

CIA TEAM

**INFRASTRUCTURE  
PRESERVATION**

NJDOT – Shivani Patel

FHWA – Nunzio Merla

# **CIA Team**

# **Infrastructure Preservation**

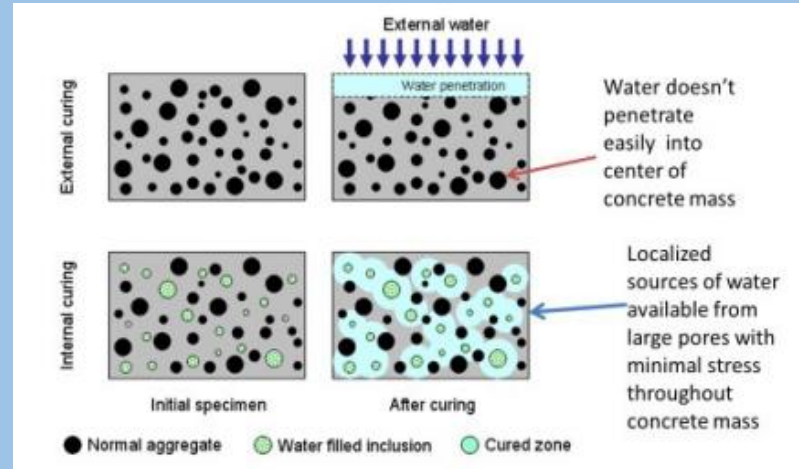
**Shivani Patel-NJDOT**

**Nunzio Merla-FHWA**

**Christopher Paige-FHWA**



# EDC-7 Enhancing Performance with Internally Cured Concrete (EPIC<sup>2</sup>)



## Purpose:

To implement the use of internally cured concrete to reduce shrinkage cracking and achieve long-term performance in concrete bridges, roads and repairs.

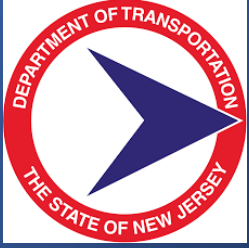


# EDC-7 Enhancing Performance with Internally Cured Concrete (EPIC<sup>2</sup>)

## Status:

- Draft HPIC Specifications circulated for review; comments received

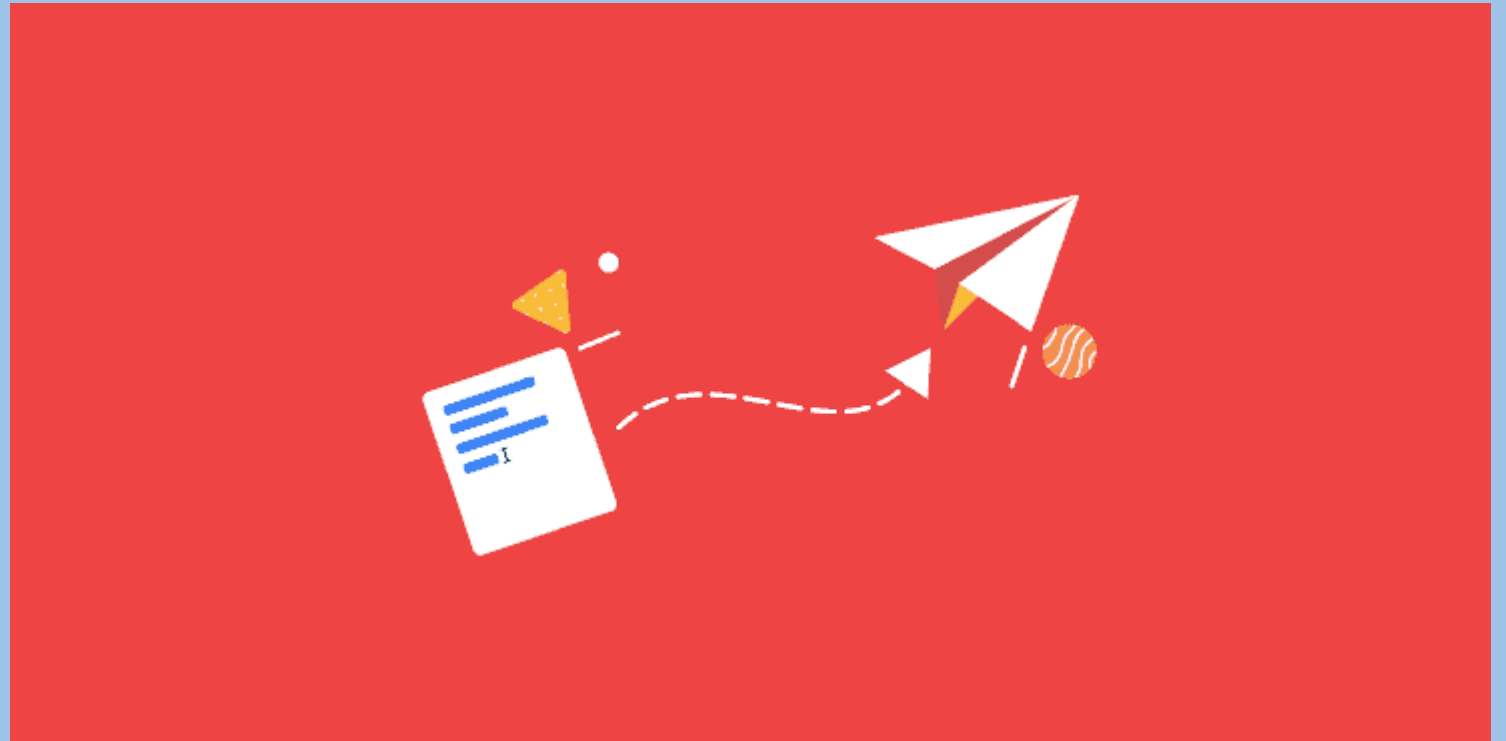




# EDC-7 Enhancing Performance with Internally Cured Concrete (EPIC<sup>2</sup>)

## Status:

- Incorporating HPIC specifications into special provisions of 1<sup>st</sup> pilot project





# EDC-7 Enhancing Performance with Internally Cured Concrete (EPIC<sup>2</sup>)

## Next Quarter:

- Finalize the Specifications
- Communicate with concrete suppliers
- Communicate with project designers





## UPDATE on EDC-6 UHPC Innovation



- The UHPC Overlay Performance Evaluation Program second testing conducted:
  - I-295 NB & US 130 NB over Mantua Creek in Gloucester County
  - NJ 159 WB over Passaic River in Morris County
- Analysis complete and results are favorable
- NJDOT's UHPC overlay pilot projects selected for presentation at the 2024 National Bridge Preservation Partnership Conference



# EDC-7 Environmental Product Declarations (EPDs) for Sustainable Project Delivery



## Purpose:

To identify and understand the environmental impacts from resource use, energy, and emissions in construction and consider alternatives using third party verified reports.

## What is an EPD?

Nutrition Facts	
Serving Size 1/2 cup (115g)	
Servings Per Container About 4	
Amount Per Serving	
Calories 250	Calories from Fat 130
% Daily Value*	
Total Fat 14g	22%
Saturated Fat 9g	45%
Cholesterol 55mg	18%
Sodium 75mg	3%
Total Carbohydrate 26g	9%
Dietary Fiber 0g	0%
Sugars 26g	
Protein 4g	
Vitamin A 10%	Vitamin C 0%
Calcium 10%	Iron 0%

\* Percent Daily Values are based on a 2,000 calorie diet.

Source: <http://www.elixirenvironmental.com/environmental-product-declaration.php>

EPD "Nutrition" Label	
Your Building Product	
Amount per Unit	
LCA MEASURES	TOTAL
Primary Energy (MJ)	12.4
Global Warming Potential (kg CO <sup>2</sup> eq)	0.96
Ozone Depletion (kg CFC-11 eq)	1.80E-08
Acidification Potential (mol H <sup>+</sup> eq)	0.93
Eutrophication Potential (kg N-eq)	6.43E-04
Photo-Oxidant Creation Potential (kg O <sub>3</sub> eq)	0.121
Your Product's Ingredients: Listed Here	





EDC-7  
Environmental  
Product  
Declarations  
(EPDs) for  
Sustainable  
Project Delivery

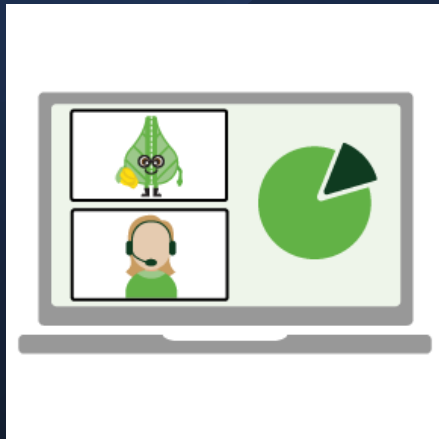
## Status:

- Participating in FHWA Climate Challenge grant projects which involve use of EPDs





# EDC-7 Environmental Product Declarations (EPDs) for Sustainable Project Delivery



## Status:

- FHWA Climate Challenge Team provided training to NJDOT staff





EDC-7  
Environmental  
Product  
Declarations  
(EPDs) for  
Sustainable  
Project Delivery



**Next Quarter:**

- Continue working on phase 1 efforts
- Work on project tasks related to FHWA's Climate Challenge



Questions?