

<http://www.fhwa.dot.gov/everydaycounts>



U.S. Department
of Transportation

Federal Highway
Administration

AASHTO
THE VOICE OF TRANSPORTATION



NJ ASPHALT PAVING CONFERENCE

March 24, 2014

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NJ Division Office



EDC EXCHANGE ON INTELLIGENT COMPACTION

Thursday, April 3, 2014 at 2 pm

Multiple Locations – Trenton, Vineland, Edison,
Newark, Piscataway

2 PDHs

Contact Bethany Allinder at bethall@rutgers.edu
or cait.rutgers.edu/cait/training for registration



EVERY DAY COUNTS

Launched by FHWA Administrator, Victor Mendez, October 2010

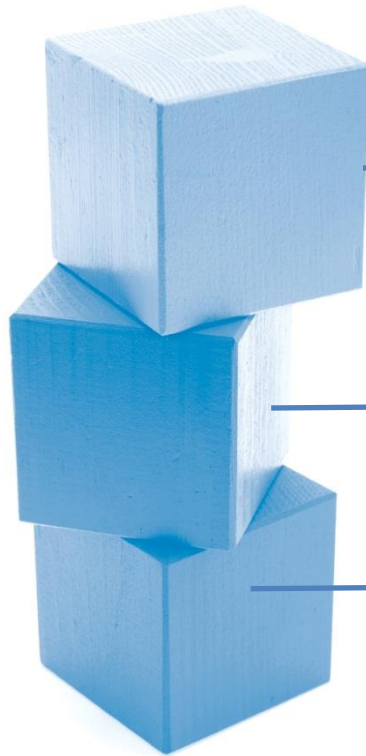
Purpose:

- Identify and deploy innovation aimed at shortening project delivery
- Enhance the safety and performance of our highways and bridges
- Improve environmental sustainability





BUILDING ON OUR ACHIEVEMENTS



EDC3

EDC2

EDC1



- Reducing Project Delivery Time
 - Reducing Construction Time
 - Innovative Contracting
 - Safety
 - Environment
 - Mobility
-
- Shortening Project Delivery
 - Accelerating Technology Deployment

We built on successes in EDC1 to continue creating a culture of innovation, while reaping even more benefits in EDC2 and EDC3.



EDC2 – 21ST CENTURY SOLUTIONS

**Accelerating Project
Delivery**

**Reducing
Construction Time**

**Innovative
Contracting**

Safety

Environment

Mobility



EDC2

REDUCING CONSTRUCTION TIME



3D Engineered Models for Construction



Accelerated Bridge Construction

- Geosynthetic Reinforced Soil – Integrated Bridge Systems (GRS-IBS)
- Prefabricated Bridge Elements and Systems (PBES)
- Slide-in Bridge Construction



Intelligent Compaction



EDC2 INNOVATIVE CONTRACTING



.....

Construction Manager/
General Contractor



.....

Alternative
Technical Concepts



.....

Design Build



EDC2

IMPROVING PERFORMANCE

SAFETY



- High Friction Surfaces
- Intersection and Interchange Geometrics

ENVIRONMENT



- Implementing Quality Environmental Documentation

MOBILITY



- National Traffic Incident Management Responder Training (SHRP2)



MAP-21

- *Moving Ahead for Progress in the 21st Century, MAP-21, (P.L. 112-141), signed into law on July 6, 2012*
- Builds on EDC initiative:
 - Encourages innovative technologies and practices
 - Enhances contracting efficiencies
 - Focus on the environmental review process
 - Strives to improve project delivery efficiency



EDC AND MAP-21

- Institutionalize EDC
 - Performance-based program
 - Accelerating Project Delivery
 - Mainstreams EDC 1 Initiatives
 - Focus on Innovation
 - Technology & Innovation Deployment Program (TIDP)





STATE TRANSPORTATION INNOVATION COUNCIL (STIC)



- Provides state-based leadership for the National Transportation Innovation Network
- Helps facilitate deployment of EDC Initiatives
- Engages stakeholders



NEW JERSEY'S STIC

FHWA Division
Administrator &
Representatives

NJDOT
Commissioner &
Representatives

Local Municipality
Representative

Metropolitan
Planning
Organizations

Local Technical
Assistance Program
Coordinator

Associated
Construction
Contractors of NJ

American Council
of Engineering
Companies of NJ

NJ Association of
County Engineers

University
Representative



EDC ASPHALT PAVEMENT INNOVATIONS

- Warm Mix Asphalt
- Safety Edge
- Intelligent Compaction and Construction
- High Friction Surfaces



WARM MIX ASPHALT (WMA)

- These are technologies that allow production and placement of Hot Mix Asphalt pavement material at lower temperatures.
- WMA reduces energy, fuel emissions and extends the paving season



50 states and FLHD have specifications and/or contractual language that allows WMA on projects



WARM MIX ASPHALT

EAST Entrance Road inside Yellowstone National Park, WY
Credit: Brad Neitzke, Western Federal Lands Highway Division



BENEFITS OF WARM MIX ASPHALT

- Reduce paving costs
- Extend the paving season
- Improve asphalt compaction
- Allow asphalt mix to be hauled longer distances
- Improve working conditions by reducing exposure to fuel emissions, fumes and odors



SAFETY EDGE_{SM}

- Provides a sloped pavement edge, which allows for easier return for vehicles that drift and increases the pavement edge durability
- Over 1000 Safety Edge_{SM} projects have been initiated since October 2010



50 states and FLHD have used Safety Edge_{SM} on at least one project.



THE PROBLEM



Overlays



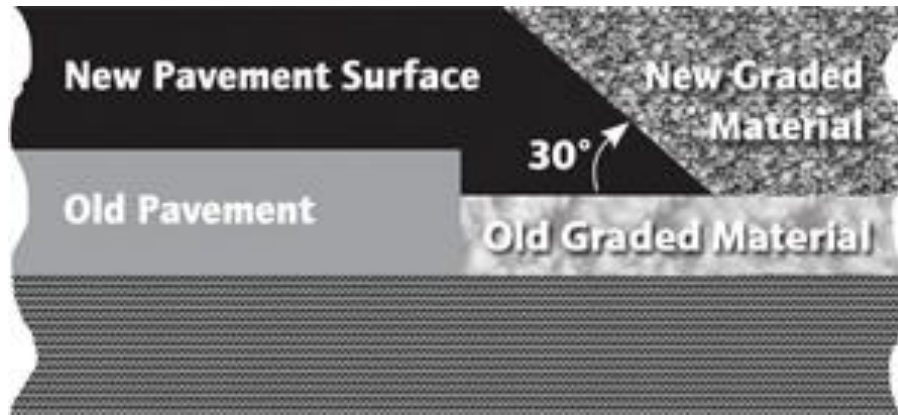
Erosion



Mailboxes



THE SOLUTION





INTELLIGENT COMPACTION





HIGH FRICTION SURFACE TREATMENTS

- More for safety purposes
- Used on horizontal curves, ramps, steep grades, intersections, approaches to pedestrian crosswalks or rail crossings
- Uses aggregates that are polish and wear-resistant and epoxy for bonding
- Can be applied to concrete or asphalt if sound



NEW JERSEY'S PROGRESS

- Well underway with WMA
- Using Safety Edge_{SM}
- Piloting Intelligent Compaction
- Scattered, mostly local, use of high friction surface treatments



WHAT DOES THE
FUTURE HOLD?