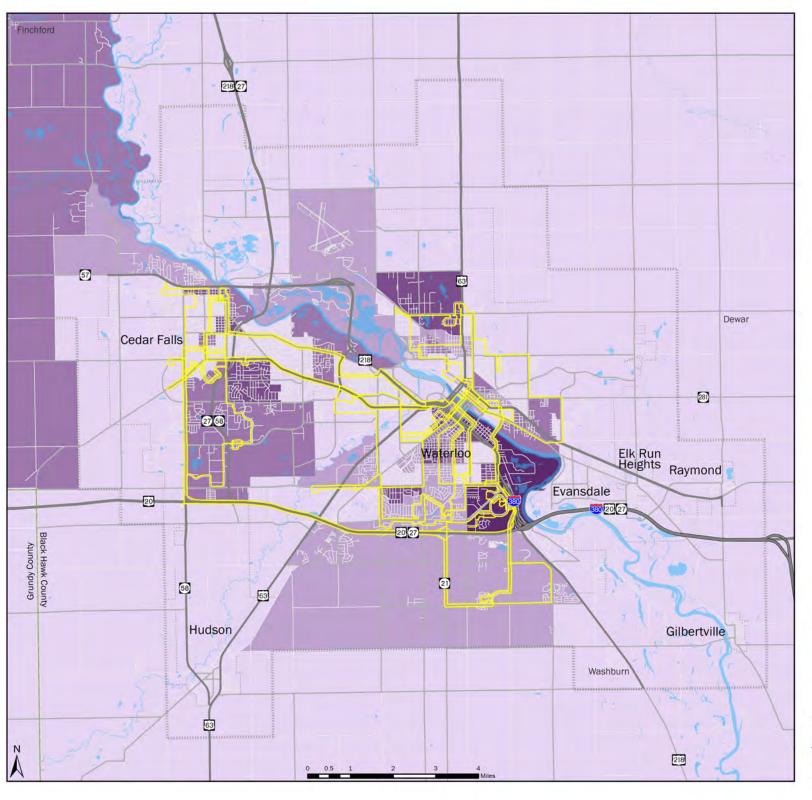
5.01 %- 10.00% Over 50.01% 10.01 - 25.00%

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Data Source: INRCOG and U.S. Census Bureau 2012-2016 American Community Survey (ACS) Estimate, Census Block Group



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## MET Bus Routes and Percent of the Population with Limited English Proficiency

## **Downtown Cedar Falls**



#### **Downtown Waterloo**



#### Legend

City Boundary

MPO Study Area

Bus Route

Speak English Less than "Very Well"

1.00% or Less 5.01% - 10.00%

1.00% or Less 5.01% - 10.00% 1.01% - 2.50% 10.00% - 16.00%

2.51% - 5.00%

Data Source: INRCOG and U.S. Census Bureau 2012-2016 American Community Survey (ACS) Estimate, Census Block Group



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# Inventory

MET Transit has a total of 40 vehicles in service, including 18 fixed route buses and 22 paratransit buses. Table 4.3 outlines the fleet of vehicles including several characteristics about each vehicle:

Table 4.3: MET Vehicle Inventory as of June 2018

Bus			Seats-	Lock downs	Date	Purchase	0	Mileage	Over ULB
ID	Service	Description	Standing		acquired	price	Condition		
214	Fixed Route	2014 Gillig	26-17	2	3/19/2014	\$373,873	Excellent	226,251	
114	Fixed Route	2014 Gillig	26-17	2	3/18/2014	\$373,873	Excellent	188,837	
113	Fixed Route	2013 Gillig	26-17	2	2/21/2013	\$373,449	Excellent	263,589	
312	Fixed Route	2012 Gillig	26-16	2	3/12/2012	\$356,945	Excellent	296,423	
112	Fixed Route	2012 Gillig	26-16	2	3/12/2012	\$356,945	Excellent	313,786	
212	Fixed Route	2012 Gillig	26-16	2	2/14/2012	\$356,945	Excellent	254,534	
510	Fixed Route	2010 Gillig-35'	31-50	3	8/30/2010	\$355,632	Excellent	275,879	
110	Fixed Route	2010 Gillig-30'	26-40	2	8/23/2010	\$345,787	Excellent	330,112	
210	Fixed Route	2010 Gillig-30'	26-40	2	8/19/2010	\$345,787	Excellent	312,636	
310	Fixed Route	2010 Gillig-30'	26-40	2	8/19/2010	\$345,787	Excellent	314,872	
410	Fixed Route	2010 Gillig-35'	31-50	3	8/19/2010	\$355,632	Excellent	365,987	
902	Fixed Route	2009 Gillig-30'	26-18	2	4/20/2009	\$288,599	Good	333,890	
901	Fixed Route	2009 Gillig-30'	26-18	2	4/20/2009	\$288,599	Good	340,516	
903	Fixed Route	2009 Gillig-35'	30-56	2	4/20/2009	\$328,655	Good	364,925	
702	Fixed Route	2007 Opt Opus-30'	23-31	2	5/27/2008	\$276,770	Good	156,382	Υ
503	Fixed Route	2005 D Chrysler-30'	25-10	2	3/28/2006	\$237,562	Fair	206,957	Υ
303	Fixed Route	2003 Bluebird-30'	24-18	4	8/21/2003	\$154,393	Fair	465,234	Υ
1201	Fixed Route	1966 GMC	35-20	0	11/18/1966	\$16,063	Fair	13,156	
118	Paratransit	18 Glaval University	16-0	4	6/13/2018	\$81,318	Excellent	973	
117	Paratransit	17 Glaval Legacy	18-0	5	4/7/2017	\$140,363	Excellent	28,156	
216	Paratransit	16 Chev TurtleTop	16-0	4	12/7/2016	\$95,806	Excellent	40,640	
116	Paratransit	16 Chev TurtleTop	16-0	4	12/7/2016	\$95,806	Excellent	45,227	
615	Paratransit	16 Chev TurtleTop	16-0	4	10/27/2015	\$94,854	Excellent	59,446	
515	Paratransit	16 Chev TurtleTop	16-0	4	10/27/2015	\$94,329	Excellent	70,049	
415	Paratransit	16 Chev TurtleTop	16-0	4	10/27/2015	\$94,329	Excellent	72,038	
315	Paratransit	15 Glaval Legacy	18-0	5	7/28/2015	\$135,186	Excellent	75,031	
215	Paratransit	15 Glaval Legacy	18-0	5	5/1/2015	\$136,786	Excellent	72,795	
115	Paratransit	15 Glaval Legacy	18-0	5	5/1/2015	\$136,786	Excellent	78,923	
512	Paratransit	12 Glaval Con32'	10-0	5	12/17/2012	\$155,674	Excellent	129,385	
412	Paratransit	12 Glaval Titan-183"	16-0	4	10/8/2012	\$81,203	Excellent	115,344	Υ
111	Paratransit	11 Eld Aero-176"	18-0	4	2/23/2011	\$58,089	Good	191,901	Υ
907	Paratransit	09 Eld Aero-176"	19-0	3	7/16/2009	\$61,304	Good	188,273	Υ
908	Paratransit	09 Eld Aero-176"	19-0	4	7/13/2009	\$62,159	Good	157,428	Υ
905	Paratransit	09 Eld Aero-176"	19-0	3	6/26/2009	\$61,547	Good	227,578	Υ
906	Paratransit	09 Eld Aero-176"	19-0	4	6/24/2009	\$62,154	Good	208,639	Υ
904	Paratransit	09 Eld Aero-176"	19-0	3	6/23/2009	\$61,304	Good	188,950	Υ
709	Paratransit	07 Eld Aero-176"	16-2	4	8/1/2007	\$61,767	Good	156,287	Υ
708	Paratransit	07 Eld Aero-176"	16-2	4	7/18/2007	\$61,767	Good	213,722	Υ
301	Paratransit	03 Bluebird-30'	24-18	4	8/21/2003	\$154,393	Fair	263,155	
302	Paratransit	03 Bluebird-30'	24-18	4	8/21/2003	\$156,820	Fair	322,223	

ULB = Useful Life Benchmark

## **Intercity Transit**

In addition to MET Transit and RTC service, Burlington Trailways operates two private intercity bus routes with stops at Central Transfer in Waterloo. The Schedule 1485 bus departs Waterloo daily at 12:40 p.m. to Cedar Rapids, Ames, and Des Moines, and the Schedule 1486 bus departs daily at 1:50 p.m. to Dubuque, Rockford, and Chicago. Both schedules follow the same route in opposite directions. Burlington Trailways provides intercity bus service throughout much of lowa with routes extending as far as Indianapolis, St Louis, and Denver.





Riders of Burlington Trailways buses can also transfer to a Jefferson Lines bus in Ames or Des Moines, and reach Kansas City or Minneapolis directly. Additional Jefferson Lines buses operate throughout several states with final destinations in Minnesota, Wisconsin, Arkansas, Oklahoma, and Washington.

## Transit Infrastructure

There has been an increase in the development of transit-related infrastructure in recent years. In 2018, the City of Waterloo began replacing its old bus benches with ADA-compliant bus stop landings. The old benches were often situated in grassy areas inaccessible to people in wheelchairs, and many benches had begun falling into disrepair. The new landings are situated along the existing bus routes. Additional landings may be necessary if current fixed-routes are changed as part of an overall fixed route restructuring.





New bus shelters have also been installed in Cedar Falls as part of the University Avenue reconstruction project. Similar shelters are planned for the Waterloo side of University Avenue which is expected to be completed in 2021. Bus stops with these new shelters include the first designated bus pull-outs in the MPO area.

The UNI Multimodal Transportation Center (MTC) was completed in the early 2010s providing the MPO area with a second indoor transfer facility. The UNI Department of Public Safety oversees operation of the MTC. Since the MTC was a unique project that received an earmark to help fund construction, it is not anticipated that UNI would receive future funding through the FTA.

MET Transit's Central Transfer facility in Downtown Waterloo is still in good shape, and MET does not envision the need for a new transfer facility in the immediate future. MET's office and bus facility is currently at capacity.

## Transit Asset Management Plan

Every transit agency is federally required to develop a transit asset management (TAM) plan if it owns, operates, or manages capital assets used to provide public transportation and receives federal financial assistance under 49 USC Chapter 53 as a recipient or subrecipient. TAM plans establish a strategic and systematic process of operating, maintaining, and improving the metropolitan transit capital assets through their entire life cycle. MET has its own TAM plan which was adopted on September 27, 2018.

Transit agencies are also required to set state of good repair (SGR) targets on an annual basis. Upon adoption of targets, the MPO can choose to support them or adopt MPO-specific targets. Rather than setting its own, the Black Hawk County MPO has chosen to support the targets set by MET. By agreeing to support MET's transit asset management targets, the MPO agrees to work with MET to address areas of concern regarding transit and transit asset management. Additional discussion on transit asset management and targets can be found in Chapter 1.

## **Public Input**

Over the last few years, multiple public input surveys have been conducted to help identify trends and needs related to transit. These include the 2017 National Household Travel Survey Add-on for the MPO area, the Airline Highway Transportation Survey conducted in 2018, the Special Outreach Survey of non-English speaking and homeless residents conducted in 2015, and the Black Hawk Metropolitan Area Survey conducted on 2013. The results from each survey are described below:

#### National Household Travel Survey Add-on

Several questions in the National Household Travel Survey (NHTS) Add-on for the MPO area relate to transit. The Add-on was a survey specifically of Black Hawk County MPO residents with responses from a total of 1,221 households consisting of 2,450 individuals. Results from the survey can be reviewed one variable at a time, or multiple variables can be cross tabulated to identify unique trends about transit ridership and transit users.

The following data has a 95 percent confidence interval and uses the seven-day weights developed for the MPO area:

- Between 2,963–5,761 persons in the MPO area have no household vehicles available.
- Between 2,240-4,238 persons have a medical condition that results in them giving up driving.
- Between 14.7–22.6 percent of households have used a bus for travel at least a few times a year. This may include charter buses and buses in other metropolitan areas.

Respondents were also asked which two of the following options would best improve MET Transit service in the metropolitan area. Figure 4.8 shows total number of unweighted responses to each improvement. A total of 1,940 responses were recorded among the six improvements, and an additional 572 respondents selected "none of the above".

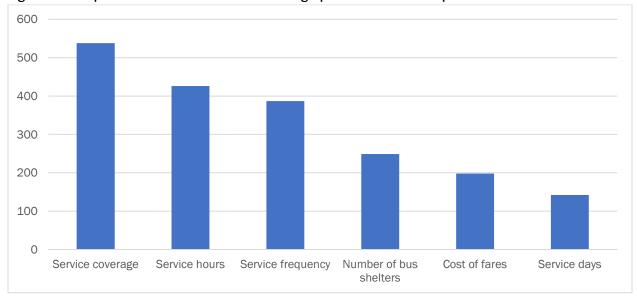


Figure 4.8: Responses to Which Two of the Following Options Would Best Improve MET Transit Service

Improving service coverage received the highest number of responses among the six options. However, expanding existing routes to cover more areas comes with several potential trade-offs including increased cost to city governments, decreased frequency, increased travel times, and a reduction in overall ridership. Discussion of ridership-oriented and coverage-oriented transit systems is covered later in this chapter.

NHTS respondents in the MPO area were also asked which transportation investment is most important to them. Available responses were all related to pedestrian, bicycle, and transit improvements. Figure 4.9 shows the results of this question. The investment selected by the greatest number of respondents was "improve public transit" with 279 responses. A total of 1,421 responses were recorded among the seven investments, and an additional 307 respondents selected "none of the above".

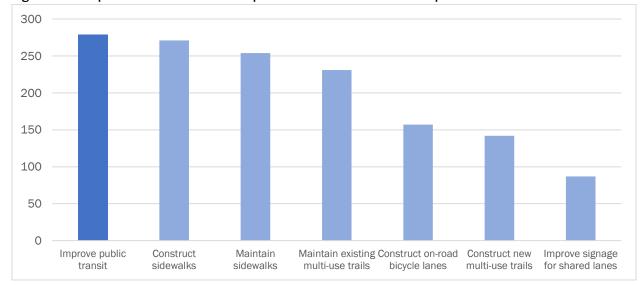


Figure 4.9: Responses to Which One Transportation Investment is Most Important to You

Like data from the U.S. Census, NHTS data can be referenced for a variety of different purposes. Further analysis of the data may identify additional trends not described in this document.

Methods of visualizing the NHTS Add-on data are still being developed. The Federal Highway Administration (FHWA) along with Oak Ridge National Laboratories and MacroSys are working with MPOs and DOTs to further develop the online NHTS tool so users can generate maps based on the survey data as well as the origin-destination travel data. These advanced tools will allow the MPO to display a variety of trends within the MPO area quickly and easily. Survey data will be displayed using a customized geography developed by MPO staff specific to the MPO area. This custom geography divides the MPO area into 37 areas based largely on land uses and natural breaks in the landscape, e.g. rivers, highways. This data will help MPO planners identify travel trends and potential service improvements to maximize ridership.

### **Airline Highway Transportation Survey**

In 2018, MET Transit partnered with INRCOG, the RTC, and the Greater Cedar Valley Alliance and Chamber (GCVAC) to conduct a survey of businesses in the Airline Highway Industrial Area. This was a follow-up to a survey GCVAC had conducted in 2017 which found that public transit was ranked the lowest of all community services in the six-county area surveyed.

A total of 14 businesses responded to the Airline Highway Transportation Survey. Ten businesses said they "strongly agree" or "somewhat agree" that their business would benefit from improved public transit service. Two businesses said they would "possibly" be willing to contribute funds to have dedicated fixed-route bus service to their business. Three businesses said they would "possibly" be interested in sponsoring a rideshare program for their employees.

Businesses were also asked to list the times their employees arrive to and depart from work. The majority of employees start their shift in the morning on the hour (i.e. 6:00, 7:00, 8:00, and 9:00 a.m.). Departure times are more evenly distributed between the hour and half-hour, and the majority of employees depart work between 2:30 and 6:30 p.m. Figure 4.10 shows the shift start and end times for employees at businesses surveyed in the Airline Highway Industrial Area. This data can help with scheduling a potential new fixed route to the Airline Highway area.

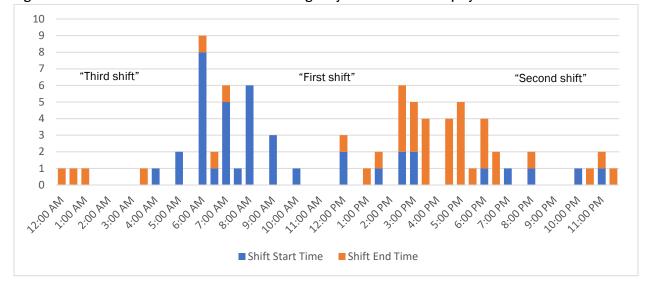


Figure 4.10: Shift Start and End Times for Airline Highway Industrial Area Employees

#### **Special Outreach Survey**

A total of 187 non-English speaking and 20 homeless residents took part in the Special Outreach Survey conducted by INRCOG in 2015. The survey was intended to identify transportation needs and challenges faced by these unique populations. Half of all respondents were from either Myanmar or Thailand. There was also significant representation from the Congo, Mexico, Guatemala, and Bosnia. Surveys were administered by staff members at Hawkeye Community College Metro Center, Operation Threshold, and Black Hawk-Grundy Mental Health. Most non-English speaking respondents have some measurable understanding of English, though there were inherent challenges involved with surveying this population. Accordingly, data from this survey is not statistically-significant.

Approximately 35 percent of survey respondents indicated they have missed work, school, or important appointments because of transportation. 27 percent indicated they must get a ride with family or friends to get to medical appointments, and 26 percent must get a ride to get to work or school.

Only one non-English speaking respondent indicated they usually ride the bus to work or school. The vast majority, 94 percent, of non-English speaking respondents indicated they have not ridden the bus in the past month, and 89 percent indicated they do not understand how to ride the bus. However, 51 percent of non-English speaking respondents said "Yes" or "Maybe" when asked if they would ride the bus if it was easier. These results demonstrate a significant potential demand for transit in the MPO area. Additional marketing and route restructuring may help make MET Transit service more understandable and intuitive for this population.

#### Black Hawk County Metropolitan Area 2013 Survey

The 2013 public input survey was conducted in the lead-up to the 2040 Long Range Transportation Plan update. A total of 348 responses were received. When asked about the condition of public transit, about 30 percent of respondents said it's "good" or "excellent" and 26 percent said it is "poor" or "very poor". Nearly 90 percent of respondents said they had not used a MET Transit bus in the last year, yet over 50 percent said improving local bus service is "moderately important" or "very important". Among eight different project types overall, "improving public transportation" had the second highest average score, behind "improving roadway conditions".

When asked what elements of the transit system should be improved, 40 percent of respondents said "hours/days of service", 39 percent said "service coverage", 33 percent said "frequency of service", and 29 percent said "availability of information about service". This was a multiple-choice question. These results align with the NHTS results described earlier in this section. If the total number of responses for service coverage and service days are combined in the NHTS results, then the top three responses would be the same in both surveys, in the same order.

## **Planning Concerns**

There are a wide variety of planning issues for the MPO and MET Transit to consider. Several areas of concern are described below:

## **Service Expansion**

While MET Transit would like to provide service later in the evenings and to areas not currently served, it is difficult to expand service when current funding sources are being exhausted. If additional funds become available, MET Transit has a number of priorities for expanding service:

- Changing the hours of operation to start at 5:15 a.m. instead of 5:45 a.m.
- Add commuter service to the Airline Highway Industrial Area
- Add service to underserved areas including North Cedar in Cedar Falls and Cedar Terrace in Waterloo
- Expand operating hours further into the evenings
- Increase frequency along high-demand routes
- Add service on Sundays

While expansion of service is inherently limited to funding, MET Transit plans to optimize its fixed route service using the software, Remix. Remix allows users to develop and analyze alternative routes to determine how to maximize use of available funds. Analyses can also compare the existing fixed route system with hypothetical new fixed route systems to identify the effectiveness of changes on a systemwide scale. As described earlier in this chapter, MET Transit is working with MPO staff to restructure the fixed-route system. Public input meetings are expected in fall of 2019 and implementation is planned for winter 2020.

### Ridesharing and Car Sharing

Overall, transit ridership is down nationwide, but the use of ridesharing services has dramatically increased over the past few years. The services Uber and Lyft are both available in the MPO area. Use of these services is likely to continue growing over time as awareness of their availability increases and as a greater share of adults embrace smartphone technology.

To some extent, ridesharing services compete with transit service. However, they can also compliment transit service in certain situations. For example, a part-time worker may ride a MET Transit bus to their job in the afternoon and use a ridesharing service to return home.

In addition to ridesharing, car sharing services are currently available in many larger metropolitan areas and may eventually be deployed in Black Hawk County as well. Car sharing is a short-term rental service, usually charged by the hour. There are multiple car sharing services, some of which rely on a designated fleet of cars, while others rely on individuals' private vehicles. These services may also compete with MET Transit. However, they may also allow a greater share of the population to adopt a car-free lifestyle, thereby increasing the total number of unique riders on MET Transit buses.

#### **Detours and Delays**

A frequent challenge for MET Transit's fixed route service is navigating detours and delays, particularly in the summer during construction season. Several bus routes have been rerouted as a result of recent road reconstruction projects in the MPO, and frequent changes to these routes may seem confusing or unpredictable for riders.

Detours also have the effect of delaying bus routes. A bus that must go further out of the way or wait longer in traffic queues is less likely to stay on schedule. With MET Transit's current format where several buses meet at Central Transfer at the same time to allow for transfers, delays can be compounded and affect other routes in the system.

Another common cause of delays is rail crossings. Map 6.2 shows the location of at-grade rail crossings in the MPO area. Oftentimes trains are stopped at rail crossings for long periods to allow for safety-related work and railcar changes to occur in one of the two major railyards in Waterloo. These blocked crossings prevent traffic from crossing, forcing MET Transit buses to take detours where feasible and causing delays. Long-term improvements to address this problem include construction of additional grade-separated crossings and optimization of freight rail service.

#### Ridership vs. Coverage

Today's transit planners emphasize the trade-offs between ridership and coverage. Ridership refers to having fewer, more direct routes with high-frequency service, as opposed to having a lot of indirect routes with low-frequency service. Transit systems that emphasize ridership in this way tend to have more riders than coverage-oriented systems, because service is often spread too thin in coverage-oriented systems to be practical for people who have another options available, e.g. carpooling, ridesharing. So, while adding coverage at the expense of ridership may seem desirable, reducing coverage locally (i.e. reducing the number of people living within ¼ mile of a fixed route) may actually have the net effect of improving coverage metrowide by providing direct routes to more areas, even though slightly fewer people would live within ¼ mile of a fixed route. Figure 4.11 illustrates the difference between ridership and coverage-oriented systems.

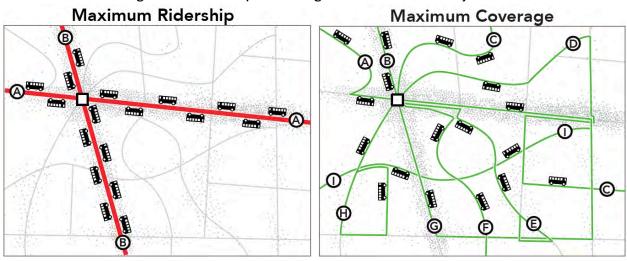


Figure 4.11: Ridership vs. Coverage Oriented Fixed Route Systems

humantransit.org

#### **Driver Recruitment and Retention**

Finding and retaining qualified drivers continues to be a challenge for MET Transit and the RTC. Many eligible drivers may seek employment with private agencies or school districts instead, because they can offer higher salaries and more regular schedules than public transit providers. Another barrier to recruiting drivers may be that drivers are required to start as part-time paratransit drivers and work their way up if they want a full-time position as a fixed route driver. MET Transit works with its drivers to get them the hours they desire, and many are eventually able to move up to full-time positions, but this initial hurdle can be difficult for many to overcome.

#### **Bus Replacement**

MET Transit uses the majority of its vehicles during the weekdays. The condition of MET Transit's fleet is in relatively good shape. However, many vehicles purchased as part of the stimulus package enacted in 2009 are now aging and will require replacement in the coming years. Another stimulus would provide short-term relief for transit agencies. However, only a long-term funding solution will provide transit agencies long-term assurance that they will have enough vehicles to continue operating at their current level.

In FY 2014, the MPO funded a paratransit bus replacement for the first time using Surface Transportation Program (STP) funds, now the Surface Transportation Block Grant (STBG). Some funds from the lowa Clean Air Attainment Program (ICAAP) are also allocated for bus replacement. However, these funding sources will likely not be enough to offset the reduction in funding that occurred when MAP-21 was implemented.

#### **Increasing Costs**

Operating costs have grown over the years. In FY 2008, operating expenses totaled \$3.7 million; in FY 2013, operating costs rose to \$4.4 million; and in FY 2018, these costs have increased to \$4.9 million. Without increased funding from state or federal sources, either local funding or fares will have to increase or service will need to decrease over time. Additional demands for additional bus routes and expanded service hours will not be met until funding for these services is made available.

### Regulations

While state and federal funding are critical to the operation of public transit, the regulations that accompany the funding can make coordination and improving service challenging at times. Rules involving times such as drug and alcohol testing, statistical reporting, and insurance requirements are some of the examples of regulations that have deterred potential coordination partners.

Another issue that has historically impacted public transit in the MPO area is charter regulations. Charter regulations limit service options for persons and organizations wishing to utilize a charter for any type of purpose, such as a field trip or a wedding party. Oftentimes customers are unable to obtain these services at all. Achieving a balance between the intent of regulations and their real-world implications is an ongoing challenge for state and federal governments and public transit providers.

#### **Medicaid Brokerage**

Recent changes in lowa's Medicaid insurance programs continue to affect transit service within the MPO. Medicaid brokerage is now run by managed care organizations (MCOs). MET Transit and the RTC continue to work on addressing the challenges involved with the implementation of this new system. Both transit agencies hired additional staff to assist with the modernization process. The modernization process initially had a negative impact on rides, but both transit agencies have experienced an increase over the past year. A particular planning concern for MET and RTC is physically disabled persons being transported by other transit providers in vehicles without wheelchair lifts. MET works with clients to use the fixed route system, but winter months can be difficult for mobility-challenged persons. MET has a full-time staff member to assist with the process.

#### Evansdale

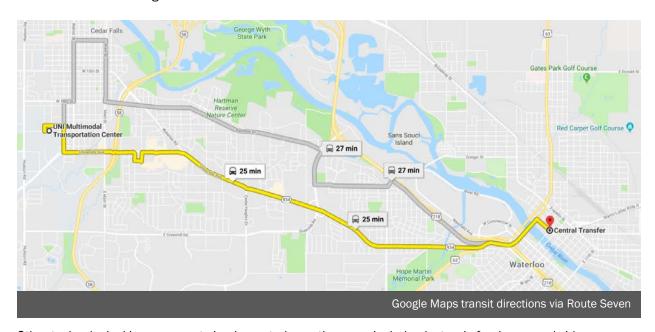
Currently, the City of Evansdale is only served by paratransit service but not fixed-route service. Evansdale has a population of 4,751 according to the 2010 Census, making it the single largest community in the MPO not served by a fixed route. Evansdale once had fixed-route service and a transit levy to help finance this service. However, the City is no longer part of MET Transit's 28E agreement. If fixed-route service is extended to Evansdale, it may create an opportunity to optimize other fixed routes in the eastern portion of the MPO area. MPO staff will continue working with MET Transit and the City to identify opportunities to add service to this area.

#### **Technology**

MET Transit now has GPS on all buses which allows riders to track a bus online. The real-time map is available at <a href="https://transit.unitegps.com/mt">https://transit.unitegps.com/mt</a>. GPS technology can also allow real-time information to be displayed on television screens or tickers to provide information directly to passengers at central locations. MET Transit has expressed interest in these improvements, and partnerships with other entities, such as hospitals and educational institutions, will be necessary to implement them to additional transfer locations.



In 2015, MET Transit routes were made available on Google Maps. Users can now search for bus directions as they would for driving directions. Additional settings allow users to set the time they wish to depart or arrive, and the best routes are generated based on MET Transit's fixed route timetables.



Other technological improvements implemented over the years include electronic fareboxes and video surveillance on all buses. Paratransit service is now scheduled through EchoLane, and vehicles have transitioned from the old paper-pencil manifests to electronic tablets around 2016. The TextMET service has been discontinued, now that the real-time map is available.

#### **Coordination of Services**

Given constrained transit budgets, cost and time efficiency are always important considerations. Coordination efforts are undertaken by MET, RTC, Exceptional Persons, Inc. (EPI), and various agencies in the INRCOG region. EPI is a non-profit organization that fosters active community participation of individuals with disabilities. Joint contracts between these organizations have helped to improve the efficiency of the regional public transit systems.

Mobility management has been a planning emphasis over the past ten years both nationally and in lowa. Mobility managers, or mobility coordinators, assist individuals in navigating from their origin to their destination, regardless of the number of modes of transportation required. Referrals are made to public and private transportation providers alike. Mobility coordinators can provide travel training, showing persons how to ride the bus if they have never had that experience. Mobility coordinators also meet with human service agencies, businesses, and other organizations to inform them of the public transit services available. Currently, there is not a mobility coordinator located in the metropolitan area. MET and RTC have discussed jointly hiring a mobility coordinator and marketing person, but it is unlikely that the agencies will hire a position at this time. The lowa DOT has a Statewide Mobility Coordinator who educates public transit agencies, planning organizations, and other statewide organizations about the benefits of mobility management. Both MET and RTC plan to continue to work closely with the Statewide Mobility Coordinator to coordinate transit services in the region.

## **Planned Projects**

The primary focus of MET Transit is to maintain existing service levels, and then expand to meet additional needs of the MPO when possible. Given the current federal funding situation, it is difficult to predict future projects. MET Transit does plan to replace approximately three buses per year if federal funding is available. Financial projections for operating and capital and a demonstration of fiscal constraint for transit are detailed in Chapter 9.

Table 4.4 shows MET Transit projects included in the MPO Transportation Improvement Program (TIP) for FY 2019-2022. This includes general operations, bus purchases, and planning. INRCOG receives planning funds as it provides transit planning service for the MPO. Also, while a large number of MET buses are programmed for replacement during the next couple years, funding will likely only provide for a few bus replacements at most each year.

Table 4.4: FY 2019-2022 Transportation Improvement Program for MET Transit

Funding Source	Expense Type	Unit #	Description	Fiscal Year	Total Cost	Federal Aid	
5339	Replacement	906	Light Duty Bus (176" wb)	2019	\$ 104,500	\$ 88,825	
5339	Replacement	904	Light Duty Bus (176" wb)	2019	\$ 104,500	\$ 88,825	
5339	Replacement	905	Light Duty Bus (176" wb)	2019	\$ 104,500	\$ 88,825	
5339	Replacement	908	Light Duty Bus (176" wb)	2019	\$ 104,500	\$ 88,825	
5339	Replacement	907	Light Duty Bus (176" wb)	2019	\$ 104,500	\$ 88,825	
5339	Replacement	303	Heavy Duty Bus (30-34 ft.)	2019	\$ 461,800	\$ 392,530	
5339	Replacement	302	Heavy Duty Bus (30-34 ft.)	2019	\$ 461,800	\$ 392,530	
5339	Replacement	301	Heavy Duty Bus (30-34 ft.)	2019	\$ 461,800	\$ 392,530	
5339	Replacement	708	Light Duty Bus (176" wb)	2019	\$ 104,500	\$ 88,825	
5339	Replacement	709	Light Duty Bus (176" wb)	2019	\$ 104,500	\$ 88,825	
5339	Replacement	111	Light Duty Bus (176" wb)	2019	\$ 104,500	\$ 88,825	
5339	Replacement	412	Light Duty Bus (176" wb)	2019	\$ 104,500	\$ 88,825	
5339	Replacement	0503	Heavy Duty Bus (30-34 ft.)	2019	\$ 461,800	\$ 392,530	
5339	Replacement	0504	Heavy Duty Bus (30-34 ft.)	2019	\$ 461,800	\$ 392,530	
5339	Expansion	0505	Heavy Duty Bus (30-34 ft.)	2019	\$ 461,800	\$ 392,530	
5339	Replacement	702	Heavy Duty Bus (30-34 ft.)	2019	\$ 461,800	\$ 392,530	
5339	Replacement	901	Heavy Duty Bus (30-34 ft.)	2019	\$ 460,300	\$ 391,255	
5307	Operations	-	General Ops, Maint, Admin, Planning	2019	\$ 6,000,000	\$ 3,000,000	
5303	Planning	-	Planning	2019	\$ 62,920	\$ 50,336	
5310	Other Capital	-	Preventative Maintenance	2019	\$ 118,750	\$ 95,000	
5339	Replacement	512	Medium Duty Bus (29-32 ft.)	2020	\$ 192,800	\$ 163,880	
5339	Replacement	902	Heavy Duty Bus (30-34 ft.)	2020	\$ 460,300	\$ 391,255	
5339	Replacement	903	Heavy Duty Bus (30-34 ft.)	2020	\$ 469,200	\$ 398,820	
5339	Replacement	110	Heavy Duty Bus (30-34 ft.)	2020	\$ 489,870	\$ 416,390	
5339	Replacement	210D	Heavy Duty Bus (30-34 ft.)	2020	\$ 489,870	\$ 416,390	
5339	Replacement	310D	Heavy Duty Bus (30-34 ft.)	2020	\$ 489,870	\$ 416,390	
5339	Replacement	410	Heavy Duty Bus (30-34 ft.)	2020	\$ 505,480	\$ 429,658	
5339	Replacement	510D	Heavy Duty Bus (30-34 ft.)	2020	\$ 505,480	\$ 429,658	
5307	Operations	-	General Ops, Maint, Admin, Planning	2020	\$ 7,000,000	\$ 3,500,000	
5303	Planning	-	Planning	2020	\$ 65,000	\$ 52,000	
5310	Other Capital	-	Preventative Maintenance	2020	\$ 120,000	\$ 96,000	
5307	Operations	-	General Ops, Maint, Admin, Planning	2021	\$ 7,000,000	\$ 3,500,000	
5303	Planning	-	Planning	2021	\$ 65,000	\$ 52,000	
5310	Other Capital	-	Preventative Maintenance	2021	\$ 120,000	\$ 96,000	
5307	Operations	-	General Ops, Maint, Admin, Planning	2022	\$ 7,000,000	\$ 3,500,000	
5303	Planning	-	Planning	2022	\$ 66,000	\$ 52,500	
5310	Other Capital	-	Preventative Maintenance	2022	\$ 120,000	\$ 96,000	

Programmed State Transit Assistance (STA): \$325,000 in FY19, \$335,000 in FY20 and FY21, \$340,000 in FY22

<sup>5303 =</sup> Metropolitan Planning Program

<sup>5307 =</sup> Urbanized Area Formula Program

<sup>5310 =</sup> Enhanced Mobility of Seniors and Individuals with Disabilities Program

<sup>5339 =</sup> Bus and Bus Facilities Program