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
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
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
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 NJDOTs Core Software development and deployment
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.

Logos: INRIX and HERE

Years: 2008 and 2014
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
Use of Crowdsourcing to Advance Operations
EDC – 5

Use of Crowdsourcing to Advance Operations
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