

# TRANSPORTATION SYSTEM PERFORMANCE INDICATORS

## INTRODUCTION

This narrative presents a set of system performance indicators and the base data relevant to the indicators. The purpose of the performance indicators is to provide some quantitative evaluation of the ability of the Sheboygan metropolitan planning area to move toward the goals stated in the Update to the *Year 2045 Sheboygan Area Transportation Plan (SATP)*; these goals can be found in Chapter 4 of the plan (Mission Statement, Goals and Objectives). At this time, the majority of the indicators are not tied to any specific performance goals, and are only intended as a planning tool. Over time, it will become possible and/or desirable to compile realistic performance goals; however, some experience and trend data would be necessary to develop such quantitative goals.

## PERFORMANCE INDICATORS

### Safety

#### Streets and Highways

Indicators: Fatalities, Fatality Rates, Serious Injuries and Serious Injury Rates

Data Source: Traffic Operations and Safety Laboratory, University of Wisconsin – Madison; and National Highway Traffic Safety Administration, Fatality Analysis Reporting System (FARS) Encyclopedia

Base Data:

*Table 1: Fatalities and Serious Injuries in Sheboygan Metropolitan Planning Area: 2014 – 2018*

	2014	2015	2016	2017	2018	Average Annual 2014 - 2018
<b>Fatalities</b>	2	5	2	6	5	4.0
<b>Fatality Rate</b>	0.369	0.902	0.309	0.958	0.788	0.666
<b>Serious Injuries</b>	12	13	17	20	34	19.2
<b>Serious Injury Rate</b>	2.217	2.345	2.629	3.193	5.428	3.196

*Figure 1: Fatalities*

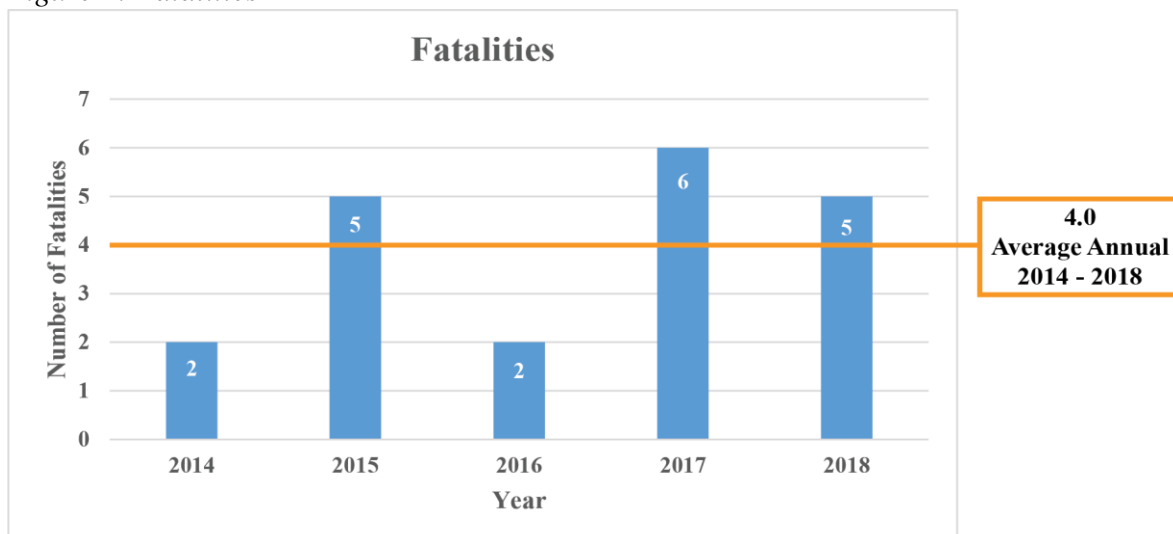


Figure 2: Fatality Rate

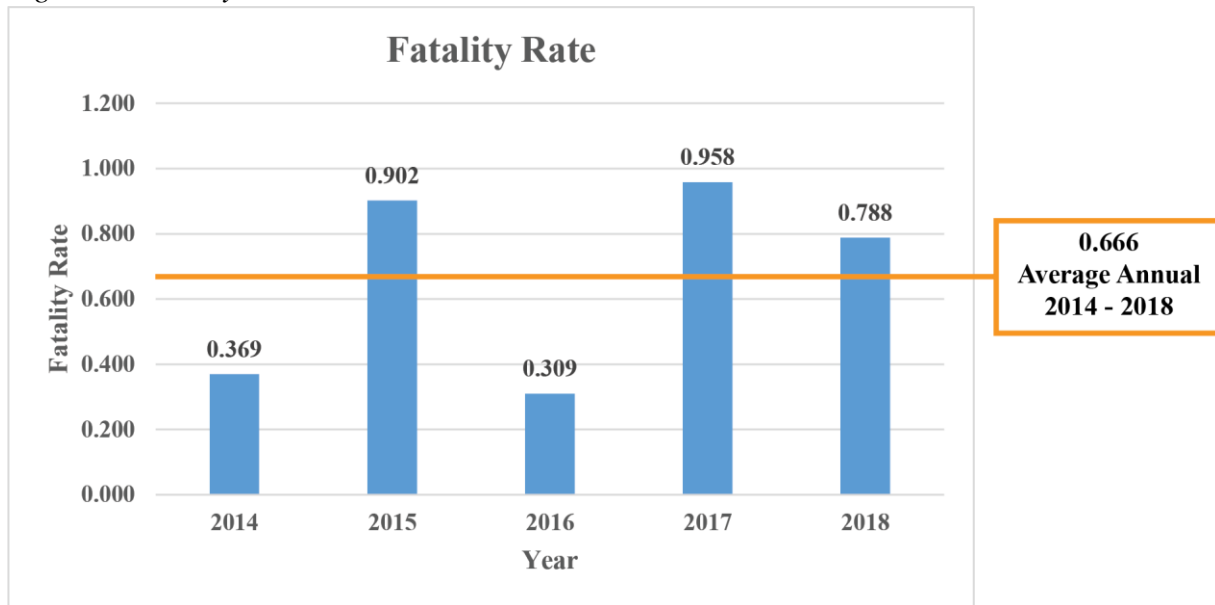


Figure 3: Serious Injuries

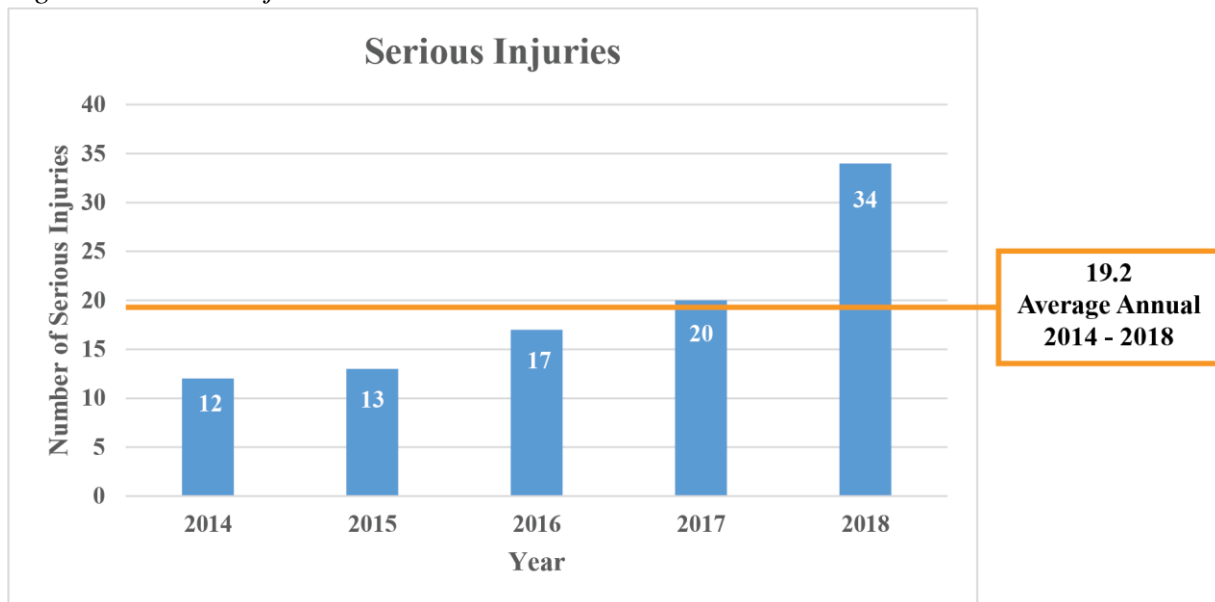
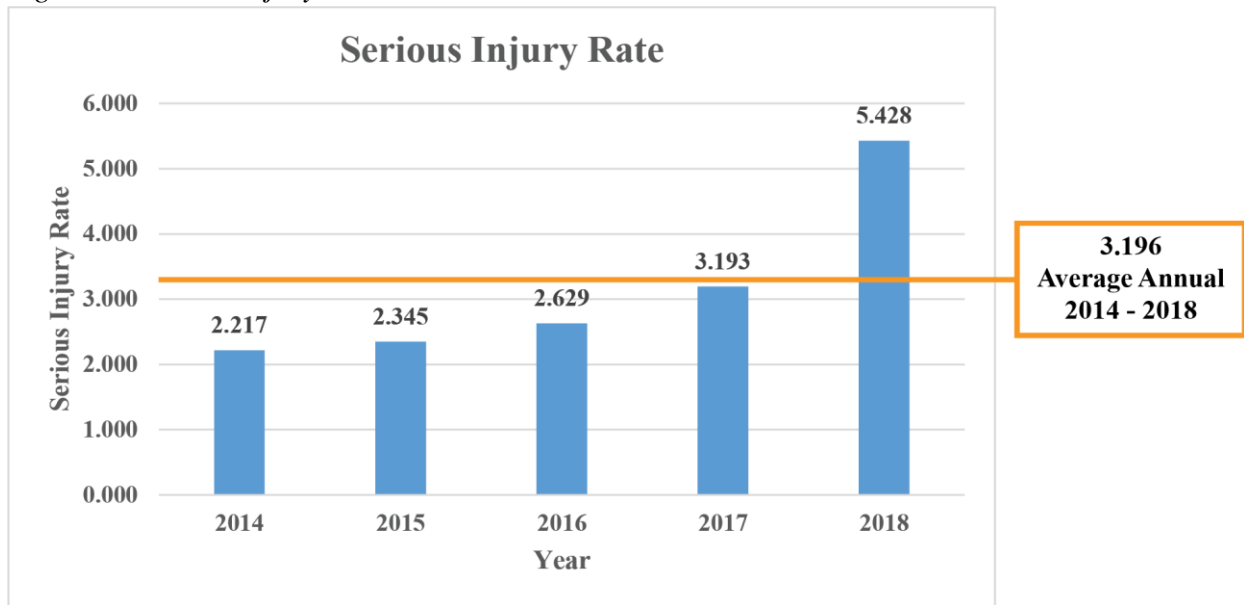


Figure 4: Serious Injury Rate



Indicator: Reportable Crashes by Crash Type

Data Source: Traffic Operations and Safety Laboratory, University of Wisconsin – Madison; and National Highway Traffic Safety Administration, Fatality Analysis Reporting System (FARS) Encyclopedia

Base Data:

Table 2: Reportable Crashes by Crash Type in the Sheboygan Metropolitan Planning Area: 2014 – 2018

	2014	2015	2016	2017	2018
<b>Total Crashes</b>	1,193	1,150	1,535	1,702	1,687
<b>Class A (Serious Injury)</b>	12	12	15	23	32
<b>Class B (Moderate Injury)</b>	103	115	125	150	150
<b>Class C (Minor Injury)</b>	127	156	185	181	128
<b>Class K (Fatality) Crashes</b>	2	5	2	6	3
<b>Property Damage Only Crashes</b>	949	862	1,208	1,342	1,374

Figure 5: Reportable Crashes by Type: Fatality and Injury Crashes

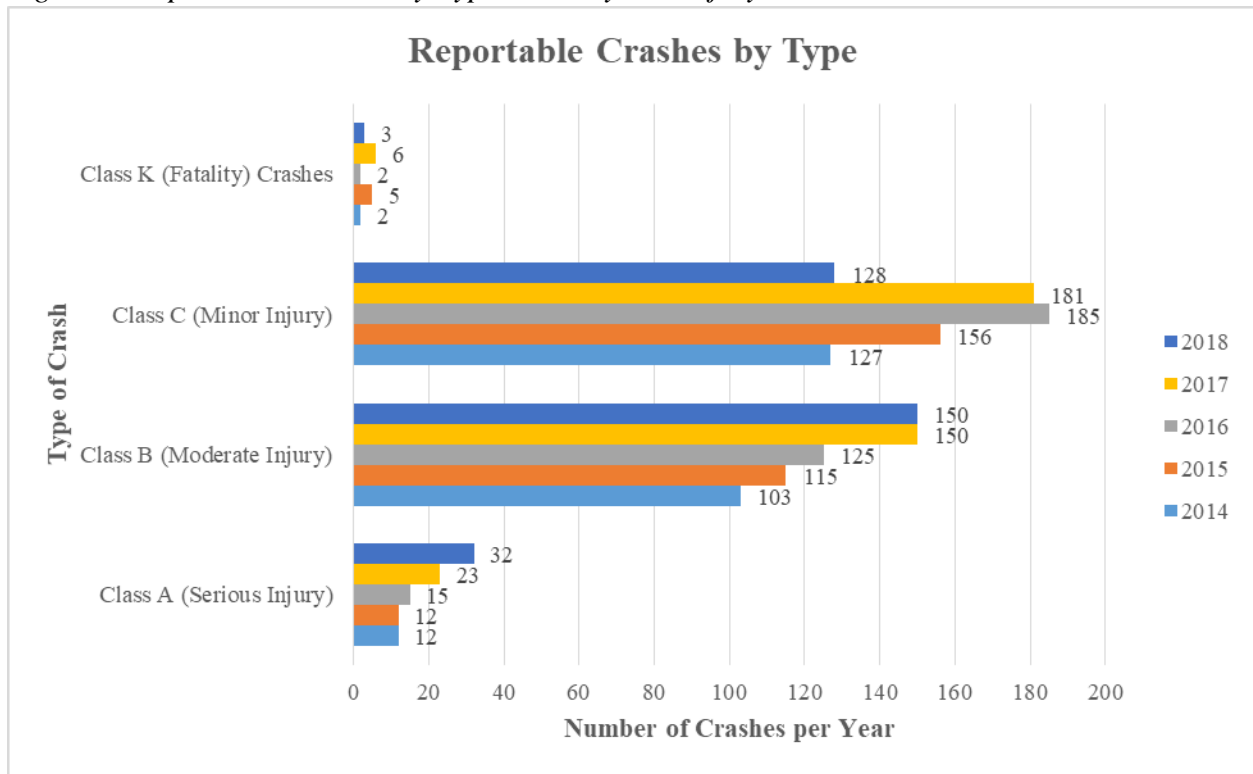
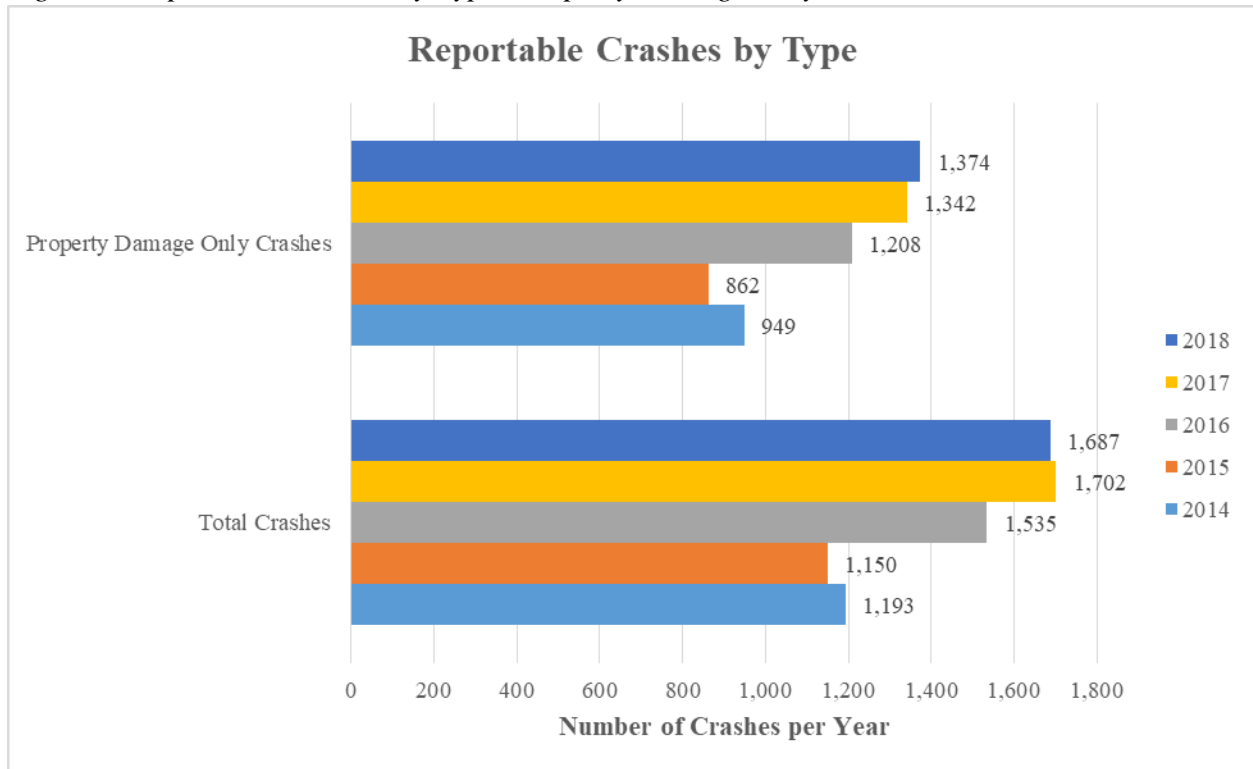


Figure 6: Reportable Crashes by Type: Property Damage Only and Total Crashes



## Transit

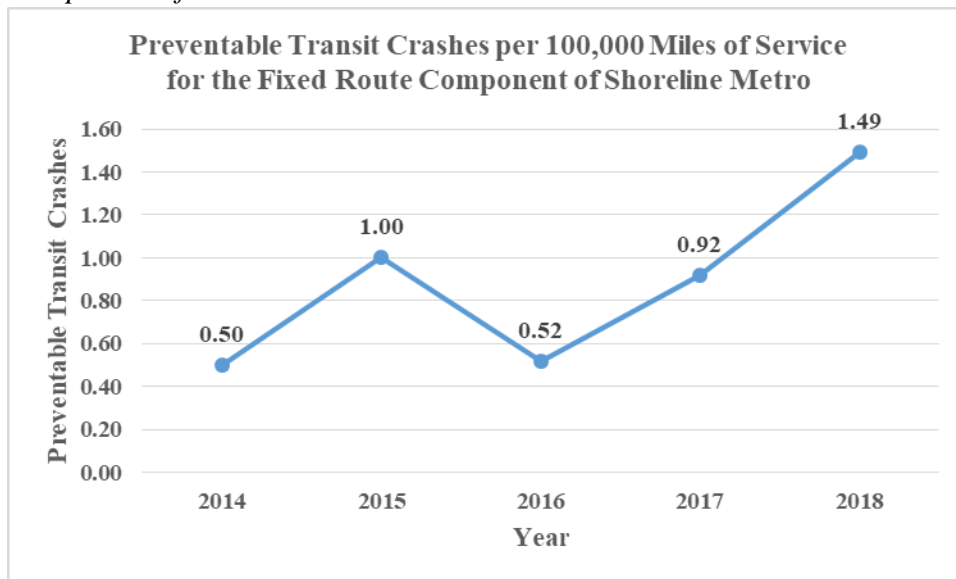
Indicator: Transit crashes per 100,000 miles of service

Data source: Shoreline Metro, 2018

Base Data:

With eight preventable crashes and 536,426 vehicle revenue miles, there were **1.49** preventable transit crashes per 100,000 miles of service for the fixed-route component of Shoreline Metro in 2018.

*Figure 7: Preventable Transit Crashes per 100,000 Miles of Service for the Fixed-Route Component of Shoreline Metro*



## Non-Motorized Travel

Indicator: Non-Motorized Fatalities and Serious Injuries

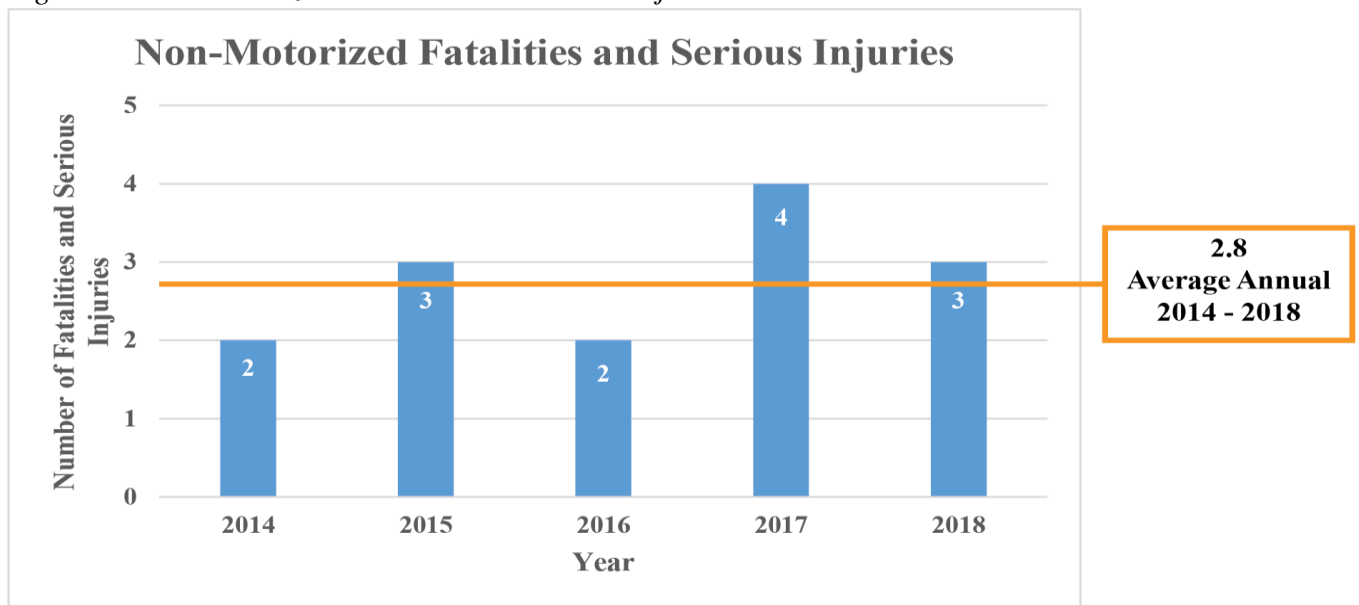
Data source: Traffic Operations and Safety Laboratory, University of Wisconsin – Madison; and National Highway Traffic Safety Administration, Fatality Analysis Reporting System (FARS) Encyclopedia

Base Data:

*Table 3: Non-Motorized Fatalities and Serious Injuries in Sheboygan Metropolitan Planning Area: 2014 – 2018*

Year	2014	2015	2016	2017	2018	Average Annual 2014 - 2018
Bicycle Fatalities	0	1	0	0	0	
Bicycle Serious Injuries	0	1	0	1	1	
Pedestrian Fatalities	0	0	0	0	0	
Pedestrian Serious Injuries	2	1	2	3	2	
Total	2	3	2	4	3	2.8

Figure 8: Non-Motorized Fatalities and Serious Injuries



### **Security**

There are no security measures at this time.

### **Accessibility and Mobility of People and Freight**

#### **Streets and Highways**

Indicator: Level of Service

Data Source: WisDOT – Traffic Counts – Wisconsin Highway Traffic Volume Data Publication (Last full publication for Sheboygan County was for data collected in 2017, with some counts off the state trunk highway system collected more sporadically).

Base Data:

Traffic counts can be found at the following website:

<https://wisdot.maps.arcgis.com/apps/webappviewer/index.html?id=2e12a4f051de4ea9bc865ec6393731f8> (Note: This is a statewide interactive map; zoom in to the Sheboygan metropolitan planning area is required).

Indicator: System Mileage/Lane Miles

Data Source: WisDOT, Lane Miles in Model Base Year of 2010

Base Data: There was a total of **1,592.365** lane miles in Sheboygan County (according to the WisDOT Northeast Region travel demand forecast model) in the base year of 2010.

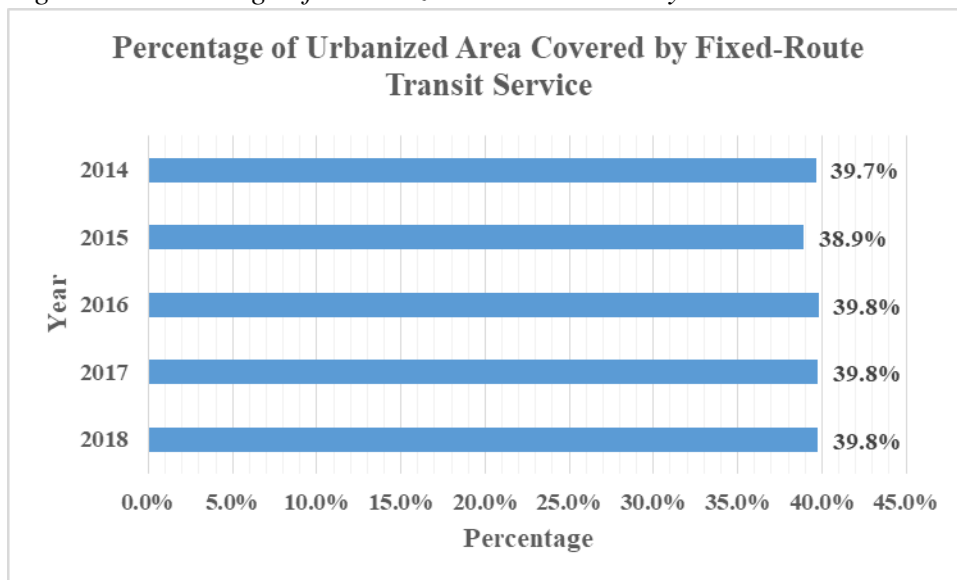
## Transit

Indicator: Percentage of Urbanized Area Served by Transit

Data Source: Shoreline Metro and Bay-Lake Regional Planning Commission (GIS, 0.25 mile buffer around Shoreline Metro fixed routes).

Base Data: The “transit service area” (0.25 mile buffer around Shoreline Metro fixed routes) is currently 19.72 square miles in total, but is 19.36 square miles in the Sheboygan Urbanized Area. The Sheboygan Urbanized Area is 48.69 square miles. Nearly **39.8** percent of the urbanized area is covered by fixed-route transit service.

*Figure 9: Percentage of Urbanized Area Covered by Fixed-Route Transit Service*



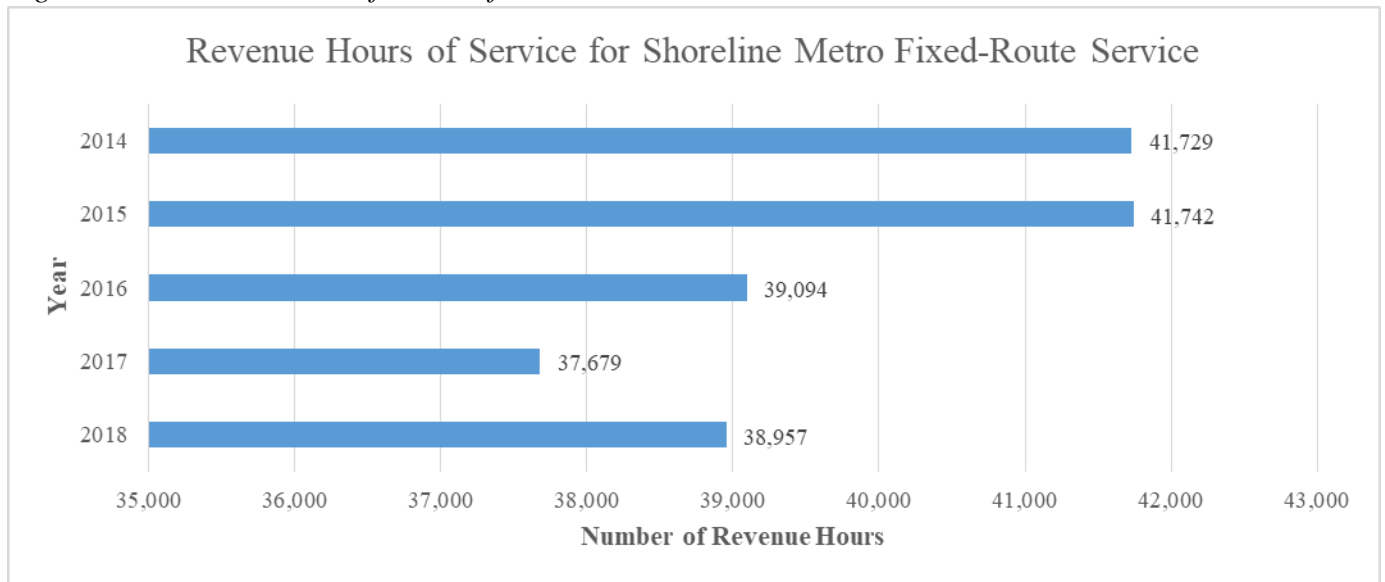
There is no shared-ride taxi service in the Sheboygan Urbanized Area.

Indicator: Revenue Hours of Service

Data Source: National Transit Database (NTD) or Transit Operator

Base Data: There were **38,957** revenue hours of service for Shoreline Metro fixed-route transit in 2018.

*Figure 10: Revenue Hours of Service for Shoreline Metro Fixed-Route Transit*

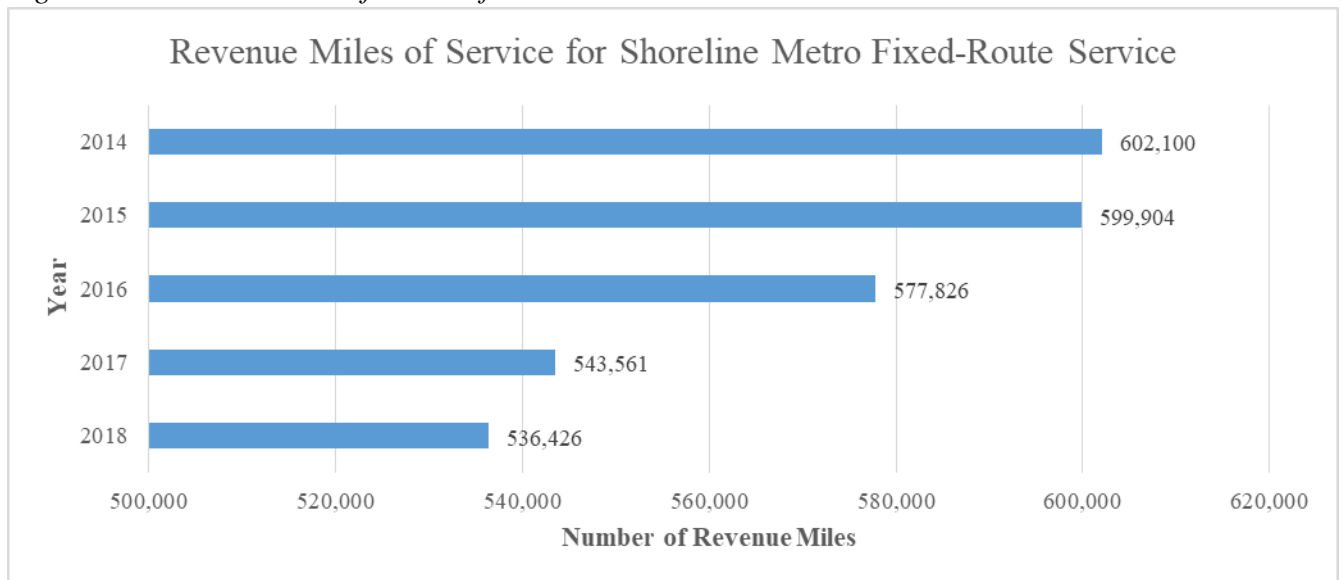


Indicator: Revenue Miles of Service

Data Source: National Transit Database (NTD) or Transit Operator

Base Data: There were **536,426** revenue miles of service for Shoreline Metro fixed-route transit in 2018.

*Figure 11: Revenue Miles of Service for Shoreline Metro Fixed-Route Transit*



## Other Passenger Transit Services

Indicator: Inventory of Other Passenger Transportation Serving the Sheboygan Metropolitan Planning Area



Data Source: 2016 Coordinated Public Transit – Human Services Transportation Plan for Sheboygan County, Wisconsin, Table Listing Private Transportation Providers in Sheboygan County

Base Data:

*Table 4: Private Transportation Providers in Sheboygan County*

<b>Company</b>	<b>Type(s) of Service Provided</b>
Airport Connection and GO Riteway 1817 Martin Avenue Sheboygan, WI 53083	Airport Limousine Service to and from Mitchell International Airport in Milwaukee and to and from Chicago's O'Hare and Midway Airports, and Service Connecting the City of Sheboygan to Lakeshore Technical College's Cleveland campus
All Star Taxi 1219 South 9th Street Sheboygan, WI 53081	Taxi Service
Custom Care and Transport Service, LLC N3803 Horace Mann Road Sheboygan Falls, WI 53085	Accessible Transportation
Discovery Coach, Inc. 1139 Pennsylvania Avenue Sheboygan, WI 53081	Charter, Tour and School Bus Services
Harms' Transportation N7940 State Highway 42 Howards Grove, WI 53083	School Bus Service
Heidenreiter Bus Service, Inc. 400 Cleveland Street Sheboygan Falls, WI 53085	School Bus Service
Indian Trails Bus Lines 828 Pennsylvania Avenue Sheboygan, WI 53081	Intercity Bus Service
Jefferson Lines 828 Pennsylvania Avenue Sheboygan, WI 53081	Intercity Bus Service
Johnson School Bus Service 808 Valley Road Plymouth, WI 53073 AND 220 North Commerce Street Cedar Grove, WI 53013	School Bus Service
Lakeshore Transportation 426B Factory Street Plymouth, WI 53073	Accessible Transportation

*Table 4: Private Transportation Providers in Sheboygan County (Continued)*

<b>Company</b>	<b>Type(s) of Service Provided</b>
Lamers Bus Lines (Bought Otte Bus Service) 2407 South Point Road Green Bay, WI 54313	Charter Bus Service, Weekend Transportation to and from UW Milwaukee and UW Green Bay, and School Bus Service in Some Locales
Luxury Limousine W5728 Emerald Lane Plymouth, WI 53073	Limousine Service
Oostburg Ambulance 20 South 11th Street Oostburg, WI 53070	Ambulance Service
Orange Cross Ambulance 1919 Ashland Avenue Sheboygan, WI 53081	Ambulance Service
Plymouth City Ambulance 111 East Main Street Plymouth, WI 53073	Ambulance Service
Random Lake Ambulance 718 North Spring Street Random Lake, WI 53075	Ambulance Service
Sheboygan City Fire Department 1326 North 25th Street Sheboygan, WI 53081	Ambulance Service
Santana's Limousine 1019 Erie Avenue Sheboygan, WI 53081	Limousine Service
Stardust Limousine 631 New York Avenue Sheboygan, WI 53081	Limousine Service
The Best Taxi 611 South 15th Street Sheboygan, WI 53081	Taxi Service
Transtar Medical Transport 120 West Main Street, PO Box 509 Campbellsport, WI 53010	Accessible Transportation
Yellow Cab 2917 North 15th Street Sheboygan, WI 53083	Taxi Service
Source: Bay-Lake Regional Planning Commission, 2016, 2017, 2018, 2019 and 2020.	

In addition, the Sheboygan metropolitan planning area is served by informal “taxi” style transportation services, such as Uber and Lyft. These services are not listed in Table 4 because they do not typically have a specific location (street address), but are accessed by using an

application on one's smart phone. Uber can be found at: <https://www.uber.com/us/en/ride/>, while Lyft can be found at: <https://www.lyft.com/rider/>. There is also a newer taxi service in Sheboygan known as Blue Cab; while this service does not list a business address, they can be contacted by phone and are also active on Facebook.

## Bicycle Facilities

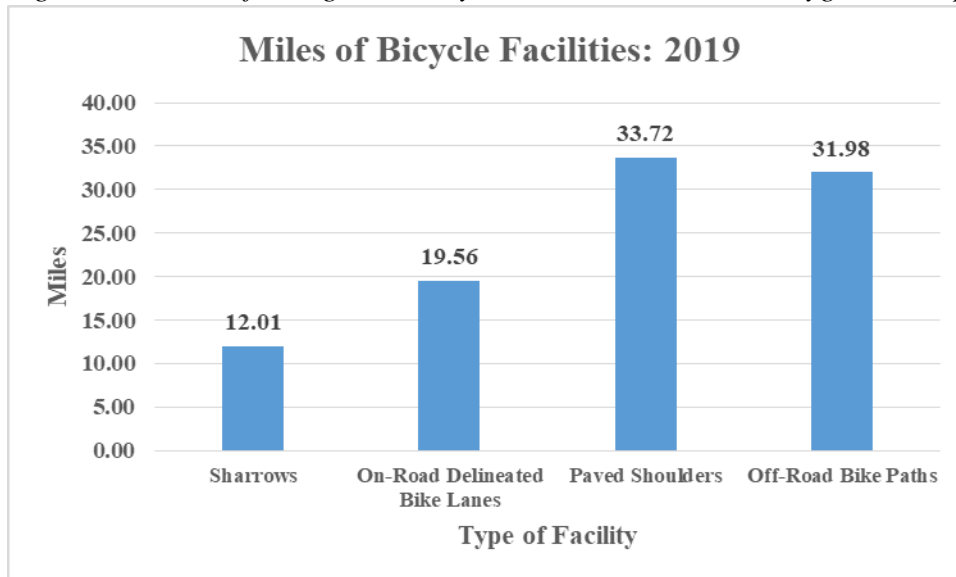
Indicator: Bicycle Facilities (Miles)

Data Source: Sheboygan County Planning and Conservation Department, *Sheboygan County Pedestrian and Bicycle Comprehensive Plan: 2015 Update*, and Bay-Lake Regional Planning Commission (GIS calculations and review of recent Transportation Improvement Programs)

Base Data: Within the Sheboygan metropolitan planning area, there are approximately:

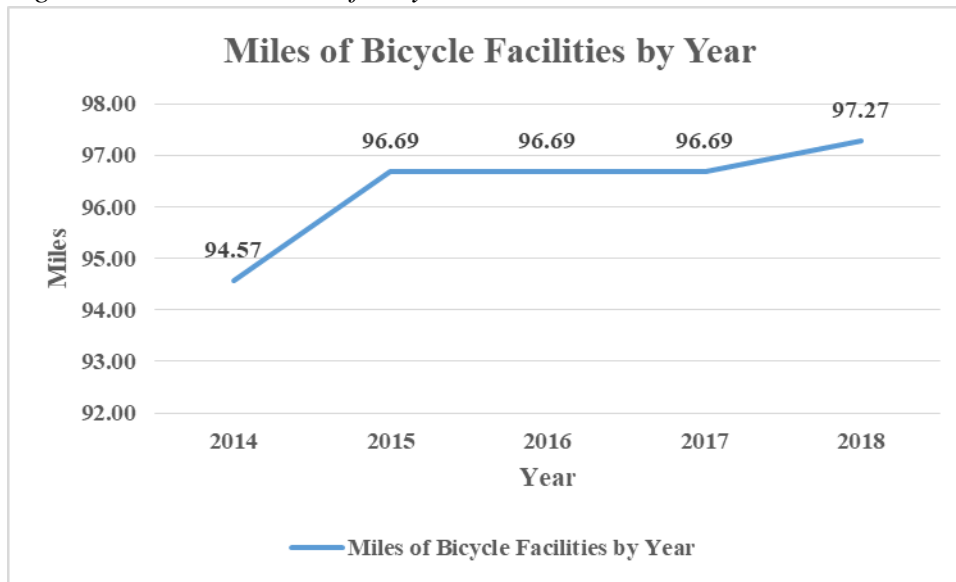
- 12.01 miles of “sharrows” (marked roadways where bicyclists use the road with motorists, with no separation of use for bicyclists);
- 19.56 miles of on-road delineated bike lanes;
- 33.72 miles of paved shoulders; and
- 31.98 miles of off-road bike paths (shared-use trails).

Figure 12: Miles of Designated Bicycle Facilities in the Sheboygan Metropolitan Planning Area



This involves a total of approximately 97.27 miles of bicycle facilities in the Sheboygan metropolitan planning area. Many facilities have been built since 2007 through the Sheboygan County Non-Motorized Transportation Pilot Program (NMTTPP), with the final project to be built over the next two years. It should be noted that approximately 0.58 miles of shared-use trails were built in 2019 involving the construction of a multiuse pathway in the Alliant Energy utility corridor on the south side of the City of Sheboygan from County Highway OK/South Business Drive to South 18<sup>th</sup> Street. No additional facilities were built in 2017, 2018 or 2019.

Figure 13: Overall Miles of Bicycle Facilities: 2014 – 2018



## Freight

Indicators: Levels of Service for Designated Truck Routes and for NHS Routes

Data Sources: WisDOT – Traffic Counts – Wisconsin Highway Traffic Volume Data Publication (Last full publication for Sheboygan County was for data collected in 2017, with some counts off the state trunk highway system collected more sporadically), and Maps 5.12 (Freight Routes and Terminals) and 5.16 (Enhanced National Highway Base System) of the Update to the *Year 2045 SATP*, which can be found at:

<https://baylakerpc.maps.arcgis.com/apps/MinimalGallery/index.html?appid=64ea766ad7bf4b2a95d3cfb9190d6e0f#viewer=0e29727611734b3893c47d8d81857194>(.)

Traffic counts can be found at the following website:

<https://wisdot.maps.arcgis.com/apps/webappviewer/index.html?id=2e12a4f051de4ea9bc865ec6393731f8> (Note: This is a statewide interactive map; zoom in to the Sheboygan metropolitan planning area is required).

Indicator: Truck Counts

Data Source: WisDOT – Vehicle Classification Data. Traffic Count Data – Wisconsin Vehicle Classification Data Publication.

## **Environment**

### **Air Quality**

Indicator: Monitored levels of criteria pollutants: ozone, PM 2.5, etc.

Data Source: USEPA

The only pollutant for which data were available in Sheboygan County was ground-level ozone. Sheboygan County exceeds the 0.075 parts per million threshold for the 2008 “eight hour” standard based on 2016 through 2018 and preliminary 2017 through 2019 readings, and has exceeded this standard for several years. Sheboygan County is having sufficient difficulty in meeting this standard that it has been reclassified from a moderate to a serious nonattainment area by USEPA. The Wisconsin Department of Natural Resources (WDNR) is constantly monitoring ozone concentrations, but violations of the “eight hour” standard persist.

Recognizing that ozone concentrations are a problem that primarily impacts the Lake Michigan shoreline, the WDNR worked with local officials and with the USEPA to attempt to decrease the size of the nonattainment area from the entire county to eastern Sheboygan County. The WDNR placed a monitor in the northwestern portion of the metropolitan planning area in an attempt to measure decreases in ozone concentrations away from Lake Michigan; this monitor has measured readings generally below the standard and significantly lower than the monitor at Kohler-Andrae State Parks adjacent to Lake Michigan.

The USEPA has lowered the “eight hour” standard from 0.075 to 0.070 parts per million; this is known as the 2015 “eight hour” standard. The eastern part of Sheboygan County was designated a marginal nonattainment area for this standard; in designating only the eastern part of the county as nonattainment, USEPA recognized the work of the WDNR in noting that areas closest to Lake Michigan had the elevated ozone concentrations in the county. It is not yet known whether the 2008 standard will eventually be revoked now that the 2015 standard has taken effect. Until motor vehicle emission budgets for the 2015 standard nonattainment area are established in a new State Implementation Plan (SIP) and said budgets are deemed adequate by USEPA, conformity will be demonstrated on the countywide motor vehicle emission budgets established in the last SIP for the 2008 standard.

## Streets and Highways

Indicator: Designated park-and-ride capacity and use

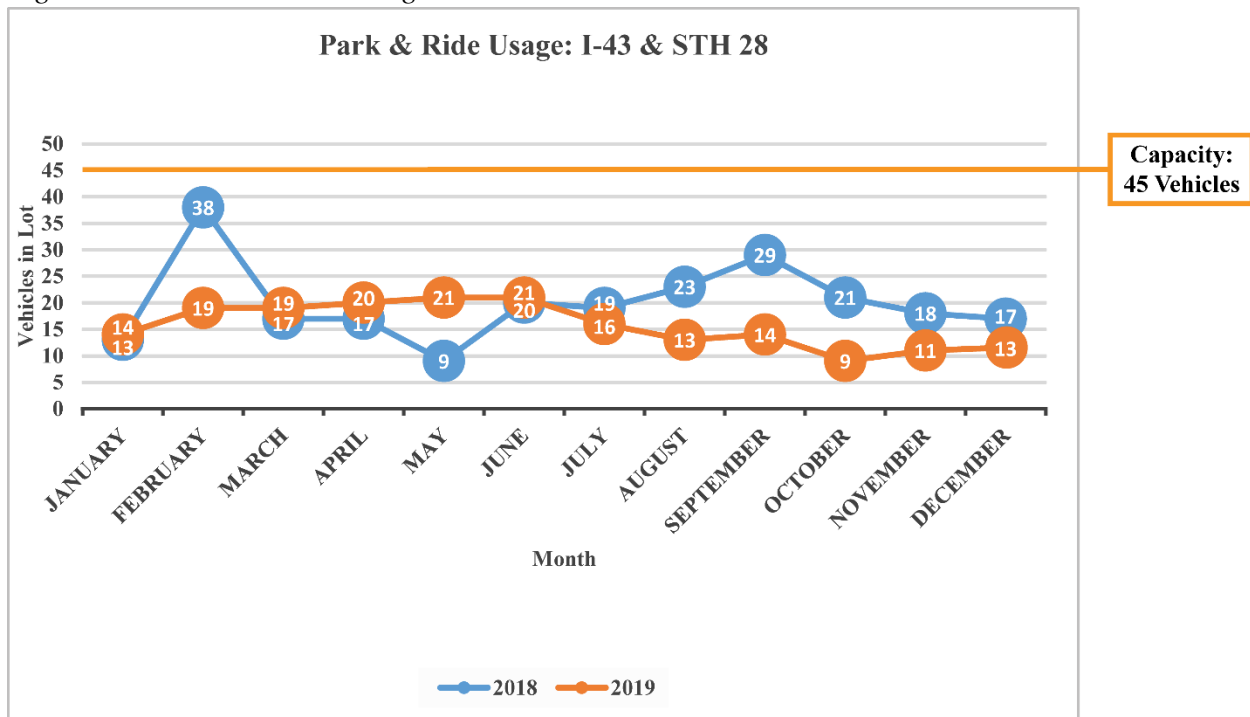
Data Source: WisDOT Northeast Region office – Park-and-ride capacity and use statistics (total spaces available per average weekday, spaces occupied per average weekday, and percent in use per average weekday)

Base Data:

There are two park-and-ride lots within the Sheboygan metropolitan planning area:

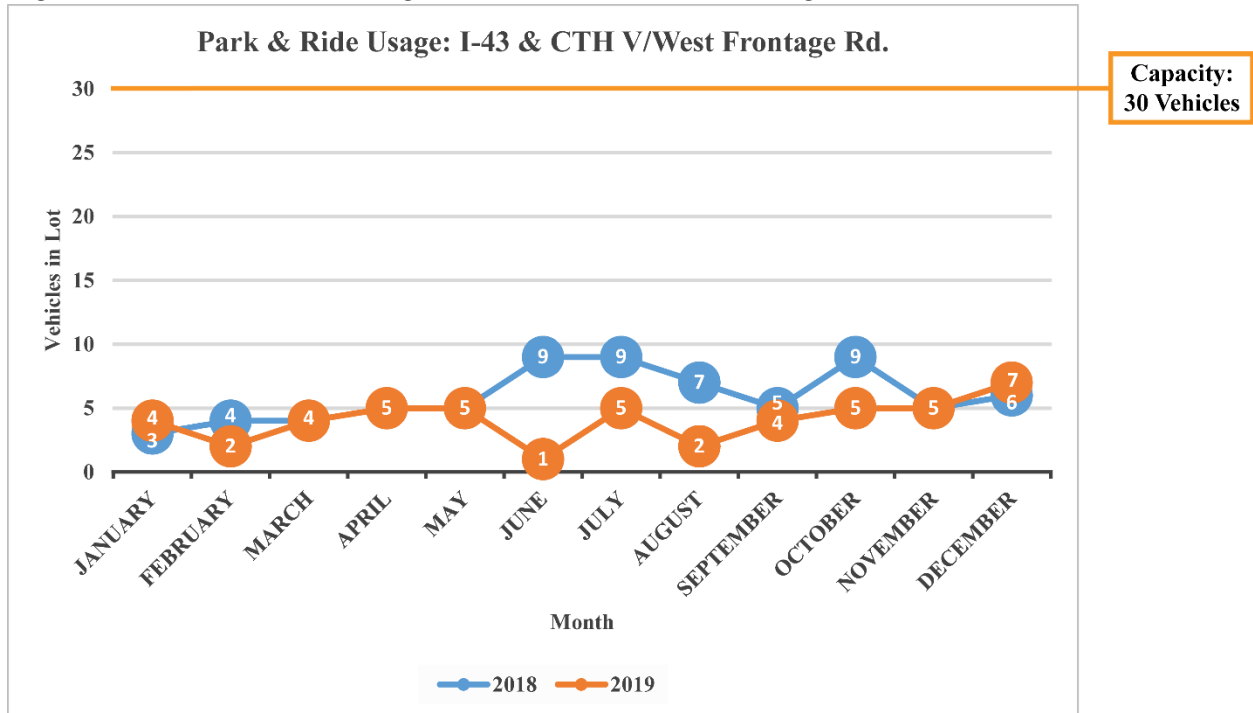
- The most used lot is the southwest quadrant of the interchange of Interstate Highway 43 and State Highway 28, and is situated east of County Highway A across from Deer Trace Shopping Center. This lot has a capacity of 45 motor vehicles. In 2018, this lot's average volume was 20, giving the lot an average volume-to-capacity ratio of 0.44. This lot was below capacity every month in 2018, with the peak months in 2018 being February and September. In 2019, this lot's average volume was 16, giving this lot an average volume-to-capacity ratio of 0.36. This lot has been below capacity every month in 2019, with the peak months in 2019 to date being May and June.

Figure 14: Park-and-Ride Usage: I-43 & STH 28



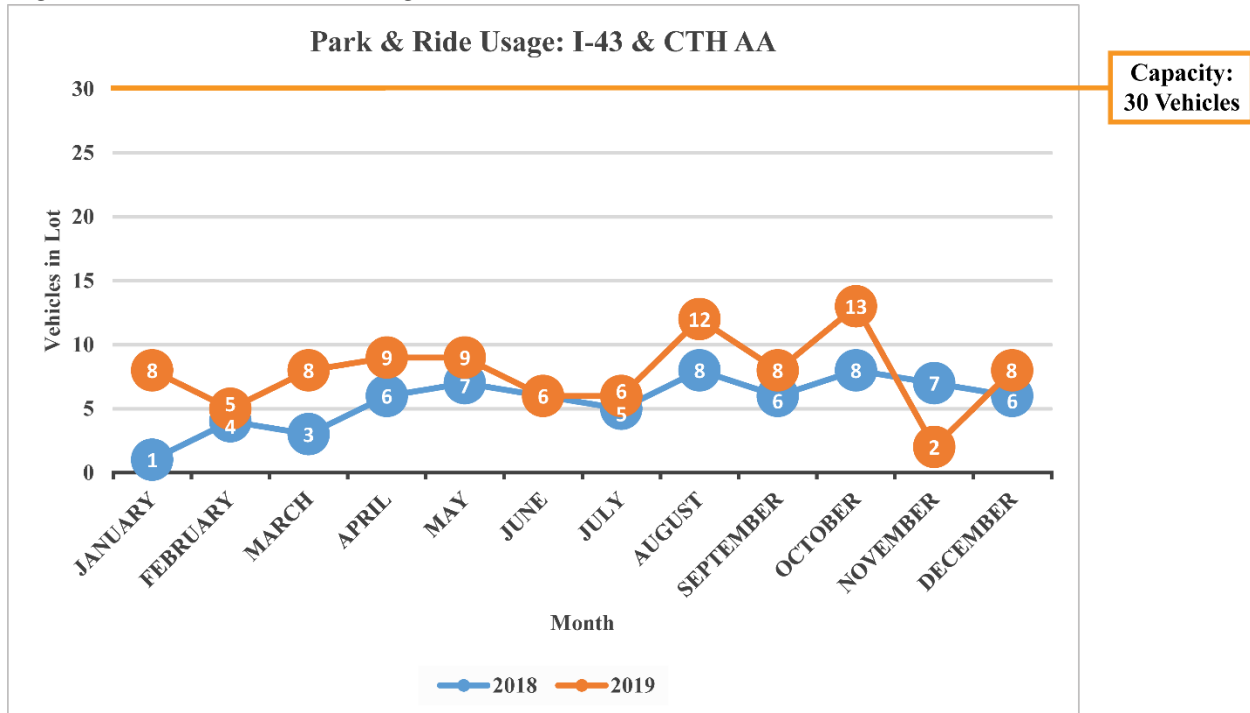
- A second lot is located in the northwest quadrant of the interchange of Interstate Highway 43 and County Highway V, and is situated along the Interstate's west frontage road. This lot has a capacity of 30 motor vehicles, and also includes bike racks for six bicycles. In 2018, this lot's average volume was 6, giving this lot an average volume-to-capacity ratio of 0.20. This lot was below capacity every month in 2018, with the peak months in 2018 being June, July and October. In 2019, this lot's average volume was 4, giving this lot an average volume-to-capacity ratio of 0.13. This lot has been below capacity every month in 2019, with the peak month in 2019 being December.

*Figure 15: Park-and-Ride Usage: I-43 & CTH V/West Frontage Road*



- A third park-and-ride lot is located in Sheboygan County but outside the metropolitan planning area at the Interstate Highway 43/County Highway AA interchange around the Village of Oostburg. This lot has a capacity of 30 motor vehicles. In 2018, this lot's average volume was 6, giving the lot an average volume-to-capacity ratio of 0.20. This lot was below average every month in 2018, with the peak months in 2018 being August and October. In 2019, the lot's average volume was 8, giving this lot an average volume-to-capacity ratio of 0.27. This lot has been below capacity every month in 2019, with the peak months in 2019 again being August and October.

Figure 16: Park-and-Ride Usage: I-43 & CTH AA



## Intercity Bus

Indicator: Frequency of Service/Number of Departures per Day

Data Source: Bus Operators

Base Data:

- Indian Trails Bus Lines provides one northbound departure (9:15 p.m.) and one southbound departure (6:45 a.m.) each day.
- Jefferson Bus Lines also provides one northbound departure (9:50 a.m.) and one southbound departure (6:15 p.m.) each day.
- Lamers Connect provides weekend bus service (generally Friday and Sunday departures, along with the Wednesday before Thanksgiving) to Green Bay and Milwaukee; departures for Milwaukee are at 10:45 a.m., while departures for Green Bay are at 4:20 p.m.



Each bus line's trips to Milwaukee serve the Amtrak intermodal station. Lamers Connect serves additional destinations in Milwaukee, including UW Milwaukee and General Mitchell International Airport.

Indicator: Demand for Intercity Bus Service

Data Source: WisDOT Bureau of Transit, Local Roads, Railroads and Harbors, Transit Section

Base Data:

- Indian Trails Bus Lines – Calendar Year 2018: For northbound runs, there were 101 boardings and 883 alightings in Sheboygan. For southbound runs, there were 625 boardings and 129 alightings in Sheboygan. There was a total of 9,224 trips provided on all northbound runs for the entire service corridor, while there was a total of 7,784 trips provided on all southbound runs for the entire service corridor.
- Indian Trails Bus Lines – January through September 2019: For northbound runs, there were 78 boardings and 742 alightings in Sheboygan. For southbound runs, there were 628 boardings and 82 alightings in Sheboygan. There was a total of 6,659 trips provided on all northbound runs for the entire service corridor, while there was a total of 5,222 trips provided on all southbound runs for the entire service corridor.
- Jefferson Bus Lines – Calendar Year 2018: For northbound runs, there were 208 boardings and 340 alightings in Sheboygan. For southbound runs, there were 243 boardings and 280 alightings in Sheboygan. There was a total of 9,835 trips provided on all northbound runs for the entire service corridor, while there was a total of 9,954 trips provided on all southbound runs for the entire service corridor.
- Jefferson Bus Lines – January through September 2019: For northbound runs, there were 176 boardings and 288 alightings in Sheboygan. For southbound runs, there were 182 boardings and 220 alightings in Sheboygan. There was a total of 7,751 trips provided on all northbound runs for the entire service corridor, while there was a total of 7,857 trips provided on all southbound runs for the entire service corridor.
- Lamers Connect: No data regarding demand are available. Indian Trails and Jefferson Bus Lines are subsidized by WisDOT (and therefore must submit quarterly ridership reports to that agency in order to receive the subsidy), while Lamers Connect is not subsidized by WisDOT, and therefore, its demand data are proprietary in nature and are not disclosed to the public.

## **Intercity Rail**

Not applicable (although Indian Trails Bus Lines, Jefferson Bus Lines and Lamers Connect all connect Sheboygan to the intermodal station in Milwaukee served by Amtrak).

## Air

Indicator: Airport volume – total operations

Data Source: Sheboygan County Memorial Airport and Federal Aviation Administration (FAA)

Base Data:

The Sheboygan County Memorial Airport does not offer commercial air carrier service. However, there were approximately **65,000** total annual operations (takeoffs and landings) in the 12 month period that ended on August 25, 2017 (the last period in which data have been made available). Of these, about 59,500 operations involved general aviation (31,000 were local operations and 28,500 were itinerant operations), while about 5,000 operations involved air taxi services. In addition to the civilian operations, some 500 military air operations took place at the Sheboygan County Memorial Airport during this period.

## Freight

Indicator: Tonnage by Mode, Sheboygan County

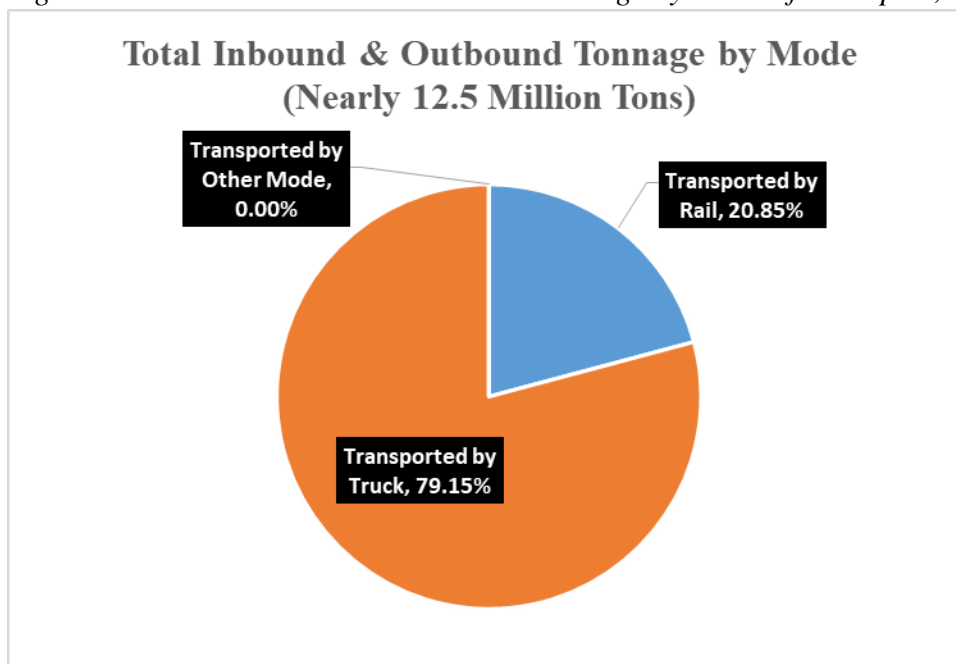
Data: Commodity Flow Survey, WisDOT (IHS TRANSEARCH, 2017)

Base Data:

For total inbound and outbound tonnage in 2017:

- 2,600,218 tons of freight (20.85 percent) were transported by rail;
- 9,871,656 tons of freight (79.15 percent) were transported by truck; and
- 79 tons of freight (negligible percentage) were transported by other modes.

*Figure 17: Total Inbound and Outbound Tonnage by Mode of Transport, 2017*



For inbound tonnage in 2017:

- 2,534,378 tons of freight (31.13 percent) were transported by rail;
- 5,606,749 tons of freight (68.87 percent) were transported by truck; and
- 77 tons of freight (negligible percentage) were transported by other modes.

For outbound tonnage in 2017:

- 65,840 tons of freight (1.52 percent) were transported by rail;
- 4,264,907 tons of freight (98.48 percent) were transported by truck; and
- Two tons of freight (negligible percentage) were transported by other modes.

### **Efficient Management and Operations (System Operations and Usage)**

Indicator: Traffic Volume

Data Source: WisDOT – Traffic Counts - Wisconsin Highway Traffic Volume Data Publication (Last full publication for Sheboygan County was for data collected in 2017, with some counts off the state trunk highway system collected more sporadically).

Base Data:

Traffic counts can be found at the following website:

<https://wisdot.maps.arcgis.com/apps/webappviewer/index.html?id=2e12a4f051de4ea9bc865ec6393731f8> (Note: This is a statewide interactive map; zoom in to the Sheboygan metropolitan planning area is required).

Indicator: Travel Speed

Data Source: WisDOT, Overall Average Travel Speed in Model Base Year of 2010

Base Data: Overall average travel speed was **46.13** miles per hour in the model base year of 2010.

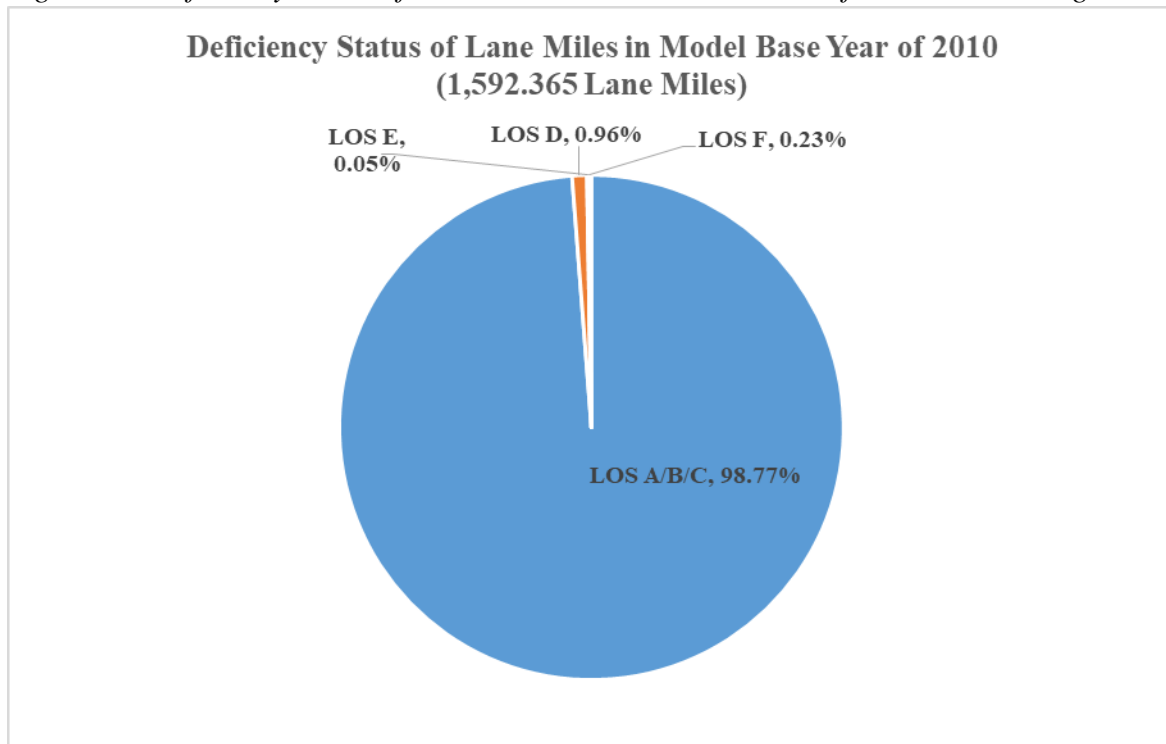
Indicator: Deficiency Status of Lane Miles

Data Source: WisDOT, Deficiency Status of Lane Miles in Model Base Year of 2010

Base Data: In the model base year of 2010, there were **1,592.365** lane miles. Of these:

- 1,572.727 lane miles (98.77 percent) were at levels of service (LOS) A, B or C;
- 15.215 lane miles (0.96 percent) were at LOS D;
- 0.788 lane miles (0.05 percent) were at LOS E; and
- 3.634 lane miles (0.23 percent) were at LOS F.

Figure 18: Deficiency Status of Lane Miles in Model Base Year of 2010 – Percentages



(Note: LOS statistics are subject to revision as the travel demand forecast model is further refined).

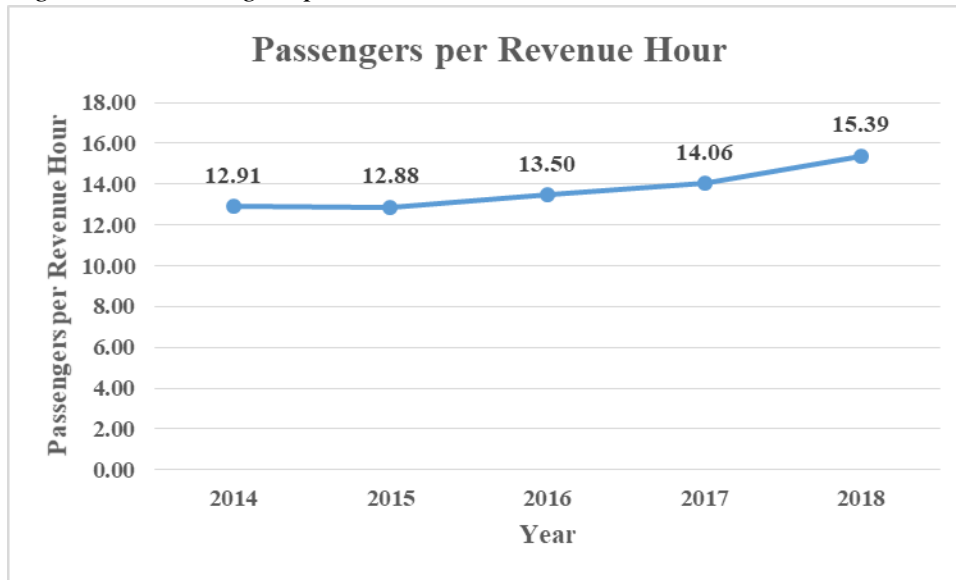
## Transit

Indicator: Passengers per revenue hour of operation

Data Source: Shoreline Metro, 2018

Base Data: There were **15.39** passengers per revenue hour of operation for the fixed-route transit component of Shoreline Metro in 2018.

*Figure 19: Passengers per Revenue Hour: Shoreline Metro Fixed-Route Service*

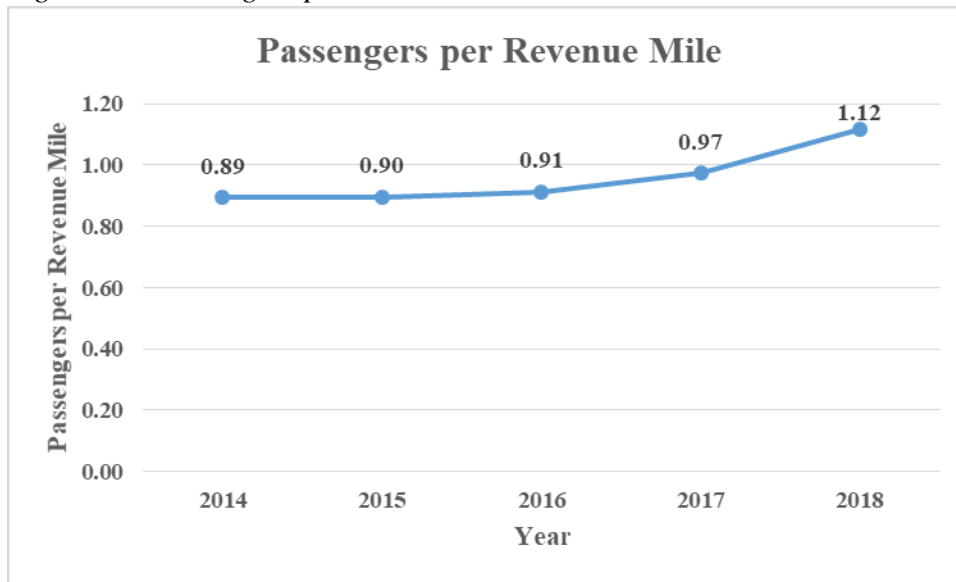


Indicator: Passengers per revenue mile of operation

Data Source: Shoreline Metro, 2018

Base Data: There were **1.12** passengers per revenue mile of operation for the fixed-route transit component of Shoreline Metro in 2018.

Figure 20: *Passengers per Revenue Mile: Shoreline Metro Fixed-Route Service*



Indicator: Passenger miles traveled

Data Source: Shoreline Metro, 2018

Base Data: There were **1,595,239** annual passenger miles traveled for the fixed-route transit component of Shoreline Metro in 2018.

Figure 21: *Annual Passenger Miles Traveled: Shoreline Metro Fixed-Route Service*



Indicator: Number of passenger trips

Data Source: Shoreline Metro, 2018

Base Data: There were **599,714** unlinked passenger trips for the fixed-route transit component of Shoreline Metro in 2018.

Figure 22: Unlinked Passenger Trips: Shoreline Metro Fixed-Route Service



## **System Preservation**

### **Streets and Highways**

Indicator: Pavement condition – number of miles and percentage of total miles in each category

Data Source: WISLR for local system (PASER ratings) and WisDOT for the state system (PCI ratings)

Base Data:

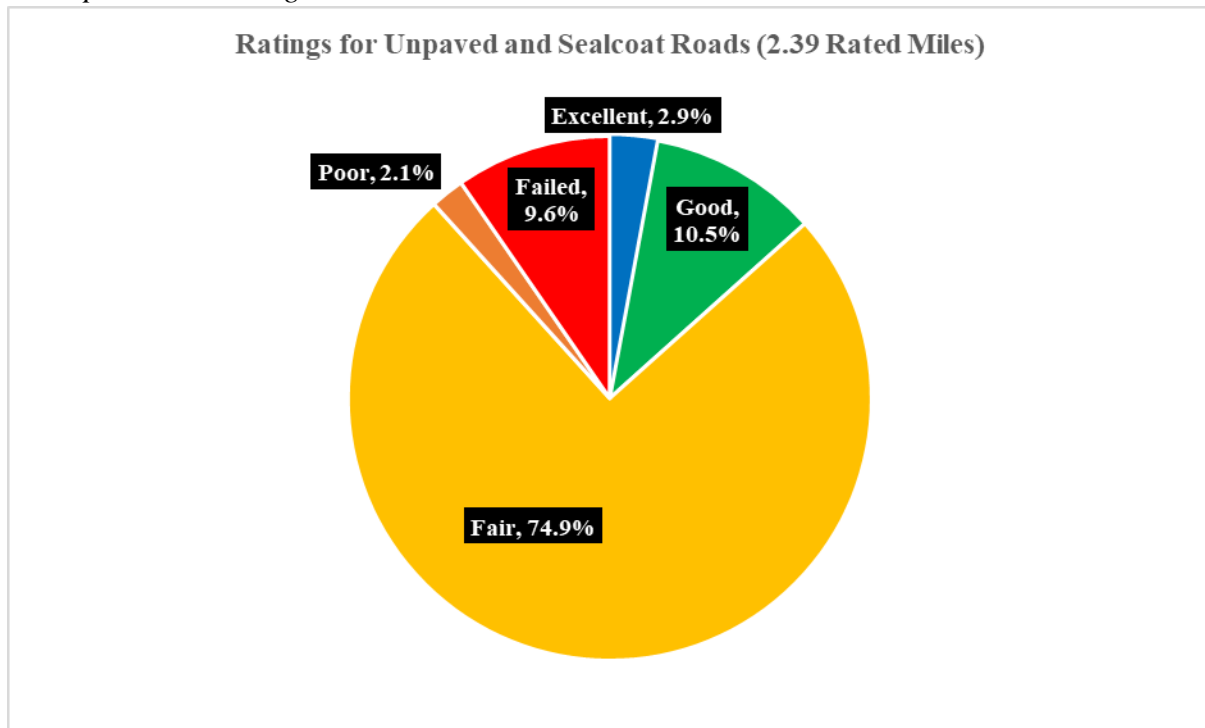
PASER data were compiled for the two cities, two villages and six towns as well as for the county trunk highway network in the Sheboygan metropolitan planning area. Nearly all local jurisdictions used 2019 as their base inventory, while the City of Sheboygan Falls had a mix of mostly 2017, 2018 and 2019 entries in its most current pavement ratings.

There was only one small segment (581 feet) of unimproved road in the communities of the Sheboygan metropolitan planning area. This segment was not rated (normal rating scale for this type of facility is 1 to 4, with “1” being poor and “4” being very good).

There were only a few small segments (total of 1,478 feet) of brick or block road in the communities of the Sheboygan metropolitan planning area. On a scale from 1 to 4 (with “1” being poor and “4” being very good), these segments were rated a “2” (fair condition).

There were approximately 3.00 miles of unpaved (gravel) and sealcoat roads in the communities of the Sheboygan metropolitan planning area. Of these, 2.39 miles were rated. These roads are rated on a scale from 1 to 5 (with “1” being failed and “5” being excellent). The distribution of ratings for unpaved and sealcoat roads in the communities of the Sheboygan metropolitan planning area was as follows:

*Figure 23: Ratings for Unpaved and Sealcoat Roads, Communities of the Sheboygan Metropolitan Planning Area*



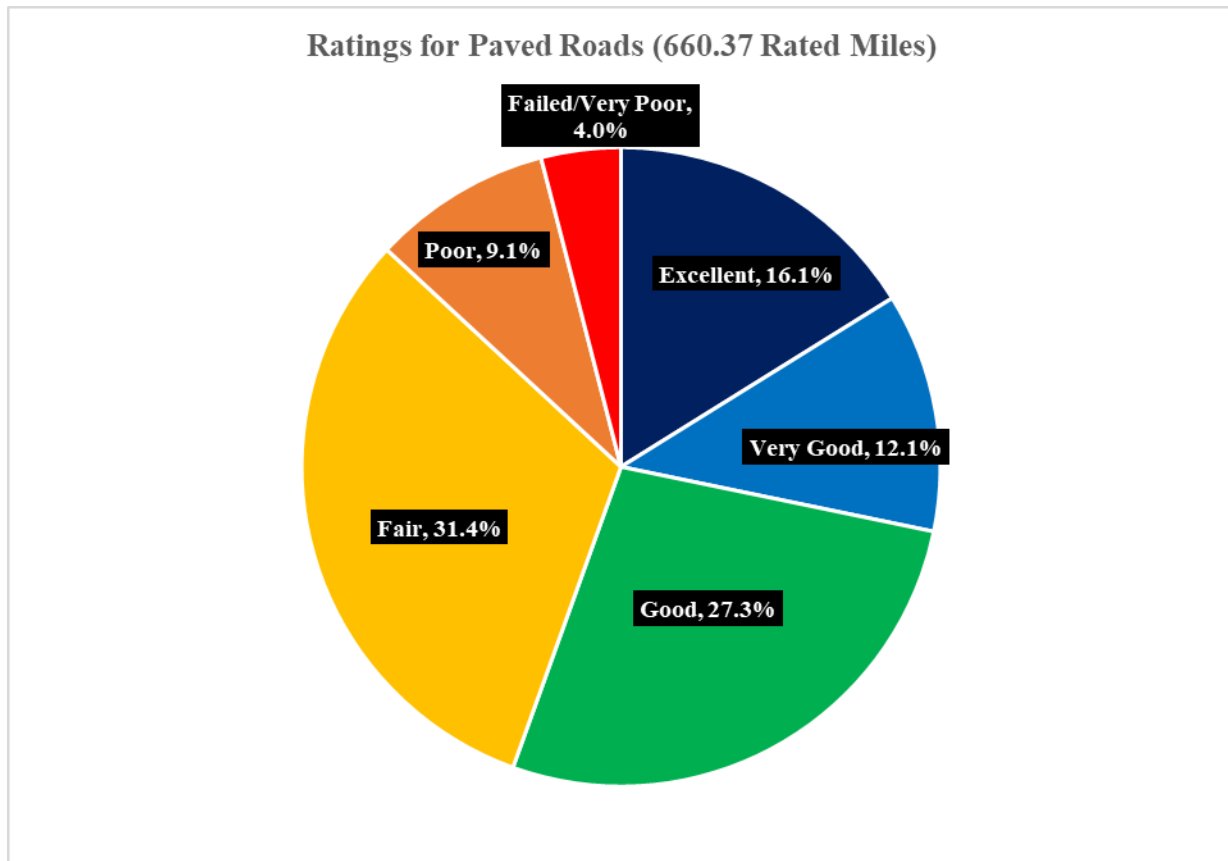
- Rating of 1 (Failed) = 1,215 feet, or 0.23 miles (9.6 percent);
- Rating of 2 (Poor) = 264 feet, or 0.05 miles (2.1 percent);
- Rating of 3 (Fair) = 9,450 feet, or 1.79 miles (74.9 percent);
- Rating of 4 (Good) = 1,320 feet, or 0.25 miles (10.5 percent); and
- Rating of 5 (Excellent) = 370 feet, or 0.07 miles (2.9 percent).

Average Rating = 2.95

There were approximately 663.54 miles of paved (typically asphalt and concrete) roads in the communities of the Sheboygan metropolitan planning area. Of these, 660.37 miles were rated. These roads are rated on a scale from 1 to 10 (with “1” being failed and “10” being excellent). The distribution of ratings for paved roads in the communities of the Sheboygan metropolitan planning area was as follows:



Figure 24: Ratings for Paved Roads, Communities of the Sheboygan Metropolitan Planning Area



- Rating of 1 (Failed) = 26,454 feet, or 5.01 miles (0.8 percent);
- Rating of 2 (Very Poor) = 114,320 feet, or 21.65 miles (3.3 percent);
- Rating of 3 (Poor) = 316,240 feet, or 59.89 miles (9.1 percent);
- Rating of 4 (Fair) = 508,200 feet, or 96.25 miles (14.6 percent);
- Rating of 5 (Fair) = 586,496 feet, or 111.08 miles (16.8 percent);
- Rating of 6 (Good) = 462,663 feet, or 87.63 miles (13.3 percent);
- Rating of 7 (Good) = 487,547 feet, or 92.34 miles (14.0 percent);
- Rating of 8 (Very Good) = 421,884 feet, or 79.90 miles (12.1 percent);
- Rating of 9 (Excellent) = 360,164 feet, or 68.21 miles (10.3 percent); and
- Rating of 10 (Excellent) = 202,791 feet, or 38.41 miles (5.8 percent).

Average Rating = 6.02

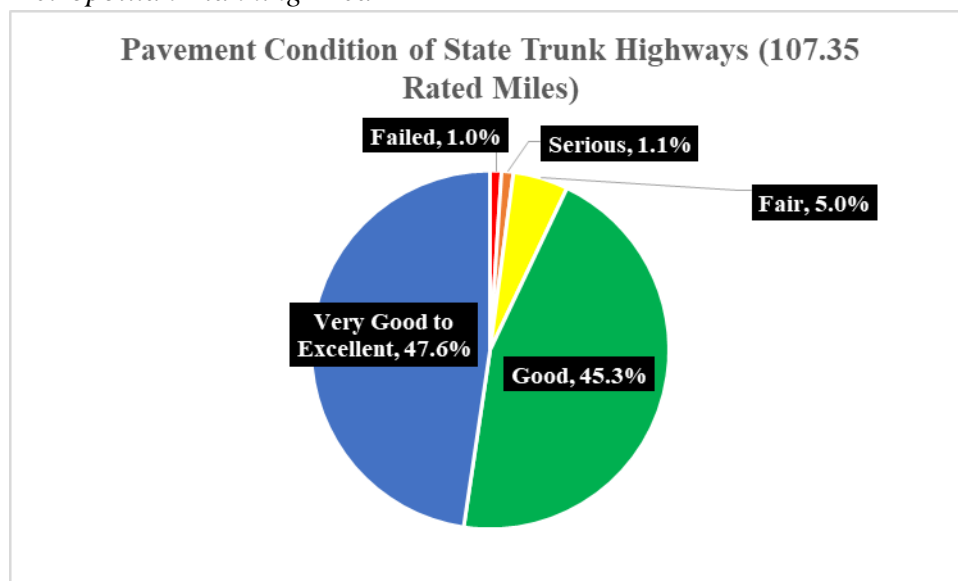
Analysis for individual communities in the Sheboygan metropolitan planning area is also available upon request.

WisDOT has also supplied the MPO with Pavement Condition Index (PCI) data for the state trunk highway system. This data was last collected in November of 2019. MPO staff has tabulated a summary of the condition of state trunk highways that pass through the two cities, two villages and six towns in the Sheboygan metropolitan planning area. “A PCI is calculated based on the results of a detailed pavement distress survey that identifies pavement distress type, distress severity, and distress quantity. The PCI is a numerical rating that ranges from 0 for a totally failed pavement to 100 for a pavement in perfect condition.”

There are approximately 107.35 miles of state trunk highway in the communities of the Sheboygan metropolitan planning area. Of these:

- 1.10 miles (1.0 percent) were rated as “failed” (0 to 9.99 points);
- 1.15 miles (1.1 percent) were rated as “serious” (10 to 24.99 points);
- No miles were rated as “very poor” (25 to 39.99 points);
- No miles were rated as “poor” (40 to 54.99 points);
- 5.34 miles (5.0 percent) were rated as “fair” (55 to 69.99 points);
- 48.62 miles (45.3 percent) were rated as “good” (70 to 84.99 points); and
- 51.13 miles (47.6 percent) were rated as “very good to excellent” (85 to 100 points).

*Figure 25: State Trunk Highway Pavement Condition, Communities of the Sheboygan Metropolitan Planning Area*



Note: No state trunk highway segments in the communities of the Sheboygan metropolitan planning area were rated as “very poor” or “poor.”

Indicator: Structural condition of bridges

Data Source: WisDOT, Sufficiency Ratings

Base Data:

Bridges typically are assessed using a 0 to 100 point scale known as a “sufficiency rating.” WisDOT considers bridges with a sufficiency rating of 0 to 49.99 as being “deficient,” while bridges with a sufficiency rating of 50 to 79.99 are considered to be in “fair” condition, and bridges with a sufficiency rating of 80 and higher are “sufficient,” or in good condition.

There are 133 bridges identified within the communities of the Sheboygan metropolitan planning area. Of these, 107 bridges (80.4 percent) are “sufficient,” or in good condition. Another 21 bridges (15.8 percent) are in “fair” condition. Five bridges (3.8 percent) were identified as being “deficient,” or in poor condition. No bridges were of “unknown” condition.

*Figure 26: Bridge Conditions by Rating within the Communities of the Sheboygan Metropolitan Planning Area*

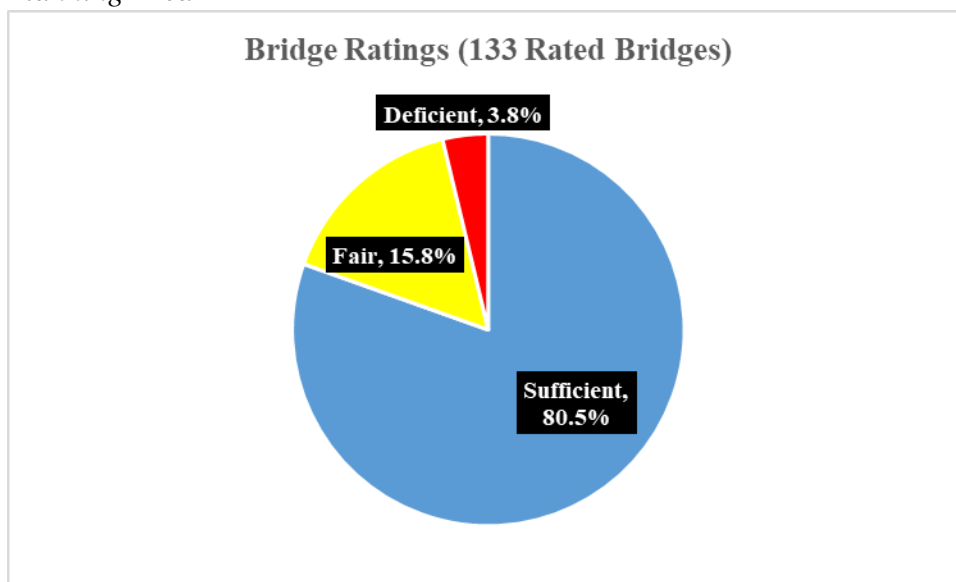


Table 5 identifies the bridges that are considered “deficient” (eligible for replacement). Bridges listed in **bold** in Table 5 have been completed, are programmed in the TIP/STIP, or are in progress.

*Table 5: Deficient Bridges\*: Communities of the Sheboygan Metropolitan Planning Area*

P-59-133	Old Park Road	Black River	Town of Wilson (Kohler Andrae State Park)	26.3
P-59-930	Woodland Road	Branch of the Sheboygan River	Town of Sheboygan Falls	29.5
P-59-921	County Highway W	Branch of the Onion River	Town of Lima	36.8
<b>P-59-924</b>	<b>Luelloff Road</b>	<b>Sevenmile Creek (westernmost crossing, just east of County Highway DL)</b>	<b>Town of Mosel</b>	<b>43.7</b>
<b>B-59-064</b>	<b>Pennsylvania Avenue</b>	<b>Sheboygan River</b>	<b>City of Sheboygan</b>	<b>49.2</b>

\*Bridges listed in **bold** have been completed, are programmed in the TIP/STIP, or are in progress.

Table 6 identifies bridges that are in “fair” condition (eligible for rehabilitation but not replacement). Bridges listed in **bold** have been completed, are programmed in the TIP/STIP, or are in progress, while bridges in **red** are those recently completed bridges where MPO staff question the listed sufficiency rating of the bridge.

*Table 6: Bridges in Fair Condition\*: Communities of the Sheboygan Metropolitan Planning Area*

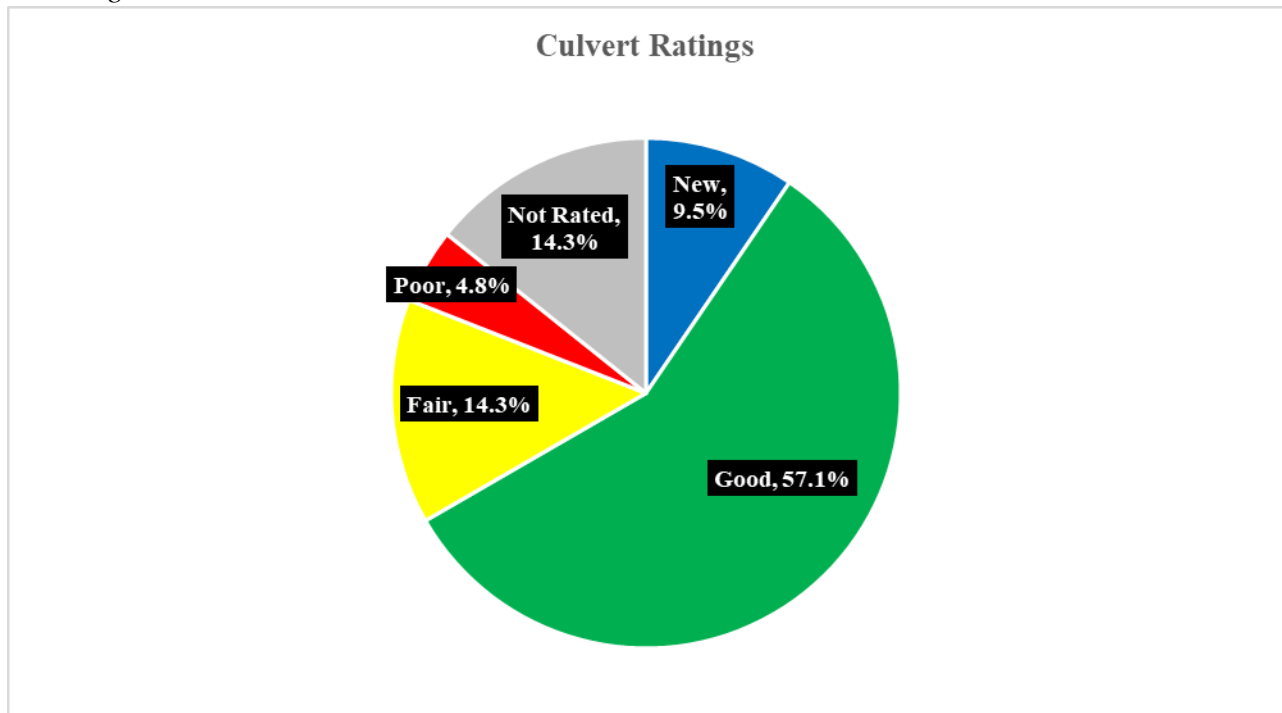
WisDOT Bridge ID Number	Street or Highway	Over (Stream/Road)	Location	Sufficiency Rating
P-59-922	County Highway PP	Branch of the Mullet River	Town of Sheboygan Falls	50.2
P-59-069	County Highway OO	Onion River	Town of Lima	53.0
P-59-701	Roosevelt Avenue	Pigeon River	Village of Howards Grove	55.1
P-59-112	Willow Road	Otter Creek	Town of Sheboygan Falls	57.0
P-59-705	Broadway Street	Onion River	City of Sheboygan Falls	60.1
B-59-100	South Business Drive	Rail Line	City of Sheboygan	61.1
P-59-124	County Highway TT	Sheboygan River	Town of Sheboygan Falls	63.0
B-59-009	Lakeshore Road (formerly County Highway LS)	Sevenmile Creek	Town of Mosel	66.3
P-59-114	Willow Road	Mullet River	Town of Sheboygan Falls	67.8
<b>B-59-154</b>	<b>South 8th Street</b>	<b>Sheboygan River</b>	<b>City of Sheboygan</b>	<b>70.5</b>
P-59-135	County Highway EE/Lakeshore Drive	Fisherman's Creek	Town of Wilson	70.6
P-59-118	Alpine Road	Sheboygan River	Town of Sheboygan Falls	72.8
P-59-139	Camp Riverside Road	Onion River	Town of Lima	73.8
B-59-096	Georgia Avenue	Old Rail Line	City of Sheboygan	74.3
B-59-105	State Highway 23/Erie Avenue	Rail Line	City of Sheboygan	74.8
B-59-030	County Highway J	Sheboygan River	Town of Sheboygan Falls	75.3
B-59-294	Interstate Highway 43	Branch of the Sheboygan River	Town of Sheboygan	76.3
<b>B-59-033</b>	<b>State Highway 28/North 14th Street</b>	<b>Sheboygan River</b>	<b>City of Sheboygan</b>	<b>76.5</b>
P-59-914	Lakeshore Road (formerly County Highway LS)	Pigeon River	City of Sheboygan	76.9
P-59-130	West Evergreen Drive	Black River	Town of Wilson	77.8
<b>B-59-023</b>	<b>Mueller Road</b>	<b>Interstate Highway 43</b>	<b>Town of Sheboygan</b>	<b>77.9</b>

\*Bridges listed in **bold** have been completed, are programmed in the TIP/STIP, or are in progress. Bridges listed in **red** are those recently completed bridges where MPO staff question the listed sufficiency rating of the bridge.

Culverts are rated on a scale from 0 to 9, with “0” meaning that the culvert has failed, with “1” or “2” meaning that the culvert is in critical condition, with “3” or “4” meaning that the culvert is in poor condition, with “5” or “6” meaning that the culvert is in fair condition, with “7” or “8” meaning that the culvert is in good condition, and with “9” mainly involving new culverts.

There are 21 culverts identified on various roads and highways within the communities of the Sheboygan metropolitan planning area. Of these, two culverts (9.5 percent) are new, 12 culverts (57.1 percent) are in good condition, three culverts (14.3 percent) are in fair condition, and one culvert (4.8 percent) is in poor condition. No culverts are in critical or failed condition. An additional three culverts (14.3 percent) were not rated.

*Figure 27: Culvert Conditions by Rating within the Communities of the Sheboygan Metropolitan Planning Area*



Note: No culverts in the communities of the Sheboygan metropolitan planning area were rated as being in critical or failed condition.

Table 7 identifies the 18 culverts that were rated in the communities of the Sheboygan metropolitan planning area.

*Table 7: Condition of Rated Culverts: Communities of the Sheboygan Metropolitan Planning Area*

WisDOT Structure ID Number	Street or Highway	Over (Stream)	Location	Culvert Rating
C-59-2650	State Highway 32	Unnamed Creek	Town of Lima (0.36 miles North of County Highway W)	4 (Poor)
C-59-080	State Highway 32	Unnamed Creek	Town of Lima (1.37 miles North of County Highway V)	5 (Fair)
C-59-2916	State Highway 32	Unnamed Creek	Town of Lima (0.38 miles North of County Highway OO)	5 (Fair)
C-59-2655	Wilson Lima Road	No Name Creek	Town of Lima (0.51 miles North of County Highway W)	6 (Fair)
C-59-032	Interstate Highway 43	Unnamed Creek	Town of Wilson (0.52 miles North of County Highway KK)	7 (Good)
C-59-038	Interstate Highway 43	Unnamed Creek	Town of Mosel (1.21 miles North of County Highway MM)	7 (Good)
C-59-041	Interstate Highway 43	Unnamed Creek	Town of Sheboygan (0.44 miles North of State Highway 42)	7 (Good)
C-59-048	Interstate Highway 43	Unnamed Creek	Town of Sheboygan (0.32 miles North of State Highway 42)	7 (Good)
C-59-049	Interstate Highway 43	Unnamed Creek	Town of Mosel (0.58 miles North of County Highway FF)	7 (Good)
C-59-051	State Highway 42	Unnamed Creek	Town of Herman (0.63 miles West of County Highway FF)	7 (Good)
C-59-069	State Highway 28	Tributary to Mullet River	Town of Lima (1.43 miles East of County Highway U)	7 (Good)
C-59-070	State Highway 32	Fischer Creek	Town of Herman (0.87 miles North of County Highway FF)	7 (Good)
C-59-071	State Highway 32	Drainage Way	Town of Sheboygan Falls (0.40 miles North of County Highway O)	7 (Good)
C-59-072	State Highway 32	Drainage Way	Town of Sheboygan Falls (0.80 miles North of County Highway O)	7 (Good)
C-59-073	State Highway 32	Drainage Way	Village of Howards Grove (1.90 miles North of County Highway J)	7 (Good)
C-59-046	Interstate Highway 43	Seven Mile Creek	Town of Mosel (0.47 miles North of County Highway FF)	8 (Good)
C-59-112	County Highway OK	Tributary to Fisherman's Creek	City of Sheboygan (0.30 miles North of County Highway EE)	9 (New)
C-59-113	County Highway OK	Fisherman's Creek	City of Sheboygan (0.02 miles South of Camelot Boulevard)	9 (New)

## Transit

Indicator: Percentage of transit fleet beyond the Federal Transit Administration (FTA) Useful Life Benchmark (ULB)

Data Source: Shoreline Metro, 2019

Base Data:

Shoreline Metro evaluated the inventory of its vehicle capital items and divided all vehicle types into three categories: heavy duty bus; medium duty bus (cutaways); and light duty vehicles (auto, pickup truck, minivan, van, SUV, etc.). Shoreline Metro then used the FTA's ULB set in FTA

5010.D, page IV-17, to determine if the vehicles were beyond their useful life. Shoreline Metro has also added a mileage ULB in that there are some vehicles in the fleet that exceed the age ULB but are well within the mileage permitted before replacement is considered.

Table 8A shows the results of Shoreline Metro's findings for revenue vehicles (heavy and medium duty buses).

*Table 8A: Percentage of Shoreline Metro Revenue Transit Fleet beyond the FTA ULB, 2019*

Revenue Vehicle Type	Vehicle Count	Useful Life Age Benchmark (ULB, in years)	Useful Life Mileage Benchmark (in miles)	Vehicles Beyond ULB - Age	Vehicles Beyond ULB - Mileage <sup>1</sup>	Percent of Fleet Beyond ULB <sup>2</sup>
Heavy Duty Bus	23	12	500,000	13	8	35%
Medium Duty Bus	10	7	150,000	2	1	10%
<b>Total</b>	<b>33</b>			<b>15</b>	<b>9</b>	<b>27%</b>

<sup>1</sup>Mileage as of July 31, 2019.

<sup>2</sup>The lesser of number of vehicles beyond ULB age *or* mileage divided by vehicle count (by vehicle type).

Shoreline Metro set the transit asset management (TAM) performance target to allow for 28 percent of revenue vehicles to pass beyond useful life. This target was set slightly higher than the 27 percent listed in Table 8A due to rounding. Shoreline Metro is aggressively attempting to replace its fleet through various grant programs in order to lower the revenue vehicle performance target percentage over time.

Table 8B shows the results of Shoreline Metro's findings for non-revenue vehicles (auto, pickup, truck, minivan, van, SUV, etc.).

*Table 8B: Percentage of Shoreline Metro Non-Revenue Transit Fleet beyond the FTA ULB, 2019*

Non- Revenue Vehicle Type	Vehicle Count	Useful Life Age Benchmark (ULB, in years)	Useful Life Mileage Benchmark (in miles)	Vehicles Beyond ULB - Age	Vehicles Beyond ULB - Mileage <sup>1</sup>	Percent of Fleet Beyond ULB <sup>2</sup>
Light Duty Vehicles (Support Vehicles)	5	10	100,000	0	0	0%

<sup>1</sup>Mileage as of July 31, 2019.

<sup>2</sup>The lesser of number of vehicles beyond ULB age *or* mileage divided by vehicle count (by vehicle type).

Shoreline Metro set the TAM performance target to allow for 0 percent of non-revenue vehicles to pass beyond useful life.

Indicator: Age and Years of Remaining Useful Life of Significant Equipment

Data Source: Shoreline Metro, 2019

Base Data:

Shoreline Metro evaluated the inventory of its most significant equipment (items with a replacement cost of \$50,000 or more). These items include a scrubber, a hoist and a bus wash, all located at the Shoreline Metro bus garage. Shoreline Metro then used guidance from the FTA and from various reports that discuss useful life for these types of equipment to determine if

these pieces of equipment were beyond their useful life. For the equipment types listed in Table 9, scrubbers have a useful life of five years, while hoists and bus washes have a useful life of 10 years.

Table 9 shows the results of Shoreline Metro's findings:

*Table 9: Age and Years of Remaining Useful Life of Significant Equipment, Shoreline Metro, 2019*

Equipment Type	Useful Life Age Benchmark (ULB, in years)	Years of Remaining Useful Life	Age	Year Equipment Acquired
Scrubber	5	(19.00)	24.00	1995
Hoist	10	(34.00)	44.00	1975
Bus Wash	10	(8.00)	18.00	2001
<b>Averages</b>		<b>(20.33)</b>	<b>28.67</b>	

All of Shoreline Metro's most significant equipment is beyond its useful life. For now, Shoreline Metro is setting the TAM performance target to allow for 100 percent of its most significant equipment to pass beyond useful life. Shoreline Metro will examine the condition of this equipment in greater detail in future TAM plans; if the condition of this equipment is deemed beyond its "state of good repair" in future TAM plans, then steps will be taken to get replacement equipment programmed in the Transportation Improvement Program (TIP).

Indicator: Condition, Age and Years of Remaining Useful Life of Facilities

Data Source: Shoreline Metro, 2019

Base Data:

Shoreline Metro evaluated the condition of its facilities using the remaining useful life standards outlined in FTA 5010.1D, page IV-2(e), as a guide. The guidance indicated that facilities relevant to Shoreline Metro generally have a useful life of forty (40) years.

Table 10 shows the results of Shoreline Metro's findings.

*Table 10: Condition, Age and Years of Remaining Useful Life of Facilities, Shoreline Metro, 2019*

Facility Type	Condition	Years of Remaining Useful Life	Age	Year of Completion	Condition
Administration, Maintenance and Storage (Bus Garage)	2	(4.00)	44	1975	Marginal
Transfer Facility/Station	4	13.00	27	1992	Good
<b>Averages</b>	<b>3</b>	<b>4.50</b>	<b>35.50</b>		

One of Shoreline Metro's two facilities is beyond its useful life of 40 years. Shoreline Metro set the TAM performance target to only allow 50 percent of the facilities to pass beyond useful life. Shoreline Metro will continue to examine the condition of these facilities in greater detail in future TAM plans. A roof replacement for the administration, maintenance and storage facility has been programmed for 2020 in the *Sheboygan Metropolitan Planning Area TIP: Calendar*



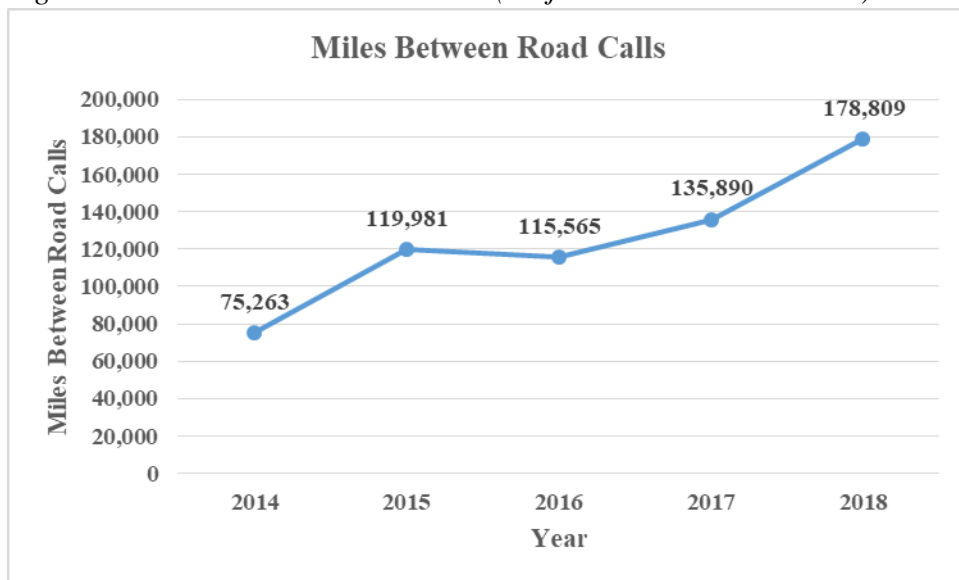
Years 2020 – 2023; this project should go a long way toward improving the “marginal” condition of that facility. In addition, various improvements to the administration, maintenance and storage facility are listed as an “illustrative” project for 2023 in the 2020 – 2023 TIP.

Indicator: Number of road calls divided by revenue miles of service for Shoreline Metro

Data Source: Shoreline Metro, 2018

Base Data: There were **three (3)** “major mechanical failures” (road calls) at Shoreline Metro in 2018. There were **536,426** revenue miles in 2018. This translated to an average of **178,809** miles between road calls in 2018.

Figure 28: Miles between Road Calls (Major Mechanical Failures): Shoreline Metro



## **Regional Trends**

### **Population**

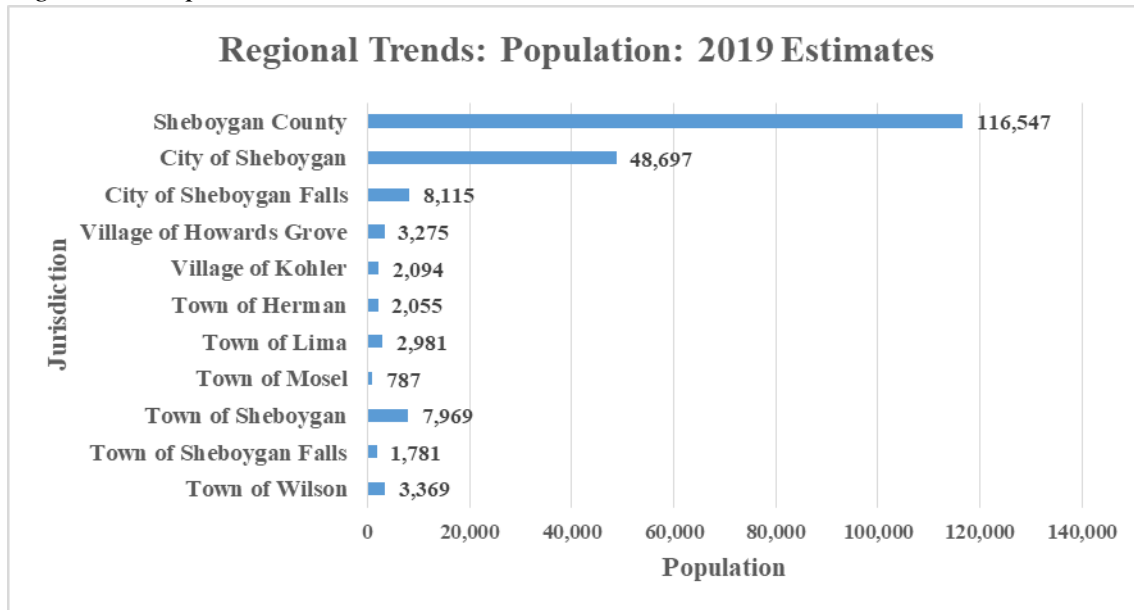
Data Source: Wisconsin Department of Administration, Demographic Services Center, 2019

Base Data:

*Table 11: Sheboygan Metropolitan Planning Area Municipalities Final Population Estimates (January 1, 2019)*

<b>Jurisdiction</b>	<b>Estimated Population</b>
Sheboygan County	116,547
City of Sheboygan	48,697
City of Sheboygan Falls	8,115
Village of Howards Grove	3,275
Village of Kohler	2,094
Town of Herman	2,055
Town of Lima	2,981
Town of Mosel	787
Town of Sheboygan	7,969
Town of Sheboygan Falls	1,781
Town of Wilson	3,369

*Figure 29: Population Trends, 2019 Estimates*



## Households

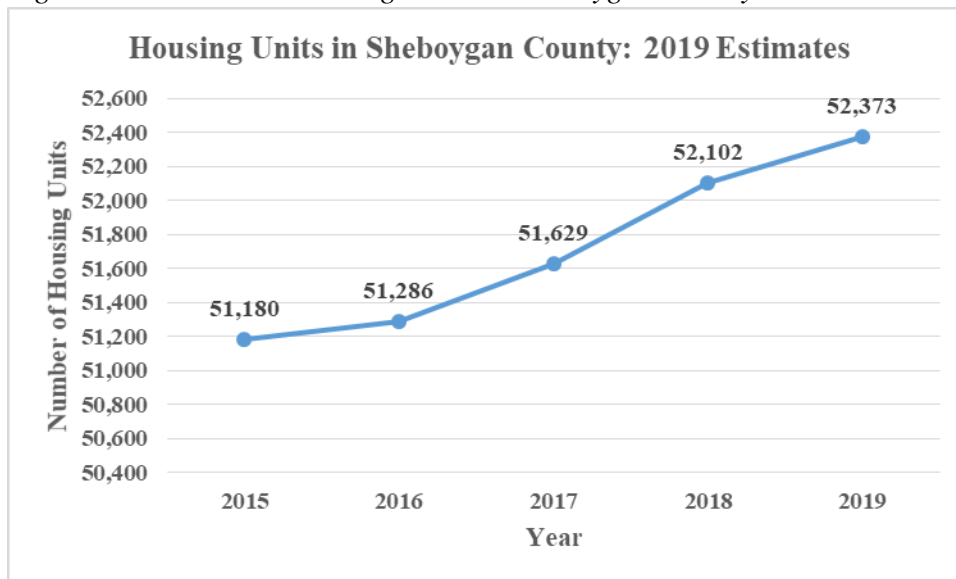
Indicator: Households

Data Source: U.S. Bureau of the Census, *2013 – 2017 American Community Survey 5-Year Estimates*; and Wisconsin Department of Administration, Demographic Services Center, 2019.

Base Data:

The Wisconsin Department of Administration's Demographic Services Center estimated that there were **52,373** housing units in Sheboygan County on April 1, 2019. Estimates were not available below the county level.

*Figure 30: Estimated Housing Units in Sheboygan County*

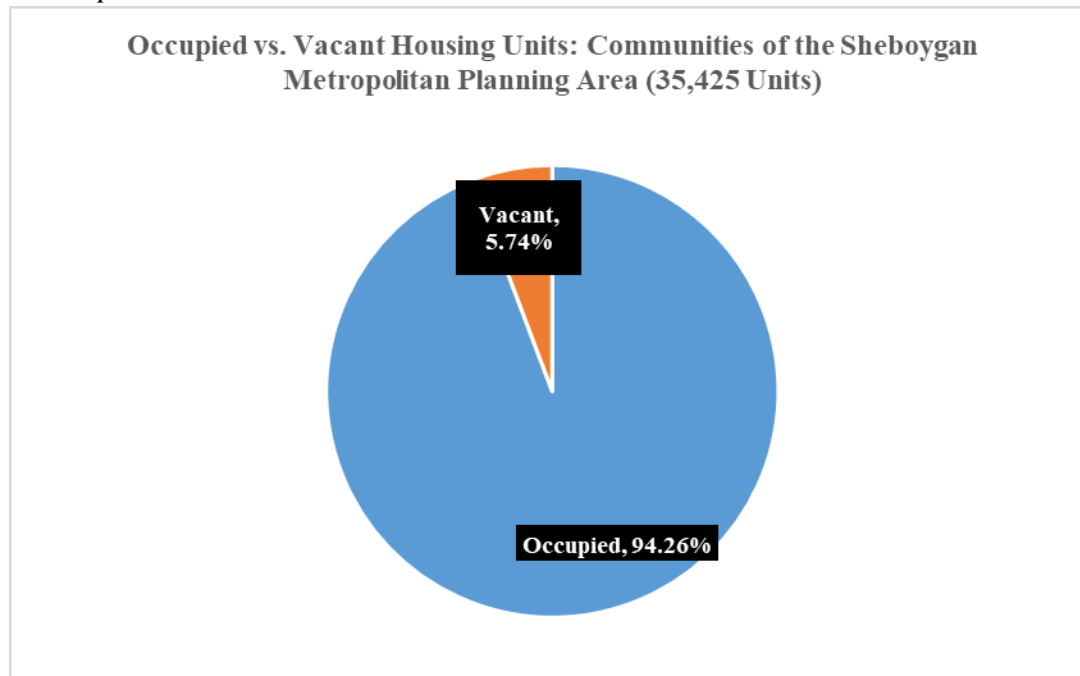


The U.S. Bureau of the Census reported the following total, occupied and vacant housing units in the communities of the Sheboygan metropolitan planning area in the *2013 – 2017 American Community Survey 5-Year Estimates*:

*Table 12: Sheboygan Metropolitan Planning Area Municipalities: Total, Occupied and Vacant Housing Units: 2013 – 2017 American Community Survey 5-Year Estimates*

<b>Jurisdiction</b>	<b>Total Housing Units</b>	<b>Occupied Housing Units</b>	<b>Vacant Housing Units</b>
City of Sheboygan	22,144	20,649	1,495
City of Sheboygan Falls	3,713	3,620	93
Village of Howards Grove	1,258	1,250	8
Village of Kohler	958	892	66
Town of Herman	664	623	41
Town of Lima	1,196	1,086	110
Town of Mosel	339	313	26
Town of Sheboygan	3,023	2,923	100
Town of Sheboygan Falls	759	715	44
Town of Wilson	1,371	1,320	51
<b>Total</b>	<b>35,425</b>	<b>33,391</b>	<b>2,034</b>
<b>Percent</b>	<b>100.00%</b>	<b>94.26%</b>	<b>5.74%</b>

*Figure 31: Occupied vs. Vacant Housing Units in Sheboygan Metropolitan Planning Area Municipalities*



Note: These statistics include five towns which have portions outside the Sheboygan metropolitan planning area. The two cities and two villages as well as the Town of Sheboygan are completely within the Sheboygan metropolitan planning area.

## Employment

Indicator: Employment

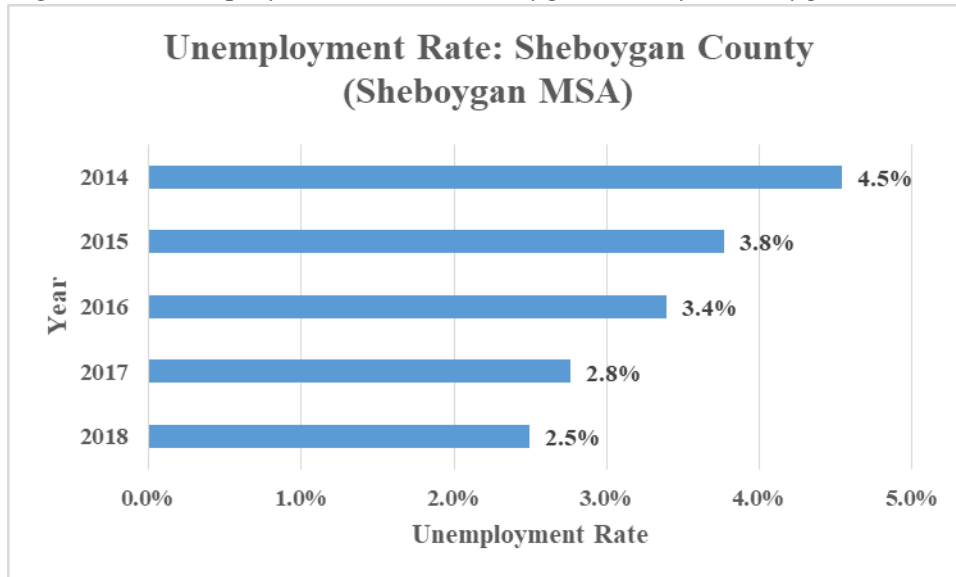
Data Source: Wisconsin Department of Workforce Development, *Local Area Unemployment Statistics* (Labor force and employment estimates by county/Metropolitan Statistical Area, or MSA)

Base Data:

Sheboygan County (the Sheboygan MSA) had an average annual labor force of 62,903 in 2018. Of these, 61,332 were employed, while 1,571 (2.5 percent) were unemployed. These figures were not seasonally adjusted.

Many unemployment rates were changed or adjusted since last year's report.

Figure 32: *Unemployment Rate in Sheboygan County (Sheboygan MSA) by Year*



## Economic Development

Indicator: Housing additions and deletions in 2018

Data Source: Wisconsin Department of Administration, Demographic Services Center, *Housing Unit Additions and Deletions for Wisconsin Minor Civil Divisions*

Base Data:

*Table 13: Sheboygan Metropolitan Planning Area Municipalities: Housing Unit Additions and Deletions: 2018*

Jurisdiction	Added Housing Units	Deleted Housing Units	Net Change in Housing Units
City of Sheboygan	21	20	1
City of Sheboygan Falls	107	4	103
Village of Howards Grove	9	0	9
Village of Kohler	0	0	0
Town of Herman	5	0	5
Town of Lima	3	0	3
Town of Mosel	1	1	0
Town of Sheboygan	48	0	48
Town of Sheboygan Falls	10	1	9
Town of Wilson	15	1	14
<b>Total</b>	<b>219</b>	<b>27</b>	<b>192</b>

*Figure 33: Net Change in Housing Units by Year in Sheboygan Metropolitan Planning Area Municipalities*

