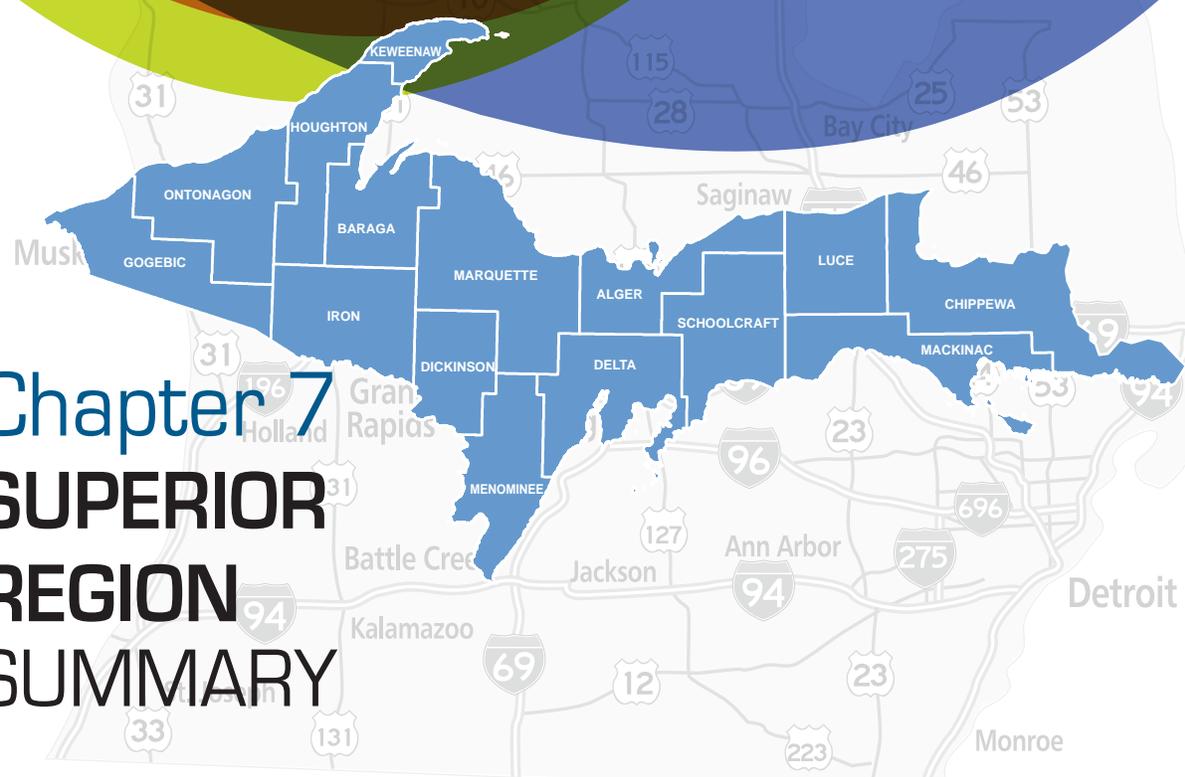


# Congestion & Mobility Report



## Chapter 7 SUPERIOR REGION SUMMARY





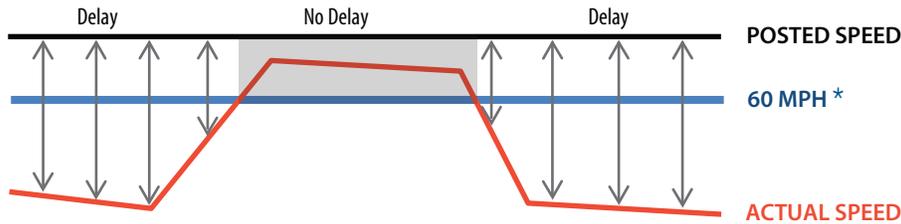
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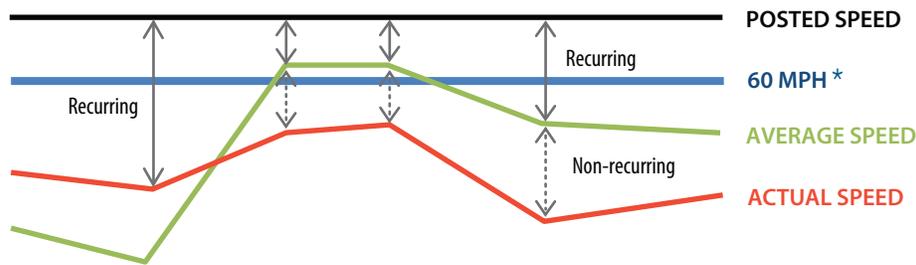
# Performance Measures Definitions



**Total delay** > Delay is calculated by taking the difference between actual speeds when they fall below 60 mph and the posted speed limit for freeways posted at 70 mph. This is to take out the delay caused by the lower average speeds from commercial vehicles.

**Total delay per mile** > Delay per mile is calculated by taking the total delay and dividing it by the length of the freeway. This was performed for each route in each county.

**Non-recurring/recurring delay** > Non-recurring delay is calculated by taking the difference between the actual speed (any time the speed falls below 60 mph) and the average speed. Recurring is measured by taking the difference of the total delay and non-recurring delay.

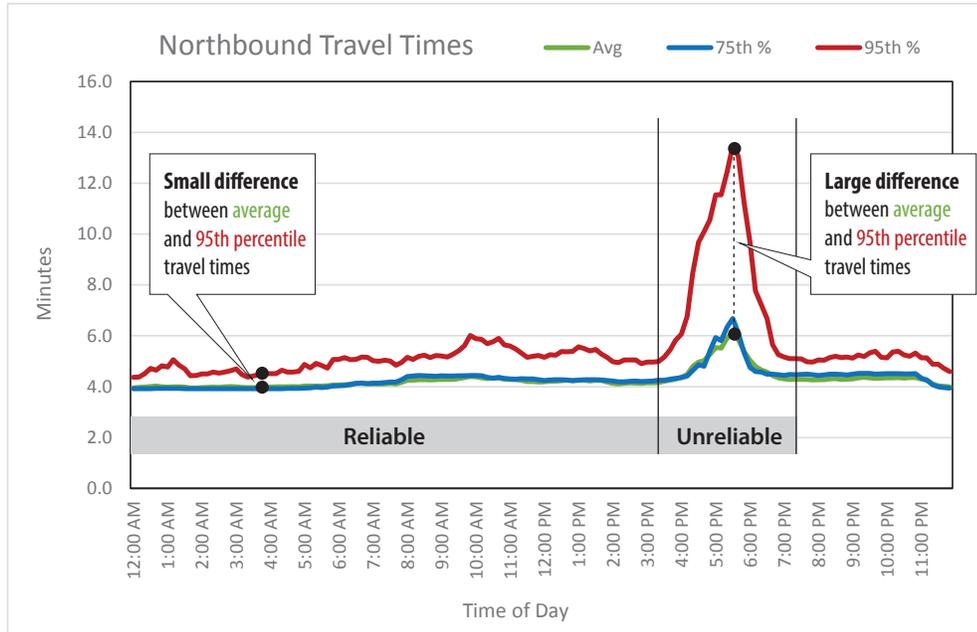


**User Delay Cost** > User Delay Costs (UDC) is calculated by multiplying delay x hourly volume per hourly user cost. Delay is calculated by taking the difference between actual speeds when they fall below 60 mph and the posted speed limit. Hourly volumes are derived from Average Daily Traffic (ADT) and Commercial Average Daily Traffic (CADT). Hourly user costs are based on Federal Highway Administration (FHWA) publication number FHWA-SA-98-079, "Life-Cycle Cost Analysis in Pavement Design."

**Congestion** > Congestion is calculated as the number of hours below 45 mph per Traffic Message Channel (TMC) segment. A TMC segment is a standard for delivering real-time traffic information. They vary from tenths of a mile long to several miles long.

\* On segments with a speed limit of 55 mph, delay is calculated when speeds fall below 55 mph.

# Performance Measures Definitions



**Travel Time Reliability** > A measure of travel time consistency over a period of time. When travel times are unreliable, customers are more likely to experience unexpected delays. Travel times are shown to be reliable when the 95th percentile travel time remains close to the average travel time.

**75th Percentile Travel Time** > The amount of time a customer should budget to be on-time three out of four days (75% of the time).

**95th Percentile Travel Time** > The amount of time a customer should budget to be on-time nineteen out of twenty days (95% of the time). The 95th percentile travel time is also known as the planning time.

Figure 1. 2015 Superior Region user delay cost per mile

### 2015 Superior Region User Delay Cost per Mile

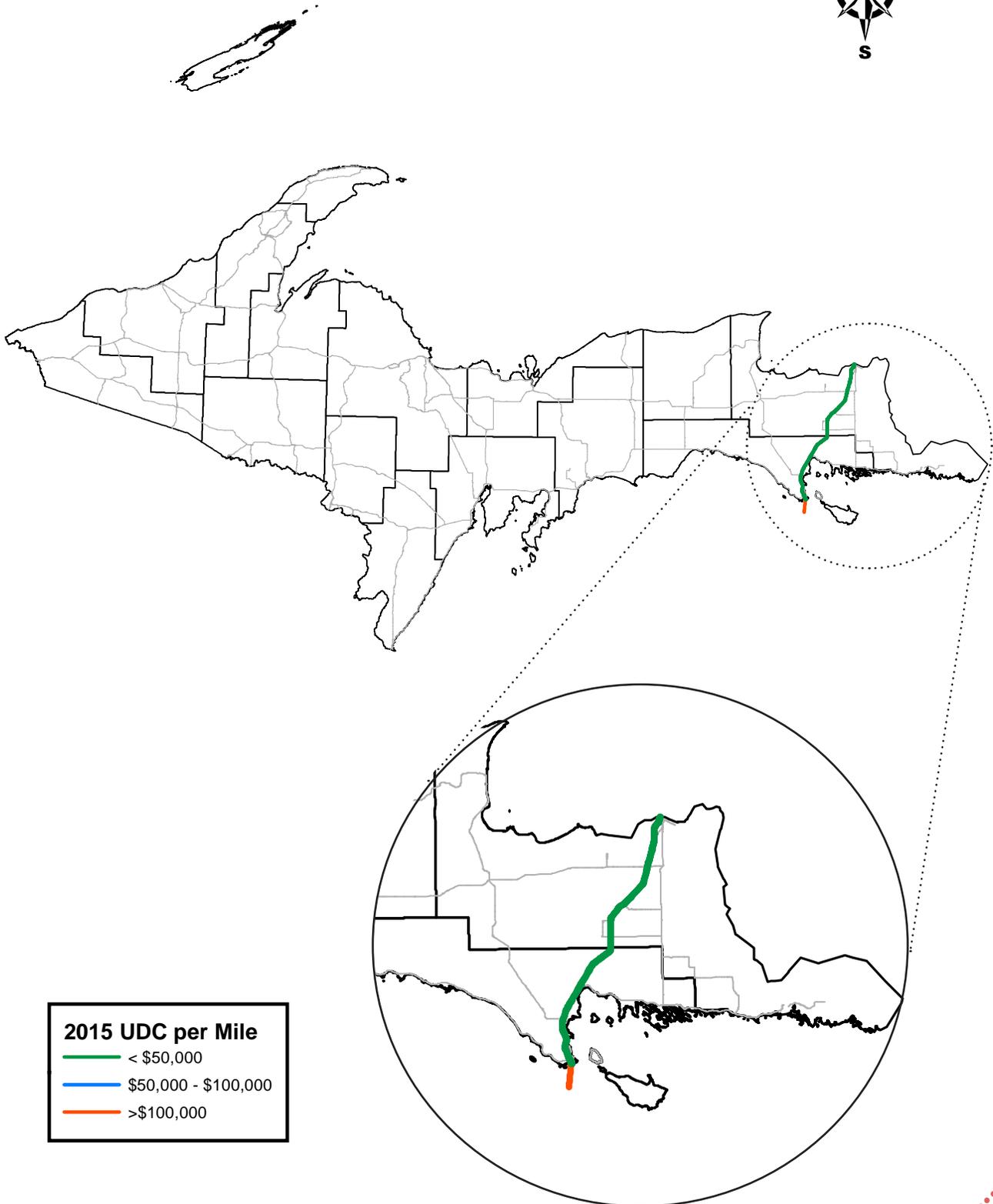
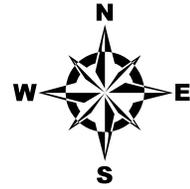


Figure 2. 2015 Superior Region congestion hours northbound/eastbound

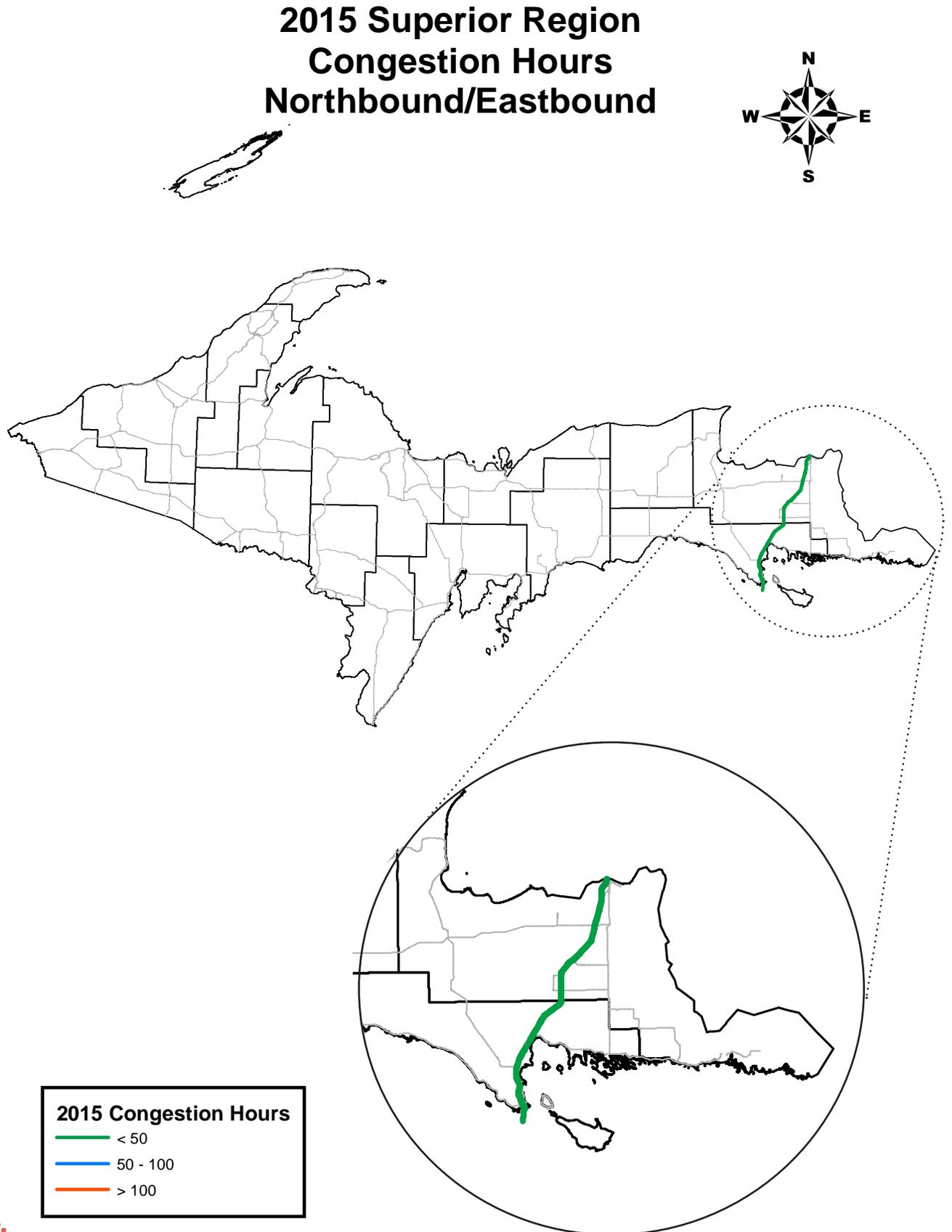


Figure 3. 2015 Superior Region congestion hours southbound/westbound

# 2015 Superior Region Congestion Hours Southbound/Westbound

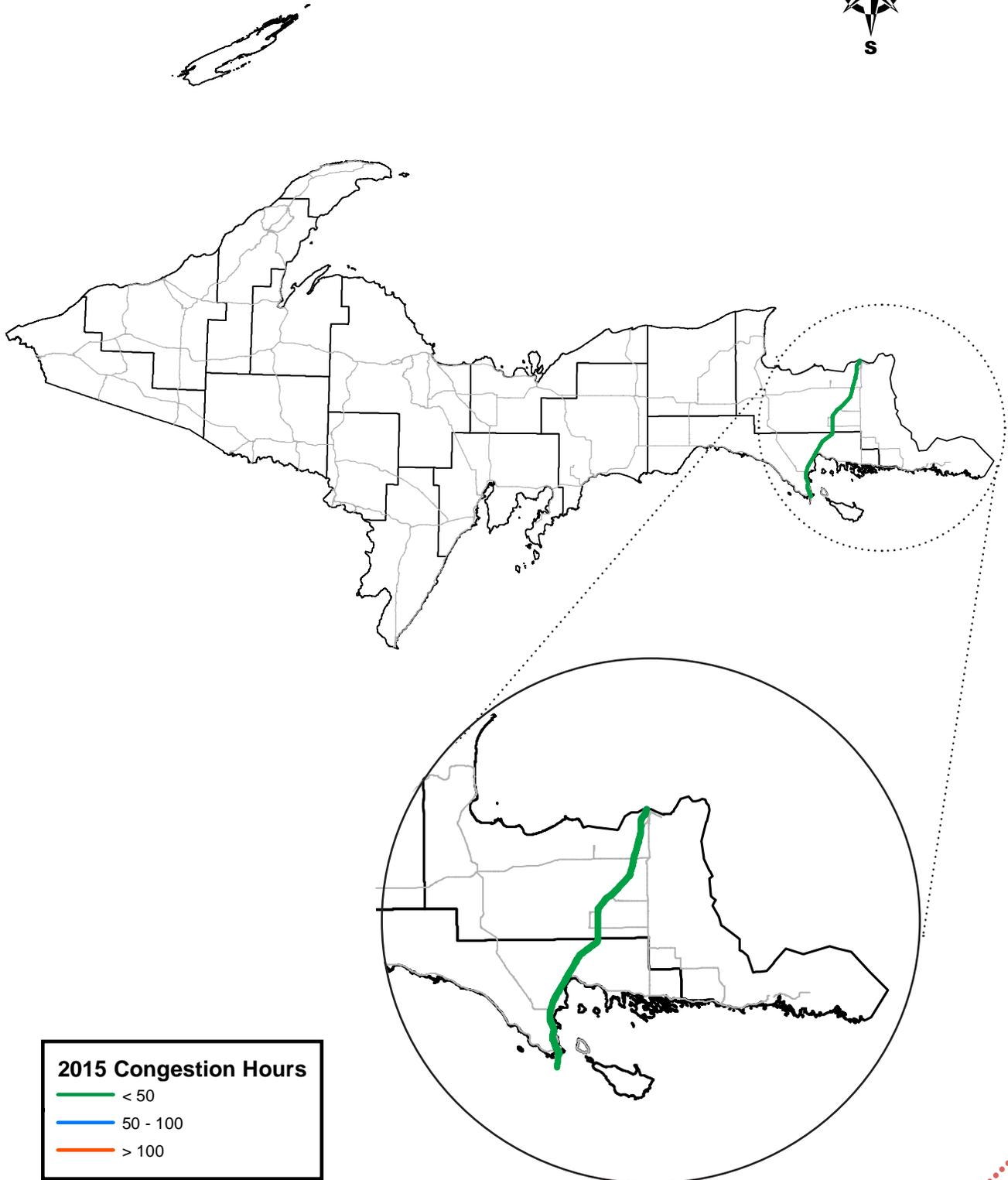
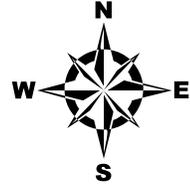


Figure 4. 2015 Superior Region UDC Data

2012-2014 Average		
Rank	UDC Per Mile	Location (Route, TSC)
1	\$306,702	Mackinac Bridge (45mph)
2	\$5,896	I-75 Newberry TSC

2015		
Rank	UDC Per Mile	Location (Route, TSC)
1	\$312,755	Mackinac Bridge (45mph)
2	\$2,944	I-75 Newberry TSC

2012-2014 Average		
Rank	Total UDC	Location (Route, TSC)
1	\$4,293,827	Mackinac Bridge (45mph)
2	\$577,807	I-75 Newberry TSC
Total =		\$4,871,634

2015		
Rank	Total UDC	Location (Route, TSC)
1	\$4,378,564	Mackinac Bridge (45mph)
2	\$288,522	I-75 Newberry TSC
Total =		\$4,667,086



# Corridor

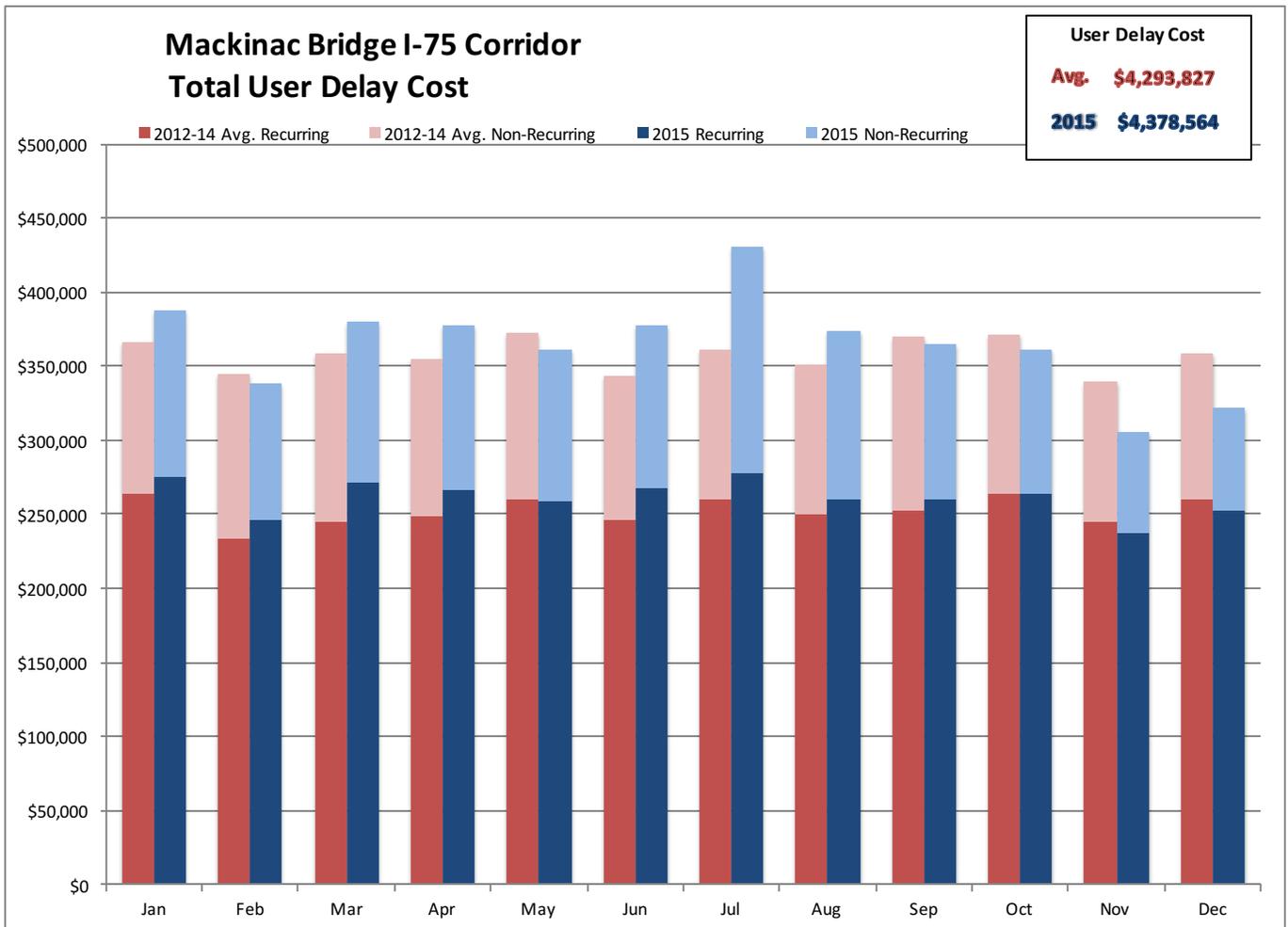
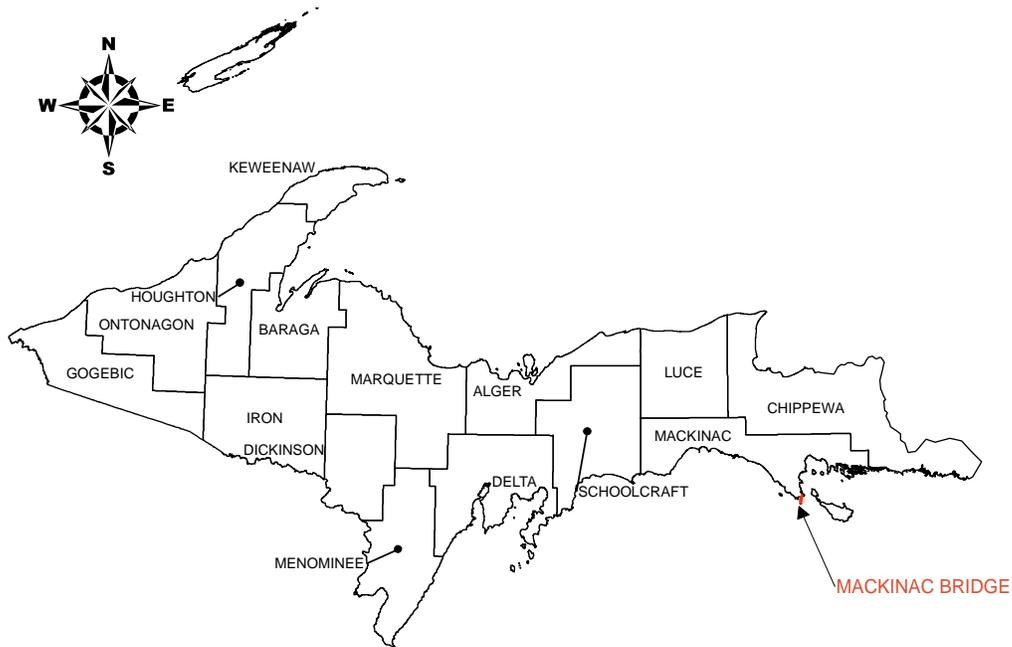


Interstate 75: **Mackinac Bridge**



Interstate 75: **Newberry TSC**

Figure 5. Mackinac Bridge I-75 Corridor total user delay cost



# Corridor

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Interstate 75: **Mackinac Bridge**

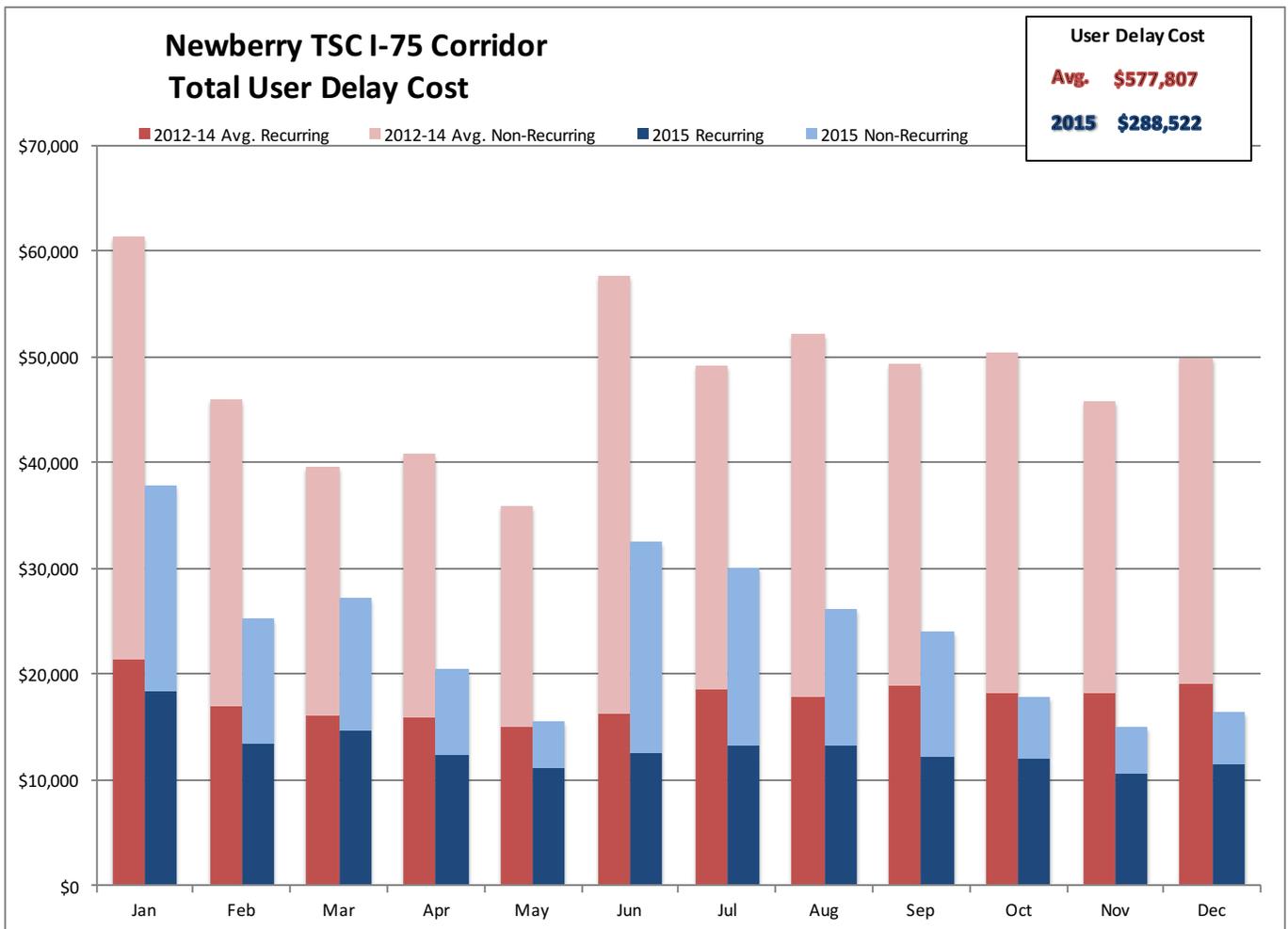
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Interstate 75: **Newberry TSC**

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Figure 6. Newberry TSC I-75 Corridor total user delay cost





# MIDOT

Michigan Department of Transportation

