Madison Beltline Study

Planning and Environment Linkages (PEL)

September, 2013

Public Involvement Meetings

Evening Schedule

5:30 – 6 pm	Open House
6 pm	Summary Presentation
6:20 – 7:15 pm	Open House
7:15 pm	Summary Presentation
7:35 – 8 pm	Open House

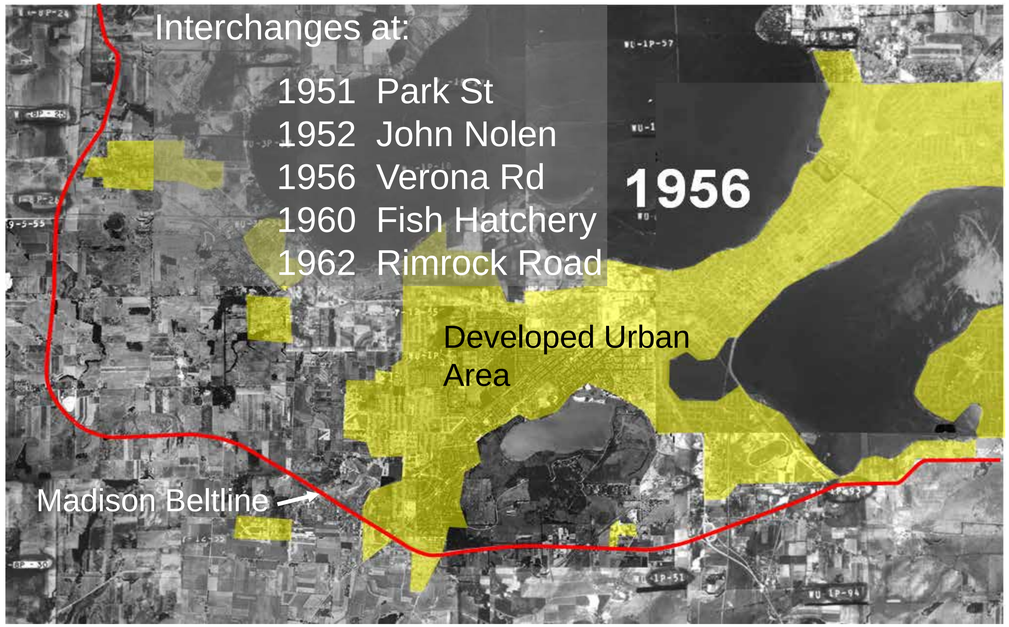
PLANNING & ENVIRONMENT LINKAGES

Evening Schedule

6 – 6:30 pm	Open House
6:30 pm	Summary Presentation
6:50 – 7:45 pm	Open House
7:45 pm	Summary Presentation
8:05 – 8:30 pm	Open House

PLANNING & ENVIRONMENT LINKAGES

Beltline history



The Madison Beltline was constructed in the early 1950s as a rural ring road that bypassed the city of Madison. The Beltline provided important access to the metropolitan area, allowing Dane County to be one of the fastest growing areas in the state. It now carries much more traffic than it was originally designed for and does not provide the same cross and intercommunity access.

Summary of Beltline Projects

Light Green Signifies Legislative		*Light Yellow signifies Planning*	*Orange signifies Construction*
Date	**Project Type**	**Activities**	
1944	Legislative	State Highway Commission approves concept of Beltline around Madison.
1949	Construction	Construction begins on south Beltline and east Beltline (Stoughton Road).
1951	Construction	Park Street crossing converted to an interchange.
1952	Construction	John Nolen crossing converted to an interchange.
1956	Construction	Beltline expanded to four lanes from Park Street west.
1956	Construction	US 51 crossing converted to an interchange.
1957-58	Construction	Nakoma Road (Verona Road) interchange opened.
1960	Construction	Fish Hatchery Road crossing converted to an interchange.
1962	Construction	Rimrock Road crossing converted to a partial interchange.
1968	Plan	WisDOT unveils 10-yr plan to upgrade Beltline to 6-lane freeway.
1972	Construction	Beltline expanded to 6-lanes east of Fish Hatchery Road.
1972	FEIS & ROD	Final Environmental Impact Statement. Approval for 6-lane South Beltline from South Towne Dr (Broadway).
1976	Referendum	Referendum stops South Beltline project due to wetland concerns with Mud Lake.
1979	Construction	Verona Road interchange expanded.
1981	NEPA	NEPA (Environmental Impact Statement) process restarted for South Beltline from South Towne Dr to I-90.
1984	FEIS & ROD	Final Environmental Impact Statement. Approval for South Beltline from South Towne Dr to I-90.
1989	Construction	South Beltline from South Towne Dr to I-90 constructed.
1999	Needs Assessment	Operational and safety needs of Beltline identified in report.
2000	Alternatives Analysis	Reviewed a series of alternatives for the West Beltline and Verona Road.
1999	Construction	Triple left turn lane added on Verona Road WB off-ramp.
2000	NEPA Process Started	Developed and evaluated alternatives for Beltline corridor, Beltline crossings, Verona Road corridor.
2000	Construction	Auxiliary lanes added on Beltline. Ramp meters.
2004	DEIS	Draft Environmental Impact Statement released for West Beltline and Verona Road corridors.
2005	Construction	Agricultural Drive overpass constructed.
2005-6	Construction	Middleton bypass constructed.
2006	Construction	Improvements to Todd Drive portion of Beltline.
2008	Study	Report - Beltline Safety and Operational Needs Study
2010	SDEIS	Verona Road Supplemental DEIS released for only Verona Rd. Corridor.
2011	FEIS & ROD	Verona Road Record Of Decision obtained for single point interchange and jug-handle intersection.
2011	Authorization	Transportation Projects Commission authorizes study of the Beltline
2012	Construction	Park Street interchange reconstructed.
2013	Construction	Fish Hatchery interchange reconstructed.
2013	Construction	Verona Road interchange reconstruction started.

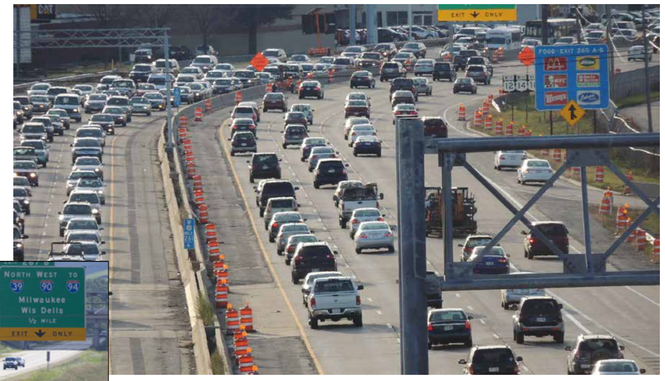
Why is the Beltline being studied?

The Madison Beltline links southwest Wisconsin to the nation, and provides an important connection between neighborhoods, businesses, communities, and regions. Initially constructed in the late 1950s, it became the main east-west highway in the Madison area. Motorists use the Beltline to travel to work, school, shopping and recreational destinations. The Beltline carries up to 123,000 vehicles per day. Without the Beltline, a stronger system of local streets and arterials would be needed to shoulder this burden.

A 2008 Madison Beltline Safety and Operation Needs Assessment documented a number of deficiencies associated with this freeway corridor. In November of 2011 Wisconsin's Transportation Projects Commission authorized the study of long-term solutions for the Madison Beltline from US 14 in Middleton to County N in Cottage Grove. Solutions are needed to address the following Beltline issues:

- Roadway safety concerns.
- Increasing travel demand and congestion.
- Limited accommodations for and integration of alternate travel modes.

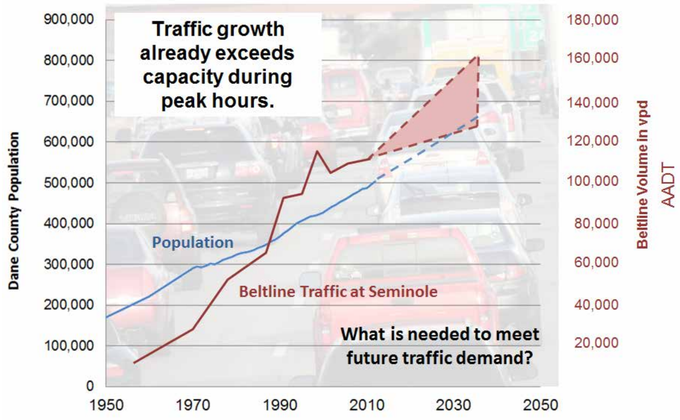
These issues lead to unreliable travel times, higher travel costs, and negative economic and environmental consequences for area residents, commuters, businesses, and freight movements.



Congestion

(AP Photo/Wisconsin State Journal, Steve Apps)

Safety

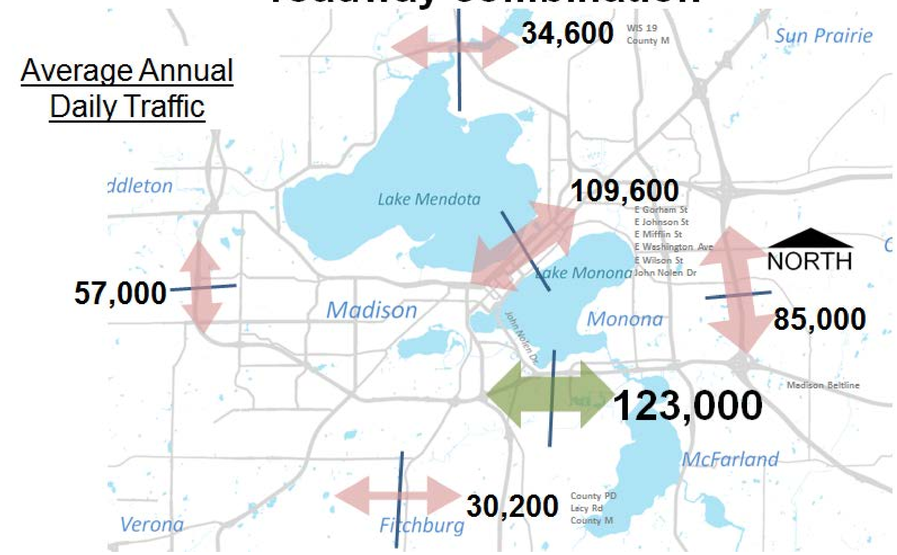


Regional Growth

Livability and Alternate Modes

Why is the Beltline being studied?

Beltline carries more traffic than any other roadway combination

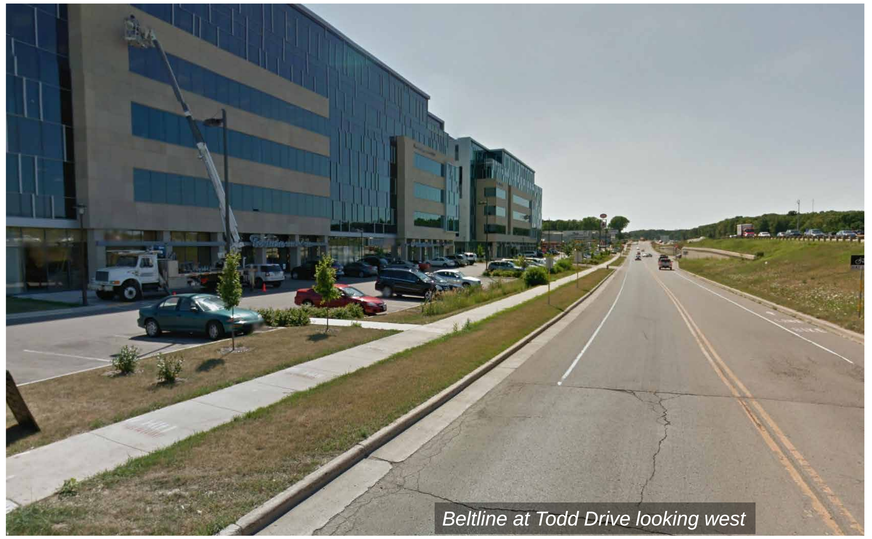


The Beltline carries more east-west traffic than any other arterial in Dane County. Dane County residents use it for cross community access, employment access, and shopping.

The Beltline provides a significant contribution to Dane County's economy.

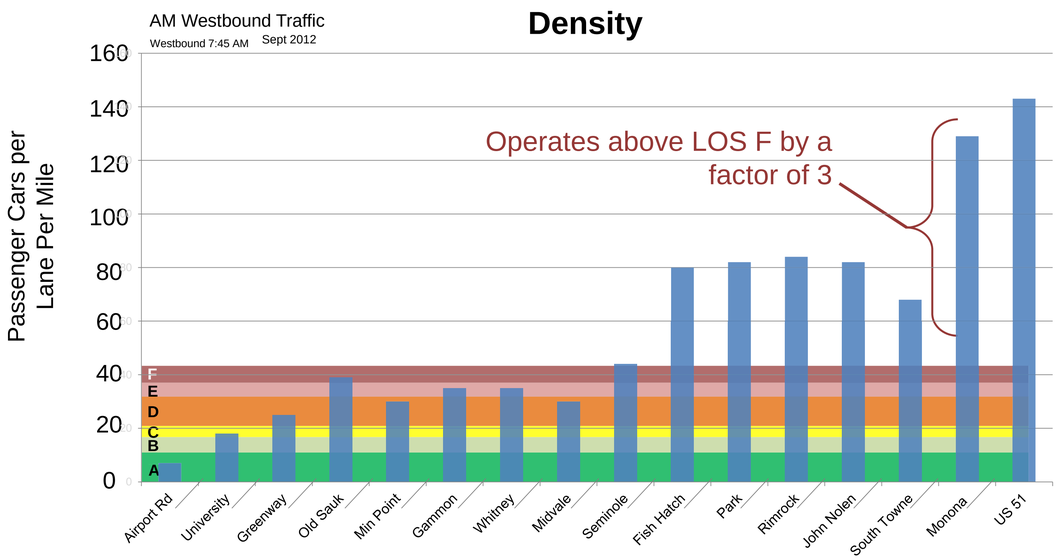
- 43 industrial/business parks with over 5000 acres are located within 5 miles of Beltline *(of 65 in Dane County)*
- 5,500 businesses lie within 1 mile of Beltline *(of 21,600 in Dane County)*
- In 2011, 12.2 million tons of freight valued at $14.2 billion was shipped on the Beltline
- 56% of the freight originated in Wisconsin

East of Whitney Way looking west

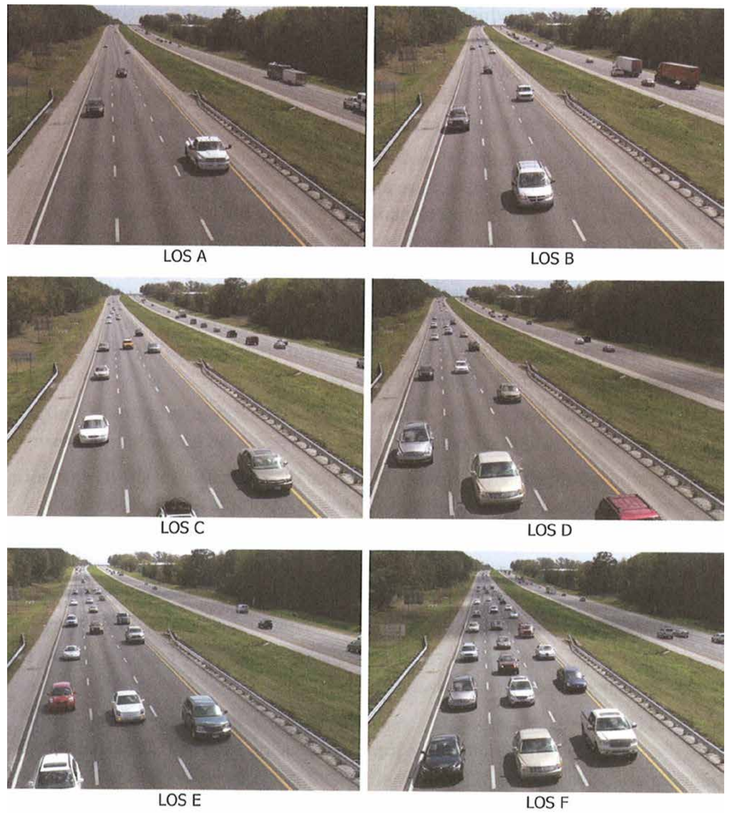

Beltline at Todd Drive looking west

Traffic operations

Congestion
Congestion is described by Level of Service (LOS), which ranges from A (excellent) to F (poor).



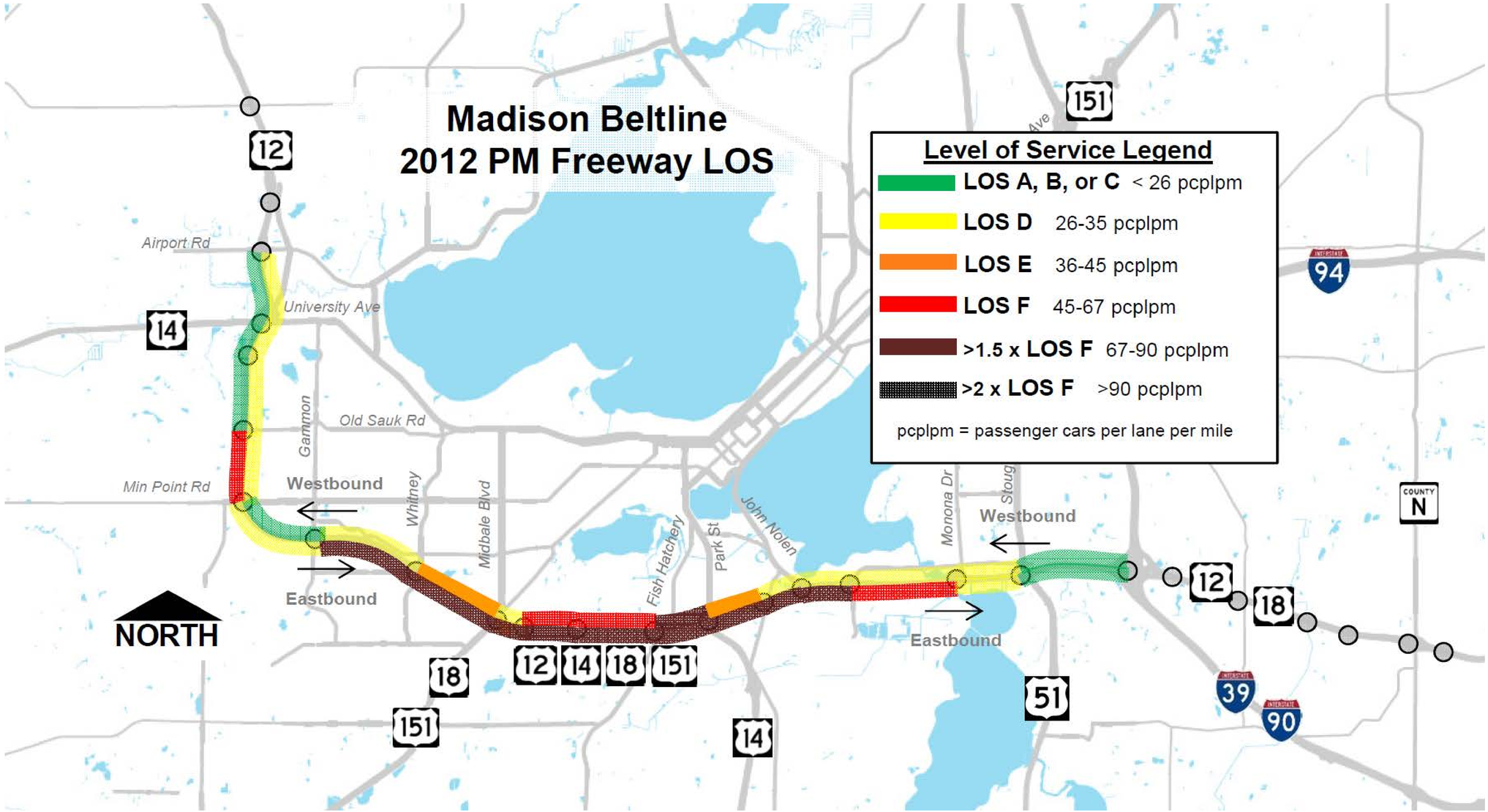
For freeways, Level Of Service is determined by density
Density is measured in passenger vehicles per lane per mile. The graphic below illustrates different LOS conditions



Beltline
The adjacent bar chart shows the Beltline traffic density during the morning rush hour. It shows that portions of the Beltline operate at Level of Service F, signifying severe congestion. The Beltline east of Fish Hatchery exceeds the threshold for LOS F by several factors.

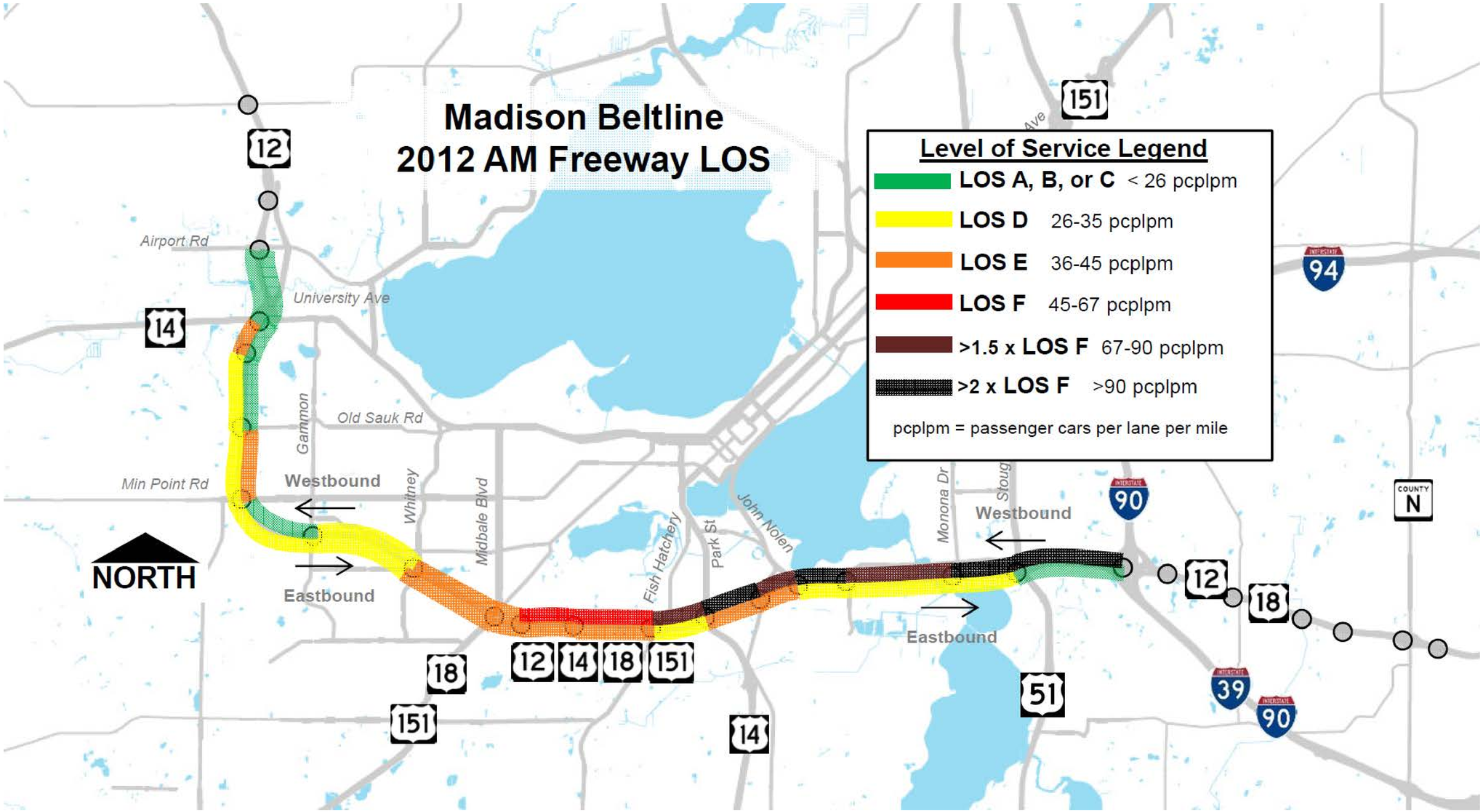
Madison Beltline evening motor vehicle congestion

Congestion is described by Level of Service (LOS), which ranges from A (excellent) to F (poor). During the evening rush hour under normal conditions, the worst congestion direction is reversed. The Beltline operates at LOS F in the eastbound direction from Verona Road to Monona Drive.

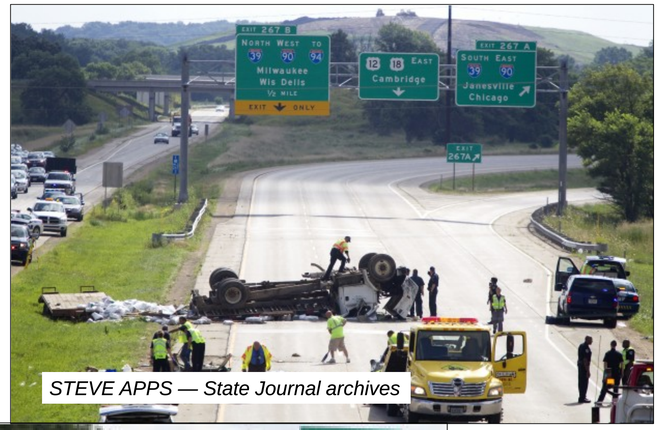


Madison Beltline morning motor vehicle congestion

Congestion is described by Level of Service (LOS), which ranges from A (excellent) to F (poor). During the morning rush hour under normal conditions, the westbound Beltline experiences the most congestion, operating at LOS F from I 39/90 to Verona Road.

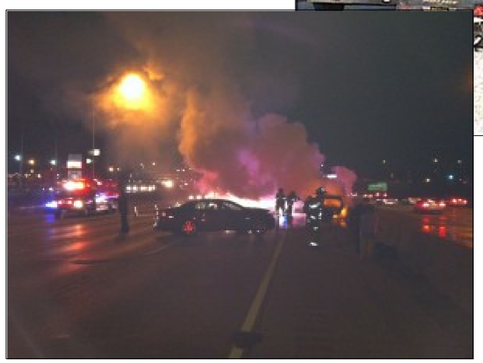


Safety



STEVE APPS — State Journal archives

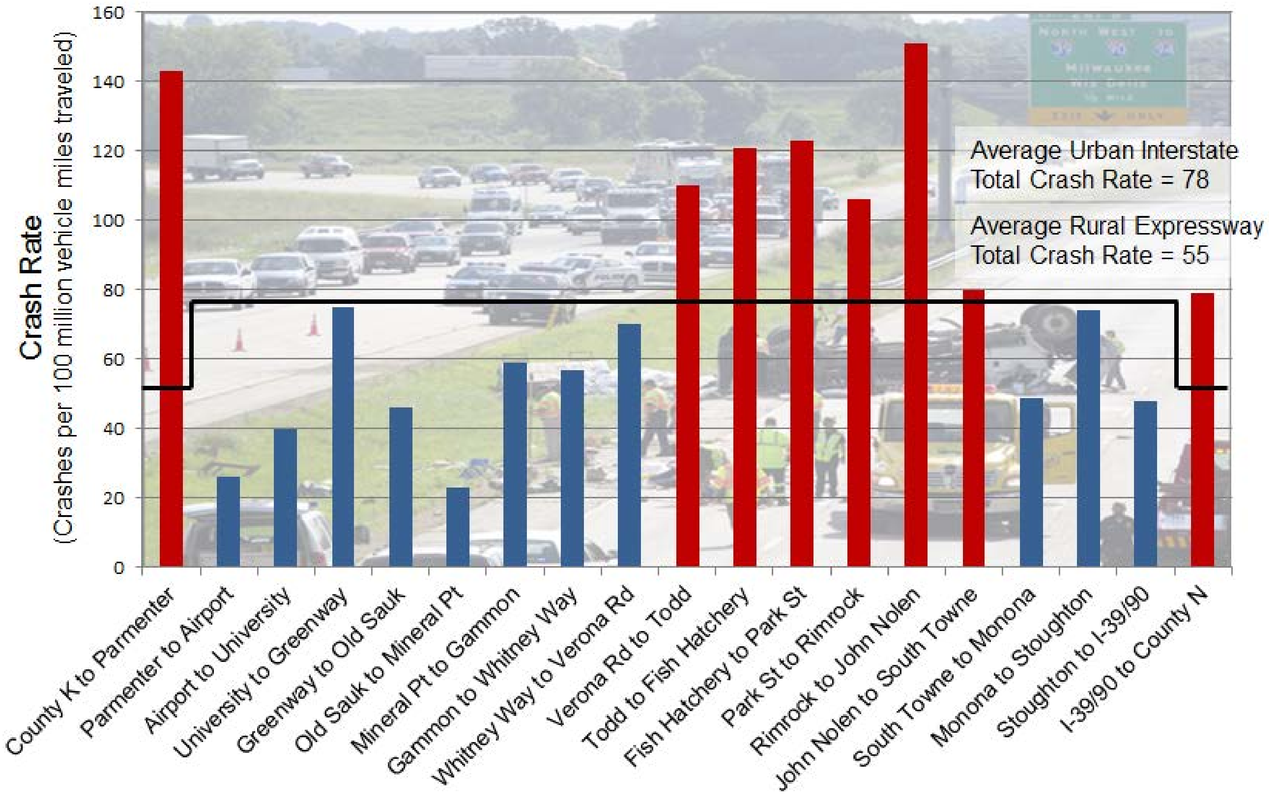

Photo courtesy of WKOW



Highway safety is evaluated by comparing the highway's crash rate with other similar highways within the state. Crash rates are typically measured in crashes per million vehicle miles traveled (MVMT).

Crashes for some sections of the Beltline are at or below the average for urban interstate freeways. There are several sections of the Beltline that experience substantially higher crash rates than the state average. These include:

- US 12 north of Airport Road
- The Section between Seminole Highway and South Towne
- US 12/18 east of the interstate



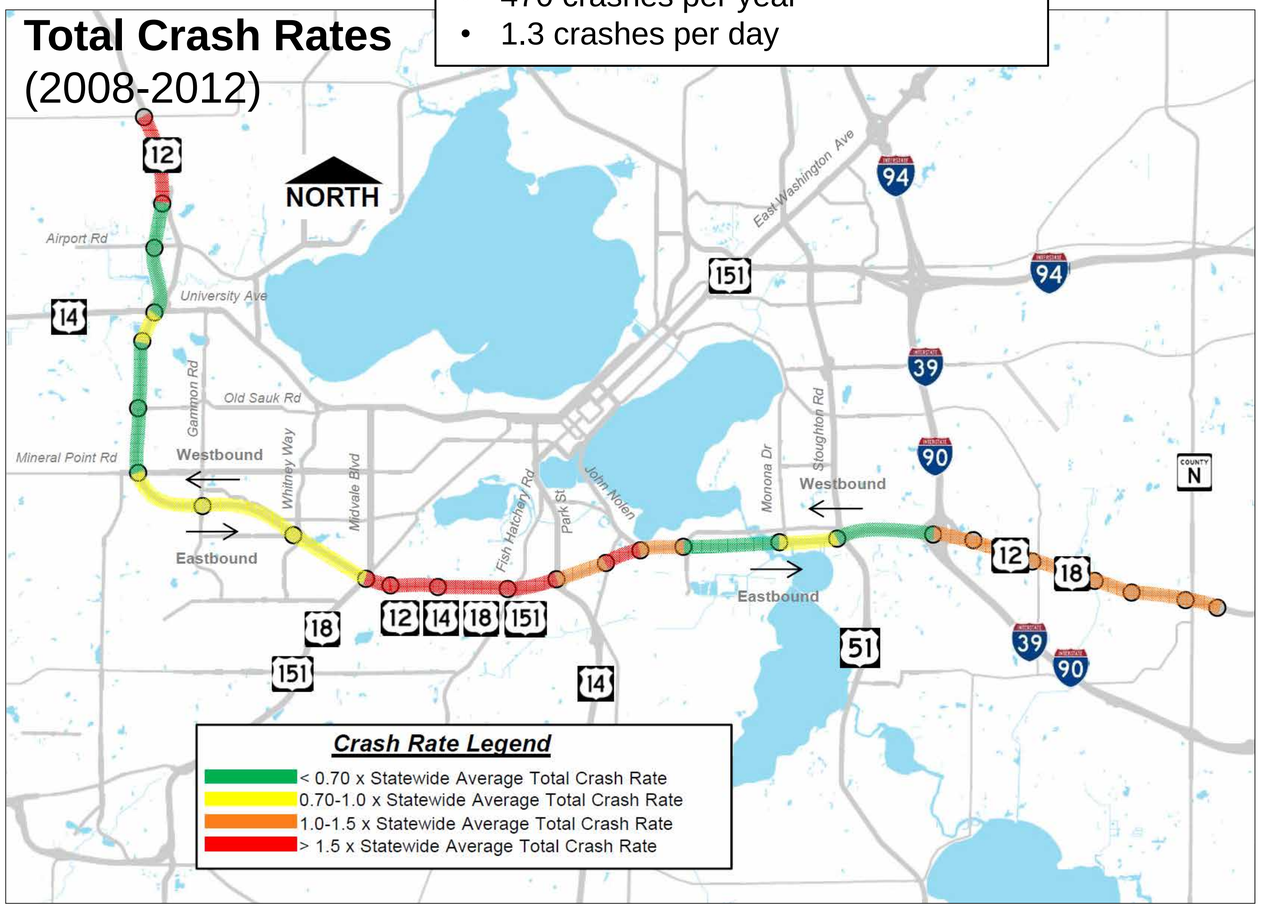
Safety

Highway safety is evaluated by comparing the highway's crash rate with other similar highways within the state. Crash rates are typically measured in crashes per million vehicle miles traveled. Both total crash rates and injury crash rates are investigated.

From 2008-2012 several portions of the Beltline had crash rates higher than the state average. These areas include the portion from Verona Road to South Towne Drive, and the section east of the Interstate from I-39/90 to County N.

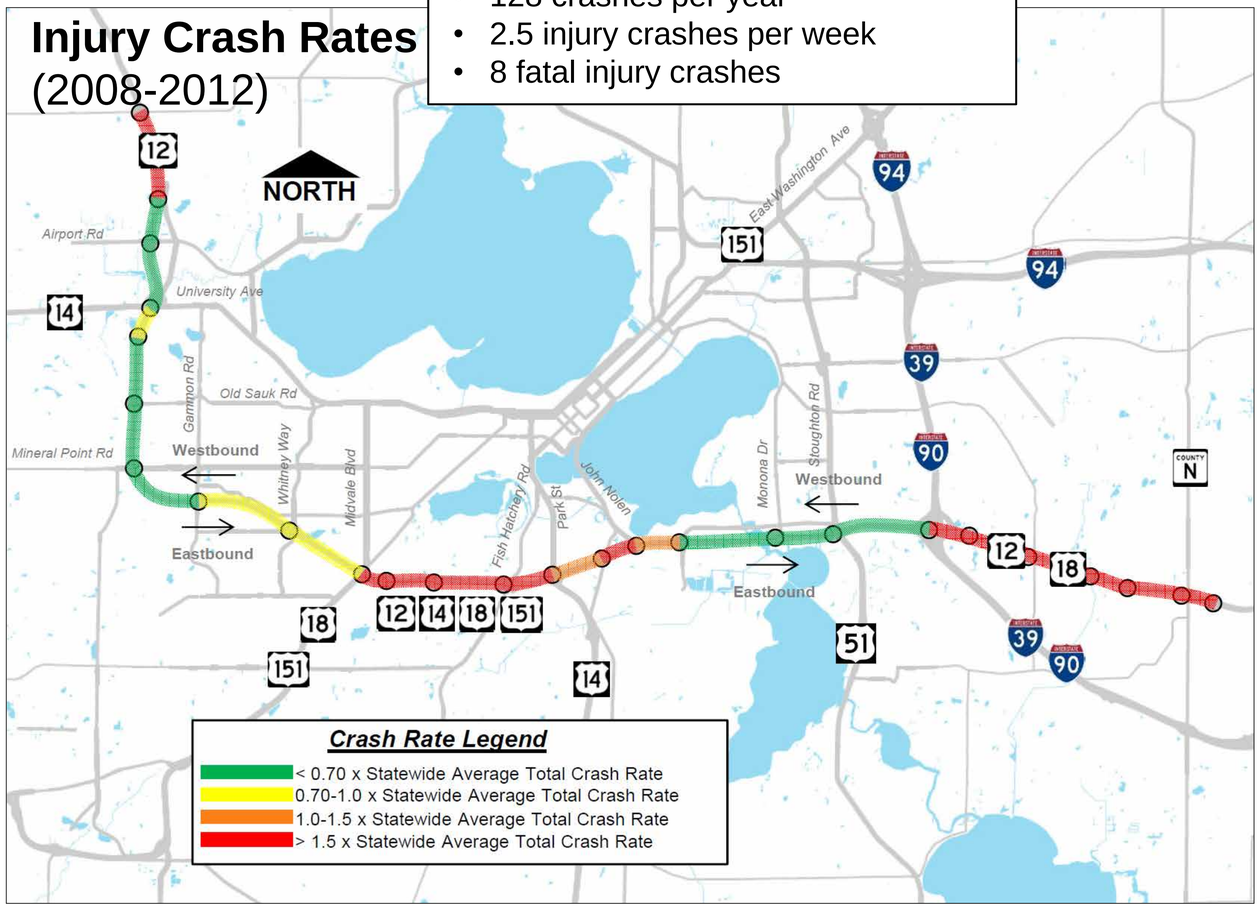
2008-2012 total crash facts:
- 2,330 crashes
- 470 crashes per year
- 1.3 crashes per day

Total Crash Rates
(2008-2012)



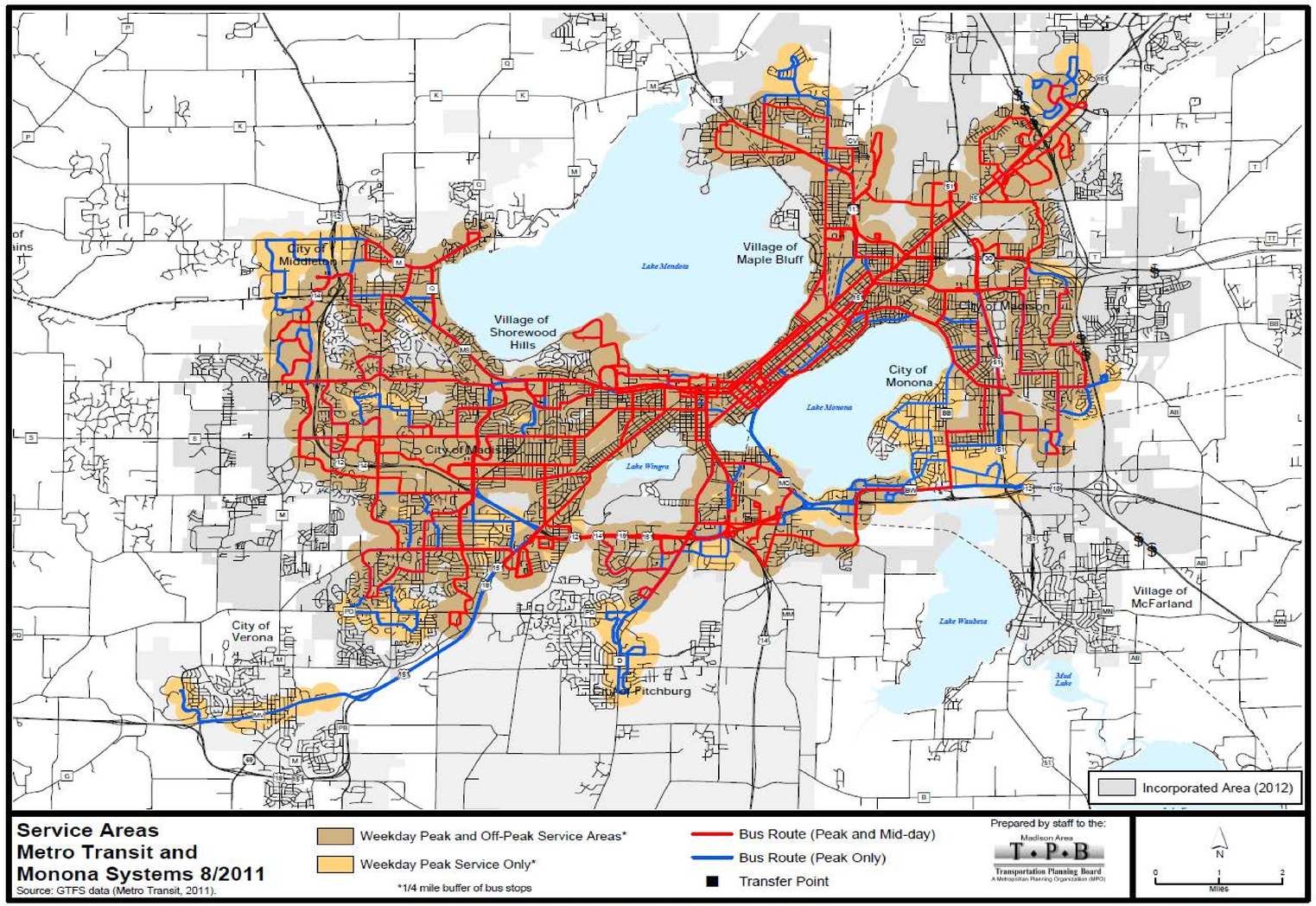
2008-2012 injury crash facts:
- 640 injury crashes
- 128 crashes per year
- 2.5 injury crashes per week
- 8 fatal injury crashes

Injury Crash Rates
(2008-2012)



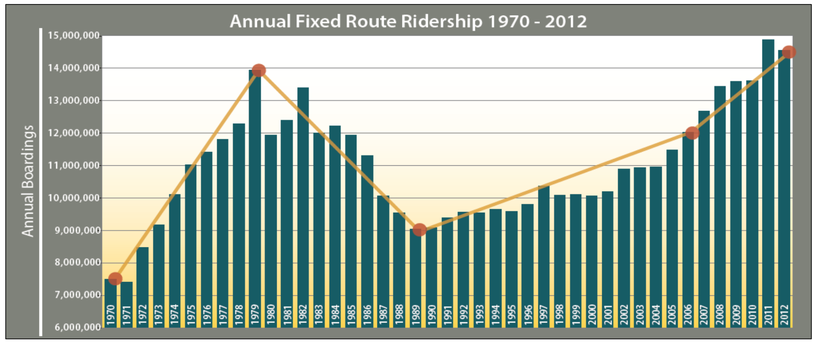
Madison Metro Transit

Existing Metro Transit Service Area



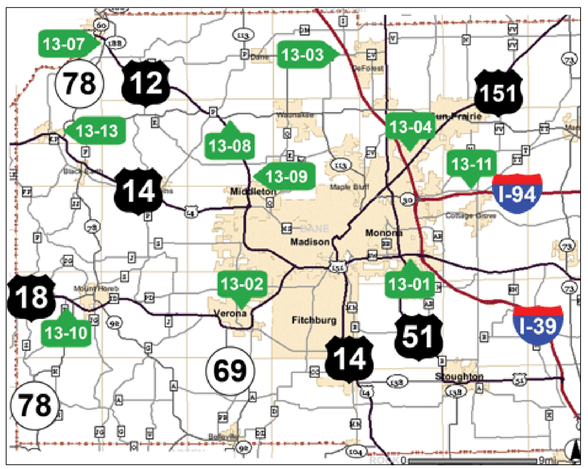
In 2011, more than 14.9 million rides were recorded on Metro Transit, a 9.5 percent increase over 2010. Currently 8.6 percent of work trips in Madison use transit, which ranks 44th in the nation. Five Madison Metro routes travel on the Beltline and 36 routes cross the Beltline through interchanges. Congestion on the Beltline and on Beltline interchanges affect route service times.

Increasing Ridership

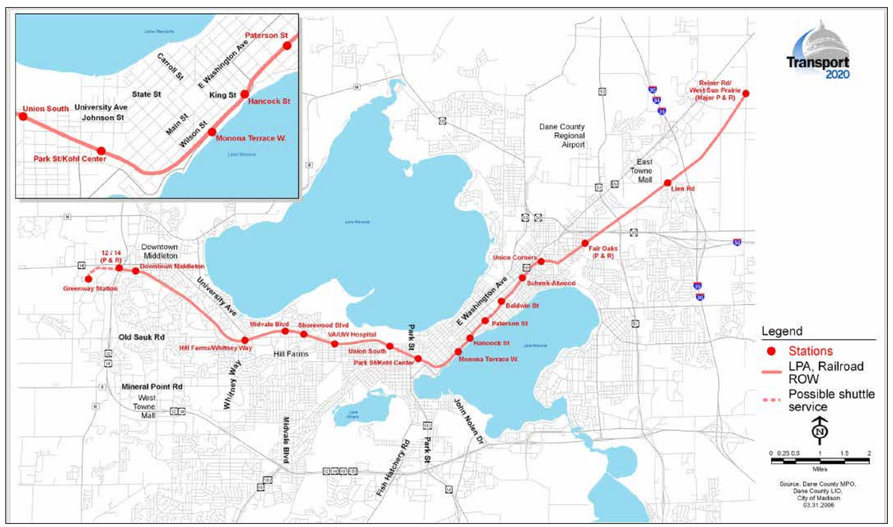


Source: Metro Transit 2012 Annual Report

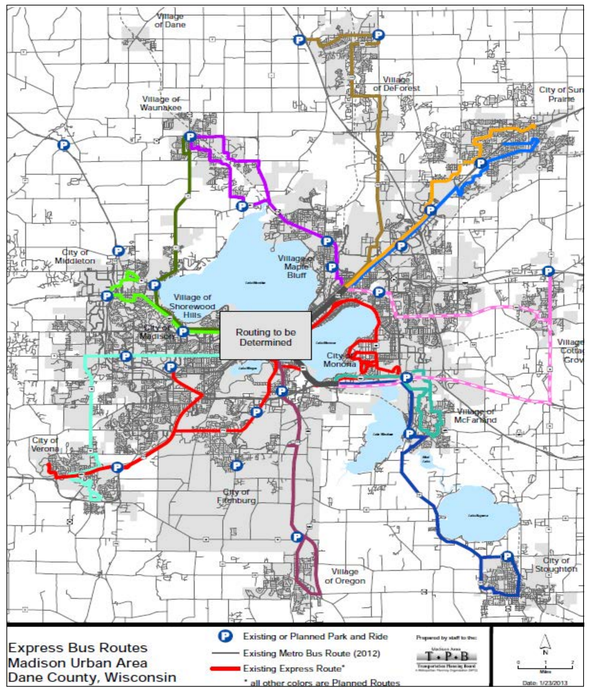
Local transit studies



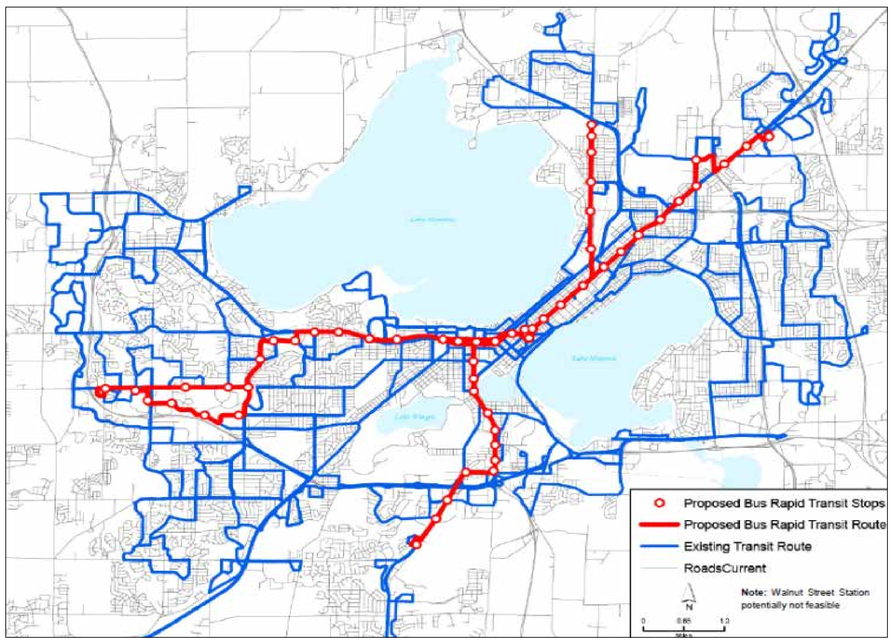
Park and ride lots
Wisconsin Department of Transportation



Transport 2020 locally preferred alternative
City of Madison, Dane County, and the Wisconsin Department of Transportation



Express bus service
Madison Area Transportation Board



Bus rapid transit
Madison Area Transportation Board

Many transit enhancements are being studied and proposed in the Madison metropolitan area. These include:

- Transport 2020 Rail Initiative,
- Bus Rapid Transit,
- Potential Madison Metro Express Bus Service Extensions.

These enhancements have the potential to remove trips from the Beltline, and many could be affected by Beltline congestion.

The Madison Beltline PEL study will evaluate how enhanced transit strategies can address issues identified on the Beltline. Many of these initiatives hold promise for meeting area mobility needs.