WELCOME

Mike Russo
Assistant Commissioner
NJ DOT Planning, Multimodal & Grant Administration
ATTENDEES

- NJSTIC
- NJDOT
- FHWA
- Universities
- Contractors
- Consultants
- MPOs
- Counties
- LTAP
- Municipalities
FHWA UPDATES

Helene Roberts, P.E.
Innovation Coordinator & Performance Manager
FHWA, NJ Division Office
EDC-6 Progress Report #1
EDC-6 Deployment – Progress Report #1

Deployment Stages for EDC-6 Initiatives

- VPI
- UHPC
- TOPS
- STRATEGIC WORKFORCE DEVELOPMENT
- NEXT GEN TIM
- DIGITAL AS-BUILTS
- E-TICKETING
- CROWDSOURCING

Deployment Stage:
0. Not Implemented
1. Development
2. Demonstration
3. Assessment
4. Institutionalized

2 Years
PR1
Let’s Go! Pilot Workshop
September 21 and 28
CIA TEAM

**SAFETY**
NJ DOT - Dan LiSanti
FHWA - Keith Skilton

**MOBILITY & OPERATIONS**
NJ DOT - Sue Catlett
FHWA - Ek Phomsavath

**INFRASTRUCTURE PRESERVATION**
NJ DOT - Bob Signora
FHWA - Nunzio Merla

**ORGANIZATIONAL IMPROVEMENT & SUPPORT**
NJ DOT - Zenobia Fields
FHWA - Brian Goodson
CIA TEAM

SAFETY

NJ DOT – Dan LiSanti
FHWA – Keith Skilton
Reducing Rural Roadway Departures

NEW JERSEY’S HIGHWAY SAFETY IMPROVEMENT PROGRAM

Daniel LiSanti, PE
Manager NJDOT Bureau of Safety, Bicycle and Pedestrian Programs

Joovanjot Singh
NJDOT Section Chief - Engineering
Safe Transportation for Every Pedestrian (STEP)

This Road Diet on New Jersey Route 45 in the City of Woodbury allows for safer, more efficient travel by all road users, including pedestrians and bicyclists. Photo Credit: NJDOT

This Road Diet in Passaic County, New Jersey allows for a safer and organized pattern of traffic for all road users. (Photo Credit: NJDOT)
QUESTIONS?
Digital As-Builts

**Purpose:** To explore the use of 3D models to build projects and update that digital information to reflect the project's as-built condition

**Status:**
- Team is still gathering information (potential issues, lessons learned) from designers, SMEs, etc.
- Based upon what's learned, Team is planning on 2 pilot projects to test the technology
- Team will attend the “Let's Go! Innovation Workshop” scheduled for September 21st and 28th
Purpose: Provide stakeholders with an electronic means to produce, transmit, and track and verify materials deliveries

Status:
- Effort in Development Stage
- Two Vendors have given presentations to date. Continuing to reach out to other Vendors for future presentations.
Targeted Overlay Pavement Solutions (TOPS)

**Purpose:** To develop and install overlays that provide long-life performance under a wide range of traffic, environmental, & existing pavement conditions.

**Status:**
- Continued use of TOPS treatments. 2 HPTO projects awarded (June 2021).
- Working on developing SFY2023/2024 preservation projects which will include additional TOPS treatments. Continuing investigation of some HPTO failures.
- Hope to identify candidate project(s) for HiMA (Ultra-HPTO) soon and implement this TOPS treatment.
- Nusrat Morshed will be taking over as the Innovation Champion.
Purpose: To explore the use of UHPC for Bridge Preservation and Repair.

Status:
• Funding secured for testing program of UHPC overlays and notice to proceed was issued.
• Provided presentation at the International Bridge Conference (IBC) per an invite from FHWA.
• Team presently preparing for hosting 2 upcoming workshops.
• Hosting FHWA EDC-6 workshop in October, 2021. Also, participating in NJ LTAP workshop with a presentation to support local and municipal agencies efforts in UHPC P&R adoption and implementation.
• Milestone: 1st NJ DOT UHPC link slab application is in construction phase.
QUESTIONS?
CIA TEAM

MOBILITY & OPS

NJ DOT - Sue Catlett
FHWA - Ek Phomsavath
EDC-6: Next-Generation TIM: Integrating Technology, Data, and Training

NJ DOT collaborating with NJ SP

- Computer-Aided Dispatch (CAD) integration project
- CAD integration into traffic operation centers to improve incident response and quicker clearance.
- NJ SP has commenced installation of the new CAD system.

“Development” Stage

- Assembled a team
- NJ State Police have deployed a new CAD system
- Need to determine the data types/interface format of the new CAD system
EDC-6: Crowdsourcing for Advancing Operations

NJ DOT partnering with Waycare
- Pilot project
- Support/improve operations of traffic incident management (TIM) and traffic operations centers (TOCs)

“Development” Stage
- Awarded the STIC Incentive funding ($55,000)
- Federal authorization of funds
- Status of procurement
QUESTIONS?
CIA TEAM

Organizational Improvement & Support

NJ DOT - Zenobia Fields
FHWA - Brian Goodson
Virtual Public Involvement

The Evolution of Virtual Public Involvement (VPI) During the Pandemic: State Transportation Agency Practices & Lessons Learned.

- Platform Choice Matters – stakeholder vs. public
- Prepare Team – provide clear instructions to presenters/organizers/moderators.
- Underserved Populations – think outside the box!
- Information Sharing & Feedback – provide a variety of ways to share information and gather feedback.
- Duration – advertise start time but not end time, shorter meetings.
Strategic Workforce Development

I. Fostering Partnerships
   ✓ Raise Awareness and Foster Healthy Attitudes Towards Construction Careers
   ✓ Build Capacity in the Highway Contractor Workforce
   ✓ Utilize Industry Accredited Pre-Employment Training Programs
   ✓ Provide a Pathway to Apprenticeship and Jobs

II. Let’s Go! Pilot Workshop – Succession Planning Efforts
   a. Confirmed September 21st

SMART Goals
SWOT Analysis and Action Plan
Marketing Tools for Buy-in
Milestone and Track Methods
QUESTIONS?
Feature Presentation

Safety Voyager

Peter Brzostowski

NJ DOT Proj. Engr. Planning | Crash Records
Bureau of Transportation Data & Support
NJ STIC Communications Plan

David Aimen
Asst. Director, Planning & Technical Assistance
Rutgers University, Alan M. Voorhees Transportation Center
NJ STIC COMMUNICATIONS PLAN (FY20)

• STIC Incentive Grant Funded
• For NJ DOT’s Bureau of Research
• Major Tasks
  • Prepare Plan
  • Tools Development
  • Innovative Initiatives - Priority Topic Interviews
  • Support Break-Out Sessions
identify, evaluate and rapidly deploy new technologies and process improvements that will accelerate project delivery and improve the safety and quality of transportation in NJ.
Purpose of Communications Plan

...foster a culture favorable to exploring and advancing innovations in transportation

...improve effectiveness of NJ STIC through continuing communications and engagement with STIC stakeholders...
Organizational Framework of NJ STIC

NJ State Transportation Innovation Council (STIC)

**EXECUTIVE TEAM**
- Manages STIC Operation
- Point for reporting to Assistant Commissioner & FHWA
- Coordinates with all groups

**Innovation Advisory Team**

**Core Innovation Areas**
- Infrastructure Preservation
- Safety
- Mobility & Operations
- Organizational Support & Improvement
Different communications are needed to reach various:

- NJ STIC Members
- External Audiences
Identifying Innovative Practices

Featured Presentations STIC Meetings

FEATURE LOCAL PRESENTATION:

EDC INNOVATIONS - THE LOCAL PERSPECTIVE

Deanna is joined by:

Princeton
Deanna Stackton
Municipal Engineer

Joe Etter, Monmouth Co.
Vince Cardone, Monmouth Co.
Dan Burke, Jackson Township
Clint Dickson, Fanwood/Garwood
Heather Vitz-Del Rio, Wayne Township

FEATURE PRESENTATION:

MPO IMPLEMENTATION OF VIRTUAL PUBLIC INVOLVEMENT
Identifying Innovative Practices

STIC Virtual Meetings & Workshops
Identifying Innovative Practices

- Local Public Agency: Innovative Initiatives Survey
- Priority Topics - Key Informant Interviews
- FHWA EDC – Semi-Annual Progress Reports
- NJ DOT Innovative Ideas Database
- NJ DOT Tech Transfer Quarterly Meetings
  - Research Showcase
  - Tech Talks!
Accelerating Innovation through Communications Toolbox

NJ DOT Technology Transfer Website – NJ STIC:
https://www.njdottechtransfer.net/nj-stic/

STIC Quarterly Meetings

Innovative Initiatives
Accelerating Innovation through Communications Toolbox

SPOTLIGHT ON INNOVATION: UNMANNED AERIAL SYSTEMS (UAS)
High Mast Light Pole Inspections Comparative Analysis

INTRODUCTION
Unmanned Aerial Systems (UAS), or drones, are multi-rotor aircraft controlled from the ground by a licensed operator. They can be used in nearly all aspects of highway transportation—they replace boots on the ground, increase accuracy, speed up data collection, and provide access to hard-to-reach locations. Here’s a look at a NJDOT research study comparing the relative benefits of using UAS versus traditional inspection methods for the structural inspection of 3440 ft high mast light poles.

Traditional Inspection
UAS Inspection

1 Initial inspection with tripod
2 In-service inspections with tripod
1 total inspection with UAS
2 no secondary inspections

BENEFITS VS. COSTS ($)

<table>
<thead>
<tr>
<th>CRITERIA</th>
<th>TRADITIONAL</th>
<th>UAS</th>
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<tbody>
<tr>
<td>Time Saved</td>
<td>$24,954</td>
<td>$5,443</td>
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<tr>
<td>$417,022</td>
<td>$567,585</td>
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<tr>
<td>$2,315</td>
<td>$3,435</td>
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<tr>
<td>$1,720</td>
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<tr>
<td>$110,000</td>
<td>$80,000</td>
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</table>

ADDITIONAL BENEFITS

The UAS approach offers additional benefits that could be quantified, such as:

- **Higher Quality Photographs** for documentation and analysis
- Power Safety Risks, lower Vehicle Emissions, and less TIME—no driving to secondary inspections
- Lite safety and traffic impacts of a SHORTER CLOSURE—no secondary inspections
- Reduced INJURY EXPOSURE to workers during work zones and in brother trucks

Learn more about NJSTIC & our innovative initiatives at:
www.njdottechtransfer.net/njstic/

Infographics

STIC Fact Sheets
Accelerating Innovation through Communications Toolbox

Lunchtime and Other Tech Talks! Webinars
Accelerating Innovation through Communications Toolbox

Peer Exchanges

Unmanned Aerial Systems (UAS)  Local Safety  E-Construction
Accelerating Innovation through Communications Toolbox

Videos

NJDOT Safety Countermeasures Training and Education Videos

NJDOT developed these six videos to train and educate viewers on the design features and safety benefits of FHWA’s Proven Safety Countermeasures that improve pedestrian safety.

CLICK TO VIEW ALL SIX VIDEOS
Accelerating Innovation through Communications Toolbox

Tech Transfer News – STIC Articles

Social Media

STIC Mailing List & E-Mail Blasts
Accelerating Innovation through Communications Toolbox

JDOT Technology Transfer

Looking for a webinar, an online training, or conference?

- NJDOT Tech Transfer Event Calendar
- NJLTAP Training & Events
- FHWA Events
- TRB Events
- Online Training Library

Click on the links below for more information.
# NJ STIC Communications Tools

## Table 1. Communications Tools and Frequency

<table>
<thead>
<tr>
<th>NJ STIC Communications Tool</th>
<th>Frequency</th>
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</thead>
<tbody>
<tr>
<td>STIC Meetings</td>
<td>Quarterly</td>
</tr>
<tr>
<td>LPA Presentations at STIC Meetings</td>
<td>Quarterly</td>
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<tr>
<td>STIC Workshops at Quarterly Meetings</td>
<td>Annually</td>
</tr>
<tr>
<td>NDOT Innovative Ideas Database</td>
<td>Quarterly update to database;</td>
</tr>
<tr>
<td></td>
<td>Disseminate regularly</td>
</tr>
<tr>
<td>STIC Webpage</td>
<td></td>
</tr>
<tr>
<td>STIC Webpage - Innovative Initiatives</td>
<td></td>
</tr>
<tr>
<td>Innovative Initiatives Updates; EDC Progress Reports</td>
<td></td>
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<tr>
<td>Innovative Initiatives; LPA Surveys</td>
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</tr>
<tr>
<td>Innovative Initiative Priority Topics; Key Informant Interviews</td>
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<tr>
<td>Innovative Initiatives – New and Noteworthy Posts</td>
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## Table 2. Recent and Proposed Communications Strategies

<table>
<thead>
<tr>
<th>Topic</th>
<th>Initiative</th>
<th>Status</th>
<th>Tools</th>
<th>Next Steps</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>INFRASTRUCTURE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A Game, Advanced Geotechnical Methods in Exploration</td>
<td>EDC-5</td>
<td>Demonstration (June 2020)</td>
<td>X</td>
<td>Send notice of online webinar availability</td>
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<tr>
<td>Collaborative Hydraulics (CHANGE)</td>
<td>EDC-4</td>
<td>Demonstration (June 2020)</td>
<td>X</td>
<td>Send notice of online training availability</td>
</tr>
<tr>
<td>E-Construction &amp; Partnering</td>
<td>EDC-3, EDC-4</td>
<td>Demonstration (December 2018)</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>e-Ticketing and Digital As-Builts</td>
<td>EDC-6</td>
<td>New</td>
<td></td>
<td>Create innovative initiative page. Track progress.</td>
</tr>
<tr>
<td>Geosynthetic Reinforced Soil-Integrated Bridge System (GRS-IBS)</td>
<td>EDC-1, EDC-3</td>
<td>Demonstration</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>
NJ STIC Communications Tools

Suggestions?
Innovation Topics to Share?

Please contact:

Amanda Gendek,
NJ DOT Bureau of Research
(609) 963-2242

or
ideas@njdottechtransfer.net
NJ STIC Communications Plan: An Interactive Polling Exercise

Go to www.menti.com and use the code 6729 7667

1. Grab your phone
2. Go to www.menti.com
3. Enter the code 6729 7667 vote!
REMINCENDS & ANNOUNCEMENTS

NJ DOTTech Transfer Website
www.njdottechtransfer.net

NJ STIC Website
www.njdottechtransfer.net/nj-stic/

All meeting recordings, presentations, and summary are posted
https://www.njdottechtransfer.net/nj-stic-meetings/
THANK YOU!

www.NJ DOT techtransfer.net/NJ-STIC
(609)963-2242 – Bureau of Research