



EVERY DAY COUNTS TECHNOLOGY INITIATIVE

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Every Day Counts Initiative

- EDC is designed to identify and deploy innovation. Our goals is to:
 - Shorten project delivery
 - Enhance the safety of our roadways
 - Protect the environment



Accelerating Technology Deployment

- *Why should Every Day Count?*
- *What are the technologies?*
- *How did we select them?*
- *Why are you essential to the success of the initiative?*





WHY?

- How long does it take to deploy innovation in the transportation industry?
 - Change a business practice
 - Replace a design system
 - Replace a construction process...

2 YEARS?

10 YEARS?

5 YEARS?

20+ YEARS?





A COLLABORATIVE PROCESS

- Input from stakeholders (AASHTO, ARTBA, NACE, ITE, etc.)
- Input from FHWA field staff and SHAs
- Technology Rating Panel



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- NACE
- AASHTO
- ARTBA
- AGC
- FHWA Divisions & HQ



WHAT ARE THE TECHNOLOGIES?

- Warm Mix Asphalt (WMA)
- Precast Bridge Elements (PBE)
- Geosynthetic Reinforced Soil (GRS)
- Safety Edge
- Adaptive Traffic Control Technology (ATCT)





TECHNOLOGY & INNOVATION

Warm Mix Asphalt

Allows a reduction in asphalt mixture production & placement temperatures

Benefits:

- ▶ *Provides better compaction*
- ▶ *Reduces fossil fuel consumption*
- ▶ *Reduces CO₂ & other emissions*





TECHNOLOGY & INNOVATION

Prefabricated Bridge Elements & Systems

Prefabricated bridge elements and systems manufactured on-site or off-site, under controlled conditions, and brought to the job location ready to install

Benefits:

- ▶ Minimizes traffic & community impact
- ▶ Improves construction zone safety
- ▶ Better quality & lowers life-cycle costs





TECHNOLOGY & INNOVATION

Geosynthetic Reinforced Soil

Fast, cost-effective bridge support method using alternating layers of compacted fill and sheets of geotextile reinforcement to provide bridge support.

Benefits:

- ▶ Reduced construction time (complete in 10 days)
- ▶ 25 - 60 % less cost vs. standard construction
- ▶ Flexible design
- ▶ Easier to maintain because of fewer parts
- ▶ Built with common equipment and materials





TECHNOLOGY & INNOVATION

Safety Edge

Pavement edge beveled at a 30° angle which allows drivers a more controlled re-entry back onto the roadway after a tire drop-off, if the adjacent graded material settles or erodes

Benefits:

- ▶ Reduces crashes due to edge drop-off and uncontrolled recovery
- ▶ Minimal cost (less than 1% on 2-lane highway)
- ▶ Consolidated asphalt edge reduces edge raveling, increases durability





THE SAFETY EDGE



Re-graded after paving



Re-grade shoulder to top of pavement



TECHNOLOGY & INNOVATION

Adaptive Traffic control Technology

ACS measures traffic flow and adjusts signal timing to promote smooth flow of traffic along arterial streets

Benefits:

- ▶ *ACS improves travel time reliability, reduces congestion, smoothes traffic flow*
- ▶ *Widely deployable & uses existing control equipment*





WHY YOU ARE ESSENTIAL TO EDC SUCCESS

- Only together can we truly shorten project delivery and accelerate the deployment of innovative technologies!





Puerto Rico 2011 efforts

- WMA
 - Test section at PR-2 Yauco
 - Over 35,000 tons at PR-52 Juana Diaz/Santa Isabel
- GRS
 - PR-140 Barceloneta
 - PR-2 Yauco (2 structures includes PBES)
- Safety Edge
 - several trials around the island and the Virgin Islands
- Adaptive Traffic control
 - PR-2 Mayaguez



U.S. Department
of Transportation
Federal Highway
Administration

THANK YOU

