

CIA TEAM

**PLANNING &  
ENVIRONMENT**

NJDOT – Andy Swords

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# CORE INNOVATION AREA UPDATE PLANNING & ENVIRONMENT

JUNE 14, 2023



Sudhir Joshi – NJDOT

# Speakers' Topics



## Update on Every Day Count (EDC) -7 Baseline Report

- i. Baseline Questions
- ii. Innovation Implementation Team Members
- iii. State Innovation Goal
- iv. Obstacles
- v. Implementation Plan Activities

## Update on Carbon Reduction Program

- i. Background
- ii. NJDOT Approach to Carbon Reduction Strategy
- iii. Sample Projects Types
- iv. Key Milestones
- v. Current Status





# Update on EDC-7 Baseline Report

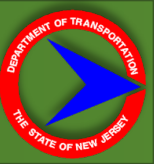


## Baseline Questions

- April 2023 Baseline: What stage of implementation is the State currently at?  
- Development Stage
  
- Current state of practice to support the development stage –
  - Analyzing the air quality benefits of projects and programs through the Congestion Mitigation and Air Quality Improvement (CMAQ) program and expect to leverage this experience during the demonstration stage in developing the capability to analyze GHG reduction benefits.
  - NJDOT and its partners will benefit from the work on the carbon reduction strategy.
  
- What is the State goal in two years? - Demonstration Stage



# Update on EDC-7 Baseline Report



- Proposed activities the State and their partners intends to perform to attain their goal –
  - Development of a carbon reduction strategy
  - NJDOT intends to support eligible projects and programs while also considering cost effectiveness in this strategy. Provide analytical support to the National Electric Vehicle Infrastructure (NEVI) program.
  - Consider the use of drone technology for bridge inspection and traffic congestion analysis.
  - Both applications have the potential to reduce traffic congestion and greenhouse gas emissions.
  - Our transportation partners want to have a better idea of the scale of carbon reduction benefits and use this information in modeling and for decision-making.
  - The second goal is to reduce VMT and improve vehicle performance through electrification and sustainable energy.
  - Third, we consider Green House Gas (GHG) reduction policy holistically, including planning, target setting, and funding to educate, deliver programs, and assess outcomes, as well as funding to prioritize programs.



# Update on EDC-7 Baseline Report



- Can the Innovation Deployment Team provide assistance to help the State and their partners reach its goal within two years?
  - Training
  - Technical Support on specific projects/issues
  - Workshops or Peer Exchanges
  - Case Studies



# Update on EDC-7 Baseline Report

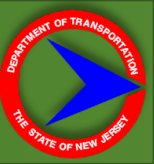


- **Innovation Implementation Team Members** - NJDOT: Andrew Swords and Sushant A. Darji and from FHWA: Sutapa Bandyopadhyay
- **State Innovation Goal (Benefit Goal):** Currently, transportation accounts for 42% of GHG emissions in the state and 29% of GHG emissions nationally.
- **Obstacles:** State DOT is facing difficulty generalizing the effect of projects to the entire transportation sector and needs to develop a process for understanding the GHG impacts of construction.
- **Implementation Plan Activities:** Development of Carbon Reduction Strategy and NEVI Program Support





# Update on Carbon Reduction Program



## Background

- The Bipartisan Infrastructure Law establishes the Carbon Reduction Program (CRP), which provides funds for the projects designed to reduce transportation emissions, defined as carbon dioxide (CO<sub>2</sub>) emissions from on-road highway sources
- Funds apportioned to each state
- Eligible project types
- Coordination and consultation
- Completion of State Carbon Reduction Strategy by November 15, 2023





# NJDOT Approach to Carbon Reduction Strategy

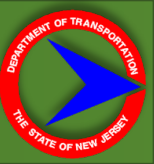


- **Purpose:** Identify projects and strategies that will contribute to helping New Jersey reduce its transportation-related emissions and serve as a basis for the state's decision-making on the use of CRP funds.
- **Consultation with other Agencies:** Conducted a survey involving multiple agencies to determine the types of projects being pursued by the state, establish a strategy that considers present plans without excluding future plans, and develop a strategy that may serve as a resource for other agencies.





# Sample Project Types



## ➤ Projects Types:

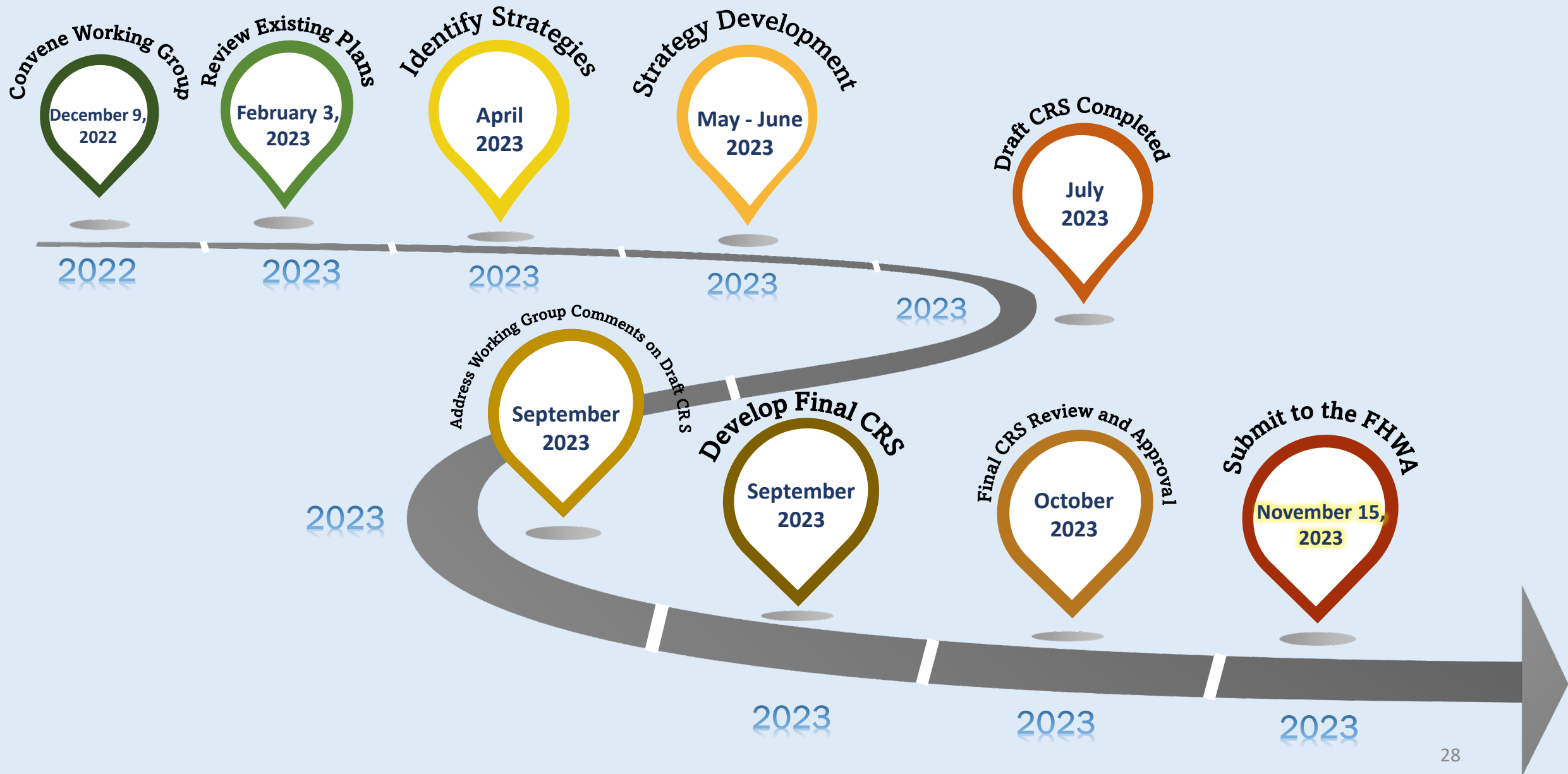
- ✓ Replace medium duty trucks
- ✓ Replace diesel offroad equipment
- ✓ New active transportation facility
- ✓ Expanded Transit Bus Service
- ✓ Signal synchronization along corridor
- ✓ Construction methods
- ✓ Replace Lighting with LED
- ✓ Install public EV charging stations
- ✓ Replace diesel buses
- ✓ New Vanpool Service
- ✓ Expanded Light Rail Service
- ✓ Projects to relieve highway congestion
- ✓ Innovative technologies
- ✓ Replace heavy duty trucks

## ➤ Project Example: Sustainable construction materials like Glass Foam Aggregate

- ✓ 50% less CO2 than other lightweight aggregates
- ✓ 1 Truck of FGA  $\approx$  7 Trucks Of Regular Backfill Trucks Off the Road
- ✓ NJDOT Construction has used  $\sim$  35,000 Cubic Yard of FGA, which equates to over 30 million bottles not placed in landfills
- ✓ NJDOT has projects in design soon to go into construction that will use over 50 million bottles



# Milestones: Carbon Reduction Strategy



# Current Status



- Currently, we are establishing the strategies by soliciting feedback from all other agencies and analyzing the approaches developed by other states to develop strategies for their states.





**Thank you for your Participation.**

