

2012-2013

MICHIGAN DEPARTMENT OF TRANSPORTATION

# Congestion & Mobility Report

*Freeway Performance Measures*

## *Chapter 7*

# SUPERIOR REGION SUMMARY



# Congestion & Mobility Report

Freeway Performance Measures

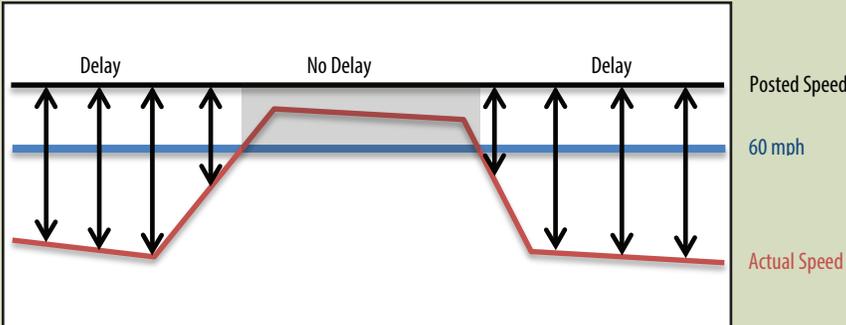


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# PERFORMANCE MEASURE DEFINITIONS

## 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 TSC.

## Congestion

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

## 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.

## Weighted Congestion

Number of congestion hours multiplied by the segment length. Congestion along longer segments will get more consideration than congestion along shorter segments.

## User Delay Cost

User Delay Costs (UDC) is calculated by multiplying delay x hourly volume x 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."

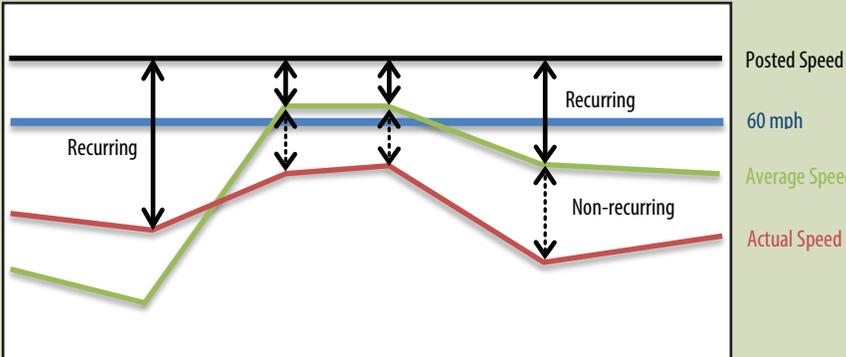




Figure 1

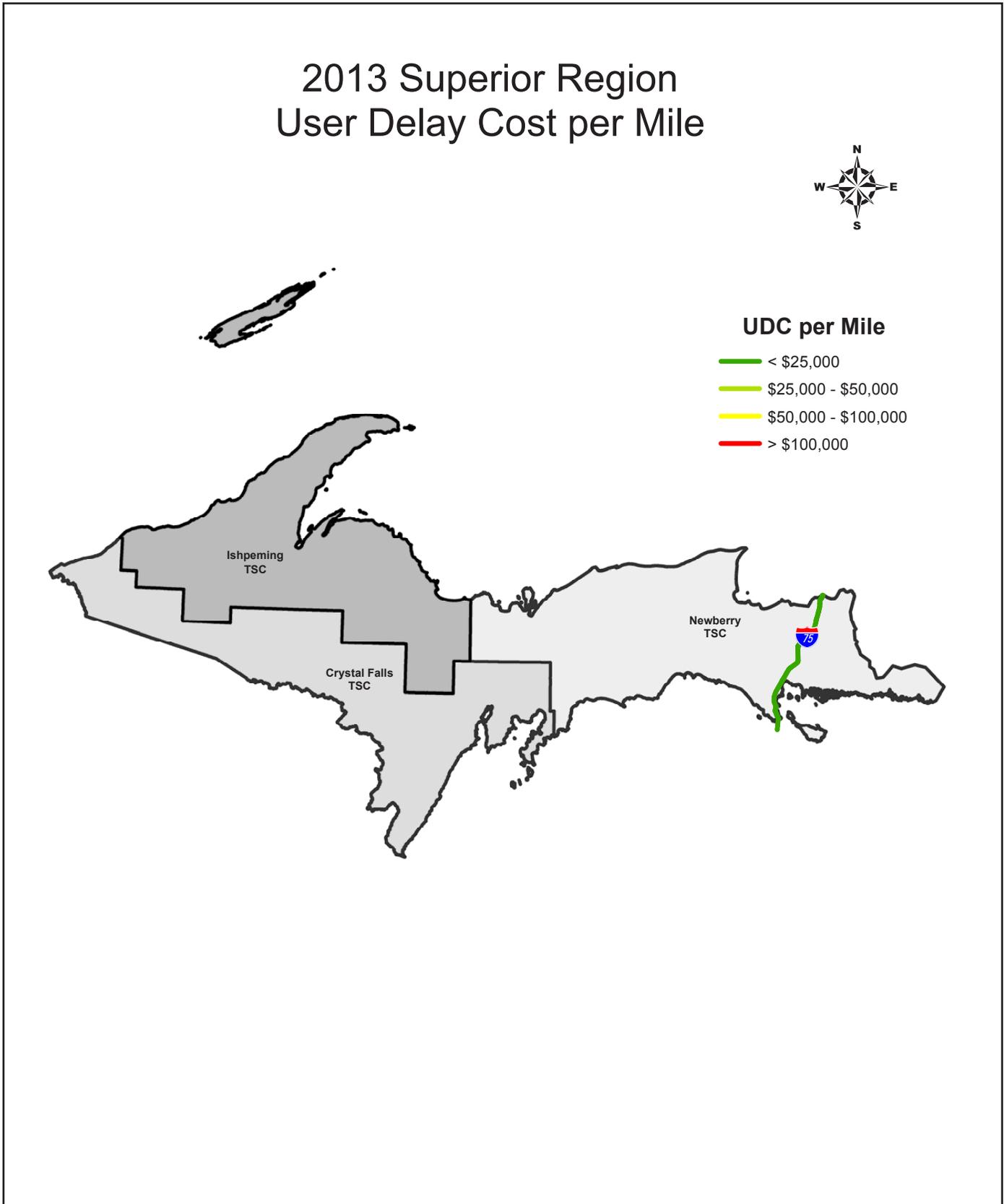


Figure 2

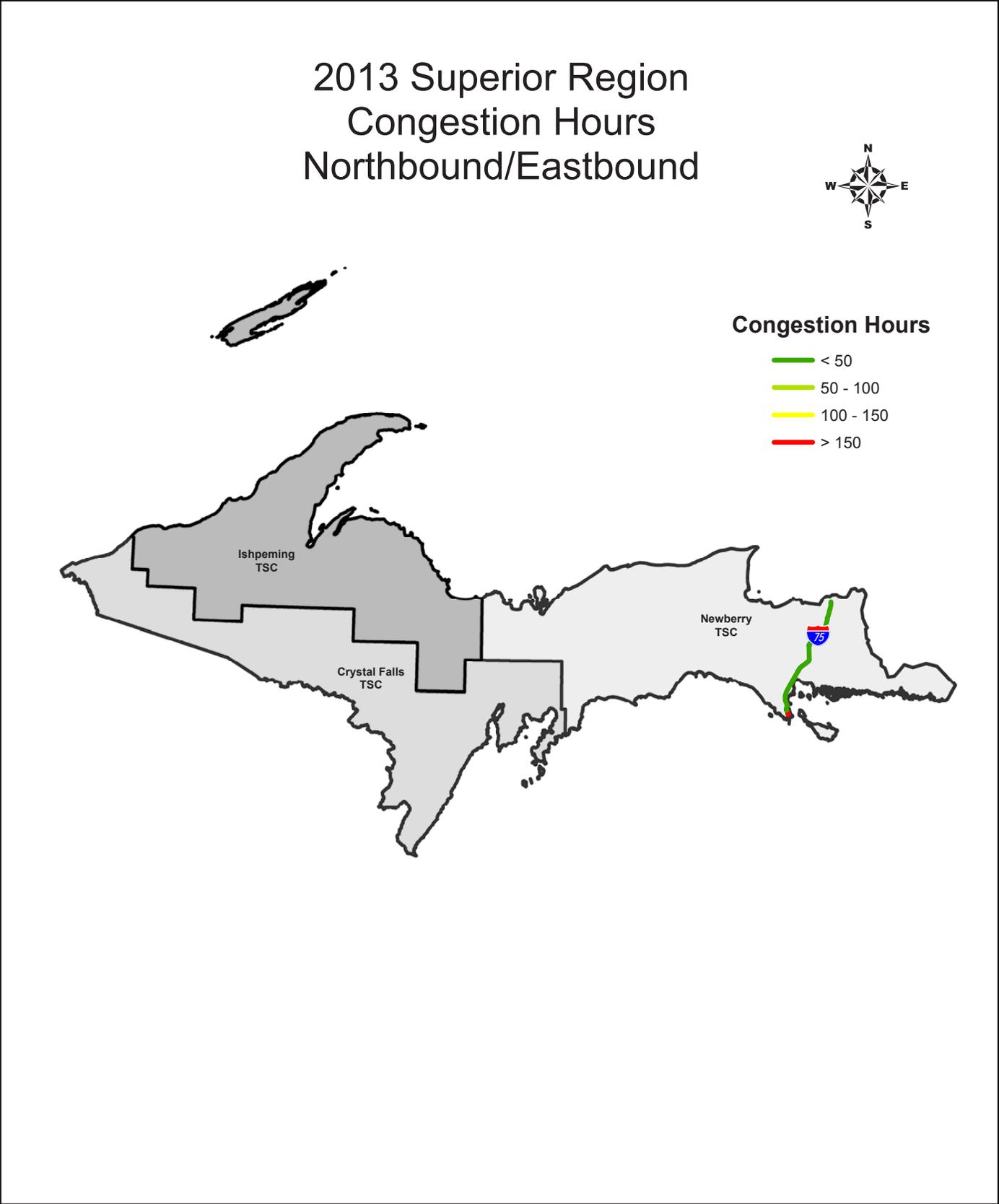




Figure 4

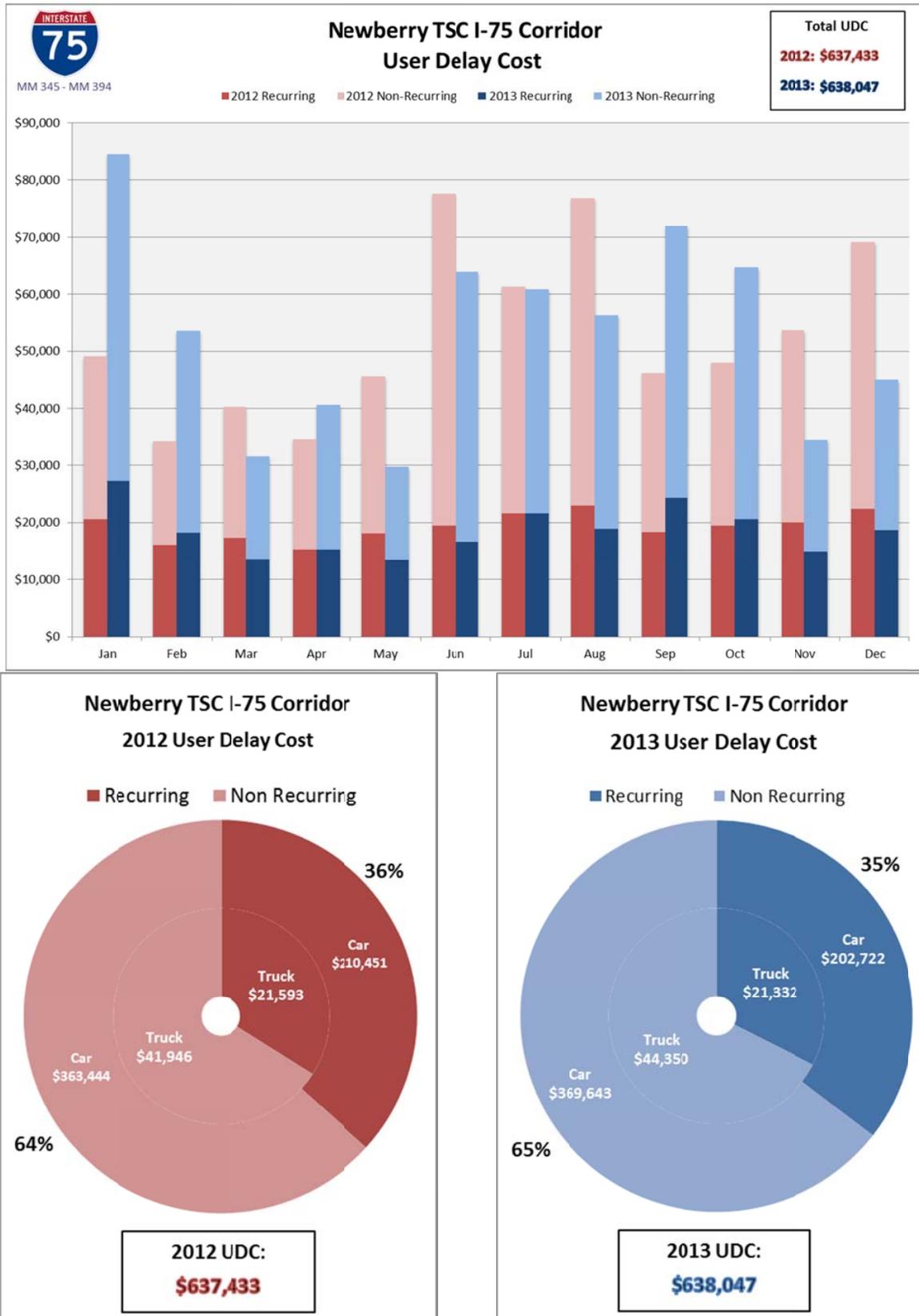


Figure 5

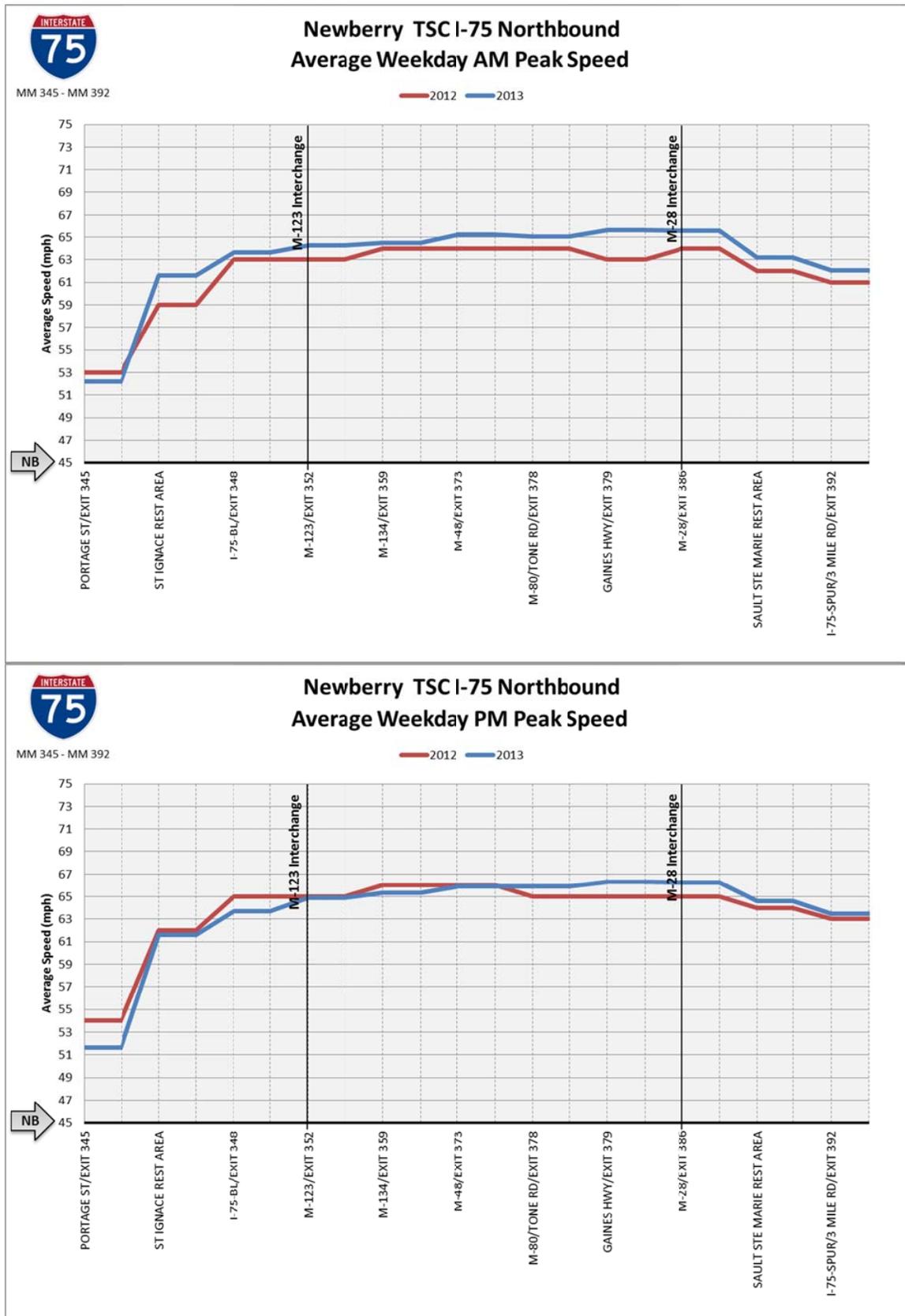


Figure 6

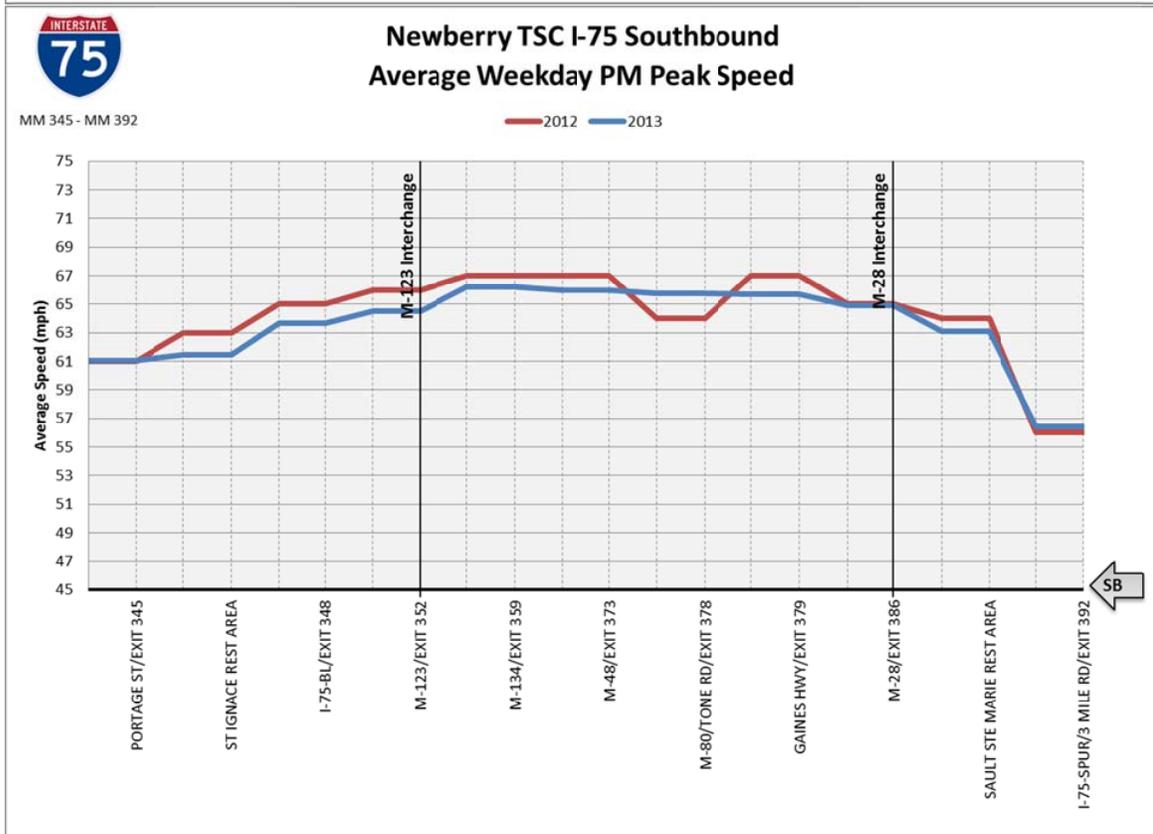
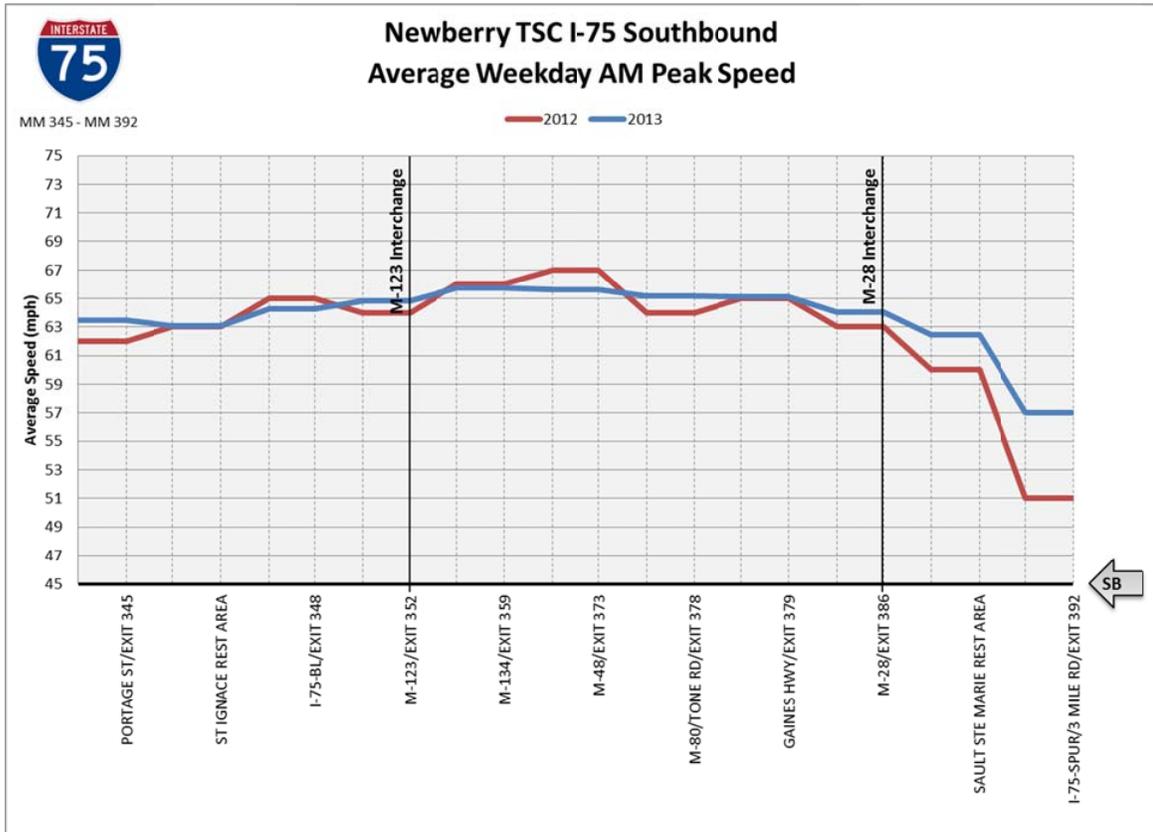


Figure 7

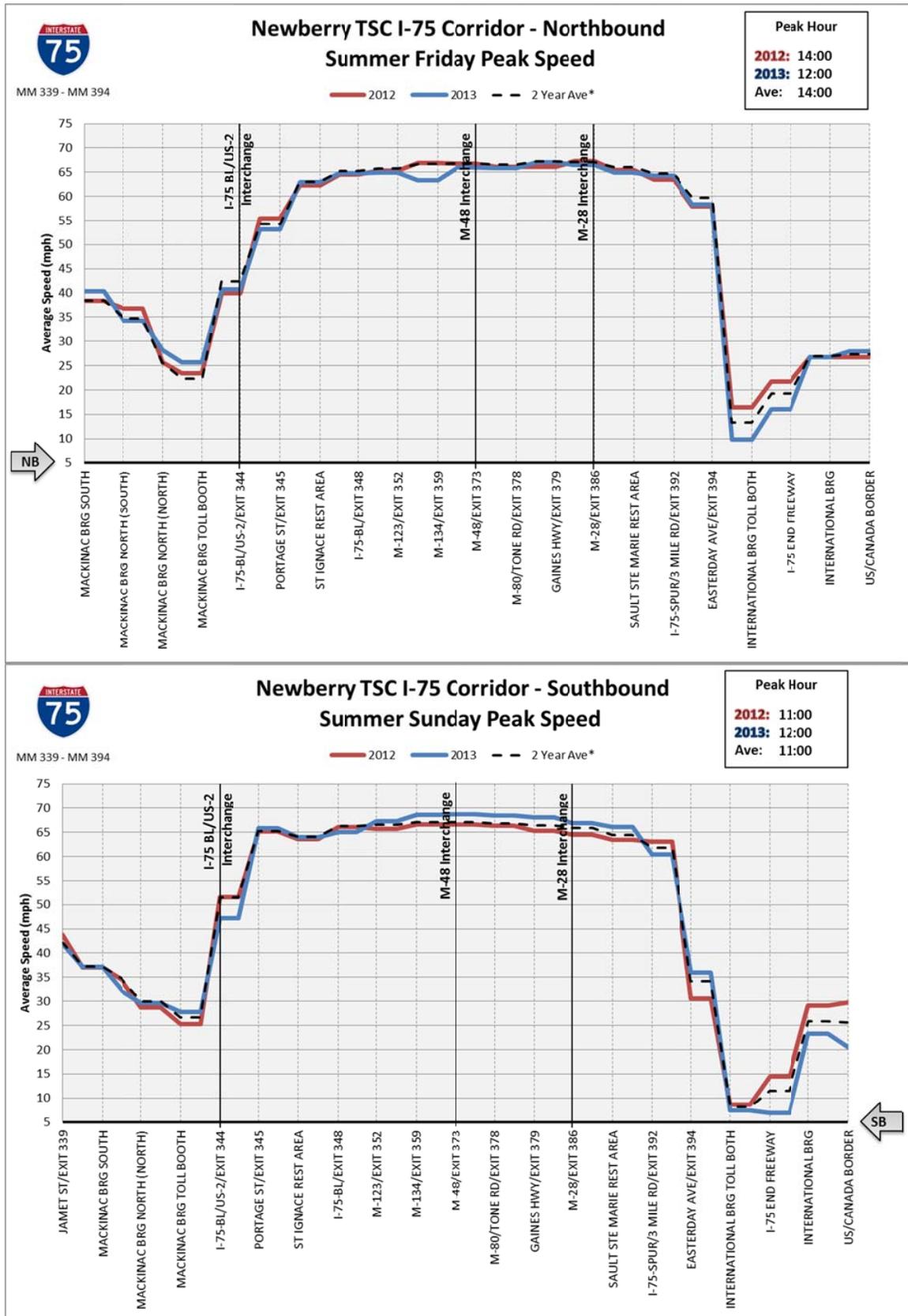


Figure 8

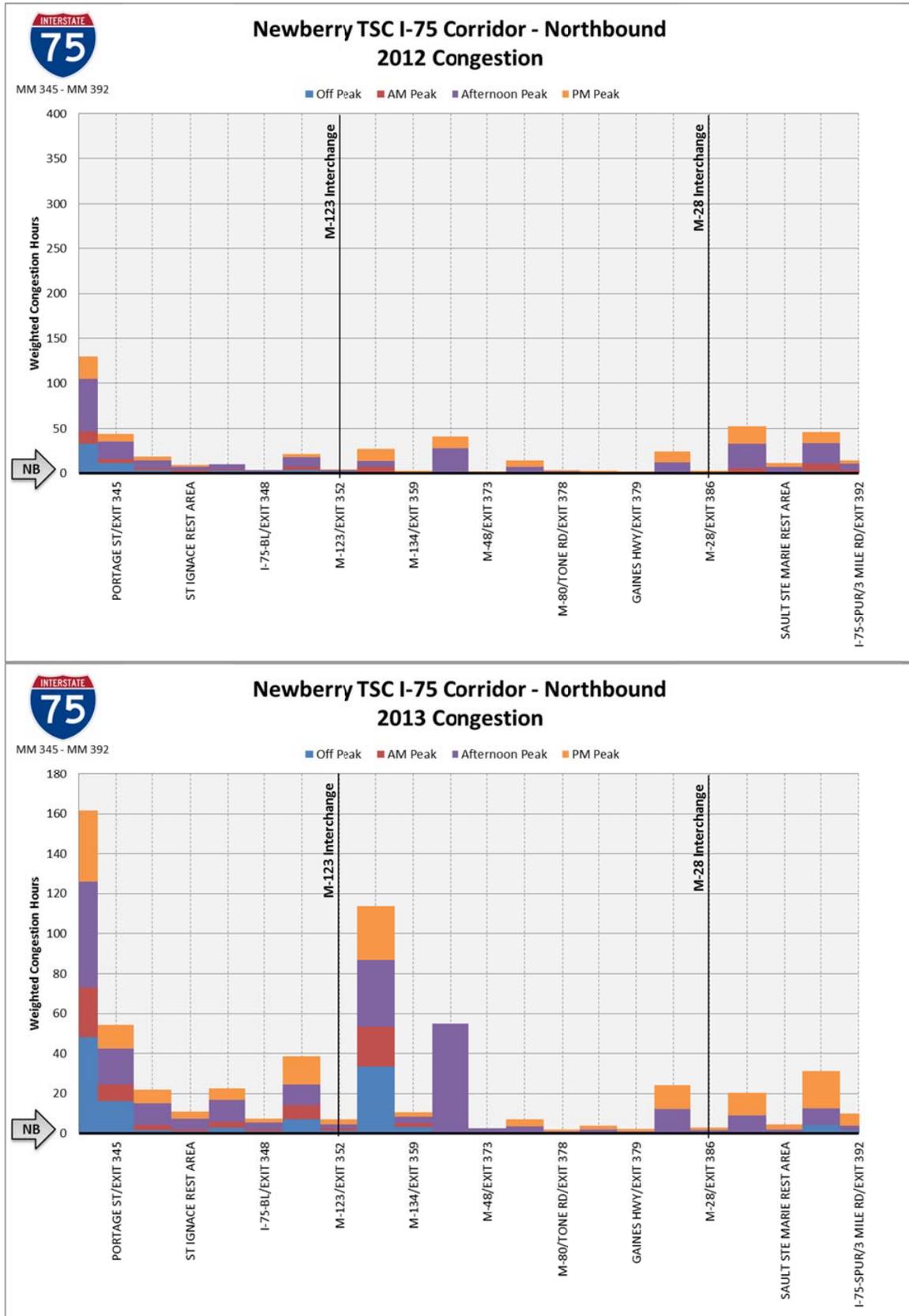


Figure 9

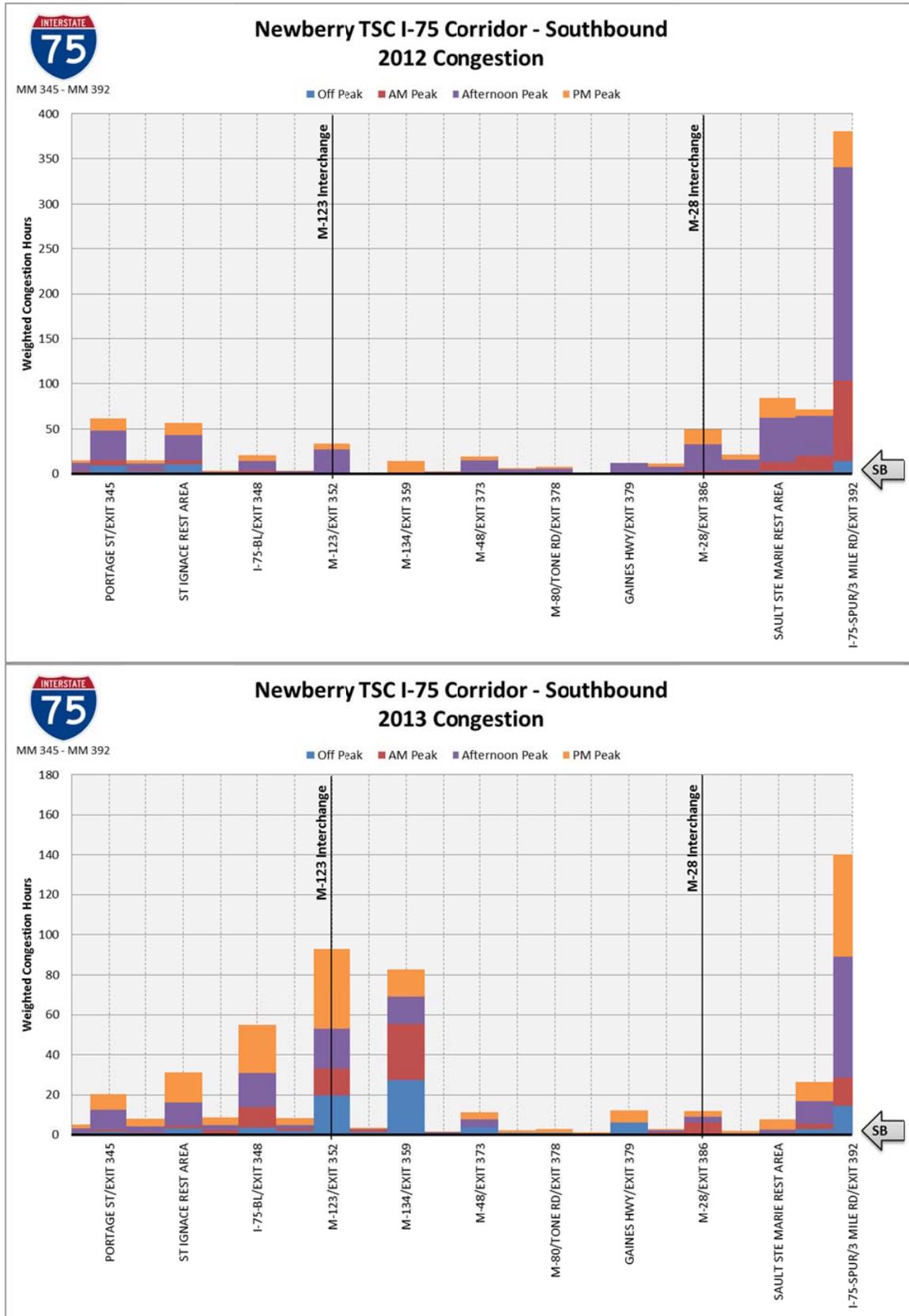
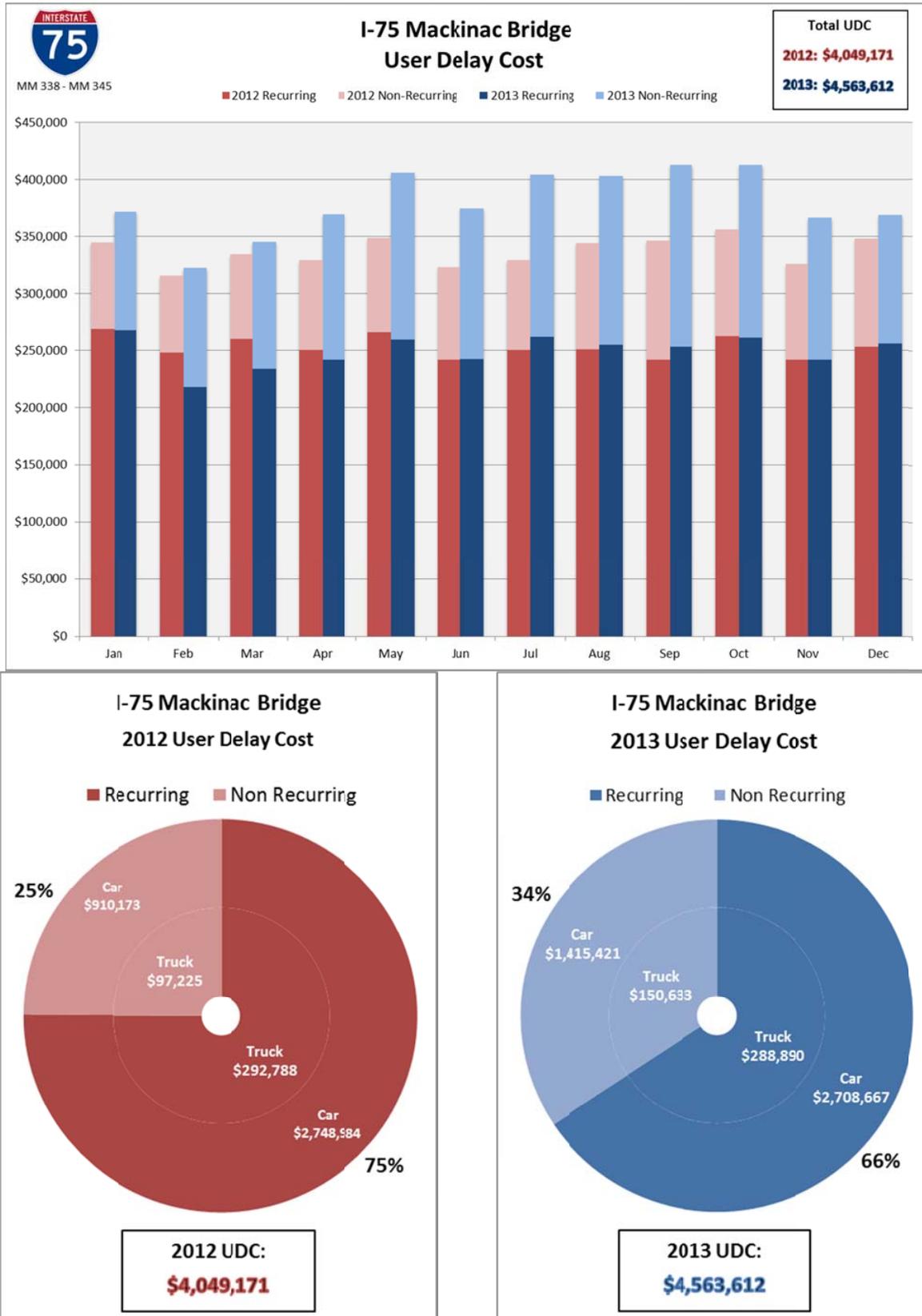
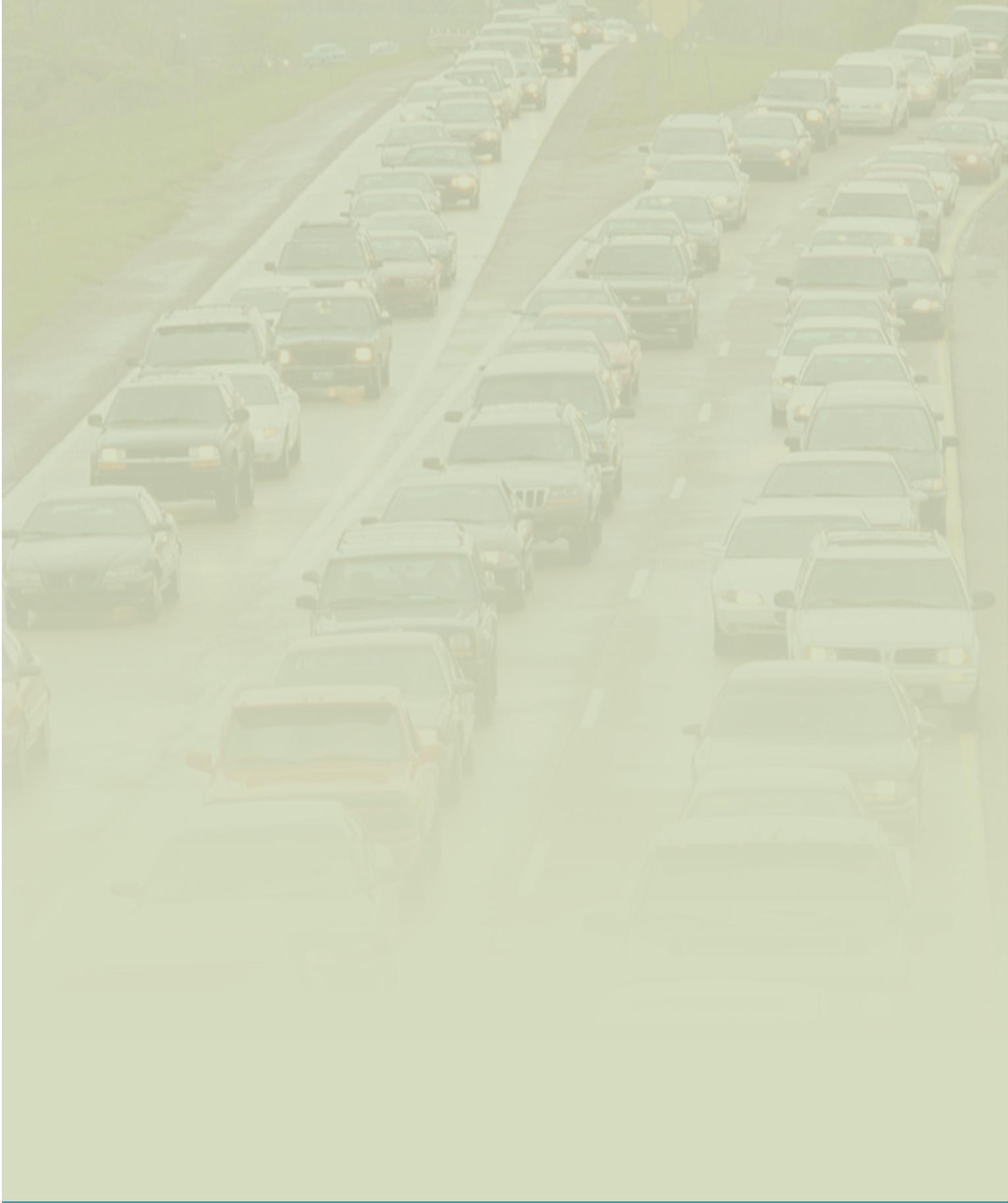


Figure 10









Providing the highest quality integrated transportation services for economic benefit and improved quality of life.