



# NEW JERSEY STATE TRANSPORTATION INNOVATION COUNCIL

2018 Spring Meeting  
April 4, 2018



# WELCOME & INTRODUCTIONS

Michael Russo  
Assistant Commissioner, NJDOT

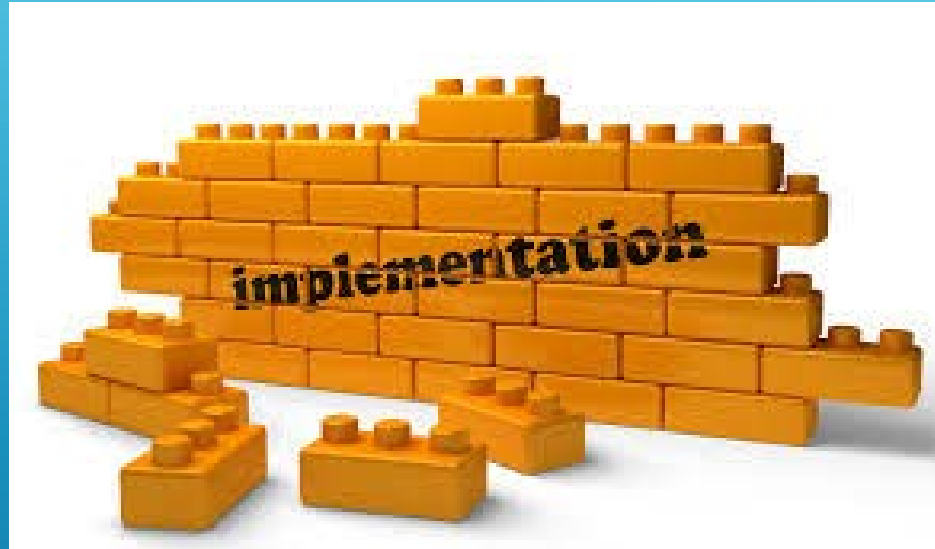


## OPENING REMARKS

Diane Gutierrez-Scaccetti  
Acting Commissioner, NJDOT

Robert Clark  
Division Administrator, FHWA

# NJ STIC IMPLEMENTATION STATUS

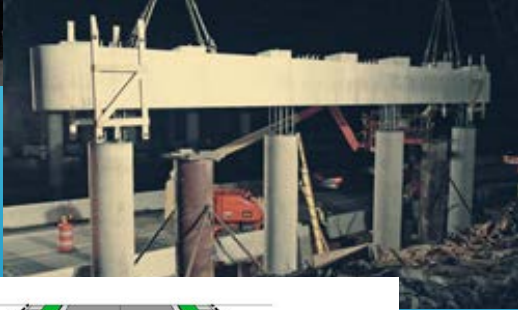


Mike Russo  
Asst. Commissioner, NJDOT



- **Organizing for Reliability** – evaluated TSM using the US Department of Defense “Capability Maturity Model”
- SHRP 2 Traffic Incident Management **Responder Training** – 12,000 first responders trained
- **Regional Models of Cooperation** – established multi-agency program meetings (DOT/MPO)
- **Data Models and Tools** – developed MAP-21 performance measure platform
- **Smarter Work Zones** – deployed queue warning and variable speed technology





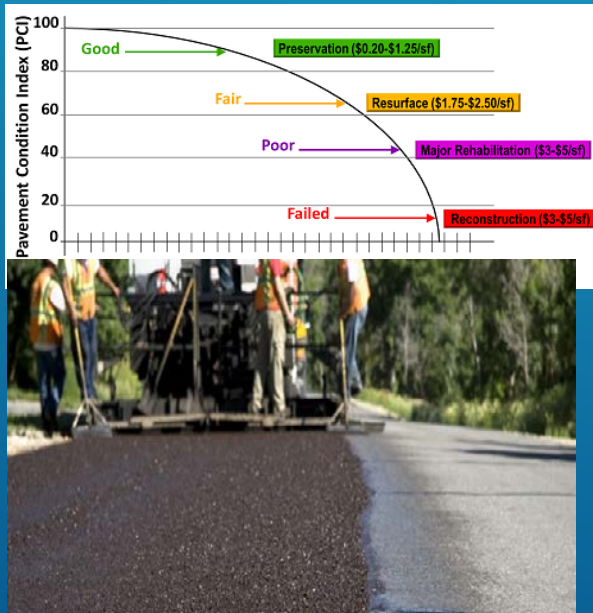
- **Planning and Environmental Linkages (PEL)** – encourage the use of information developed in planning to inform the environmental NEPA process
- **Prefabricated Bridge Elements and Systems** – reduce onsite construction time and mobility impact time when building, rehabbing, or replacing existing bridges.
- **Flexibilities in Right-of-Way (ROW)** – improve coordination of ROW activities with other key project development actions in preliminary design; land acquisition, relocation, utilities accommodation and to certify ROW for a project
- **Locally Administered Local Aid Projects: Stakeholder Partnering** –provide a forum for the exchange of information between NJDOT, FHWA and the LPA's to assist in the delivery of federal aid programs and projects.
- **Road Diets** – offer high-value improvements at a low cost when applied to traditional four-lane undivided highways, enhance safety, mobility and access for all road users.



- **e-Construction** – tablets are being used to collect, review, approve, and distribute highway construction contract documents in paperless environment



- **Ultra-High Performance Concrete** Connections for Prefabricated Bridge Elements – investigated new application of UHPC (overlaying bridge decks) on a pilot project (Rt. 17 over Central Avenue bridge)



- **Pavement Preservation** (When and Where) - developed comprehensive pavement strategy (preservation programs) that includes evaluating different pavement treatments, projecting anticipated life cycle and value information, and developing guidance to help determine appropriate treatment selection at project level

# NEW JERSEY INFRASTRUCTURE BANK INNOVATIVE FINANCE PROGRAM



David E. Zimmer, CSA  
Executive Director, NJIB



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# New Jersey Infrastructure Bank

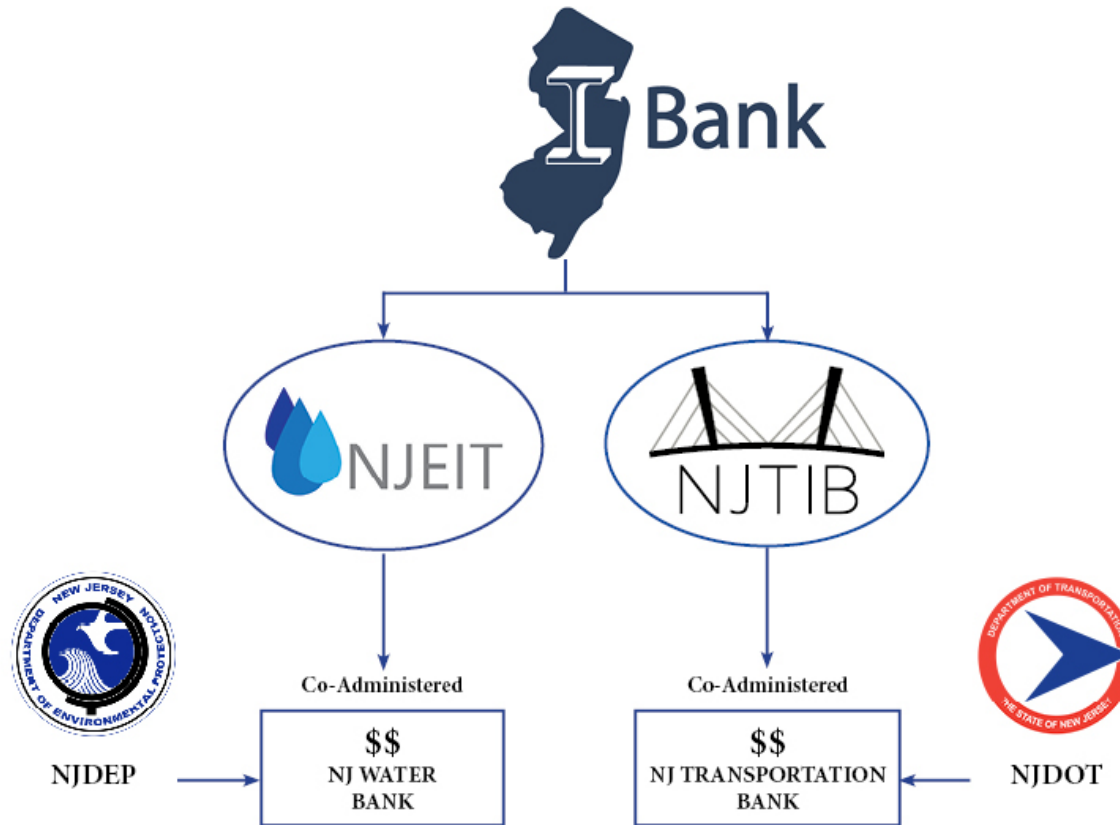
Innovation Council

April 3, 2018



# I Bank / DOT – NJ Transportation Bank

New Jersey Infrastructure Bank's Flow Chart



**Mission** - Provide and Administer low interest rate loans to qualified borrowers (counties, regional authorities, municipalities, and water purveyors) in New Jersey for the purpose of financing water quality and local transportation infrastructure projects.

# I Bank / DOT – NJ Transportation Bank

## Local Transportation Projects –

### ■ **Borrower Eligibility Requirement**

- Must be a Local Government Unit:
  - **County**
  - **Municipality**
  - Municipal, county or regional **Transportation Authority**, or
  - Any other **Political Subdivision** of the State...

Authorized to construct, operate, and maintain public highways or “Transportation Projects” as defined pursuant to the Act (*P.L. 2016, c.56*)



# I Bank / DOT – NJ Transportation Bank

## Local Transportation Projects –

### ■ **Project Eligibility Requirement** –

- Must meet definition of **Transportation Project** in (P.L. 2016, c.56) such as:
  - Public highways (*defined*),
  - Bridges,
  - Approach roadways and other necessary land-side improvements,
  - Ramps and Grade crossings,
  - Signal systems,
  - Roadbeds,
  - Transit lanes or Rights of Way,
  - Pedestrian walkways and Bridges connecting to passenger stations and servicing facilities,
- Must be identified on DOT's "**Project Priority List**" for the Legislature



Bank

# I Bank / DOT – NJ Transportation Bank

## Project Approval Processes –

- ***Technical Process***
  - Program staff (DOT / consulting Engineer reviews design for compliance)
- ***Legal Process***
  - I-Bank Staff and Program Bond Counsel work w/ Sponsor and Counsel to ensure satisfaction of Public Finance Law requirements (well versed thru NJEIT)
- ***Credit Process***
  - Project Sponsor must provide guarantee to the I-Bank (secures repay obligation)
  - Bond must be backed by a General Obligation tax pledge (G.O.) from the LGU or a sponsoring LGU being served by the project sponsor to collateralize the loan
  - G.O. must be Investmt-grade Rated – (limited exceptions-e.g. private rating, QBA)





# I Bank / DOT – NJ Transportation Bank

## Financial Components –

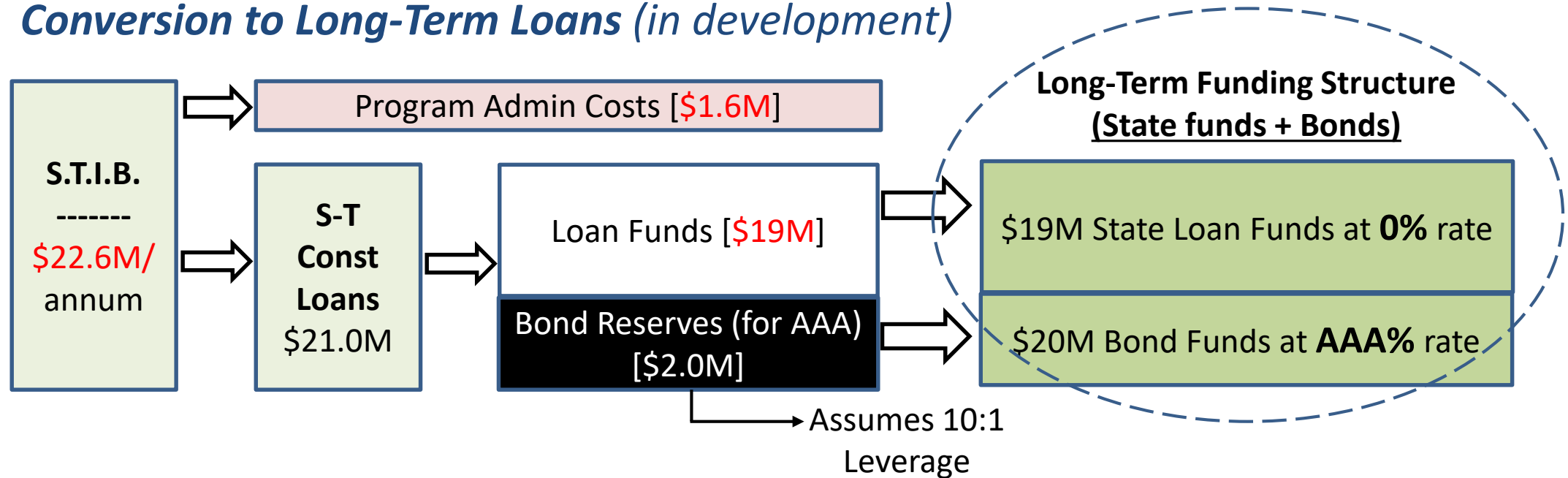
- ***Borrowing Process – in development...***
  - Applications will be submitted – Rolling = **TBD**
  - Application Forms – Electronic application similar to NJEIT H2LOans = **TBD**
  - Short-Term Construction Loan (currently up to 3 full State fiscal years)
    - funds Engineering, Planning & Design costs (architects, bond counsel, etc.)
    - funds construction costs through to completion (take out w/ L-T loan)
      - *(like a Line-of-Credit; interest charged only on funds drawn for req's)*
  - Invoices required (cost-incurrence Program / not reimbursement)



# I Bank / DOT – NJ Transportation Bank

## Financial Components – Bonding Program

- *Conversion to Long-Term Loans (in development)*



- Savings (Est.) from receiving 49% of funds at 0% for 35 yrs = at least **26-30%**

*(lower rated LGUs save more)*

# Questions

David Zimmer  
Executive Director  
[dzimmer@njib.gov](mailto:dzimmer@njib.gov)  
609-219-8604



# STIC INCENTIVE FUNDING: PROCESS & OPPORTUNITIES



Amanda Gendek  
Manager, NJDOT Bureau of Research

## WHO? Eligible Entities

- ▶ NJDOT
- ▶ MPOs
- ▶ Local governments
- ▶ Tribal governments

## WHAT DO I NEED?

- ▶ Description of the proposed work;
- ▶ End product/ result;
- ▶ Amount of STIC Incentive funding requested;
- ▶ Commitment of other funding;
- ▶ Budget justification;
- ▶ 20% Match (FHWA = 80%)
- ▶ Project schedule.

## WHAT? Eligible Projects/Activities

- ▶ Statewide impact in innovation
- ▶ Must align with TIDP goals
- ▶ Be eligible for Federal-aid assistance and adhere to applicable federal requirements
- ▶ Start preferably within 6 months after approval
  - ▶ No later than a year
  - ▶ Funds expended w/in 2 years

## HELP?

FHWA Guidance

[www.fhwa.dot.gov/innovation/stic/guidance.cfm](http://www.fhwa.dot.gov/innovation/stic/guidance.cfm)

STIC Exec. Team

609-530-5637 or [amanda.gendek@dot.nj.gov](mailto:amanda.gendek@dot.nj.gov)





# WHEN?

Preferred dates below allow us to meet our fiscal year obligations for STIC Incentive Projects.

Preferred Timeline	Activities
October 1 <sup>st</sup> Federal Fiscal Year Begins	<ul style="list-style-type: none"><li>• FHWA STIC Rep notifies NJDOT that solicitation period is open</li><li>• STIC Exec. Team will make formal call for proposals and provide guidance</li></ul>
November 1st December 1st January 1st	<ul style="list-style-type: none"><li>• STIC Exec. Team sends monthly email reminders for proposals</li></ul>
February 1st	<ul style="list-style-type: none"><li>• Proposals submitted to STIC Exec. Team and/or respective STIC CIA Team Leaders</li><li>• Proposals are reviewed and evaluated</li><li>• No later than February 28th</li></ul>
March 1st	<ul style="list-style-type: none"><li>• STIC Exec. Team forwards vetted proposals to FHWA STIC Rep</li><li>• FHWA STIC Rep evaluates and may comment on proposals</li><li>• No later than March 15th</li></ul>
March 15 <sup>th</sup>	<ul style="list-style-type: none"><li>• FHWA STIC Rep forwards selected proposals to FHWA Headquarters and awaits a determination</li><li>• No later than March 31st</li></ul>
	<ul style="list-style-type: none"><li>• FHWA STIC Rep notifies STIC Exec. Team of determination</li><li>• STIC Exec. Team notifies and provides guidance, if necessary, to secure funding</li></ul>

# SUBMIT PROPOSALS TO:

## STIC Exec. Team

Amanda Gendek

[Amanda.gendek@dot.nj.gov](mailto:Amanda.gendek@dot.nj.gov)

Kimbrali Davis

[Kimbrali.davis@dot.nj.gov](mailto:Kimbrali.davis@dot.nj.gov)

## STIC CIA Team Leaders

Sal Cowan – Mobility & Ops

[Salvatore.cowan@dot.nj.gov](mailto:Salvatore.cowan@dot.nj.gov)

Robert Signora – Infrastructure Preservation

[Robert.signora@dot.nj.gov](mailto:Robert.signora@dot.nj.gov)

Dan LiSanti - Safety

[Daniel.lisanti@dot.nj.gov](mailto:Daniel.lisanti@dot.nj.gov)

### STIC Incentive Funding Request

#### Pilot Project Title:

Connected Vehicle – Road Service Safety Messages

#### Pilot Project Sponsor:

New Jersey Department of Transportation (NJDOT)

#### Pilot Project Participating Organizations:

TRANSCOM (XCM), NJ Institute of Technology (NJIT)

#### Description of Proposed Work

NJDOT's Safety Service Patrol staff support motorist and first responder safety. While they are operating vehicles designed with their own safety working on the road when personnel are frequently work physically removing vehicles from tra or performing motor vehicle repairs.

NJDOT uses multiple types of devices roadways. These devices include ten ignitable or electronic flares, portable the NJ 511 phone and website system measures deployed and utilized, cras on the road continue.

The automobile manufacturing indus and automated systems fully in place response vehicles would be detected traffic. Until those systems are depic incidents, stopped police vehicles an

NJDOT is a part of TRANSCOM (XCM) improves communication and technic XCM provides NJDOT incident data tc platform however SSP vehicle locatio

Transportation agencies need to leve approaches to continue to provide vt personnel working on the road netw location of its road workers to motor

#### Description of Proposed Work (continued)

With this request for State Transportation Innovation Council (STIC) Incentive Funding, NJDOT is looking to sponsor a three year pilot program whereby GPS equipment, procured from the company iCone® would be installed in forty (40) vehicles, split equally between SSP vehicles in Harding and Cherry Hill yards

The iCone® product to be procured utilizing STIC funding is titled "ITS Beacon – Hazard Lights. Vehicle Hazard Light Radio Adaptation". Once install of the equipment transmits vehicle in location and an "ON" status whenever the vehicle's emergen

Upon activation, the GPS location of the truci platforms for dissemination to the public. A: Inclusion into a separate non-public layer of t beta/test environment until the pilot has bee NJDOT will look to expand its agency use of ti are equipped to provide information to these the first step towards NJDOT's SSP program t roadways.

#### Pilot Project Goals

The pilot project seeks to accomplish several Innovation Deployment Program (TIPD) initia and advanced transportation innovation depi Jersey's STIC, NJDOT will accomplish multiple

- Significantly accelerating the adoptio community by creating "smarter and
- Improving highway safety by alerting personnel and enhancing awareness 92.2)
- Developing and deploying new tools, innovation in this specific aspect of h responder safety and traveler inform
- Develop standards and specifications mapping and crowdsourcing applicat
- Evaluation of GPS and cellular data q
- Integration of fleet data into layers o

#### STIC Incentive Funding Requested

# of Units	Model	Title	Unit	Total Cost
40	CTD-HZ-0.1-W	Connected Tech Hazard Mod 3-yr comm package	\$990.00US	\$39,600.00US

#### Pilot Project Schedule and Performance Monitoring

Upon approval and receipt of STIC funding, the following is an anticipated pilot project timeline

- Within Two Weeks:
  - o Establish Oversight Group
  - o Define Working Group participants (Operations, Procurement, Bureau of Equipment, Academia)
  - o Establish testing criteria for reporting
- Within One Month:
  - o Initiate procurement of iCone equipment following NJDOT procurement policy
  - o Determine program reporting format, frequency and evaluation
  - o Determine error logs for communication failures of equipment
  - o Establish cellular signal strength reporting criteria
  - o Establish GPS accuracy reporting standards
  - o Configure information relays between iCone equipped vehicles, Google, WAZE, HERE and 511NJ systems
- Within Six Months
  - o Select vehicles for installation
  - o Receive, install and test equipment within vehicles
  - o Complete development of beta/test site on 511
  - o Confirm messaging format and delivery to the public with Google, WAZE, HERE
  - o Initiate pilot
  - o Report to STIC on progress
- Within One Year
  - o Report to STIC on progress and first annual report on pilot project (from date of funding)
  - o Evaluate success of the pilot to determine if other State Transportation Agencies (NJ Turnpike Authority, South Jersey Transportation Authority) or other first responder organizations (Garden State Towing Association, Fire Departments, and Law Enforcement agencies) show an interest and capability of participating in the program.

# NJ's STIC Incentive Accomplishments

Innovations	Project	Status	Amount
<b>Federal Fiscal Year 2018</b>			
NJ - STIC Communications Plan	Development of a NJ-specific STIC Communications Plan	Developing Proposal	TBD
Road Weather Management - Weather-Savvy Roads	Connected Vehicle - Road Service Safety Messages	Submitted Proposal	\$39,600
<b>2018 Total</b>			<b>\$39,600</b>
<b>Federal Fiscal Year 2017</b>			
Data-Driven Safety Analysis	Hold Local Agency Peer Exchanges for Local Safety Program delivery utilizing Data-Driven Safety Analysis tools	In Progress	\$18,564
e-Construction	Purchase and evaluate the use of tablets for construction and work zone inspection.	In Progress	\$32,404
Unmanned Aerial System	Purchase, use, and evaluate Unmanned Aerial Systems (UAS) with the goal of developing guidance and specifications for bridge inspection and traffic incident monitoring	In Progress	\$47,956
<b>2017 Total</b>			<b>\$98,924</b>
<b>Federal Fiscal Year 2015</b>			
Data-Driven Safety Analysis	Advancement of Data-Driven Safety Analysis	Complete	\$41,600
e-Construction, Stakeholder Partnering	Advancing the use of mobile devices in the administration and oversight of the Local Public Agencies program	Complete	\$21,464
<b>2015 Total</b>			<b>\$63,064</b>

# NJDOT'S UNMANNED AIRCRAFT SYSTEMS (UAS) PROGRAM



Glenn Stott  
UAS Program Manager, NJDOT

THE PRESENTATION BY GLENN STOTT WILL  
BE UPLOADED TO THE NJDOT TECH  
TRANSFER WEBSITE AT A LATER DATE.



# FEATURE CIA TEAM PRESENTATION:

## Connected Vehicle – Road Service Safety Messages



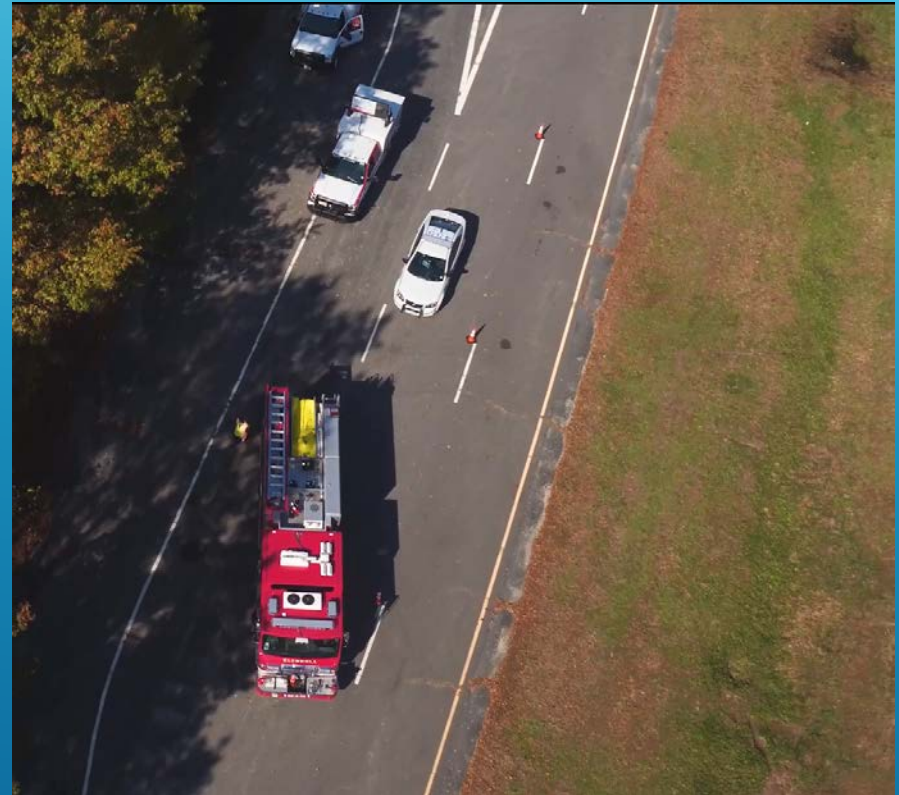
Sal Cowan

Director, Traffic Operations, NJDOT

# *A CRASH HAPPENS*



# *RESPONDERS ARRIVE*



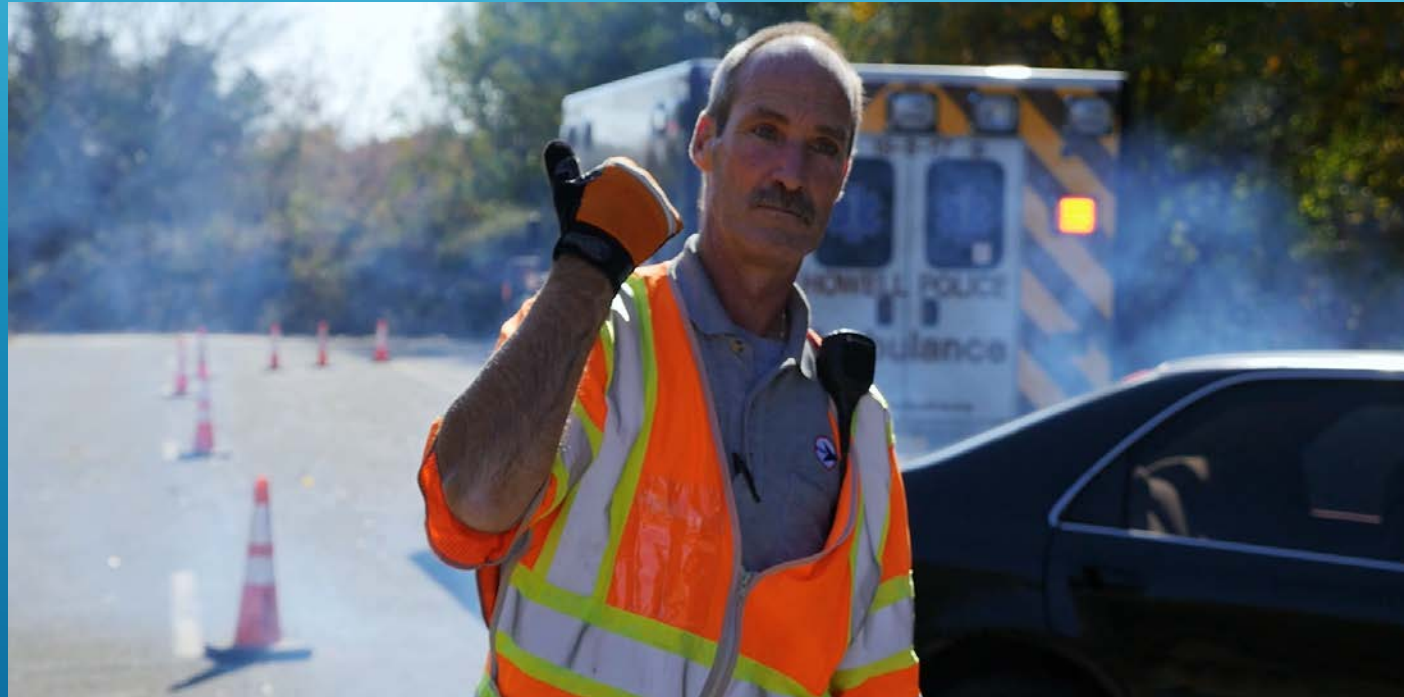




# ***NJDOT PERSONNEL DEPLOY ADVANCED WARNING DEVICES***



# ***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.

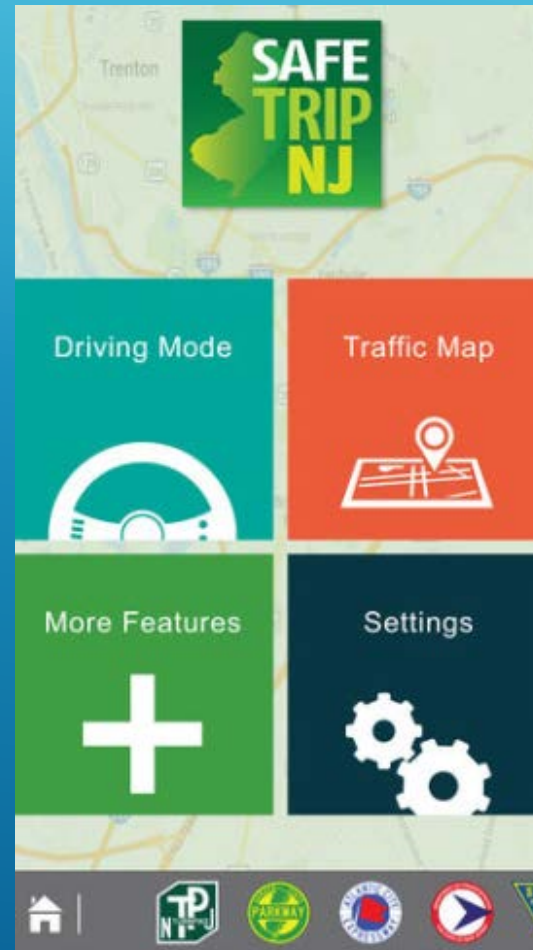
Status posted to XML within 2 minutes.

Updates status every 15 minutes.

Re-transmits location if the vehicle moves more than 500 ft.

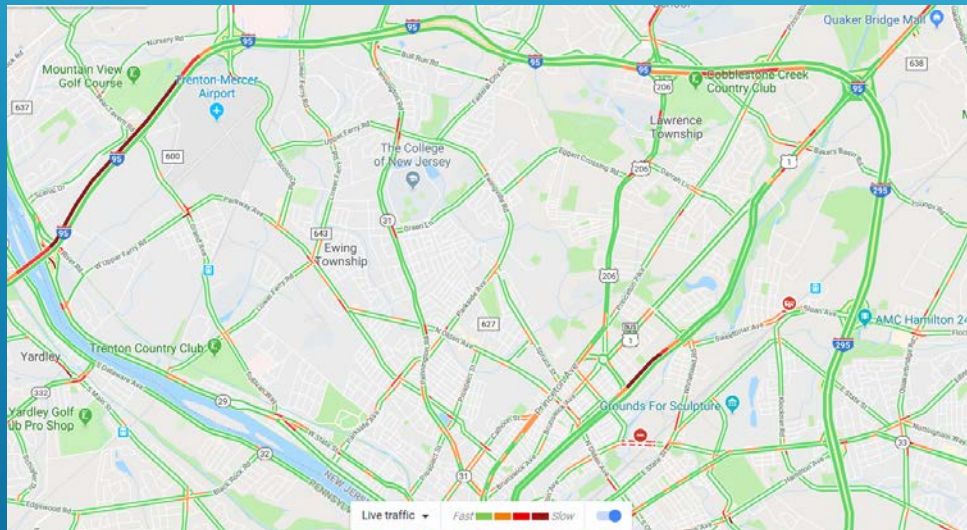


# *PROVIDE THEIR LOCATION TO AS MANY APPS AS POSSIBLE*

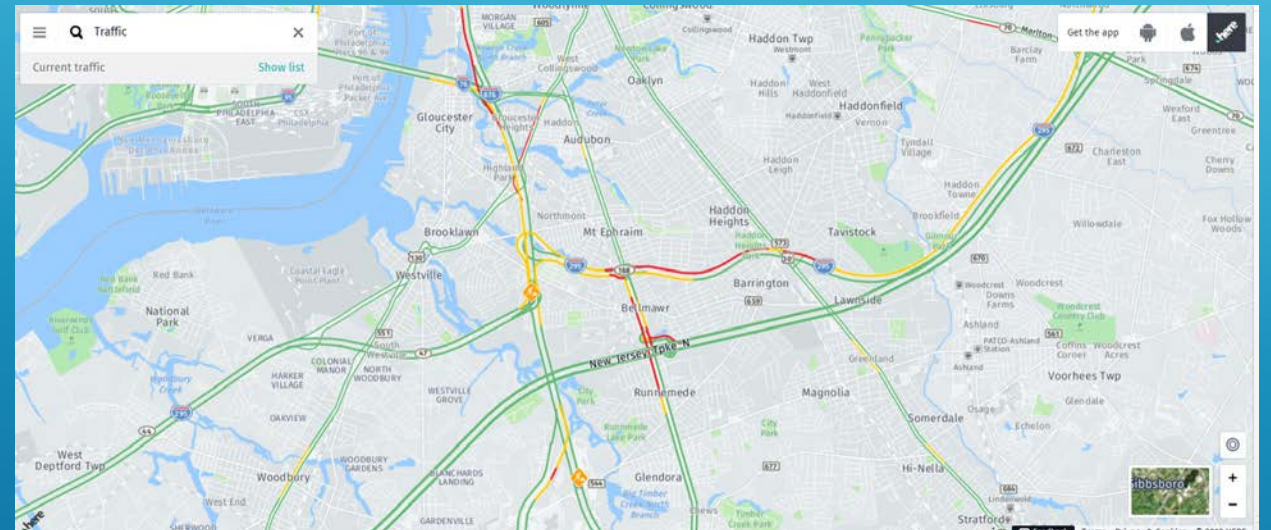


# PROVIDE THEIR LOCATION TO AS MANY MAPS AS POSSIBLE

Google Traffic

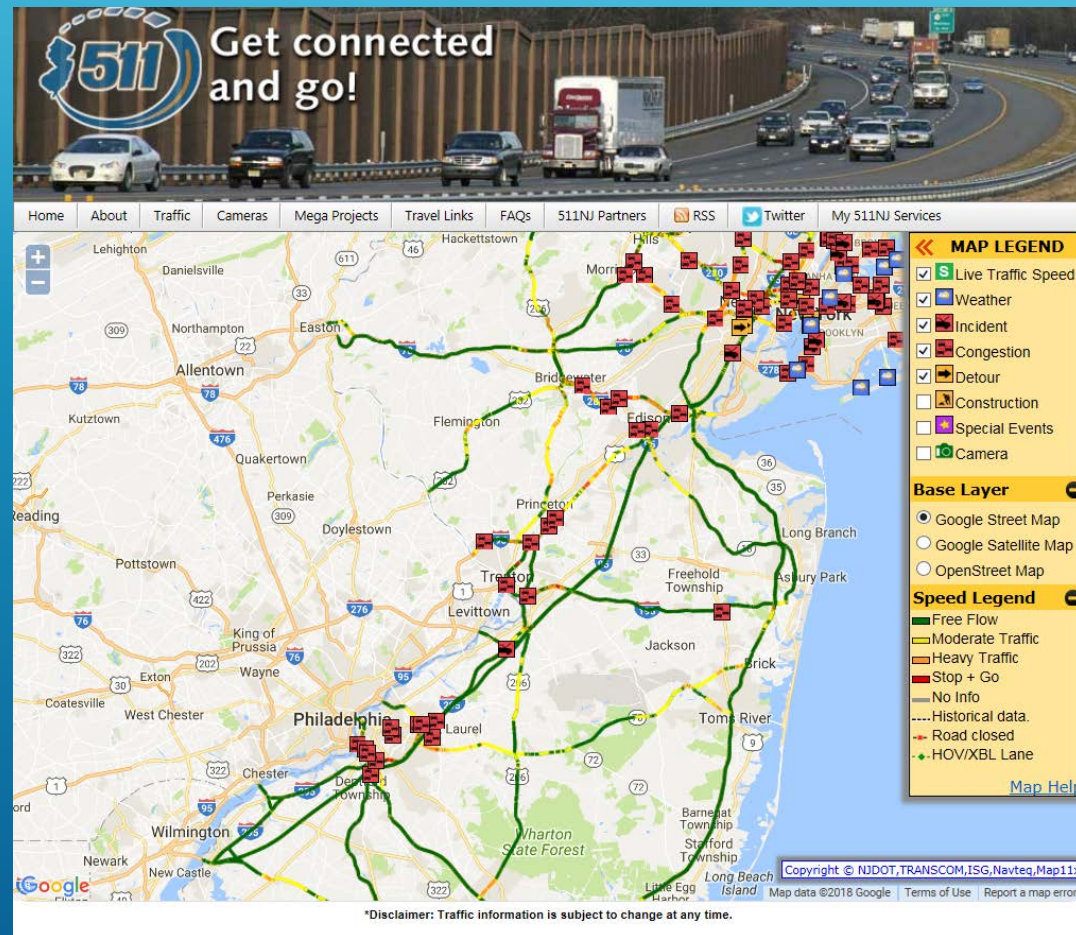


HERE Traffic





# 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 of GPS and cellular data quality along various State roadways

Integrate fleet data into layers of the 511NJ platform (a first for New Jersey)



# 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

## **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

## Integrating Mobile Observations

### Purpose:

Feed real-time video and sensor data from fleet vehicles into NJDOT'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 NJDOT 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





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 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 (overlying bridge decks)

- Pilot project (Rt. 17 over Central Avenue bridge) being considered
- Department/CD Consultant will evaluate further

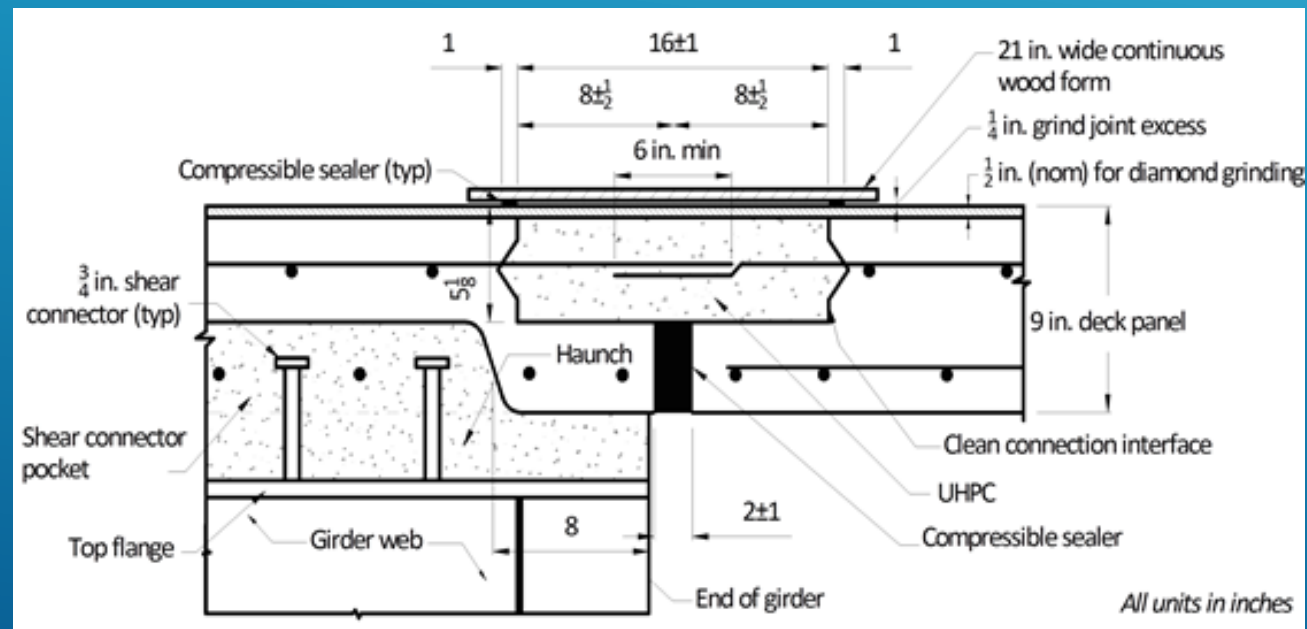




# Ultra High Performance Concrete (UHPC) on Link Slabs

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







CIA TEAM

**SAFETY**

NJDOT – Dan LiSanti

FHWA – Caroline Trueman



# 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



# Data Driven Safety Analysis- Safety Management

## AASHTOWARE - Safety Analyst



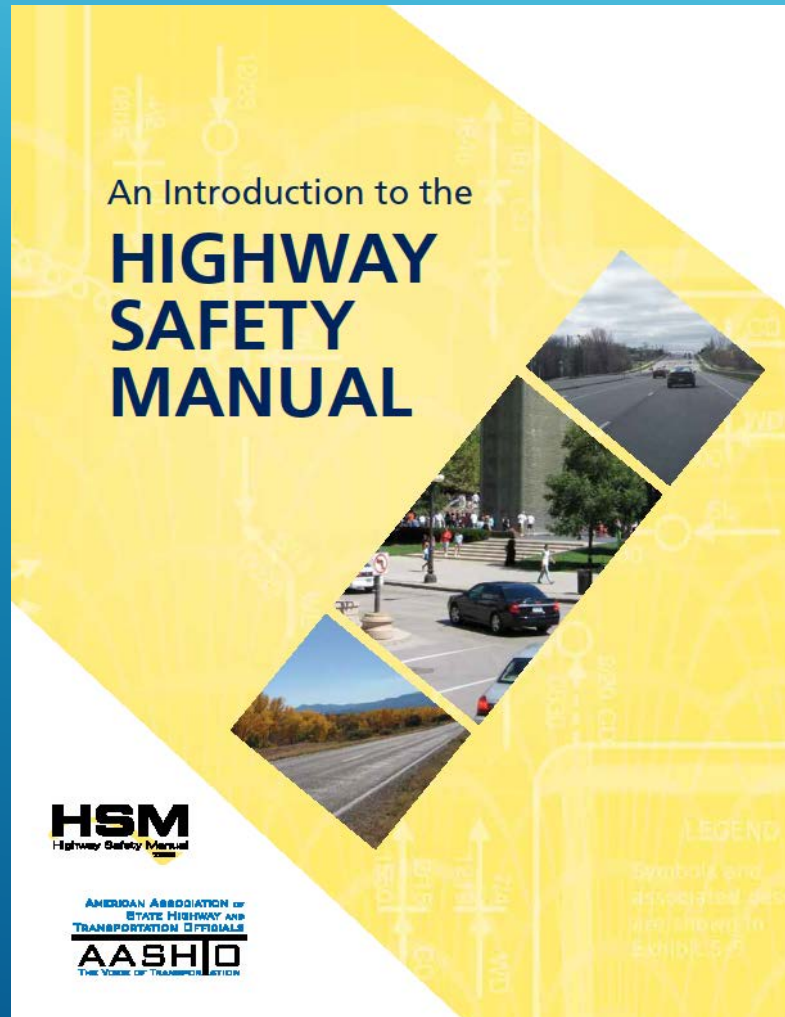
Purpose:

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.



## 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.



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



### 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

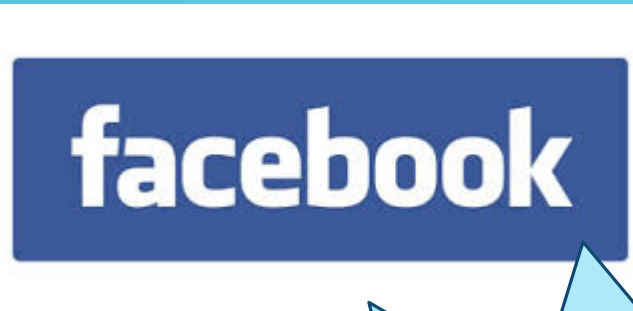
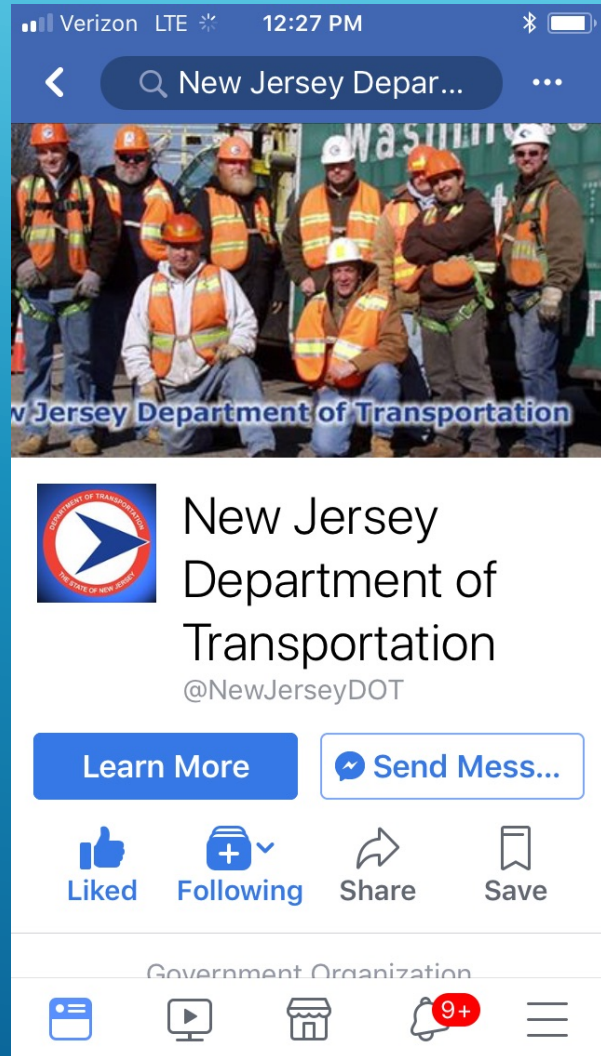


# STIC COMMUNICATION & OUTREACH EFFORTS

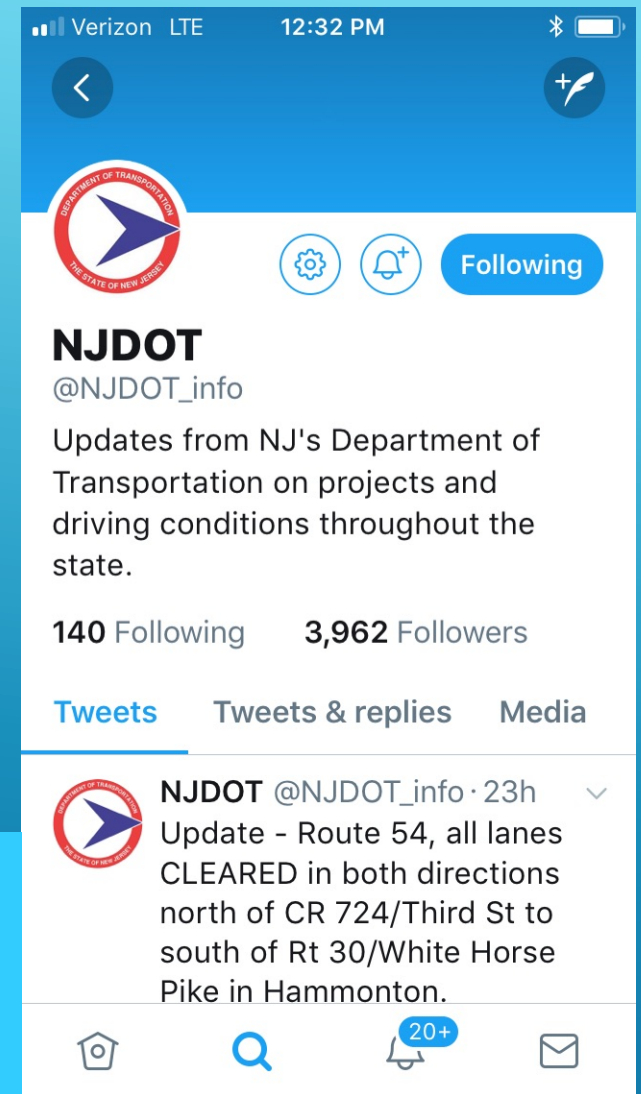
- ▶ Social Media – Facebook & Twitter
- ▶ Director's Meeting – June 2018
- ▶ Summer Lunchtime Tech Talk
- ▶ NJDOT Tech Transfer Website
- ▶ "The Scoop" – PMGA's Newsletter
- ▶ "Transporter" – NJDOT's Newsletter
- ▶ "Innovator" – FHWA'S Newsletter



# SOCIAL MEDIA



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# NJDOT DIRECTOR'S MEETING






# NJDOT'S TECHNOLOGY TRANSFER WEBSITE



[njdottechtransfer.net](http://njdottechtransfer.net)




# LUNCHTIME TECH TALKS!




The header of the NJDOT Technology Transfer website features the NJDOT logo on the left, followed by the text "BUREAU OF RESEARCH" and "NJDOT Technology Transfer" in large blue font. A red arrow points to the "Tech Talks!" link in the navigation bar, which also includes "Home", "NJ STIC", "Share Your Ideas", "Research", "Resources", and "Event Calendar".

## Lunchtime Tech Talks!


Lunchtime Tech Talks! are presentations that highlight current and best practices, give attention to new and emerging issues in transportation, and explore the findings and implications of recent transportation research. Subject matter experts provide information and answer questions. Participants can suggest "hot topics" for future presentations through an end of session survey.




**Tech Talk Recap: Smart Cities and Transportation with Kenneth Leonard**



**Getting through the Green: Smarter Traffic Management with Adaptive Signal Control**



**CIPGA Works!**  
The Capital Investment Planning and Grants Administration (CIPGA) Works!



**More than a Pretty Face(ade): Meeting Safety and Historic Requirements in Concrete Barriers**

# The SCOOP

The employee newsletter  
of Planning, Multimodal  
and Grant Administration

Issue 8

March 2018



The State Transportation Innovation Council (STIC) National Network was born out of Federal Highway Administration's (FHWA) Every Day Counts program. The program helps state DOTs identify and rapidly deploy proven, yet underutilized innovations to shorten project delivery, enhance safety, reduce congestion, and improve environmental sustainability. Each state's STIC is charged with establishing a process in which ideas, innovative techniques and processes can be evaluated and implemented quickly and proficiently.

New Jersey's STIC is sponsored by FHWA's Helene Roberts and led by NJDOT's Assistant Commissioner of Planning, Multimodal, and Grant Administration, Mike Russo. Management and coordination of NJ's STIC is housed within the Bureau of Research, under the direction of Amanda Gendek.

NJ's STIC members are a cross-section of various stakeholders, state and federal agencies, local governments and industry partners that work together to forge an environment of innovation, imagination and ingenuity to pursue specific initiatives and their rapid implementation to deliver a modern and high-quality transportation system to the Garden State. The NJ STIC meets quarterly at the NJDOT Headquarters to discuss innovation deployments, progress updates on innovative initiatives, and suggestions for additional initiatives moving forward.



PMGA

## State Transportation Innovation

Continued from page 3

A few of NJDOT's many STIC accomplishments include:

- Purchase of Unmanned Aerial Systems (UAS), with the goal of developing guidance and specifications for bridge inspection and traffic incident monitoring.



Feature image (above) is a High Mast Light Pole on Route 1, Mercer County. Photographed by Glenn Slett

- Local Agency Peer Exchanges for Local Safety Program delivery utilizing Data Driven Safety Analysis tools.
- Purchase and evaluation of the use of tablets by Local Aid for construction and work zone inspection.
- Receipt of the 2017 National Roadway Safety Award for our Roundabout Implementation Program. The installation of a roundabout in Burlington County eliminated the occurrence of right-angle and left-turn crashes. Additional roundabout implementation projects have been completed and are being planned elsewhere in the state.



- Road Diets Implemented along Parkway Avenue here in Mercer County as well as in Passaic County. Road diets offer several high-value improvements at a low cost when applied to traditional four-lane undivided highways. Road Diets enhance safety, mobility and access for all road users and a "complete streets" environment to accommodate a variety of transportation modes.



- The first application of Geosynthetic Reinforced Soil-Integrated Bridge Systems (GRS-IBS) in New Jersey was on Jessup Mill Road Bridge over Edwards Run in Gloucester County. GRS-IBS is an innovation to help reduce bridge construction time and cost, allowing for a reduction in project duration from months to weeks.



- The use of Ultra High Performance Concrete (UHPC) to connect precast deck panels on the Pulaski Skyway, the Nation's largest accelerated bridge construction project. UHPC is a steel fiber-reinforced material that improves durability and simplifies connection details, fabrication and construction.



To learn more about STIC, please visit the following sources:

[www.njdottechtransfer.net/share-your-ideas/innovative-ideas/](http://www.njdottechtransfer.net/share-your-ideas/innovative-ideas/)  
[www.fhwa.dot.gov/everydaycounts](http://www.fhwa.dot.gov/everydaycounts)  
[www.fhwa.dot.gov/innovation/stic/](http://www.fhwa.dot.gov/innovation/stic/)

Contributed by Amanda Gendek

# PMGA'S "THE SCOOP" NEWSLETTER

- ▶ March 2018 Issue posted on the NJDOT intranet
- ▶ Features an article about STIC and highlights many of our innovations
- ▶ Provides resources on how to contribute ideas and learn more about STIC.







# FHWA'S INNOVATOR NEWSLETTER

- ▶ March/April 2018 Cover features NJ's roundabout at the White Horse Circle.
- ▶ Site of 160 crashes over a three year period.
- ▶ Article discusses NJDOT's promotion of roundabouts for State roads as well as our pilot roundabout program for intersections under local jurisdiction.
- ▶ <https://www.fhwa.dot.gov/innovation/innovator/>





WHAT COMMUNICATION & OUTREACH EFFORTS HAVE YOU MADE?

HOW CAN WE HELP YOU SPREAD THE WORD?



# NEW IDEA DISPOSITION REPORT

1<sup>st</sup> Quarter 2018 (January-March)

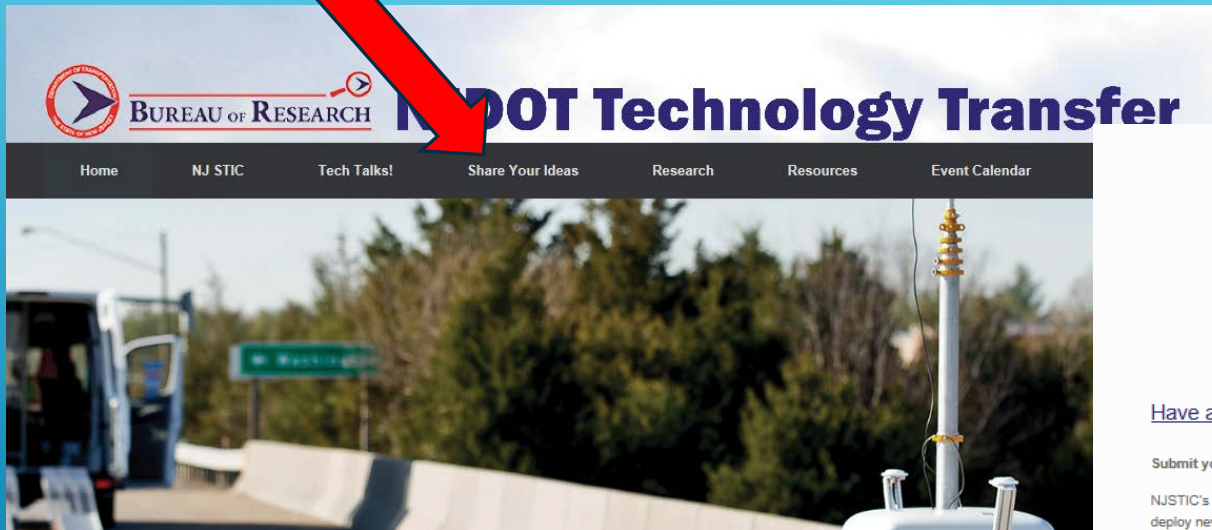
Two ideas were received that pertain to the use of LED technology in traffic signals and highway lights.



- NJDOT has been using LED for traffic signals for years.
- LED are included on the DOTs Traffic Engineering Electrical Material Spec Index found here (<http://www.state.nj.us/transportation/eng/elec/TSS/english/>)
- LED has been deployed with new projects such as
  - Route 72 Manahawkin Bay Bridges Project
  - I-295/I-76/Route 42 Direct Connection project



# INNOVATIVE IDEA INTAKE



## Share Your Ideas

- Innovative ideas
- Maintenance concerns
- Other



Got **INNOVATIVE IDEAS** that could help improve transportation in New Jersey?

Share your IDEAS with us!

[Have an innovative idea?](#)

Submit your idea to NJ STIC...

NJSTIC's mission is to identify, evaluate, and where and when possible, rapidly deploy new technologies and process improvements that will accelerate project delivery and improve the quality of NJ's transportation network.


Innovative ideas should be:

- New technologies or processes
- Rapidly deployable
- Market ready
- Well researched
- Proven technologies, tactics or technologies

Some examples of innovative ideas include:

- Ultra-High Performance Concrete
- Road Diets
- Geosynthetic Reinforced Soil-Integrated Bridge System (GRS-IBS)
- Data Driven Safety Analysis

Do you have an idea that could help NJDOT accomplish this mission?  
Please use the link below to share your idea.



Click for link

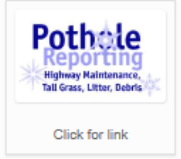
Need more information?

Email [DOT-Innovative.Idea@dot.nj.gov](mailto:DOT-Innovative.Idea@dot.nj.gov)

[Have a maintenance concern?](#)

Does your idea or comment involve...

- Traffic light or sign problem
- Potholes
- Tall grass
- Animal carcass
- Damaged guide rail
- Graffiti
- Litter
- Debris
- Other maintenance problems




Click for link

[Need other information?](#)

Does your idea or comment concern...

- NJDOT phone directory
- Pulaski Skyway inquiries
- Employee verification
- Toll collection
- EZ Pass
- NJ Turnpike issues
- Garden State Parkway issues
- NJ Transit issues
- Damage claims
- Drivers licenses, plates, registration
- Trucking related issues
- Real time traffic & traffic cameras
- Regulations
- Report waste, fraud, or abuse
- Other: Traffic flow issues



Click for link



# ELECTRONIC INTAKE, TRACKING, AND STATUS REPORTING

Innovative Ideas Form

\* required fields

Name \*

Which Category Best Describes You?

Organization Affiliation \*

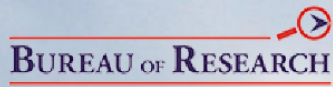

Address \*

Phone # \*

Idea Title \*

Provide a description of your idea \*

If known, please provide more information about possible implementation



## NJDOT Technology Transfer

HomeNJ STICTech Talks!Share Your IdeasResearchResourcesEvent Calendar

### Searchable Database

Column visibilityCopyCSVExcelPDFPrintShow 10 entriesSearch:

Tracking No.	Affiliation	Idea Title	Status/Recommendation
17-01-01	State Official/Employee	Smart phone app for data entry	Do Not Advance
17-02-01	State Official/Employee	Construction safety	Idea to be redirected
17-03-01	Other	Lane Adjustment	
17-04-01	State Official/Employee	Bridge the Gap for NJ Transit	
18-01-01	NJ State Resident	Congression Management	
17-01-02	State Official/Employee	Meditation Room	Forward to DOT Suggestion Box

# ROUNDTABLE DISCUSSION



1 TO 2 MINUTES EACH



# REMINDERS!



National STIC Network Meeting – April 19 2018, 2pm

- Participate in person at FHWA's NJ Division Office or online

STIC Summer Meeting – June 13 2018, 10am, NJDOT HQ

Build A Better Mousetrap Competition – Entries due June 1<sup>st</sup> 2018

# BUILD A BETTER MOUSETRAP COMPETITION

Employees of local or state public transportation agencies often find better ways to do their jobs.

Whether it's a new gadget that improves the quality and safety of a project, or an innovative process that reduces costs and improves efficiency.

Typically, it's the people on the front lines who discover the latest and best practices.

**New Jersey's Build a Better Mousetrap Competition** provides a great opportunity to share those new ideas with others! We are looking for submissions from employees that have created different solutions to problems or found better ways of doing things.







KY – Bowling Green public works fleet division developed a device to control discharge from mowers along ROWs with parked cars

WV – City of Buckhannon created a device to bend tubing that they needed to construct a farmers market structure at a community park.




PA – developed a road saw hitch receiver/carrier to transport equipment easily and efficiently to and from job sites.






PA – A township public works department developed a salt shed entrance curtain to reduce the exposure of salt to the elements, and thereby preventing the salt from contaminating stormwater runoff.

MD – Dual-Wing Plow was developed to improve the efficiency of snow removal operations, which can do the work of three standard plows, clearing up to 24 feet of roadway in one pass.



- 
- ▶ Deadline to submit entries is June 1st, 2018.
  - ▶ Please submit all entries by mail or email to:
  - ▶ New Jersey Local Technical Assistance Program
  - ▶ 100 Brett Road, Piscataway New Jersey 08854
  - ▶ Email: NewJerseyLTAP@gmail.com
  - ▶ Janet Leli – 848-445-2906

ENTRY  
FORMS ARE  
AVAILABLE  
TODAY



Entry Form

Think you've built a better mousetrap? Fill out the entry form below to submit your innovation! We look forward to receiving your entries and best of luck to everyone!

Organization: \_\_\_\_\_

Contact Person: \_\_\_\_\_ Phone Number: \_\_\_\_\_

Email: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

Entry Title: \_\_\_\_\_

Please check the category that this entry is being nominated for:

☐ Inspection and Data Collection (automated/remote means, testing, time)

☐ Asset Management Techniques (GIS, mapping, decision support systems)

☐ Maintenance Tools and Methods (lifters, reachers, modifications, assembly)

☐ Facilities Improvements (storage, access, operations, services)

Problem Statement: \_\_\_\_\_

- ▶ Employees of local or state public transportation agencies (municipalities, counties, parks commissions, NJ Department of Transportation, NJ Transit)

<https://cait.rutgers.edu/njltap/2017-build-better-mousetrap-competition>





# THANK YOU!