Feature Presentation

NJDOT Innovative Approach to Safety

Dan LiSanti, Director Jeevanjot Singh, Section Chief





NJDOT Innovative Approach to Safety

Dan LiSanti, Manager Jeevanjot Singh, Section Chief Bureau of Safety, Bicycle & Pedestrian Programs

September 19, 2022



Agenda



- 1. Who We Are
- 2. Evolution of Safety Programs
- **3.** STIC Previous Accomplishments

4. Moving Forward

- a. Reactive to Proactive
- b. Process Improvement
- c. Procurement
- d. Diversify
- e. Countermeasures
- f. SHSP
- g. Safety Resource Center

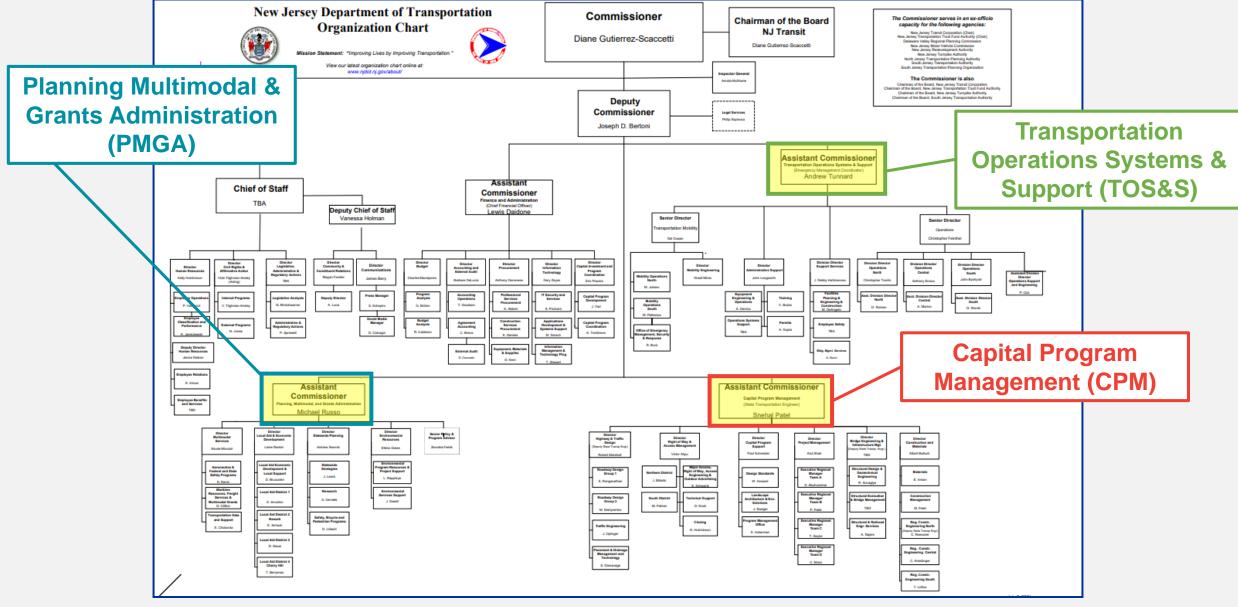
5. Questions

Who We Are

NJDOT



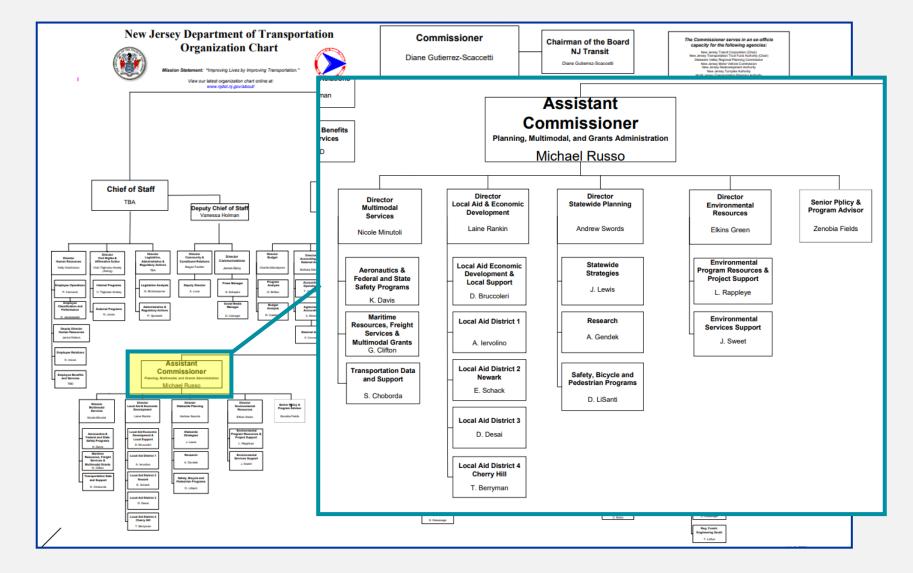
Organization



Planning, Multimodal and Grants Administration (PMGA)

- 1. Environmental Resources
- 2. Local Aid
 - > District Offices
 - > Major Access & Outdoor Advertising
 - > Economic Dev & Support
- 3. Data & Multimodal Services
 - Maritime, Freight & Multimodal Grants
 - > Aeronautics
 - > Transportation Data & Support

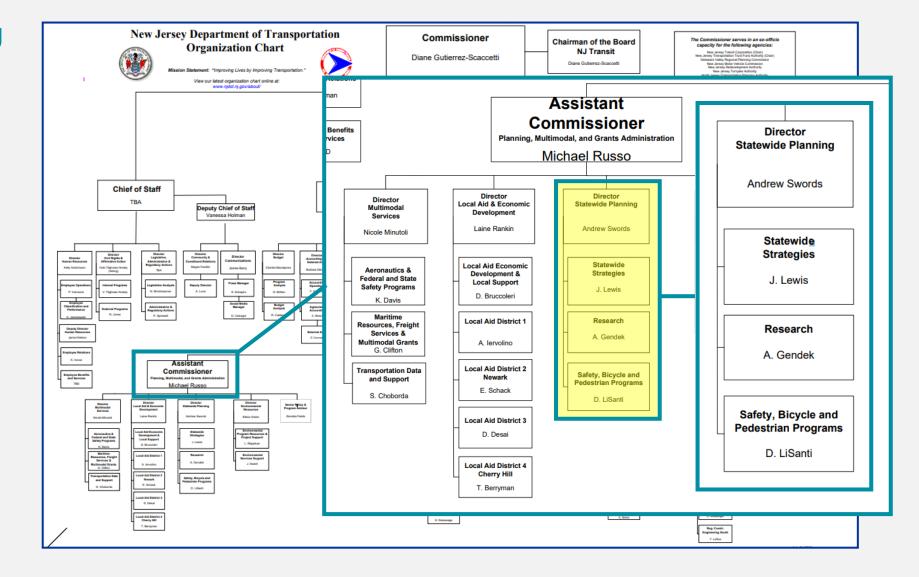
4. Statewide Planning



Planning, Multimodal and Grants Administration (PMGA)

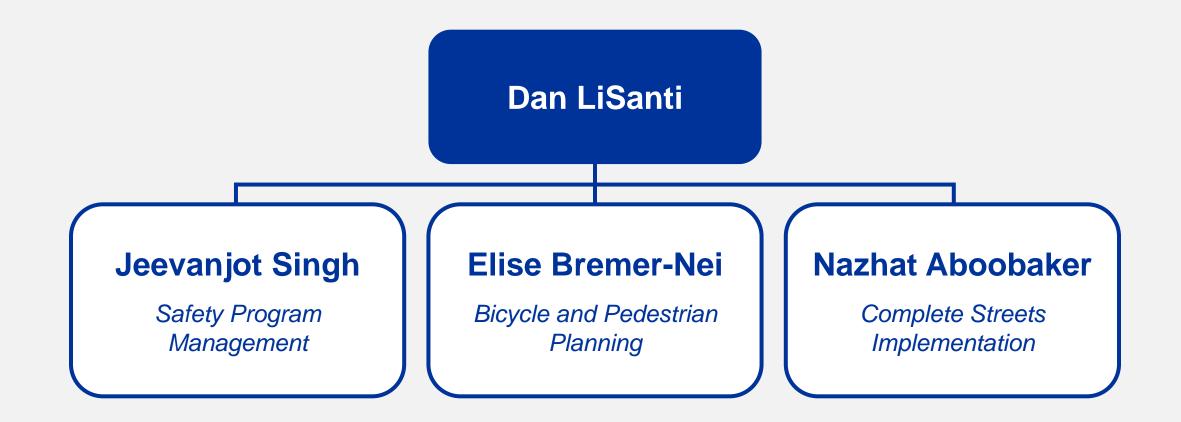
4. Statewide Planning

- > Bureau of Research
- > Statewide Strategies
- Bureau of Safety, Bicycle & Pedestrian Programs



Bureau of Safety, Bicycle & Pedestrian Programs (BSBPP)





Bureau of Safety, Bicycle & Pedestrian Programs (BSBPP)



- I. Administer federal HSIP funds
- 2. Maintain Complete Streets Initiative
- 3. Encourage Complete Streets Policies
- 4. Develop, administer, implement and manage the state's Strategic Highway Safety Plan (SHSP).
- 5. Implement the action plans and coordinate
- 6. Encourage appropriate inclusion of safety improvements
- 7. Develop and maintain the Safety Management System Screening Lists

- 8. Collaborate with the MPOs, review and approve Local Safety projects, administer the Local Safety Program
- 9. Oversee Safety Resource Center, Bike Ped Resource Center, Safe Routes to School Resource Center, HSIP Project Development and Support and CMAQ consultants.
- 10. Complete Systemic Analyses Horizontal Curve Safety Assessment, School Zones, Intersections
- 11. Complete federal reporting requirements
- 12. Coordinate with internal and external partners through meetings, workshops, conferences

We do a lot!

Overall Program – 2023



Capital Program (\$4.4B)

- > NJDOT \$2.9B
- > NJ Transit \$1.5B

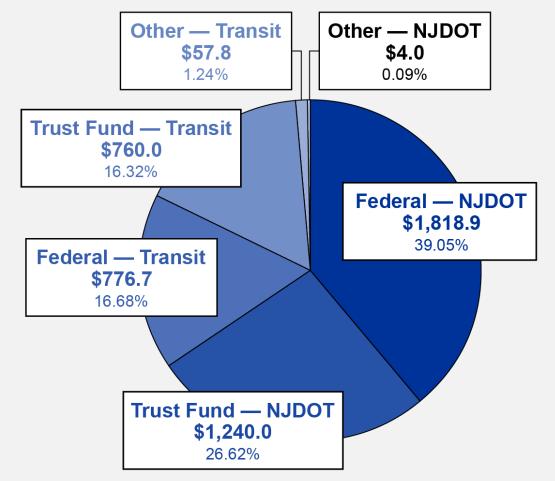
State Funds

- > \$810M NJDOT
- > \$430M Local Aid
- > \$760M NJ TRANSIT

Safety (\$143M)

> \$73M HSIP

Sources of Funds (\$ in Millions)





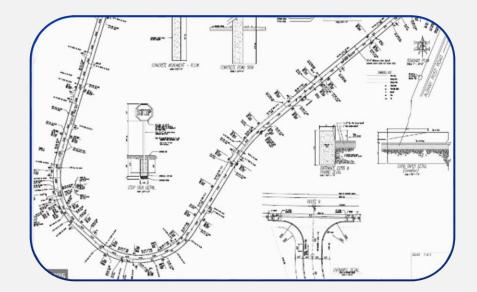
Active HSIP Projects in the Safety Portfolio

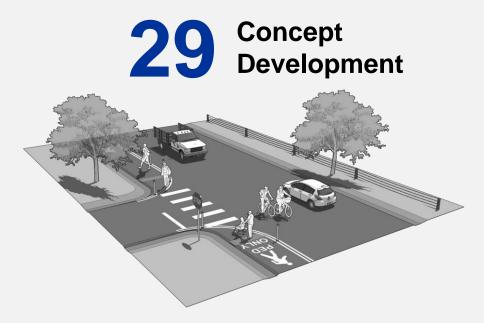






Design





101

Construction



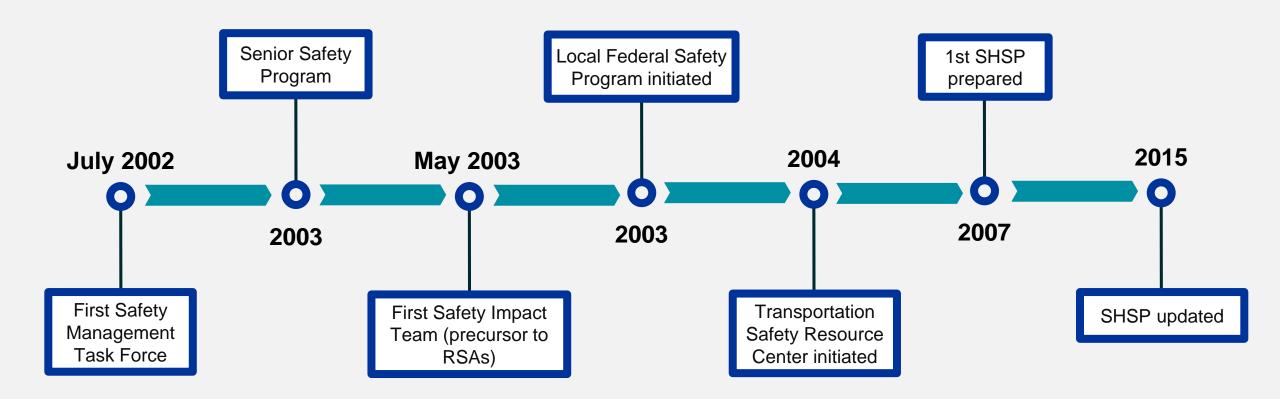


Evolution of Safety Programs



Past – Bureau of Safety Programs

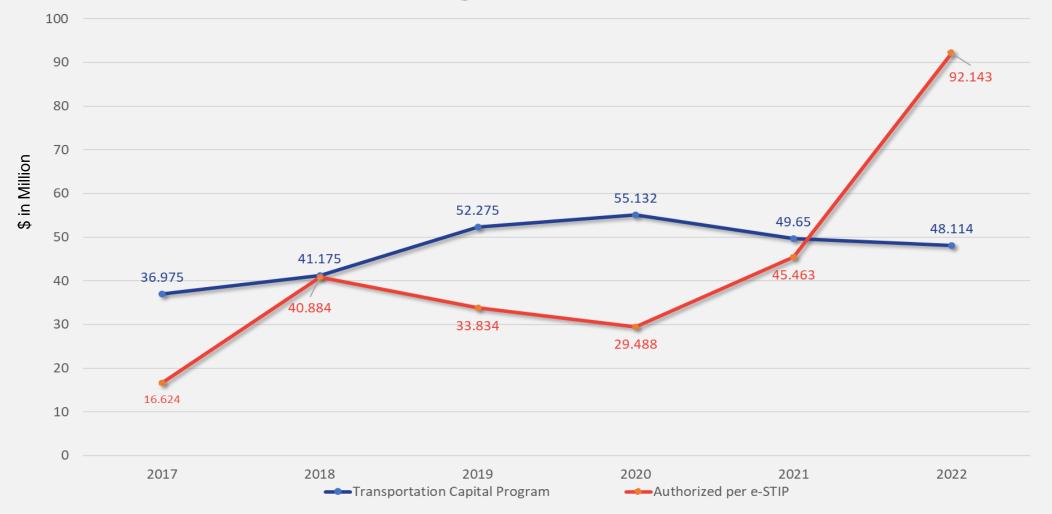




HSIP Program Programmed versus Authorized

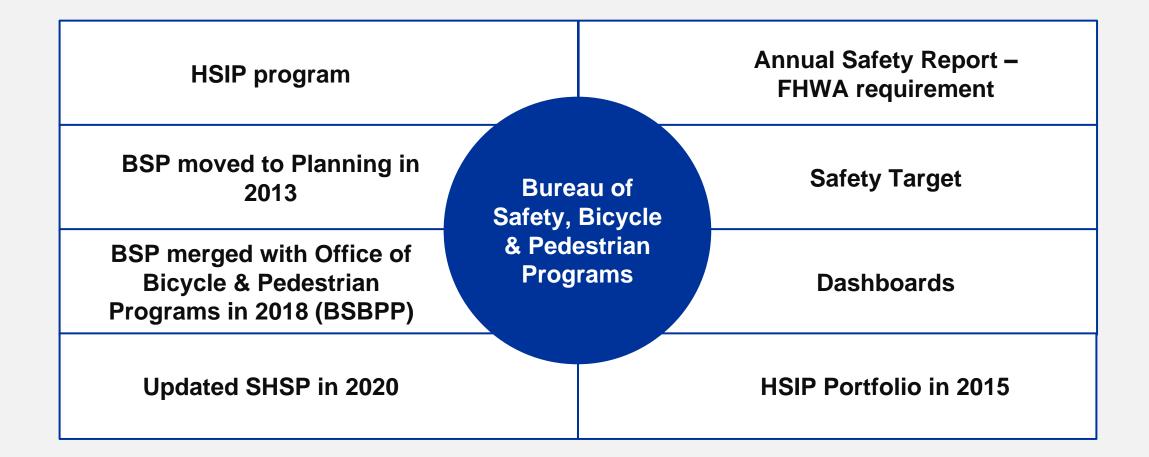


HSIP – Programmed vs Authorized



Present







FY 2022 HSIP Performance

PLANNING **Highway Safety** Improvement Program Planning Motor Vehicle Crash Records Processing Rail-Highway Grade Crosssing Program (salaries)

LOCAL AID

STATE

Safety Programs

Individual Projects Clearzone Program

ITS

Local Safety/High Risk Rural Roads Program Individual Projects

Rail-Highway Grade Crossing



Compliance Goal: \$58 Million

*Reference: Table 7, HSIP Implementation Plan





TOTAL

\$90 M

\$80 M

\$70 M

\$60 M

\$50 M

\$40 M

\$30 M

\$20 M

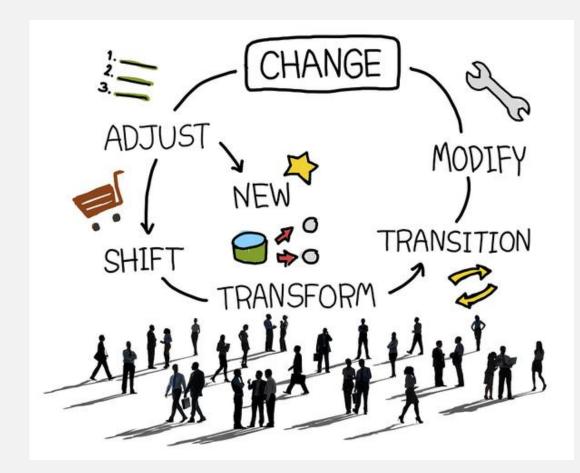
\$10 M

\$0 M

45

Continued Evolution

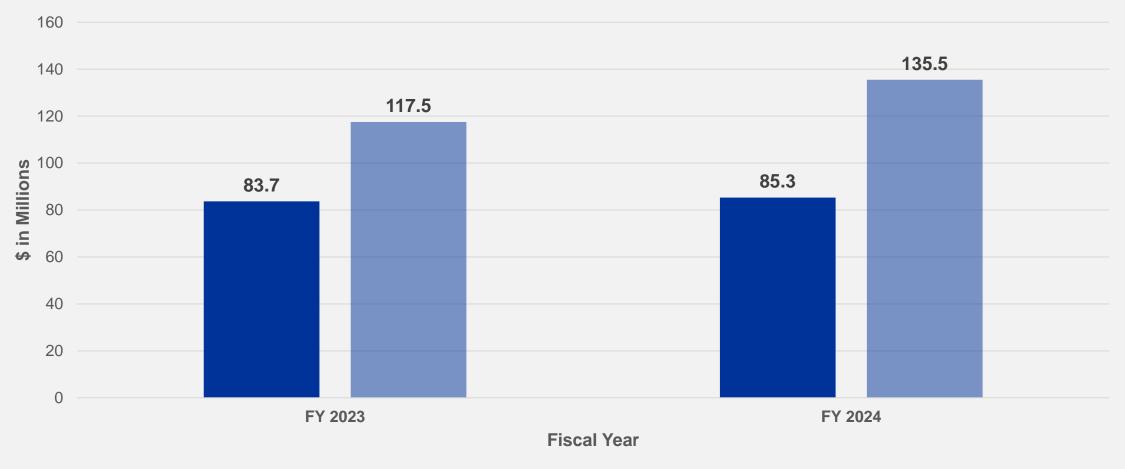
- Started with in-house design and maintenance projects
- Created network screening, identify locations
- > Hot-spot projects, intersection improvement, corridor improvement projects
- > Systematic projects
- > Systemic projects
- > Safe Systems Approach
- > Diversify the HSIP Portfolio
- Get on the technology bandwagon





HSIP Program Programmed versus Planned





Programmed Planned







- Safe Transportation for Every Pedestrian (STEP)
 - Pedestrian Crossing Countermeasures at Uncontrolled Locations
 - Systematic Midblock Crosswalk Improvement projects

- > Data Driven Safety Analysis
 - Substantive Safety Local Safety Peer Exchanges: Central (2017), South (2018) and North (2019)
- > NJDOT Reducing Rural Roadway Departures Training
 - FHWA Resource Center / NJDOT Virtual training (March 2021)





4A Reactive to Proactive

Safety Concern Identification



Systemic

- > Horizontal Curve Safety Assessment
- > Wrong Way Driving
- > Forthcoming Safety Assessments:
 - > School Zones
 - > Intersections







Systematic

- > Vegetation Safety Management
- > Midblock Crosswalk Improvements









Process Improvement



Safety Project Delivery





Limited Scope Process (Project Initiation)

- Limited Scope CD Checklist
 - > Develop CD Checklists
 - Horizontal Curve Sign Program
 - High Friction Surface Treatment (both are available on the CPD website, use pictures)

		Department of T roject Delivery Proce		\bigcirc
Problem Screening Planning Funds Review Problem Statement	Concept Development Planning Funds Conduct Data Collection	Preliminary Engineering reliminary Engineering uthorization	Final Design Final Design Authorization ROW/Utility Authorizations Manage Project Communications	Construction Construction Authorization Advertise for Bids
Subject Matter Expert Review Check NJDOT Management System Prioritize Problem Statements Conduct Field Investigation Validate Problem Recommend Preliminary Project Scope CPC Approval and Assignment	Evaluate Deficiencies and Identify Fatal Flaws Evaluate Planning Alternatives Coordinate with Stakeholders Complete Environmental Screening Assess Right of Way (ROW) and Access Impacts Determine Preliminary Preferred Alternative (PPA) Identify Substandard Design Elements Determine Environmental Document Prepare Construction Cost Estimate Select Designer	anduct Environmental Analysis for PA itiate Roadway Engineering itiate Structural Engineering itiate ROW and Access itiate Utility Engineering repare Final Design and onstruction Cost Estimates anage Project Centracts	Complete Roadway Engineering Complete Structural Engineering Complete ROW and Access Complete Utility Engineering Complete Environmental Process Prepare Final Design Submission Certify Construction Contract Documents Manage Project Contracts	Award Project Conduct Construction Startup Conduct Mobilization Manage Construction Changes Conduct Construction Operations Complete Construction Closeout Project
Stoppod Average Average Averag	Execute Public Involvement Action Plan Design Communications Report Concept Development Report Purpose and Need Statement Preliminary Preferred Alternative Environmental Document Classification Preliminary Engineering Scope Statement	kecute Public Involvement Action ian esign Communications Report reliminary Engineering Report Approved Enviroamental Document Approved Design Exception Report Cost Estimates (Final Design & Construction) Approved Project Plan Final Design Scope Statement Division of Project Management	Execute Public Involvement Action Plan Design Communications Report Environmental Reevaluations and Permits Access Permits Acquisition of ROW Construction Contract Documents Supporting Agreements Division of Project Management	Keep Public Informed Maintain Community Support Design Communications Report Completed Project As-Builts Closeout Documentation Division of Project Management and Division of Construction Services and Materials or Operations

Capital Project Delivery Process (Network Diagram - Activities)

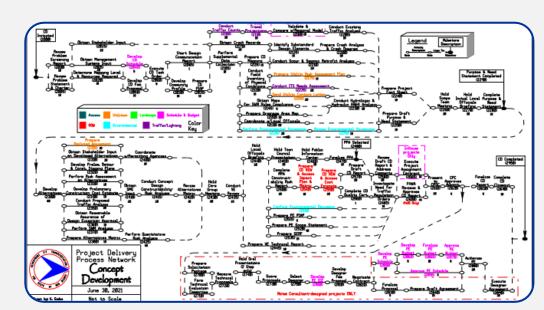
> Added HSM and Complete Streets activities to the CPD Network Diagram and WBS

> CD

- > HSM Analysis
 - > Develop HSM Analysis
 - > Review HSM Analysis
 - > Approve HSM Analysis
- > Complete Streets Checklists

> PE

Complete Streets Checklists



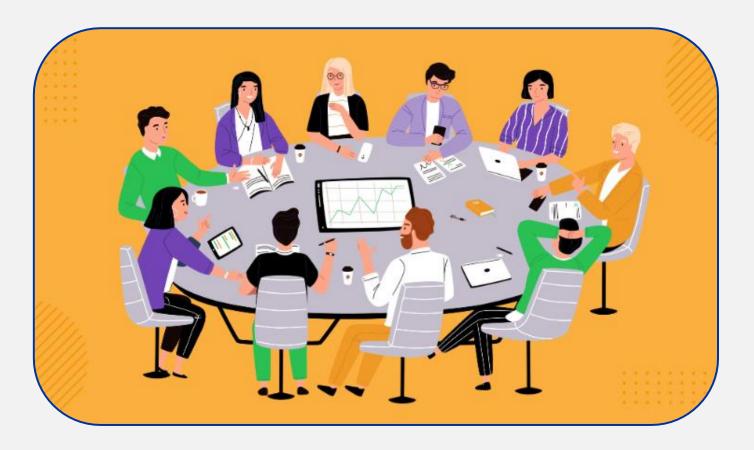




Engagement (Project Development)



- > Project development
- > Consultant Selection Teams



Post Deployment Evaluation (Project Evaluation)



- > Developing a comprehensive process for post construction evaluation
 - > Center Line Rumble Strips
 - > HFST
 - > Road Diets



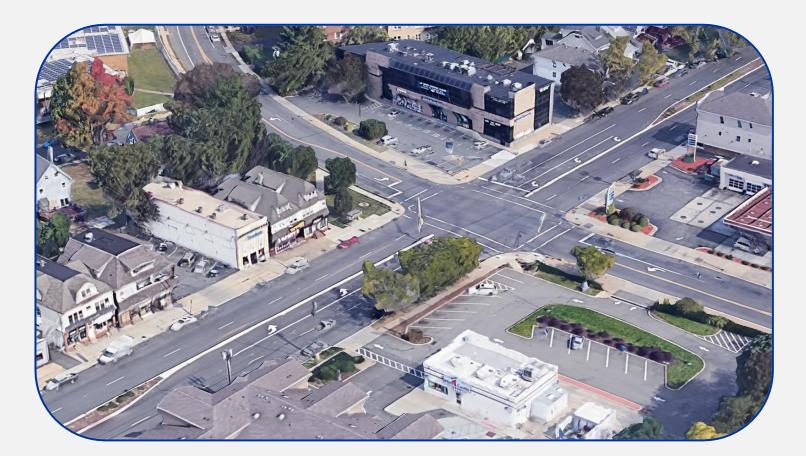






Split Funding

- > HSIP monies
- Route NJ 439, Route NJ 28 (Westfield Avenue) to Route NJ 27 (Newark Avenue) -\$0.85 million out of \$5.7 million









- > Job Order Contracting
 - > Safety Project Delivery
 - > Horizonal Curve Safety
 - > Vegetation Safety Management







Stakeholders





Maintenance

Technology

Communications

Diversify project types





Maintenance

> Vegetation Safety Management

Technology

- > Wrong Way Driving Warning Systems
- > Pedestrian Detection Systems
- > Lead Pedestrian Intervals



- **Communications/Special projects**
 - > PSAs/Public Outreach





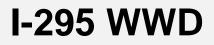




Wrong Way Driving Systems



I-80 WWD







Pedestrian Detection Systems



- > Passive pedestrian detection
- > Active pedestrian detection



Rt 129 & Lalor Street

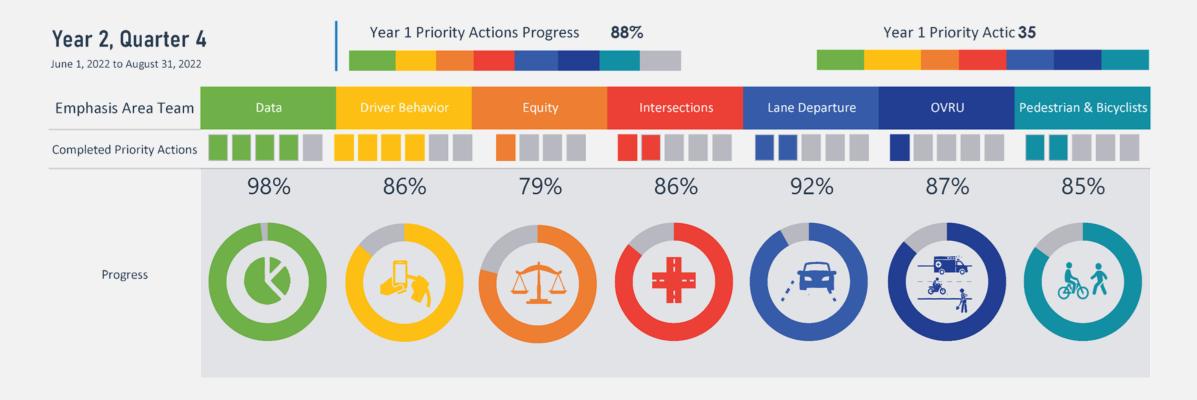




Implementation



> Emphasis Areas, Deliverables and Engagement



4G Safety Resource Center









One-stop centralized clearinghouse for transportation safety in New Jersey

Supports 'Towards Zero Deaths' and an aspirational goal of Zero Deaths by 2050

Disseminates information & connects parties to industry resources Serves as gateway to multimodal safety programs, funding guidance, reports Supports Implementation of SHSP and supports administration of associated programs

Assists with reporting requirements

SRC Elements





Brand

Promise, purpose, values, mission, vision, image, experience, impression





Website

Primary gateway to everything safety



Training Program

Comprehensive curriculum & learning center



Social Media Connecting with people



Meetings & Events

Instruments to facilitate knowledge sharing and NJDOT's vision for safety









NJDOT Innovative Approach to Safety

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