



INFORMATION LOGISTICS, INC<sup>TM</sup>

# Traveler Information & Trapped Queue Communications

ITS Carolinas

February 2018

# A (secondary) Accident: Real Life

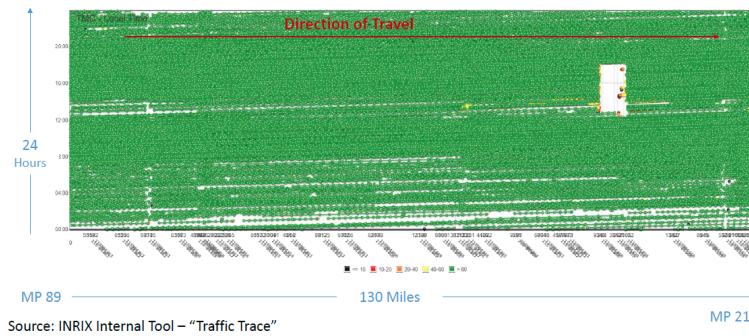
South I-35 @ E Lincoln Way (AMTV06) 02/05/2018 12:29:40



# An Accident: Underlying Data



Probe Data Trajectories – I-35 SB  
Full Day February 5, 2018 (CST)  
From I-80 (MP 89) to MN State Line (MP 219)

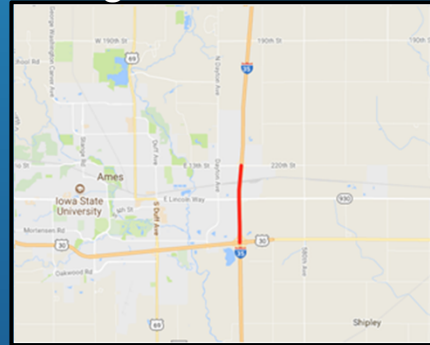


Source: INRIX Internal Tool – "Traffic Trace"

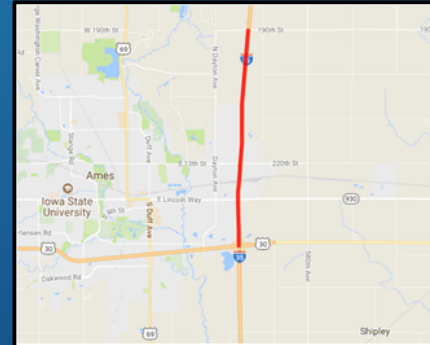
12:30 Crash



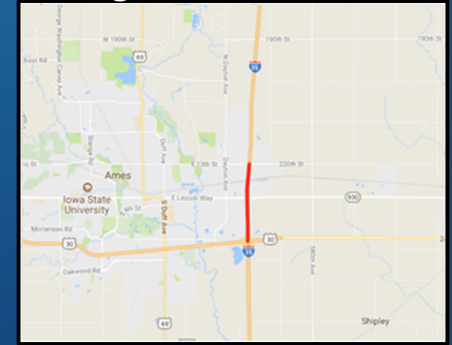
Congestion at 2:09PM



Congestion at 4:16 PM



Congestion at 6:18 PM



# Anatomy of an Accident

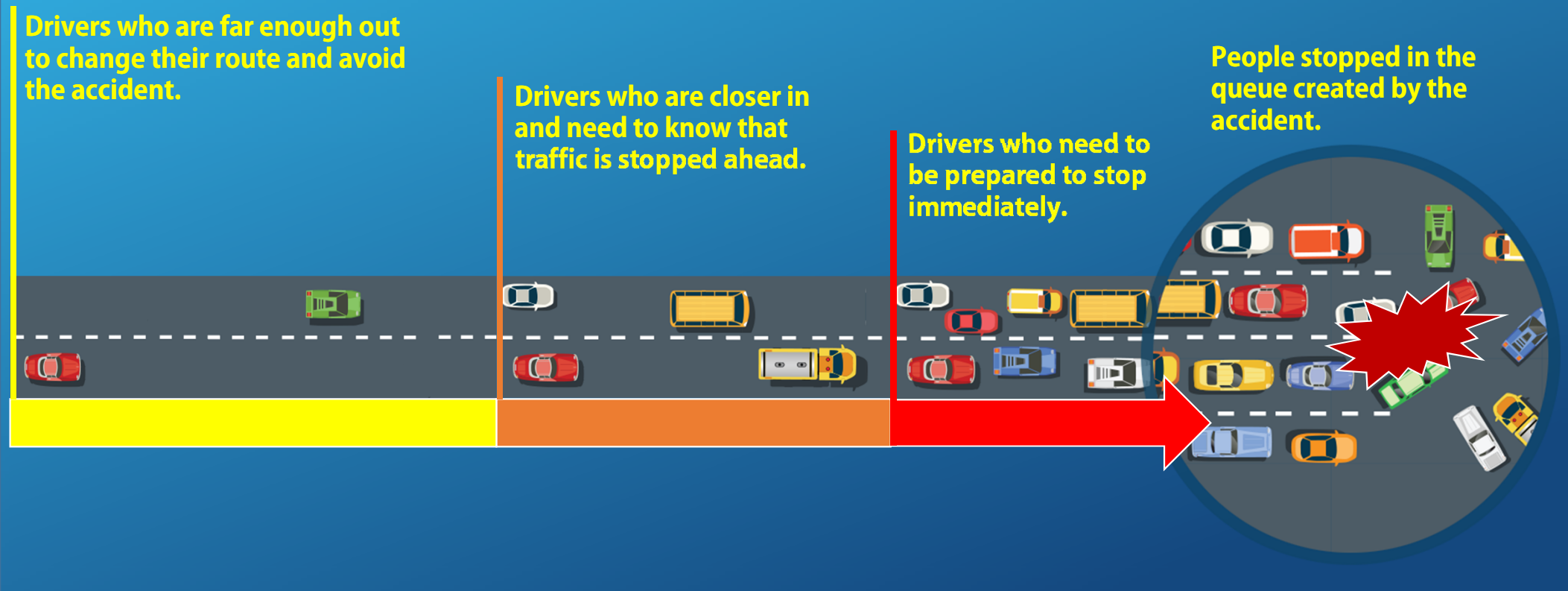
(from a Communications Perspective)

Drivers who are far enough out to change their route and avoid the accident.

Drivers who are closer in and need to know that traffic is stopped ahead.

Drivers who need to be prepared to stop immediately.

People stopped in the queue created by the accident.

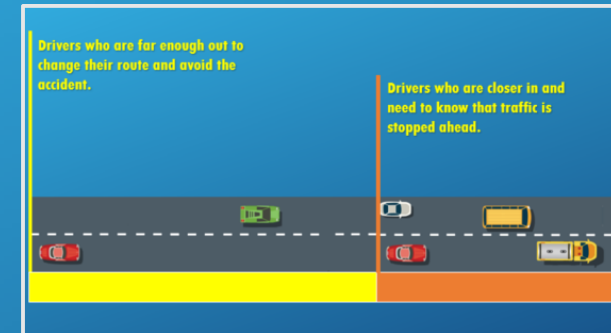




# Type A Drivers Informed in advance of the effected area

Information available through:

- Traveler web site
- Email/Text alerts
- IVR Phone system
- HAR/other radio
- Mobile app
  - ✓ Hands-Free, Eyes-Free Audio Alerts
  - ✓ Based on distance from the event
  - ✓ Regular alerts and fast track (low latency) alerts



**STAY  
AWAY!!!!**

# Type B Drivers Trapped in the event or resulting queue



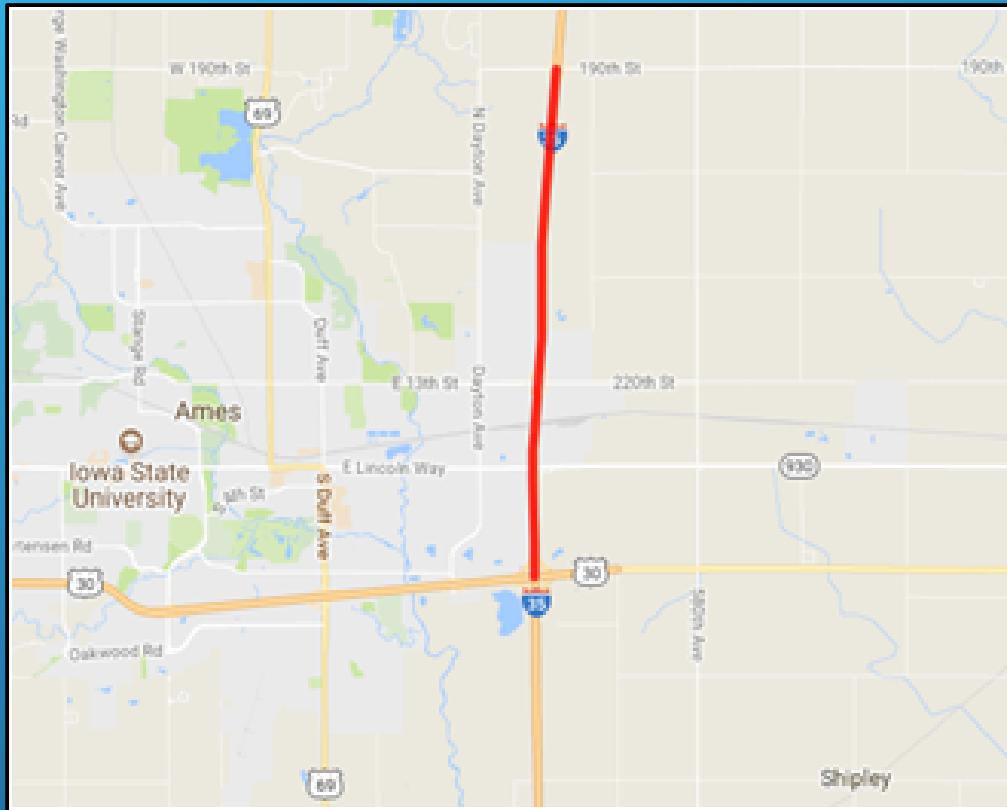
Traditional traveler information methods don't provide these drivers with the information they need.

- Should I stay in my car?
- How long will I be here?
- Does anyone know I am here?
- I am running out of gas, what do I do?
- Should I believe what I am reading on Facebook?

The agency wants more situational awareness to respond more efficiently.

- How long is the backlog queue?
- How many queues are there?
- How many people are in the queue?
- What types of vehicles are in the backlog?
- How do we prevent bad information and bad reputation on social media?

# An Accident: 5 hour closure + delays afterward.



- Pileup involved 50-70 cars
- One fatality, 5-10 people injured who were rushed to hospitals
- ~ 5 miles of stopped traffic
- Stranded motorists bused from scene

Sources: Des Moines Register [www.desmoinesregister.com](http://www.desmoinesregister.com)  
<http://www.kcci.com/article/iowa-dot-releases-shocking-video-from-deadly-i-35-pileup/16641740>

# 511Connect

## On Demand Alerting Service to Travelers

- ❑ Establishes 1-way or 2-way communications during closures or other emergencies.
- ❑ No App needed — no preregistration needed!
- ❑ Efficiently pushes official messages to geo-targeted customers

**Dynamic Web Site**

**Txt Msg System**

**IVR Phone System**



# On Demand Alerting Service to Travelers

Please Participate.

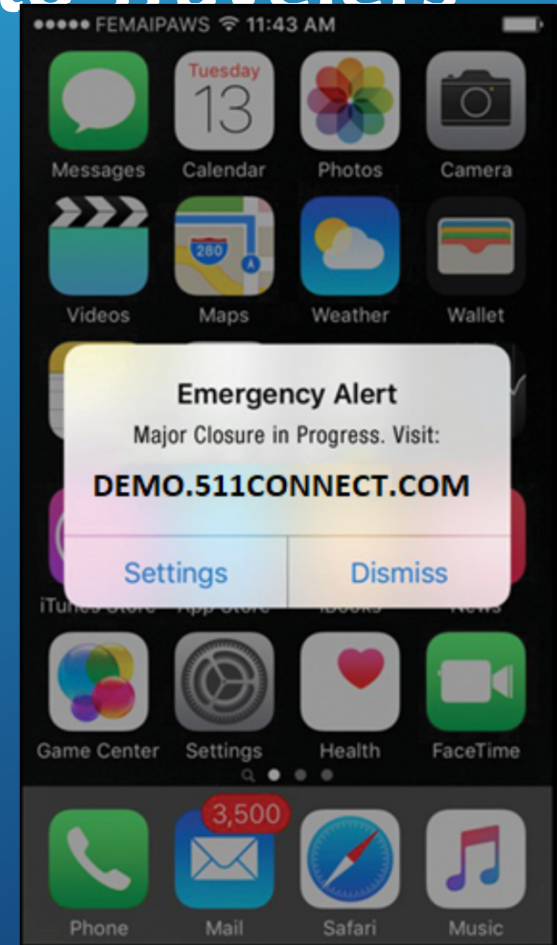
You are in a car, trapped on a roadway.

Your cell phone starts to buzz.

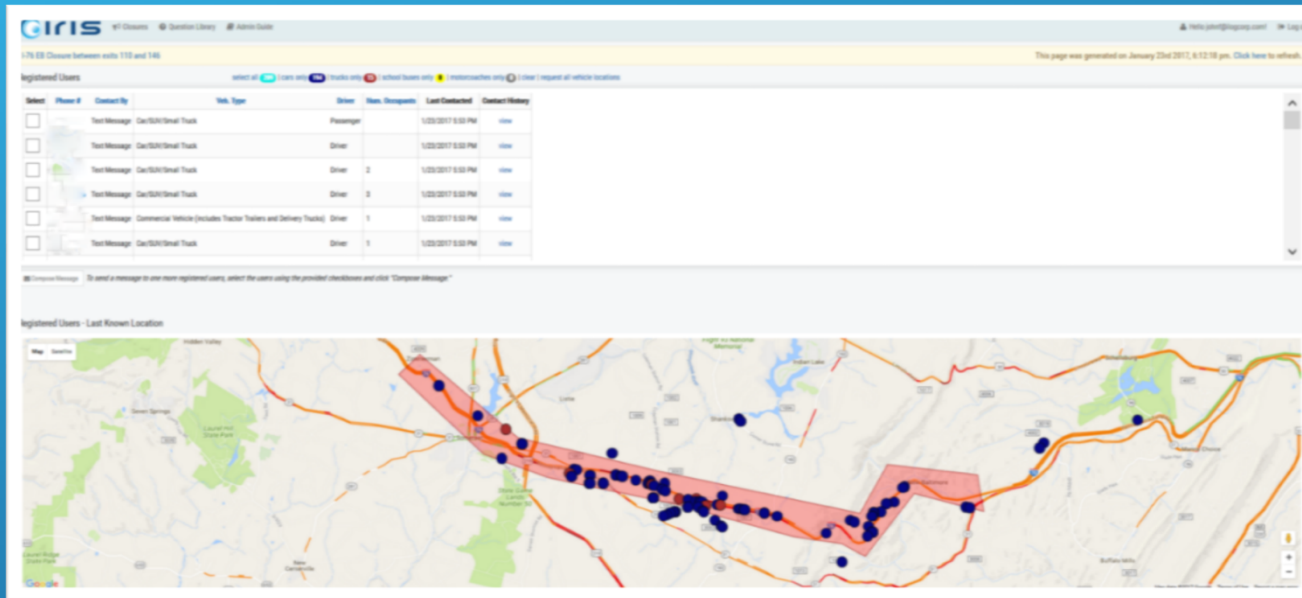


You read the alert, and do what it says:

**VISIT DEMO.511CONNECT.COM**



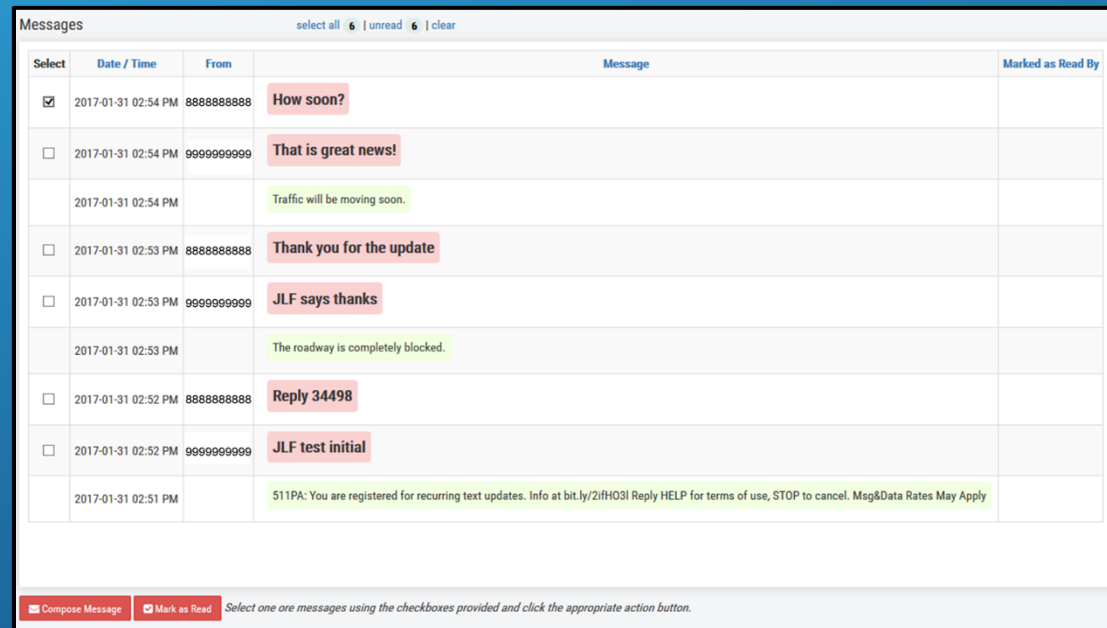
# Agency Manages Travelers in the Queue



- Web map shows congestion and queues in the area via INRIX data.
- Agency enters event name and description, & draws a shape around the area
- Agency selects questions to send to travelers, & views answers
- Agency views travelers' locations pinned to map

# Agency Communicates

- Start two-way communications with participating travelers
  - Individual or “all” two-way text messaging
  - Individual or group robo-calls
- Automatically adapt to different languages
- Option to send IPAWS alert without activating website and 2-way communications.



The screenshot displays a messaging application interface with a table of messages. The table has columns for 'Select', 'Date / Time', 'From', 'Message', and 'Marked as Read By'. The messages are as follows:

Select	Date / Time	From	Message	Marked as Read By
<input checked="" type="checkbox"/>	2017-01-31 02:54 PM	8888888888	How soon?	
<input type="checkbox"/>	2017-01-31 02:54 PM	9999999999	That is great news!	
	2017-01-31 02:54 PM		Traffic will be moving soon.	
<input type="checkbox"/>	2017-01-31 02:53 PM	8888888888	Thank you for the update	
<input type="checkbox"/>	2017-01-31 02:53 PM	9999999999	JLF says thanks	
	2017-01-31 02:53 PM		The roadway is completely blocked.	
<input type="checkbox"/>	2017-01-31 02:52 PM	8888888888	Reply 34498	
<input type="checkbox"/>	2017-01-31 02:52 PM	9999999999	JLF test initial	
	2017-01-31 02:51 PM		511PA: You are registered for recurring text updates. Info at bit.ly/2ifH03l Reply HELP for terms of use, STOP to cancel. Msg&Data Rates May Apply	

At the bottom of the interface, there are buttons for 'Compose Message' and 'Mark as Read', along with a note: 'Select one or more messages using the checkboxes provided and click the appropriate action button.'

# Automatic after-action report

**IRIS™ Emergency 2-Way Communications  
Incident Report**

Incident No: 1701004232
Incident Date: 1/23/2017 4:31 PM

**I-76 EB Closure between exits 110 and 146**

Commercial vehicle accident blocking the roadway

■ Car/SUV/Small Truck   
 ■ Commercial Vehicle (includes Tractor Trailers and Delivery Trucks)   
 ■ School Bus   
 ■ Motorcoach

**Area Impacted:** Polygon

**Coordinates:** 40.0504666,-79.111140,0403899,-79.1254097,40.0000734,-79.0687614,39.9882373,-79.0259461,39.974647,-78.9423019,39.9575435,-78.862191,39.9540328,-78.8301521,39.9474531,-78.8147026,39.9790088,-78.7820869,39.9707004,-78.7257294,39.9689525,-78.7397415,39.9948131,-78.799823,39.9698216,-78.8181358,39.9913096,-78.9514549,40.0084047,-79.0458687

**Participant Information:**

**Participants:** 223

**First Registrant:** 1/23/2017 4:36 PM

**Last Registrant:** 1/23/2017 6:50 PM

**Contact Method:** Text - 223 Phone - 0

**Participant Self-Reported Demographics:**

**Commercial Vehicle (includes Tractor Trailers and Delivery Trucks):** 15

**Car/SUV/Small Truck:** 208

**School Buses:** 0

**Motor Coaches:** 0

**Total Occupants:** 382 reported from 223 vehicles

**Driver/Passenger:** 173 reported as driver, 50 reported as Passengers

**Participant Location Reports:**

**Consent Granted:** 87

**Consent Denied:** 101

**No Reply:** 37

**Notifications Sent:**

**Standard Messages:** 2224

**Safety Messages:** 200

Date / Time	Message
1/23/2017 4:43:08 PM	Crews working to clear crash, after crash is clear maintenance crews will clear the road

1/23/2017 5:12:28 PM	Crews have removed the accident vehicle from the roadway, crews are clearing the snow and will release traffic
1/23/2017 5:16:40 PM	Motorists should be prepared to move. Use caution 45 MPH Speed limit in effect.
1/23/2017 5:20:30 PM	Motorist near Allegheny Tunnel, return to your vehicles, be prepared to move.
1/23/2017 5:28:26 PM	Traffic now moving at the Allegheny Tunnel, motorists should clear snow from their vehicle and be prepared to move.
1/23/2017 5:39:51 PM	EB traffic moving at tunnel, stay with your vehicle, be prepared to move
1/23/2017 5:53:07 PM	EB traffic continues to move, WB lanes are being treated by road crews to allow motorists to move.
1/23/2017 6:04:51 PM	Crews are working to plow & treat the westbound roadway, traffic continues to move eastbound
1/23/2017 6:14:08 PM	Westbound traffic is moving at the 125 milepost, eastbound traffic continues to move. Use caution
1/23/2017 6:34:53 PM	Motorists should clear snow from their vehicles and be prepared to move, traffic moving east and westbound
1/23/2017 6:58:29 PM	Traffic continues to move eastbound and westbound at reduced speeds, motorists should use caution.
1/23/2017 7:21:45 PM	Motorists should keep alert and be prepared to move, traffic is moving both eastbound and westbound.
1/23/2017 7:44:43 PM	Crews continue to work to treat the roadway, please be prepared to move and use caution when traveling.
1/23/2017 8:10:04 PM	Traffic is moving, keep alert for crews working to plow or treat the roadway.
1/23/2017 8:37:09 PM	All traffic is reported moving at this time both eastbound and westbound; this incident is closed.
1/23/2017 8:37:35 PM	Operations are back to normal. You are opted out of services for this closure.

**Messages Texted Back:**

**Message**

Yes

YES

is the tumpike now open?

Stop

STOP

What about I-76 Eastbound by Somerset?

We are not moving

Vehicles trying to pass on shoulder.

Stop.

I'm eastbound at 118 and haven't moved since 345

I'm at 117.6 eastbound and nothing is moving either direction

Eastbound where I'm located is a dead stop

Traffic is NOT moving



# Summary – Take Away Points

- No app needed, and uses familiar technologies (text, phone, web).
- Situational awareness.
  - Get a clear picture of event queue length.
  - Get better information about the types of vehicles and people involved in the event.
  - Collect first-hand information from people in the event.
- Accurate updates and the latest relevant information is delivered directly to the traveler from the agency.
- Traveler concerns are monitored and addressed as needed.
- Non-emergency calls reduced (to agency and to 911 centers)

**Thank you!**