

# CIA PROGRESS UPDATES: ONGOING INNOVATIONS

## CIA TEAM SAFETY

NJDOT – Dan LiSanti  
FHWA – Caroline Trueman

## CIA TEAM MOBILITY & OPS

NJDOT – Sal Cowan  
FHWA – Ek Phomsavath

## CIA TEAM INFRASTRUCTURE PRESERVATION

NJDOT – Bob Signora  
FHWA – John Miller

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

Report to FHWA and the Council

CIA TEAM

***INFRASTRUCTURE***

***PRESERVATION***

NJDOT – Bob Signora

FHWA – John Miller

# Locally Administered Projects: Consultant Services Flexibilities

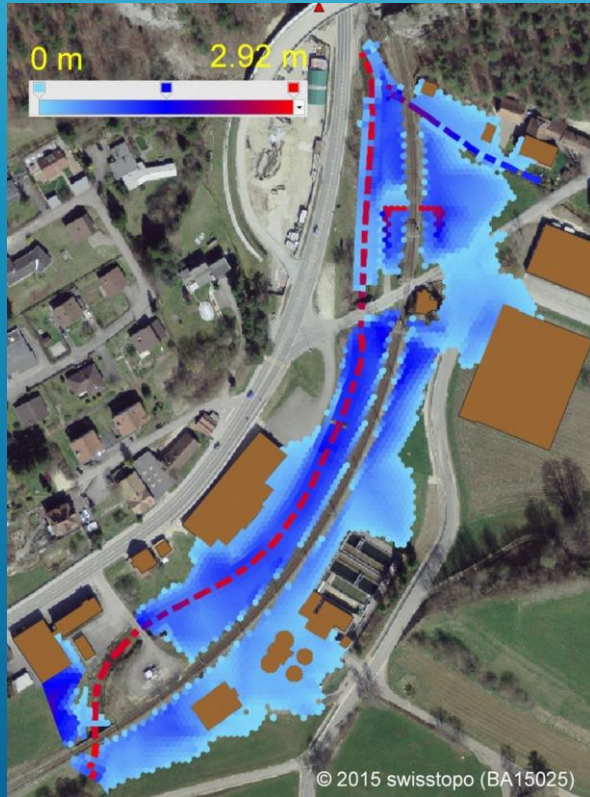


**Purpose:** To provide consultant services to develop and deliver locally administered federal aid projects.

- Implemented Pilot Design Assistance Program for Safe Routes to School and Transportation Alternatives
- Team is obtaining training module feedback and will evaluate the program once the projects have been completed

# Collaborative Hydraulics: Advancing to the Next Generation of Engineering (CHANGE)

Purpose: To explore the use of the next generation of hydraulic modeling tools.



- Team Members attended 1D hydraulic analysis training (Feb/March 2018)
- Pilot projects are being selected to assess the modeling tools strengths & weaknesses and the ease of use.
- Pilot projects will be used to develop methodologies, policies and procedures to be used for 2D modeling of complex bridge hydraulics.



# Ultra High Performance Concrete (UHPC) overlay for bridge decks

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

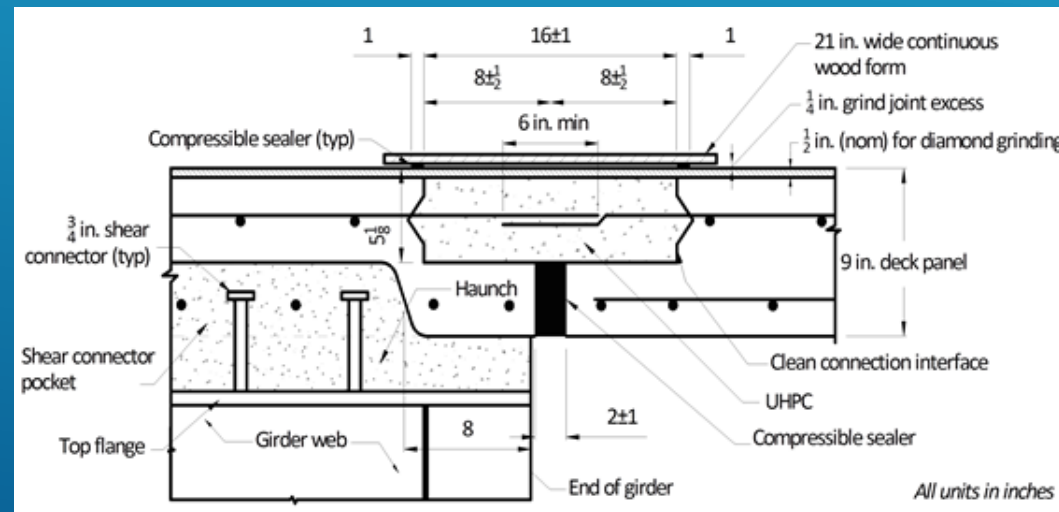
- 6 bridges were selected to receive various types of overlay including UHPC overlay
- Coordinate with FHWA NJ Division Office and others as needed to fully assess



# Ultra High Performance Concrete (UHPC) on Link Slabs

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

- Pilot project (Rt. 17 over Central Avenue bridge) is being considered for this application.
- Department/CD Consultant will evaluate this further before making a determination on whether to pursue UHPC for this project



CIA TEAM

**MOBILITY & OPS**

NJDOT – 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





# ***Road Weather Management: Weather Savvy Roads***

NJDOT awaiting Accelerated Innovation Deployment (AID) Grant Approval

Original Submission - June 2017

\$414,474.11

Equip 20 NJDOT vehicles with dash mounted cameras and weather/pavement sensors

Participated in the EDC4 Weather Savvy Roads - Integrated Mobile Observations  
Peer Exchange in Warwick, RI (March 2018).

Nevada, Michigan and Minnesota presented their IMO programs and other states discussed  
Maintenance Decision Support Systems (MDSS) and Salt Sustainability programs

# ***Using Data to Improve Traffic Incident Management***

I-95 Corridor Coalition, NJDOT and FHWA facilitated a Computer Aided Dispatch (CAD) Integration Workshop (April 23-24, 2018)

Discussed innovations, best practices, lessons learned and requirements to integrate CAD systems into DOT Traffic Ops systems.

19 states (Law Enforcement, DOT's and Authorities) participated.

Feeds NJDOT's Incident Management (IM) Strategic Plan Priority Action for integrating NJSP CAD system data and NJDOT Traffic Ops datasets.

# ***Connected Vehicle – Road Service Safety Messages***

Mobility and Operations CIA applied for State Transportation Innovation Council (STIC)  
Incentive Funding (\$39,600)

Three year pilot program

Install GPS equipment (iCone©) in forty Safety Service Patrol vehicles

Kickoff meeting - May 25, 2018

Procurement, integration with 511 website, internal dashboards,  
program approach and reporting criteria all reviewed.

CIA TEAM

**SAFETY**

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# 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.



**Accomplished:** First Peer Exchange completed on 12-6-2017.

**Working On:** Preparing for the second Peer Exchange which is scheduled for June 13th at Cumberland County Community College. Rescheduling to fall the canceled March 7th Peer Exchange at the NJTPA.

**To Do:** Conduct the Peer Exchange on June 13th and schedule the NJTPA Peer Exchange for the fall.

# Data Driven Safety Analysis- Safety Management

## AASHTOWARE - Safety Analyst

**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.



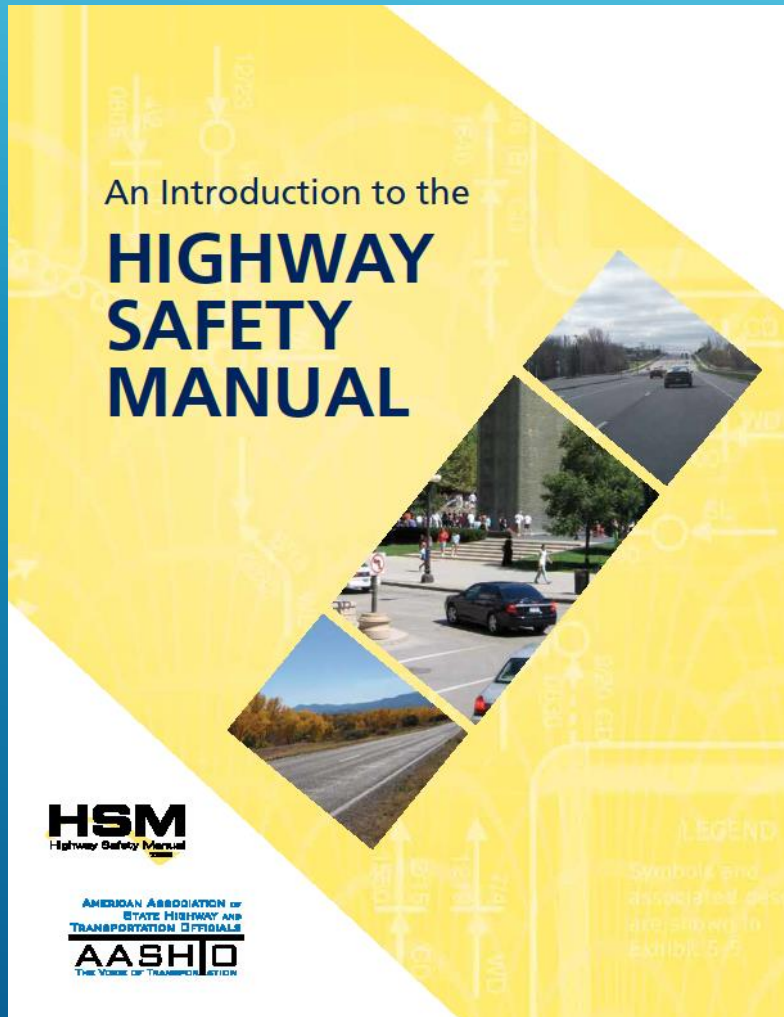
**Accomplished:** Funds for Safety Analyst were approved on 1-25-2018. Consultant, GPI, started the PILOT program for data collection in Burlington County.

**Working On:** Compiling databases for Burlington County and testing initial route.

**To Do:** Continue to collect data elements statewide with goal of getting the program up and running for its intended use for the department.

# Data Driven Safety Analysis-

## Develop policy for the use of Highway Safety Manual Analysis in Design Exception



### 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.

## Data Driven Safety Analysis-

### Develop policy for the use of Highway Safety Manual Analysis in Design Exception

**Accomplished:** Brought subject matter experts (SMEs) to the table and have conducted three meetings where ideas were shared. Representatives from Safety Programs, Capital Program Support, Roadway Design, Access Management, Project Management and Consultants participated and have had some very constructive discussions.

**Working On:** Focusing on understanding the current DE/CA process and background and forming a decision tree on how to incorporate the HSM in the delivery process (develop recommendations on policy, etc.)

**To Do:** Presentations/discussions concerning these focus items will have to continue at our next meeting in June/July. In addition, at the next meeting, the FHWA will present an existing webinar on the subject matter to increase knowledge of all attendees.



## EDC-4 Safe Transportation for Every Pedestrian Workshops focusing on State and Local uncontrolled locations



The state of New Jersey is designated by FHWA as a **Pedestrian Focus State**, which means that in New Jersey, we have pedestrian fatalities higher than the national average, almost double.

### **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

**Accomplished:** Workshop completed on February 14, 2018.

**Working On:** Based on workshop and pertinent information provided, FHWA tasked a Consultant to develop a proposed Action Plan for the department's review and comment.

**To Do:** Get the proposed Action Plan reviewed by the appropriate unit (Bike/Ped, Traffic Engineering, etc.).