Pre-Hurricane Strategies
October 24, 2012

Traffic Operations and ITS activities include:

- Fueled up all Safety Service Patrol trucks as well as NJDOT Incident Management Response Team vehicles
- Installed snow plows on all vehicles.
- Performed system checks on all ALL ITS field devices noting devices that are currently under repair or not working
- Prepared standard VMS Messages for ALL roadway agencies
- Prepared consistent floodgate messages for 511.
- Created a separate 511 web page for “out of the box” information that is not part of the automated traveler information.
Pre-Hurricane Strategies  
October 24, 2012

Traffic Operations and ITS activities include: (cont.)

- Reviewed Contra Flow plans for all evacuation routes.
- Increased staffing levels at the operations center as well as the three regional operations centers.
- Ensured that there would be 24/7 coverage for the potential for ITS asset repairs, if needed.
- Performed system failure test for back up power at both Operations Centers.
Pre-Hurricane Strategies
October 24, 2012

Weather monitoring

- Ensured that each Operations Center is tuned to the approved 24/7 tv news station
- Assessed RWIS station data and functionality
- Participated in regular conference calls with local National Weather Service Office.
- Also monitored HURREVAC. This is the decision support tool of the National Hurricane Program, administered by FEMA, and the NOAA National Hurricane Center.
Pre-Hurricane Strategies
October 26, 2012

- Not a storm that just threatened New Jersey
- Potential to affect NJ, NY, CT and the New England states.
- Identified the need to coordinate all Operations and ITS related activities to provide a consistent message to the residents of the REGION.
- TRANSCOM – Consortium of Transportation Agencies. Took the lead in coordinating these crucial efforts.
Pre-Hurricane Strategies
October 26, 2012

- 1st Regional Conference Call 2:30 pm
- Review of Bridge and Tunnel Shutdown Protocol
  - Original document/discussions focused primarily on 50 MPH sustained
  - Updated version focused on tropical force 39 MPH sustained
- 75 Invitees on initial call
- All participants agreed that 511 phone and web was where agencies should push citizens for the latest information
Pre-Hurricane Advisory Strategies

October 28, 2012

Sunday 7PM Conference Call - Agreed Upon Messaging

NEW JERSEY UNDER
STATE OF EMERGENCY
CALL 511

ROADWAYS - BRIDGES
SUBJECT TO CLOSURE
AT ANY TIME

HURRICANE WARNING
SEEK SHELTER
Pre-Hurricane Advisory Strategies
October 28, 2012

Roads/Bridges/Tunnels
Subject to Closure
Anytime
Pre-Hurricane Advisory Strategies
October 29, 2012
511NJ Traveler Information

• Provided motorists with critical information about what to do in planning for the storm

• Also provided links to evacuation routes, Emergency Management sites like NJReady.gov can learn more about preparation for the arrival of the storm

• Information was updated in real time
Pre-Hurricane Advisory Strategies
October 29, 2012
511NJ Traveler Information

Active Hurricane Advisory Strategies
October 29, 2012
511NJ Traveler Information

Emergency Travel Only
As of 12 Noon Monday

Emergency Travel Only
Roads/Bridges
Subject to Closure
Hurricane Sandy Roadway Data
October 29, 2012

• Every roadway including all Freeways, arterials, toll roads and river crossings -- Every 1/10th of a mile

• It includes: lat/long, county, municipality, direction, and closest associated cross street or intersection.

• “OPEN REACH” is the database network used in our operations Centers 24/7/365

• Any type of issue along our roadways that affects a lane of traffic, including shoulder closures, is entered in the database.
Hurricane Sandy Roadway Data
October 29, 2012

• Originally developed by NJDOT in 2010, “Open Reach” is also used by all transportation agencies in the TRANSCOM Region.

• This database was used to update participants on regional road and rail conditions on all TRANSCOM conference calls.

• These regional conditions reports were used by the Governors NJ and NY.
Hurricane Strategies
October 29, 2012

- NJDOT/regional transportation staff forces fell into a “holding pattern” until after the storm winds died down.
- Regional Conditions Reports Continued
- Regional Conference Calls held every 2-6 hours depending on the need.
- These calls were a forum for Information Exchange between all participants.
Post Hurricane Strategies
October 29, 2012

• Once sustained winds declined below 39 mph, crews began to deploy and assess roadway conditions and damage.
• Any and all conditions that were reported were entered into Open Reach.
• Roadway damage was beyond what anyone could have imagined.
• Public transportation was severely impacted as well.
Post Hurricane Strategies

• Statewide power and telecommunication outages caused by the storm severely impacted our ITS operations and recovery.

- At 7am on October 30th, the morning after the storm, we were down to 30% of CCTV (95 of 317) operable. Prior to the storm we were 91% (289 of 318).

- 25% permanent VMS (38 of 154) operational. (Prior to storm 94% of permanent VMS (144 of 154) were operational).
Post Hurricane Strategies

• Prior to the storm, the department retrieved its portable assets (PVMS) so that we would have mobile, functional assets to deploy in the immediate aftermath.

• This benefitted NJDOT and the region as we were able to support our needs and other regional initiatives (Holland Tunnel closures, Lincoln HOV, NJ Transit park and ride services) with them.
Post Hurricane Strategies

Regional Conference Calls - Recovery

• Started Wednesday Morning
• Transit Agencies Needed on Call
• New Sets of Challenges – Public transportation failures
Post Hurricane Strategies

Restoring Regional Mobility

• NJ TRANSIT Rail service into NYC was almost completely shut down.

• NJ TRANSIT developed satellite parking locations for temporary bus service into Manhattan.

• Numerous floodgate messages and updates to 511 web and phone were made through the middle of November until all rail service was completely restored.
Post Hurricane Strategies

DMS Messages

FREE SHUTTLE TO MIDTOWN
GSP EXIT 131A - METROPARK
6AM - 10AM

◊ HOV 3+ IN EFFECT
AT LINCOLN TUNNEL

LIMITED SEAPORT ACCESS
TUNE TO 1610 AM
Quick Facts

• Closed the breaches in Mantoloking by SAT, 3 NOV

• Cleared over 581 road incidents within 3 days

• Restored majority of ITS devices to full service within a week

• Repaired/restored nearly 1100 traffic signals by Nov 7 – Just in time for a Northeast snow storm!
### Hurricane Sandy Web Stats

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<th>Date</th>
<th>Visits</th>
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<td>10/29/2012</td>
<td>112,724</td>
<td>263,598</td>
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<tr>
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<td><strong>TOTALS</strong></td>
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### Hurricane Sandy Phone Stats

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<thead>
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<td>11,802</td>
</tr>
<tr>
<td>10/31/2012</td>
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</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>26,779</strong></td>
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Lessons Learned

- Open Reach Database Functioned throughout the Storm
- Conference calls became Information Exchange Opportunities
- Working Relationships Further Strengthened
- ITS is weather resistant not FLOOD proof. We are looking to move critical devices out flood prone areas.
- Many field sites, hubs, generators and VMS went down because of the lack of power, NOT from water damage.
- Staff worked many hours overtime to get majority of systems up and running within a week.
Lessons Learned

• Buy more generators. We currently have over a dozen portable generators on order so that we can maintain power at critical locations in the ITS network.

• Will continue to investigate new and innovative ways to maintain our networks and assets during major weather events like hurricanes.