Statewide Transportation Operations Center

July 2012

Serving Motorists on Michigan Freeways
www.michigan.gov/its
www.michigan.gov/drive

MDOT
Michigan Department of Transportation

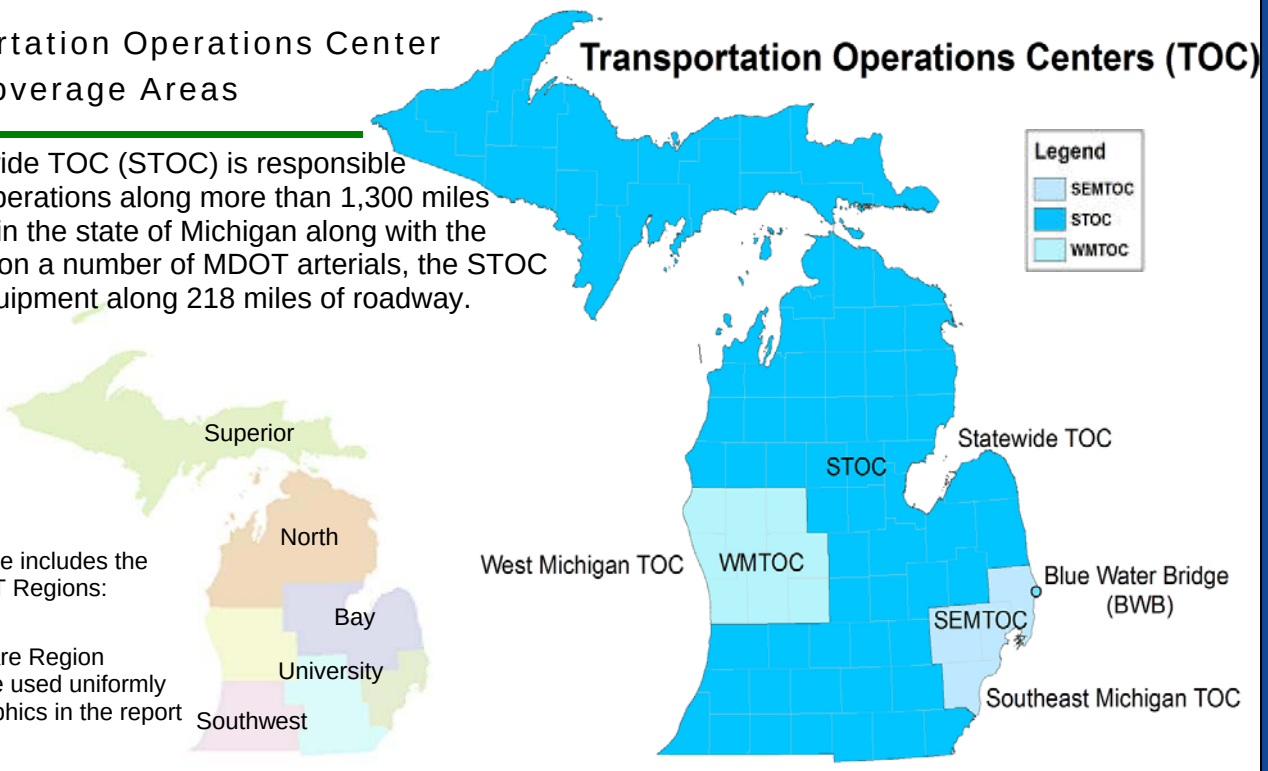
In the Spotlight

The Statewide Transportation Operations Center (STOC) is now actively using the Ann Arbor devices. While the Dynamic Message Signs (DMS) are still in the burn in stage, the STOC Staff has been utilizing the DMS for incidents. The STOC continues to post DMS messages for construction and keeping the DMS updated as changes are made with the construction phases, assisting motorists of upcoming delays or closures. In July the STOC added eight Closed-circuit Television (CCTV) cameras, 12 DMS and 24 Vehicle Detector Stations (VDS), which calculate travel times and give the STOC a view of how fast traffic is moving, helping with early detection of possible problems or delays.

Compiled by:
URS

Transportation Operations Center (TOC) Coverage Areas

The Statewide TOC (STOC) is responsible for traffic operations along more than 1,300 miles of freeway in the state of Michigan along with the operations on a number of MDOT arterials, the STOC has ITS equipment along 218 miles of roadway.

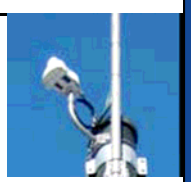


STOC Coverage includes the following MDOT Regions:

Colors shown are Region specific and are used uniformly throughout graphics in the report

ITS Equipment List

	Totals		
	July	June	% Change
Closed-circuit Television (CCTV) cameras	(In Coverage Area)		
CCTV cameras allow for pinpointing and monitoring of traffic events so that information may be disseminated quickly and accurately	24	16	50.0
Dynamic Message Signs (DMS)			
DMS allow for sending messages to motorists to inform of traffic events that may be impacting their route ahead	33	21	57.1
Vehicle Detector Stations (VDS)			
VDS allow for traffic-impacting events to be spotted, travel times to be calculated and speed maps to be generated	34	10	240.0
Environmental Sensor Stations (ESS)			
ESS, working together as part of a larger Road Weather Information System allow for road maintenance personnel to better manage approaching weather	25	25	0.0



Summary

Data Key

July 2012

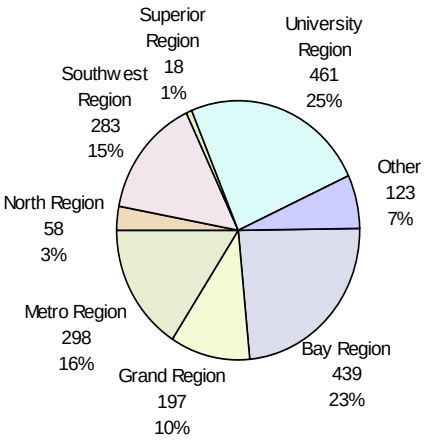
	Current Month	Previous 12-Month Average
STOC Communications Activity 	**Total Communication**	
Operators log all incoming and outgoing control room communications, engaging various incident responders and stakeholders.	**Calls:** 397	223
	E-mails: 1,480	1,401
Unplanned Incidents* 	**Total Incidents ^**	
Operators log information about each unplanned incident including date/time, location, traffic impact, duration, and associated traveler information.	88	221
Construction Activity 	**Incidents Occurring in Work Zones**	
Operators maintain a list of ongoing construction projects and contacts for these projects. This activity also includes maintenance operations.	1	2
Daily Shift Report 	**System Availability**	
Operators track maintenance issues for all ITS equipment, including CCTV cameras, VDS, and DMS.	**CCTV:** 88%	85%
	VDS: 100%	61%
	DMS: 96%	99%

* An **incident** is an unplanned event that impacts the shoulder, lane(s), or a ramp of a State of Michigan trunkline (a route signified with an I-, US-, or M- name). An incident will also occur in the STOC coverage area and under any of the following types: crash, debris, vehicle fire, abandoned vehicle (unless otherwise noted), or police situation.

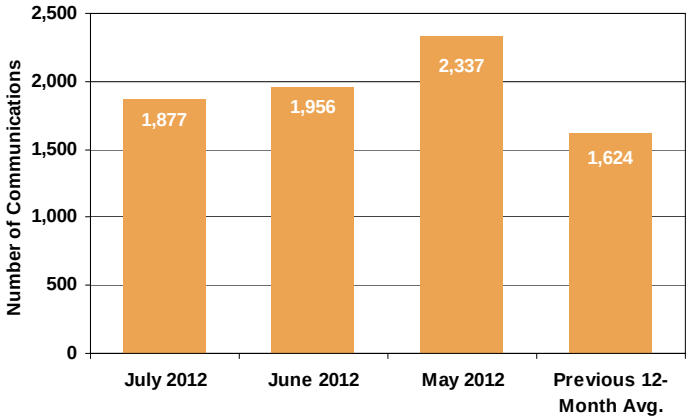
An **event** incorporates all incidents along with other types such as planned construction projects, weather and special events such as concerts or sporting events.

^ STOC will no longer monitor unverified incidents in Genesee County per protocol change effective July 1, 2012.

STOC Communications and Total Communication History

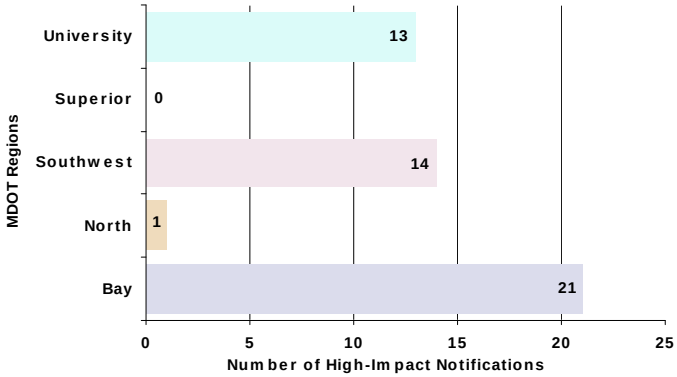


July 2012

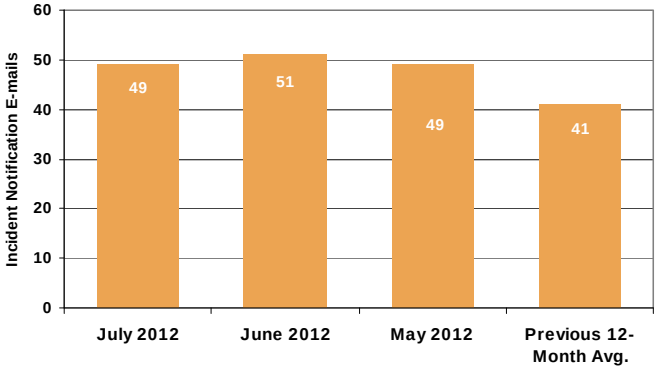


These charts segment all incoming and outgoing calls and e-mails that Control Room Operators field per MDOT region. STOC is connected to various first responder data (Nixle.com, emergency dispatch centers, Michigan State Police) especially in the Bay Region. STOC looks to use these charts to identify outreach to other regions throughout the state.

High-Impact Incident Notifications and History

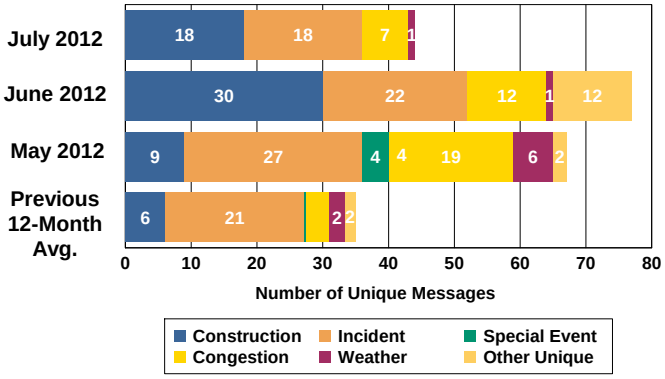


July 2012



These graphs enumerate high-impact incident e-mail notifications defined as:
> Complete closure of a freeway in one or both directions
> Only one lane of traffic in one direction open
> Freeway to freeway ramp closure
STOC Control Room Operators send e-mails to a prescribed group of stakeholders. High-impact incidents cause the highest impact to traffic congestion.

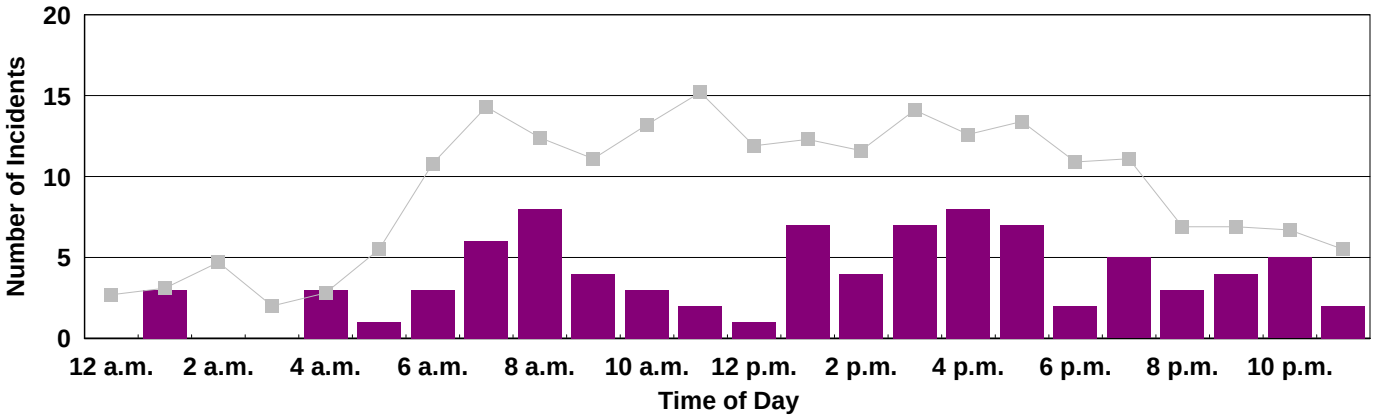
DMS Messages by Type ^



This graph shows unique DMS messages by type. Once a Control Room Operator receives notification from stakeholders regarding a specific event, the STOC Control Room Operator utilizes DMS to send a message specific to the event type.

^ STOC will no longer monitor unverified incidents in Genesee County per protocol change effective July 1, 2012.

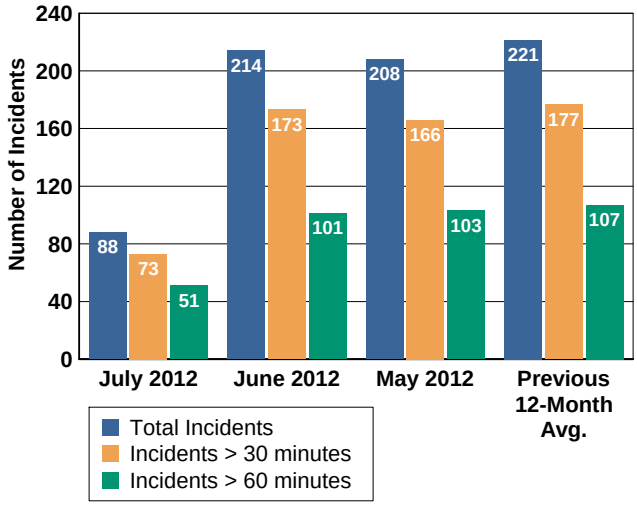
Total of Unplanned Incidents per Hour ^



This chart segments incidents per hour. STOC management staff uses these charts to identify peak hours to properly staff Control Room Operators. The line shows the hourly incident average for the previous 12 months.

Incident Duration History ^

This graph shows the duration history of incidents (excluding events noted by operators as abandoned vehicles). Incident duration is the time between awareness of an incident and removal of all evidence of the incident, including debris or remaining assets



Most Utilized DMS

This list demonstrates the most utilized DMS during the month. The DMS listed are utilized most frequently with unique messages. A unique message is any message other than a travel time or Public Service Announcement

1. SB US-23 at 6 Mile (7 messages deployed)
2. EB I-94 at Parker (5 messages deployed)
3. EB I-94 at Liberty (5 messages deployed)

Traffic Impact Types by Region

This table breaks down all incidents by type and by Region. This data informs the STOC on what type of incidents are handled and where the highest percentage of incidents occur.

	Crashes	Debris	Police Situation	Other	Fire	Total
Bay	36 52.9%	2 22.2%	0 0.0%	0 0.0%	5 50.0%	**43**
North	1 1.5%	1 11.1%	0 0.0%	0 0.0%	0 0.0%	**2**
Southwest	16 23.5%	2 22.2%	1 100.0%	0 0.0%	1 10.0%	**20**
Superior	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	**0**
University	15 22.1%	4 44.5%	0 0.0%	0 100.0%	4 40.0%	**23**
Total	**68**	**9**	**1**	**0**	**10**	**88**

^ STOC will no longer monitor unverified incidents in Genesee County per protocol change effective July 1, 2012.

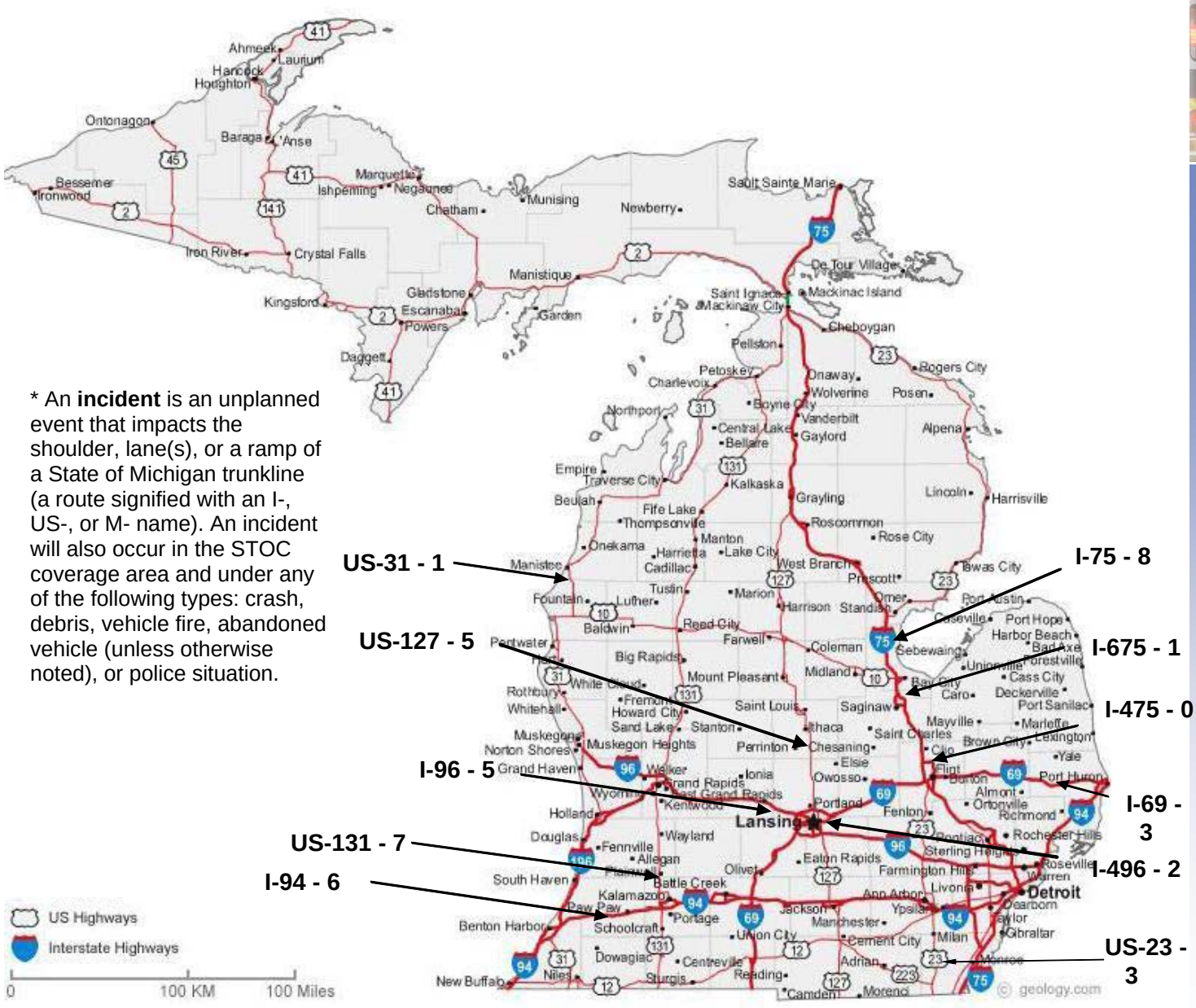
This table enumerates the number of incidents located on major freeways and the number of incidents per mile throughout the STOC's coverage area. (Only reflects incidents where STOC has recieved notification and in the STOC coverage area)

Below is a map of the freeways that are monitored by the STOC and lists the total number of incidents that were detected during the month.

Freeway		July 2012		June 2012		May 2012		Previous 12-Month Avg.	
		Total	per mi.	Total	per mi.	Total	per mi.	Total	per mi.
I-475	(17 mi.)*	-	-	7	0.4	11	0.6	11.1	0.7
I-496	(12 mi.)*	2	0.2	3	0.2	1	0.1	0.8	0.1
I-675	(7 mi.)*	1	0.1	-	-	-	-	0.3	-
I-69	(178 mi.)*	3	-	18	0.1	26	0.1	28.8	0.2
I-75	(288 mi.)*	8	-	57	0.2	52	0.2	59.7	0.2
I-94	(187 mi.)*	6	-	12	0.1	11	0.1	8.1	-
I-96	(76 mi.)*	5	0.1	3	-	5	0.1	2.9	-
US-127	(165 mi.)*	5	-	5	-	3	-	1.8	-
US-131	(91 mi.)*	7	0.1	2	-	1	-	1.4	-
US-23	(93 mi.)*	3	-	20	0.2	17	0.2	16.8	0.2
US-31	(85 mi.)*	1	-	-	-	-	-	0.3	-
Month Total		41	-	127	0.1	127	0.1	132.0	0.1

* Reflects freeway mileage within the current STOC coverage area.

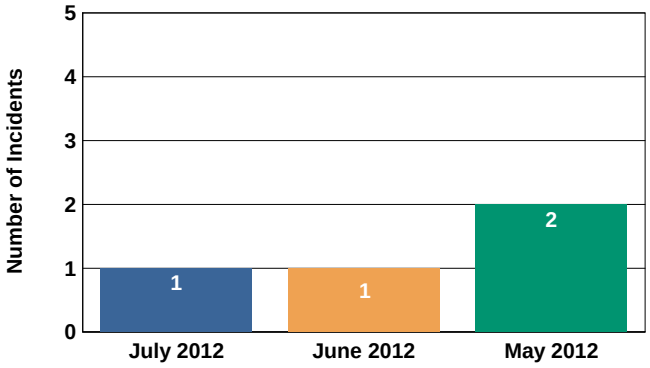
* An **incident** is an unplanned event that impacts the shoulder, lane(s), or a ramp of a State of Michigan trunkline (a route signified with an I-, US-, or M- name). An incident will also occur in the STOC coverage area and under any of the following types: crash, debris, vehicle fire, abandoned vehicle (unless otherwise noted), or police situation.



Compiled by: URS

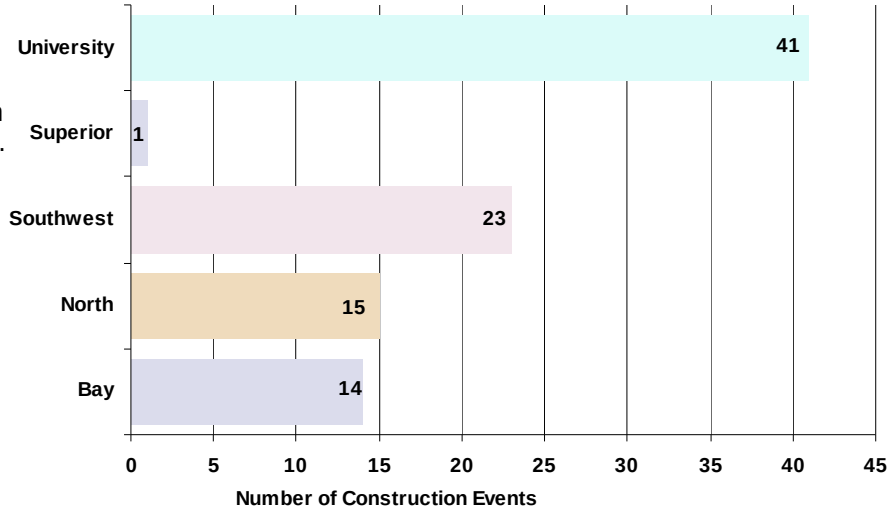
Incidents Occurring in Work Zones

This graph indicates how many incidents took place within a work zone. With construction postings using DMS and the Mi Drive Web site, STOC strives to keep a low number of incidents in the work zones.



Construction Events per Region

This graph segments all new construction events for the month received by the STOC by Region.

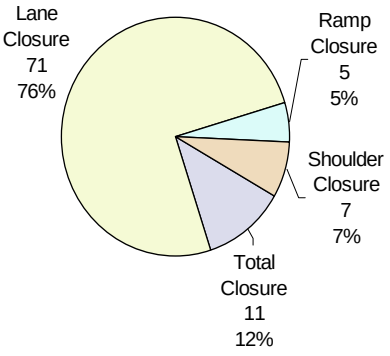


July 2012

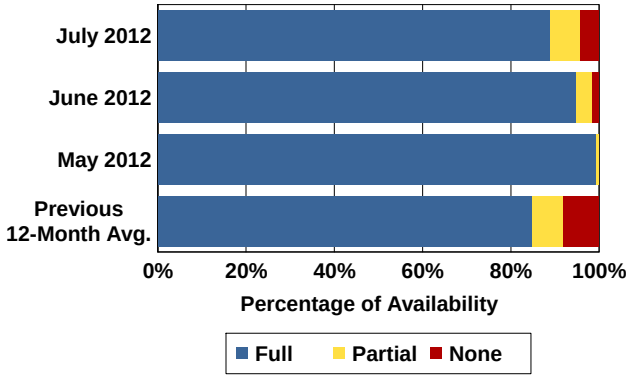
Construction Events per Closure Type

This chart breaks down the closure type for each project that the STOC receives via phone call or E-mail. A lane closure is used more than a roadway closure whenever possible to minimize motorist delays and detours.

July 2012



Overall CCTV Camera Availability

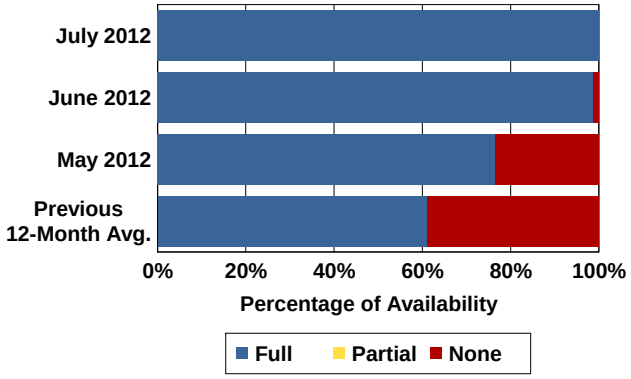


CCTV Cameras Below 95% Availability

	Location	Full	Partial	None
1.	C-I-96E-MM1490-Pleasant Valley	14%	69%	17%
2.	C-I96W-MM1420-Dorr	83%	-	17%
3.	C-I-96W-MM1476-I96 US23	94%	-	6%

Percentages of availability are reported for the current month based on data reported daily.

Overall Detector Availability

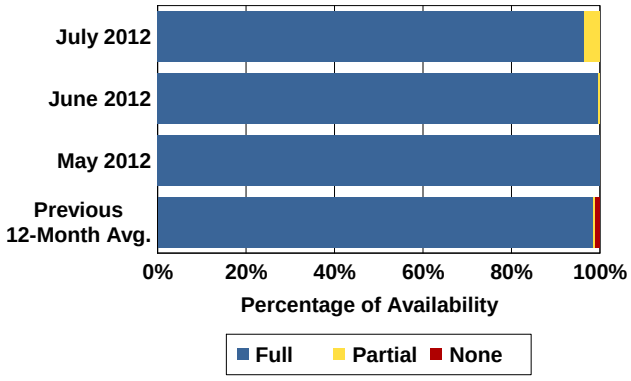


Vehicle Detectors Below 95% Availability

Location	Full	Partial	None
None.			

Percentages of availability are reported for the current month based on data reported daily.

Overall DMS Availability



DMS Below 95% Availability

	Location	Full	Partial	None
1.	NB I-75 at Grayling	60%	40%	-
2.	EB I-96 at M-59	70%	30%	-

Percentages of availability are reported for the current month based on data reported daily.

The graphs on the left show the percentage of availability of all the ITS devices (CCTV, Detector, DMS) located in the STOC coverage area. If a device is under 95 percent available for a given month, the device is listed in the tables shown on the right. STOC uses this information to be aware of the operational devices so when incidents occur, operators know which ITS devices can help alert motorists quickly and accurately.