



West Michigan Transportation Operations Center



MDOT'S MISSION:
*Providing the highest quality
integrated transportation services
for economic benefit and
improved quality of life.*

2014

December

MONTHLY
PERFORMANCE
MEASURES



Control Room Contact Info:

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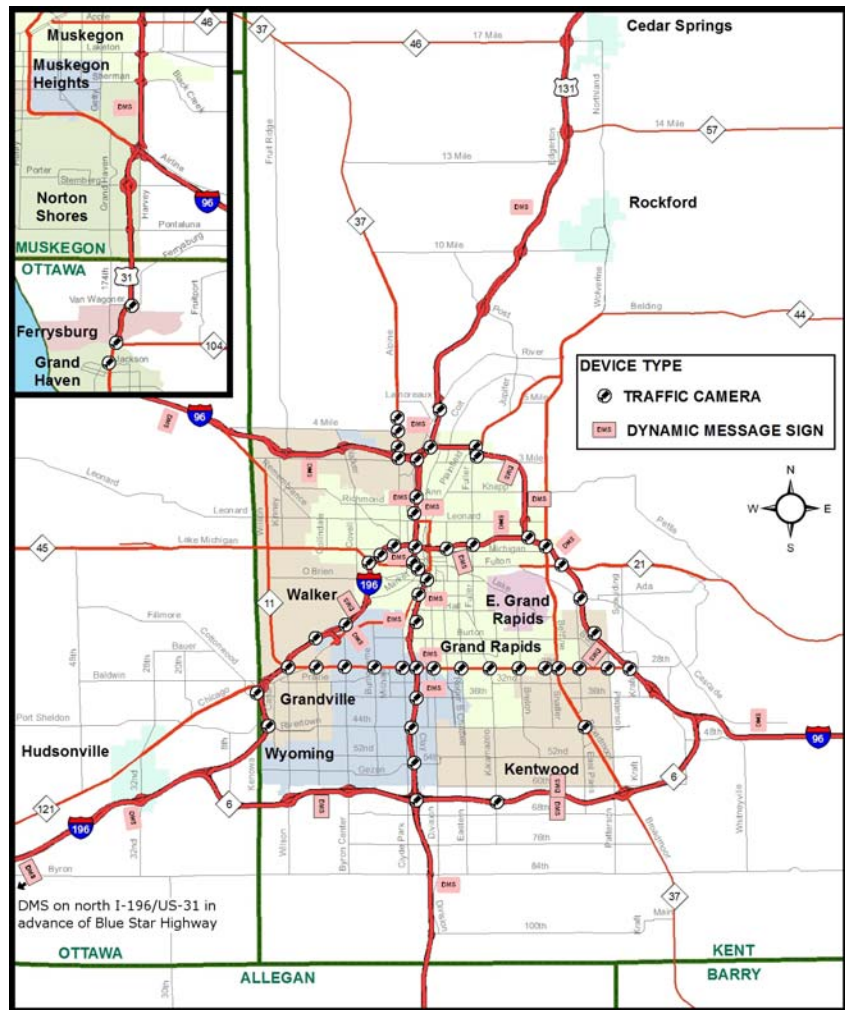
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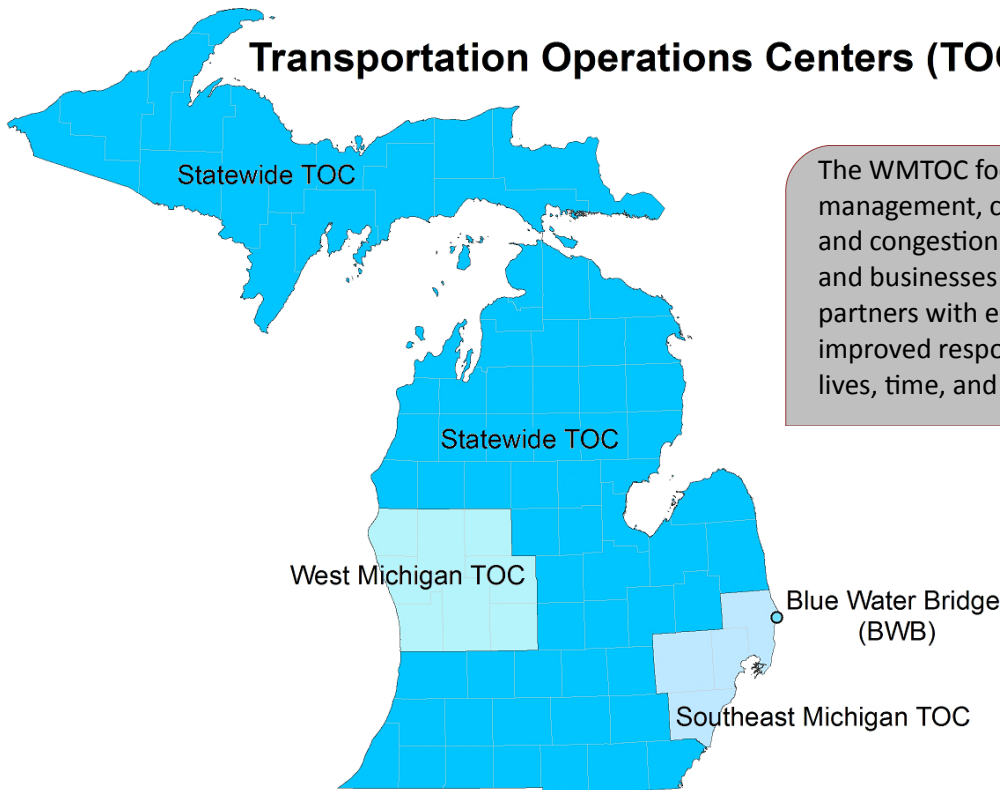
After a record monthly snowfall in November, Grand Rapids only experienced 1.0 inches of snow, becoming the 3rd least snowiest December on record, just missing the record of 0.8 inches set in 1947. This was 20.9 inches below average. Snowfall was down around the entire Grand Region as Muskegon received 1.4 inches, becoming the 4th least snowiest.

Traffic incidents saw a decrease of 47 percent, high-impact incidents saw a decrease of 37 percent, and incident clearance time saw a decrease of 23 percent from December 2013. After sending over 200 weather messages in November, WMTOC control room operators did not send a single weather message in December. The outlier of the month was Dec. 31, where most of the small amount of total snow for the month fell in a short period of time. 26 percent of the crashes for the month fell on this day, including five located at I-196 at College Avenue, making it the number one crash hot spot for the month. This was the first time in 12 months that this location became a hot spot.

Device Locations



Transportation Operations Centers (TOC)



The WMTOC focuses on MDOT's goals of incident management, crash reduction, customer information, and congestion reduction. The TOC provides motorists and businesses with real-time traffic information, and partners with emergency response agencies to provide improved response services to traffic crashes, saving lives, time, and money.

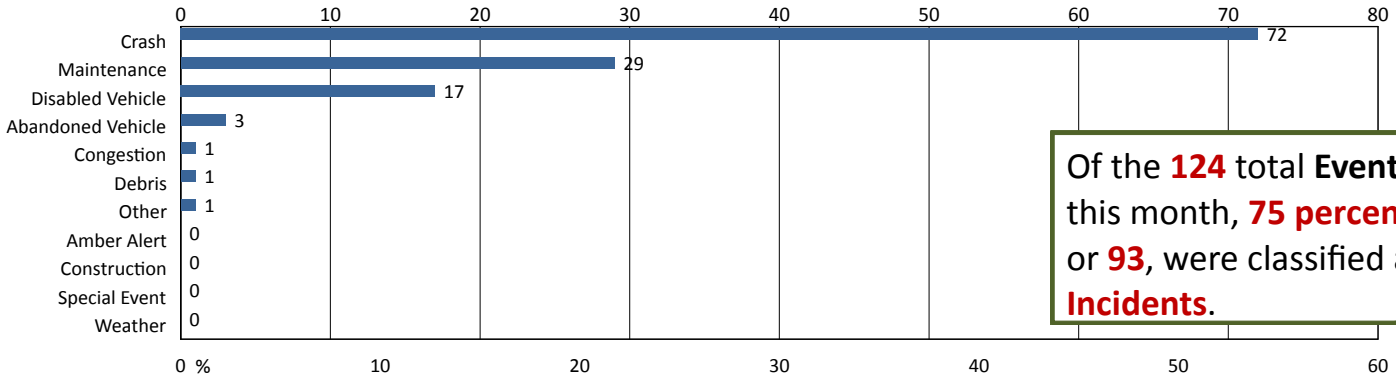
The WMTOC has camera/device coverage on approximately 45 freeway miles and 18 non-freeway trunkline miles in the greater Grand Rapids area and Grand Haven.

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 with 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.

Communication: Any phone call, e-mail, etc., that comes into or goes out of the control room.

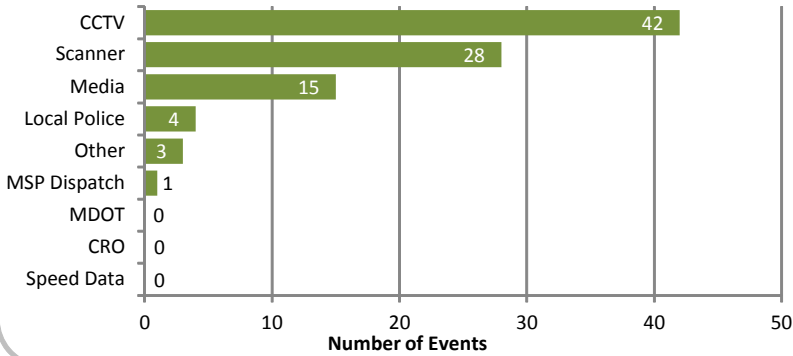
Events by Type



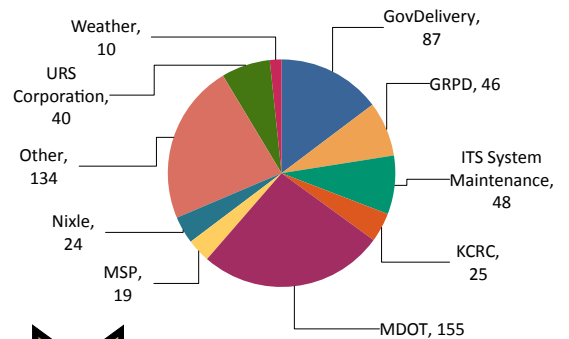
Of the **124** total Events this month, **75 percent**, or **93**, were classified as **Incidents**.

Control room operators (CRO) 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.

Incidents by Detection Source



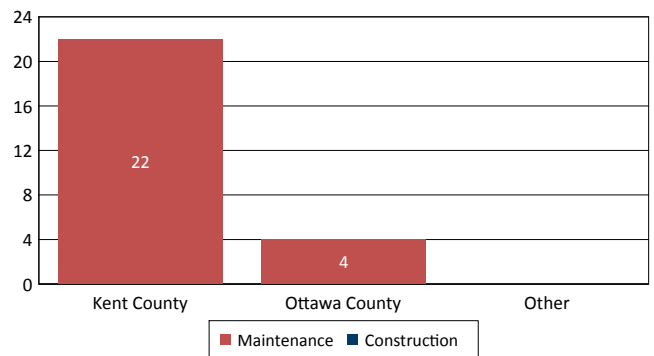
Communication by Agency



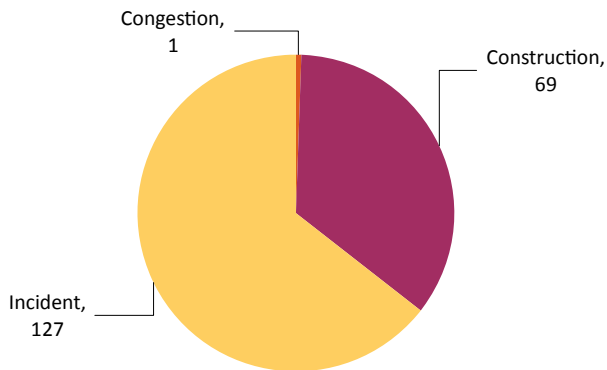
CROs managed **588 Communications** this month. This included **273 (46 percent)** Calls and **315 (54 percent)** E-mails. The highest source of **Communication, 26 percent**, was between the control room and **MDOT**. "Other" includes Media, Contractors and Service Providers, as well as the City of Grand Rapids.

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 allows CROs to stay 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. "Other" includes Oceana, Newaygo, Mecosta, Muskegon, Montcalm, and Ionia counties.

Work Zone Activities



DMS and VSS Messages by Type



There were **197** unique messages displayed throughout the ITS network this month on Dynamic Message Signs (DMS). A "unique message" may be an **Incident**, Special Event, Congestion, Weather, Construction, AMBER Alert, or other unique message.

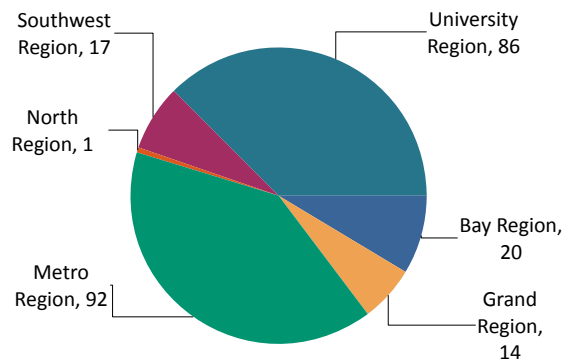
Travel time messages are routinely displayed when unique messages are not active. Travel times are updated every three minutes.

Field Device Availability

Device Type	Number of Devices	Percent of Time Available
CCTV Cameras	40	91%
Dynamic Message Signs (DMS)	27	92%
Microwave Vehicle Detectors	43	82%

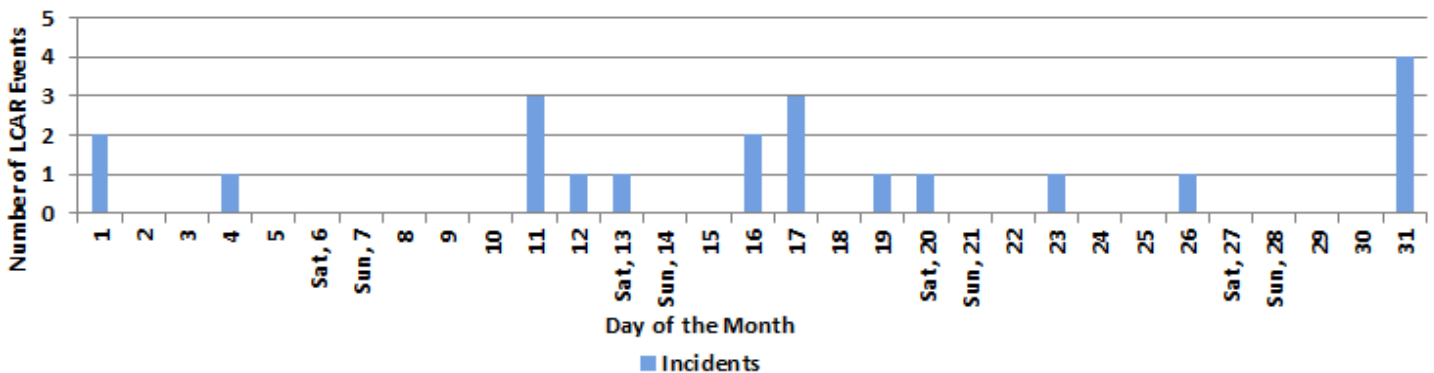
CROs track the availability of all system devices so that timely maintenance can occur. The reliability of the devices in turn ensures that CROs have tools available to accurately provide traffic conditions to the motoring public.

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 graph above shows how many were reported per MDOT region.

WMTOC LCAR Posts



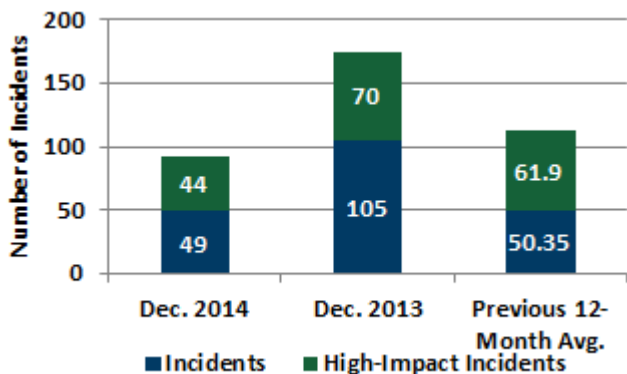
CROs are able to post **Incident** information to the Mi Drive website using the Lane Closure and Restrictions (LCAR) tool. Each post that was sent to the website this month is shown in the chart above.

Incidents in Coverage Area by Roadway

Freeway	Miles	Dec. 2014			Dec. 2013			Previous 12-Month Avg.		
		Total Incidents	Incidents Per Mile	Average Duration (min)	Total Incidents	Incidents Per Mile	Average Duration (min)	Total Incidents	Incidents Per Mile	Average Duration (min)
I-96	10.6	9	0.8	52	21	2.0	48	17.4	1.6	70
I-196	12.1	30	2.5	39	43	3.6	43	26.9	2.2	72
US-131	15.2	37	2.4	49	71	4.7	71	50.2	3.3	50
US-31	1.7	0	0.0	0	1	0.6	33	2.2	1.3	87
M-6	4.0	3	0.8	30	0	0.0	0	2.2	0.5	68
M-11	11.5	0	0.0	0	2	0.2	96	0.8	0.1	87
Total	55.1	79	1.4	45 min	138	2.5	59 min	99.6	1.8	67 min

US-131 experienced the most total **Incidents** this month; I-196 had the greatest incident-per-mile rate for the month. The longest average incident duration during the current month occurred along **I-96**. Abandoned vehicles are excluded from this table.

Total Incidents



The majority of the high-impact **Incidents** this month, **45 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, the source that verified the incident and any other pertinent information related to traffic operations.

There were a total of **93 Incidents** this month, **47 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.

High-Impact Incidents

	Dec. 2014	Dec. 2013	Previous 12-Month Avg.
Freeway Closure	4	5	5.8
Lane Closure	40	59	51.6
Ramp Closure	0	6	4.5
Total	44	70	61.90

Top Duration Incidents

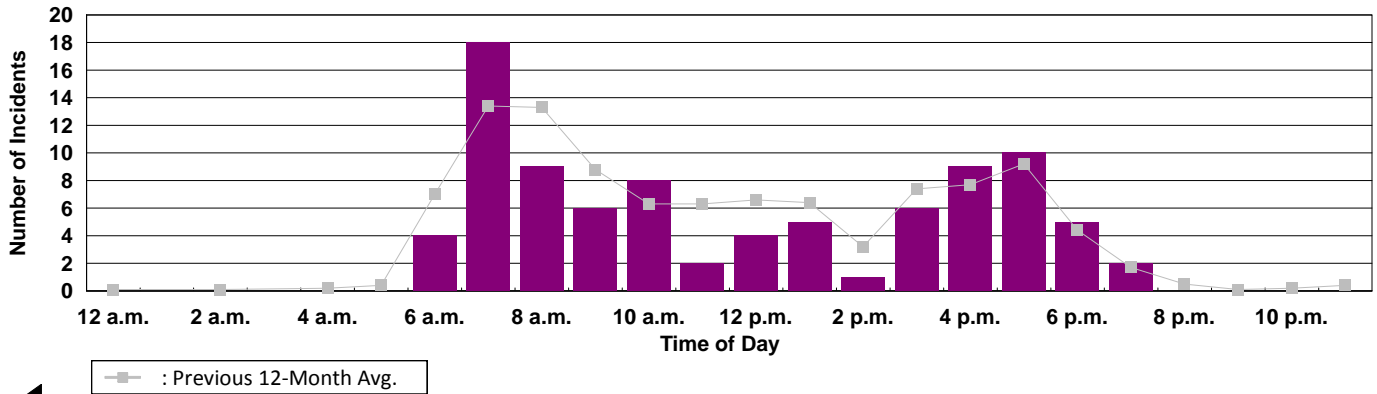
Location	Date	Duration	Details
EB I-196 over 64th Ave	12/26/2014	3 hrs.	Tractor-trailer crash
WB I-196 @ 32nd Ave	12/1/2014	2 hrs. 16 min.	Tractor-trailer crash
EB I-196 @ M-121 (Chicago Dr)	12/31/2014	1 hr. 35 min.	Multi-vehicle crash
SB US-131 @ West River Dr	12/11/2014	1 hr. 20 min.	Multi-vehicle crash
NB US-131 @ I-196	12/8/2014	1 hr. 17 min.	Multi-vehicle crash

The longest-duration **Incident** this month occurred on **I-196** and lasted **3 hours**, compared to the average incident duration of **45 minutes** for December incidents and **67 minutes** for incidents in the past year.

Incidents in Work Zones

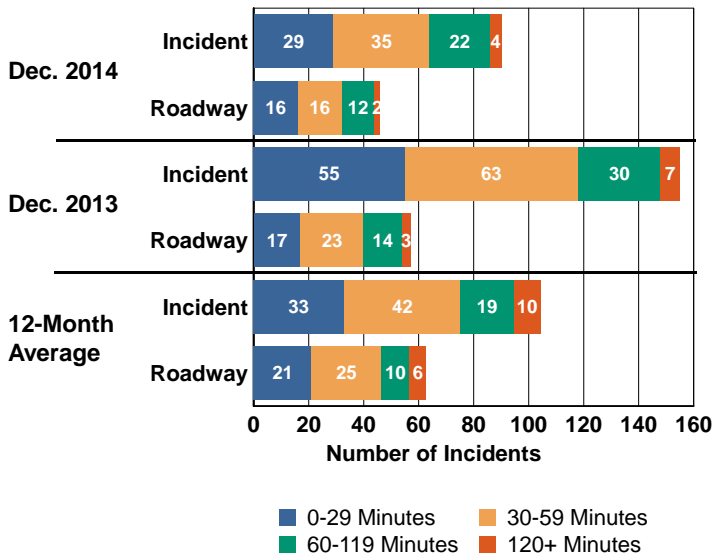
During the month of December, no incidents were identified by operators as being within work zones.

Total of Unplanned Incidents per Weekday Hour

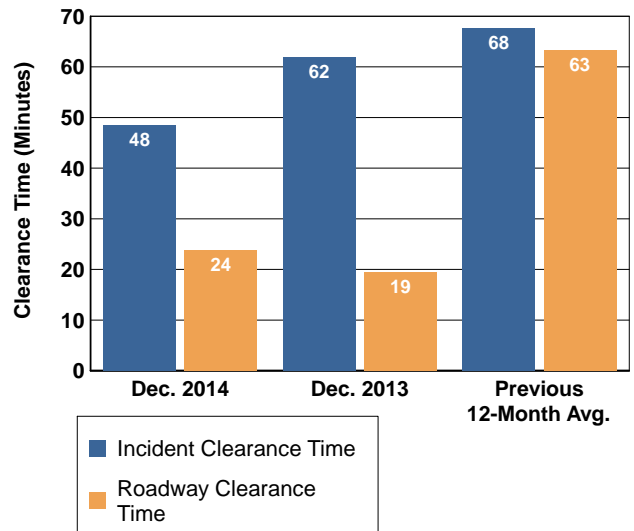


The largest hourly number of Incidents this month occurred during the hour starting at **7 a.m.**, historically the largest hourly number of incidents occur during the hour starting at 7 a.m.

Incident Clearance Details



Incident/Roadway Average Clearance Times

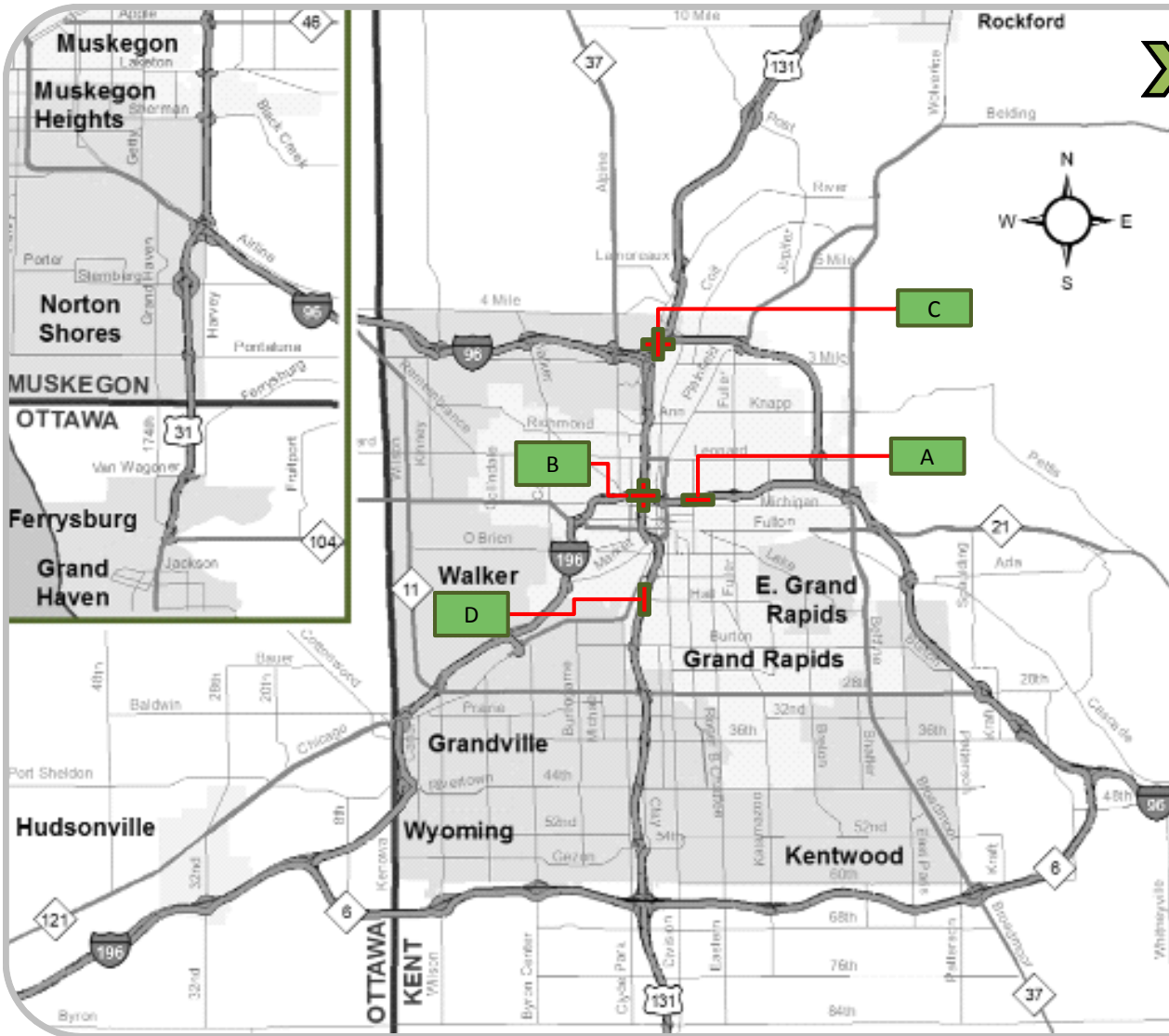


First responders and MDOT share a goal of clearing **Incidents** from the roadway and reducing incident clearance times to limit the risk to the incident site and responders, and safely restore normal traffic flow. Effective response and clearance improves safety for motorists as well as first responders.

"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.

Secondary Crashes

Out of the **72** total crashes this month, **four (6 percent)** were **Secondary Crashes**.



The top Crash locations for the month are identified on the map. Each month the locations may change. Details for each location depicted on the map can be found in the "Hot Spot Activity" table below.

The hot spots depicted on the map are described in this table. The number of hot spot **crash** locations may vary each month depending on incident activity. 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.

Crash Hot Spot Activity

Hot Spot	Freeway and Cross Street	Count	% of Total Crashes	Appearances in Previous 12 Months
A	I-196 at College Ave	7	10%	1
B	US-131 at I-196	5	7%	7
C	US-131 at I-96	4	6%	5
D	US-131 at Hall St	4	6%	2