



West Michigan Transportation Operations Center



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

2013

November

MONTHLY
PERFORMANCE
MEASURES



Control Room Contact Info:

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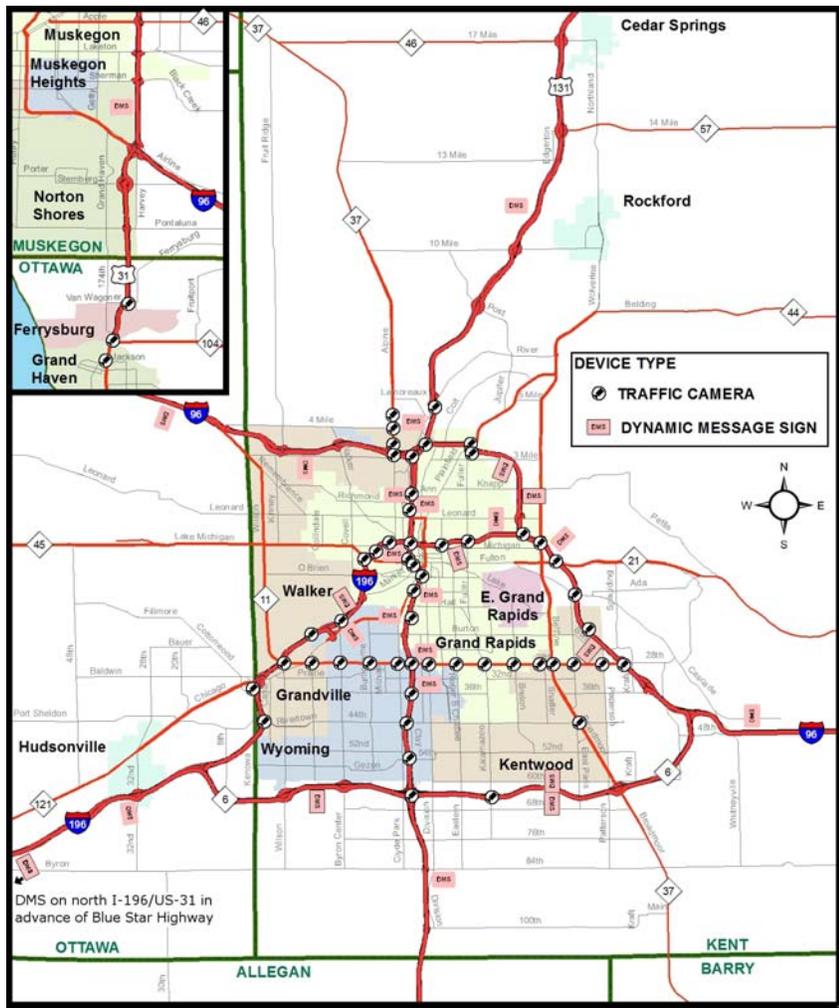
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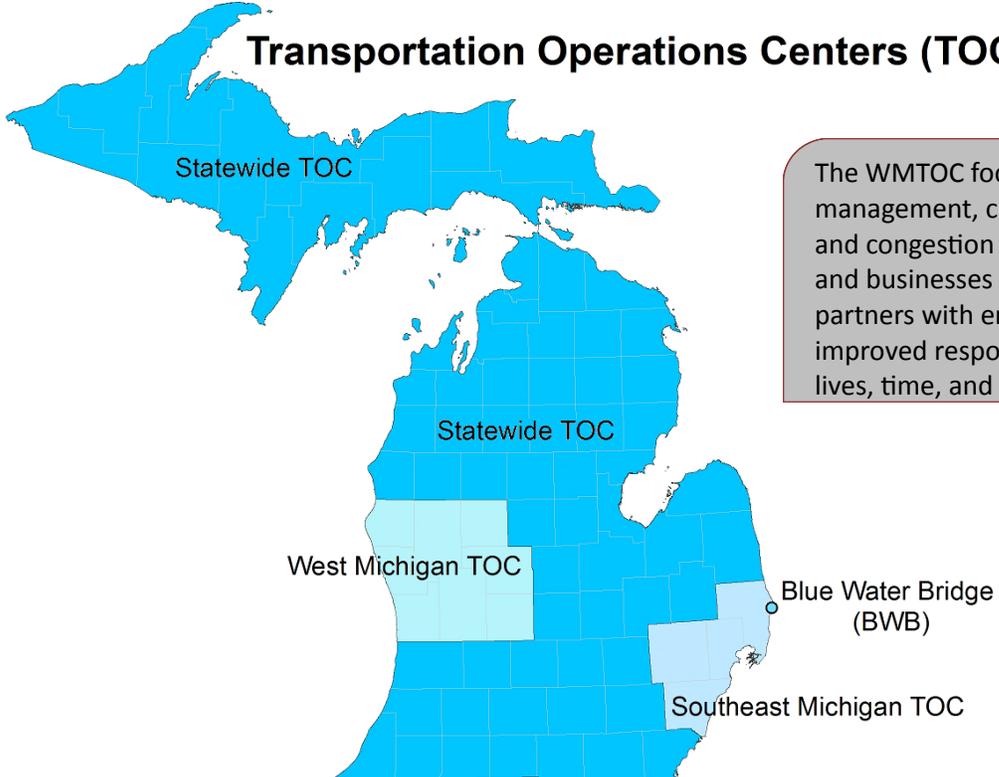
WMTOC operators monitor 67 cameras along area freeways and state trunklines. While freeways are the primary focus due to traffic volumes and crashes, non-freeway cameras make up more than one-third of the WMTOC coverage area. Cameras at Grand Rapids intersections and on non-freeway trunklines allow WMTOC operators to respond to incidents in much the same way as on the freeways: supporting first responders, reducing delays and incident clearance times, which helps eliminate secondary incidents, and providing better traveler information. The cameras also allow operators to monitor traffic along emergency management routes during high-impact freeway events. This comprehensive coverage plan allows for increased safety and efficiency while traveling throughout the Grand Rapids region.

November was a busy month for the WMTOC. As shown on page 3, there were 178 incidents, the second highest in the last 12 months. Correspondingly, the number of incident notifications sent through GovDelivery was also the second highest in the last 12 months, at 64 notifications. To sign up for GovDelivery, go to www.michigan.gov/its, click the "Sign up for email from MDOT!" link on the left-hand side of the screen. After following the link, sign up for any county in the MDOT Grand and Southwest Regions.

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.

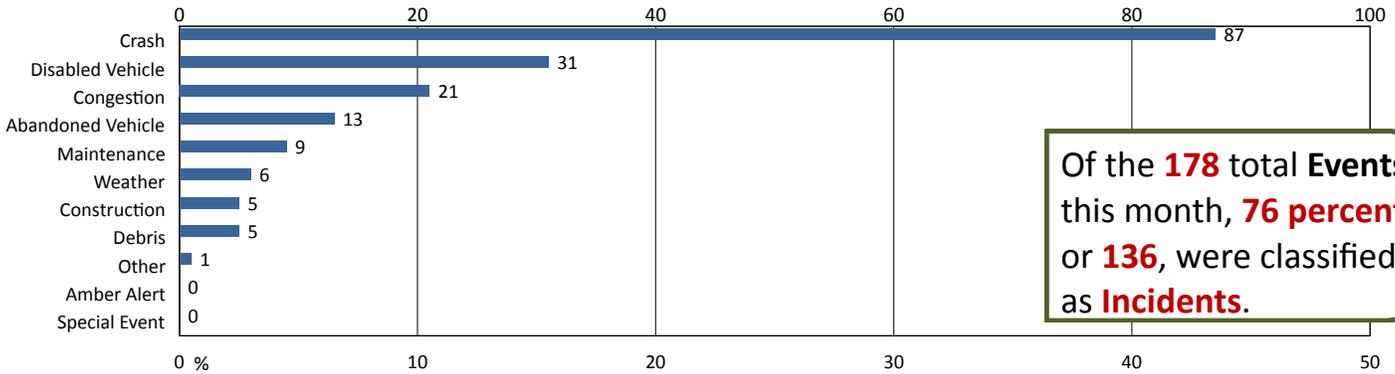
The WMTOC has camera/device coverage on approximately 45 freeway miles and 18 non-freeway trunkline miles in the greater Grand Rapids area and Grand Haven.

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.

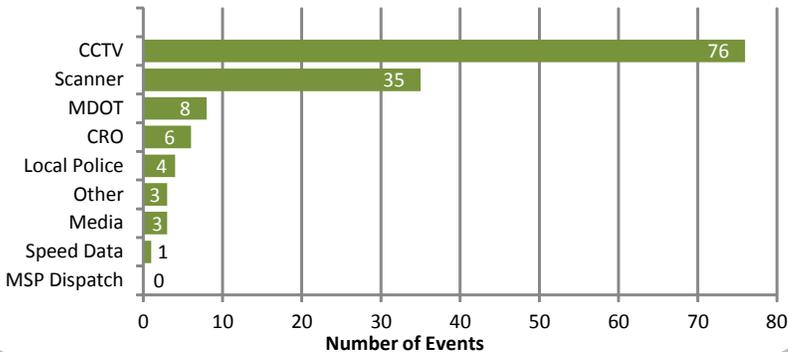
Communication: Any phone call, e-mail, etc., that comes into or goes out of the control room.

Events by Type

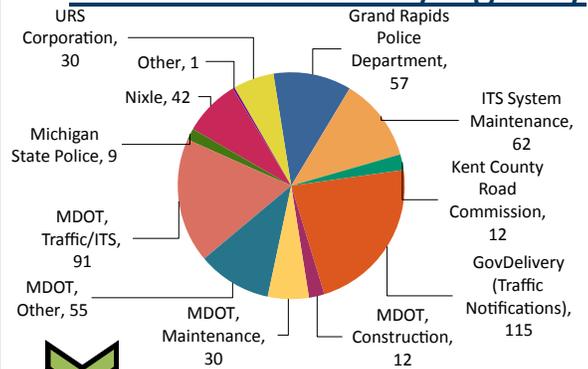


Control room operators (CRO) rely on various sources to detect **Incidents** that occur along the freeways. Noting the source not only ensures that the **Incident** was detected by a reliable source, but also provides insight as to which sources are utilized most frequently. "Other" includes any source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

Incidents by Detection Source



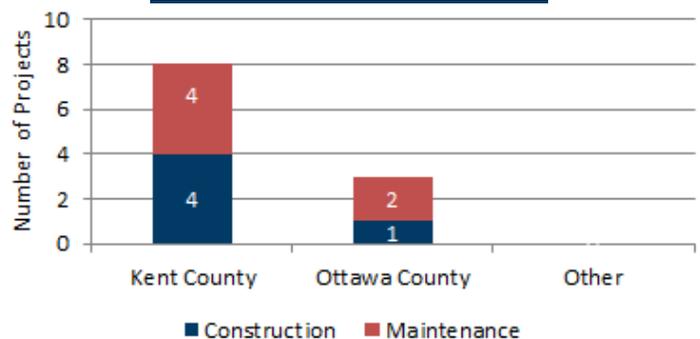
Communication by Agency



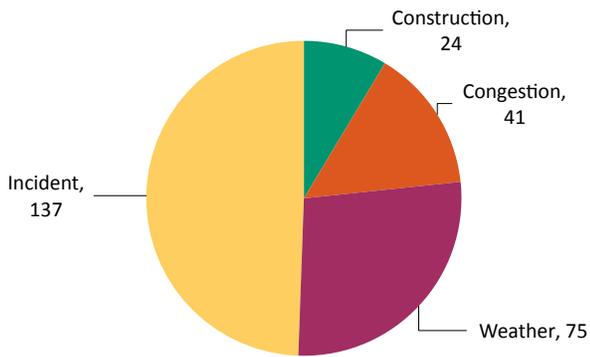
CROs managed **516 Communications** this month. This included **254 (49 percent)** Calls and **262 (51 percent)** E-mails. The highest source of **Communication, 22 percent**, was between the control room and **GovDelivery (Traffic Notifications)**. "Other" includes Media, Contractors and Service Providers.

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. "Other" includes Oceana, Newaygo, Mecosta, Muskegon, Montcalm, and Ionia counties.

Work Zone Activities



DMS and VSS Messages by Type



There were **277** unique messages displayed throughout the ITS network this month on Dynamic Message Signs (DMS) and Variable Speed Signs (VSS). A "unique message" may be an **Incident**, Special Event, Congestion, Weather, Construction, AMBER Alert, or other unique message.

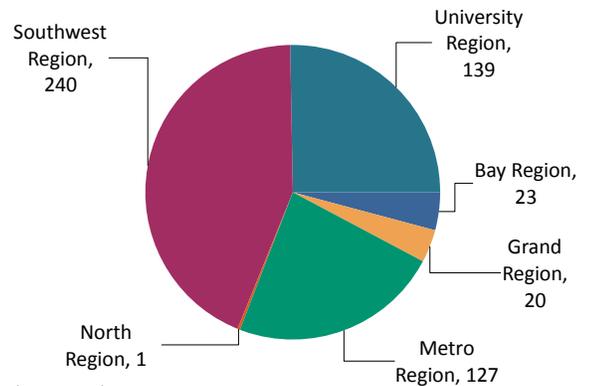
Travel time messages are routinely displayed when unique messages are not active. Travel times are updated every three minutes.

Field Device Availability

| Device Type | Number of Devices | Percent of Time Available |
|-----------------------------|-------------------|---------------------------|
| CCTV Cameras | 40 | 84% |
| Dynamic Message Signs (DMS) | 27 | 88% |
| Microwave Vehicle Detectors | 43 | 85% |
| Variable Speed Signs (VSS) | 4 | 84% |

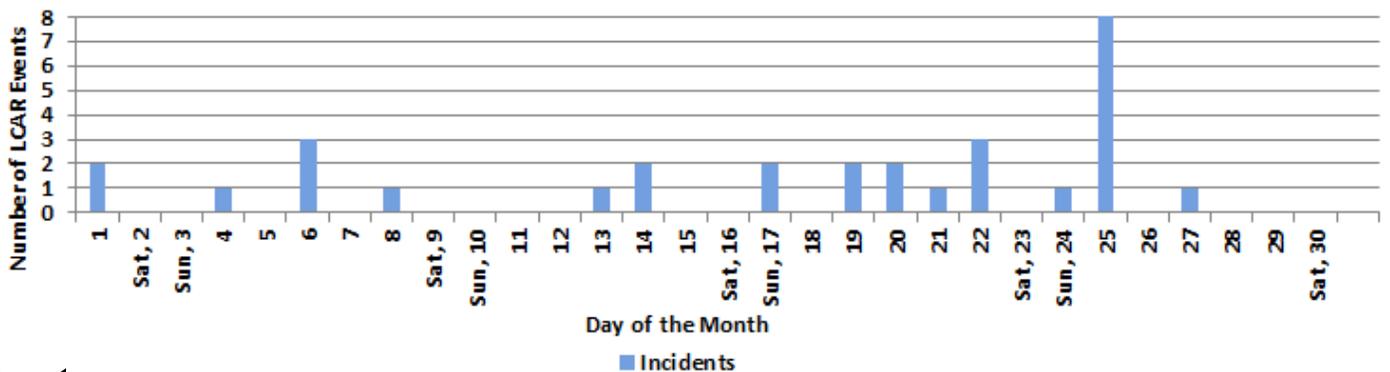
CROs track the availability of all system devices so that timely maintenance can occur. The reliability of the devices in turn ensures that CROs have tools available to accurately provide traffic conditions to the motoring public.

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



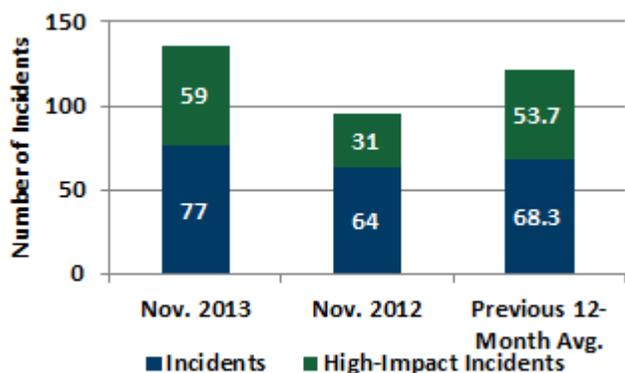
CROs are able to post **Incident** information to the Mi Drive website using the Lane Closure and Restrictions (LCAR) tool. Each post that was sent to the website this month is shown in the chart above.

Incidents in Coverage Area by Freeway

| Freeway | Miles | Nov. 2013 | | | Nov. 2012 | | | 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 | 18 | 1.7 | 47 | 13 | 1.2 | 51 | 15.9 | 1.5 | 62 |
| I-196 | 12.1 | 31 | 2.6 | 41 | 16 | 1.3 | 68 | 29.3 | 2.4 | 66 |
| US-131 | 15.2 | 56 | 3.7 | 52 | 43 | 2.8 | 70 | 55.7 | 3.7 | 56 |
| US-31 | 1.7 | 0 | 0.0 | 0 | 1 | 0.6 | 210 | 1.9 | 1.1 | 69 |
| M-6 | 4.0 | 0 | 0.0 | 0 | 1 | 0.2 | 21 | 3.3 | 0.8 | 60 |
| M-11 | 11.5 | 0 | 0.0 | 0 | 0 | 0.0 | 0 | 1.2 | 0.1 | 36 |
| Total | 55.1 | 105 | 1.9 | 48 min | 74 | 1.3 | 67 min | 107.3 | 1.9 | 60 min |

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-131**. Abandoned vehicles are excluded from this table.

Total Incidents



The majority of the high-impact **Incidents** this month, **47 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 **136 Incidents** this month, **43 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

| | Nov. 2013 | Nov. 2012 | Previous 12-Month Avg. |
|-----------------|-----------|-----------|------------------------|
| Freeway Closure | 2 | 2 | 3.8 |
| Lane Closure | 50 | 28 | 46.3 |
| Ramp Closure | 7 | 1 | 3.6 |
| Total | 59 | 31 | 53.70 |

Top Duration Incidents

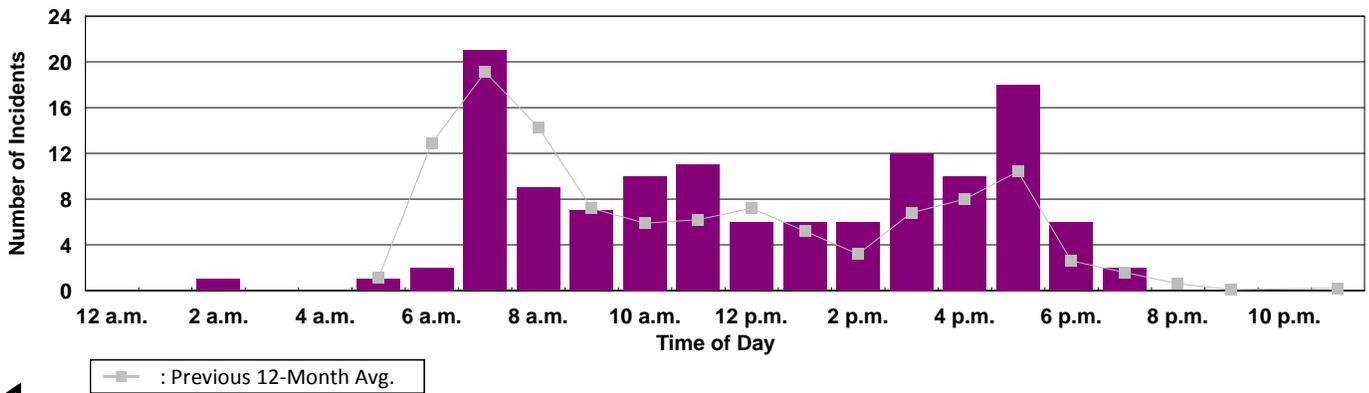
| Location | Date | Duration | Details |
|----------------------------|------------|----------------|----------------------|
| M-121 @ Port Sheldon | 11/27/2013 | 2 hrs. 49 min. | Single-vehicle crash |
| NB US-131 @ 100th St | 11/25/2013 | 2 hrs. 10 min. | Semi crash |
| WB I-196 @ Chicago Dr | 11/20/2013 | 1 hr. 43 min. | Single-vehicle crash |
| NB US-131 @ M-11 (28th St) | 11/25/2013 | 1 hr. 39 min. | Multi-vehicle crash |
| NB US-131 @ Post Dr | 11/22/2013 | 1 hr. 34 min. | Car fire |

The longest-duration **Incident** this month occurred on **M-121** and lasted **2 hours 49 minutes**, compared to the average incident duration of **48 minutes** for November incidents and **60 minutes** for incidents in the past year.

During the month of November no incidents were identified by operators as being within a work zone.

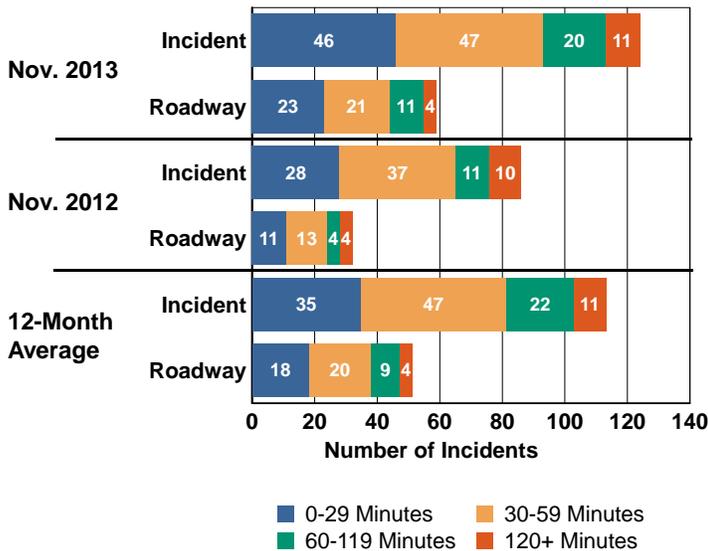
Incidents in Work Zones

Total of Unplanned Incidents per Weekday Hour



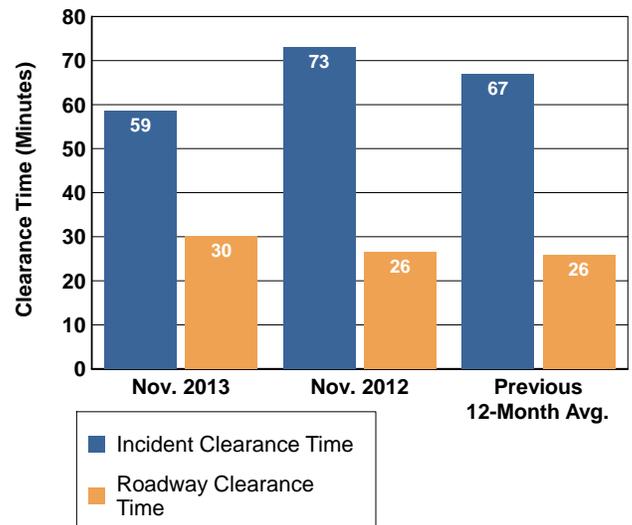
The largest hourly number of Incidents this month occurred during the hour starting at **7 a.m.**; historically the largest hourly number of incidents occur during the hour starting at 7 a.m.

Incident Clearance Details



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.

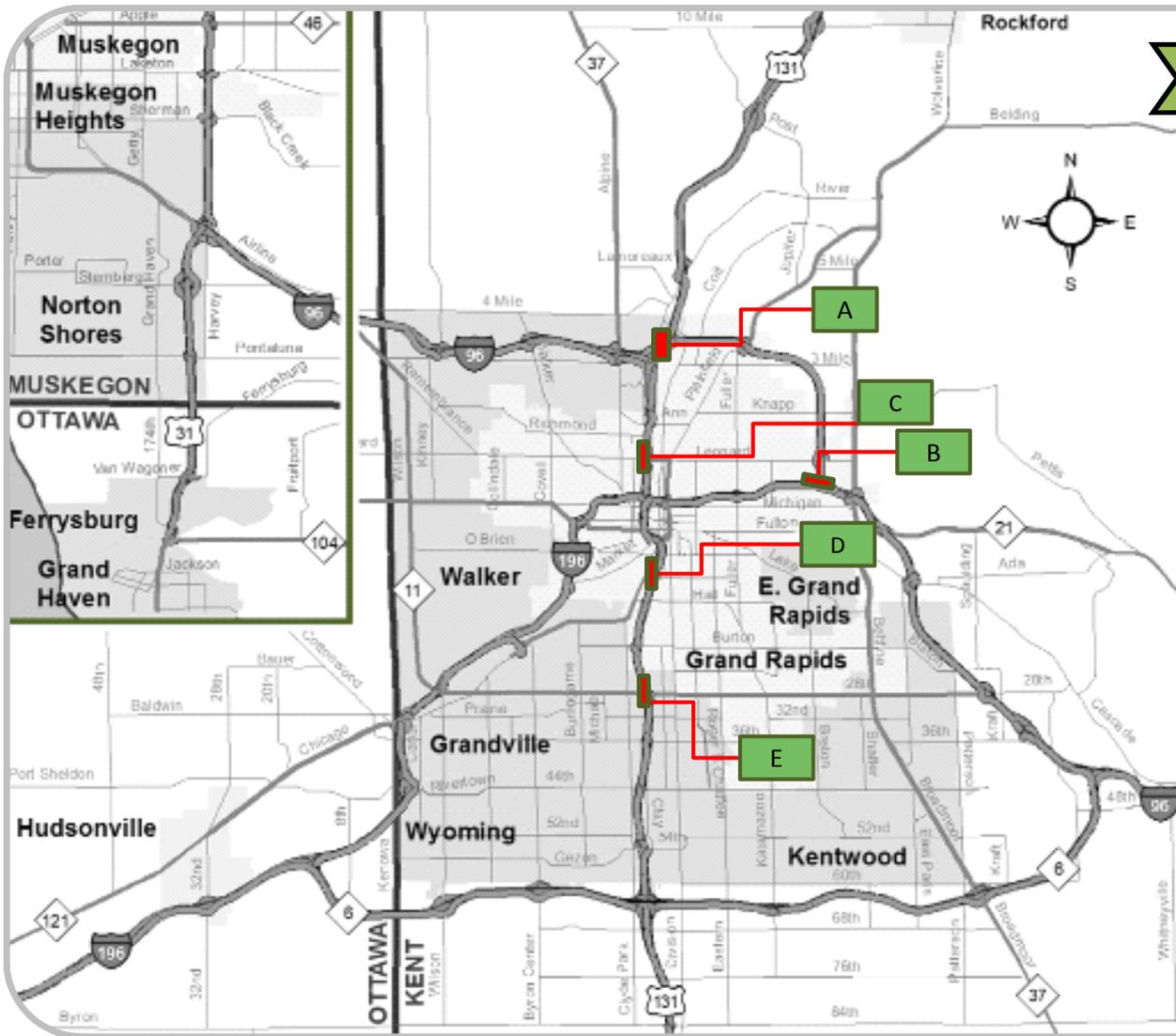
Incident/Roadway Average Clearance Times



"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.

Secondary Crashes

Out of the **87** total crashes this month, **two (2 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 | US-131 at I-96 | 6 | 7% | 5 |
| B | I-96 at I-196 | 5 | 6% | 1 |
| C | US-131 at US-131 BR (Leonard Street) | 5 | 6% | 2 |
| D | US-131 at I-196 BS (Franklin Street) | 5 | 6% | 7 |
| E | US-131 at M-11 (28th Street) | 5 | 6% | 4 |