



# West Michigan Transportation Operations Center



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

2015

**October**

MONTHLY  
PERFORMANCE  
MEASURES



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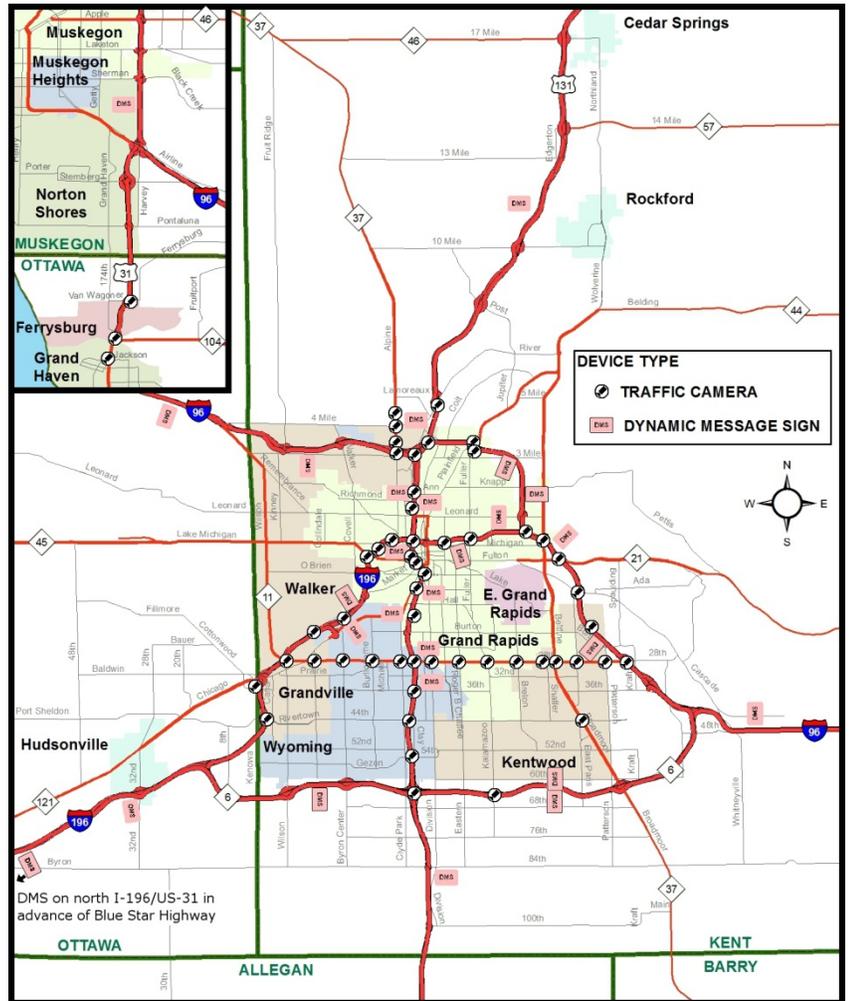
Report Compiled By **AECOM**

Oct. 12 was a busy day at the West Michigan Transportation Operations Center (WMTOC) as operators managed three high-impact incidents. One of the incidents was a tractor-trailer fire on eastbound I-96, near Fruit Ridge Avenue, which closed the freeway. The response and clearing of the incident lasted just over 2 hours. Operators used Dynamic Message Signs (DMS), e-mail, the Mi Drive website and Twitter to inform motorists about the closure related to this incident.

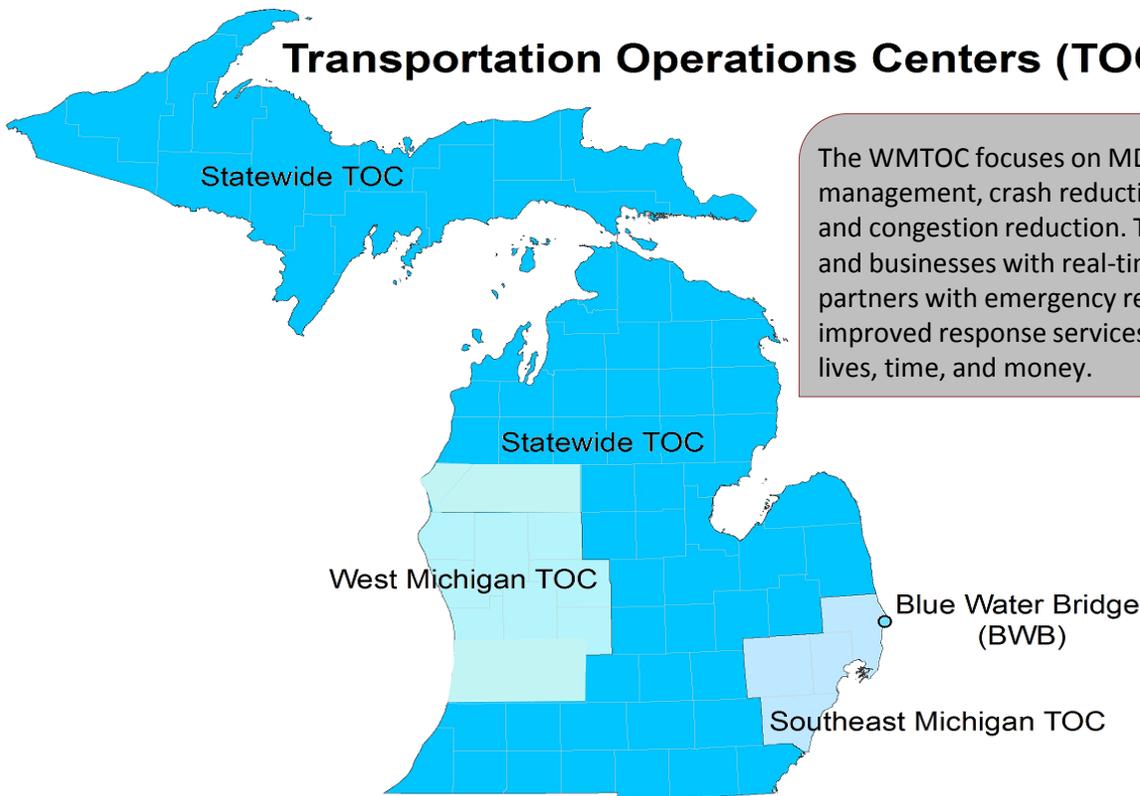
The M-11 (Wilson Avenue)/Remembrance Road intersection reconstruction project was completed in October and marks the first roundabout constructed in Walker. Roundabouts have proven to decrease the number and severity of crashes by reducing the number of conflict points between vehicles, compared to typical signalized intersections. Operators monitored a camera at this intersection for the duration of construction.

On Oct. 30, M-231 was opened to traffic in Ottawa County. The 7-mile state trunkline connects M-45 (Lake Michigan Drive) to M-104 and I-96. The route provides an additional crossing of the Grand River and will help to reduce driver delays as the US-31 river crossing. The WMTOC messaged for the M-231 opening on the DMS on southbound US-31 at Broadway Avenue in Muskegon, and will continue to utilize surrounding ITS devices to detect traffic issues and disseminate information on this new route.

## 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.

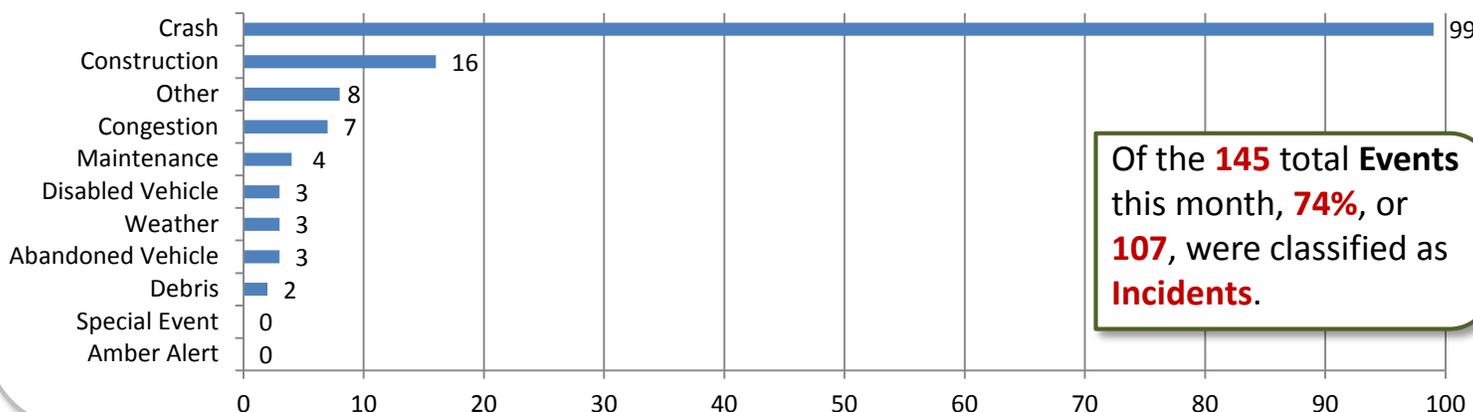
The WMTOC has camera/device coverage on approximately 53 freeway miles and 22 non-freeway trunkline miles in the greater Grand Rapids area and Grand Haven.

**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 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.

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

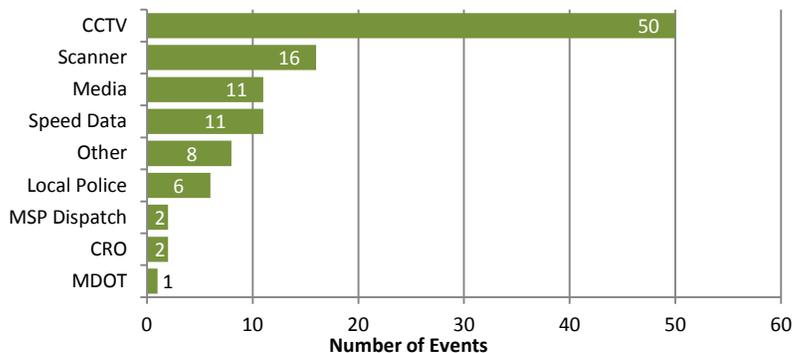
## Events by Type



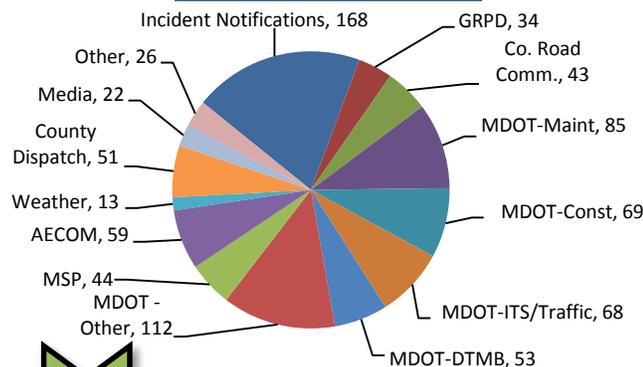
Of the **145** total Events this month, **74%**, or **107**, were classified as **Incidents**.

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.

## Incidents by Detection Source



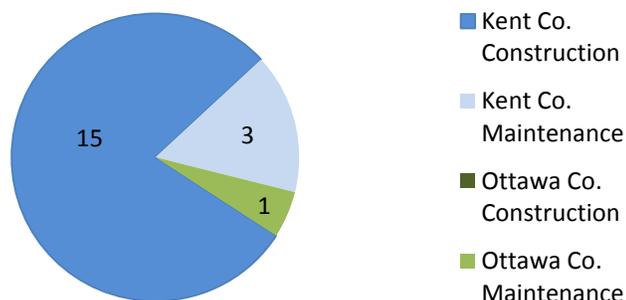
## Communication



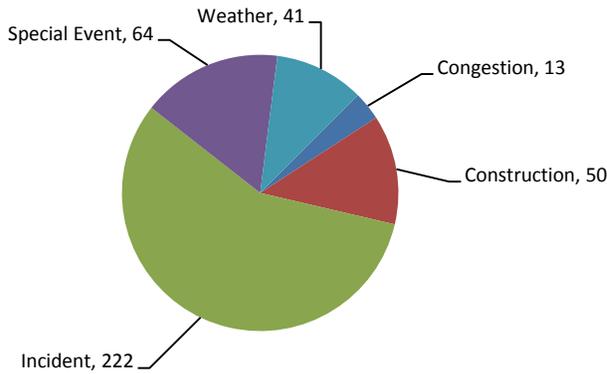
CROs managed **847 Communications** this month. This included **324 (38 percent)** Calls and **523 (62 percent)** E-mails. The highest source of **Communication, 20 percent**, was between the control room and **Incident Notifications**. "Other" includes Contractors, Nixle and Service Providers, as well 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 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.

## Work Zone Activities



## DMS and VSS Messages by Type



There were **390** 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.

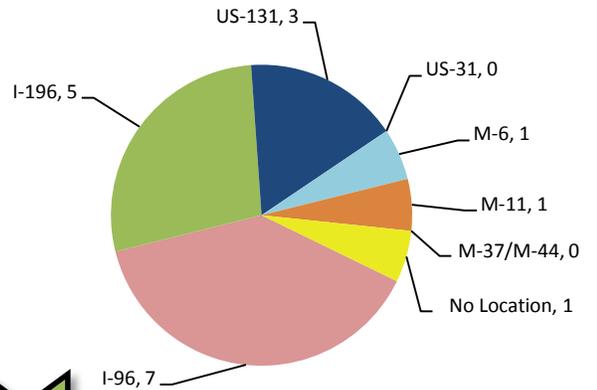
Travel time messages are routinely displayed when unique messages are not active. Travel times are updated every three minutes.

## Field Device Availability

Device Type	Number of Devices	Percent of Time Available
CCTV Cameras	40	99%
Dynamic Message Signs (DMS)	27	90%
Microwave Vehicle Detectors	43	91%

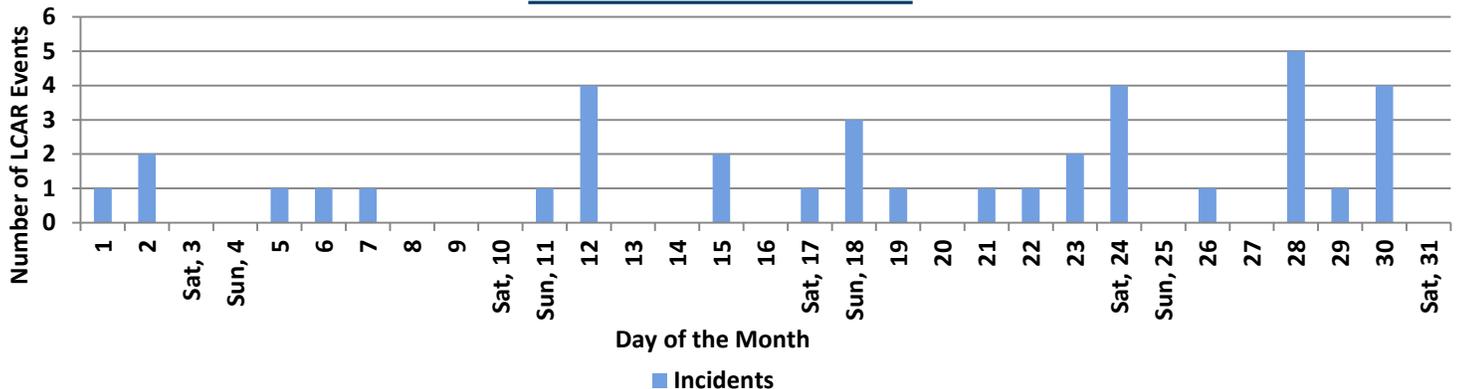
CROs track the availability of all system devices so that timely maintenance can occur. The reliability of the devices in turn ensures that CROs have tools available to accurately provide traffic conditions to the motoring public.

## Stuck in Traffic Notifications



Travelers with smartphones or Web-enabled mobile devices can go to the Mi Drive Web site ([www.michigan.gov/drive](http://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



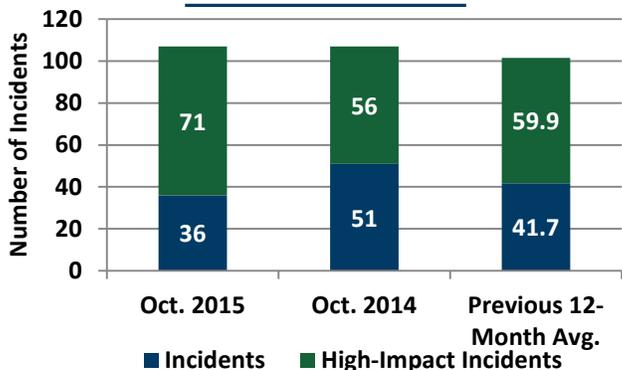
CROs are able to post **Incident** information to the Mi Drive Web site using the Lane Closure and Restrictions (LCAR) tool. Each post that was sent to the Web site this month is shown in the chart above.

## Incidents in Coverage Area by Key Roadway

Route	Miles	October 2015			October 2014			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	11	0.3	37	13	0.4	65	13	0.4	60
I-196, Bluestar Hwy to I-96	26	21	0.8	46	30	1.2	54	27	1.0	49
US-131, 84th St to Rockford Rest Area	24.5	48	2.0	43	44	1.8	41	47	1.9	57
US-31, I-196 to M-120	42	0	0.0	0	0	0.0	0	2	0.0	47
M-6, I-196 to I-96	19	3	0.2	67	1	0.1	20	2	0.1	50
M-11, I-196 to I-96	11.5	1	0.1	35	1	0.1	18	1	0.1	60
M-37/M-44, M-6 to West River Dr	15.5	0	0.0	0	0	0.0	0	1	0.1	57

**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 **M-6**. Abandoned vehicles are excluded from this table.

### Total Incidents



The majority of the high-impact **Incidents** this month, **51 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.

### High-Impact Incidents

	Oct. 2015	Oct. 2014	Previous 12-Month Avg.
Freeway Closures	7	1	4.0
Lane Closures	56	51	52.8
Ramp Closures	8	4	3.1
<b>Total</b>	<b>71</b>	<b>56</b>	<b>59.9</b>

There were a total **107 Incidents** this month, **66 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.

### Top Duration Incidents

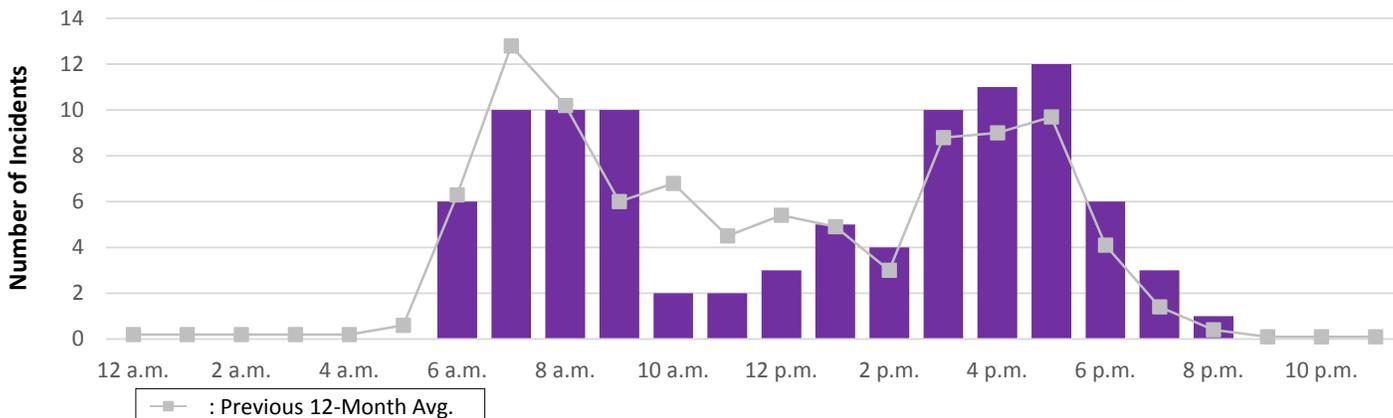
Location	Date	Duration	Details
WB I-196 @ Lane Ave	10/28/2015	3 hrs. 26 min.	Tractor-Trailer crash
NB US-31 @ 16th St	10/17/2015	3 hrs. 15 min.	Pedestrian crash
WB I-96 @ Morse Lake Ave	10/1/2015	2 hrs. 20 min.	Tractor-Trailer crash
EB I-96 @ Fruit Ridge Ave	10/12/2015	2 hrs. 3 min.	Tractor-Trailer crash
EB I-96 @ M-50 (Alden Nash Ave)	10/21/2015	2 hr. 2 min.	Tractor-Trailer crash

The longest-duration **Incident** this month occurred on **I-196** and lasted **3 hours 26 minutes**, compared to the average incident duration of **44 minutes** for November incidents.

### Incidents in Work Zones

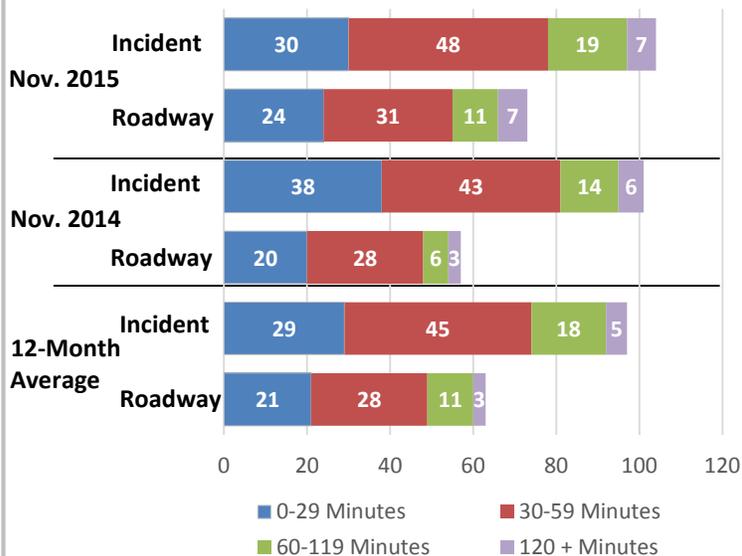
During the month of October, no incidents were identified by operators as being within a work zone.

## Total of Unplanned Incidents per Weekday Hour



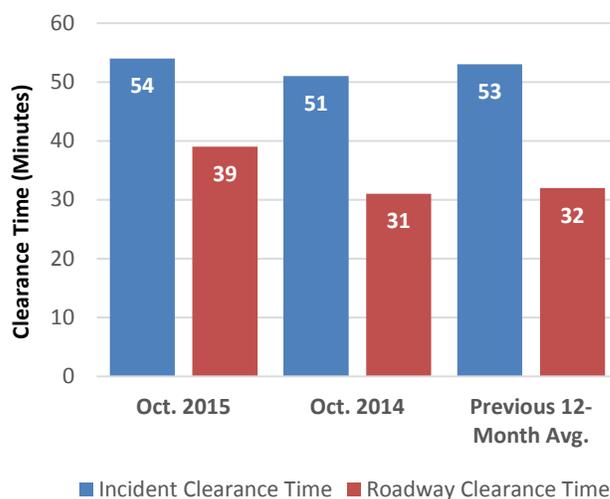
The largest hourly number of **Incidents** this month occurred during the hour starting at **5 p.m.**; historically the largest hourly number of incidents occur during the hour starting at 7 a.m.

## 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.

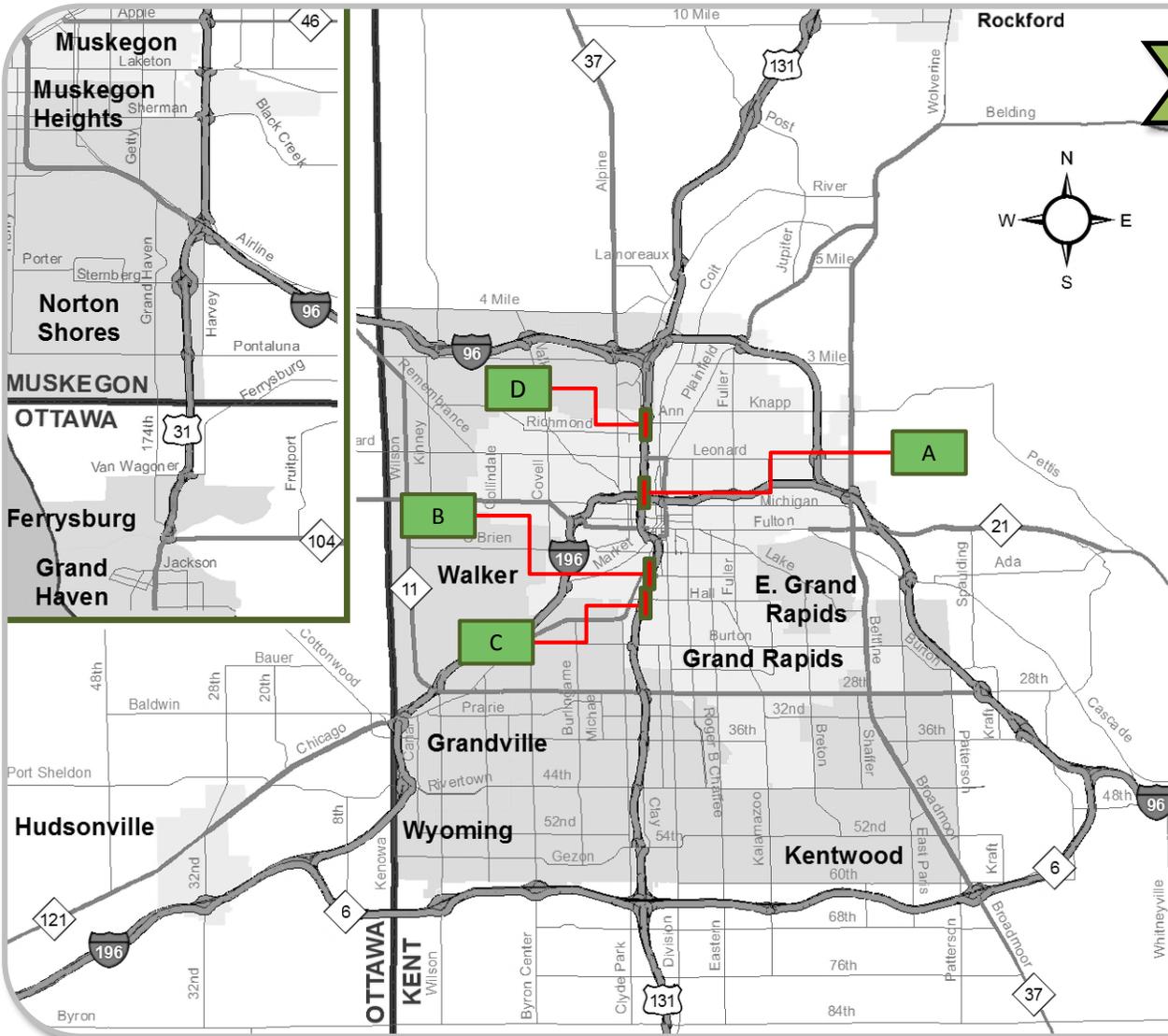
## Incident/Roadway Average Clearance Times



“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 **99** total crashes this month, **four (4 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	10	10%	8
B	US-131 at I-196 BS (Franklin St)	7	7%	5
C	US-131 at Hall Street	5	5%	3
D	US-131 at Ann Street	4	4%	0