EVERY DAY COUNTS

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OBJECTIVES

• Describe Every Day Counts
• Generally describe first round of EDC (EDC1)
• Provide more detailed description of EDC2 initiatives
• Describe next steps
• Lessons learned from EDC1
Many of you already know all about EDC and its history, but as a quick overview:

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.

- Launched in October 2010
- Initiative is designed to:
  - Identify and deploy innovation aimed at shortening project delivery
  - Enhance the safety and performance of our highways and bridges
  - Improve environmental sustainability
- Officially transitioning from the first phase of the program (EDC1) to EDC2 on December 31.
Have list of current STIC membership.
• Under EDC1, we had 16 initiatives. Some are technologies and some are methods for shortening project delivery.

• Bold initiatives were chosen by Indiana to pursue.
EDC1 INITIATIVES

Accelerating Technology Deployment

- Safety Edge<sub>SM</sub>
- Warm Mix Asphalt
- Geosynthetic Reinforced Soil - Integrated Bridge System
- Adaptive Signal Control
- Prefabricated Bridge Elements and Systems
BUILDING ON OUR ACHIEVEMENTS

EDC2
- Reducing Project Delivery Time
- Reducing Construction Time
- Innovative Contracting
- Safety
- Environment
- Mobility

EDC1
- Shortening Project Delivery
- Accelerating Technology Deployment

We will build on successes in EDC1 to continue creating a culture of innovation, while reaping even more benefits in EDC2.
**MAINSTREAMING EDC1 INITIATIVES**

- **December 31: Not an end, but a transition**
  - Continue to support requests for service
  - Continue to monitor deployment
  - Measure for long-term effectiveness

- **Four EDC1 initiatives will continue on to EDC2**

- **Enhancements for EDC implementation**
  - Center for Accelerating Innovation within FHWA
  - State Transportation Innovation Councils
  - The Exchange / Communication Technology

**Transitioning the EDC One Initiatives**

- **Although at the end of this year — on December 31st, to be exact — we will officially stop providing specific EDC support for several of the initial sixteen EDC initiatives, they will not shut down. Rather, they, too will transition:**
  - We will continue to support requests for service regarding them through our Resource Center and headquarters offices, as appropriate.
  - We will continue to monitor their deployment
  - The individual Offices within FHWA that deal with the initiatives (the Office of Infrastructure, for example, with warm mix asphalt, and the Office of Safety with the Safety Edge) will be doing this monitoring
  - We’ll also measure their long-term effectiveness... did they make a difference in terms of lives saved, congestion decreased, project delivery time shortened, money saved?
  - Also, four of those original 16 initiatives will themselves transition to EDC2. There’s more work to be done on them, and we’re not yet ready to let them go.

Also, we’ve made some enhancements to the Every Day Counts effort:

- **Established the Center for Accelerating Innovation within FHWA, including a staff to coordinate communication, develop training and education tools, to provide technical support and assistance and work with the various partners throughout the highway industry.**
- **Created the State Transportation Innovation Councils.**
EDC2: Let’s take a look at those initiatives for EDC2:

There are 13 initiatives aligned to project objectives: Reducing Project Delivery Time, Reducing Construction Time, Innovative Contracting, Safety, Environment and Mobility

First: how did those 13 initiatives get selected?
- We sent the word out that we wanted to find those areas that really needed work and the solutions that were already working somewhere and could be applied nationally.
- Word was sent out to AASHTO member states, associations, the construction industry, and, of course, among our own staff at FHWA. 60% came from DOT’s.
- We received more than 200 ideas, eventually whittled down to 13.
So, I am going to generally describe each initiative and then next steps.

**Programmatic Agreements II**

Through EDC2, FHWA will continue to focus on the expansion of programmatic approaches in general, but also focus on developing new or expanding existing agreements with the U.S. Army Corps of Engineers and the U.S. Fish and Wildlife Service.

**Locally Administered Federal-Aid Projects**

To aid Local Public Agencies (LPAs) through the complexities of the Federal-aid Highway Program’s requirements and processes, a three-pronged strategy has been developed to assist these local agencies. These three strategies include: Certification/qualification-type programs, (Indefinite-Delivery/Indefinite-Quantity) IDIQ Consultant Contracts, and Stakeholder Committees. Implementation of these strategies can reduce the amount of oversight the States need to provide and make local agencies more capable to follow federal regulations and guidelines.

**Geospatial Data Collaboration**

A Geographic Information System (GIS) is a tool that builds maps. Currently, most GISs and web-mapping applications at Federal, State and local agencies are housed internally. Building on current organizational and technical capabilities, this initiative will use innovative cloud-based GIS services to improve data sharing both within transportation agencies and among project delivery stakeholders. Collaborative analyses and rapid updating of shared common maps will lead to faster consensus building and improved decision-support.
3D Engineered Models for Construction

3D modeling technology has been widely used by contractors on non-highway projects, and the potential for highway applications is just now being realized. An overall benefit of the technology is an increase in productivity and efficiency of construction operations. As an example, GPS-enabled construction equipment, when combined with the 3D terrain model can run all day and night while achieving accurate grades on the first pass. These technologies together can increase productivity by up to 50 percent for some operations.

Accelerated Bridge Construction

Three particular ABC technologies are being promoted under EDC2:

• Prefabricated Bridge Elements and Systems (PBES), where entire structures or their components are manufactured and assembled off site and moved into place in a matter of hours;

• Slide-In Bridge Construction, a construction technique for deploying PBES where a bridge is built adjacent to an old structure and slid into place once the old facility is removed;

• Geosynthetic Reinforced Soil — Integrated Bridge System (GRS-IBS), a concept for using closely spaced geosynthetic reinforcement and granular soils as a composite material to build enhanced abutment and approach embankments for bridges.

Intelligent Compaction:
Compaction is one of the most important processes in roadway construction. It is needed to achieve high quality and uniformity of pavement materials, which in turn enhances long-lasting performance.

Current processes using conventional compaction machines may result in inadequate and/or non-uniform material densities, which can help bring premature failure to the pavements.

Intelligent Compaction (IC) delivers a modern approach to compaction with the use of special vibratory rollers equipped with accelerometers, an integrated measurement system, a map based Global Positioning System—(GPS—), onboard display and computer reporting system. By integrating all components the use of IC rollers can accelerate projects delivery as well as improve quality. IC rollers also collect enough data to display continuous records of the number of roller passes, material stiffness measurement values, and precise location of the roller. The overall result is a more consistent pavement.
Construction Manager/General Contractor
Another method used to accelerate project delivery is the Construction Manager/General Contractor (CMGC) process. In this process, the project owner hires a contractor to provide feedback during the design phase, before the start of construction.

Alternative Technical Concepts
An Alternative Technical Concept (ATC) is a suggested change by the contractor to the contracting agency’s basic configuration design, scope, or construction criteria. The proposed concept provides a solution that is equal to or better than the requirements in the Request for Proposal document. If a proposer’s concept is acceptable to the contracting agency, the proposer may incorporate that concept in its technical and price submittal. ATCs provide competing teams with the opportunity to suggest innovative, cost-effective solutions in a confidential manner.

Design Build
Design Build (DB) allows the construction process to be accelerated dramatically. In the DB process, a State DOT identifies what it wants constructed, accepts bids and selects a contractor to assume the risk and responsibility for both the design and construction phases. With DB, agencies generally have the option of selecting a contractor based on a best-value basis; allowing DOTs to consider other factors beyond lowest price.
High Friction Surfaces Critical locations make up a small percentage of U.S. highways. In 2008 for example, horizontal curves made up only 5 percent of our Nation’s highway miles. Yet, more than 25 percent of fatal crashes occurred on horizontal curves. High friction surface (HFS) treatment is an emerging technology that dramatically and immediately reduces crashes and the related injuries and fatalities. With friction values far exceeding conventional pavement friction, high-quality aggregate is applied to existing or potential high-crash areas to help motorists maintain better control in dry and wet driving conditions.

Intersection and Interchange Geometrics Intersections and interchanges are planned points at which motorists, pedestrians and bicyclists could potentially cross paths and crash or collide. Several innovative alternative geometric intersection and interchange designs are now available which reduce crossover, or conflict, points or move the conflict points away from a main intersection; allowing for safer, more continuous travel for motorists, pedestrians and bicyclists. FHWA studies of alternative intersection and interchange designs implemented within the last few years show an immediate and significant reduction in the number of total crashes, injury crashes and fatal crashes (up to 53, 42 and 70 percent respectively). Roundabouts, diverging diamond interchanges (DDIs) and intersections with displaced left-turns or variations on U-turns are proving to be a few of the effective alternatives to traditional designs.

Implementing Quality Environmental Documentation This initiative seeks to implement existing recommendations and recent experience to improve the quality and, at the same time, reduce the size of NEPA documents. The initiative improves the quality of NEPA documents by making them more effective in disclosing the information used as a basis for making project decisions to the public and participating agencies including regulatory agencies who have permitting or review responsibilities. By improving the quality and readability of NEPA Documents, FHWA and project proponents will accelerate project delivery and achieve better environmental outcomes. The initiative will promote recent best practice experience and build upon prior efforts, including recommendations from the May 2006 Report “Improving the Quality of Environmental Documents” – A Report of the Joint AASHTO/ACEC Committee in Cooperation with the Federal Highway Administration.

SHRP2 National Traffic Incident Management Responder Training Traffic incidents, including crashes, disabled vehicles and debris on the road create unsafe driving conditions. They put motorist and responder lives at risk and account for approximately 25 percent of all traffic delays. For each minute that a freeway travel lane is blocked during peak use, an estimated 4 minutes of delay result after the incident is cleared. This estimate accounts for 4.2 billion hours per year in delays and more than 2.8 billion gallons of gasoline wasted every year while vehicles are stuck in incident-related traffic. This initiative offers the first national, multi-disciplinary traffic incident management (TIM) process and training program. The unique training for first responders promotes a shared understanding of the requirements for safe, quick clearance at traffic incident scenes; prompt, reliable and open communications; and motorist and responder safeguards.
Virtual Spring Summits
• you may participate from any computer
• there will be breakout sessions with an Indiana-only conference call
• if they want to participate that they can get information from their association representative on the STIC or from Ted or Robert. Contact information is at the end.

• Ted Pollack will now describe EDC Round 1 Lessons Learned.
NEXT STEPS FOR EDC 2

• Hold EDC 2 Virtual Summits in April
• Decide with input from the Indiana STIC on which initiatives to select for Indiana
• Develop an “Implementation Plan” for each selected initiative (by Summer 2013)
QUESTIONS?

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