

# **SARASOTA COUNTY GOVERNMENT**

*Administration*

**TO:** Sarasota County Commission  
**FROM:** Jonathan R. Lewis, County Administrator  
**DATE:** April 25, 2018  
**SUBJECT:** Update on Sarasota-Manatee Regional Traffic Management Center

**BACKGROUND:**

Manatee County staff will present an update and discussion on the Sarasota-Manatee Regional Traffic Management Center.

**ATTACHMENTS:**

Presentation

# Sarasota-Manatee Regional Traffic Management Center

## Update

Sarasota County Board of County Commissioners  
Manatee County Board of County Commissioners  
April 25, 2018 Joint Commission Meeting

Presented by:

**SAGE KAMIYA, P.E., PTOE**

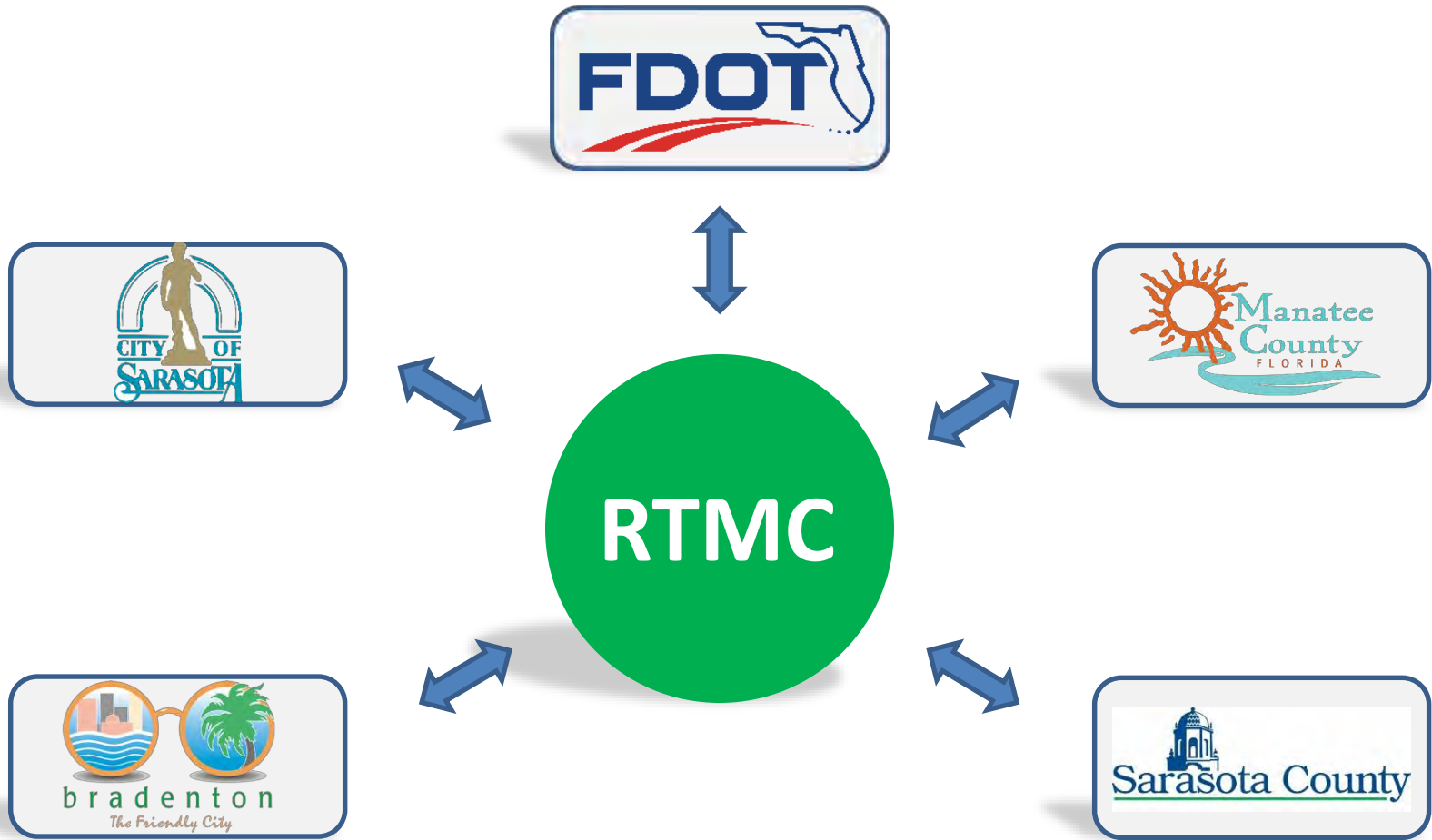
DEPUTY DIRECTOR, TRAFFIC MANAGEMENT  
MANATEE COUNTY PUBLIC WORKS DEPARTMENT

**FABIO CAPILLO**

RTMC MANAGER  
MANATEE COUNTY PUBLIC WORKS DEPARTMENT



# RTMC OPERATIONAL STRUCTURE



**Intelligent Transportation  
System Management Team**

# OLD MANATEE CONTROL ROOM



# RTMC CONTROL ROOM

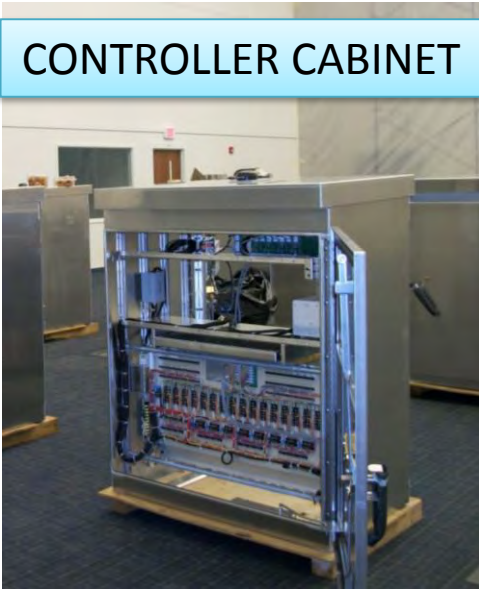


## MISSION STATEMENT

“The Sarasota Manatee Traffic Management Center will provide an enabling environment for all stakeholders to collaborate and share information resulting in a combined, systematic approach to traffic operations and traffic incident response”.

# CONNECTED FIELD ITS DEVICES

CONTROLLER CABINET



CCTV



BLUETOOTH



MVDS



VVDS

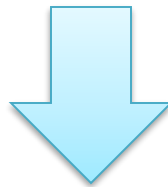


ARTERIAL DYNAMIC MESSAGE SIGN



# RTMC CAPABILITIES

- Regional Surface Street Traffic Management
- Critical Malfunctions Detection/Notification/Monitoring
- Evacuation Routes Timing
- Real-Time Incident Management
- Performance Measures Reporting



- Reduce Congestion Across Multiple Jurisdictions
- Improve Maintenance/Repair Response Times
- Increase Evacuation/Recovery Efforts
- Improve Special/Planned Event Traffic Management
- Data Collection/Engineering Analysis

# MONITORING

## Central Software

## Detection Reports

Sarasota County Detector Failure Report  
Report Date: 04/09/2018  
Report Date Range: 04/02/2018 to 04/08/2018

Name	Date/Time	Detector	Fault
Rockley	04/02/2018 12:23:00 AM	21	210 - Max Presence
Rockley			
Rockley			
Rockley			
Rockley			
Rockley			

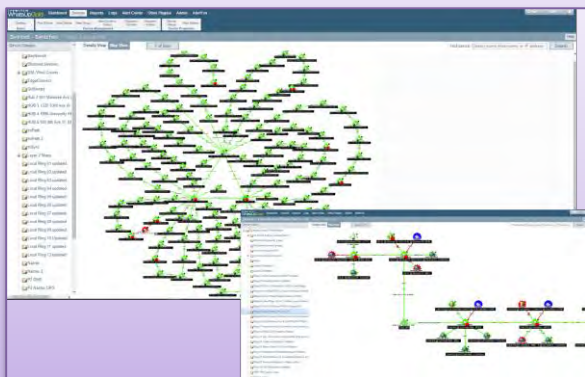
Manatee County Pedestrian Failure Report  
Report Date: 04/09/2018  
Report Date Range: 04/02/2018 to 04/08/2018

ID	Name	Date/Time	Detector	Fault
3094	US 41 1st St @ 301 Blvd	04/04/2018 6:38:00 AM	4	Max Presence
3094	US 41 1st St @ 301 Blvd	04/06/2018 10:41:00 AM	4	Max Presence
3094	US 41 1st St @ 301 Blvd	04/06/2018 5:32:00 PM	4	Max Presence
3114	17th St E @ 17th Ave E	04/05/2018 5:51:00 AM	4	Max Presence
3128	Cortez Rd @ 37th St W	04/02/2018 2:32:00 PM	4	Max Presence
1128	Cortez Rd @ 37th St W	04/04/2018 11:33:00 PM	4	Max Presence
1	26th St W @ 30th Ave W	04/08/2018 8:12:00 AM	4	Max Presence
	@ Capri Isles Blvd	04/04/2018 2:11:00 PM	1	210 - Max Presence
	Myrtle St	04/06/2018 1:08:00 AM	7	216 - Watchdog
	Myrtle St	04/06/2018 1:08:00 AM	8	216 - Watchdog
	@ I-75 SB Ramps (West)	04/05/2018 3:46:00 PM	17	210 - Max Presence
	@ IntegraClick	04/02/2018 4:13:00 AM	8	211 - No Activity

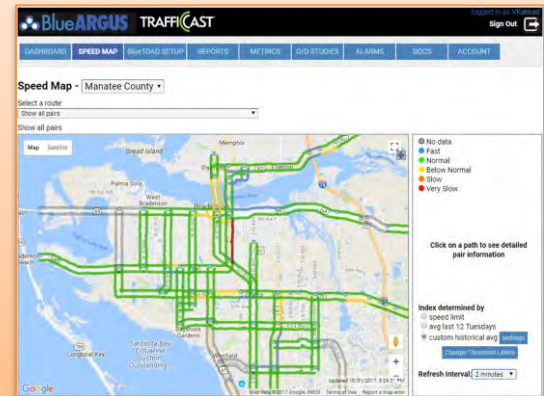
## CCTV



## Network Communication



## BlueTOAD



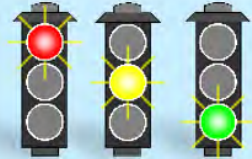


# 2017 ANNUAL REPORT – PERFORMANCE

## INCIDENT MANAGEMENT

NUMBER OF INCIDENT-RELATED SIGNAL TIMING CHANGES\*

**1,282**



TOTAL VEHICLE DELAY SAVINGS\*

**39,886 hours**



ESTIMATED VEHICLE THROUGHPUT DURING INCIDENTS\*

**1,082,000 vehicles**



ESTIMATED COST SAVINGS RELATED TO VEHICLE DELAY REDUCTION\*

(\$17.67 per hour per person travel)

**\$ 2,254,000**



\* March through December 2017



# FUTURE RTMC NEEDS


- Aging Center and Field Infrastructure Replacement
- ITS Devices Regional Coverage
- New Technology



# THANK YOU

**Sarasota-Manatee Regional Traffic Management Center**

2101 47<sup>th</sup> Terrace East, Bradenton, FL 34203

 (941) 744-3980

# SARASOTA-MANATEE REGIONAL TRAFFIC MANAGEMENT CENTER

## 2017 ANNUAL REPORT

FILED *April* DAY 25 2018  
KAREN E. RUSHING, CLERK  
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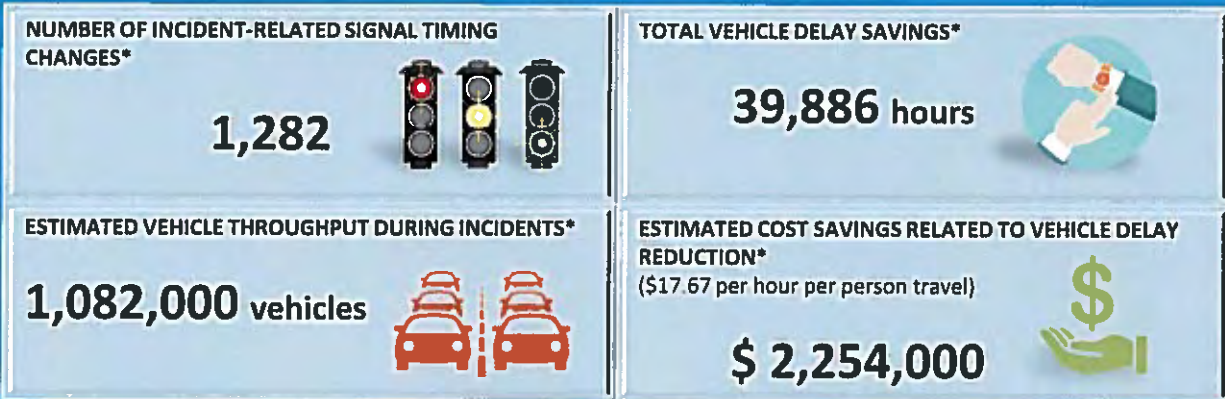
## 2017 HIGHLIGHTS

- **1,664** incidents and **828** congestion events detected and monitored
- **223** incident and congestion events managed where signal timing changes were needed and implemented\*
- More than **200 Critical Malfunctions** detected and monitored
- More than **400 Vehicle and Pedestrian Detector Failure** reports generated
- Hired Signal Timing Engineering staff in March 2017
- Updated the *RTMC Operations Manual*
- Configured more than **60 BlueTOAD** travel time measuring devices
- Provided training for staff on *BlueTOAD* and *InSync* systems
- Replaced Operator's PCs and monitors
- Installed the *Wavetronix Command Suite* software
- Upgraded all of the RTMC software to the latest available versions
- Planned and implemented the RTMC Core Switch replacement
- Advertised the RFP and finalized contract for the *RTMC Traveler Information Website* project
- Emergency special event activation during *Hurricane Irma*
- Planned special event activation during the *Riverwalk Regatta* and the *World Rowing Championship*
- Generated and distributed *RTMC Quarterly Dashboards* to FDOT and RTMC stakeholders

### Upcoming Regional Projects:

- RTMC Traveler Information Website
- ATMS Phase V expansion project - Sarasota County
- Diversion and Evacuation Route Signal Timing Development - Sarasota County
- Deployment of *Adaptive Signal Control System* along SR70 - Manatee County

## 2017 PERFORMANCE



\* March through December 2017

Incidents Detected		
Incident Type	Number of Incidents	Average Duration of Congestion
<p><b>LEVEL 1</b> Any incident estimated to be less than 30 minutes in duration.</p>	548	N/A
<p><b>LEVEL 2</b> Any incident estimated to be 30 minutes or greater but less than 2 hours in duration.</p>	778	68 min.
<p><b>LEVEL 3</b> Any incident estimated to be 2 hours or greater in duration, or all travel lanes are blocked on any roadway or ramp.</p>	128	175 min.
<p><b>NO CCTV</b> Any incident occurred at locations without CCTV coverage.</p>	210	N/A

**Uptime<sup>(1)</sup> Percentages**  
(Maintenance Performed by each Agency)

Type	Number Deployed	%
Closed-Circuit Television Cameras (CCTV)	208	95.7 %
Microwave Vehicle Detection Systems (MVDS)	60	99.6 %
Bluetooth Origin-Destination Measuring Devices	95	87.5 %
Dynamic Message Signs	4	74.8 %
Servers	14	99.9 %
HUB Switches	12	99.9 %
Managed Field Ethernet Switches (MFES)	518	98.3 %

**Signal Controllers Network Uptime**



<sup>(1)</sup> **Uptime**: percentage of time that hardware, ITS system or device is fully operational and available.




**201** Critical Malfunctions<sup>(2)</sup> Detected and Monitored



<sup>(2)</sup> Power outage, Loss of communication, Signal in FLASH

## HISTORY

In May 2005, the Florida Department of Transportation (FDOT), Manatee County, Sarasota County, the City of Sarasota and the City of Bradenton entered into an Interlocal Agreement for cooperation and coordination in the operation of a Unified Intelligent Transportation Management System. The agreement provides that each party would bear a proportional share of the ongoing operational costs of the Regional Traffic Management Center. The Sarasota-Manatee RTMC efficiently and effectively coordinates with FDOT's South West Interagency Facility for Transportation (SWIFT) SunGuide Center (Fort Myers Main Office) through the satellite center located within the RTMC facility. Thanks to a state-of-the-art communication network, provided by several hundreds of miles of single-mode fiber optics cable deployed throughout the Sarasota-Manatee geographical area, the RTMC is currently connected to:

- 465 traffic signals
- 275+ miles of fiber optic cable
- 208 Closed Circuit Television Cameras (CCTV)
- 202 Vehicle Video Detection Cameras
- 60 microwave based vehicle detection devices
- 95 Bluetooth Travel-Time measuring devices
- 4 Arterial Dynamic Message Signs (ADMS)
- 14 Servers
- 12 Layer 3 HUB Switches
- 518 Managed Field Ethernet Switches



## FUNCTIONS

Under the direction of the ITSMT, the RTMC serves as the centralized hub of activity for operation, maintenance and monitoring of the various bi-countywide deployment of advanced traffic management systems. The RTMC staff uses these tools to monitor and report on traffic conditions and traffic incidents, manage network related devices and their communications, and promptly make any necessary temporary traffic signal timing changes in response to incidents.

- 6:00 AM – 7:00 PM Weekday Operations
- 10 Full-Time Funded Positions
- Employee Training Plan and Certification
- Real-Time Incident Management
- Critical Malfunctions Detection and Monitoring
- Network Monitoring and Optimization
- Performance Measures Reporting along the ATMS Corridors



### ATMS Corridors

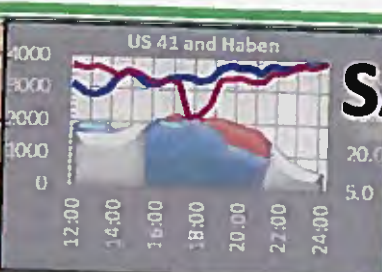
US 301	Lockwood Ridge Road
US 41	Tuttle Avenue
University Parkway	Fruitville Road
Cortez Road	Clark Road
Bee Ridge Road	SR 70
River Road	SR 64

## AWARDS

- ASCE – *Project of the Year* – 2012
- ITS Florida – *Outstanding Achievement Award* – 2013
- ITE – *TBITE Project of the Year* - 2013
- ITS Florida – *Outstanding Achievement Award* - 2014

## MISSION STATEMENT








The Sarasota-Manatee Regional Traffic Management Center will provide an enabling environment for all stakeholders to collaborate and share information resulting in a combined, systematic approach to traffic operations and traffic incident response.



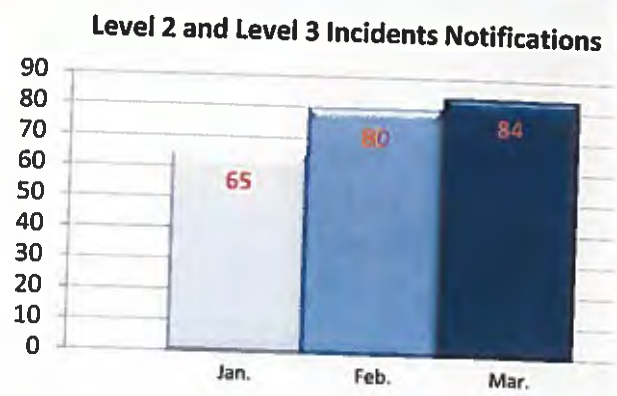
# SARASOTA-MANATEE REGION

## QUARTER

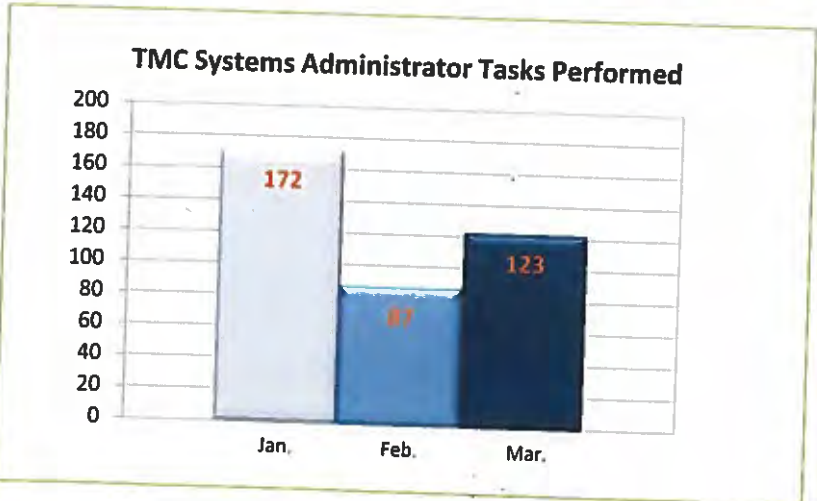
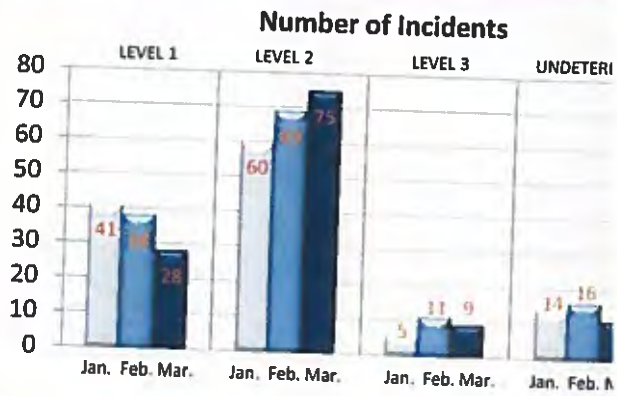
### January -

ITS & Network Device Summary		Number of Devices Connected
	Traffic Signals	467
	Video Monitoring	
	- Closed Circuit Television Cameras (CCTV)	217
	- Vehicle Video Detection Systems (VVDS)	206
	Microwave Vehicle Detection Sensors (MVDS)	62
	Bluetooth Travel-Time Measuring Devices	100
	Arterial Dynamic Message Signs (ADMS)	4
	Servers	14

### Level 2 and Level 3 Incidents Notifications



### Number of Incidents



### REPORTS GENERATED

Month	Detection Failure Reports
January	40
February	32
March	32



# AL TRAFFIC MANAGEMENT CENTER DASHBOARD

January – March 2018

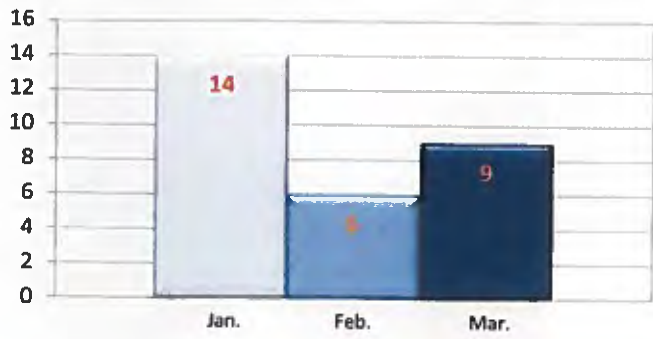


## NOTIFICATIONS

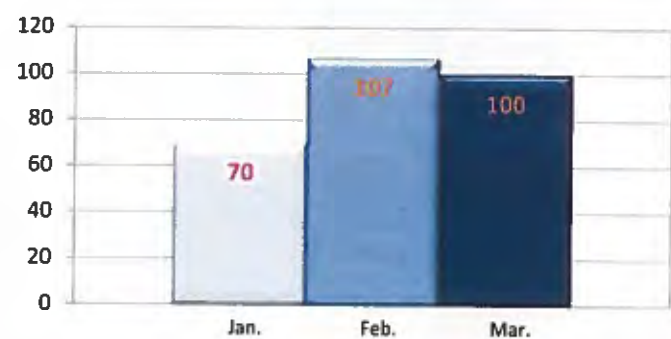
KAREN E. RUSHING, CLERK

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Critical Malfunctions Notifications

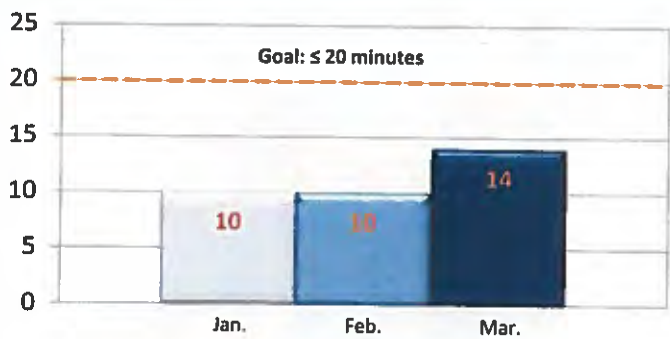


Congestion Notifications

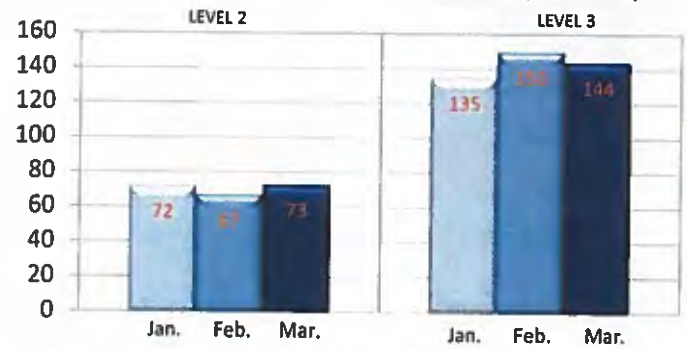


## INCIDENT DETECTION

Incident Detected to Notification Time (Minutes)



Average Incident Duration (Minutes)



## Definitions

Traffic Monitoring Requests

0

3

0

Incident Level	<ul style="list-style-type: none"> <li>• 1: Any incident estimated to be less than 30 minutes in duration</li> <li>• 2: Any incident estimated to be 30 minutes or greater but less than 2 hours in duration</li> <li>• 3: Any incident estimated to be 2 hours or greater in duration, or all travel lanes are blocked on any roadway or ramp</li> <li>• UNDETERMINED: Any incident without CCTV coverage</li> </ul>
Critical Malfunctions	<ul style="list-style-type: none"> <li>• Loss of power to traffic signal</li> <li>• Loss of communication</li> <li>• Traffic signal in FLASH operation</li> <li>• Traffic signal with indications stuck on red</li> </ul>
Systems Administrator Tasks	<ul style="list-style-type: none"> <li>• Security</li> <li>• Network</li> <li>• Server</li> <li>• Workstation</li> </ul>
Detection Failure Reports	Reports from ATMS.now software of vehicle and pedestrian detection failures