U.S. Department of Transportation
Federal Highway Administration

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FHWA OTS Resource Center

2011 Winter Workshop

Woodside, DE
February 25th 2011

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

CHANGE:

The dogmas of the quiet past are inadequate to the stormy present… as our case is new, so we must think anew and act anew.

Our Visit Today

Part 1:	Part 2:	Part 3:	Part 4:
What is Every Day Counts?	Shortening Project Delivery Toolkit	Accelerating Technology & Innovation	Thunderous Applause!

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Part 1:

WHAT IS EVERY DAY COUNTS?

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?

5 YEARS?

10 YEARS?

20+ YEARS?

Why?

"We are continuously looking for new ideas, working with stakeholders to bring new products and innovative processes to market." – V. Mendez

- Challenge… to make **Every Day Count!**

Victor Mendez
FHWA Administrator

Greg Nadeau
Deputy Administrator

Why?

"Currently the NEPA process alone takes 72 months… We need to change the mindset and challenge this State driven process."

– at 1st EDC Summit 2010 in VA

John Horsley
Executive Director
AASHTO

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Part 2:

SHORTENING PROJECT DELIVERY TOOLKIT…

Shortening Project Delivery Toolkit

The toolkit is developed to guide and support State and local agencies in the use of underutilized flexibilities in the existing law and in the development of processes and agreements that minimize duplication of effort and reduce delays in project implementation.

Planning **NEPA** **ROW/Utilities** **Design/Construction**




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Part 3:

ACCELERATING TECHNOLOGY & INNOVATION…

Accelerating Technology and Innovation

Every Day Counts is **NOT** about inventing the next "big thing". It's about taking effective, proven and market-ready technologies and getting them into widespread use. By advancing 21st century solutions, we can improve safety, reduce congestion and keep America moving and competitive.

A COLLABORATIVE PROCESS

- Input from stakeholders
- Input from FHWA field staff and SHAs
- Technology Rating Panel Recommendations
  - January 26th 2010
- Select Final Technologies
- Innovation Deployment Teams established for each technology
- Implementation roadmaps, marketing plans, and performance measures drafted
- Provide training to FHWA field offices
- Meet with stakeholders during Summits

Phase 1 – TECHNOLOGIES CONSIDERED

1. Green Pavement
2. ABC (PBES, GRS, etc.)
3. Bridge Inspections NDE Showcase
4. Precast Pavement
5. ACS Lite
6. Roadway Departure Prevention
7. Alternative Intersection Designs
8. Intelligent Construction Technologies
9. Mechanistic Empirical Pavement Design
10. CA4PRS Tools
11. Smart Roadside
12. Asset Management Tools
13. Advanced Hydraulics Technologies
14. Oregon Solar Highway project

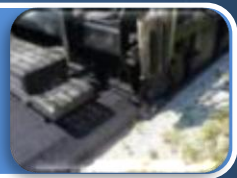
What are the Innovations?

- Warm Mix Asphalt (WMA)

- Prefab. Bridge Elements & Systems

- Geosynthetic Reinforced Soil

- Safety Edge



- Adaptive Traffic Control Technology

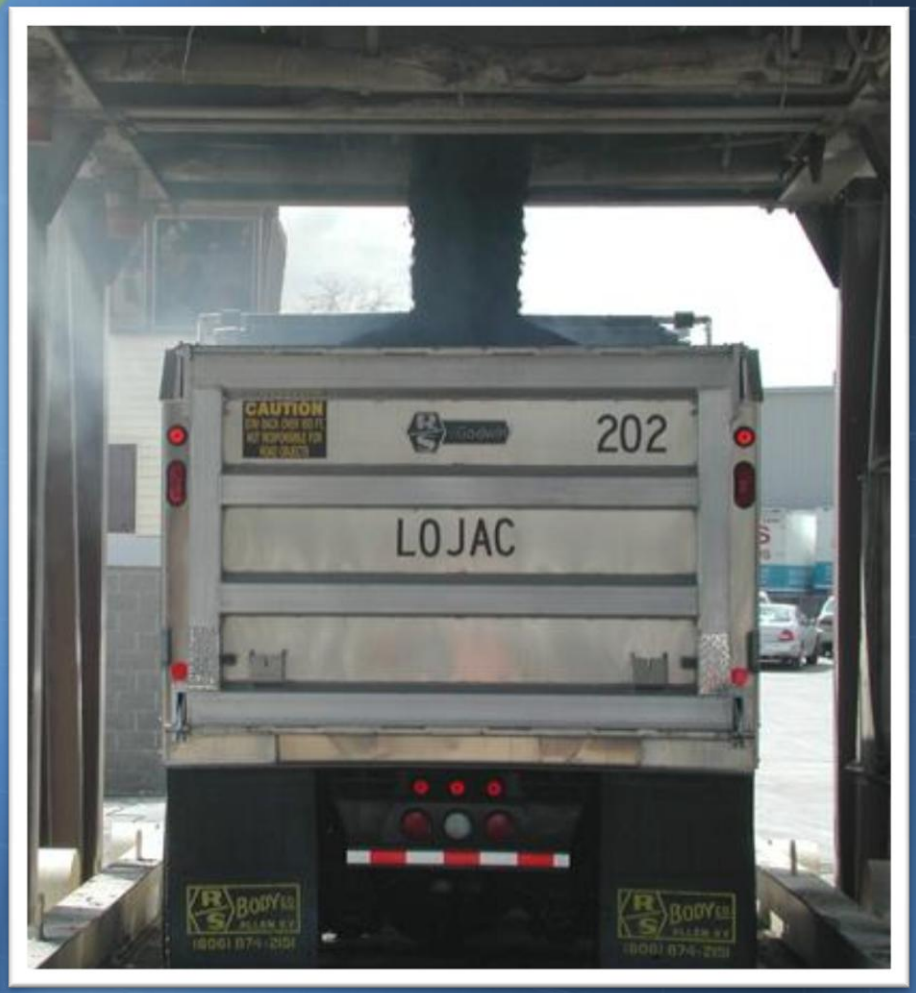
Warm Mix Asphalt

Allows a reduction in asphalt mixture production & placement temperatures

Benefits:

- *Provides better compaction*
- *Reduce worker fatigue*
- *Reduces fossil fuel consumption*
- *Reduces CO_2 & other emissions*
- *Longer paving season*
- *Allows for longer hauling distances*
- *Greater benefits with High RAP*

Warm Mix Asphalt (WMA)

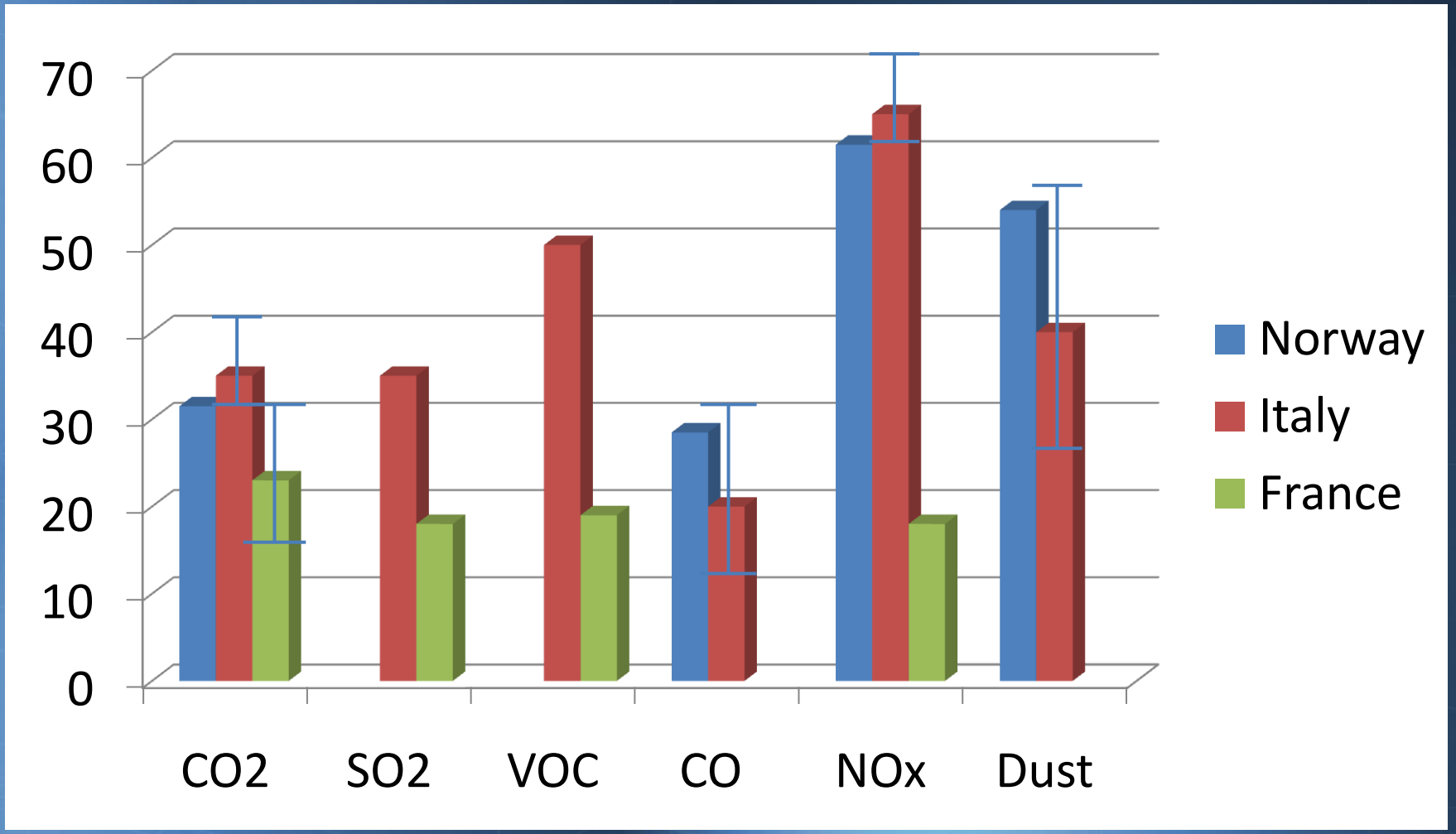


Hot Mix Asphalt at 320°F

Warm Mix Asphalt at 250°F

*Warm Mix Asphalt: European Practice**

Reported Reductions in Plant Emissions (%)



*Warm Mix Asphalt: European Practice, FHWA-PL-08-007, February 2008

Warm Mix Asphalt

- WMA encompasses a wide range of enabling technologies that enhance asphalt production and/or lay-down properties…

Q. Which project is which?

A: Hot-Mix Asphalt (HMA)?

B: Warm Mix Asphalt (WMA)?

Project No. 1

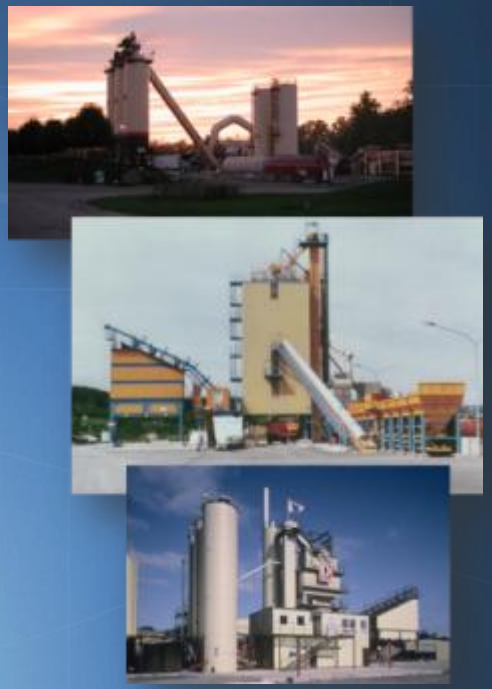
Project No. 2

Memorable Message

- **I.C. = I.P.**

  Improved Compaction = Improved Performance

- **F.E.W. key benefits…**
  - Fuel
  - Emissions
  - Worker Comfort



**Advantages will only be realized by optimizing production operations and utilizing best practices

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:

- Reduces onsite construction time
- Minimizes traffic disruption – months to days
- Improves construction zone safety
- Improved product quality – controlled environment, cure times, easier access, etc. constructability of bridge designs
- Reduces environmental impact

Geosynthetic Reinforced Soil

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

Lots of Benefits:

- Eliminates approach slab or construction
- Joint at the bridge-to-road interface
- Reduced construction time
  (Complete in days!)
- Less dependent on weather conditions
- Flexible design – easily modified for unforeseen site conditions
- Built with common equipment and materials

Safety Edge

Sloped pavement edge at a 30º angle which allows drivers a more controlled re-entry back onto the roadway after tire drop-off

Benefits:

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

Key Message

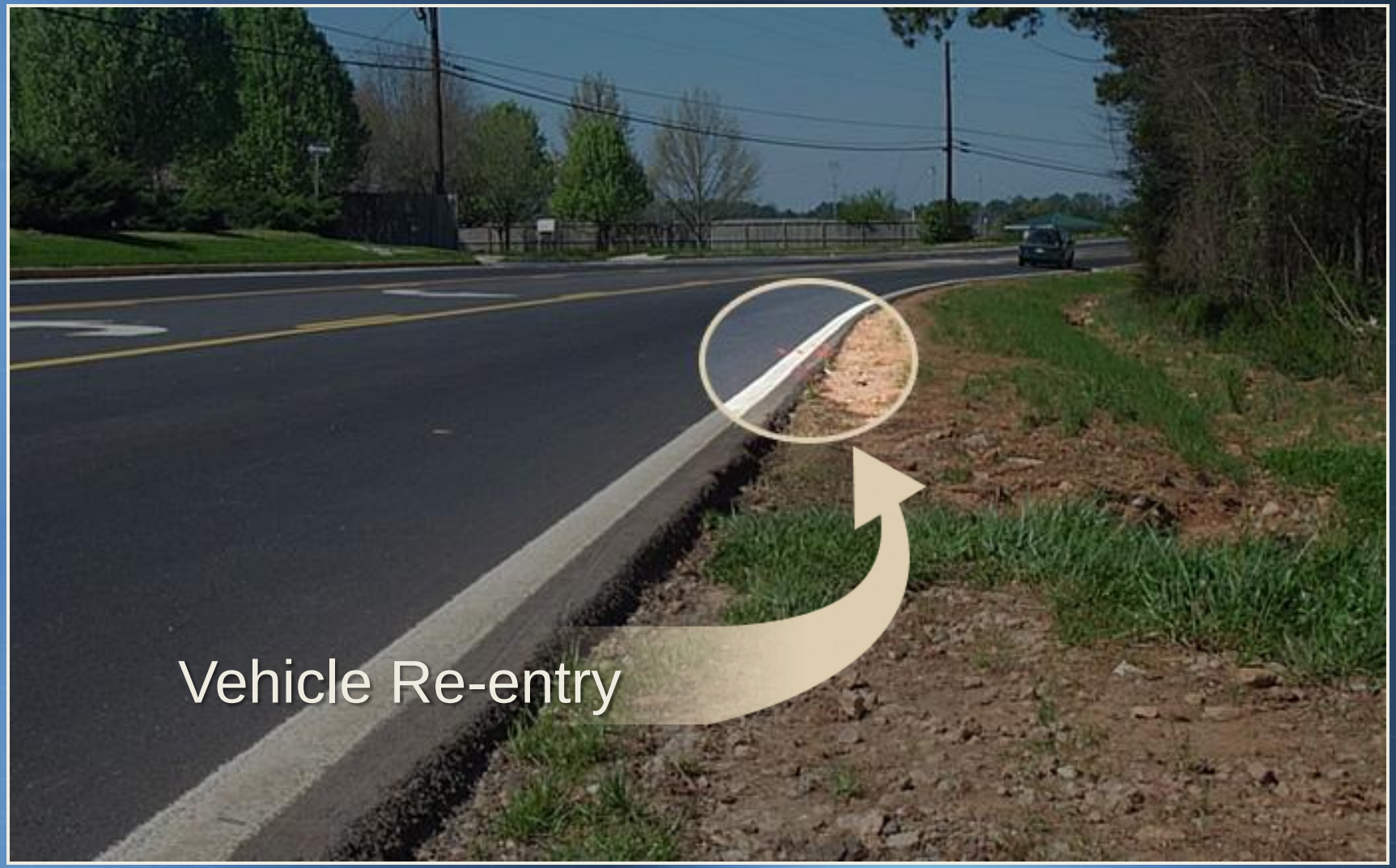
- **Saves Lives**
  - Drop-offs are a safety challenge
- **Low Cost**
  - Safety Edge can mitigate shoulder drop-off
- **Improves Durability**
  - Safety Edge can increase pavement edge durability

In Tom's Words...

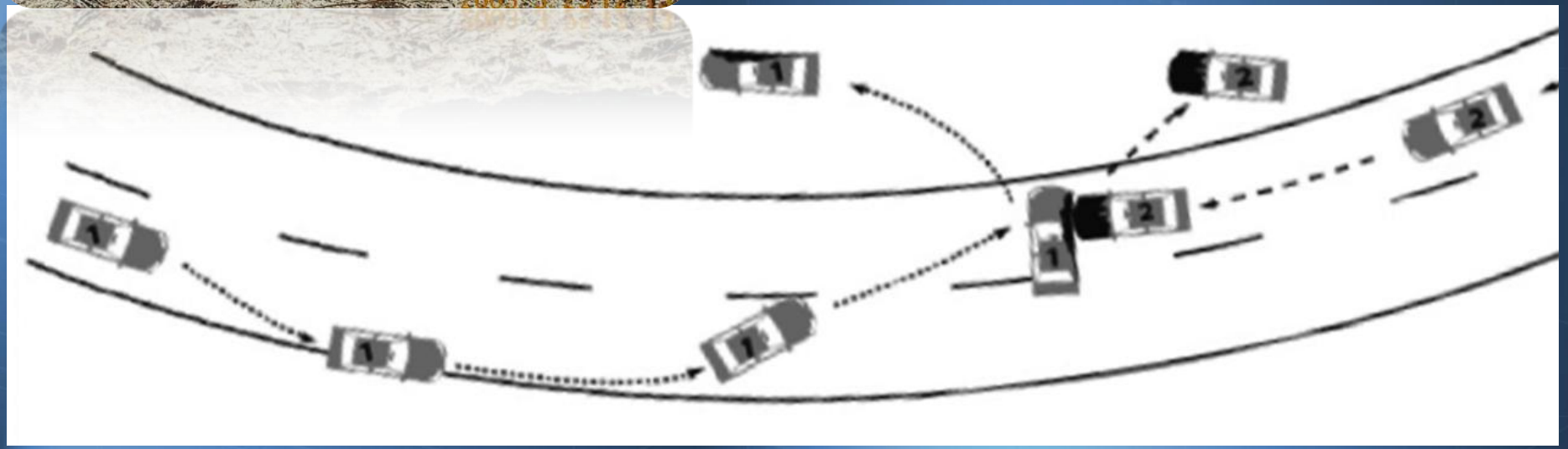
"If you run of the road and there is a drop-off, the odds it will be a fatal crash just doubled!"

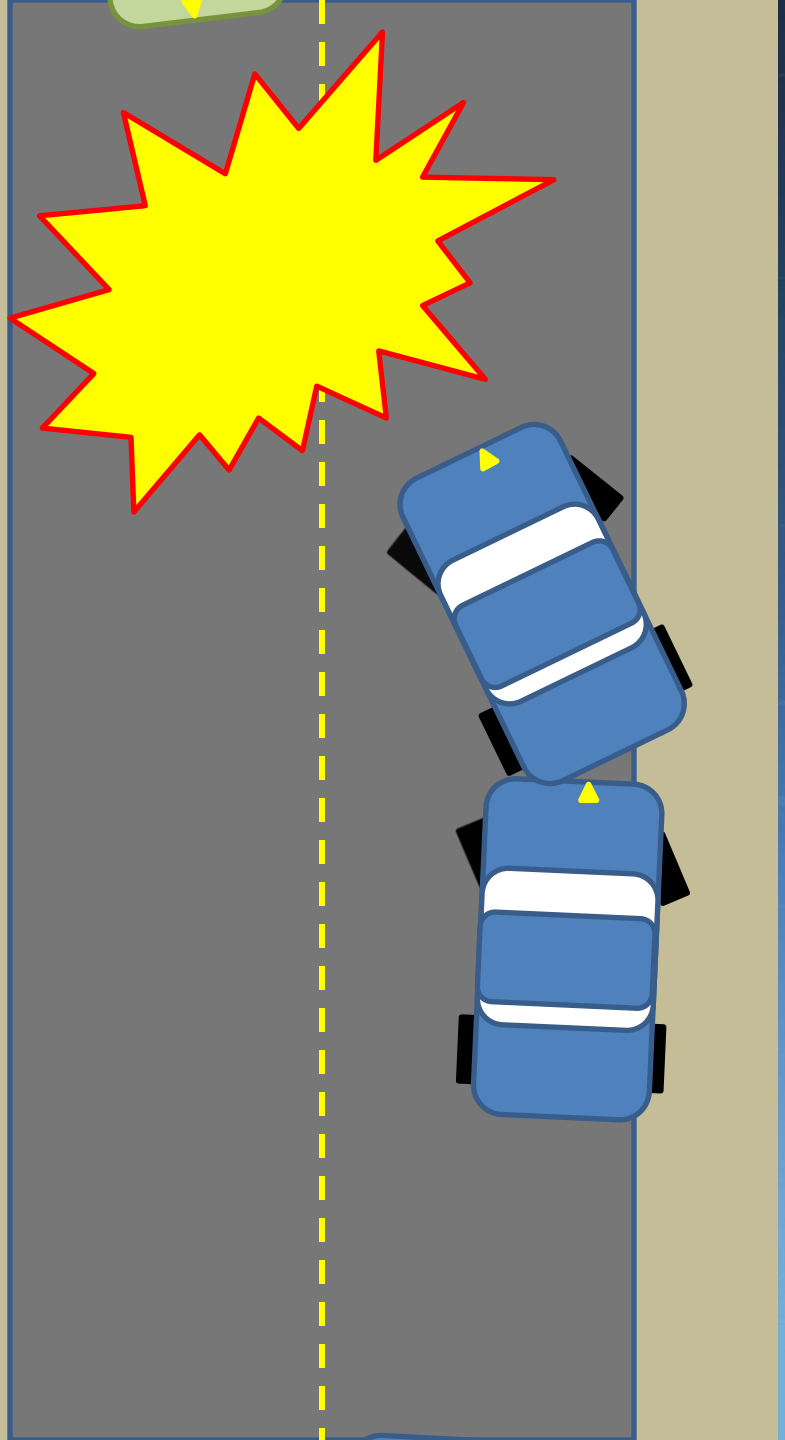
ROR + Drop Off = 2 x

Are Drop-Offs a Problem?



Typical Drop-Off Crash with Tire Scrubbing





Driver crosses over into oncoming traffic

Driver Overcompensates Steering

Right tires leave edge of pavement

Edge Drop-Off Crash Types

- Roll Over
- Head-on
- Opposing Sideswipe
- Roadside Object

From The Atlanta Journal Constitution, 3-25-03

Adaptive Signal Control

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, and smoothes traffic flow*
- *Increases long-term viability of traffic signal operations*
- *Widely deployable & uses existing control equipment*

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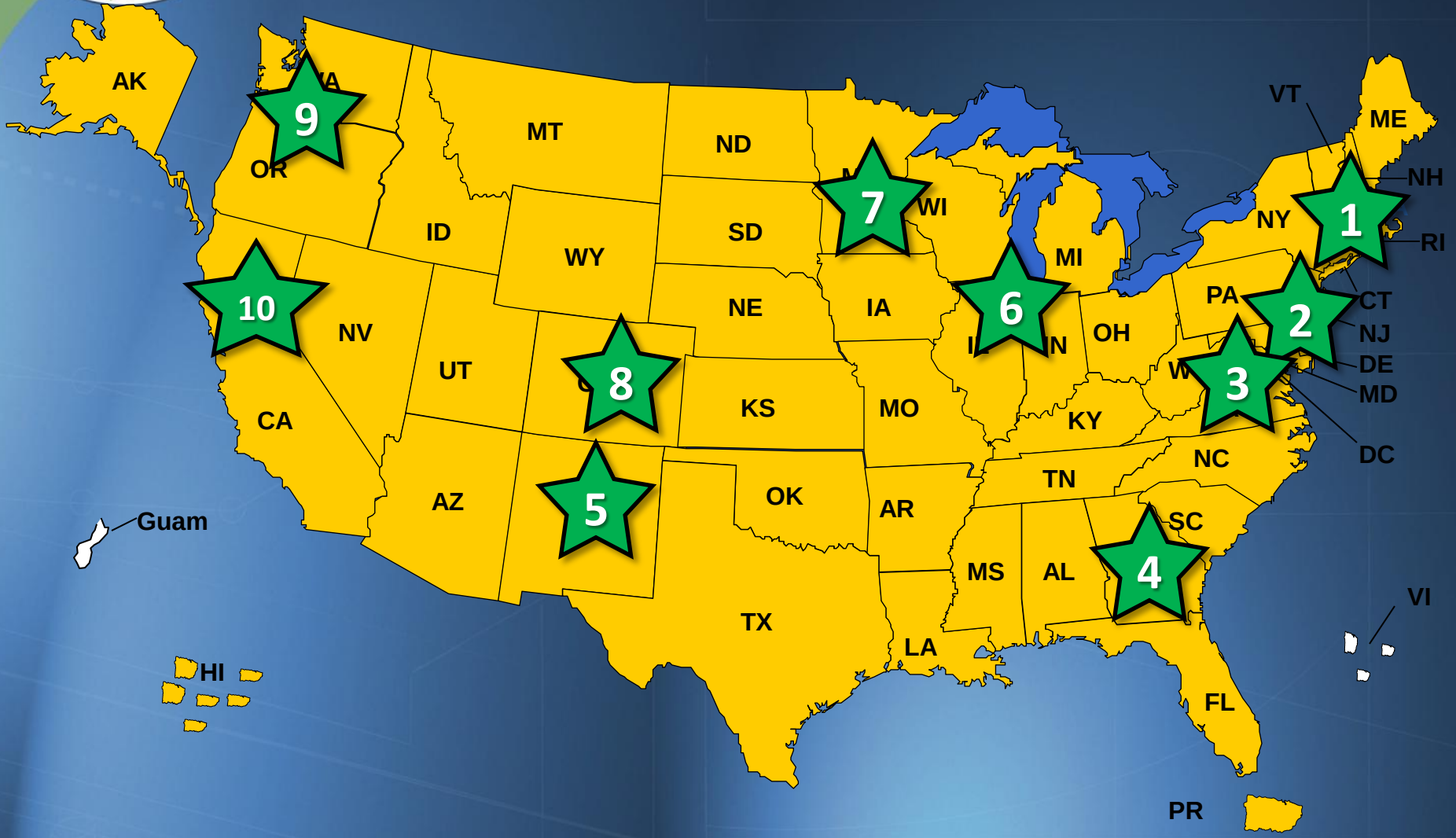
10 Regional EDC Summits - 2010



Keep Moving Forward

Q. What will it take to make Every Day Counts a success in Delaware?

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