2019
PERFORMANCE MEASURES REPORT

GREATER MADISON mpo

Greater Madison Metropolitan Planning Organization

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The preparation of this report has been financed in part through grants from the Federal Highway Administration and Federal Transit Administration, U.S. Department of Transportation, under the Metropolitan Planning Program, Section 104(f) of Title23, U.S. Code, and by the Wisconsin Department of Transportation (WisDOT).

The contents of this report do not necessarily reflect the official views or policy of the U.S. Department of Transportation or WisDOT.

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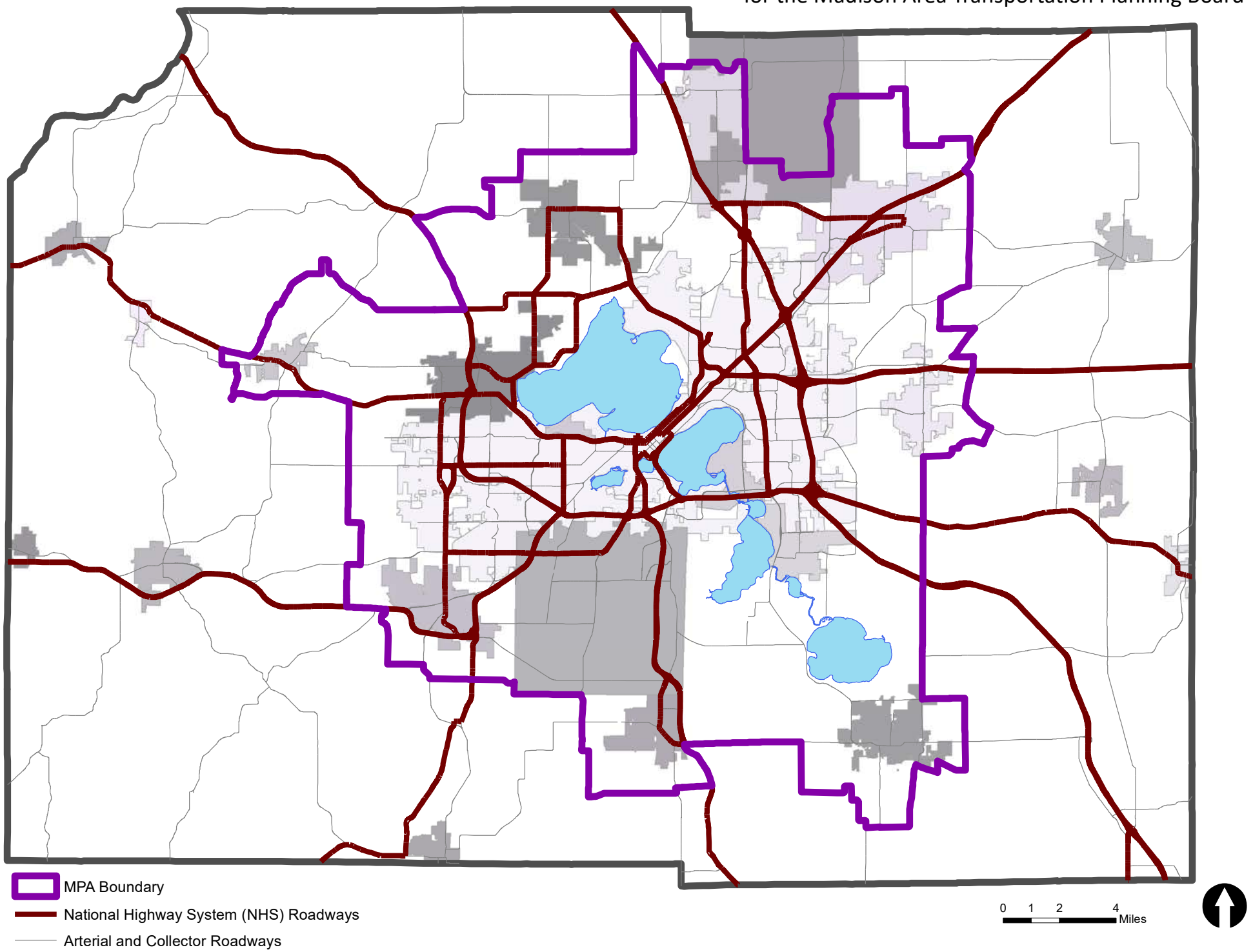
  - ***Percentage of Pavements on the Non-Interstate NHS in Poor Condition****

Bold italicized measures are federally required.

Metropolitan Planning Area Boundary

for the Madison Area Transportation Planning Board



Introduction

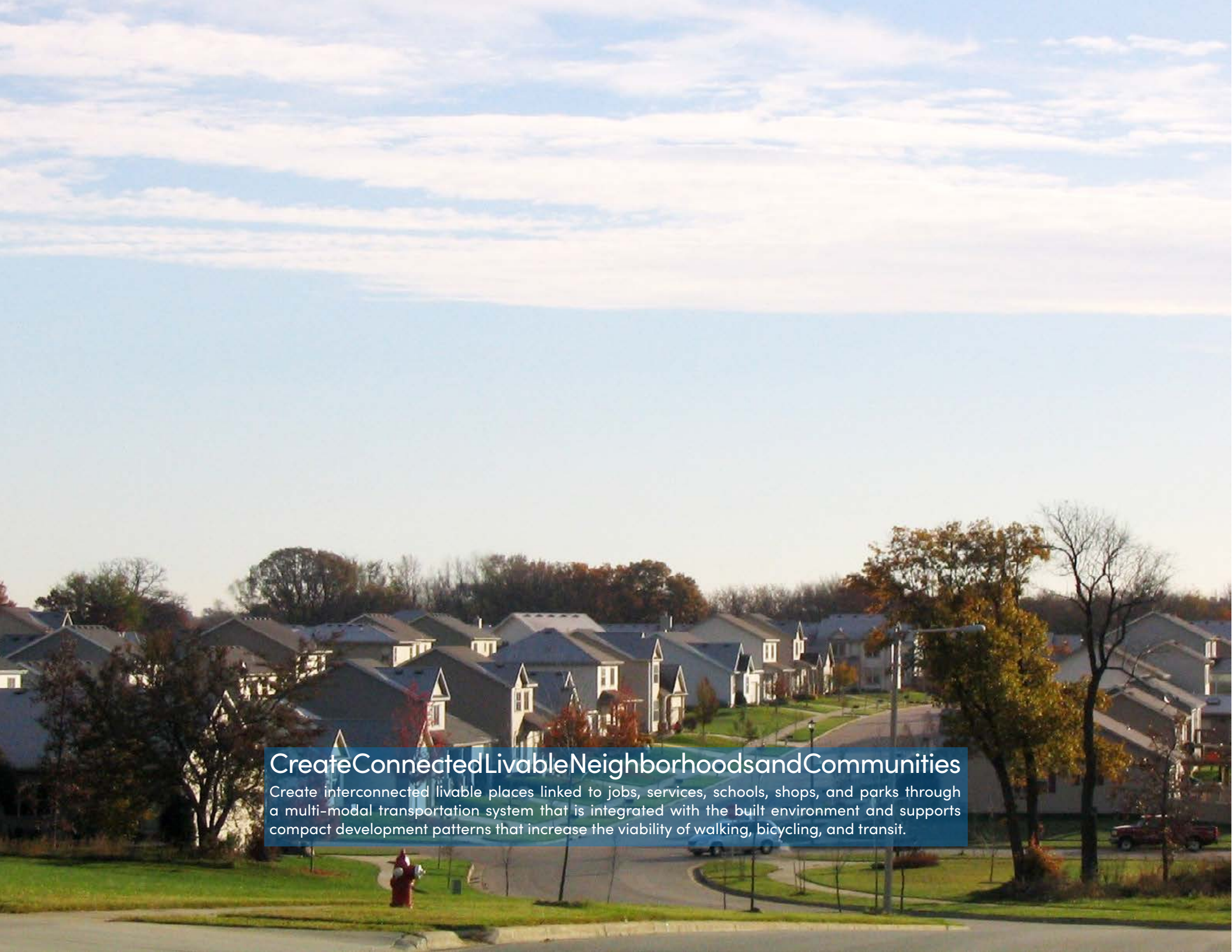
Purpose

The Greater Madison MPO (Metropolitan Planning Organization) creates and maintains the Regional Transportation Plan (RTP) for the Madison Metropolitan Area. The RTP articulates the long-range transportation vision for the region and provides numerous policies and recommends key investments to meet both regional and national goals. The seven goals identified in the RTP serve as the framework for the Performance Measures Report (PMR). The purpose of the report is to gauge progress in achieving the RTP goals, inform decisions about investments and strategies, and provide an annual snapshot of how well the regional transportation system is performing over time. Further, the PMR helps the MPO meet federal requirements for performance management outlined in the Fixing America's Surface Transportation (FAST) Act.

Some measures are applicable to more than one goal, but have been organized under the goal that fits best. Some aspects of the plan goals are not addressed by the measures due to unavailable or incomplete data. The measures in this report are not intended to be exhaustive, but rather allow tracking of meaningful progress towards goals for which accurate, easily obtainable data is available. As a result, some measures and methodologies may change from year to year. For questions regarding data sources or methodology changes please contact MPO staff.

Federal Performance Measures

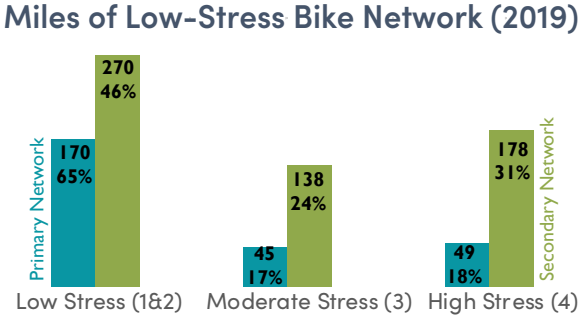
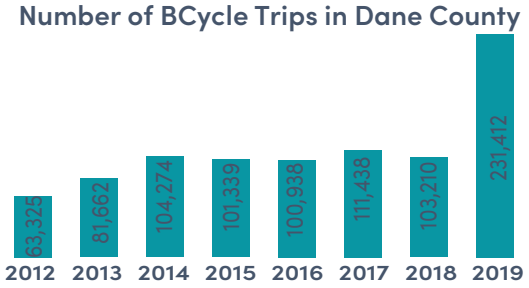
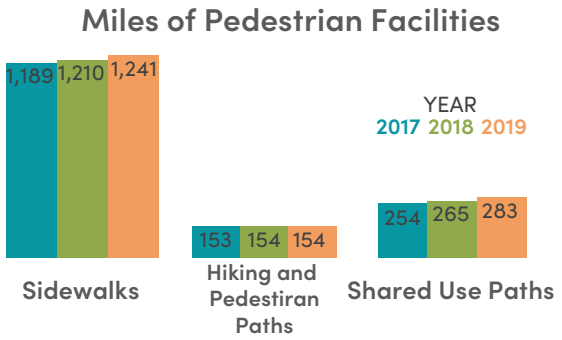
All federal performance measures have now been finalized. State department of transportations (DOTs) and transit agencies are required to establish performance targets for all federal measures. MPOs may either support the DOTs' and transit agencies' targets or establish their own. The MPO has elected to support the Wisconsin Department of Transportation (WisDOT) and Metro Transit targets for all of the federally-required perfromance measures. The WisDOT and Metro developed targets for the federal measures are included in the measure narratives later on in this report. The MPO then must document how the roadway and transit projects that are programmed for the Madison metropolitan area in the annual Transportation Improvement Program (TIP) are helping to achieve these targets.

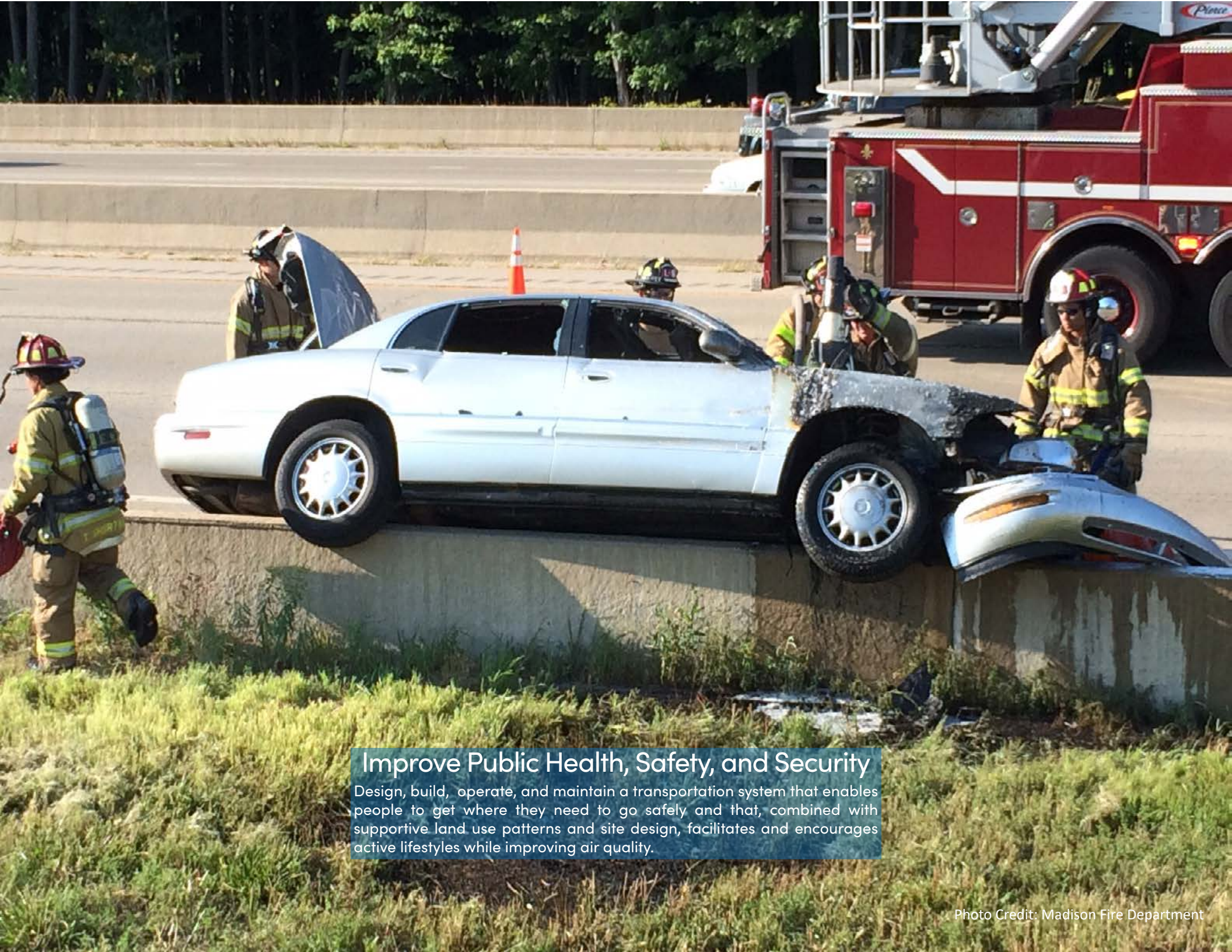


CreateConnectedLivableNeighborhoodsandCommunities

Create interconnected livable places linked to jobs, services, schools, shops, and parks through a multi-modal transportation system that is integrated with the built environment and supports compact development patterns that increase the viability of walking, bicycling, and transit.

Create Connected Livable Neighborhoods and Communities

Performance Measure	Target	Data and Trends	Current Status	Analysis
Low-Stress Bike Network *The percentage of primary and secondary bicycle networks that are high stress (LTS 4) and low stress (LTS 1 or 2)*	INCREASE in % miles of low-stress facilities DECLINE in % miles of high-stress facilities		INCREASE in % miles of low-stress facilities DECLINE in % miles of high-stress facilities	Traffic-related safety concerns are one of the largest barriers to bicycling; comfortable biking conditions on key regional routes enable more people to ride. Between 2018 and 2019, the percentage of the primary and secondary bicycle networks that are high stress (LTS 4) decreased slightly and the percentage that are low stress (LTS 1 or 2) increased slightly. See Map 1 in Mapbook.
BCycle Utilization *Number of BCycle bikeshare trips made annually*	INCREASE in utilization		INCREASE in utilization	Fueled by a full conversion to electric bikes, the number of Bcycle trips surged by nearly 125% in 2019, more than doubling the previous annual ridership record. See Map 2 in Mapbook.
Pedestrian Facilities *Miles of pedestrian facilities, including sidewalks and paths.*	INCREASE in miles of facilities		INCREASE in miles of facilities	The Madison metropolitan area has 1,241 miles of streets with sidewalk, 154 miles of pedestrian paths and hiking trails, and 283 miles of shared-use path. In total, this represents a slight increase compared to 2018.

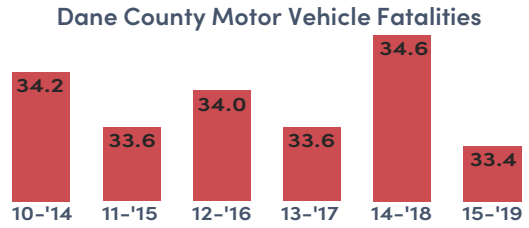
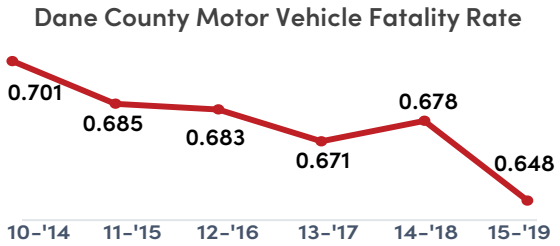
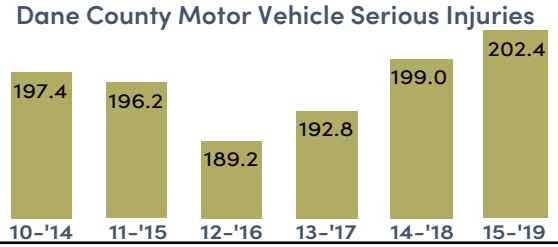
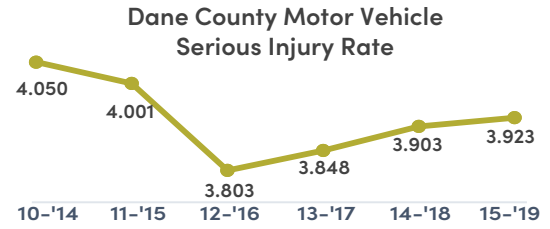
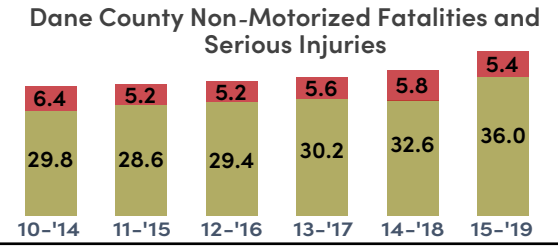


Improve Public Health, Safety, and Security

Design, build, operate, and maintain a transportation system that enables people to get where they need to go safely and that, combined with supportive land use patterns and site design, facilitates and encourages active lifestyles while improving air quality.

Photo Credit: Madison Fire Department

Improve Public Health, Safety, and Security

Performance Measure	Target	Data and Trends	Current Status	Analysis
Motor Vehicle Crash Fatalities* *The five-year rolling average of annual total fatalities in Dane County*	DECLINE Reduce by 2%		DECLINE Meets Target	Dane County experienced an average of 33.4 fatalities per year due to a motor vehicle collision for the 5-year period from 2015-2019, a decrease of 3.6% from the previous reporting period.
Motor Vehicle Crash Fatality Rate* *The five-year rolling average of annual fatalities in Dane County per 100 million vehicle miles traveled (VMT)*	DECLINE Reduce by 2%		DECLINE Meets Target	Crash rates help explain the relative safety of the system, allowing for locations with differing amounts of traffic to be compared against other locations. The 2015-2019 5-year fatality rate for Dane County was 0.648, a decrease of 4.7% from the previous period.
Motor Vehicle Crash Serious Injuries* *The five-year rolling average of annual total serious motor vehicle injuries in Dane County*	DECLINE Reduce by 5%		INCREASE Does Not Meet Target	Dane County experienced an average of 202.4 serious injuries as a result of a motor vehicle collision for the 2015-2019 5-year period, an increase of 1.7% over the previous period.
Motor Vehicle Crash Serious Injury Rate* *The five-year rolling average of annual serious motor vehicle injuries in Dane County per 100 million vehicle miles traveled (VMT)*	DECLINE Reduce by 5%		INCREASE Does Not Meet Target	The five-year serious injury rate for Dane County was 3.903, an increase of 1.4% from the previous period, the third period in a row that serious injury rate has risen.
Non-Motorized Vehicle Crash Fatalities and Serious Injuries* *The five-year rolling average of annual total bike and pedestrian fatalities and serious injuries.*	DECLINE Reduce by 5%		INCREASE Does Not Meet Target	Dane County experienced an average of 5.4 non-motorized fatalities and 36 serious injuries as a result of a motor vehicle collision for the 2015-2019 5-year period, an increase of 9.1% over the previous period.

Rolling averages smooth out the year-to-year fluctuations in the number of crashes that can occur due to the randomness of crash events that can skew the data in a particular year, allowing for an examination of trends over time. To develop the averages, counts and rates are added for a series of years and averaged for the time period.

*Indicates federal performance measure and MPO adopted targets

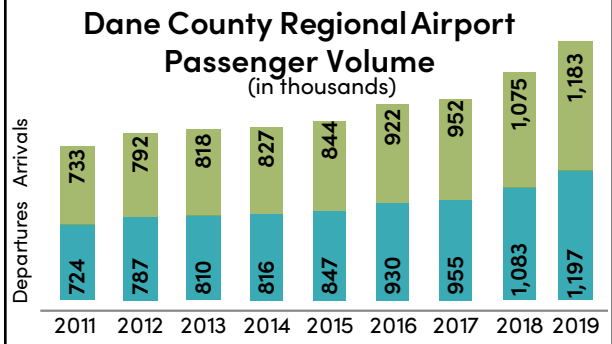
Support Personal Prosperity and Enhance the Regional Economy

Build, operate, and maintain a transportation system that provides people with affordable access to jobs and enables the exchange of goods and services within the region and to/from other regions.

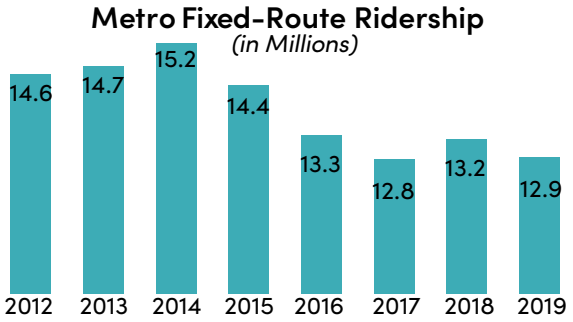
Improve Equity for Users of the Transportation System

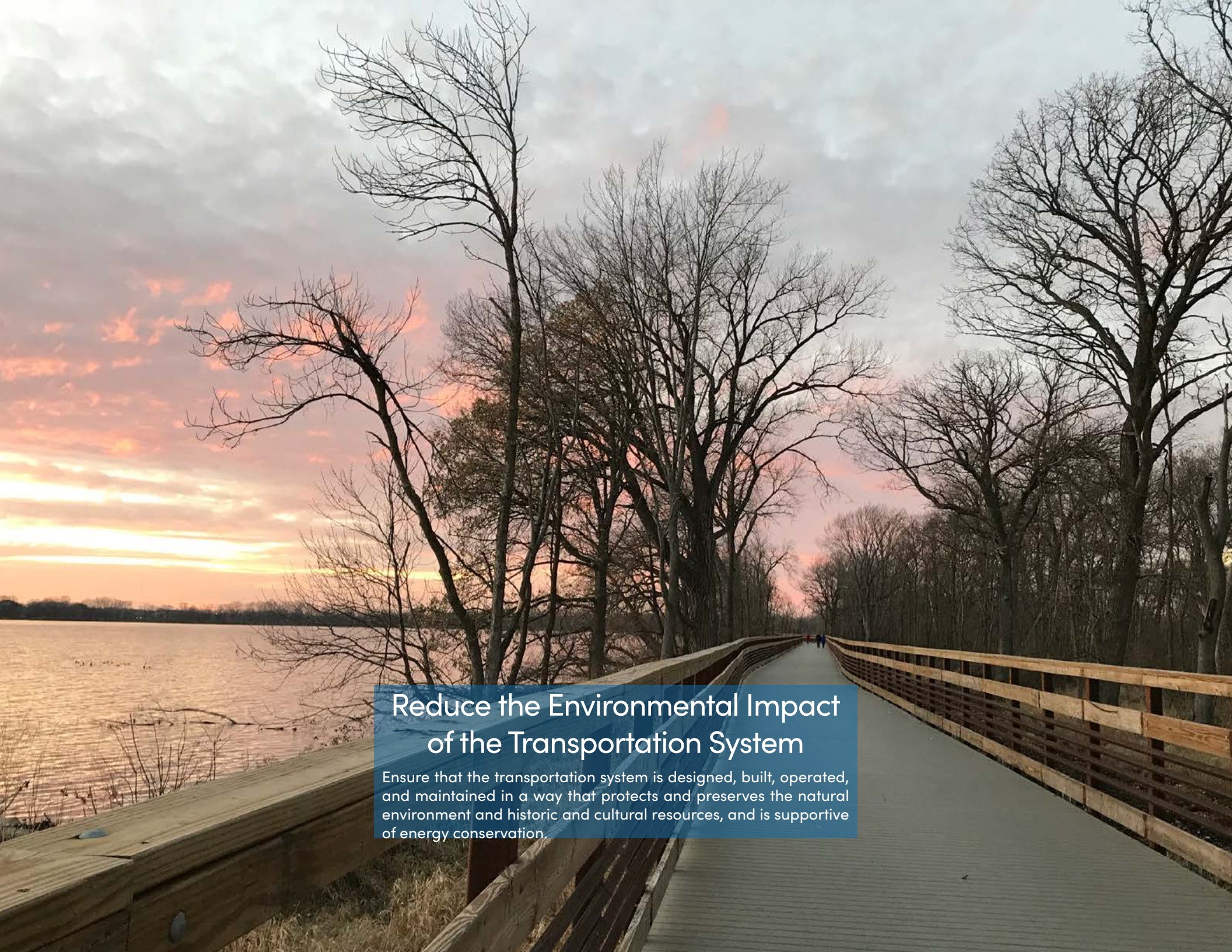
Provide an equitable level of transportation facilities and services for all regardless of age, ability, race, ethnicity, or income.

Support Personal Prosperity and Enhance the Regional Economy

Performance Measure	Target	Data and Trends	Current Status	Analysis
Airline Passenger Traffic *The total number of passengers arriving and departing from the MSN airport*	INCREASE in passengers		INCREASE in passengers	The Dane County Airport (MSN) saw a record number of passengers in 2019, a 10% increase over 2018. Airline passenger traffic increases can be attributed to the strong local economy and the additional routes and larger aircraft offered by the airlines that serve MSN, which will in turn help to continue to expand the options available to passengers.

Improve Equity for Users of the Transportation System

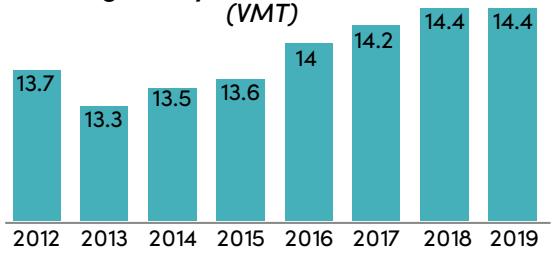
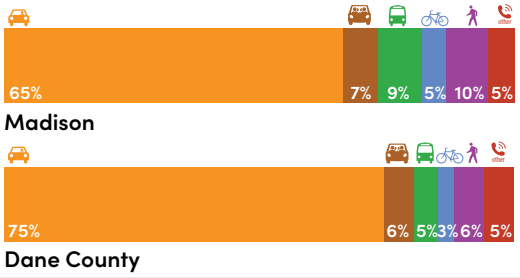
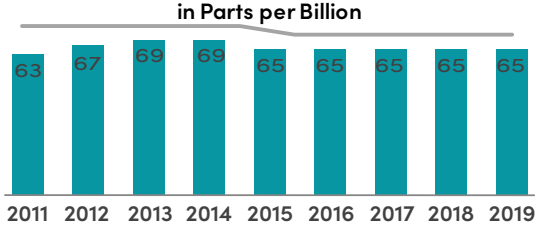
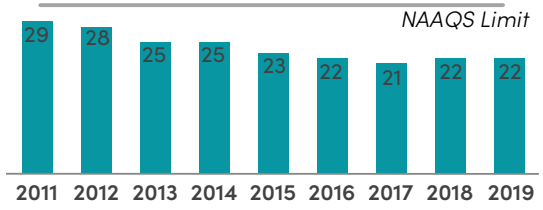
Performance Measure	Target	Data and Trends	Current Status	Analysis
Metro Transit Ridership *The total annual fixed-route ridership (in unlinked passenger trips)*	INCREASE in ridership		DECLINE in ridership	Efficient, well-used public transit service is a key part of a well-balanced transportation system that serves all users. After increasing to 13.2 million trips in 2018 from its 2017 low of 12.8 million trips, ridership dipped back to 12.9 million trips in 2019. See Map 3 in Mapbook.



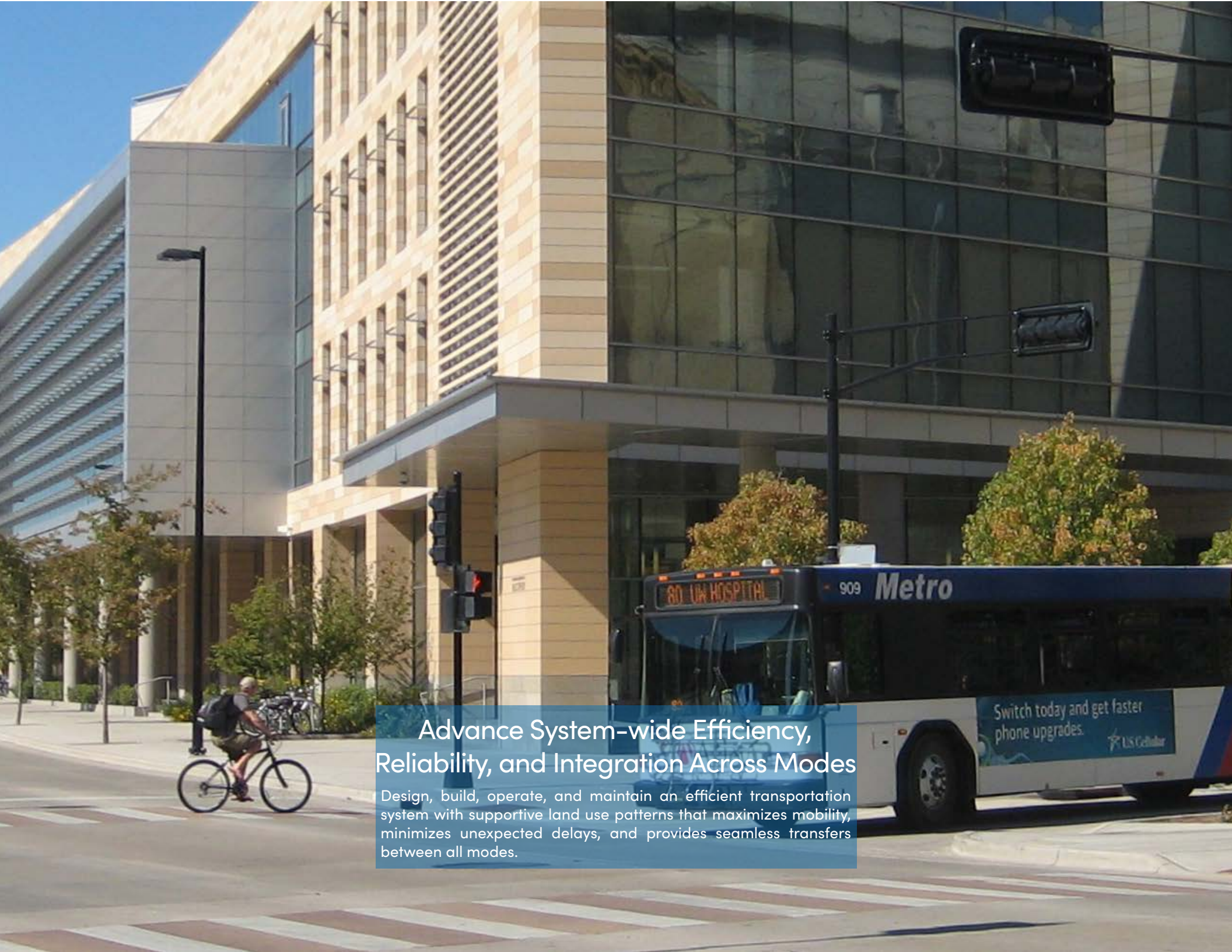
Reduce the Environmental Impact of the Transportation System

Ensure that the transportation system is designed, built, operated, and maintained in a way that protects and preserves the natural environment and historic and cultural resources, and is supportive of energy conservation.

Reduce the Environmental Impact of the Transportation System

Performance Measure	Target	Data and Trends	Current Status	Analysis
Vehicle Miles Traveled (VMT) *Total miles driven annually in Dane County*	STEADY total VMT	Dane County Average Daily Vehicle Miles Traveled *(VMT)* 	STEADY total VMT	The average VMT for Dane County in 2018 was 14,391,678 holding steady from 2018. While it is likely that VMT will continue to rise as the region adds more people, the desired trend is that the growth of VMT will not outpace the growth of the region's population, so that while there may be more people on the road, they are driving less frequently and/or shorter distances.
Mode of Transportation to Work *The type of transportation people take to get to work in Dane County*	DECLINE in # of residents driving to work alone	Mode of Transportation to Work (2018) 	STEADY # of residents driving to work alone	Commuting to work is one of the most predictable and common trips made by adults. In Dane County three-quarters (75%) of all resident workers drove alone to work in 2018, whereas more Madison residents commute by alternate modes, just 65% driving alone. These numbers have remained consistent over several years.
Air Quality- Ozone *Ozone annual mean 8-hour rolling average concentrations, averaged over three years.*	DECLINE in Ozone levels	8 Hour Ozone Levels in Parts per Billion 	STEADY Ozone levels	The region's ozone levels have remained relatively consistent. In 2015 the NAAQS limit for ozone was reduced from 75 parts per billion (ppb) to 70 ppb. The design value for 2019 was 65 ppb, unchanged from the prior reporting years.
Air Quality- Particulate Matter *PM 2.5 annual mean 24-hour rolling average concentrations, averaged over three years.*	DECLINE in PM 2.5 levels	24-Hour $PM_{2.5}$ Levels in Micrograms/Cubic Meter (LC) 	STEADY PM 2.5 levels	In preceding years, PM 2.5 levels have steadily declined, staying safely below the NAAQS limit of 35 micrograms/cubic meter. For the past two reporting periods PM 2.5 levels have remained steadily at 22 micrograms/cubic meter, still below the NAAQS limit, posing no significant health risks.

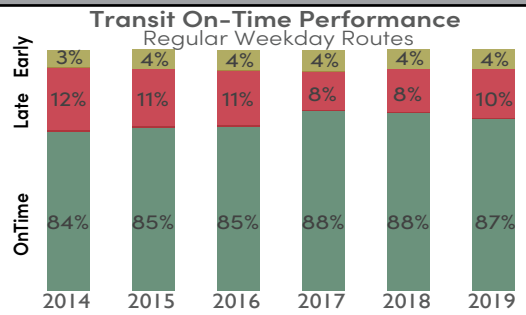
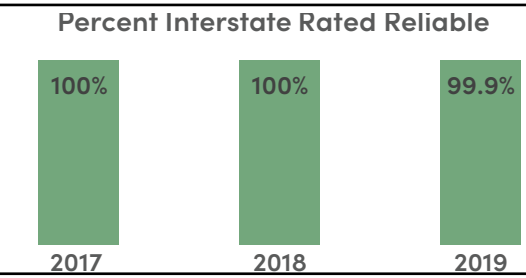
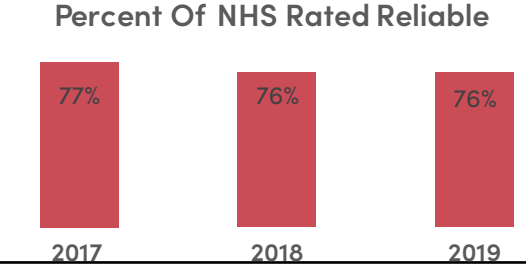
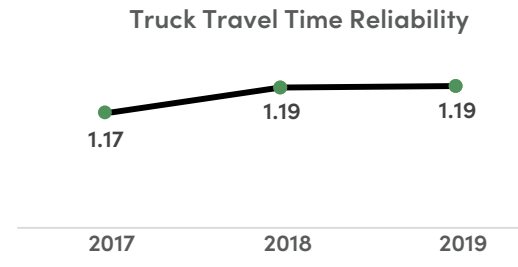
NAAQS stands for the National Ambint Air Quality Standards



Advance System-wide Efficiency, Reliability, and Integration Across Modes

Design, build, operate, and maintain an efficient transportation system with supportive land use patterns that maximizes mobility, minimizes unexpected delays, and provides seamless transfers between all modes.

Advance System-Wide Efficiency, Reliability, and Integration Across Modes

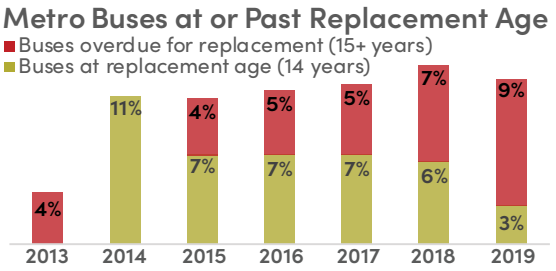
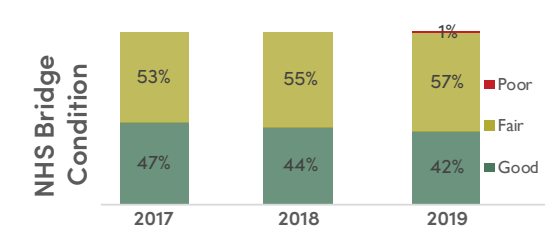
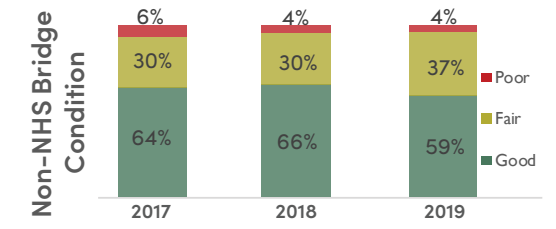
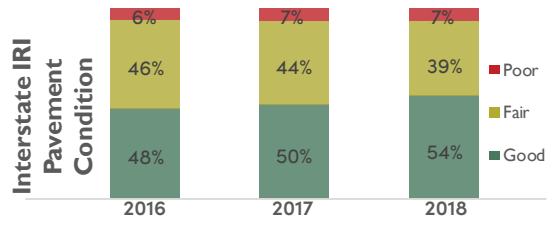
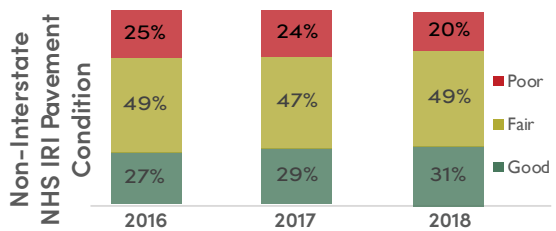
Performance Measure	Target	Data and Trends	Current Status	Analysis
Transit On-Time Performance *The percentage of Metro Transit on-time buses*	STEADY percentage of on-time buses		STEADY percentage of on-time buses	The percentage of on-time buses decreased slightly due to a small increase in late buses. The number of buses departing their stops early remained virtually unchanged from 2018.
Interstate Reliability* *Percent of person-miles traveled on the Interstate considered reliable*	2019 Target: INCREASE ≥ 94% 2021 Target: INCREASE ≥ 90%		STEADY Meets Target	In 2019 just shy of 100% of the person-miles traveled on the Interstate in the Madison Metro Area were considered reliable by the federal measure, consistent with the previous year. See Maps 4 and 5 in Map Book.
National Highway System Reliability* *Percent of person-miles traveled on the non-Interstate National Highway System (NHS) considered reliable*	2021 Target: INCREASE ≥ 86%		STEADY Does Not Meet Target	Reliability of the non-Interstate NHS has remained steady since 2017, failing to meet the target. The MPO has considerably lower NHS reliability than any other MPO in Wiscosnin. See Maps 4 and 5 in Map Book.
Reliability: Level of travel time reliability is the ratio between "normal" travel times and peak-period travel times. For instance, if the LOTTR is 1.5 for a segment, that means that a trip that would normally take 10 minutes would instead take 15 minutes (10 minutes x 1.5 = 15 minutes). The higher the LOTTR ratio is, the more delay that roadway segment experiences during the peak period. A segment is considered reliable if it has a ratio of 1.5 or less for all time periods. Rather than peak hour, the federal measure utilizes 4-hour AM and PM peak periods.				
Freight Reliability* *The truck travel time reliability index (TTTR) on the Interstate*	2019 Target: INCREASE ≤ 1.4 2021 Target: INCREASE ≤ 1.6		STEADY Meets Target	The freight reliability target measures the efficiency of freight movement on the Interstate. In 2019 the TTTR for the Interstate in the Madison Metro area was 1.19, remaing steady. See Map 6 in Map Book.
The truck travel time reliability index is a ratio between "normal" truck travel times on the Interstate and the "worst" truck travel times. The truck travel time reliability index is reported as the average truck travel time reliability index for all Interstate roadway segments. The higher the truck travel time reliability index, the greater the delay.				

*Indicates federal performance measure and MPO adopted targets

Establish Financial Viability of the Transportation System

Achieve and maintain a state of good repair for the existing transportation system, invest in cost-effective projects, and ensure adequate, reliable funding to meet current and future needs.

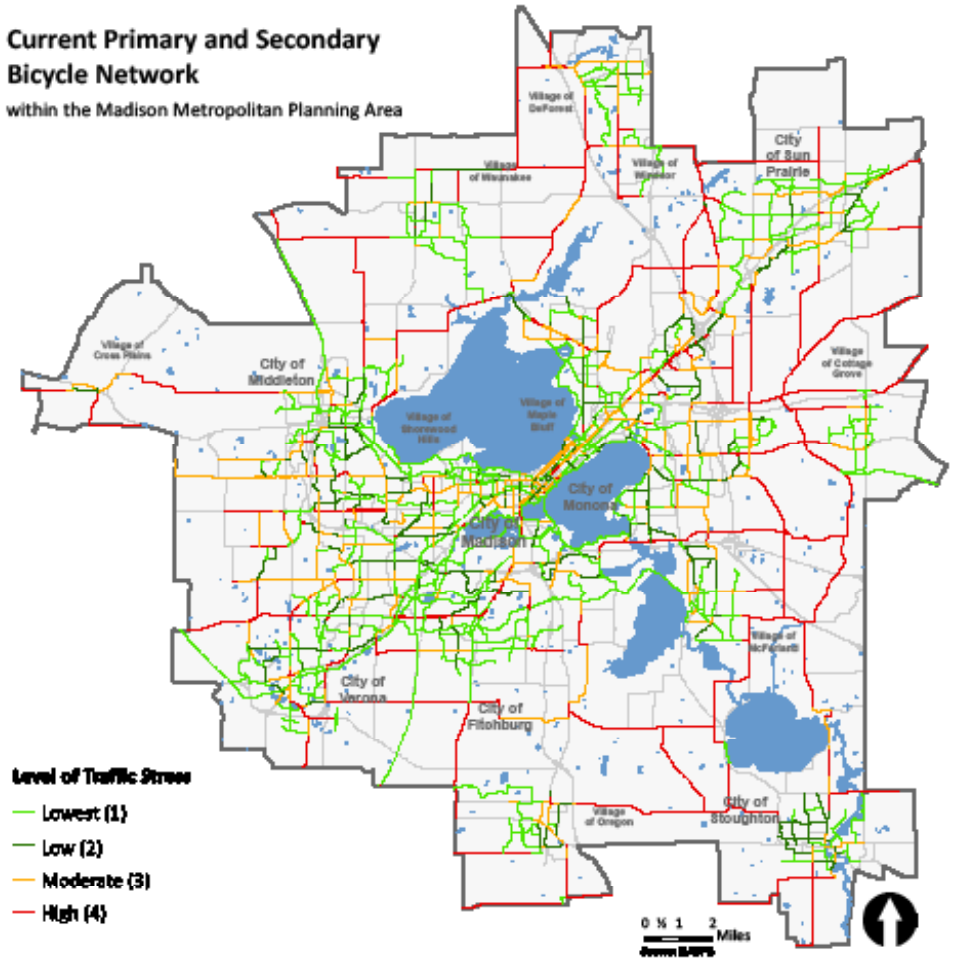
Establish the Financial Viability of the Transportation System

Performance Measure	Target	Data and Trends	Current Status	Analysis
Metro Transit Buses At or Past Replacement Age* *Bus Replacement Age: 14 years* *Past Replacement: 15+ years old*	STEADY ≤ 11% Buses Overdue for Replacement		STEADY Meets Target	In 2019 9% of the Madison Metro bus fleet was past replacement age, a slight decrease compared to 2018 and below the 11% threshold.
National Highway System (NHS) Bridge Condition* *The percentage of bridge deck area in good and poor condition*	2019 and 2021 Targets INCREASE ≥ 50% Rated "Good" DECLINE ≤ 3% rated "Poor"		DECLINE Does Not Meet Target STEADY Meets Target	In the Madison MPO area, 42% of NHS bridges are in good condition and 1% is in poor condition. See Map 7 in Map Book.
Non-NHS Bridge Condition *The percentage of bridge deck area in good and poor condition*	INCREASE Rated "Good" DECLINE Rated "Poor"		DECLINE Rated "Good" STEADY Rated "Poor"	In 2019 59% of non-NHS bridges are in good condition, a decrease from previous years, and 4% are in poor condition. See Map 8 in Map Book.
Interstate Pavement Condition* *The percentage of Interstate pavements in "Good" Condition and "Poor" Condition*	2021 Target INCREASE ≥ 45% Rated "Good" DECLINE ≤ 5% rated "Poor"		INCREASE Meets Target STEADY Does Not Meet Target	Measurements taken in 2018, the most recent data available, indicate that 54% of Interstate highway miles in the MPO area are in good condition and 7% are in poor condition. This represents a slight improvement in pavements rated "good". See Maps 9 & 10 in Map Book.
NHS Pavement Condition * *The percentage of non-Interstate NHS pavements in "Good" Condition and "Poor" Condition*	2019 and 2021 Targets INCREASE ≥ 20% Rated "Good" DECLINE ≤ 12% rated "Poor"		STEADY Meets Target DECLINE Does Not Meet Target	In 2018, 31% of non-Interstate NHS routes are in good condition and 20% are in poor condition. This represents an improvement compared to 2017. See Maps 9 and 10 in Map Book.

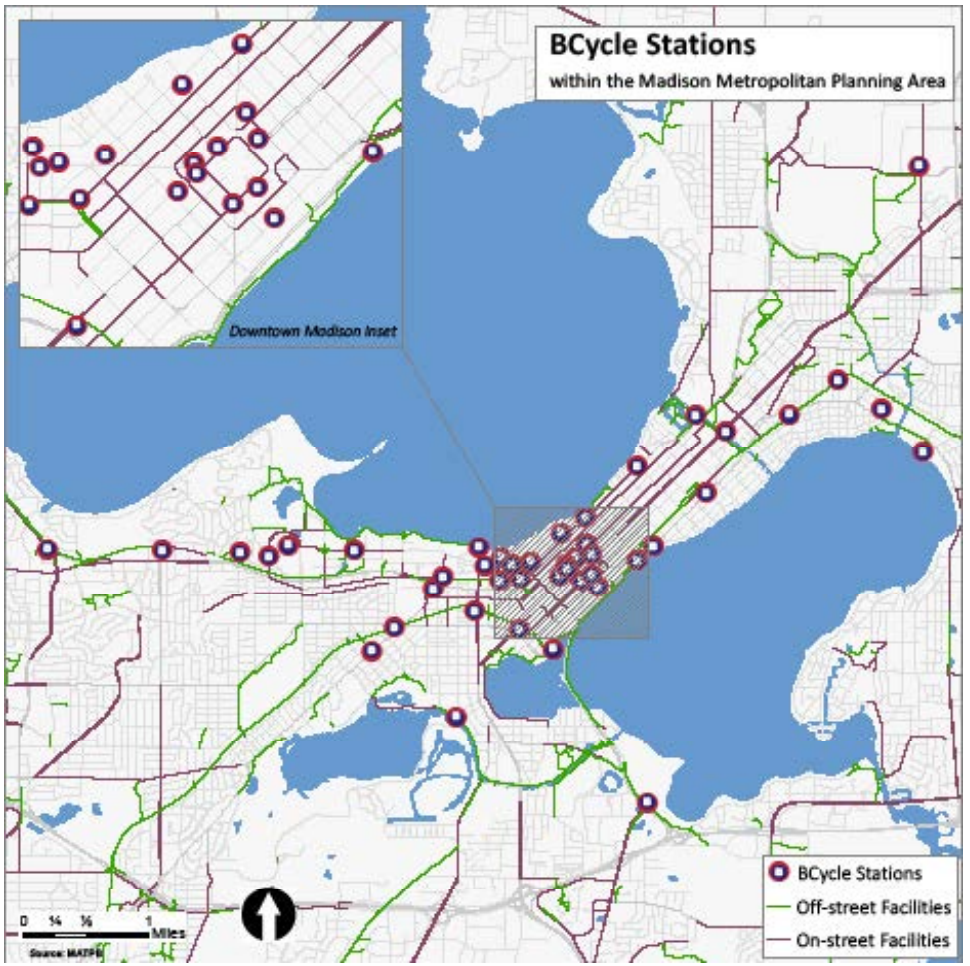
Pavement Condition: Federal guidelines specify that ratings should be based on international roughness index (IRI), cracking, and either rutting or faulting, depending on pavement type. These ratings are based exclusively on IRI because the other measures are not currently available. The MPO recommends that the PCI and PASER index for pavement condition (Map 11 in Map Book) is a more accurate measure in the Madison region.

***Indicates federal performance measure and MPO adopted targets**

Performance Measure Map Book

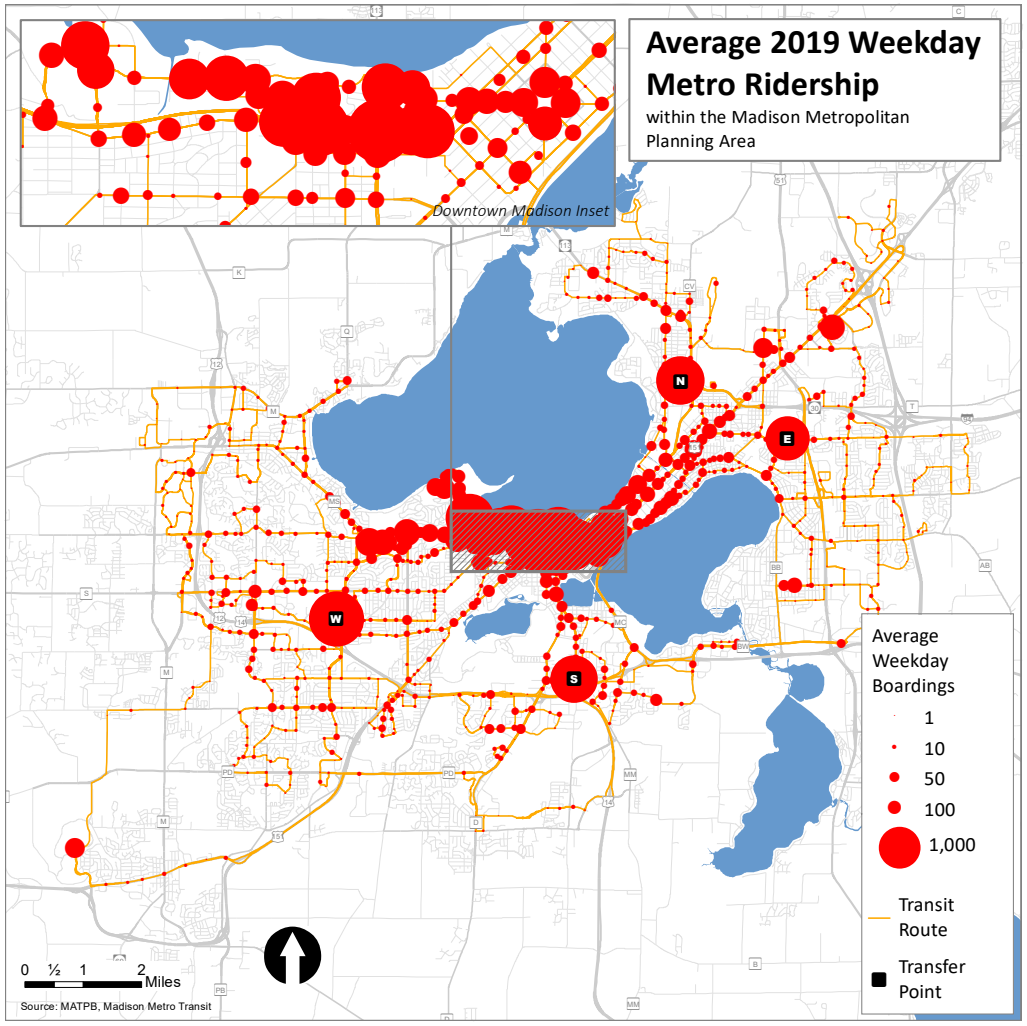

Current Primary and Secondary Bicycle Network
within the Madison Metropolitan Planning Area
City of Middleton
City of Sun Prairie
City of Monona
City of Madison
City of Fitchburg
City of Stoughton
City of Verona
Village of Cottage Grove
Village of Oregon
Level of Traffic Stress
Lowest (1)
Low (2)
Moderate (3)
High (4)
0 ½ 1 2 Miles

Map 1

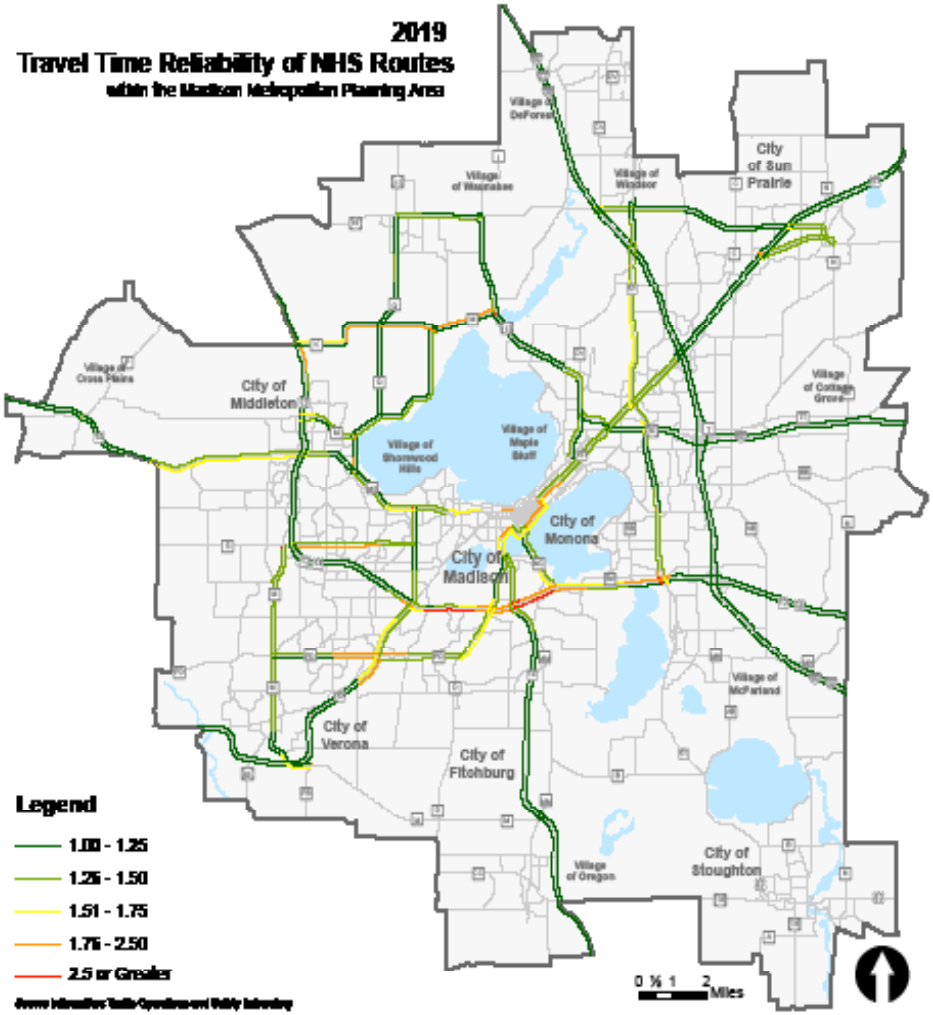

BCycle Stations
within the Madison Metropolitan Planning Area
Downtown Madison Inset
BCycle Stations
Off-street Facilities
On-street Facilities
0 ¼ ½ 1 Miles

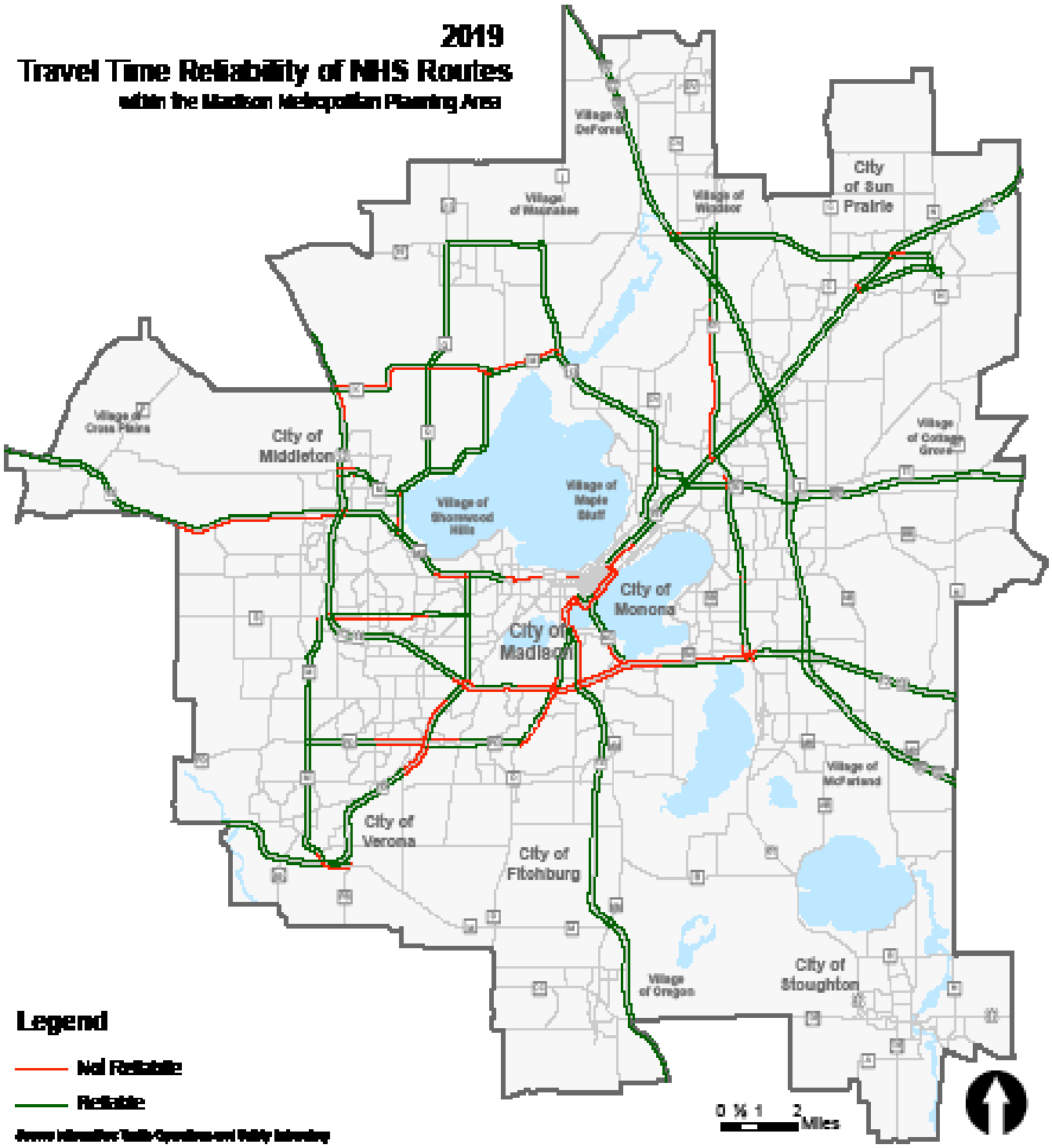
Map 2

Map 3

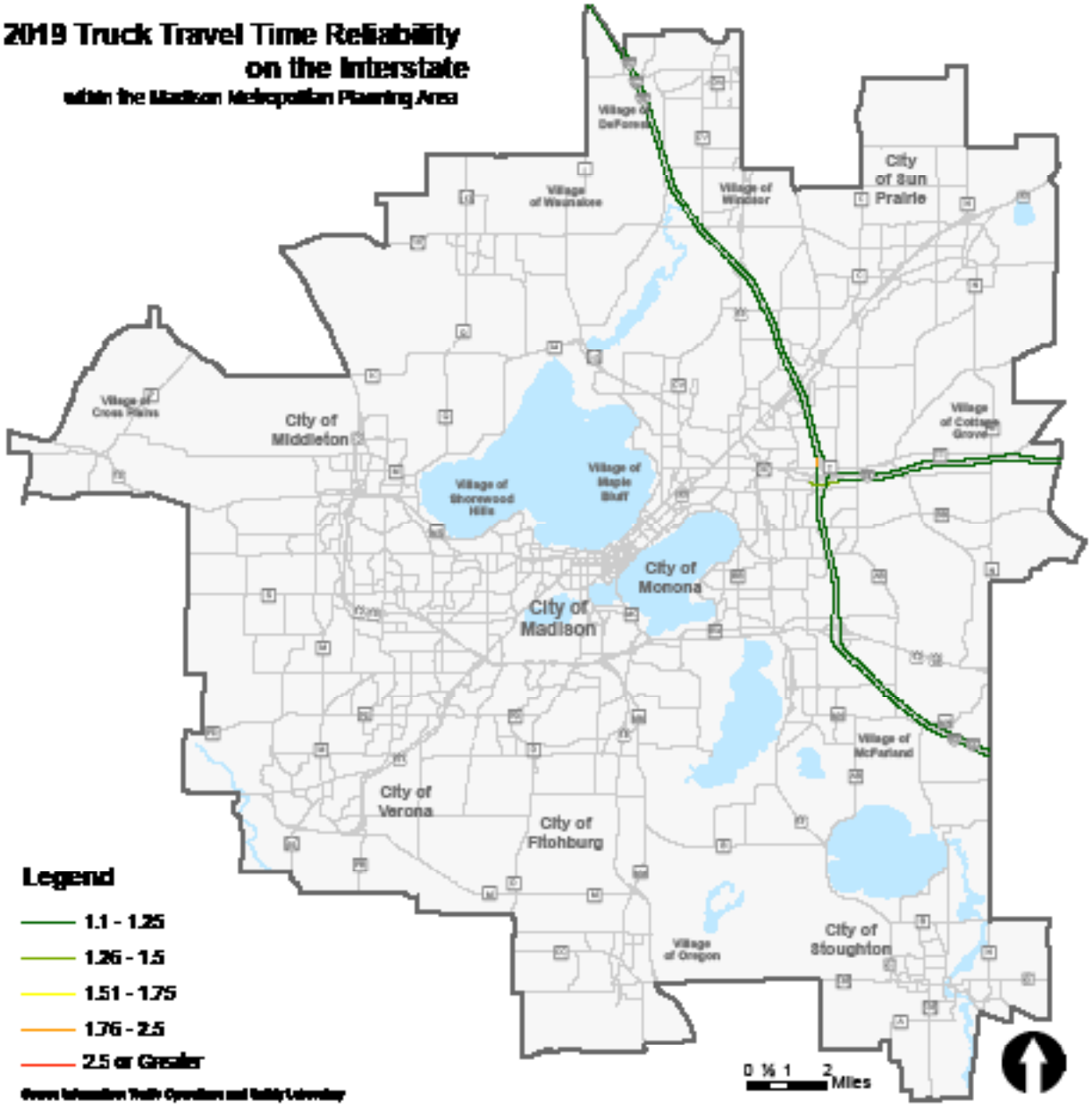

Average 2019 Weekday Metro Ridership
within the Madison Metropolitan Planning Area
Downtown Madison Inset
N
E
W
S
Average Weekday Boardings
1
10
50
100
1,000
Transit Route
Transfer Point
0 ½ 1 2 Miles
Source: MATPB, Madison Metro Transit

Map 4

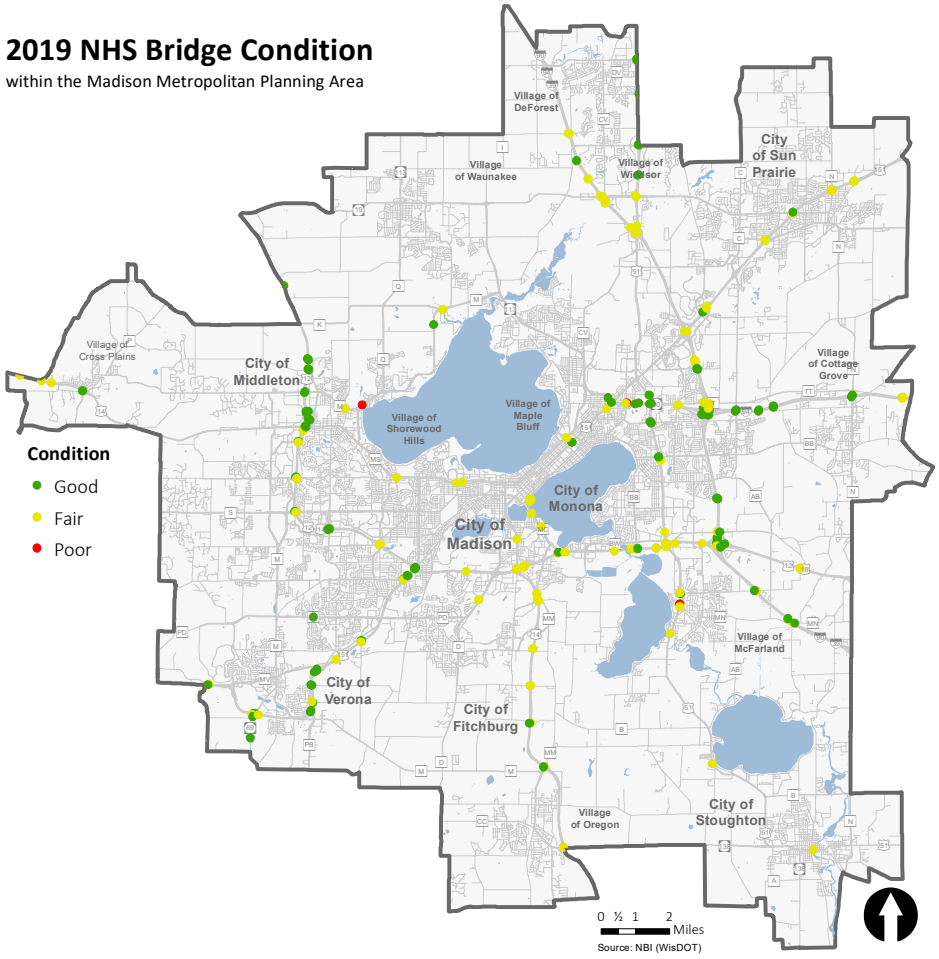

2019
Travel Time Reliability of NHS Routes
City of Middleton
City of Madison
City of Monona
City of Verona
City of Fitchburg
City of Stoughton
City of Sun Prairie
Legend
1.00 - 1.25
1.26 - 1.50
1.51 - 1.75
1.76 - 2.50
2.5 or Greater
0 ½ 1 2 Miles


2019
Travel Time Reliability of NHS Routes
within the Madison Metropolitan Planning Area
Village of DeForest
Village of Waunakee
Village of Windsor
City of Sun Prairie
Village of Cross Plains
City of Middleton
Village of Shorewood Hills
Village of Maple Bluff
Village of Cottage Grove
City of Monona
City of Madison
Village of McFarland
City of Verona
City of Fitchburg
Village of Oregon
City of Stoughton
Legend
Not Reliable
Reliable
0 ½ 1 2 Miles

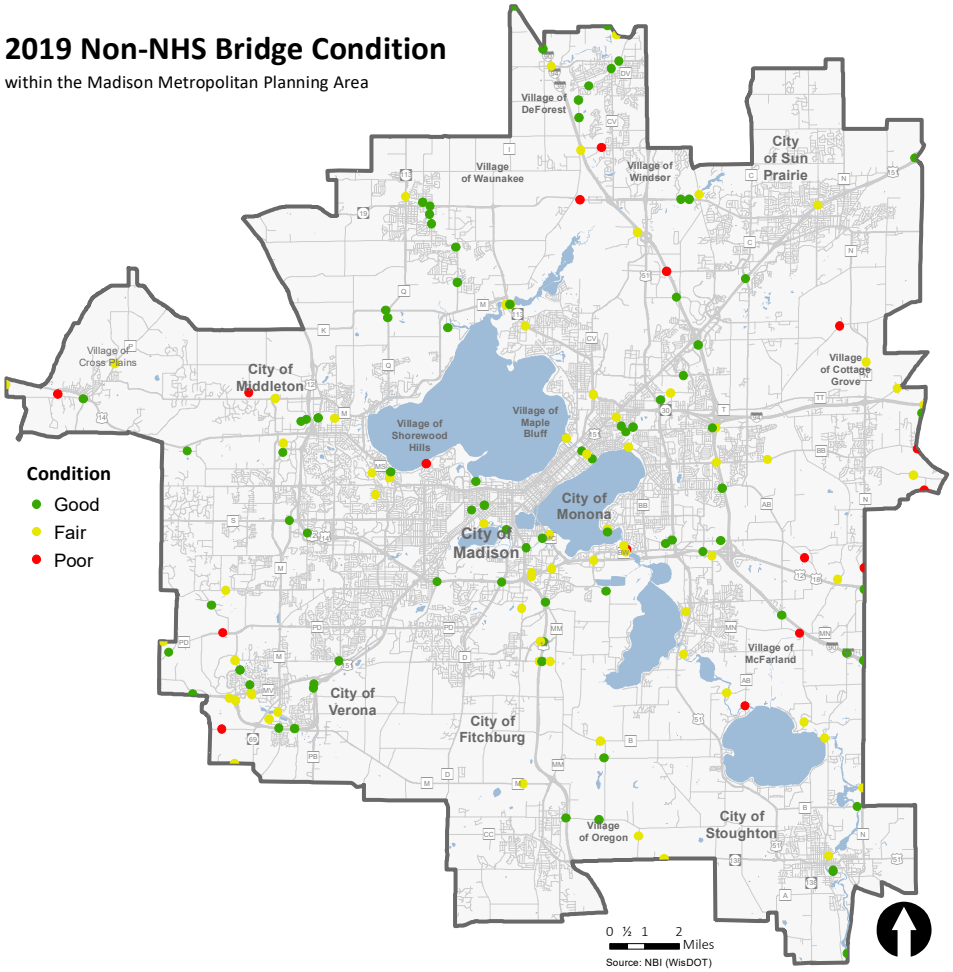
Map 6

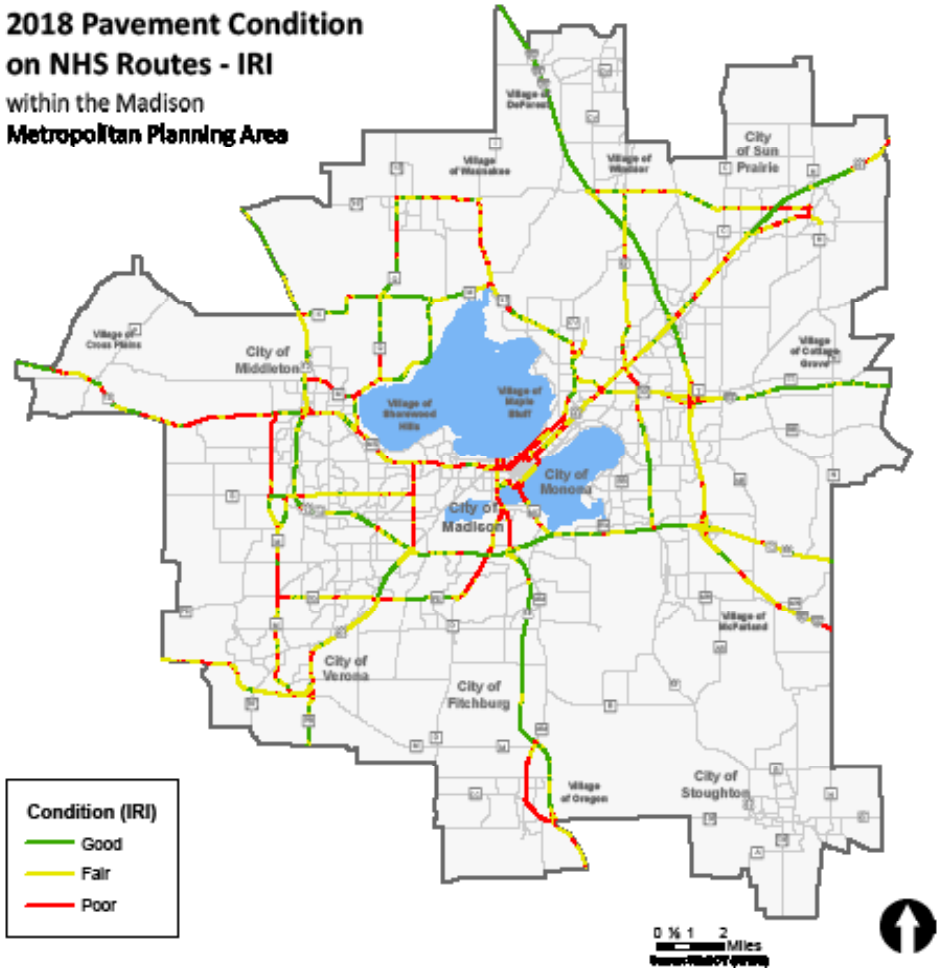

2019 Truck Travel Time Reliability
on the Interstate
within the Madison Metropolitan Planning Area
City of Middleton
City of Madison
City of Monona
City of Sun Prairie
City of Verona
City of Fitchburg
City of Stoughton
Village of Cross Plains
Village of Shorewood Hills
Village of Maple Bluff
Village of Cottage Grove
Village of McFarland
Village of Oregon
Legend
1.1 - 1.25
1.26 - 1.5
1.51 - 1.75
1.76 - 2.5
2.5 or Greater
0 ½ 1 2 Miles

Map 7

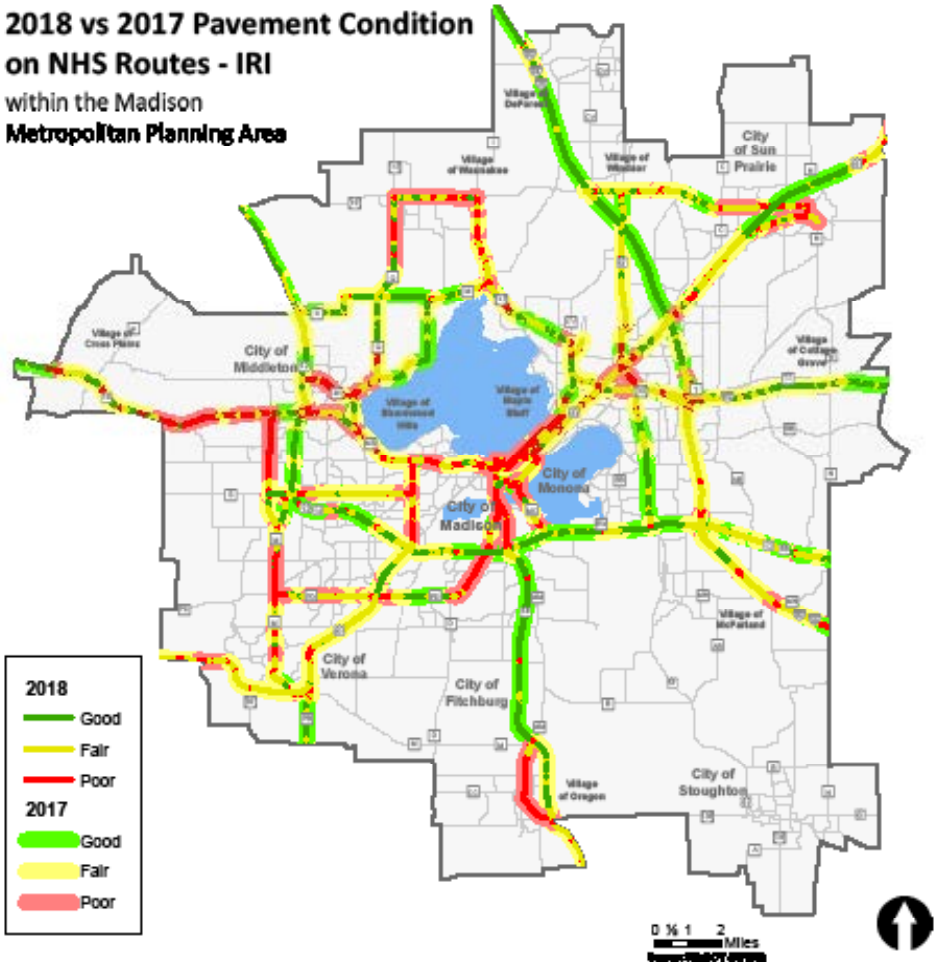

2019 NHS Bridge Condition
within the Madison Metropolitan Planning Area
Condition
Good
Fair
Poor
Village of DeForest
Village of Waunakee
Village of Windsor
City of Sun Prairie
Village of Cross Plains
City of Middleton
Village of Shorewood Hills
Village of Maple Bluff
Village of Cottage Grove
City of Monona
City of Madison
Village of McFarland
City of Verona
City of Fitchburg
Village of Oregon
City of Stoughton
0 ½ 1 2
Miles
Source: NBI (WisDOT)

Map 8


2019 Non-NHS Bridge Condition
within the Madison Metropolitan Planning Area
Condition
Good
Fair
Poor
Village of DeForest
Village of Waunakee
Village of Windsor
City of Sun Prairie
Village of Cross Plains
City of Middleton
Village of Shorewood Hills
Village of Maple Bluff
Village of Cottage Grove
City of Monona
City of Madison
Village of McFarland
City of Verona
City of Fitchburg
Village of Oregon
City of Stoughton
0 ½ 1 2
Miles
Source: NBI (WisDOT)


2018 Pavement Condition
on NHS Routes - IRI
within the Madison
Metropolitan Planning Area
City of Middleton
City of Sun Prairie
City of Monona
City of Madison
City of Verona
City of Fitchburg
City of Stoughton
Condition (IRI)
Good
Fair
Poor
0 ½ 1 2
Miles

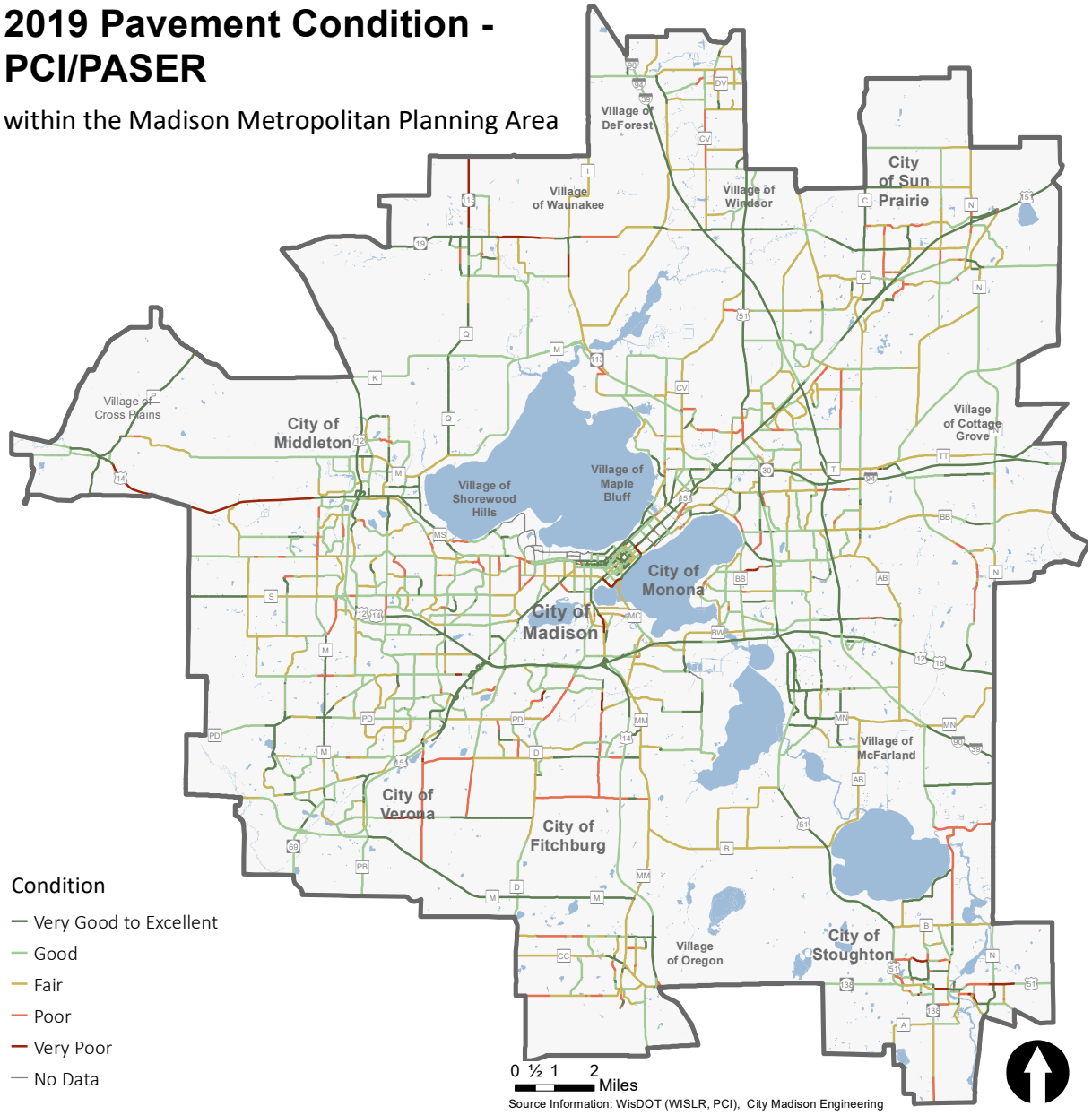
Map 9


2018 vs 2017 Pavement Condition
on NHS Routes - IRI
within the Madison
Metropolitan Planning Area
City of Middleton
City of Sun Prairie
City of Monona
City of Madison
City of Verona
City of Fitchburg
City of Stoughton
2018
Good
Fair
Poor
2017
Good
Fair
Poor
0 ½ 1 2
Miles

Map 10

2019 Pavement Condition - PCI/PASER

within the Madison Metropolitan Planning Area



Map 11