

CIA TEAM

MOBILITY & OPS

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Levels of Every Day Counts (EDC) Implementation

- Not Implementing – we are not going to work on “it”
- Development – we are figuring out how to do “it”
- Demonstration – figured “it” out and we’re piloting “it”
- Assessment – “it” works and we’re refining “it”
- Institutionalized – “it” is a part of our day to day business

EDC 1 – 4 Recap

Institutionalized

SHRP 2: Organizing for Reliability Tools (Building your State's TSMO program)

EDC 2: SHRP2 Traffic Incident Management (TIM) Responder Training

EDC 3: Regional Models of Cooperation: Planning Products and Studies Across Agencies

EDC 3: Regional Models of Cooperation: Data Models and Tools

EDC 3: Smarter Work Zones: Technology Applications

Assessment

EDC 4: Automated Traffic Signal Performance Measures (ATSPMs)

Demonstration

EDC 4: Road Weather Management - Weather-Savvy Roads

EDC 4: Using Data to Improve Traffic Incident Management

Development

Not Implementing – We've never said NO!

EDC 5 – New Initiatives

- Use of Unmanned Aerial Vehicles
 - Assessment (“it” works and we’re refining our processes)
- Weather Responsive Management Strategies
 - Development (we are figuring out how to do “it”)
- Use of Crowdsourcing to Advance Operations
 - Institutionalized (“it” is a part of our day to day business)

EDC – 5

Use of Unmanned Aerial Vehicles (UAV's / Drones)

Aeronautics UAS Program Requests from STIC 2019

- Enhanced processing capability for 3D models
- Advanced training courses for Photogrammetry, aerial photography and videography
- A portable all-weather large screen monitor to be mount inside the rear of the UAS vehicle
- Thermal Imaging capability for watershed surveys
- Thermal Imaging to count wildlife under bridges



EDC – 5

Use of Unmanned Aerial Vehicles (UAV's / Drones)

Where are we now?:

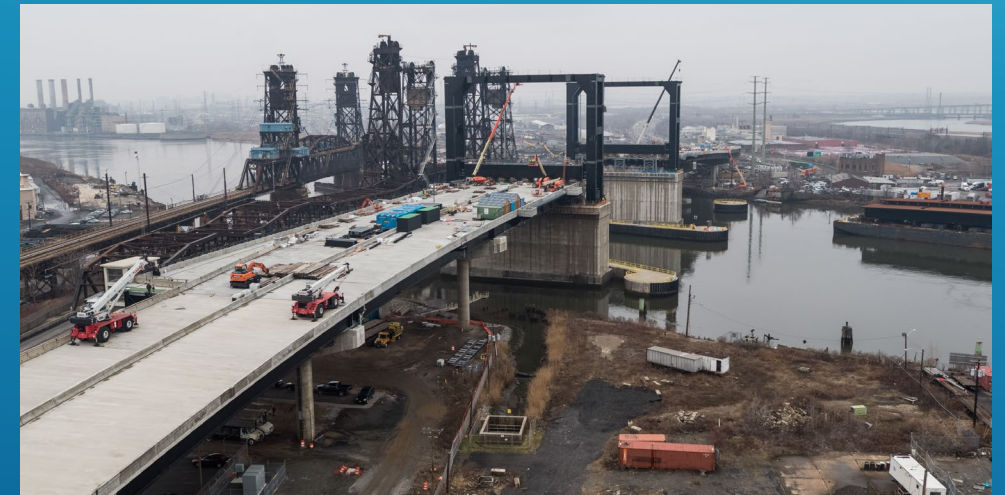
NJ is seen as a national leader in UAS

Where do we plan to be in two (2) years?:

By 2020 UAS technology will be fully integrated into 50% of our potential use cases

How do we plan to get there?:

Close cooperation with divisions to promote and develop innovative UAS solutions to daily transportation workflows



EDC – 5

Weather-Responsive Management Strategies

What Causes Weather Related Accidents?



Wet roads....73%

Snow and sleet 17%

Icy roads 13%

Foggy conditions...3%



EDC – 5

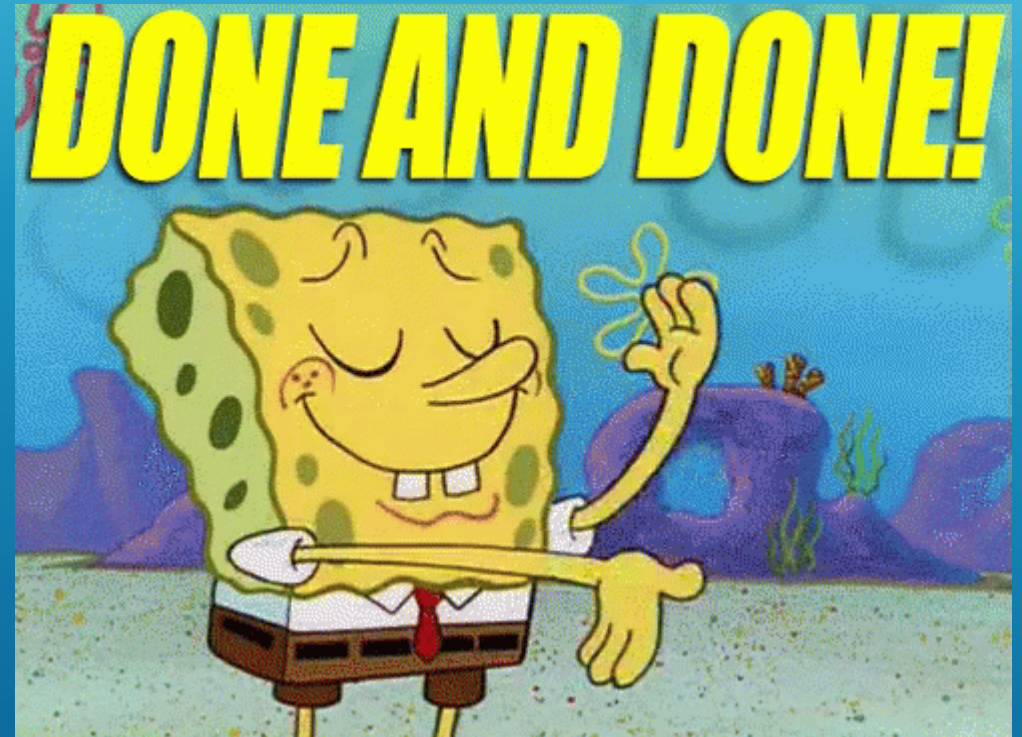
Weather-Responsive Management Strategies

•Traffic Management Strategies

- Motorist Advisory and Warning Systems (i.e. 511, dynamic Message Signs, etc)
- Road/Lane Closures
- Traffic Diversion
- Vehicle Restriction

•Maintenance Management Strategies

- Anti-icing and De-icing
- Plowing and Snow Removal
- Route Optimization/Vehicle Tracking
- Debris Removal
- Water Drainage Maintenance
- Vegetation Control



EDC – 5

Weather-Responsive Management Strategies

NJ awarded \$322,460 to deploy Integrating Mobile Observations (IMO) with EDC4

- Collect weather and road condition data from up to 20 NJDOT vehicles
 - Operations dump trucks/plows
 - Safety Service Patrol trucks
 - Incident Management Response Team Vehicles
- Windshield mounted cameras (20)
- Vaisala Surface Patrol HD pavement Temp/Humidity Sensors (20)



EDC – 5

Weather-Responsive Management Strategies

- Where are we now?:

February 2019 – project kickoff

June 2019 – equipment procure and install

October 2019 – integrate into DOT systems

- Where do we plan to be in two (2) years?:

Program Evaluation

Dash cams vs Rooftop cams 

Larger Rollout beyond initial 20 vehicles

- How do we plan to get there?:

Develop into specs for new fleet vehicles

Include equipment into NJDOT's Core Software development and deployment

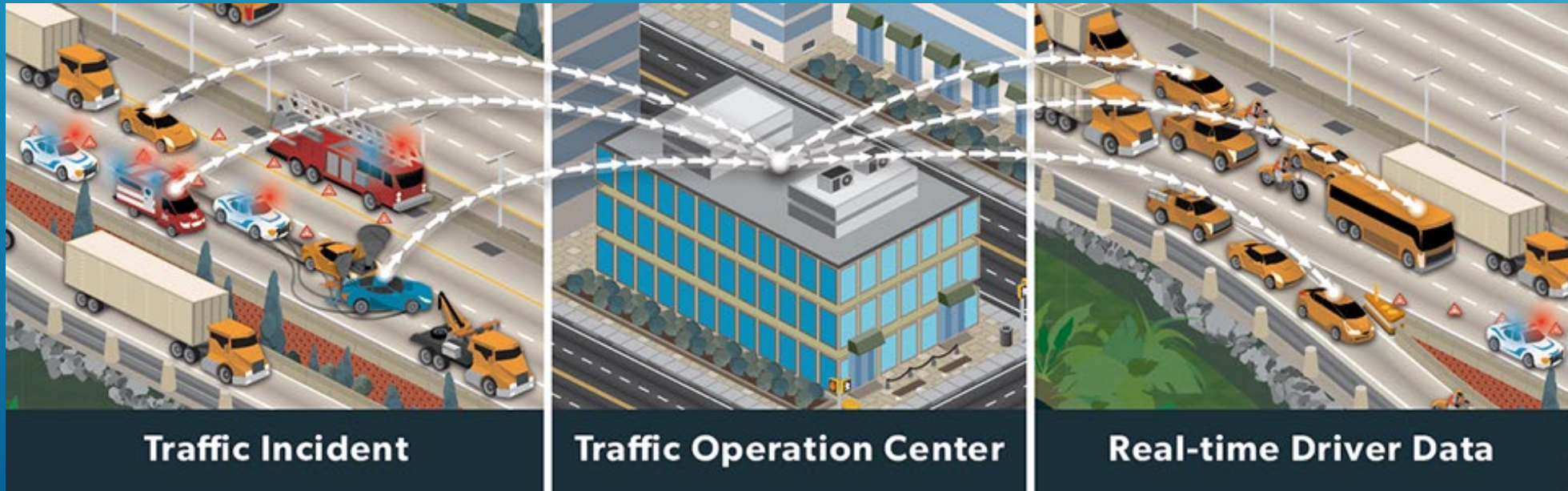


EDC – 5

Use of Crowdsourcing to Advance Operations

Crowdsourcing....

The practice of addressing a need or problem by enlisting the services of a large number of people via technologies....it's not just traffic applications.



EDC – 5

Use of Crowdsourcing to Advance Operations

NJDOT has used Crowdsourcing data since....



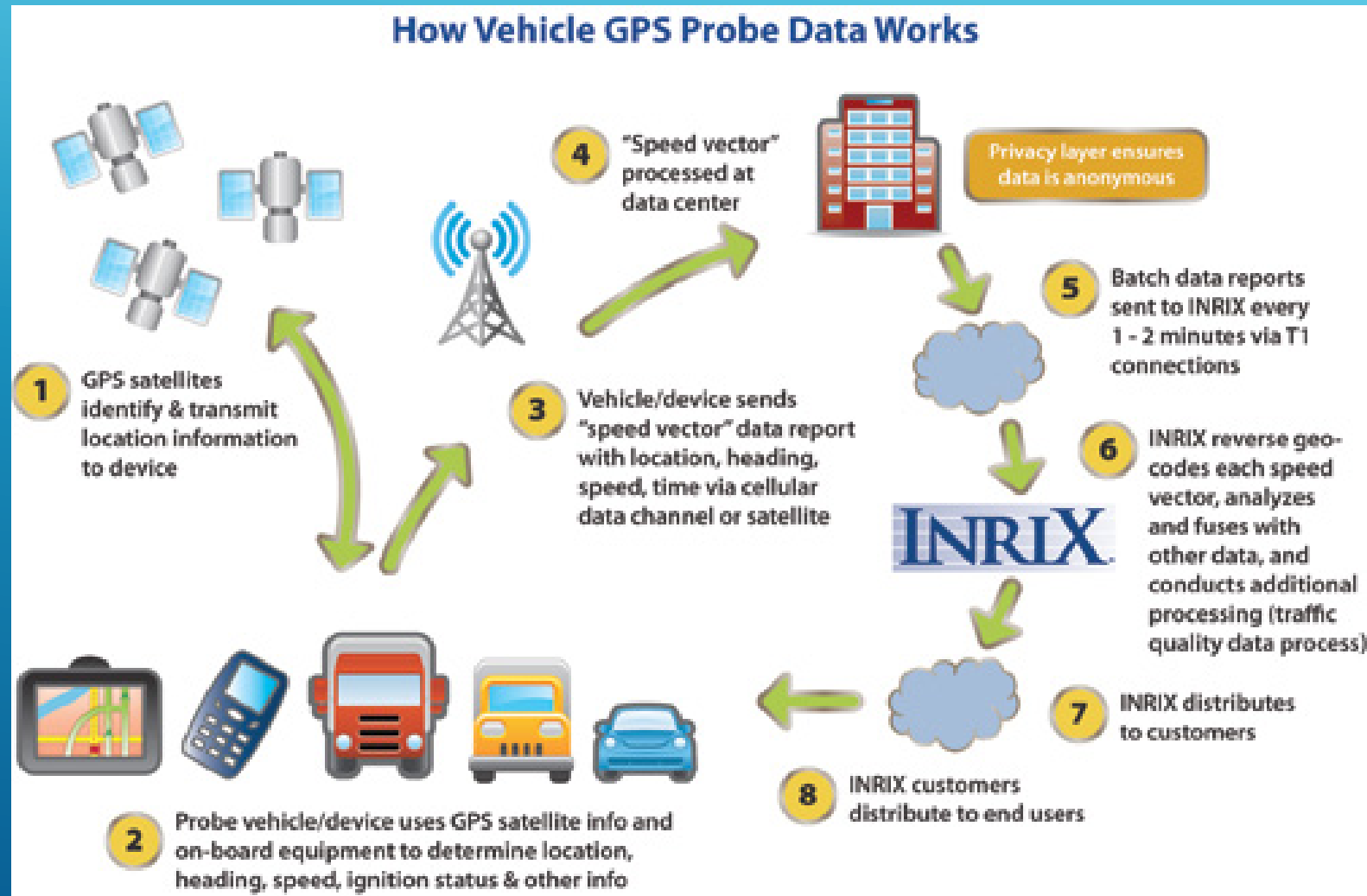
2008



2014

EDC – 5

Use of Crowdsourcing to Advance Operations



EDC – 5

Use of Crowdsourcing to Advance Operations



- TRANSCOM Data Fusion Engine (DFE) – Data Sources
- Identify all possible data sources.
- Integrate and map data sources.
- Develop “Business Rules” for data source usage.
- Winning Source generated by DFE
- Results updated every minute.
- Data Archived for future analysis

EDC – 5

Use of Crowdsourcing to Advance Operations

The screenshot displays the TRANSCOM Regional Conditions Operational Map interface. The main map area shows a network of roads in the New York City region, color-coded by traffic conditions. A legend titled "Congestion Legend" is overlaid on the map, showing color scales for Slow (red), FreeFlow (green), and Data not available (grey). It also includes symbols for Road Closed (red X), HOV Lane (green arrow), and XBL Lane (green dashed line). The interface includes a search bar, a "Hide all layers" button, and a list of active layers: Regional Highway Real-time, Live Traffic Layer, Congestion Layer, and Raw Data Sources. The Raw Data Sources list includes NAVTEQ, INRIX, BlueTOAD, XMIT, PUCKS, DeepBlue, and TI-MED. The bottom of the screen shows a Windows taskbar with the time 9:34 AM and date 1/28/2019.

TRANSCOM REGIONAL CONDITIONS OPERATIONAL MAP

Hide all layers

Regional Highway Real-time

- Live Traffic Layer
- Congestion Layer
- Raw Data Sources
 - NAVTEQ
 - NAVTEQ
 - INRIX
 - BlueTOAD
 - XMIT
 - PUCKS
 - DeepBlue
 - TI-MED
- Transit Events
- Weather/Evacuation/Truck
- CCTV/VMS/Parking
- NJDOT-iCone

Congestion Legend

- Slow
- FreeFlow
- Data not available
- Road Closed
- HOV Lane
- XBL Lane
- *portions based on historical data.
- Copyright © TRANSCOM,ISG,NAVTEQ

Search

2 mi

Site best viewed in IE 9 & above, Mozilla Firefox, Chrome 26 & above, Safari 6.1 & above. Minimum screen resolution is 1366 x 768.

9:34 AM
1/28/2019

EDC – 5

Use of Crowdsourcing to Advance Operations

TRANSCOM™ REGIONAL CONDITIONS OPERATIONAL MAP

Hide all layers

- Regional Highway Real-time
- Regional Transit Real-time
- Restore NJ 495
- Waze
- Highway Events
- Transit Events
- Weather/Evacuation/Truck
- CCTV/VMS/Parking
- NJDOT-iCone

Congestion Legend

- Slow
- FreeFlow
- Data not available
- Road Closed
- HOV Lane
- XBL Lane
- *portions based on historical data.

Copyright © TRANSCOM, ISG, NAVTEQ

"Data provided by Waze App. Learn more at <http://waze.com>"

OpenMapTiles © OpenStreetMap contributors.

Search

2 mi

Linden

Secondary

Site best viewed in IE 9 & above, Mozilla Firefox, Chrome 26 & above, Safari 6.1 & above. Minimum screen resolution is 1366 x 768.

125%

EDC – 5

Use of Crowdsourcing to Advance Operations

- Where are we now?:

NJDOT has institutionalized the use of Crowdsourcing to Advance Operations

- Where do we plan to be in two (2) years?:

Continued enhancements of our Transcom systems to improve response time and clearance

