MDOT TRAFFIC OPERATIONS PERFORMANCE MANAGEMENT MOVING PEOPLE AND GOODS

Peer Report from Michigan DOT
October 15, 2013

Bobbi Welke
Region Engineer
Southwest Region

Steve Brink
Traffic Safety & Ops Engineer
Southwest Region

- **Measuring and minimizing delays in Urban Areas**
  - **Along 9 freeways (segments only) throughout Michigan**
  - **Two freeways at each of 15 of 22 Transportation Service Centers in 5 of 7 Regions**
  - **Summer: Traffic incident and work zone travel**
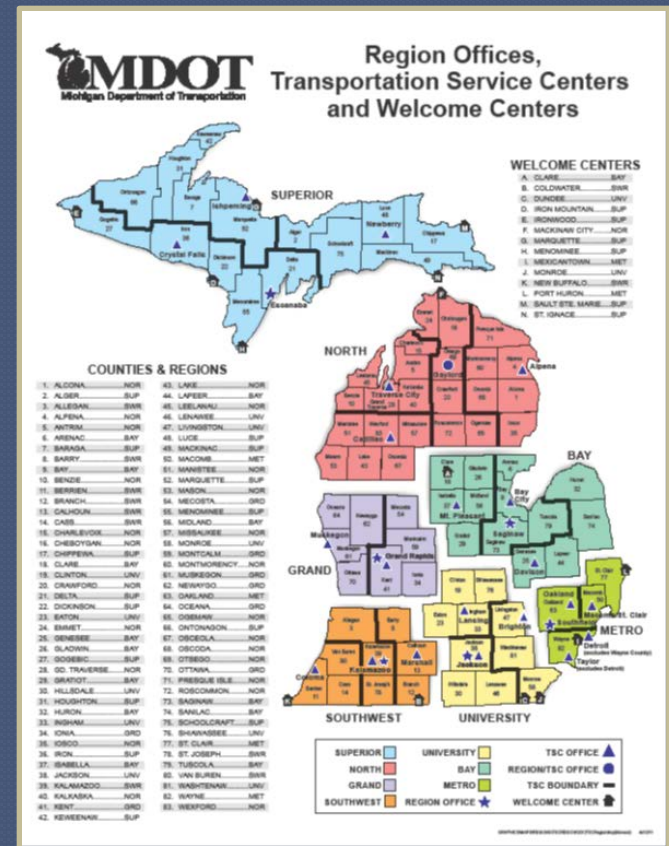 - **Winter: Traffic incident and winter weather travel**

Region Offices, Transportation Service Centers and Welcome Centers

- **Measuring and minimizing delays in Rural Areas**
  - **Along all non-freeways segments in 2 of 7 regions**
  - **Measuring work zone and winter weather travel**
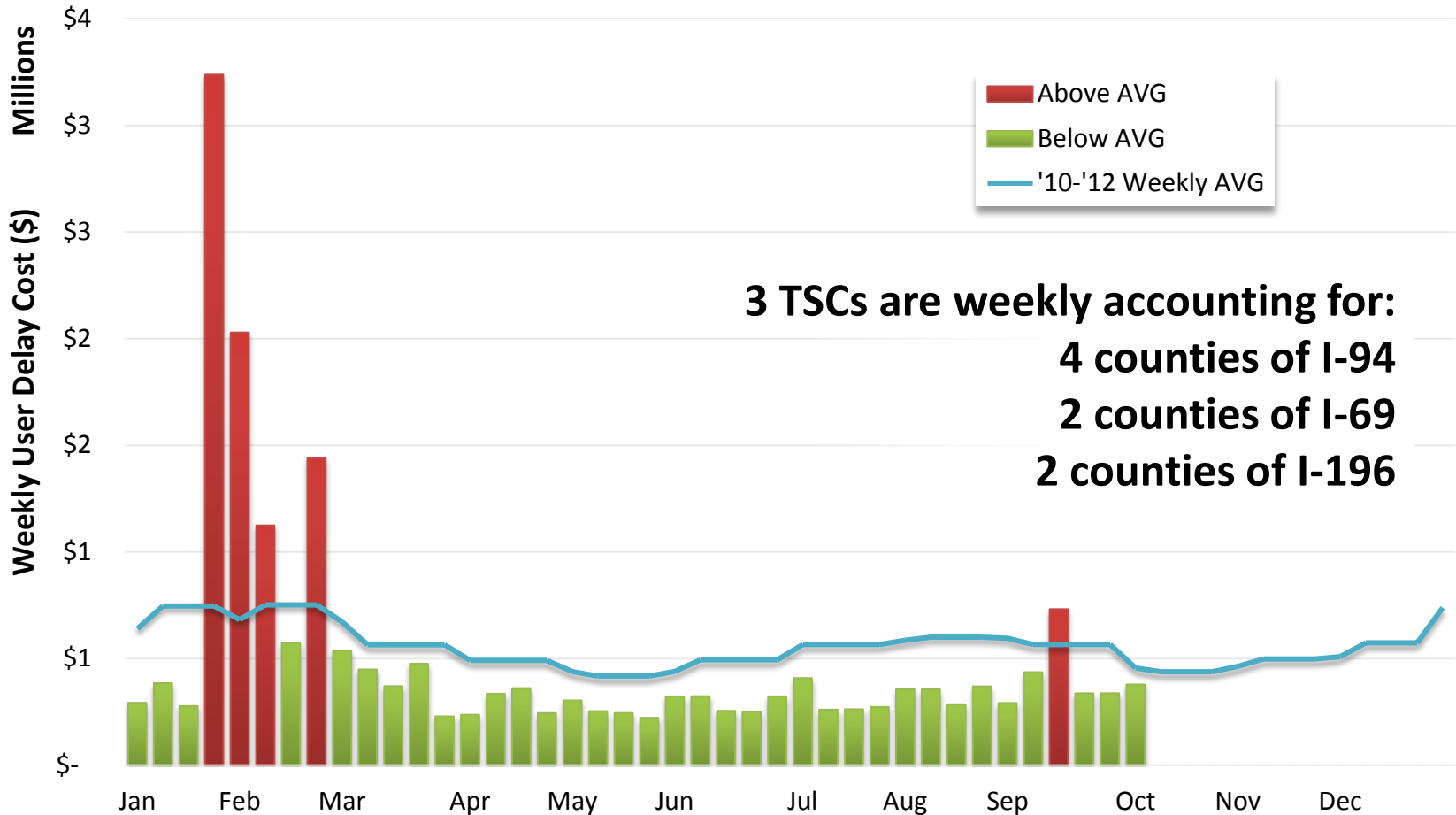 - **Freeway data is not consistent enough to be useful**

2013 Southwest Region Weekly User Delay Cost

Legend:
- Above AVG
- Below AVG
- '10-'12 Weekly AVG

Y-axis: Weekly User Delay Cost ($) / Millions
$4, $3, $3, $2, $2, $1, $1, $-

X-axis: Jan, Feb, Mar, Apr, May, Jun, Jul, Aug, Sep, Oct, Nov, Dec

3 TSCs are weekly accounting for:
4 counties of I-94
2 counties of I-69
2 counties of I-196

www.michigan.gov/drive

10/06/13
11:30 AM
Probe data
from HERE
(aka Navteq)
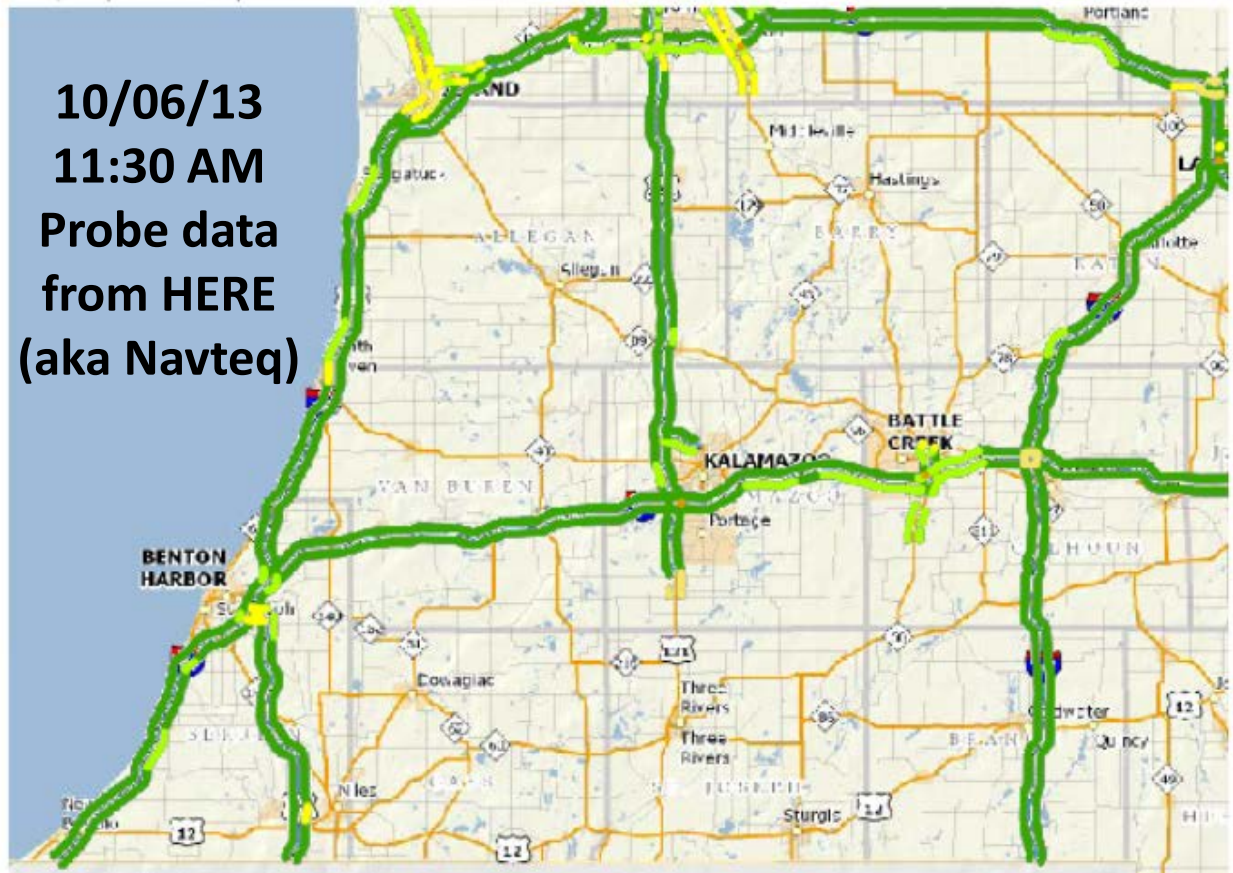
Traffic Operations
Moving People and Goods

Regional Integrated Transportation Information System
by Atkins/CATT

	12 AM	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	Daily Totals
9/30/13	$0.1K	$0.1K	$0.1K	$0K	$0K	$0.1K	$0.2K	$0.1K	$0.1K	$1.1K	$0.1K	$0.1K	$0.2K	$0K	$0.3K	$0K	$0K	$3.4K	$6.6K	$0.1K	$0K	$0.3K	$0.2K	$0.4K	$13.8K
10/01/13	$0.2K	$0.2K	$0.2K	$0.1K	$0.1K	$0.3K	$0.2K	$0.9K	$0.5K	$0.2K	$0.2K	$0K	$0K	$0.3K	$0.3K	$0.1K	$3.5K	$4.1K	$0.1K	$0K	$0.1K	$0K	$0.4K	$0.3K	$12.2K
10/02/13	$0.2K	$0.1K	$0.2K	$0.2K	$0.2K	$0.4K	$0.5K	$0.2K	$0.4K	$1.5K	$4.7K	$9.3K	$0.8K	$0.2K	$0.5K	$1.1K	$0.2K	$0K	$0.1K	$0K	$0.2K	$0.5K	$0.5K	$0.3K	$22.2K
10/03/13	$0.1K	$0.1K	$0.1K	$0K	$0K	$0.3K	$0.3K	$0.1K	$0.1K	$0.1K	$0K	$0.1K	$0.2K	$0.1K	$0.2K	$0.1K	$0.1K	$0K	$0.2K	$0.4K	$0.1K	$0.2K	$0.2K	$0K	$3.1K
10/04/13	$0.1K	$0.3K	$0.2K	$0K	$0.1K	$0.3K	$1K	$1.5K	$4.2K	$0.1K	$0.2K	$0.1K	$0.2K	$0K	$0K	$0.1K	$0K	$1.2K	$5.4K	$0.7K	$0K	$0K	$0K	$0.4K	$16.2K
10/05/13	$0.3K	$0.2K	$0.1K	$0.1K	$0.1K	$0K	$0.1K	$0.3K	$0.1K	$0K	$0.1K	$0.7K	$0.1K	$0.1K	$0K	$0K	$0K	$0.2K	$0.3K	$0.2K	$0.1K	$0.2K	$0.3K	$0.5K	$4.2K
10/06/13	$0.3K	$0.1K	$0K	$0K	$0K	$0K	$0K	$0.1K	$0.2K	$0K	$0.2K	$0.8K	$0K	$0.3K	$0.2K	$1.2K	$0.6K	$0K	$0.1K	$0.1K	$0.1K	$0K	$0.1K	$0.9K	$5.4K
Hourly Totals	$1.2K	$1.1K	$0.9K	$0.5K	$0.5K	$1.5K	$2.4K	$3.2K	$5.6K	$3K	$5.5K	$11.1K	$1.6K	$1K	$1.6K	$2.6K	$4.4K	$9K	$12.5K	$1.5K	$1K	$1.2K	$1.7K	$2.9K	Grand Total $77,361.31

MDOT

The 4 Disciplines of Execution

- **Focus on the Wildly Important**
- **Act on the Lead Measures**
- **Keep a Compelling Scoreboard**
- **Create a Cadence of Accountability**

WIG: Limit user delay costs to the 3-year average

- **Moving traffic in winter – improve winter ops**
  - **2012/2013: Regain normal speeds 80% of time at less than 2-hours after the end of event**
  - **2013/2014: Maintain speeds within 10 mph of average 80% of time during morning peak travel times during winter storm events**
- **Moving traffic in summer – optimize work zones**
  - **Limit the non-recurring congestion delay costs to 5% less than the three-year average**

WIG: Limit user delay costs to the 3-year average

- **Moving traffic year-round during traffic incidents – quick clearance**
  - Reduce the amount of lane blockages caused by crashes lasting longer than 2-hours to 5% less than the three-year average
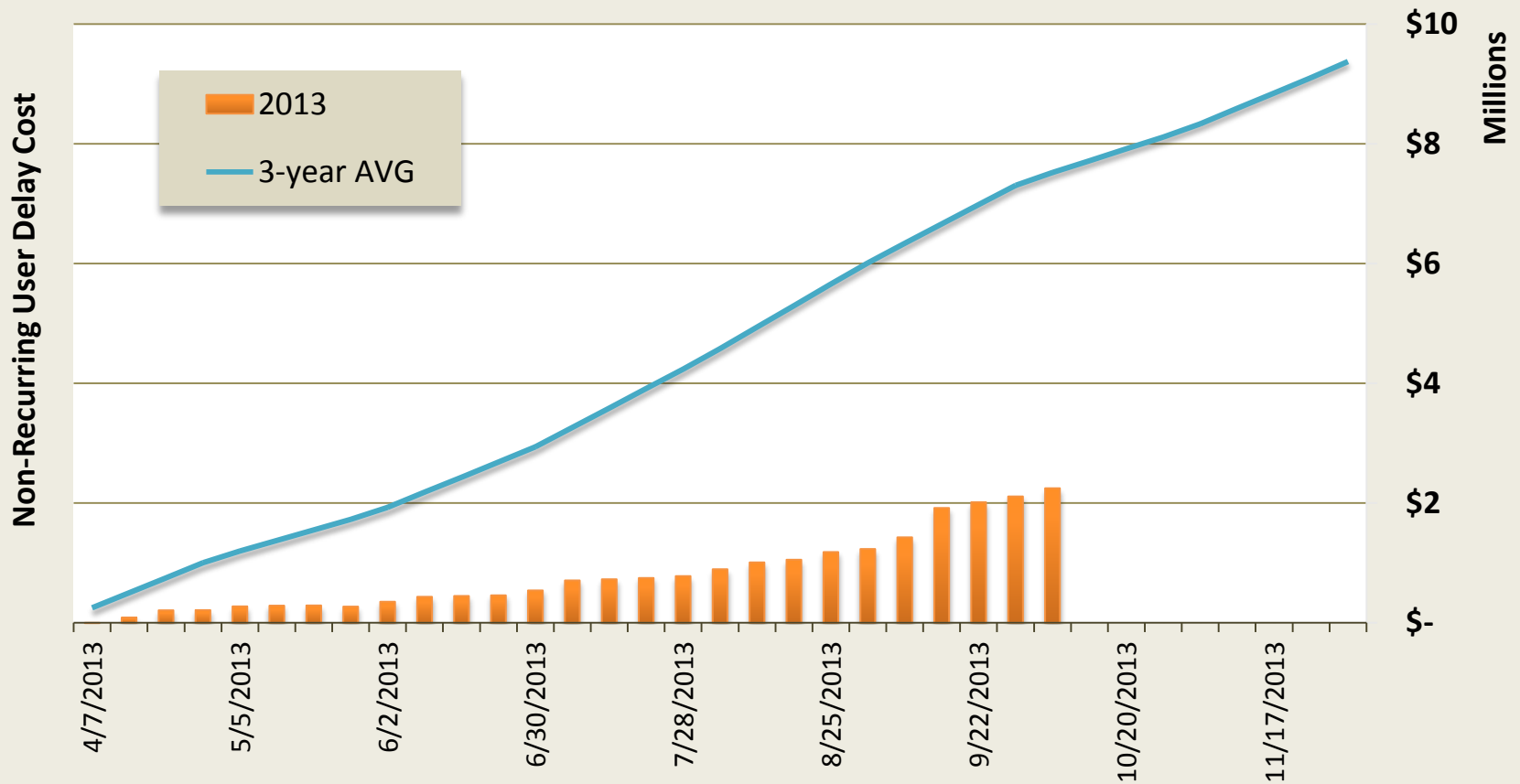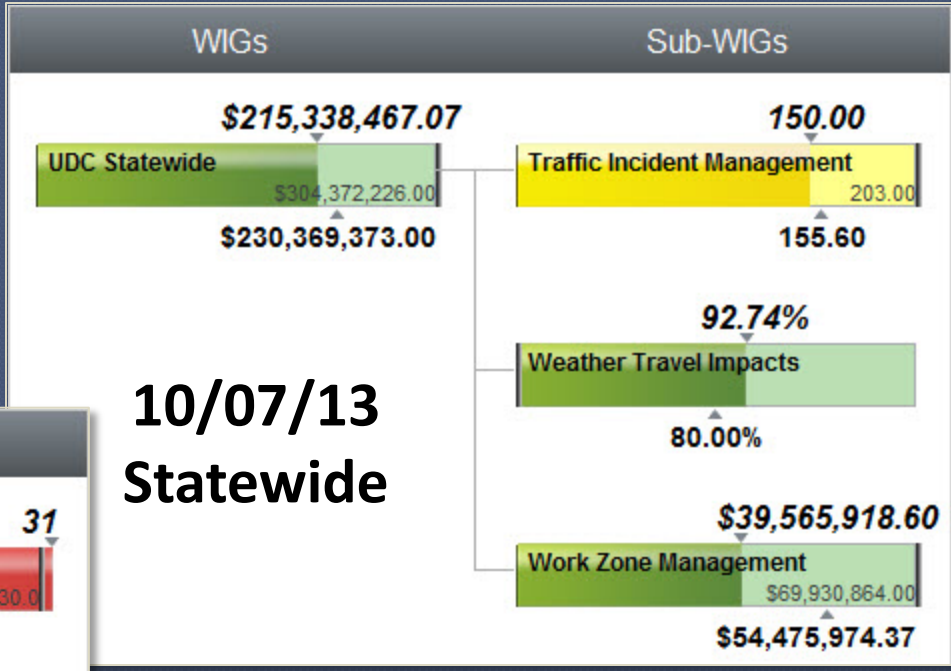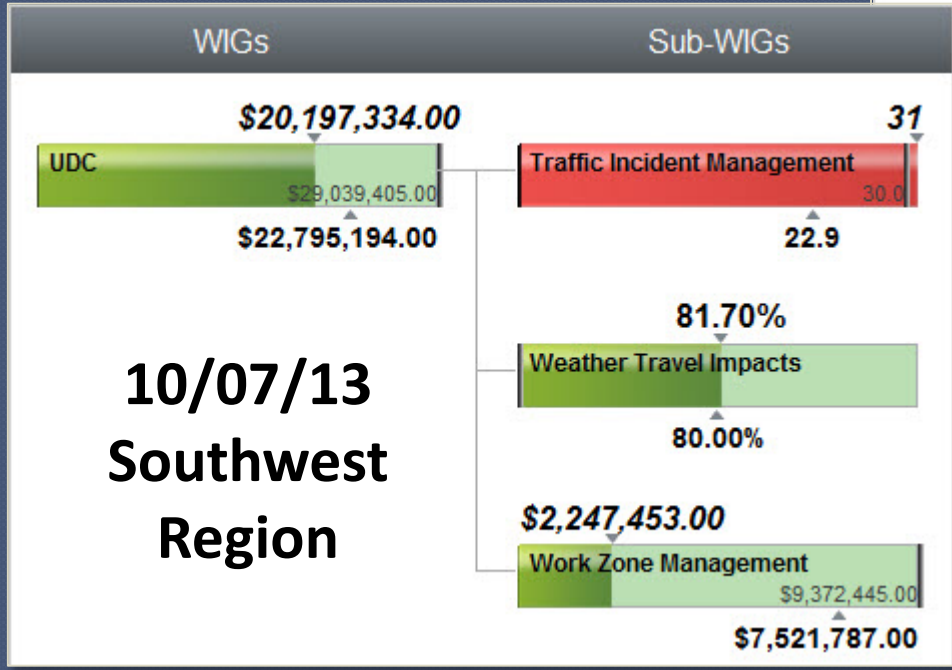
MAP-21 Performance Metrics

- **Annual Hours of Delay (AHD)**—Travel time above a congestion threshold (defined by State DOTs and MPOs) in units of vehicle - hours of delay on Interstate and NHS corridors.

  - RITIS is currently capable to report this. MDOT will need to define the congestion threshold.

- **Reliability Index (RI80)**—The Reliability Index is defined as the ratio of the 80th percentile travel time to the agency-determined threshold travel time.

  - RITIS currently uses 95th percentile instead of 80th percentile and currently doesn't allow us to put in a determined threshold travel time (it is automatically calculated).