FEATURE CIA TEAM PRESENTATION:

Connected Vehicle – Road Service Safety Messages

Sal Cowan
Director, Traffic Operations, NJ DOT
A CRASH HAPPENS
RESPONDERS ARRIVE
NJ DOT PERSONNEL
DEPLOY ADVANCED WARNING DEVICES
THE ROAD IS “THE OFFICE” FOR SSP EMPLOYEES
HOW CAN WE INCREASE SERVICE PATROL PERSONNEL SAFETY?
BY ALERTING THE
MOTORING PUBLIC
TO THEIR PRESENCE ON THE ROAD
WITH CONNECTED VEHICLE
TECHNOLOGY
Deploy “ITS Beacon — Hazard Lights”

Vehicle Hazard Light Radio Adaptation

Posts GPS location and hazard light status

Transmits vehicle ID, location and ‘ON’ status.

Status posted to XML within 2 minutes.

Updates status every 15 minutes.

Re-transmits location if the vehicle moves more than 500 ft.
PROVIDE THEIR LOCATION TO AS MANY APPS AS POSSIBLE
PROVIDE THEIR LOCATION TO AS MANY MAPS AS POSSIBLE

Google Traffic

HERE Traffic
PROVIDE THEIR LOCATION TO OUR 511 WEBPAGE
WHAT WE WILL ACCOMPLISH

Create “smarter and connected” response vehicles on NJ’s road network.

Alert motorists to the presence of road service vehicles and personnel

Enhance awareness of the State’s Move Over Law (New Jersey Statute 39:4-92.2)

Develop standards and specifications for data delivery from field vehicles to various internet mapping and crowdsourcing applications.

Evaluate GPS and cellular data quality along various State roadways

Integrate fleet data into layers of the 511NJ platform (a first for New Jersey)
CIA TEAM
SAFETY
NJ DOT - Dan LiSanti
FHWA - Caroline Trueman

CIA TEAM
MOBILITY & OPS
NJ DOT - Sal Cowan
FHWA - Ek Phomsavath

CIA TEAM
INFRASTRUCTURE PRESERVATION
NJ DOT - Bob Signora
FHWA - John Miller

- Generate ideas
- Investigate Ideas
- Develop Ideas
- Deploy Ideas

Report to FHWA and the Council
CIA TEAM

MOBILITY & OPS

NJ DOT - Sal Cowan

FHWA - Ek Phomsavath
Automated Traffic Signal Performance Measures

**Purpose:**

- Modernize traffic signal management
- Receive high-resolution data
- Implement performance-based maintenance and operations strategies
- Improve safety and efficiency while cutting congestion and cost
Purpose:
Feed real-time video and sensor data from fleet vehicles into NJ DOT’s central video systems

Dashboard cameras and RWIS sensors on twenty (20) vehicles
- Operations Dump Trucks
- Winter Operations
- Safety Service Patrol (SSP)
- Incident Management Response Team

NJ’s First Accelerated Innovation Deployment (AID) Grant - $414,474 (pending)
Using Data to Improve Traffic Incident Management (TIM)

**Purpose:**
Integrate NJ DOT traffic incident systems with NJ State Police Computer Aided Dispatch (CAD)

- Real-time data exchange between partners
- Enhanced motorist information (511 / Waze)
- Supports future CV/AV technologies
Locally Administered Projects: Consultant Services Flexibilities

**Purpose:** To provide consultant services to develop and deliver locally administered federal aid projects.

- Implemented Pilot Design Assistance Program for Safe Routes to School and Transportation Alternatives
- Team will evaluate the program once the projects have been completed
Pavement Preservation (How)

2 Stages - 1st stage - develop a comprehensive pavement strategy

(When and Where) - completed

**Purpose:** To develop improved construction of pavement preservation treatments (preservation programs)

- Evaluated a number of different pavement treatments
- Projected anticipated life cycle and value information for the HPTO treatment
- Refining treatment selection & timing
- Developing design guidance help determine appropriate treatment selection
Ultra High Performance Concrete (UHPC) overlay for bridge decks

**Purpose:** Investigate new application of UHPC (overlaying bridge decks)

- Pilot project (Rt. 17 over Central Avenue bridge) being considered
- Department/CD Consultant will evaluate further
Ultra High Performance Concrete (UHPC) on Link Slabs

**Purpose:** Investigate new application of UHPC (Link Slabs)

- Team is being assembled to initiate the research
- Pursuing potential prototype testing via Rutgers CAIT BEAST program
Data Driven Safety Analysis- Project Development
Local Safety Peer Exchange

Purpose:
Develop and deploy new tools, technology and practices to accelerate the adoption of innovation in all aspects of highway transportation both on the state and local side.

Completion date- June 2018
Purpose:
Safety Analyst can be used to proactively determine which sites have the highest potential for safety improvement, as opposed to reactive safety assessments done conventionally.
Purpose:
The HSM provides a science-based, technical approach that helps State and local agencies take the guesswork out of safety analysis. HSM brings the most significant enhancements to the analysis, decision-making and documentation of the quantitative safety effects of a proposed design exception.
Purpose:
- To promote the use of Road Diets, Pedestrian Hybrid Beacons, Pedestrian Refuge Island, Raised Crosswalks and Crosswalk Visibility Enhancement.
- Workshop completed in February, 2018