



May  
2016



# Monthly Performance Measures

## WEST MICHIGAN TRANSPORTATION OPERATIONS CENTER

[www.Michigan.gov/WMTOC](http://www.Michigan.gov/WMTOC)

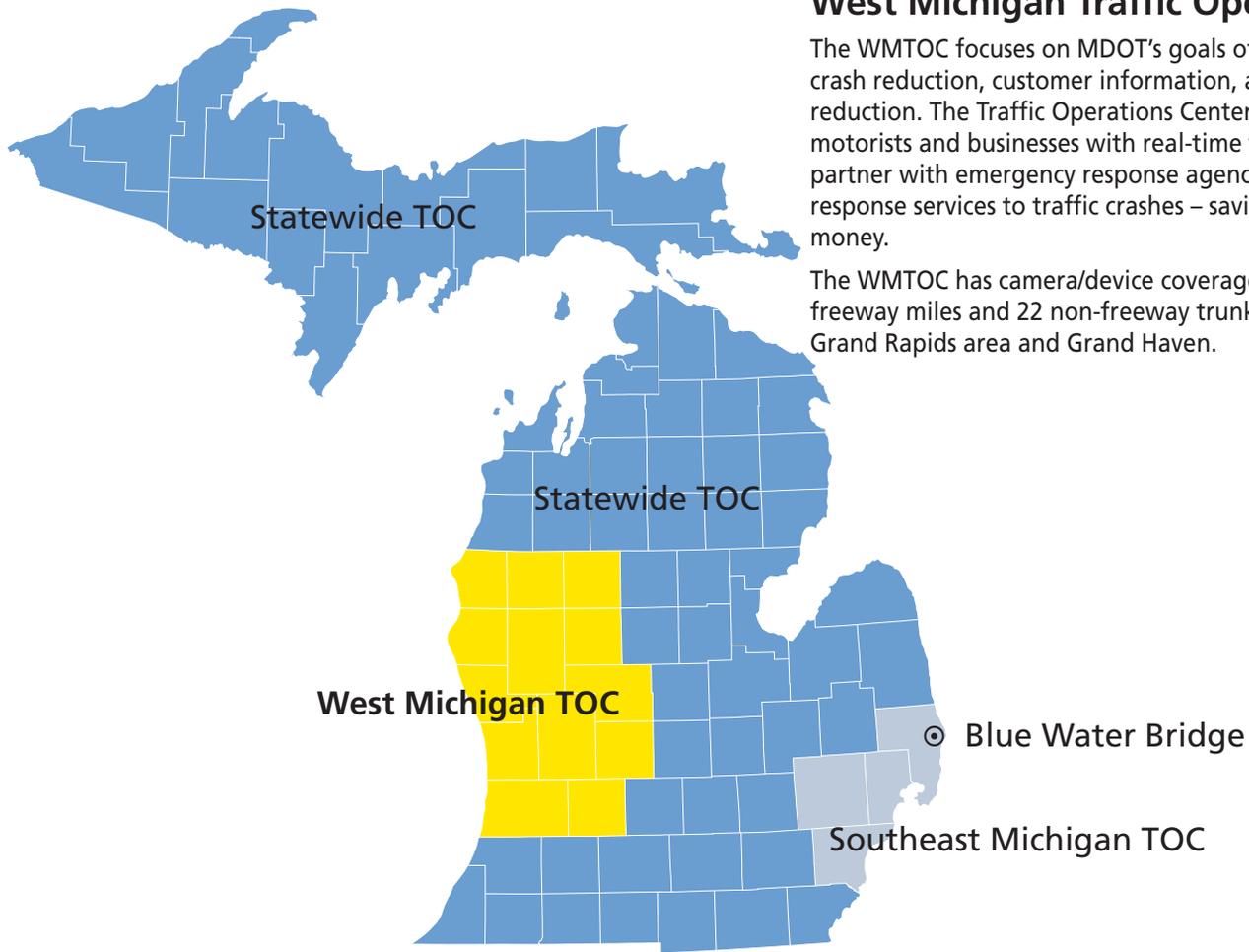


### MDOT'S MISSION

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

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## West Michigan Traffic Operations Center

The WMTOC focuses on MDOT’s goals of incident management, crash reduction, customer information, and congestion reduction. The Traffic Operations Centers (TOC) provide motorists and businesses with real-time traffic information, and partner with emergency response agencies to provide improved response services to traffic crashes – saving lives, time, and money.

The WMTOC has camera/device coverage on approximately 53 freeway miles and 22 non-freeway trunkline miles in the greater Grand Rapids area and Grand Haven.

## Spotlight Events

### Special Event

#### 39th Annual Fifth Third River Bank Run

The country’s largest 25K road race and the only 25K wheelchair racing division in the world along with a 25K hand-cycle division took place on Saturday, May 14. More than 18,000 people from around the world participated in the 39th Annual Fifth Third River Bank Run. The West Michigan Transportation Operations Center (WMTOC) Control Room Operators monitored the impacts of this event and informed motorists of exit closures on US-131 via messages on dynamic message signs (DMS).



### Construction Project

#### US-31 at Pontaluna Road Construction Project

During May, US-31 at the Pontaluna Road Construction Project experienced stage changes. Northbound US-31 exit and entrance ramps reopened and the southbound US-31 exit and entrance ramps were closed. Pontaluna Road remains closed over US-31 throughout the project. The project will add left turn lanes to Pontaluna Road and the US-31 exits, improving the interchange and bridge. The WMTOC provides support for this project by utilizing the southbound US-31 at Broadway Avenue DMS displaying exit closures for the Pontaluna Road exit. The project is scheduled to be completed next month. For information on MDOT construction projects and real-time traffic information, visit the MiDrive website at: [www.michigan.gov/drive](http://www.michigan.gov/drive).

## Events by Type

Events by Type are shown in Figure 1.

**Event:** An occurrence within the TOC coverage area that results in TOC involvement or tracking. Several different types of events recur, including: Crash, Disabled Vehicle, Abandoned Vehicle, Debris, Congestion, Construction, Maintenance, AMBER Alert, Weather, and Special Event types. Any other occurrence that has TOC involvement is classified as "Other."

**Incident:** An unplanned event that directly affects a state trunkline. These are primarily crashes, disabled and abandoned vehicles, and debris in the roadway but occasionally include police situations and fires.

Of the **135** total **Events** this month, **63%**, or **86**, were classified as **Incidents**.

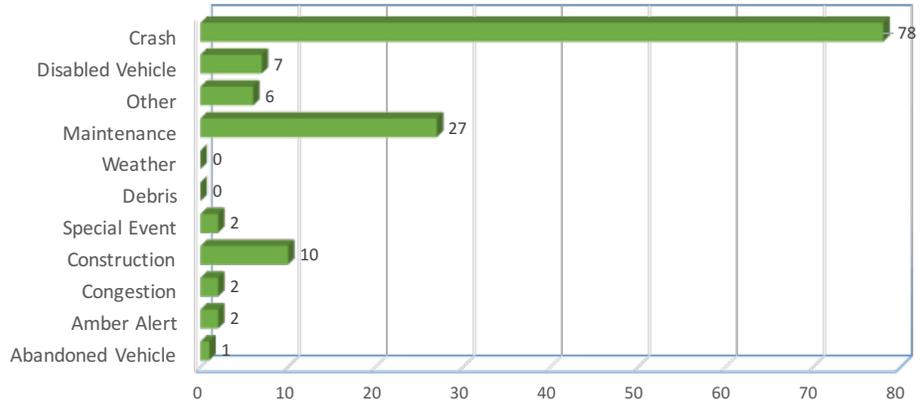


Figure 1

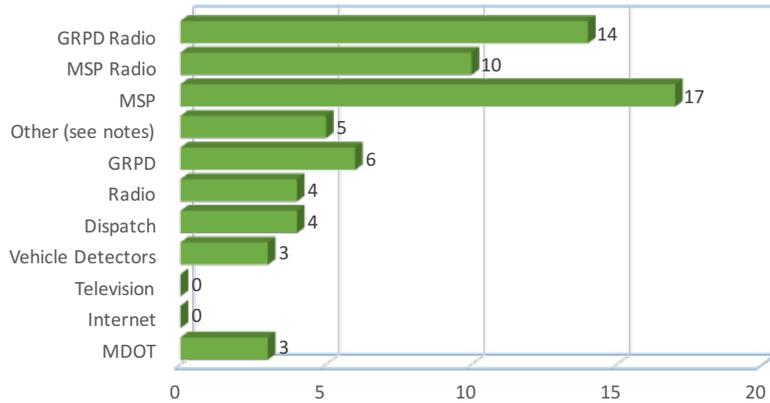


Figure 2

## Incidents by Detection Source

Control room operators (CROs) rely on various sources to detect **Incidents** that occur along the freeways. Noting the source not only ensures that the **Incident** was detected by a reliable source, but also provides insight as to which sources are utilized most frequently. "Other" includes any source that is infrequent, such as responders on scene or third party notifications.

Figure 2 provides information on how incidents were detected.

## Communication

WMTOC tracks all outgoing and incoming communication to the control room. This includes phone calls, emails, and notifications.

CROs managed **870 Communications** this month, as shown in Figure 3. This included **295 (34 percent)** Phone Calls and **575 (66 percent)** E-mails. The highest source of **Communication**, **39 percent**, was between the control room and **Incident Notifications**. "Other" includes Contractors, Nixle, and Service Providers.

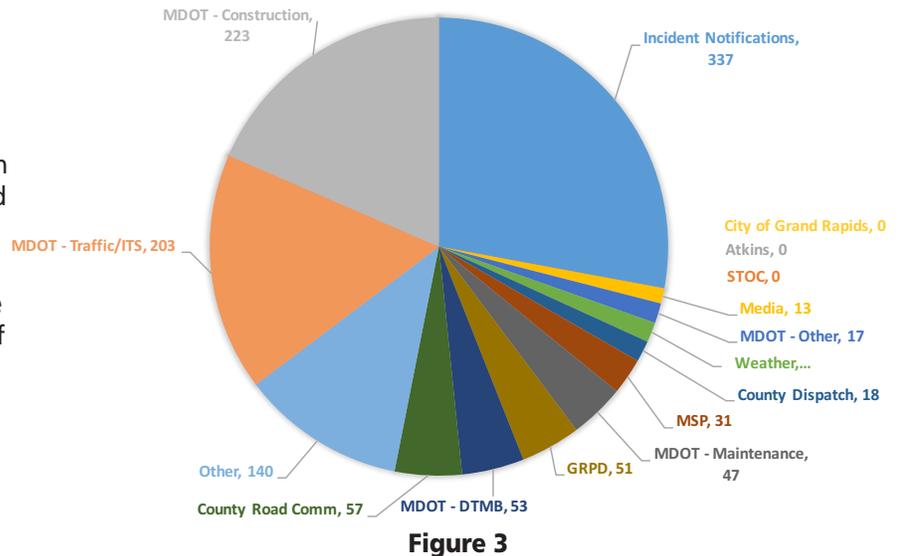


Figure 3

## Work Zone Activities

Work Zone activities for this month are shown in Figure 4.

Since CROs are responsible for monitoring and managing traffic operations along the freeways, it is critical to know where work zone activities are taking place and the impact that they may have on freeway operations. Frequent communication with MDOT staff and contractors ensures that the CROs are kept up-to-date on the locations and impacts of construction and maintenance projects. Work zone activities which are messaged for or are within the camera/device coverage area of the WMTOC are logged.

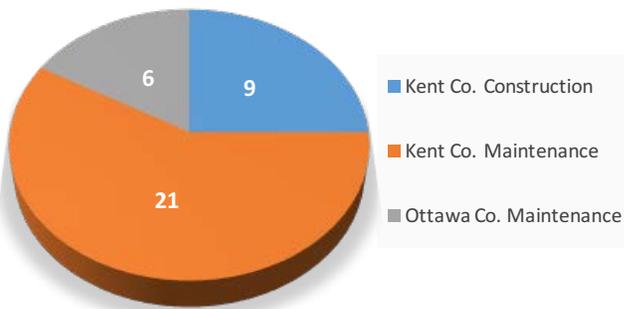


Figure 4

## DMS Messages by Type

There were **396** unique messages displayed throughout the ITS network this month on Dynamic Message Signs (DMS), as shown in Figure 5.

A "unique message" may be an Incident, Special Event, Congestion, Weather, Construction, AMBER Alert, or other unique message

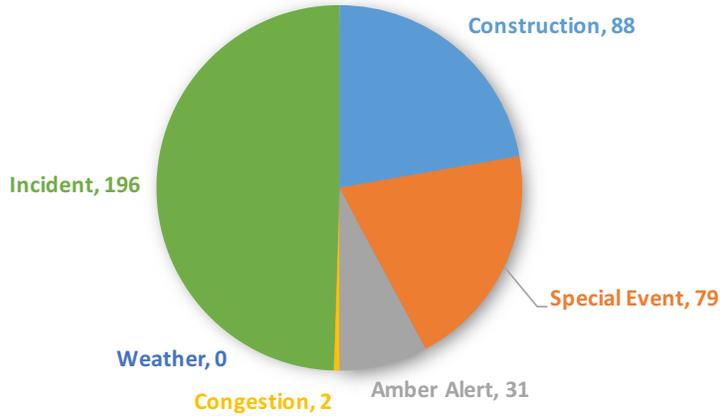
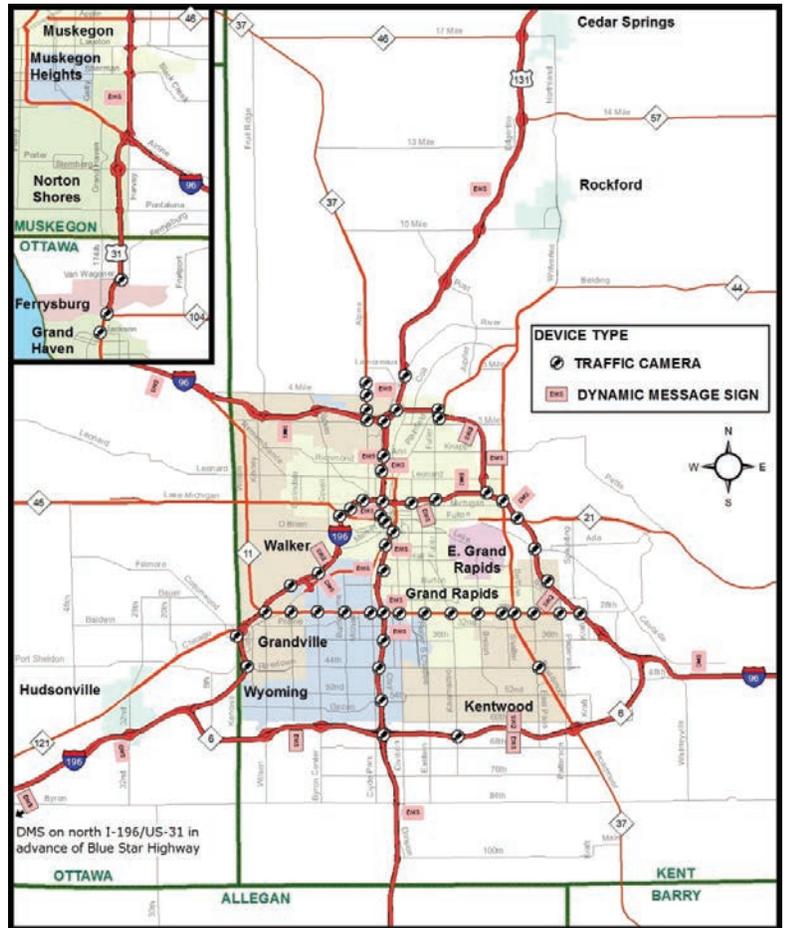


Figure 5

Travel time messages are routinely displayed when unique messages are not active. Travel times are updated every three minutes.

## Field Device Availability

CROs track the availability of all system devices so that timely maintenance can occur. The reliability of the devices in turn ensures that CROs have tools available to accurately provide traffic conditions to the motoring public. Table 1 shows Field Device Availability for this month.



Device Type	Number of Devices	Percent of Time Available
Camera	67	92%
DMS	27	95%
MVDS	128	72%

Table 1

## WMTOC Mi Drive Posts

CROs are able to post Incident information to the Mi Drive website using the ATMS software. Each post sent to the website this month is shown in Figure 6.

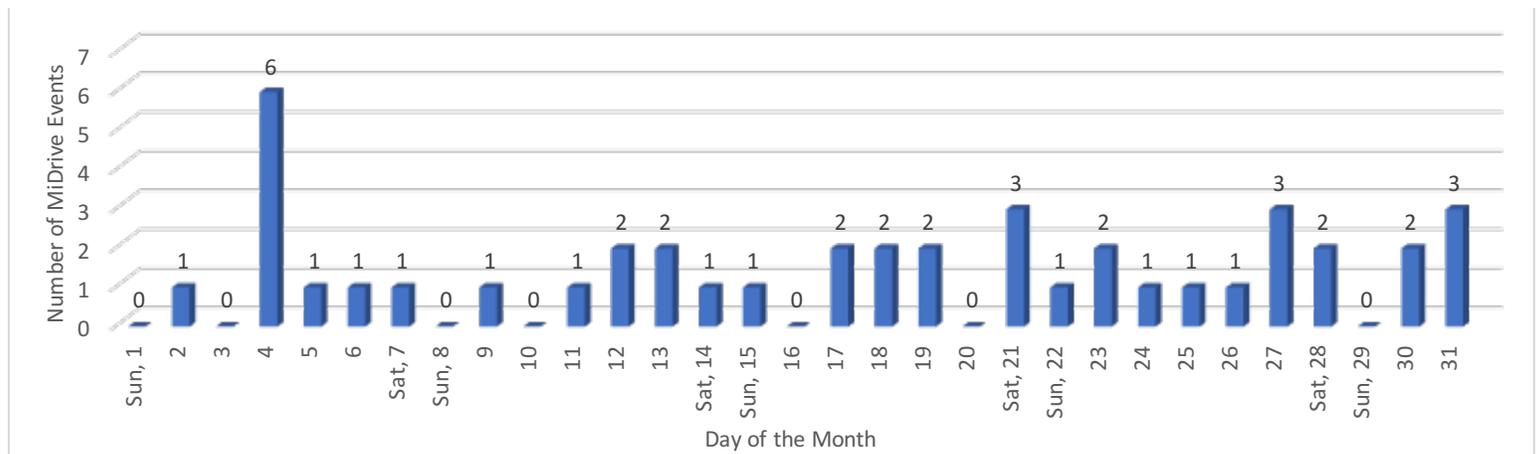


Figure 6

## Incidents on Key Routes

**US-131** experienced the most total Incidents this month; additionally, **US-131** had the greatest incident-per-mile rate for the month. The longest average incident duration during the current month occurred along **I-96**. See Table 2.

Route	Miles	May 2016			May 2015			Previous 12-month Avg.		
		Total Incidents	Incidents Per Mile	Average Duration	Total Incidents	Incidents Per Mile	Average Duration	Total Incidents	Incidents Per Mile	Average Duration
<b>I-96, US-31 to M-50</b>	<b>34.4</b>	12	0.3	124	12	0.3	66	13	0.4	45
<b>I-196, Bluestar Hwy to I-96</b>	<b>26</b>	17	0.7	45	22	0.8	39	23	0.9	30
<b>US-131, 84th St to Rockford Rest Area</b>	<b>24.5</b>	44	1.8	41	30	1.2	41	44	1.8	42
<b>US-31, I-96 to M-120</b>	<b>42</b>	0	0	0	3	0.1	30	1	0	52
<b>M-6, I-196 - I-96</b>	<b>19</b>	2	0.1	50	2	0.1	29	2	0.1	56
<b>M-11, I-196 to I-96</b>	<b>11.5</b>	0	0	0	0	0	0	1	0.1	49
<b>M-37/M-44, M6 to West River Dr</b>	<b>15.5</b>	2	0.2	31	1	0.1	242	1	0.1	125

Table 2

## Total Incidents

There were **86** Incidents this month, **73 percent** of which were high-impact incidents. A high-impact incident is one that results in a total freeway closure, a ramp closure or a lane closure.

Incident information is captured in Figure 7.

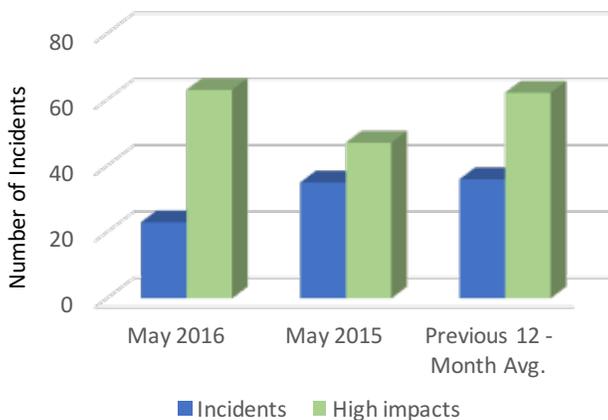


Figure 7

## High-Impact Incidents

The majority of the high-impact Incidents this month, **56 percent**, occurred along **US-131**. For most high-impact incidents, CROs are required to provide e-mail notification to a pre-defined distribution list of individuals and organizations. The notification includes the location of the incident, the degree of closure, the reason for the closure, and any other pertinent information related to traffic operations. See Table 3.

Closure Type	May 2016	May 2015	Previous 12 - Month Avg
<b>Freeway Closure</b>	6	3	5.3
<b>Lane Closure</b>	52	41	52.1
<b>Ramp Closure</b>	5	3	4.7
<b>Total</b>	63	47	62.1

Table 3

## Top Duration Incident

The longest-duration Incident this month occurred on **WB I-96 at Leonard Street** and lasted **3 hours, 23 minutes**, compared to the average incident duration of **53 minutes** for May incidents. See Table 4.

Location	Date	Duration	Details
<b>WB I-96 at Leonard St</b>	5/27/16	3 hr. 23 min.	Multi-vehicle crash
<b>WB M-46 at Sparta Ave</b>	5/17/16	3 hr. 1 min.	Multi-vehicle crash
<b>NB US-131 at 44th St</b>	5/15/16	2 hr. 20 min.	Single vehicle crash
<b>WB I-196 at Fuller Ave</b>	5/4/16	2 hr. 15 min.	Tractor-trailer crash
<b>NB US-131 at M-179 (129<sup>th</sup> Ave)</b>	5/18/16	2 hr. 8 min.	Single vehicle crash

Table 4

## Incidents in Work Zones

No incidents were identified by operators as being within a work zone during this month.

## Total of Unplanned Incidents per Weekday Hour

The largest hourly number of **Incidents** this month occurred during the hour starting at **5 p.m.** Historically, 7 a.m. has had the largest hourly number of incidents in the Grand Region. Figure 8 shows Unplanned Incidents per weekday for this month.

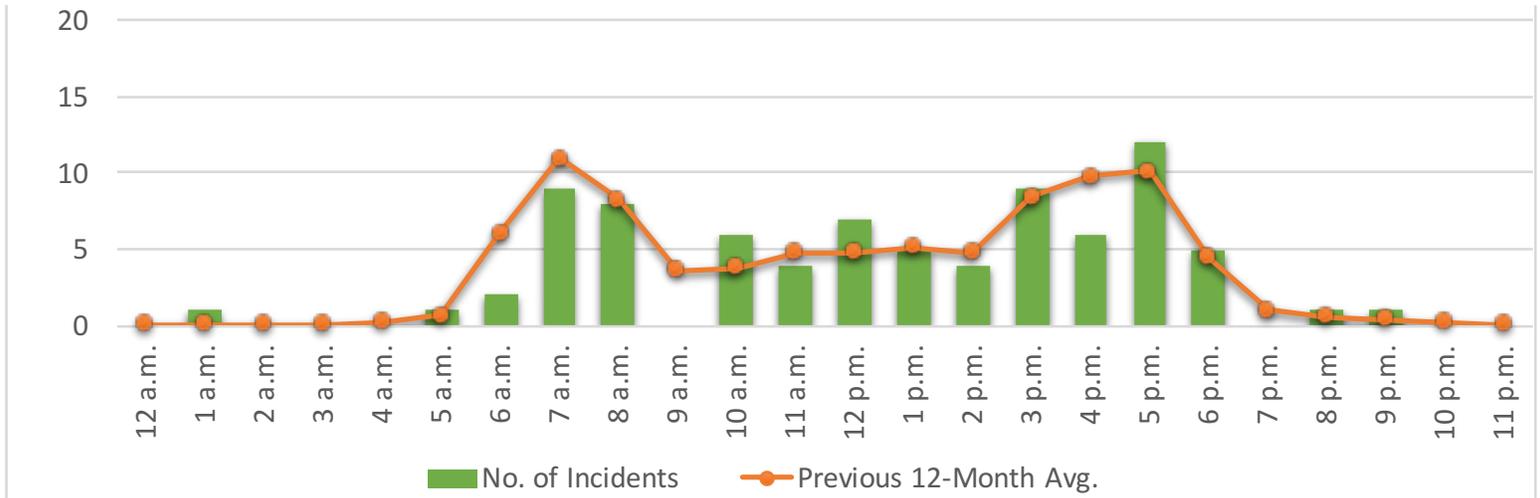


Figure 8

## Incident Clearance Details

First responders and MDOT share a goal of clearing Incidents from the roadway and reducing incident clearance times to limit the risk to travelers and responders. Effective response and clearance improves safety for motorists as well as first responders. Figure 9 illustrates roadway clearance times and incident clearance times.

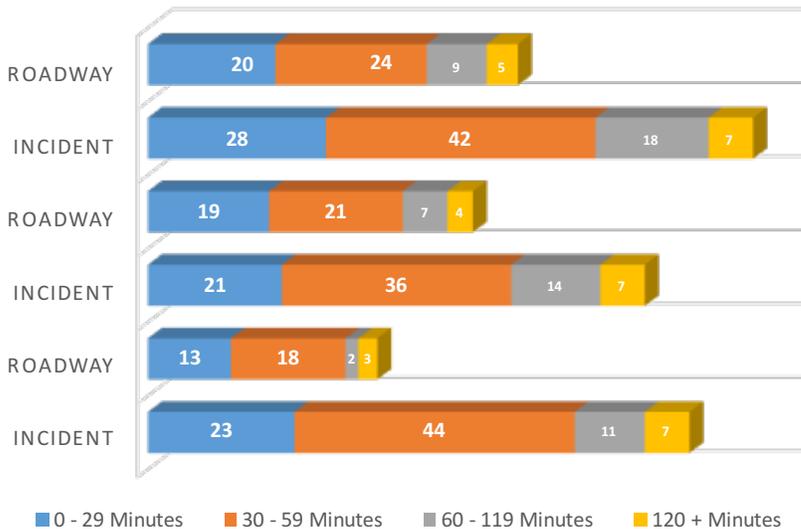


Figure 9

## Incident/Roadway Average Clearance Times

“Incident clearance time” is defined as the time between the awareness of an Incident and the time when all vehicles are removed from the scene. “Roadway clearance time” is defined as the time between the awareness of an incident and confirmation that all lanes are open to traffic. MDOT’s goal is to minimize delays caused by incidents as well as the occurrences of secondary incidents. See Figure 10.

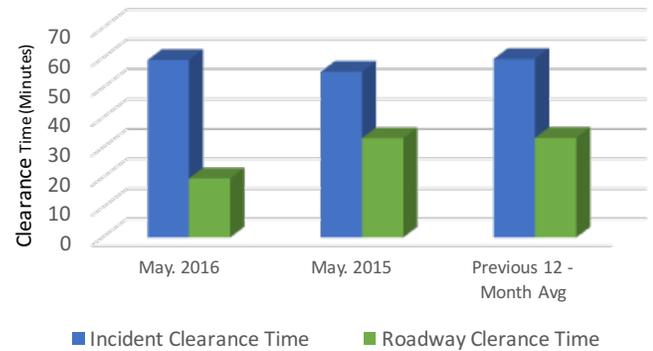


Figure 10

## Secondary Crashes

Out of the **78** total crashes this month, **three percent** were Secondary Crashes.

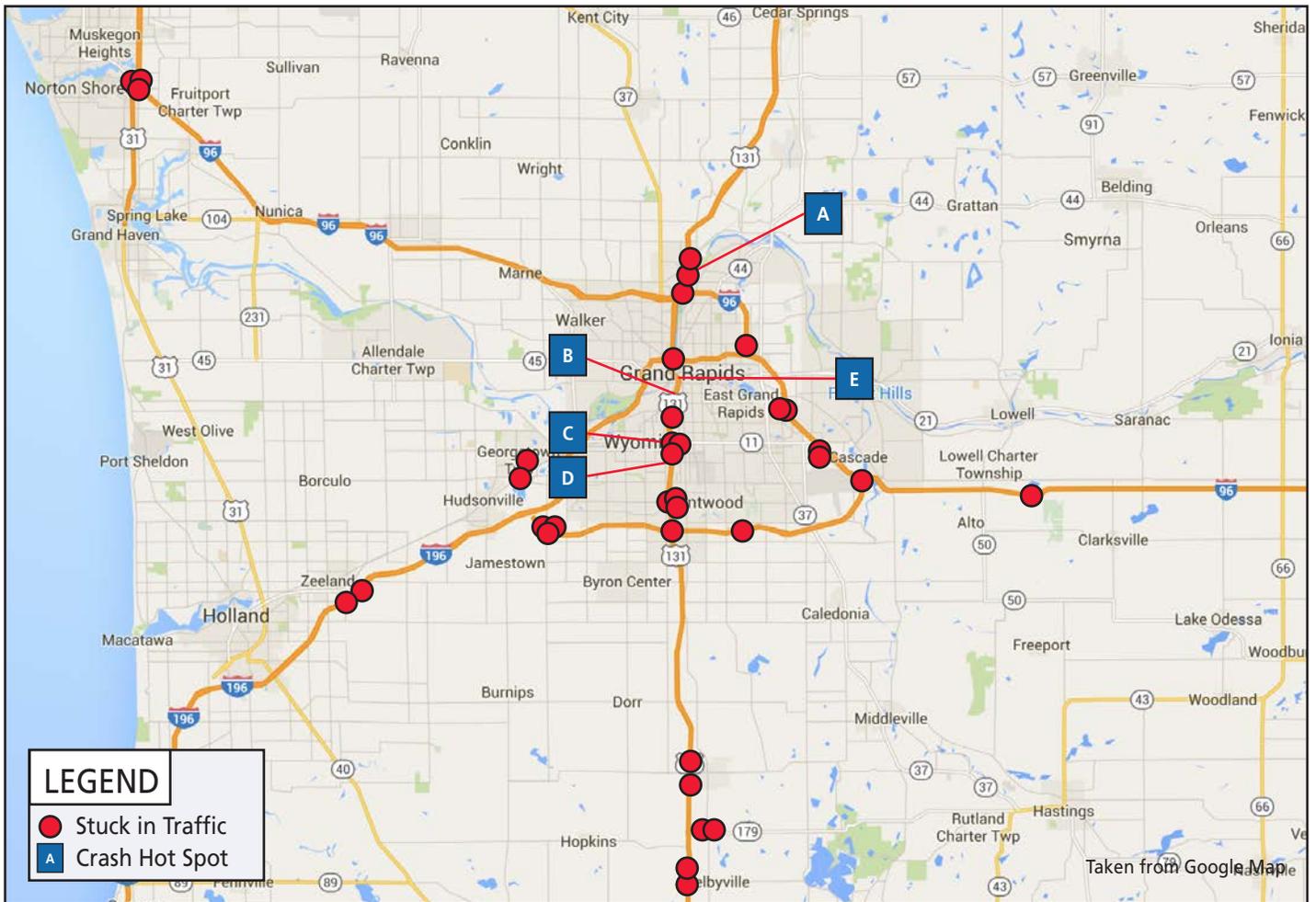
## Stuck in Traffic Notifications

Travelers with smartphones or Web-enabled mobile devices can go to the Mi Drive website ([www.michigan.gov/drive](http://www.michigan.gov/drive)) and click on the "Stuck in Traffic?" link to report traffic delays or incidents. The map below shows how many were reported per key roadway.

## Crash Hot Spot Activity

The hot spots depicted on the map below are described in Table 5. The minimum threshold used for categorizing a location as a "top" hot spot is **four Crashes**. This threshold is set based on historical data for the WMTOC coverage area.

The top Crash locations for the month are identified on the map below. Each month the locations may change.



Hot Spot	Freeway and Cross Street	Count	% of Total Crashes	Appearance in Previous 12 Months
A	US-131 @ West River Dr	6	8%	0
B	US-131 @ Franklin St (I-196BS)	5	6%	7
C	US-131 @ 28th St (M-11)	5	6%	4
D	US-131 @ 36th St	5	6%	0
E	US-131 @ Market Ave	4	5%	2

Table 5