

FEATURE CIA TEAM PRESENTATION:

Connected Vehicle – Road Service Safety Messages



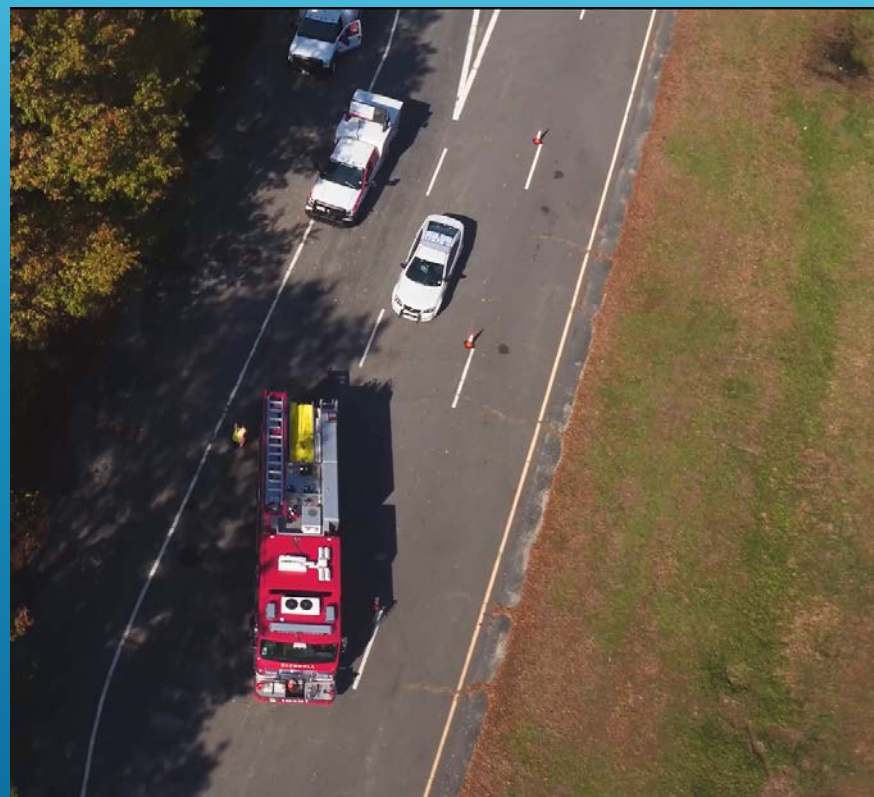
Sal Cowan

Director, Traffic Operations, NJDOT

A CRASH HAPPENS



RESPONDERS ARRIVE



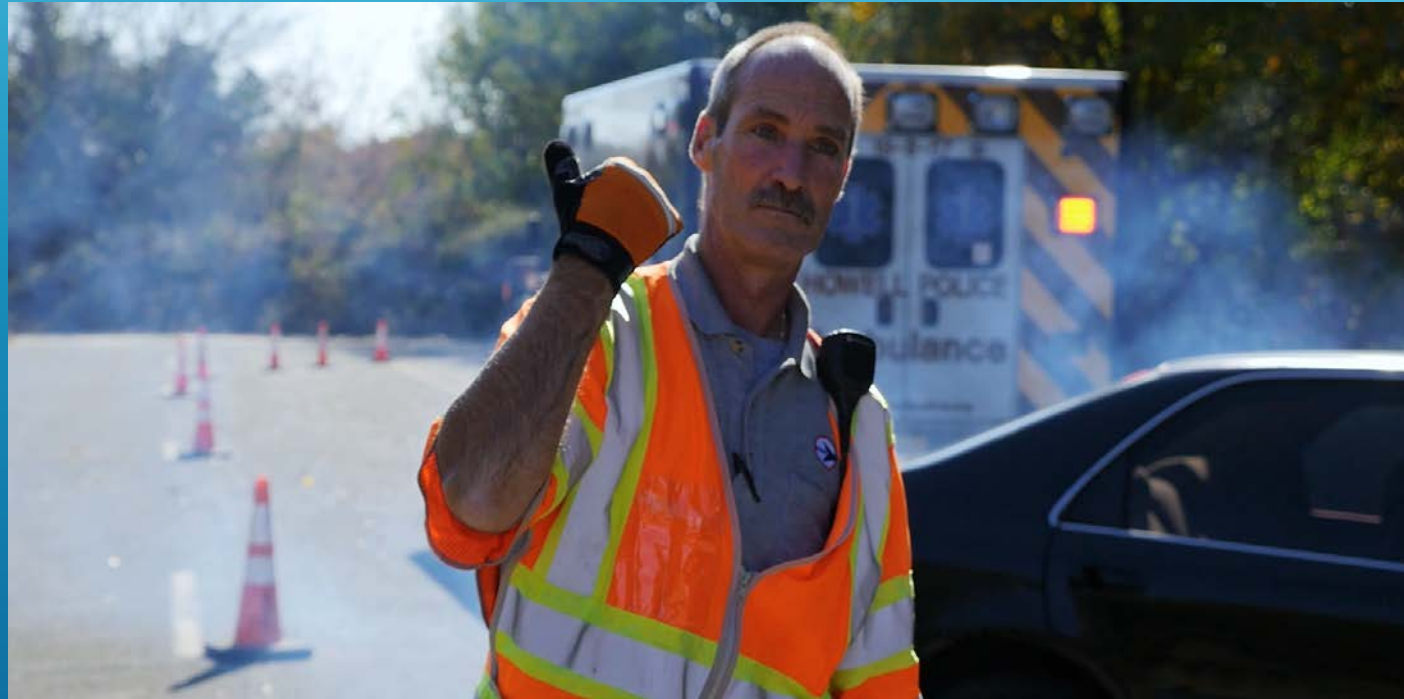


NJDOT PERSONNEL

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.

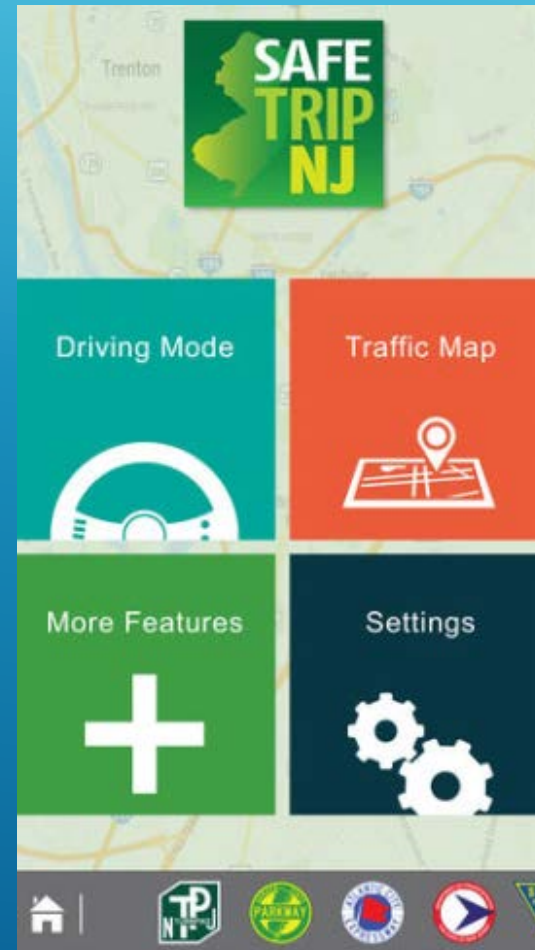
Status posted to XML within 2 minutes.

Updates status every 15 minutes.

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

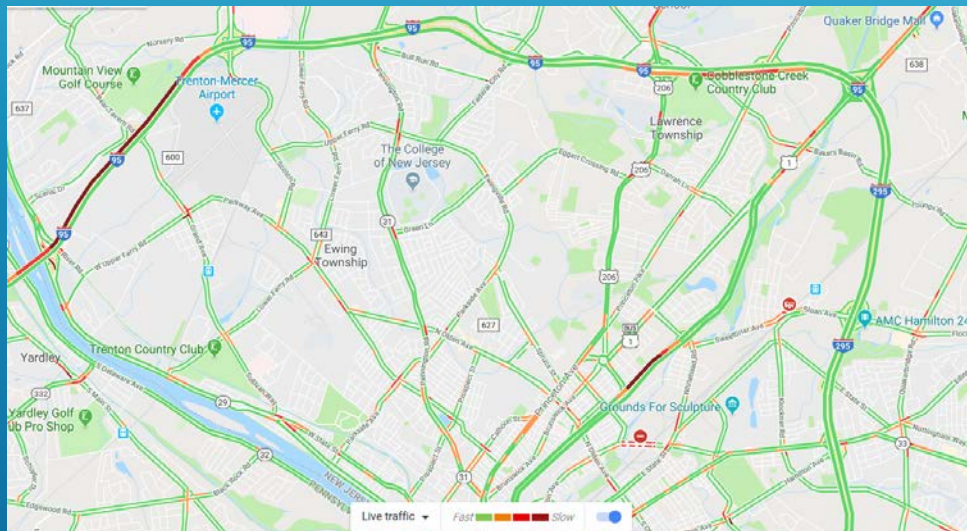


PROVIDE THEIR LOCATION TO AS MANY APPS AS POSSIBLE

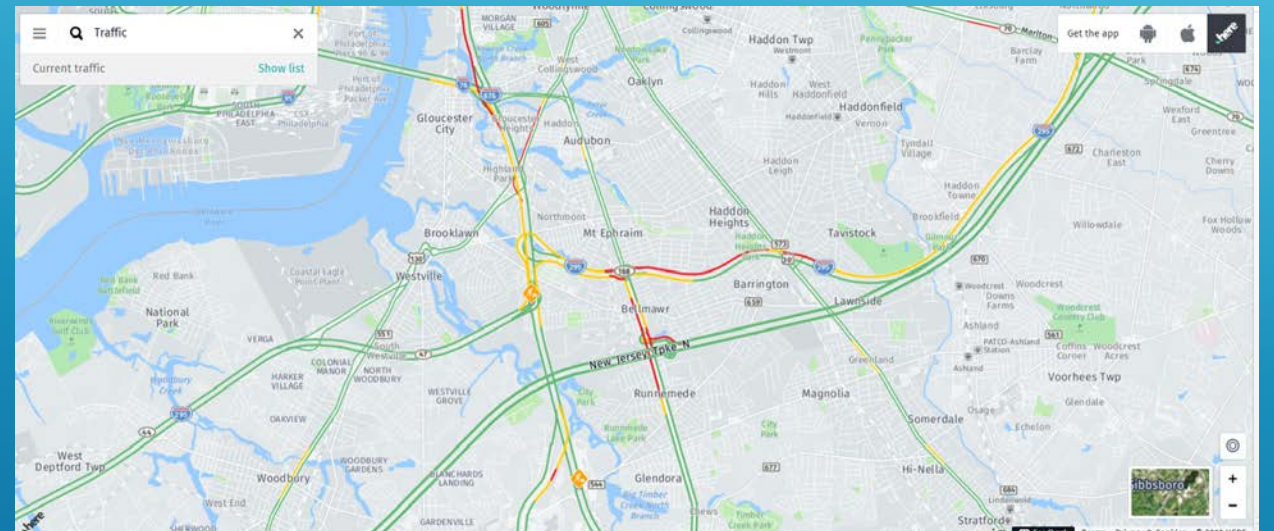


PROVIDE THEIR LOCATION TO AS MANY MAPS AS POSSIBLE

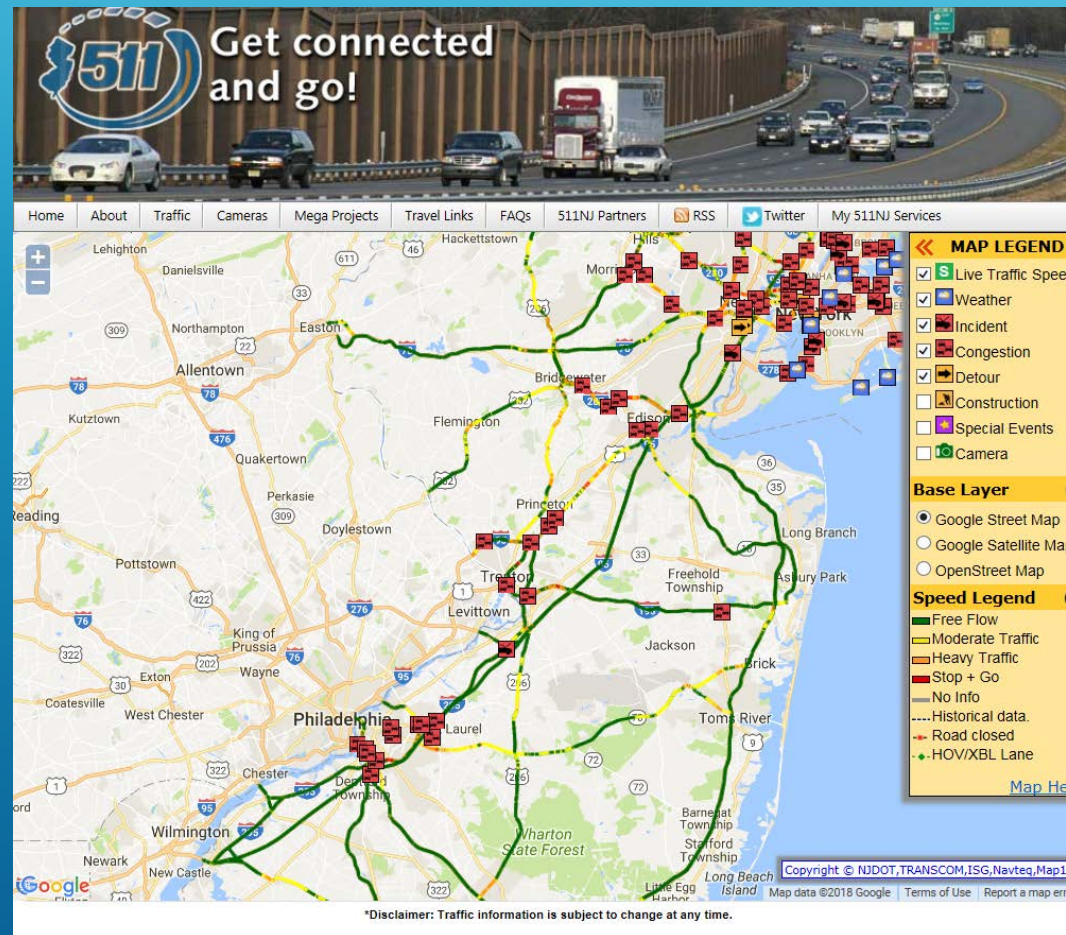
Google Traffic



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

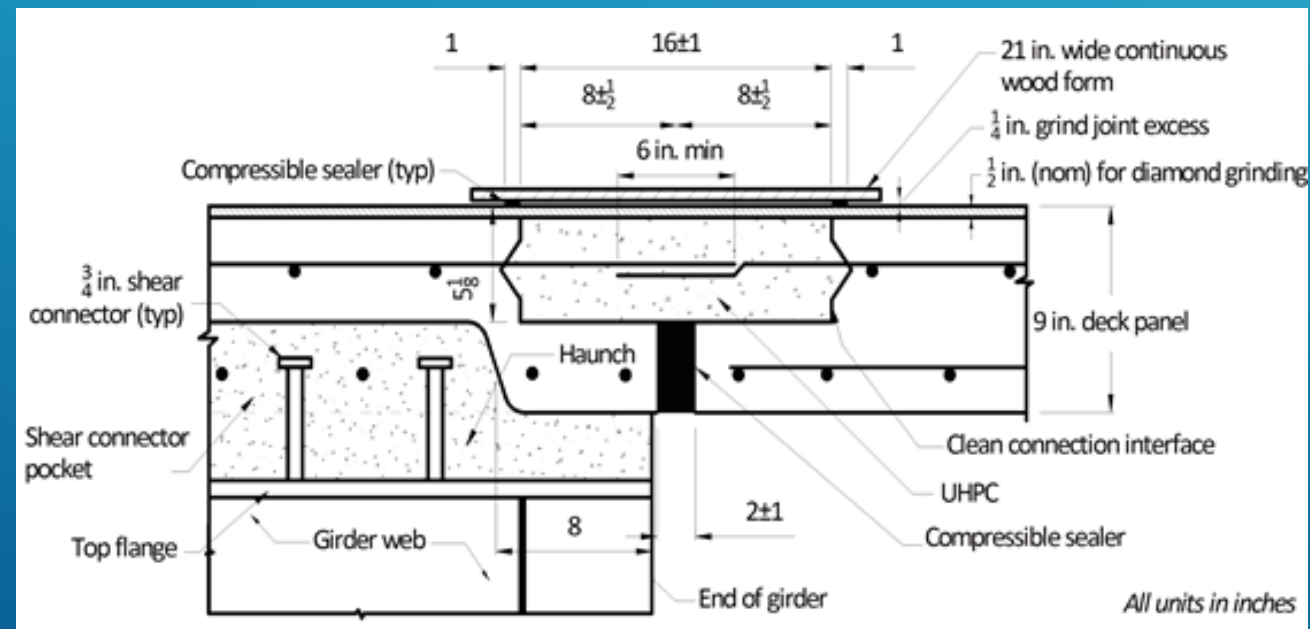




Ultra High Performance Concrete (UHPC) on Link Slabs

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

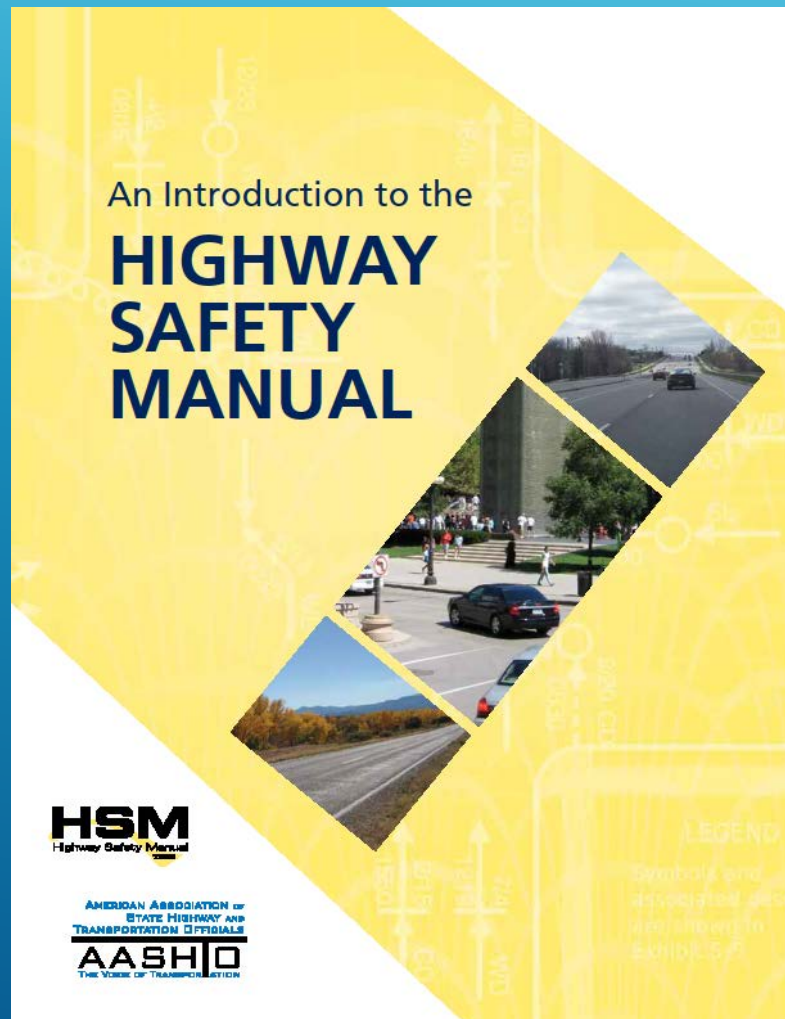


Purpose:

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