

Statewide Transportation Operations Center

Serving Motorists on Michigan Freeways

www.michigan.gov/its

www.michigan.gov/drive

April 2012



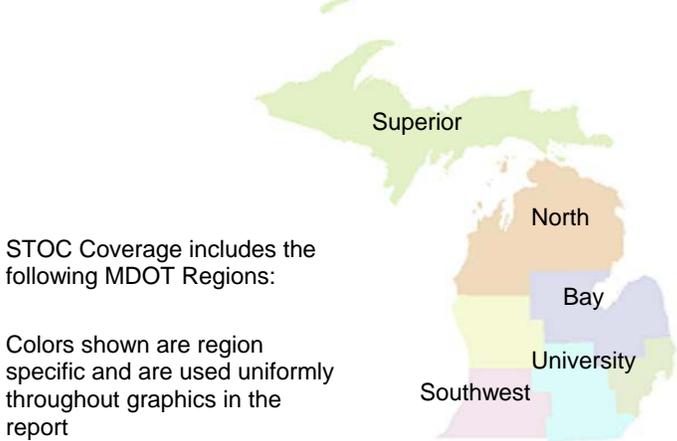
In the Spotlight



April 26 was Bring Your Child to Work day. STOC staff hosted over 50 people (adults and children) in the control room for a quick explanation of the STOC and the entire operation, a tour of the control room and hands-on opportunity for children to touch and control a CCTV camera. STOC staff also demonstrated how a MVDS works and allowed the children to touch an actual device. In a short exposition for each group of people, STOC staff explained and illustrated the core functions and processes of the operation by showing various acronyms (STOC, ITS, ATMS, DMS, CCTV, MVDS and RWIS) spelled out in ABC cookies on a paper plate. At the end, children were able to walk away with a cup of ABC cookies or a URS pencil.

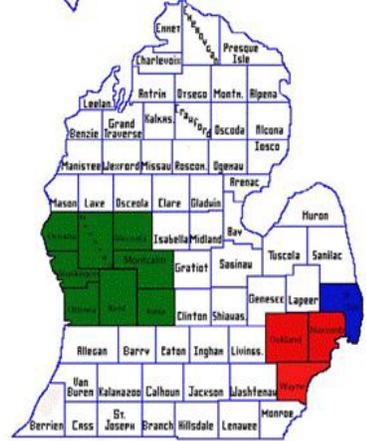
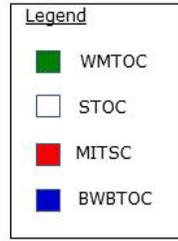
Transportation Operations Center (TOC) Coverage Areas

While 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

Closed-circuit Television (CCTV) cameras

CCTV cameras allow for pinpointing and monitoring of traffic events so that information may be disseminated quickly and accurately

	<u>Totals</u>		
	<u>April</u>	<u>March</u>	<u>% Change</u>
	(In Coverage Area)		
	16	16	0.0



Dynamic Message Signs (DMS)

DMS allow for sending messages to motorists to inform of traffic events that may be impacting their route ahead

	21	21	0.0
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Vehicle Detector Stations (VDS)

VDS allow for traffic-impacting events to be spotted, travel times to be calculated and speed maps to be generated

	10	10	0.0
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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

	10	25	0.0
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Summary

Data Key

April 2012

STOC Communications Activity



Operators log all incoming and outgoing control room communications, engaging various incident responders and stakeholders.

Total Communication

Calls: 245
E-mails: 1,373

Unplanned Incidents*



Operators log information about each unplanned incident including date/time, location, traffic impact, duration, and associated traveler information.

Total Incidents

247

Construction Activity



Operators maintain a list of ongoing construction projects and contacts for these projects. This activity also includes maintenance operations.

Incidents Occurring in Work Zones

1

Daily Shift Report



Operators track maintenance issues for all ITS equipment, including CCTV cameras, VDS, and DMS.

System Availability

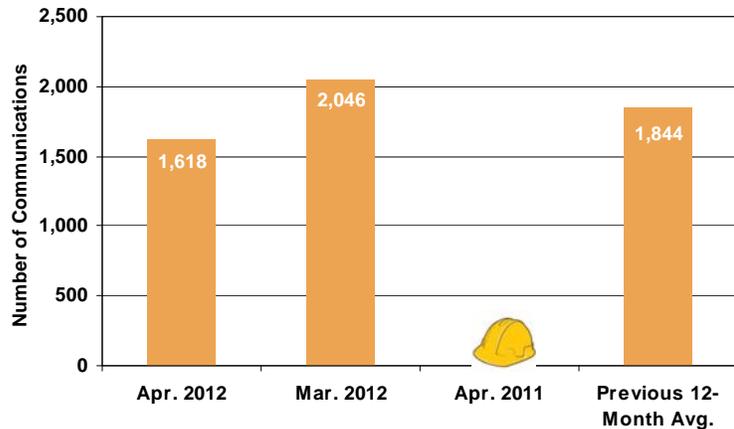
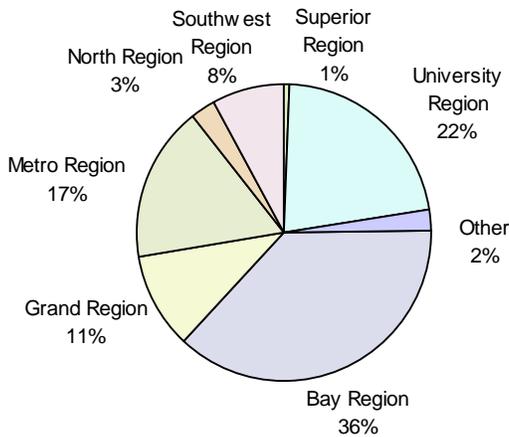
CCTV: 90%
VDS: 62%
DMS: 91%

* An **incident** is an 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). It also needs to be in the STOC coverage area and under any of the following types: crash, vehicle fire, debris, or police situation.

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

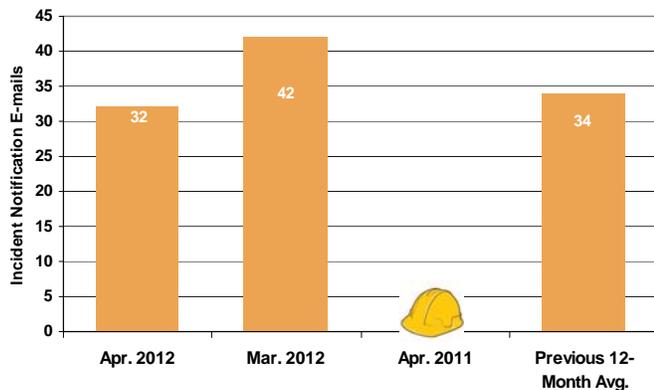
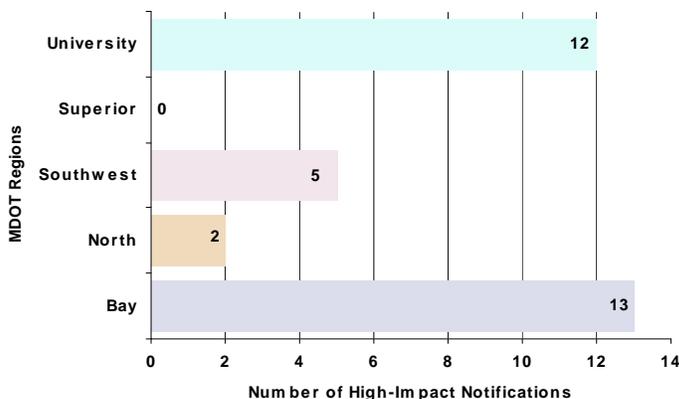


This indicates that data was not collected during the timeframe specified on each chart or graph, but data will soon be represented.



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

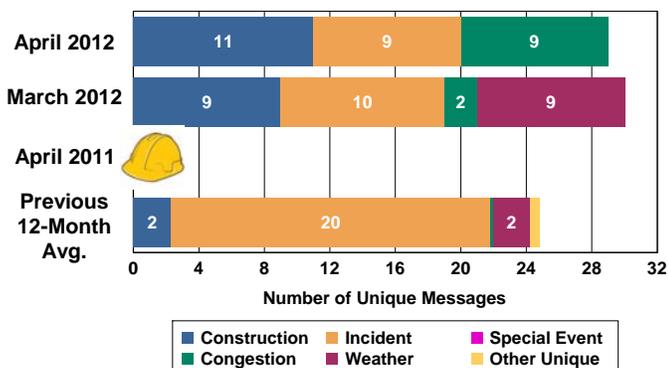


These graphs enumerate high-impact incident e-mail notifications defined as:

- > Complete closure of a freeway in one or both directions
- > Only one lane of traffic in one direction open
- > Freeway to freeway ramp closure

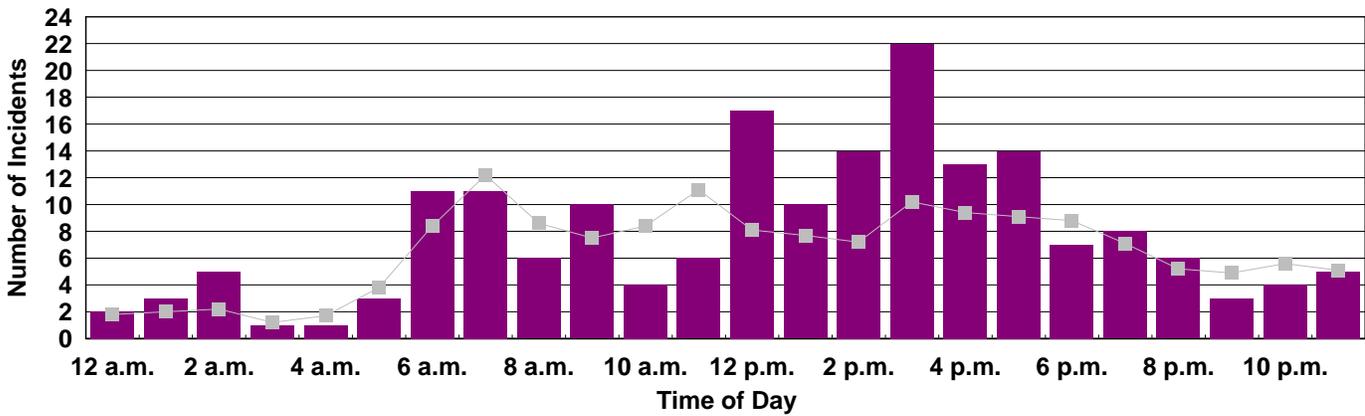
STOC operators send e-mails to a prescribed group of stakeholders. High-impact incidents cause the highest impact to traffic congestion.

DMS Messages by Type



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

Total of Unplanned Incidents per Hour

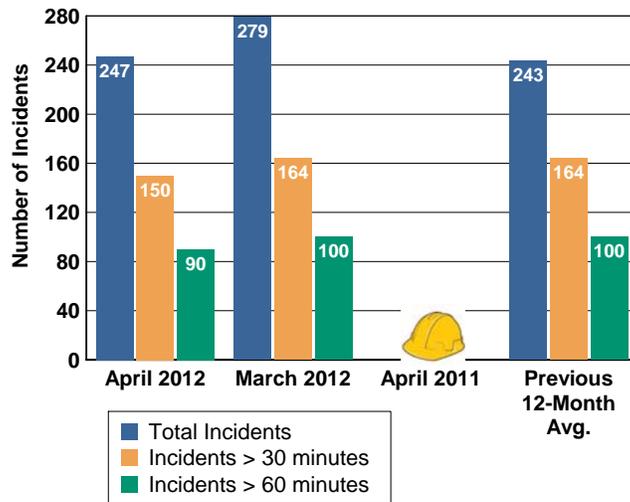


This chart segments incidents per hour by number. STOC uses these charts to identify peak hours for incidents to properly staff operators, as one example.

Incident Duration History



This graph shows the duration history of incidents (excluding events noted by operators as abandon vehicles). This data shows that number of incidents are down from last month which can be linked to having fewer hazardous weather events.



Most Utilized DMS



This list demonstrates the most utilized DMS during the month. The DMS listed are utilized most frequently with unique messages.

1. NB US-23 at Lee Rd (6)
2. EB I-96 at Grand River MM146 (4)
3. I75MM1092-DMS (NB) Dort Hwy (3)

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	161 85.2%	6 75%	12 100%	1 50.0%	32 88.9%	212
North	2 1.1%	1 12.5%	0 0%	0 0%	1 2.8%	4
Southwest	11 5.8%	1 12.5%	0 0%	1 50.0%	1 2.8%	14
Superior	0 0.0%	0 0%	0 0%	0 0%	0 0%	0
University	15 7.9%	0 0%	0 0%	0 0%	2 5.5%	17
Total	189	8	12	2	36	247



Incidents by Freeway

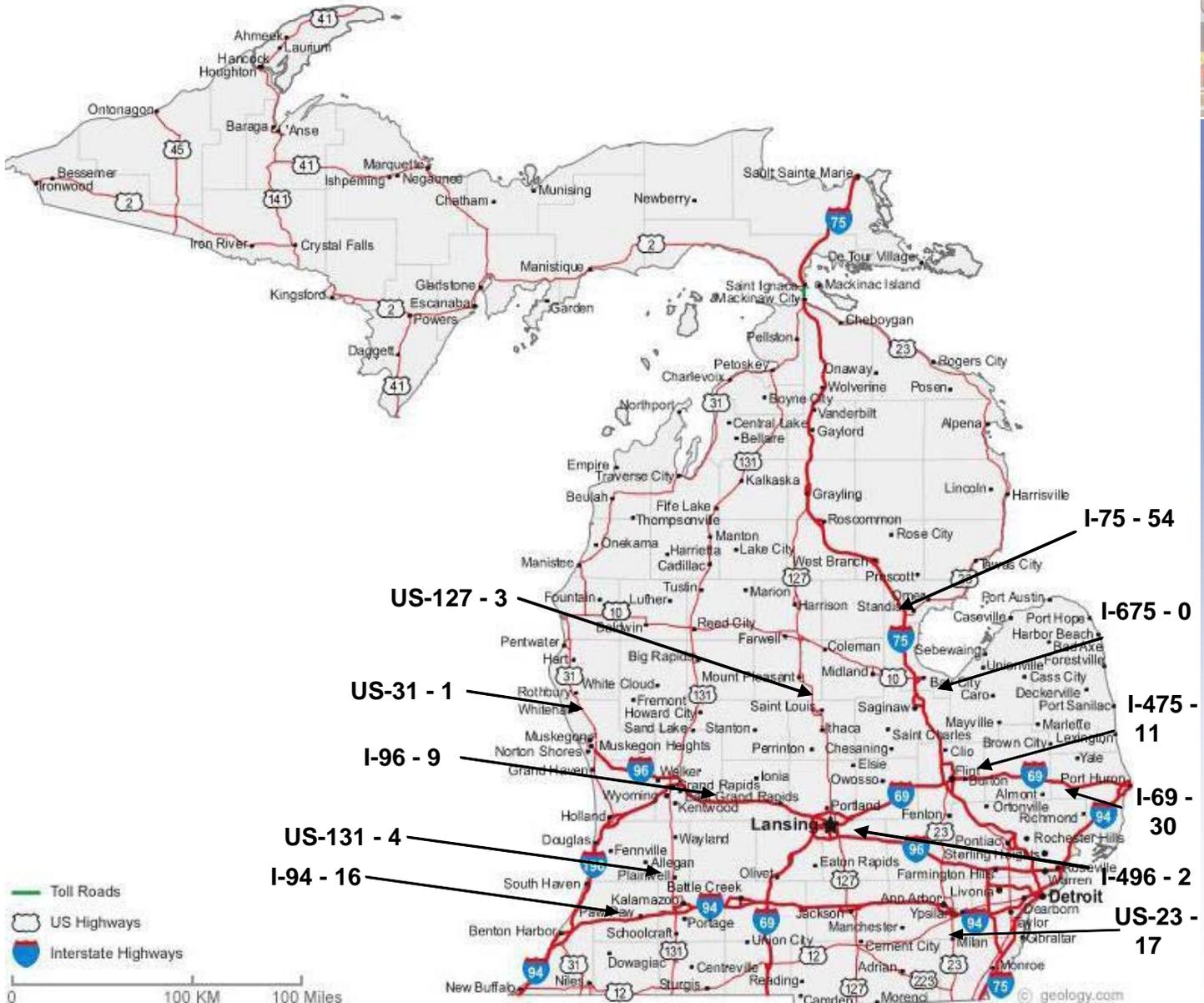


This table enumerates the number of incidents located on major freeways and the number of incidents per mile throughout the STOC's coverage area. The number of incidents reflects only those incidents where STOC has received notification and in the STOC coverage area.

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	April 2012		March 2012		April 2011		Previous 12-Month Avg.	
	Total	per mi.	Total	per mi.	Total	per mi.	Total	per mi.
I-475 (17mi.)*	11	0.6	13	0.8	-	-	10.8	0.6
I-496 (12 mi.)*	2	0.2	-	-	-	-	0.4	-
I-675 (7 mi.)*	-	-	-	-	-	-	0.5	0.1
I-69 (178 mi.)*	30	0.2	33	0.2	-	-	27.7	0.2
I-75 (288 mi.)*	55	0.2	71	0.2	-	-	57.8	0.2
I-94 (187 mi.)*	16	0.1	8	-	-	-	7.5	-
I-96 (76 mi.)*	9	0.1	5	0.1	-	-	3.1	-
US-127 (214 mi.)*	3	-	4	-	-	-	1.1	-
US-131 (192 mi.)*	4	-	4	-	-	-	1.4	-
US-23 (289 mi.)*	17	0.1	22	0.1	-	-	16.4	0.1
US-31 (274 mi.)*	1	-	1	-	-	-	0.4	-
Month Total	148	0.1	161	0.1	-	-	127.1	0.1

* Reflects roadway mileage within the current STOC coverage area.



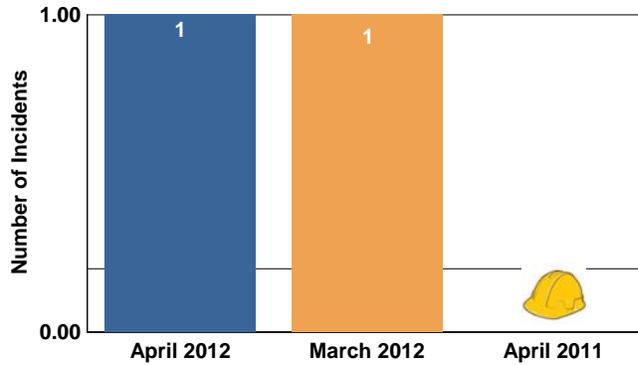
Incident Management



Incidents Occurring in Work Zones



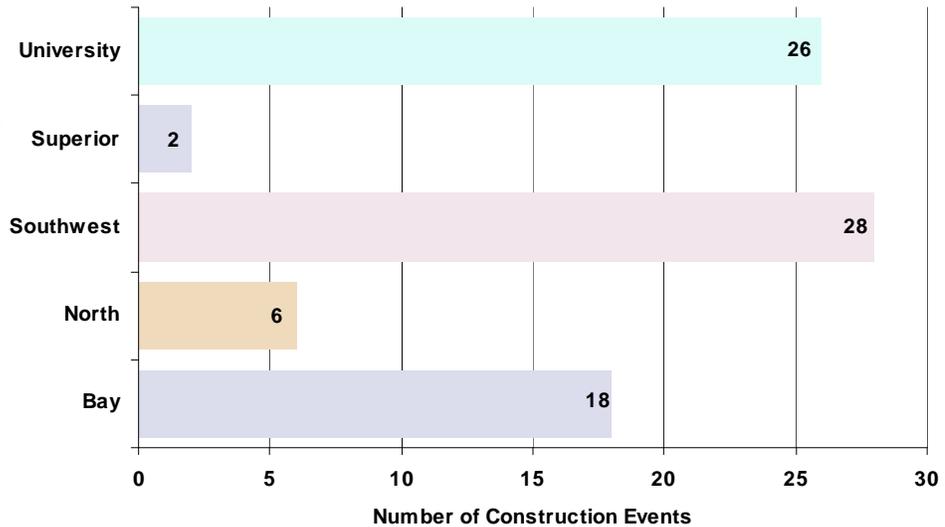
This graph indicates how many incidents were located within a work zone. With construction postings using DMS and the Mi Drive Web site, STOC is seeing a low number of incidents in the work zones.



Construction Projects per Region



This graph segments all construction projects for the month received by the STOC broken down by region.



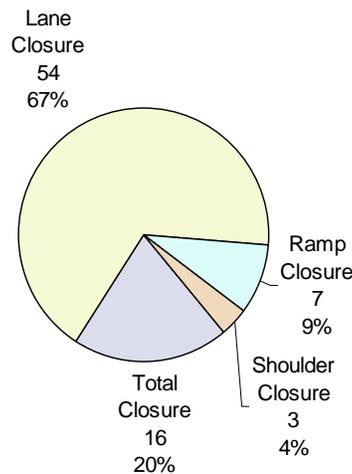
Construction Activity



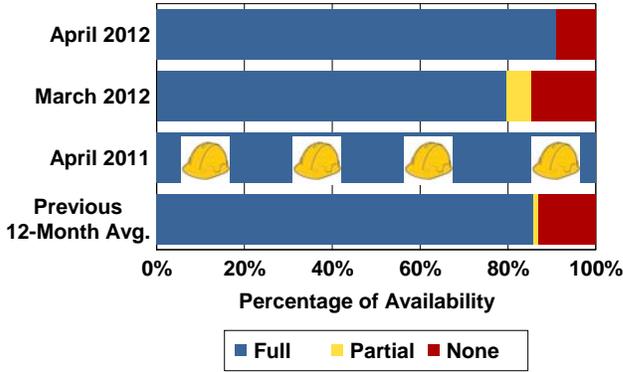
Construction Projects per Closure Type



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



Overall CCTV Camera Availability

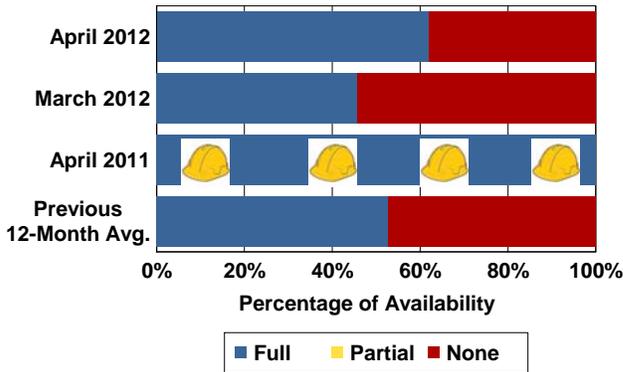


Individual CCTV Camera Availability



CCTV Cameras Below 95% Availability			
Location	Full	Partial	None
1. C-I96E-MM1510-Kensington	-	-	100%

Overall Detector Availability

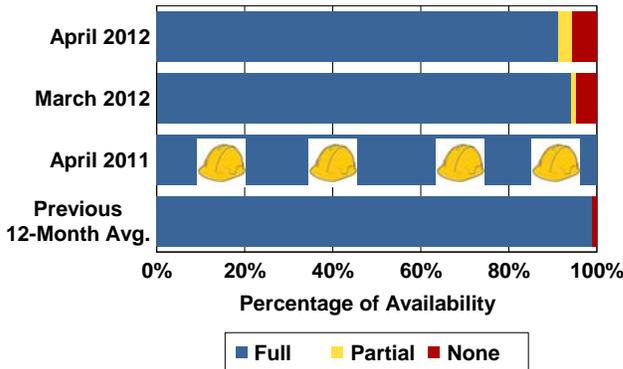


Individual Detector Availability



Vehicle Detectors Below 95% Availability			
Location	Full	Partial	None
1. D-I96E-MM-1430-Grand River	24%	-	76%
2. D-I96W-MM-1430-Grand River	24%	-	76%
3. D-I96E-MM-1462-Flint	34%	-	66%
4. D-I96W-MM-1462-Flint	34%	-	66%
5. D-I96E-MM-1490-Pleasant Valley	34%	-	66%
6. D-I96W-MM-1490-Pleasant Valley	34%	-	66%

Overall DMS Availability



Individual DMS Availability



DMS Below 95% Availability			
Location	Full	Partial	None
1. EB I-96 at Grand River MM143	-	-	100%
2. SB I-75 @ Grayling	38%	62%	-
3. EB I-96 at M-59	84%	-	16%

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.