



July
2016



Monthly
Performance
Measures

WEST MICHIGAN TRANSPORTATION OPERATIONS CENTER

www.Michigan.gov/WMTOC

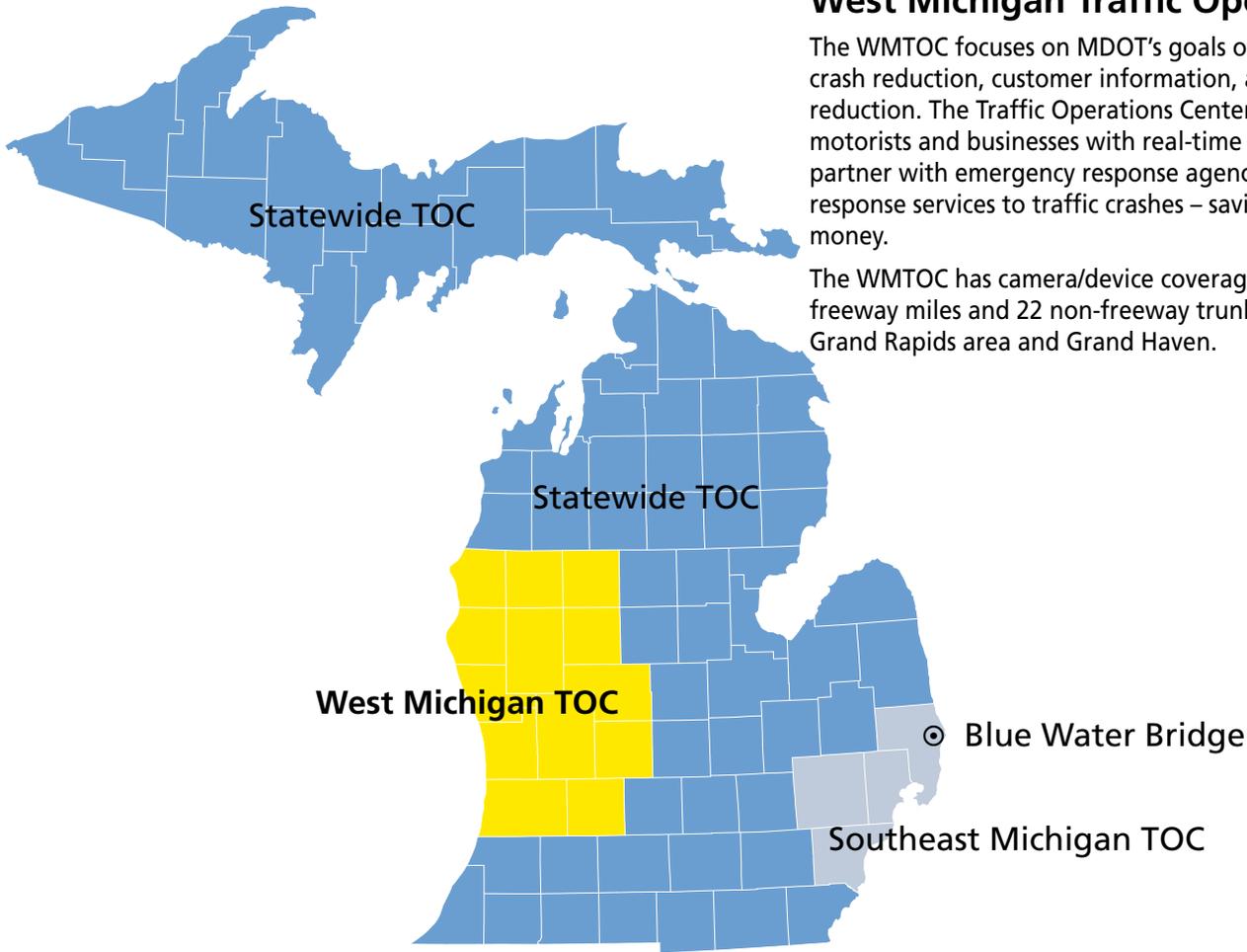


MDOT'S MISSION

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

Suzette Peplinski, P.E.
WMTOC Manager
1420 Front Avenue NW
Grand Rapids, MI 49504
PeplinskiS@michigan.gov

Control Room Contact:
Phone - 616-451-8329



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

US-31 at M-20 Crash – High Impact Extended Duration Event

On Tuesday, July 5, at 1:48 p.m., the West Michigan Transportation Operations Center (WMTOC) control room operators (CROs) were notified of a high-impact crash on southbound US-31 at M-20 (Stony Lake Road) in Oceana County. A tractor-trailer and two passenger cars were involved in the crash. First responders established a detour to re-route traffic up the exit ramp, over M-20, and down the entrance ramp onto US-31. Despite the short detour, traffic was reportedly backed up for more than 4 miles. Collaborating with Michigan State Police and first responders, WMTOC CROs were able to assist the traveling public and stakeholders with quick response actions through e-mail notifications and posting information on Twitter and Mi Drive regarding the crash.

After 37 minutes, CROs were notified that one lane of US-31 south was open. Updates were posted and e-mail notifications sent. CROs monitored the crash continuously until the incident scene was cleared at approximately 6:52 p.m.

Anyone interested in subscribing to e-mail notifications can sign up at <http://bit.ly/14ucwY2>. The MDOT Grand Region can be followed on their Twitter account at www.twitter.com/MDOT_West.

City of Grand Rapids July 4th Celebrations and Grand Haven’s Coast Guard City, USA

On Saturday, July 2, the City of Grand Rapids hosted its annual Independence Day Fireworks Celebration at Ah-Nab-Awen Park. The WMTOC proactively monitored traffic cameras for freeway congestion before, after, and during the fireworks events. Messages were displayed on four dynamic message signs (DMS) in the area to inform motorists of planned exit closures along US-131. The WMTOC worked concurrently with law enforcement to advise when motorists parked on freeways or exit ramps.

The City of Grand Haven’s Coast Guard City, USA held the 92nd Coast Guard Festival from Friday, July 29, to Wednesday, Aug. 3, 2016. More than 350,000 people attended this multi-day event that strives to honor and celebrate the men and women who have served past and present in the U.S. Coast Guard. WMTOC provides messages for traffic congestion on the DMS north of Grand Haven.

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 **146** total **Events** this month, **58 percent**, or **84**, were classified as **Incidents**.

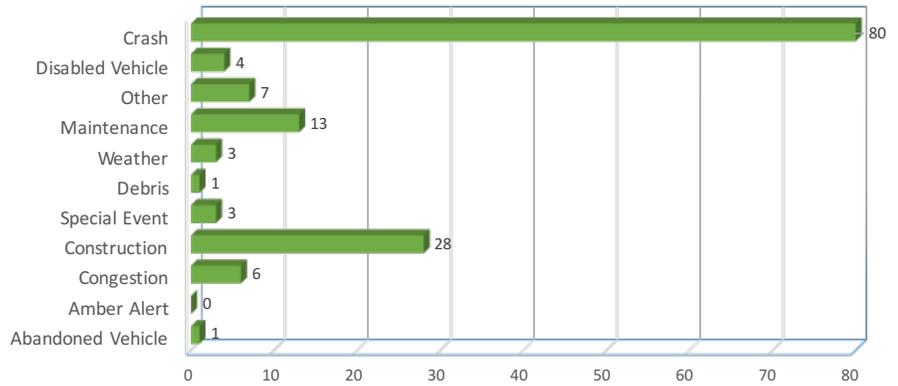


Figure 1

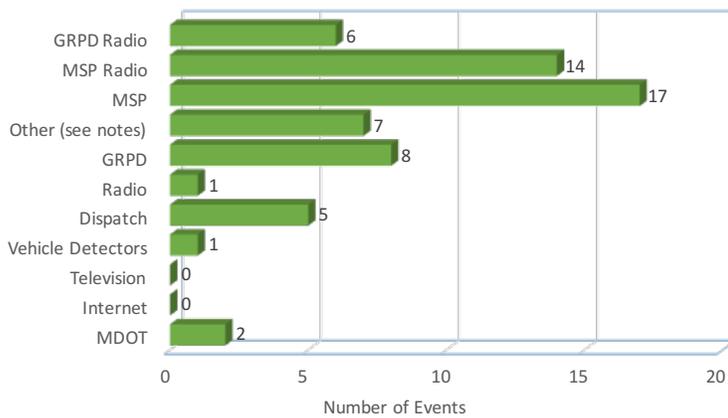


Figure 2

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 communications to the control room. This includes phone calls, e-mails, and notifications.

CROs managed **1,367 Communications** this month, as shown in Figure 3. This included **335 (24 percent)** Phone Calls and **1,032 (75 percent)** E-mails. The highest source of **Communication**, **28 percent**, was between the control room and **Incident Notifications**. "Other" includes Contractors, Nixle, and Service Providers.

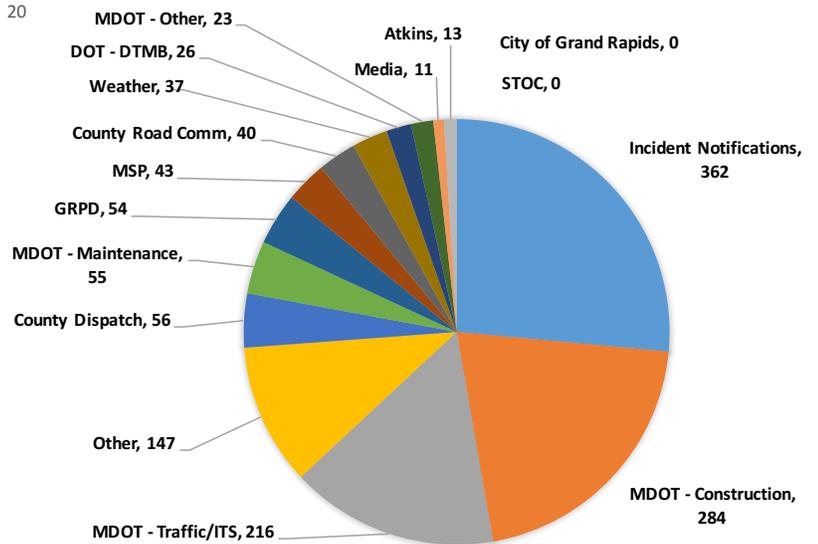


Figure 3

Work Zone Activities

Work zone activities in Kent and Ottawa counties are shown for this month 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.

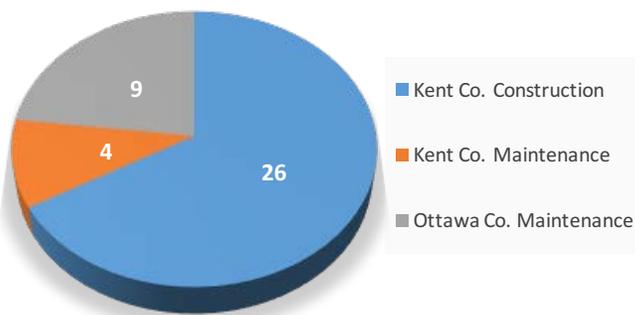


Figure 4

DMS Messages by Type

There were **366** 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.

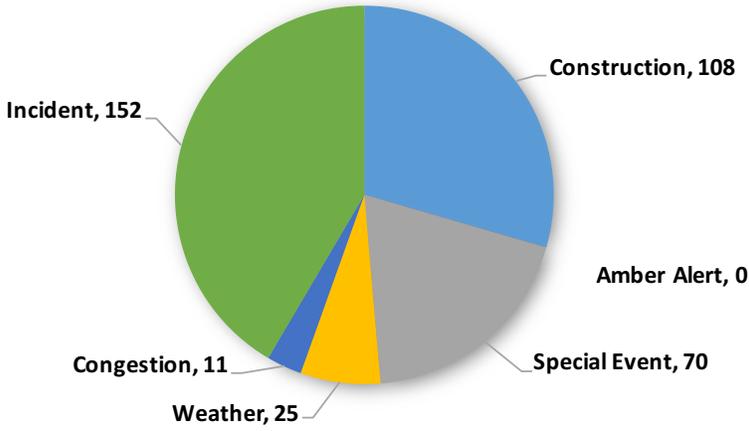
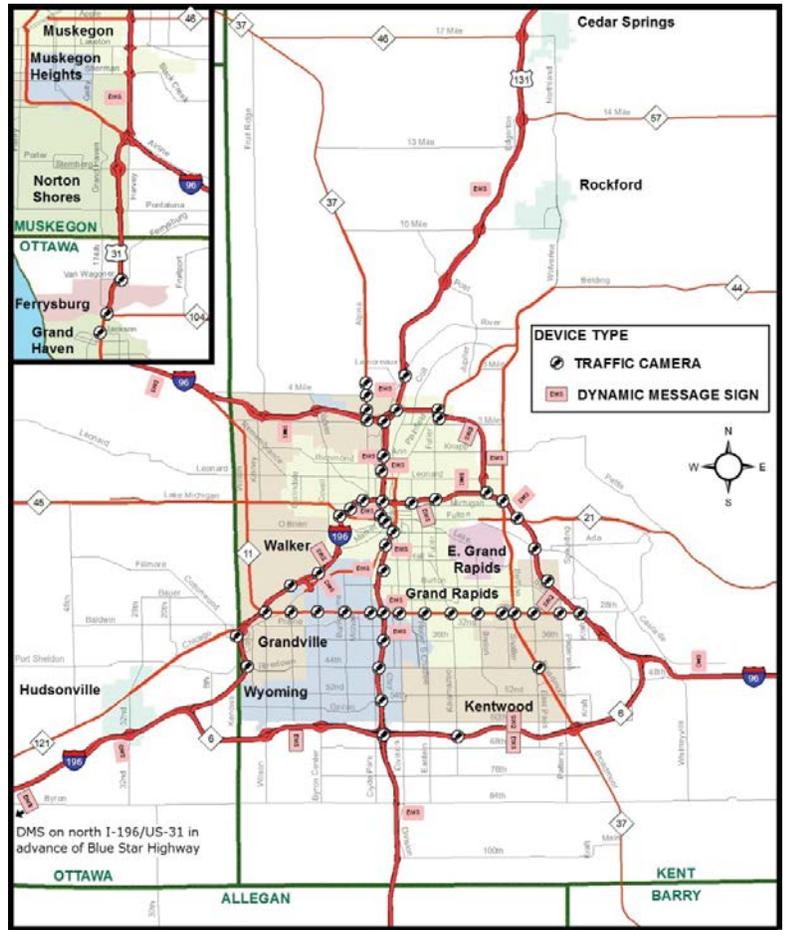


Figure 5

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	98%
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.

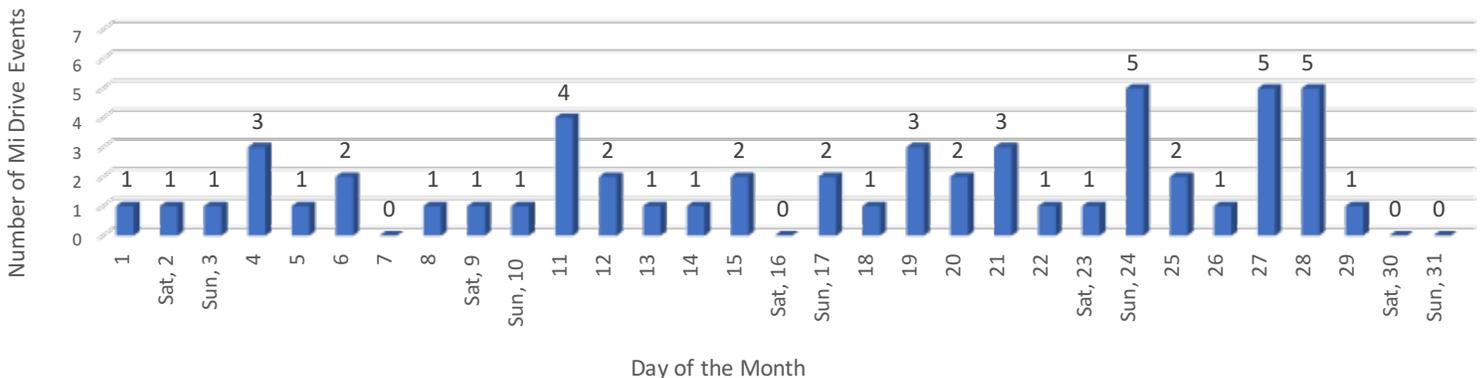


Figure 6

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 **US-31**. See Table 2.

Route	Miles	July 2016			July 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
I-96, US-31 to M-50	34.4	13	0.4	60	12	0.3	49	12.4	0.4	55
I-196, Bluestar Hwy to I-96	26	17	0.7	81	20	0.8	43	21.3	.8	47
US-131, 84th St to Rockford Rest Area	24.5	40	1.6	47	46	1.9	185	46.3	1.9	57
US-31, I-96 to M-120	42	1	0	185	0	0	0	1.2	0	66
M-6, I-196 - I-96	19	1	0.1	28	0	0	0	2.4	0.1	68
M-11, I-196 to I-96	11.5	1	0.1	91	0	0	0	0.9	0.1	103
M-37/M-44, M-6 to West River Dr	15.5	2	0.2	29	1	0.1	49	1.3	0.1	173

Table 2

Total Incidents

There were **86** Incidents this month, **76 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 shown in Figure 7.

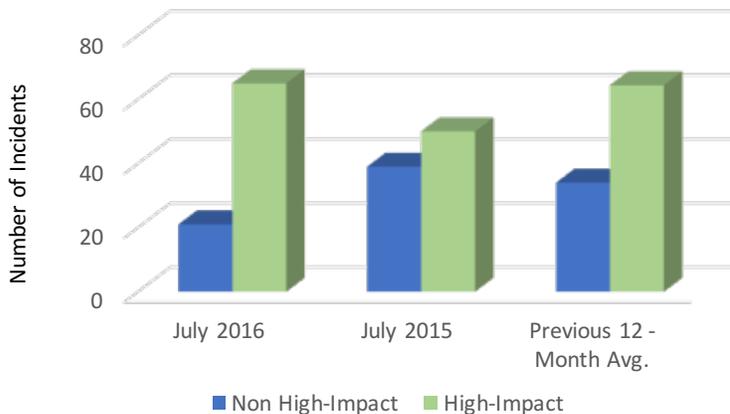


Figure 7

High-Impact Incidents

The majority of the high-impact Incidents this month, **54 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	July 2016	July 2015	Previous 12 - Month Avg
Freeway Closure	10	2	6
Lane Closure	50	45	53.3
Ramp Closure	5	3	5
Total	65	50	64.3

Table 3

Top Duration Incident

The longest-duration incident this month occurred on **southbound US-31 at M-20** and lasted **5 hours, 4 minutes**, compared to the average incident duration of **110 minutes** for July incidents. See Table 4.

Location	Date	Duration	Details
SB US-31 at M-20	7/5/16	5 hr. 4 min.	Multi-vehicle crash
US-10 at Brye Rd	7/28/16	2 hr. 32 min.	Single-vehicle crash
NB US-131 at 100th St	7/28/16	2 hr. 24 min.	Multi-vehicle crash
NB I-196 at Exit 36	7/31/16	1 hr. 41 min.	Single-vehicle crash
EB I-96 at Bristol Ave	7/11/16	1 hr. 26 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.

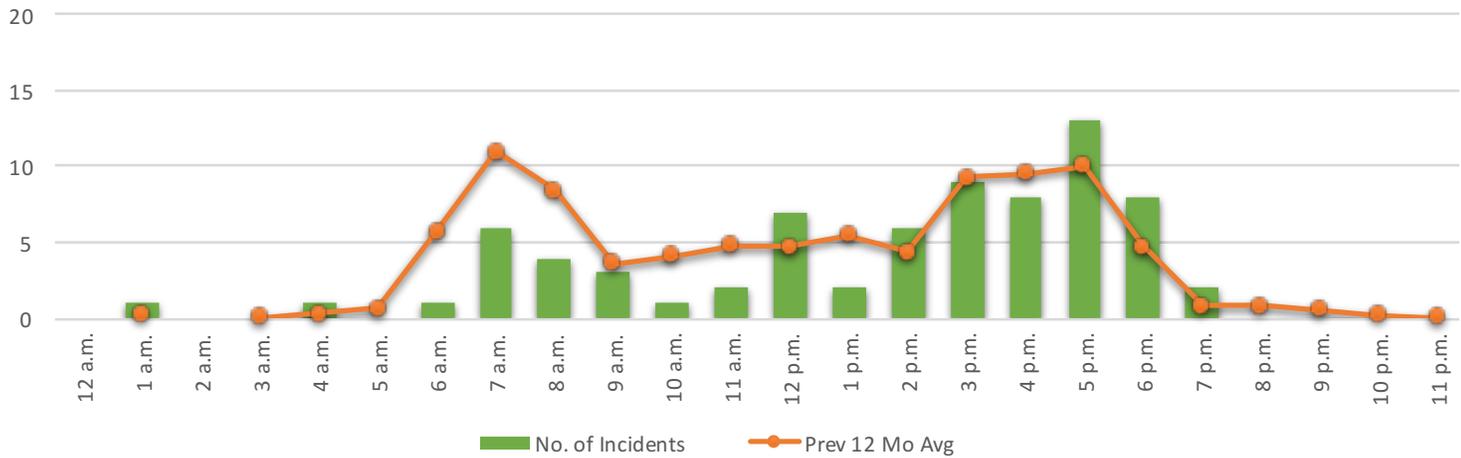


Figure 8

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.

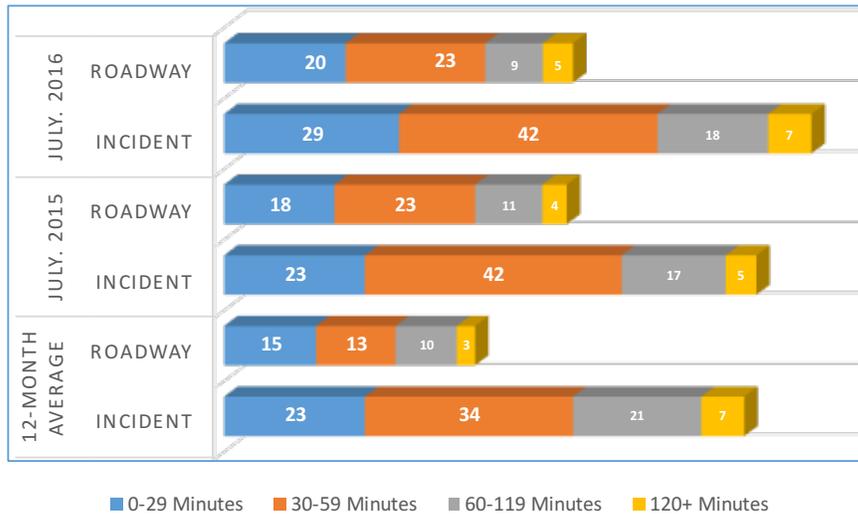


Figure 9

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 **80** total crashes this month, **4 percent** were **Secondary Crashes**.

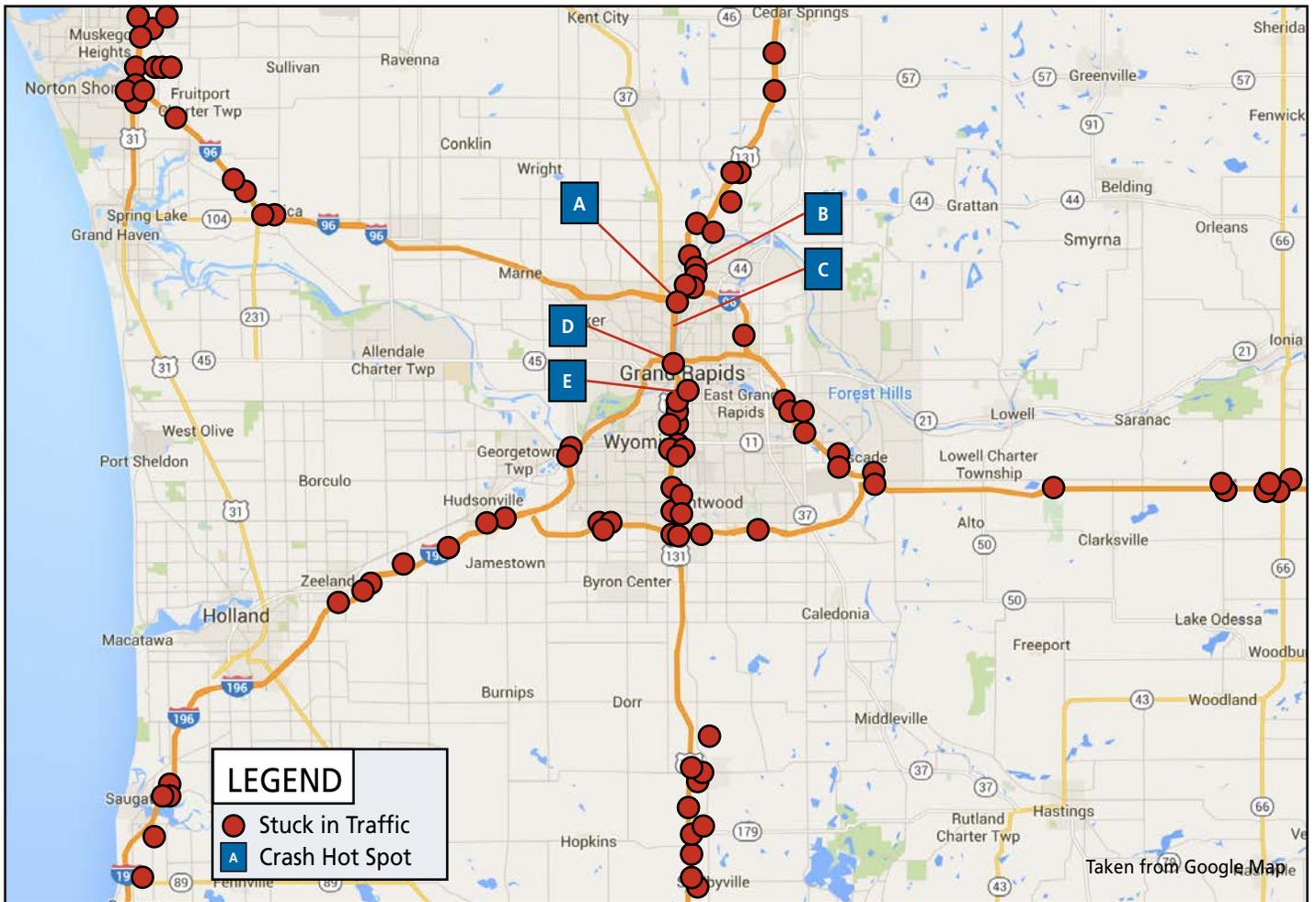
Stuck in Traffic Notifications

Travelers with smartphones or Web-enabled mobile devices can go to the Mi Drive website (www.michigan.gov/drive) 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 @ I-96	6	8%	6
B	US-131 @ West River Dr	4	5%	1
C	I-196 @ Ann St	4	5%	1
D	US-131 @ I-196	4	5%	6
E	US-131 @ I-196 BS (Franklin St)	4	5%	7

Table 5