

Michigan DOT Highway Operations Performance Management with User Delay Cost

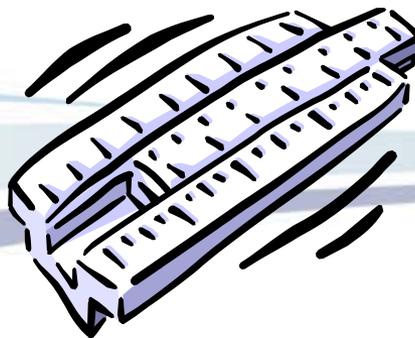
AASHTO Subcommittee on Maintenance

Burlington, VT - July 22-25, 2013



Overview

- Performance Management vs. Performance Measures/Metrics
- User Delay Cost (UDC)
- Performance Management Process – 4DX
- Outcomes



User Delay Cost



- Traditional project level taken to system operations level
 - Calculation based on travel volumes, speeds
 - Sensor and probe vehicle data (Navteq)
- Performance measurement tool evolution
 - “Red Images” 2011 & 2012
 - Regional Integrated Transportation Information System (RITIS) in 2013

GOOD GOVERNMENT IN ACTION



Mi Drive
Michigan Department of Transportation



Transportation Operations Center



Third Party
Data Provider

RITIS



1

3

4

User Delay Cost

Performance Measures

Congestion Scan

Bottleneck Ranking

Comprehensive Scoreboard

Accountability
a Cadence of Accountability

The 4 Disciplines of Execution

MDOT
Michigan Department of Transportation

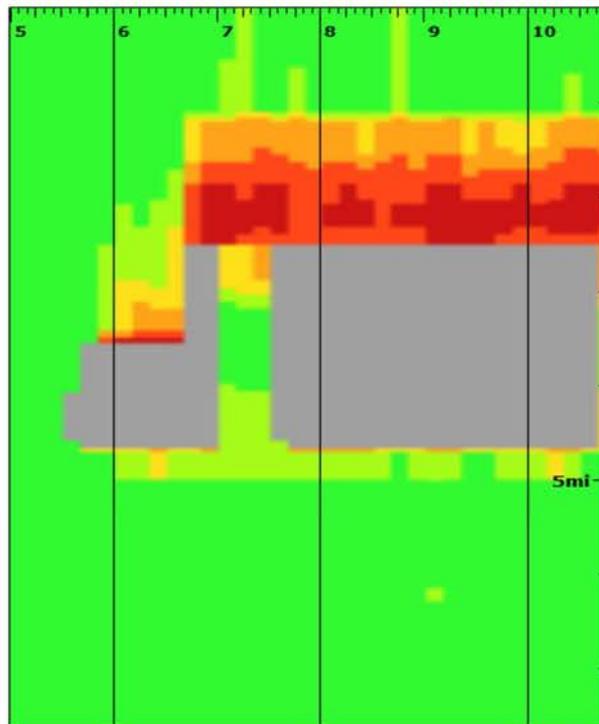


RITIS – Congestion Scan

Speed on I-94 between ROTUNDA DR/EXIT 209 and I-75/CHRYSLER FWY/EXIT 216

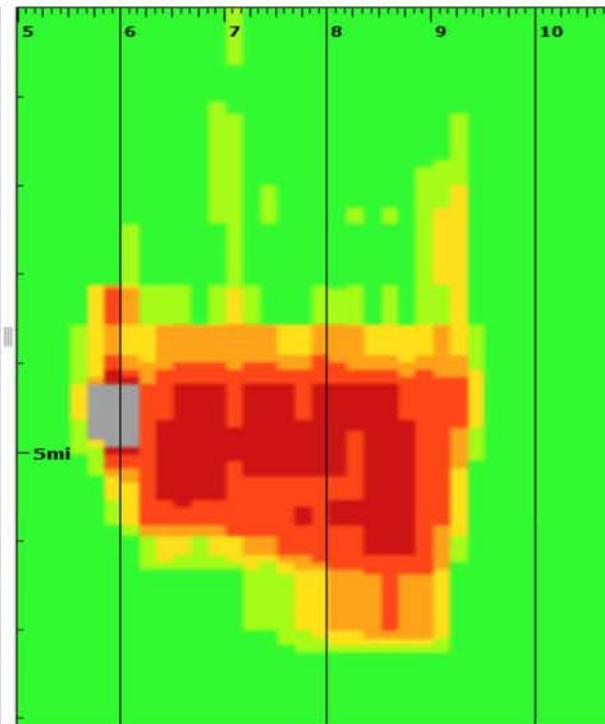
Data shown is averaged on Nov 29, 2012 at 10 minute intervals.

↓ **Westbound** ↓



- I-75/CHRYSLER FWY/EX...
- EDSEL FORD FWY/EXIT ...
- M-10/JOHN C LODGE E..
- TRUMBULL ST/EXIT 214
- LINWOOD ST/EXIT 214
- I-96/EXIT 213
- GRAND BLVD/EXIT 213
- 30TH ST/EXIT 212
- LIVERNOIS AVE/EXIT 212
- LONYO ST/EXIT 211
- WEIR ST
- US-12/MICHIGAN AVE/...
- ROTUNDA DR/EXIT 209

↑ **Eastbound** ↑



0 mph 10 mph 20 mph 30 mph 40 mph 50 mph



Discipline 1: Focus on the Wildly Important

Incremental



80% of activities produce 20% of results

Transformational



20% of activities produce 80% of results

Managing UDC with 4DX

WIG: Limit 2013 User Delay Cost to \$304.4 Million by 12/31/13

Winter Weather Lag:

Regain Time < 2 hours
80% of time

Lead 1:

Perform After Storm
Huddles 80% of the time

Lead 2:

Compliance with Salting
Policies 80% of the time

TIM Lag:

Limit 1+ Lane Closure
2+ hour Incidents to 203

Lead 1:

Perform Post Incident
Reviews 50% of the time

Work Zone Lag:

Limit Non-Recurring
Construction UDC to \$80.3M

Lead 1:

Perform WZ Reviews
80% of the time

Lead 2:

Compare Predicted vs.
Actual UDC

GOOD GOVERNMENT IN ACTION

Taylor TSC U&P - Monthly Average of Days Permits are Issued

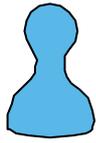
LAG



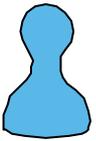
Cadence of Accountability

1.	Account	Report on last week's commitments.
2.	Review the Scoreboard	Learn from successes and failures.
3.	Plan	Clear the path and make new commitments.

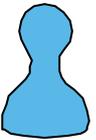
MDOT's GGiA Roles and Accountability Structure



Director: Grand Champion
Owner of MDOT's WIG
Hosts Monthly Review Sessions



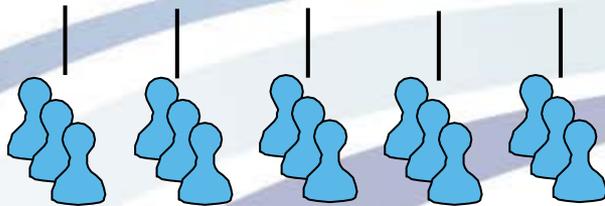
COO and CAO: Chief Champions
Co-owner of MDOT's WIG
Host Monthly Accountability Sessions



Bureau/Region/Office Leaders: Champions
Owner of area WIG; Host Weekly Accountability Sessions



Managers - Owner of area Sub-WIG; Train/Host
Weekly Accountability Sessions;
Coaches assist managers

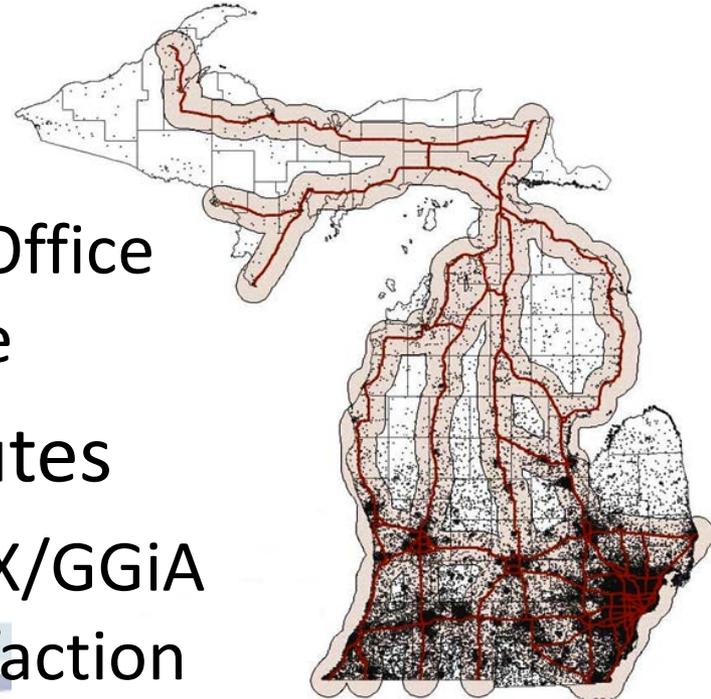


Work Areas: Own and act on lead
measures; Use Scoreboards
and report weekly



Michigan's Implementation

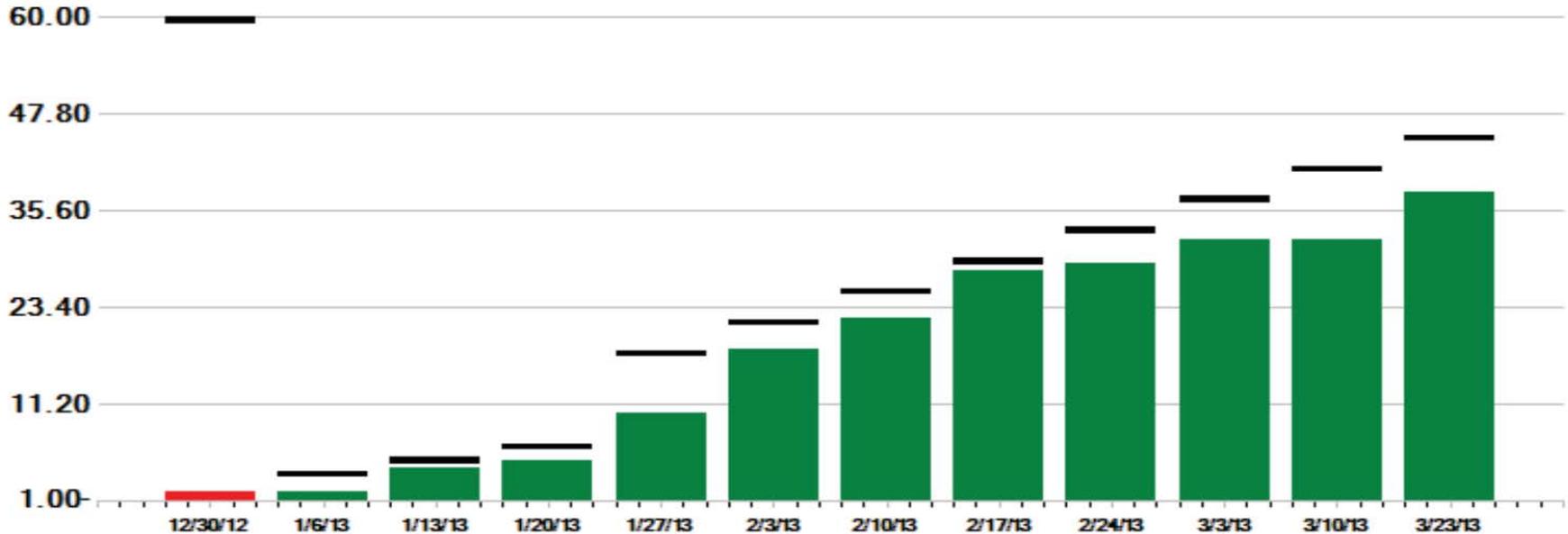
- 2011: I-94 Southwest Region
- 2012: I-94 Corridor-wide
 - 3 regions, 8 TSCs, and Central Office Operations Field Services office
- 2013: Statewide, multiple routes
 - Part of a larger adoption of 4DX/GGiA to drive higher Customer Satisfaction
 - Mostly freeway, all 7 regions



GOOD GOVERNMENT IN ACTION

Scoreboard for Team: Statewide Traffic Incident Management

as of 3/23/2013: Current: 38 / Target: 45.17



Limit the number of traffic incidents closing one or more lanes lasting longer than two hours to 203.



Green

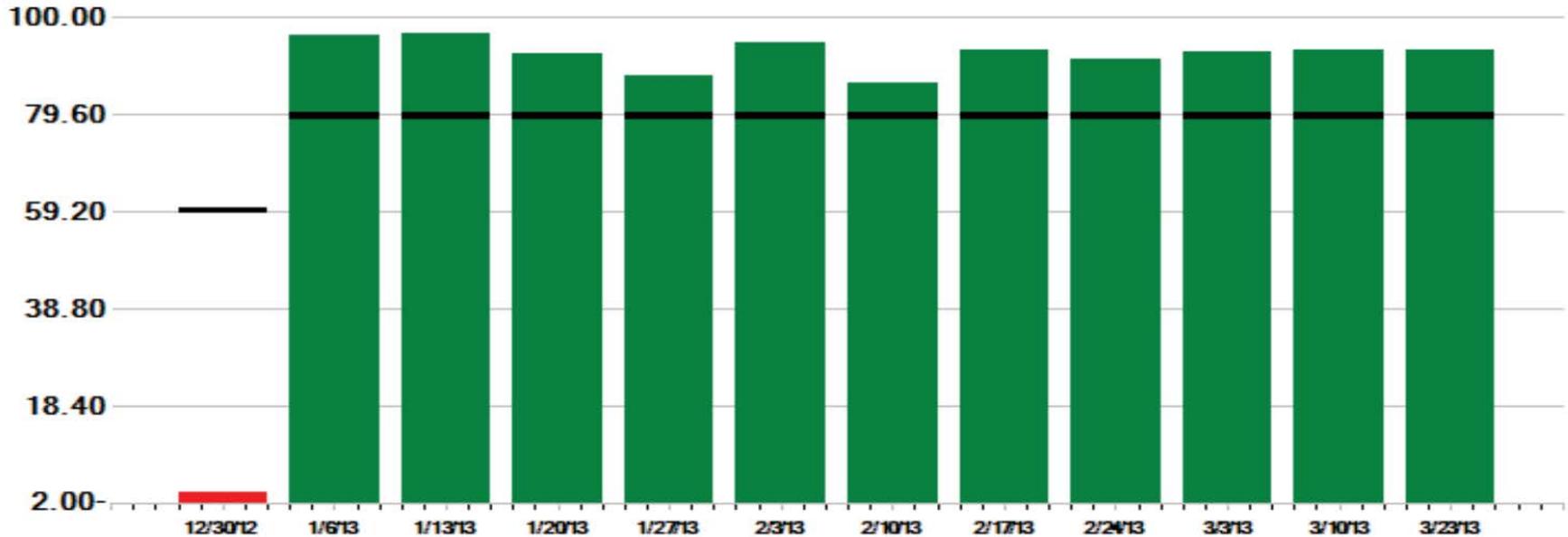


GOOD GOVERNMENT IN ACTION

Scoreboard for Team: Statewide

Weather Travel Impacts

as of 3/23/2013: Current: 93.15% / Target: 80%



Regain normal speeds in two hours or less, 80 percent of the time for winter weather events.



Green

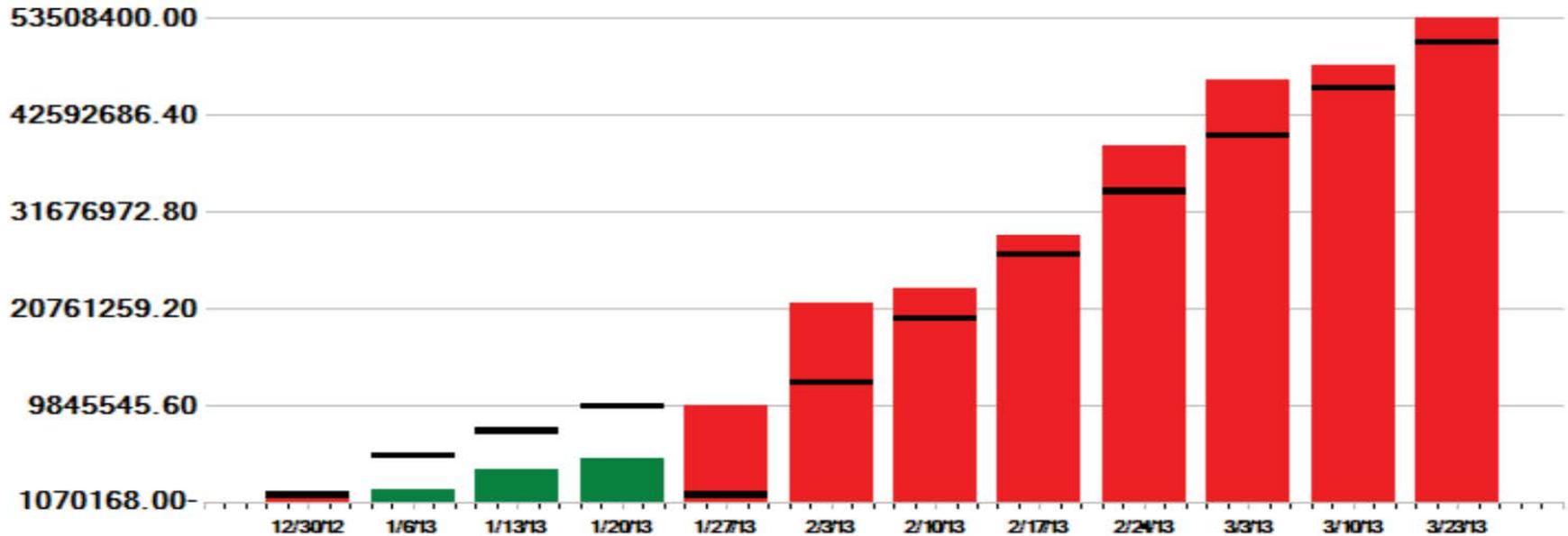


GOOD GOVERNMENT IN ACTION

Scoreboard for Team: Statewide

UDC Statewide

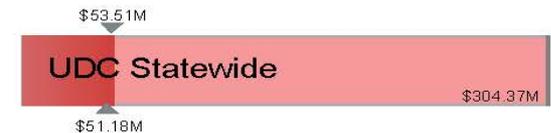
as of 3/23/2013: Current: \$53.51M / Target: \$51.18M



Limit the 2013 user delay cost to \$304.4 million, between 1/1/13 and 12/31/13.



Red

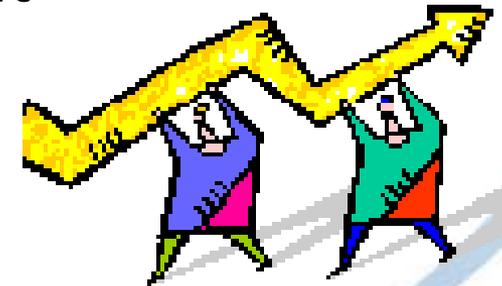


Outcomes

- Active Response & Proactive Management of Work Zones, Traffic Incidents, Weather Events
- Broad Front Line Staff Engagement
- Rapid Adoption of Best Practices & Collaboration, esp. TIM
- Better Transparency into Day to Day System Operations

Summary

- Performance Measures should be those that:
 - Facilitate Performance Management
 - Drive Performance Improvement
- Desired Outcomes:
 - Improving Travel Reliability & Traffic Flow
 - Driving Cultural and Behavior Changes to Actively & Proactively Operate the System Better



Continue to Improve

- Previous goal – Regain normal speeds in two hours or less, 80% of the time for winter weather events
- Proposed goal – During a winter event, maintain an average speed of traffic within **10** mph of normal speeds, **80%** of time.

Location	% Speeds within 10 mph			
	All Day	AM Peak(6-9)	PM Peak(3-7)	6am-6pm
Grand Region	74%	45%	67%	68%
US-127(Isabella Co.)	91%	82%	100%	89%
I-94(Jackson TSC)	79%	75%	80%	80%
I-94(Taylor TSC)	51%	41%	65%	58%
I-94(Marshall TSC)	68%	73%	57%	74%

Questions?

MDOT wants to deliver
outstanding customer service.
Please tell us:

