MDOT
Michigan Department of Transportation

WEST MICHIGAN
TRANSPORTATION
OPERATIONS CENTER

www.Michigan.gov/WMTOC

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Monthly Performance Measures

December 2024

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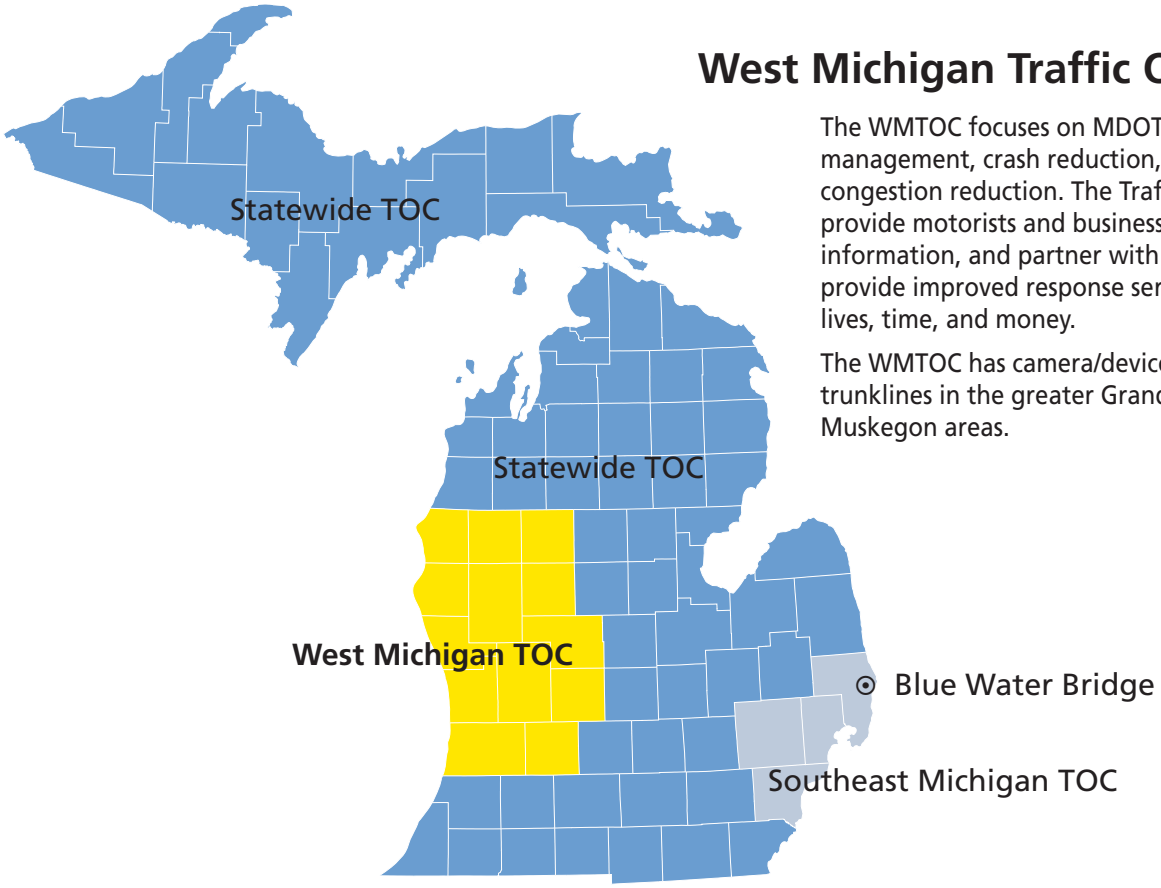


West Michigan Traffic Operations Center

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 regional trunklines in the greater Grand Rapids, Grand Haven, and Muskegon areas.

December 2024 Spotlight

The Importance of Collabrotive Communication

Just after 3 p.m. Monday, Dec. 30, the Ottawa County computer-aided dispatch reporting system notified the WMTOC of a vehicle fire on westbound I-196 just after the Ottawa/Kent county line. A few minutes later, operators also received a phone call from the Ottawa County dispatch detailing the event. Once this incident was located on a traffic camera, the WMTOC monitored a fully engulfed vehicle fire. The driver was able to safely get away from the vehicle before the fire got out of control. The freeway was closed for visibility concerns due to the large amount of smoke and also out of an abundance of caution since several full cans of gasoline were being transported in the vehicle.

Maintenance coordinators for both Kent and Ottawa counties were notified and responded. The vehicle fire was in Ottawa County; however, the backup extended well into Kent County, requiring the need for further collaboration between the two maintenance coordinators. The Kent County maintenance coordinator was in the area and went to the scene to assess any potential damage to the freeway and found that there did not appear to be anything that would require immediate attention. The fire department was able to quickly extinguish the flames and the left lane was reopened to traffic after about half an hour. In total, the incident lasted for about an hour. The WMTOC dispatched high-impact email notifications regarding the lane closures and updates.

Events by Type

Figure 1 shows events by type.

Event: An occurrence within the Transportation Operations Center (TOC) coverage area that requires action or tracking.

Unplanned Events: An incident or other uncontrollable event that directly affects a Michigan Department of Transportation (MDOT) roadway. Unplanned events include Incidents (crashes, disabled vehicles and debris in the roadway) and other events (weather, congestion, and unclassified).

Planned Events: Events that are scheduled. These include construction, maintenance, and special events.

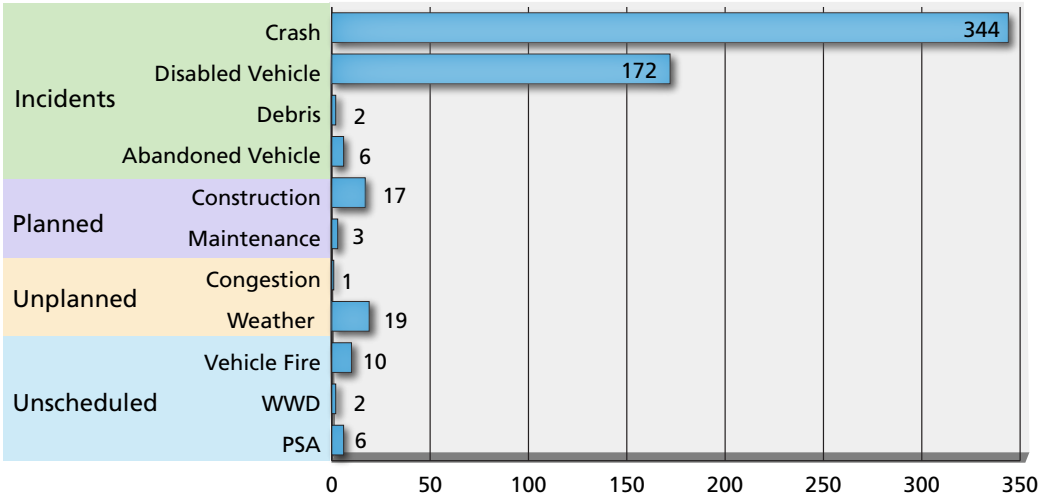


Figure 1

Of the **582** total events this month, **524 (90 percent)** were classified as **incidents**.

This month there were **3,400** auto responses. Auto response events are created automatically based on slower than normal speeds for a period of time. Speeds are detected by several sources and the traffic management software sends pre-determined messages to dynamic message signs (DMS) and portable changeable message signs to alert motorists about traffic conditions ahead.

Incidents by Detection Source

Figure 2 provides information on detection sources.

Traffic operations specialists (TOS) rely on various sources to detect incidents that occur along the freeways. Noting the source ensures that the incident was detected by a reliable source and provides insight on which sources provide the most information.

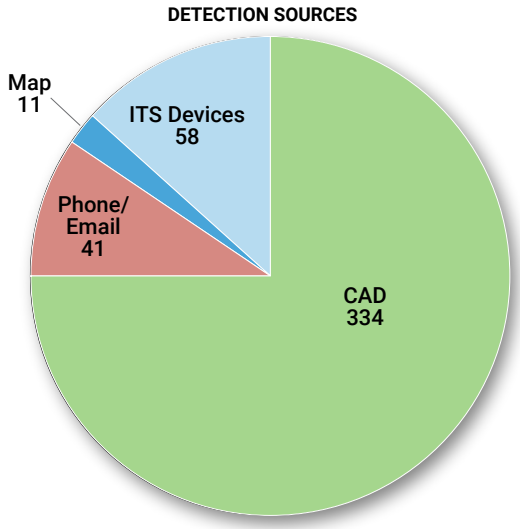


Figure 2

Communication

Figure 3 shows communication managed by TOSs displayed by type.

WMTOC tracks all incoming and outgoing communications to the control room. This includes phone calls, emails sent and received, and notifications sent to partners.

TOSs managed **2,122** communications this month. Of those communications, **1,570 (74 percent)** were emails, including notifications, and **952 (26 percent)** were phone calls.

The WMTOC communicates most with police and fire agencies throughout the region. This includes Michigan State Police, county 911 centers, and the City of Grand Rapids police/fire dispatch.

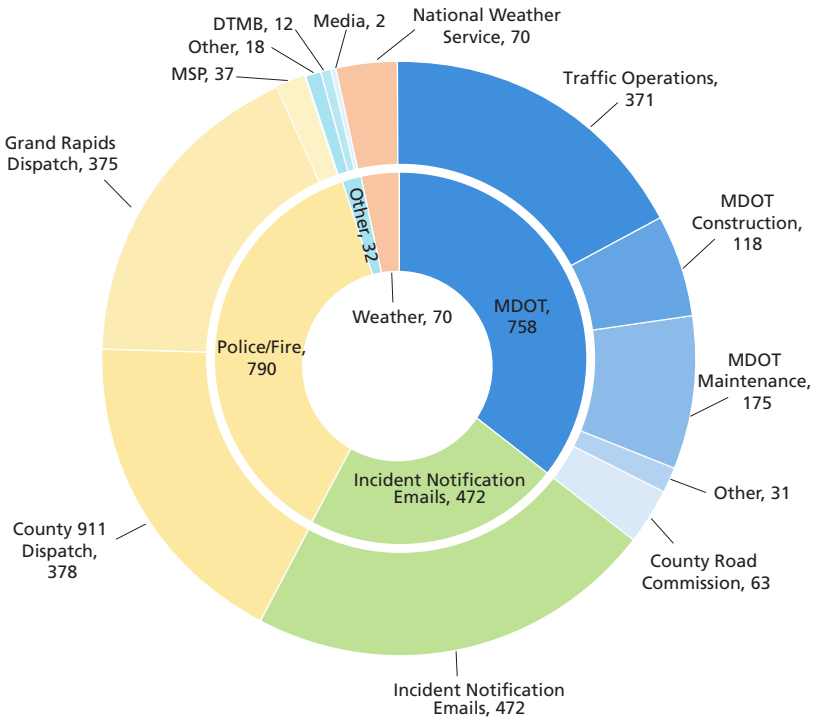
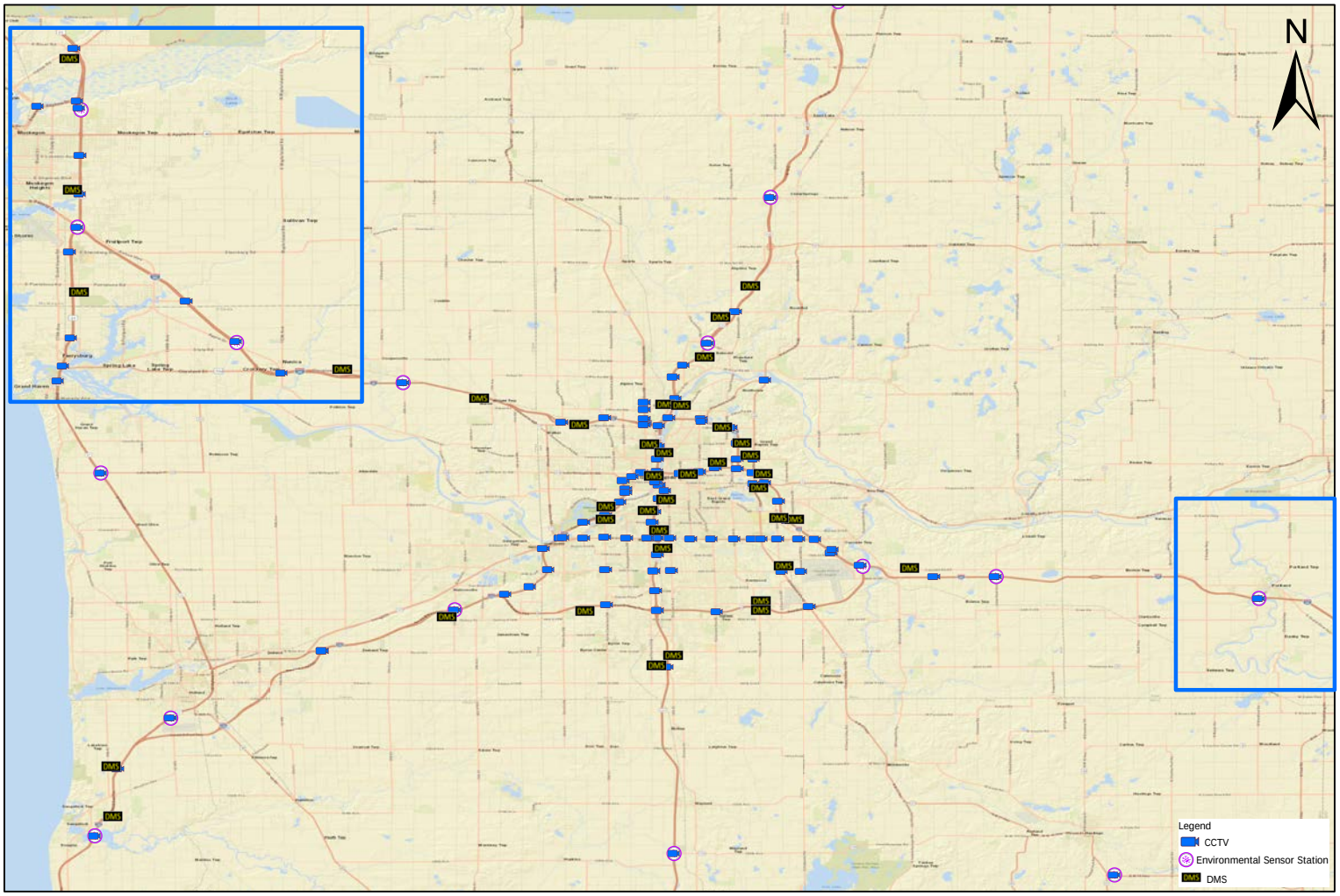


Figure 3

Device Locations



DMS Messages by Type

There were **956** messages displayed throughout the intelligent transportation systems network this month, as shown in **Figure 4**.

"Messages types" include incidents, special events, congestion, weather, construction, or AMBER alerts.

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

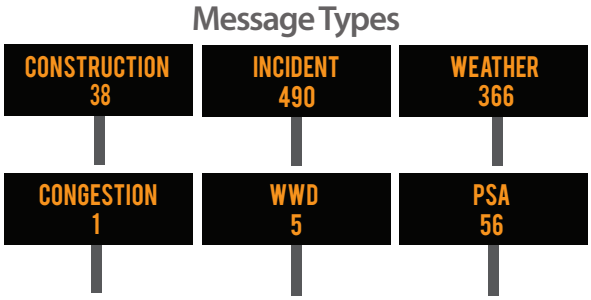


Figure 4

Winter Weather Advisory Activities

The WMTOC tracked all incidents of winter weather advisory events that occurred in each of the Grand Region counties. **Figure 5** shows the total number of incidents and weather advisory days by county.

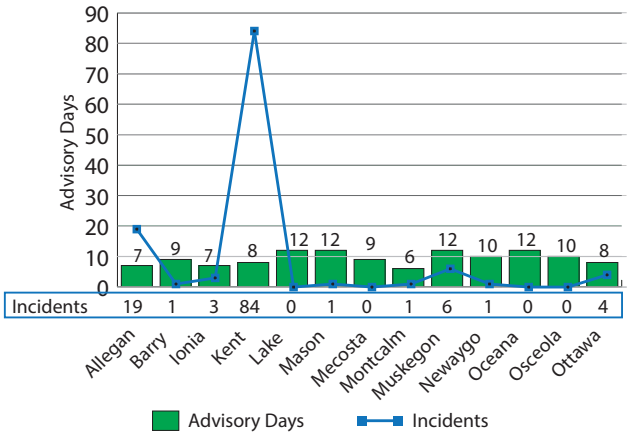


Figure 5

Incidents on Key Routes

Table 1 indicates that **US-131** had the highest total number of incidents and the highest per mile rate in December. **M-6** had the longest average incident duration for the month. The table shows incidents for high-volume roadways in the Grand Region.

	December 2024			December 2023			Previous 12-month Avg.		
Route	Total Incidents	Incidents Per Mile	Average Duration	Total Incidents	Incidents Per Mile	Average Duration	Total Incidents	Incidents Per Mile	Average Duration
US-131	177	7.2	38 minutes	217	8.9	41 minutes	199	8.1	38 minutes
I-96	104	2.0	46 minutes	99	1.9	35 minutes	102	2.0	41 minutes
I-196	89	2.2	45 minutes	79	2.0	35 minutes	95	2.4	44 minutes
US-31	36	4.5	54 minutes	26	3.3	41 minutes	28	3.4	48 minutes
M-37/M-44	19	1.2	27 minutes	13	0.8	44 minutes	20	1.3	40 minutes
M-11	24	2.1	27 minutes	15	1.3	31 minutes	19	1.0	47 minutes
M-6	14	0.7	1 hour, 8 minutes	16	0.8	39 minutes	19	1.6	35 minutes

Table 1

Table Key Increase | No Change | Decrease — Data is compared to the same month of the previous year.

Total Unplanned Incidents

There were **534** total unplanned incidents this month; **30 percent** of these 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 6**.

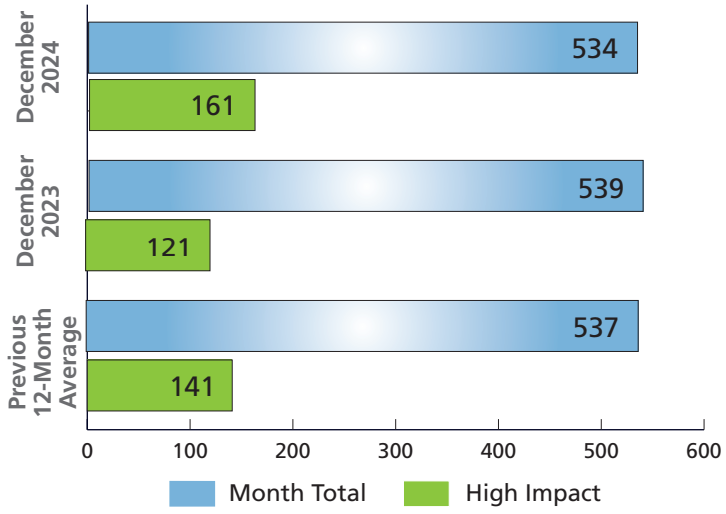


Figure 6

High-Impact Incidents

For most high-impact incidents, TOSs provide email notifications to partners in the affected area. 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 2**.

Closure Type	December 2024	December 2023	Previous 12 - Month Avg.
Freeway Closure	41	24	33
Lane Closure	121	98	102
Ramp Closure	0	2	2

Table 2

Work Zone-Related Events

TOSs identified **1 incident** as being related to work zones during this month.

Top Duration Incidents

The longest-duration incident this month occurred on **I-96 at US-131,** which lasted **5 hours, 57 minutes**. The average incident duration for December was **42 minutes**. See **Table 3.**

Location	County	Date	Duration	Details
I-96 at US-131	Kent	Dec. 29	5 hours , 57 minutes	Crash
M-37 at M-82	Newaygo	Dec. 21	5 hours, 21 minutes	Crash
US-131 after 142nd Avenue	Allegan	Dec. 31	4 hours, 46 minutes	Crash
M-43 between Rich Lane and Bender Road	Barry	Dec. 23	4 hours, 31 minutes	Crash
US-31 at Oceana Drive	Mason	Dec. 4	3 hours, 53 minutes	Crash

Table 3

Total Incidents per Weekday Hour

The WMTOC operates 24 hours per day, seven days per week. TOSs assist with identifying incidents and posting information for the traveling public.

During the month of December, **4 p.m.** had the largest hourly number of incidents. Historically, **3 p.m.** has the greatest number of incidents in the Grand Region. **Figure 7** shows **incidents** for weekdays for this month.

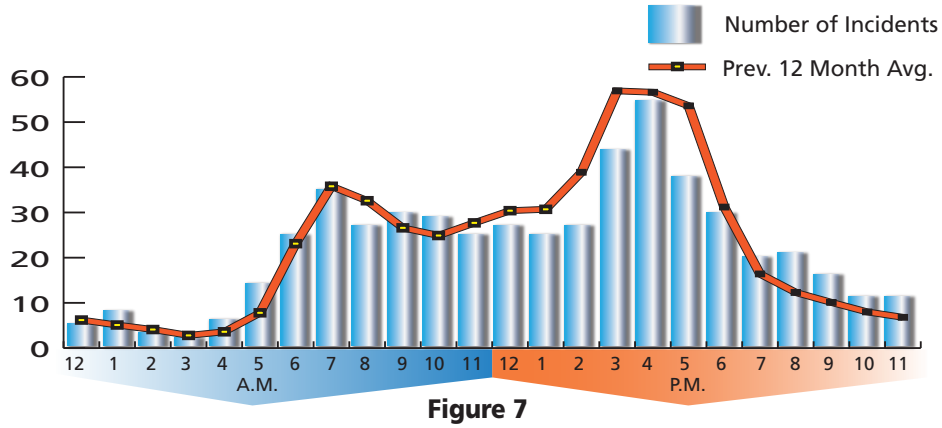


Figure 7

Roadway and Incident Clearance Times

MDOT shares a goal with local first responders to clear incidents from the roadway as quickly as possible. Reducing overall incident clearance times limits the risk to travelers and responders on scene. Effective response and clearance improves safety for motorists as well as first responders. MDOT's goal is to minimize delays caused by incidents as well as the occurrences of secondary incidents.

Roadway clearance time: The time between the awareness of an incident and confirmation that all lanes are open to traffic.

Incident clearance time: The time between the awareness of an incident and when all involved vehicles are removed from the scene.

Figure 8 shows a breakdown of the number of incidents in each time to clear bracket. **Figure 9** illustrates the average roadway and incident clearance times for the month.

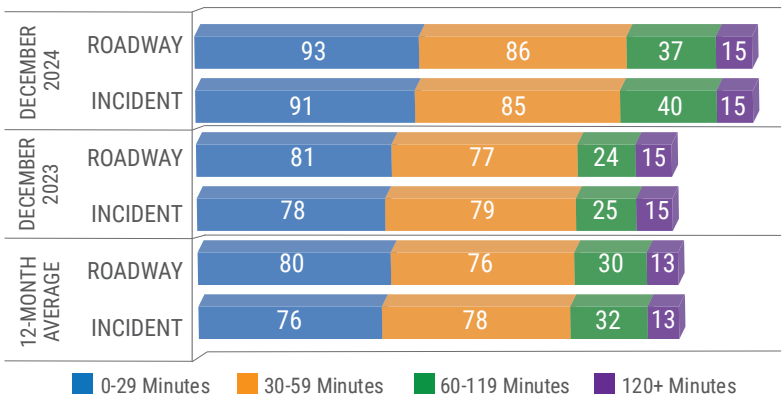


Figure 8

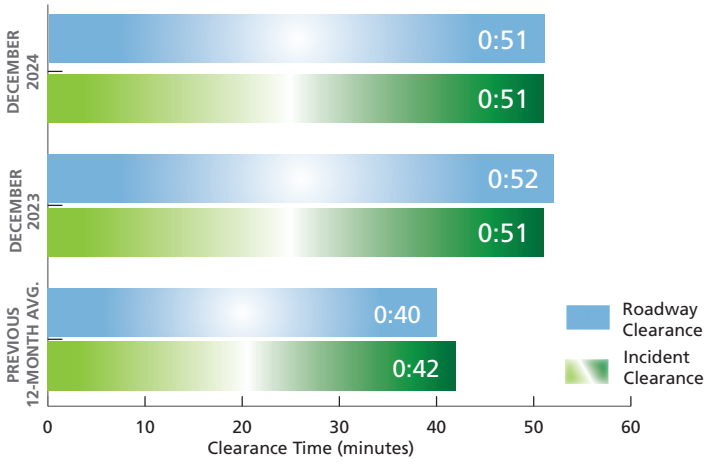


Figure 9

Secondary Crashes

There were **4 secondary crashes** as observed by WMTOC TOSs this month.

Crash Hot Spot and Most Used DMS Activity

Figure 10 shows areas where the greatest number of crashes occurred in the reported month. The shading starts with blue for fewer crashes, then transitions to purple for a moderate number of crashes, and finally to red for the highest number of crashes based on the total crashes that occurred. The top five most used DMS are also depicted on the map. Often times there is a direct correlation that can be seen between the areas of most crashes to DMS utilization.

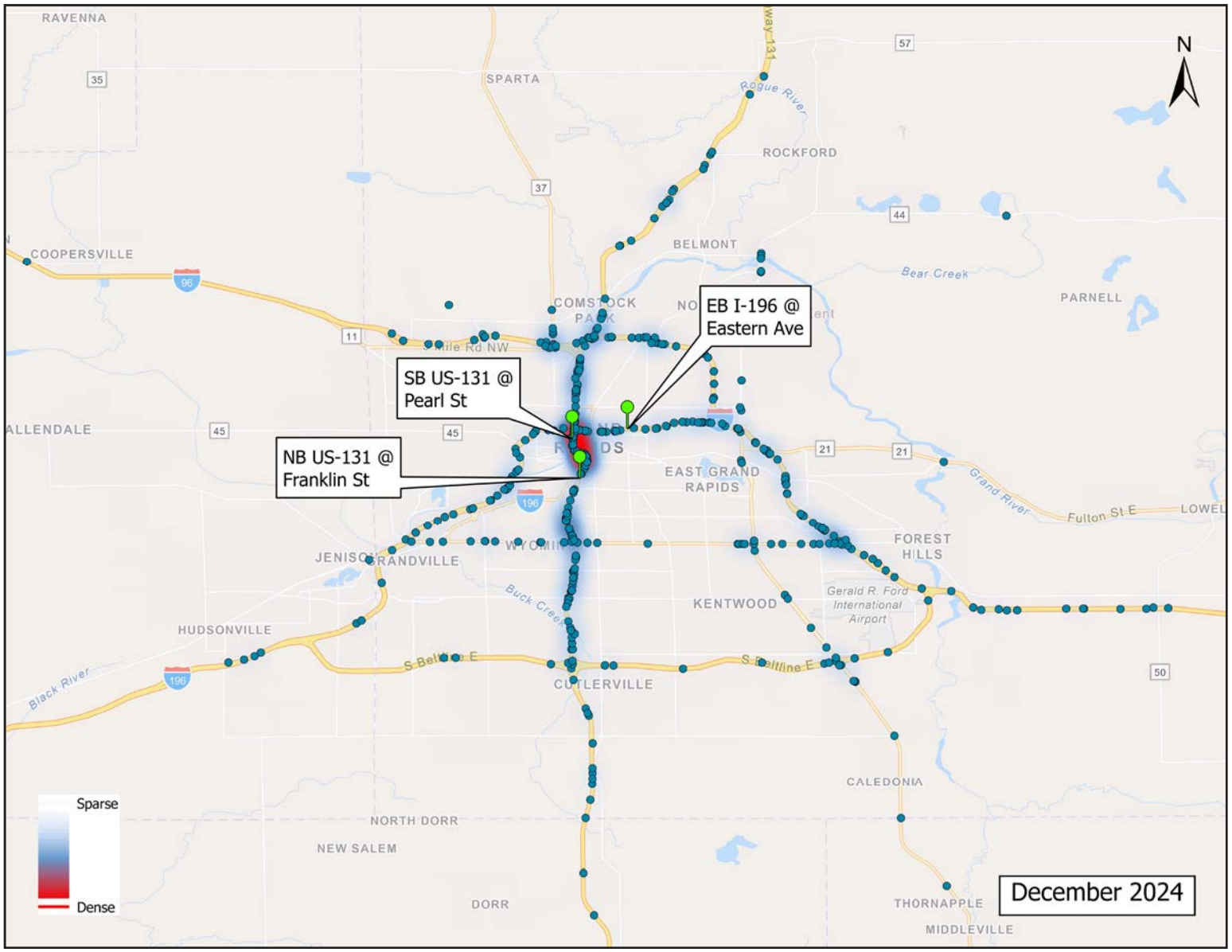


Figure 10