

**STATEMENT OF  
VICTOR M. MENDEZ, ADMINISTRATOR  
FEDERAL HIGHWAY ADMINISTRATION  
HEARING ON  
ACCELERATING THE PROJECT DELIVERY PROCESS  
BEFORE THE  
COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE  
SUBCOMMITTEE ON HIGHWAYS AND TRANSIT  
UNITED STATES HOUSE OF REPRESENTATIVES**

**FEBRUARY 15, 2011**

Chairman Duncan, Ranking Member DeFazio, and Members of the Subcommittee, thank you for the invitation to appear before you today to discuss accelerating project delivery. One lesson we have learned from the American Recovery and Reinvestment Act is the importance of bringing a greater sense of urgency to our work, and the Federal Highway Administration (FHWA) is committed to helping the highway community deliver projects more quickly. We understand that the longer it takes to deliver a project, the more the project ultimately will cost, and the longer the public will have to wait to enjoy the project's benefits. And, as President Obama has indicated, maintaining and improving our infrastructure is vital to our economic competitiveness and the ability to create good jobs. If we are going to "win the future," as the President says, we are going to have to out-innovate, out-educate and out-build the rest of the world.

There are opportunities to reduce project delivery time while continuing to maintain and enhance the environment and project quality. Today, I will share with you some of the strategies FHWA is employing under my Every Day Counts (EDC) initiative and the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) to maintain and improve project quality and improve project delivery times.

**EVERY DAY COUNTS**

Since the passage of SAFETEA-LU, we have seen some progress in shortening project delivery time. However, much work remains if we are to meet the major transportation challenges of the 21<sup>st</sup> century—economic challenges, safety challenges, congestion challenges, and environmental challenges.

It is a commonly held perception that it takes an average of 13 years to deliver a major highway project from planning through completion. I know firsthand that major projects can be completed faster. When I served as Director of the Arizona Department of Transportation, we built the Regional Freeway System in the Phoenix area 6 years ahead of schedule and consistently delivered statewide construction programs on time.

We need to work more efficiently. The public wants greater accountability in how we spend their money, enhanced safety on our roadways, and a transportation system that helps support our economy and sustain our environment. To that end, I launched an initiative called Every

Day Counts to shorten project delivery time and to speed the deployment of new and proven technologies into the marketplace. Every Day Counts is an innovation initiative that presents new technologies, new ideas and new ways of thinking. Ultimately, it provides the transportation community with a better, faster, and smarter way of doing business. EDC is about taking a select number of effective, proven processes and market-ready technologies and getting them into widespread use. Both can have a direct impact on shortening project delivery and cost avoidance. All processes and techniques associated with EDC are permitted under current statute and regulations.

In launching the Every Day Counts initiative, I looked at the range of challenges we face today as a society and a transportation community. Without exception, I believe the best way to meet those challenges is through innovation.

Consider the budget constraints that governments at all levels are facing. We are compelled to deliver the best value for every taxpayer dollar. We can meet that challenge by becoming more innovative in the way we deliver projects, so they are completed faster and the public can realize their benefits sooner.

Safety—Secretary LaHood’s top priority at DOT—is clearly enhanced by innovation. The Nation has made tremendous progress in reducing traffic deaths to historic lows, but we still have work to do. By delivering better-designed roads to the public sooner, we can help make travel safer. And by making greater use of innovative technologies like the Safety Edge, which makes it easier to steer a vehicle safely back on the road, we will be able to save more lives. Safety Edge is one of the new technologies we are recommending to State and local transportation agencies for rapid deployment.

We must also find ways to meet the public demand for reduced congestion, a cleaner environment, and less energy consumption. These goals, too, are advanced through EDC. Getting projects completed sooner helps reduce congestion and improve air quality. Making greater use of technologies—like assembling bridges from prefabricated elements—allows critical parts of our infrastructure to be built with much less disruption to the traveling public. There are also benefits to be found in new road-building materials that improve the quality of water runoff and new technologies like warm-mix asphalt, which can be produced and placed on the road at lower temperatures, resulting in significant cost and energy savings.

Finally, it is critical that we have an infrastructure system that allows our economy to grow and compete, especially with such economic powers as China and emerging ones like Brazil. That means keeping the infrastructure we have in a state of good repair and providing new infrastructure as quickly and efficiently as possible.

I am pleased that EDC enjoys the strong support of the American Association of State Highway and Transportation Officials (AASHTO), the American Road & Transportation Builders Association, the Associated General Contractors of America, the National Association of County Engineers, and many other organizations. These organizations and others have helped shape EDC with their ideas and their commitment.

We introduced the basic concepts behind EDC more than a year ago. Late last year, in partnership with AASHTO, we held a series of 10 regional summits to present EDC initiatives to our State and local partners, Federal regulatory agencies, and the private sector, including many contractors and consultants. Each summit included delegates from several States. A total of nearly 1,000 transportation professionals attended the summits to discuss how the initiatives could accelerate project delivery and get important technology deployed sooner.

### **Shortening Project Delivery Toolkit**

We have built EDC on two pillars. First, we have a toolkit that includes a number of specific strategies to shorten project delivery time. This toolkit includes initiatives for using existing flexibilities in the law and not duplicating efforts in the planning and environmental review process. We also recommend a number of innovative contracting practices.

The toolkit presents approaches for addressing what we have identified as frequently-cited problem areas. In addition to presenting these options, FHWA is playing an active leadership role in helping the people who actually deliver projects—States, metropolitan planning organizations, contractors—understand and accept these practices and technologies. We hope that EDC will help foster a culture of innovation within the highway community and that many of these strategies will become common practice as decision makers are provided with information regarding the benefits of applying these strategies.

#### *Planning and Environmental Linkages*

This initiative establishes a framework for considering and incorporating planning documents and decisions from the earliest stages of project planning into the environmental review process. It represents an approach to transportation decision-making that takes environmental, community, and economic information collected early in the planning stage and carries it through project development, design, and construction. This can lead to a seamless decision-making process that minimizes duplication of effort, promotes environmental stewardship, and reduces delays in project implementation.

#### *Legal Sufficiency Enhancements*

Decisions made early in planning and project development play a substantial role later in the environmental review process. Consultation with FHWA environmental attorneys at early decision points can help decision makers save time and costs by avoiding problems that could negatively affect the legal sufficiency of NEPA and section 4(f) documents. This initiative is also identifying the most common problems in document development, their root causes, and the measures preparers can take to avoid the problems.

### *Expanding Use of Programmatic Agreements*

Programmatic agreements establish a streamlined process for handling routine environmental requirements for commonly encountered project types. For example, a merger process like the longstanding agreement in North Carolina enables agencies to fulfill the requirements of section 404 of the Clean Water Act and NEPA concurrently. The continued and expanded use of programmatic agreements, where process reviews and permit application procedures have been standardized and agreed upon, has been very effective in saving time. When prior agreements exist for avoiding, minimizing, and mitigating impacts, projects are reviewed more quickly and trust is developed that results in improved relationships between State DOTs and regulatory agencies. The goal of this initiative is to identify and assist in the expansion of new and existing programmatic agreements to a regional or national level.

In December 2010, FHWA, the New Mexico Department of Transportation, the Advisory Council on Historic Preservation, and the New Mexico State Historic Preservation Office signed a programmatic agreement to address expeditiously project effects in accordance with section 106 of the National Historic Preservation Act. This agreement provides for appropriate tribal consultation as well as public participation and minimization of extraneous documentation. It also reduces case-by-case review when historic properties will not be affected or when standard protocols and treatments can be applied. The update of this agreement is an important tool in the efforts to continue to shorten project development.

### *Use of In-Lieu Fee and Mitigation Banking*

In projects that will impact waters of the United States, the permitting process under section 404 of the Clean Water Act is an important part of the project development process. The toolkit encourages use of in-lieu fees and mitigation banking where appropriate and allowed under existing statutes, FHWA regulations, State laws, and court decisions. Generally, mitigation banks and in-lieu fee programs provide for mitigation on a larger ecological scale, which is funded by multiple (transportation and non-transportation) projects. In some cases, this approach can save time and support expedited project delivery.

For example, North Carolina has developed an Ecosystem Enhancement Program (EEP) that is recognized as a national model for wetlands mitigation. The EEP's mitigation program addresses environmental impacts proactively, not reactively. Each year, the North Carolina Department of Transportation (NCDOT) provides EEP with an updated list of its 7-year program of construction projects, along with each project's estimated wetland and stream impacts. Funds are invested in environmental protection ahead of the date the impact will occur. Prior to the creation of the EEP, up to 40 percent of NCDOT projects were delayed due to compensatory mitigation problems. Since the inception of the EEP, no NCDOT projects have been delayed due to a lack of compensatory mitigation.

### *Clarifying the Scope of Preliminary Design*

This initiative clarifies which design work meets the criteria as preliminary design and is allowable under current law prior to NEPA completion regardless of contracting mechanism. This initiative also develops guidance to allow this work to be done consistently in all project delivery mechanisms. Implementation of this initiative through our guidance promotes concurrent processes in a manner that does not prejudice environmental analysis under NEPA.

### *Flexibilities in Right-of-Way*

The Right of Way (ROW) process is currently a major part of the project development and implementation processes. This initiative is based on flexibilities allowed under existing regulations and statutes. Significant time savings can be achieved by employing flexibilities already provided for in statute and FHWA regulations. This initiative underlines opportunities for improved coordination of ROW activities with other key project development actions in preliminary design; land acquisition for utilities accommodation and relocation project activities; mitigation for unavoidable environmental impacts; and a number of other areas where streamlined approaches may prove beneficial.

### *Flexibilities in Utility Accommodation and Relocation*

The often-conflicting priorities of State transportation agencies and utility companies can adversely affect the timely completion of transportation projects. Potential utility conflicts exist on most transportation projects. It is estimated that half of all highway and bridge projects eligible for Federal funding involve the relocation of utility facilities, and construction generally takes longer and costs more when utilities need to be relocated. This initiative spotlights existing flexibilities currently in place under Federal law and regulations and describes techniques that foster effective utility coordination during project development and warrant more widespread use.

### *Enhanced Technical Assistance on Ongoing EISs*

This initiative provides additional FHWA technical assistance to identify major challenges on ongoing EIS projects and implement solutions to resolve project delays where feasible. Candidate projects ideally include projects where 60 months have elapsed since issuance of the Notice of Intent without issuance of a Record of Decision. FHWA teams focus on facilitating interagency coordination and collaboration to resolve outstanding issues and provide peer-to-peer activities, workshops, training, or specialized on-site assistance.

### *Accelerated Project Delivery Methods*

The Accelerated Project Delivery Methods (APDMs) initiative focuses on the construction phase of a project using methods like Design-Build (DB) and Construction Manager/General Contractor (CM/GC), which have proven to shave years off project schedules in some cases. We are confident that by using APDMs, State DOTs can deliver projects 50 percent faster.

Traditionally, a project is designed, put out for bid to construction firms, and then built by the winning bidder (design-bid-build). With DB, the design and construction phases are combined into one contract, eliminating the separate bid phase and allowing certain aspects of design and construction to take place at the same time. This can provide significant time savings compared with the design-bid-build approach. With DB project delivery, the designer-builder assumes responsibility for the majority of the design work and all construction activities. This provides the designer-builder with increased flexibility to be innovative, along with greater responsibility and risk.

In addition to the time savings, a DB contract provides savings in cost and improvement in quality. Cost savings are realized by transferring many of the construction engineering and inspection costs from the contracting agency to the designer-builder. The arrangement also results in fewer change orders or claims for errors or delays. Finally, the ongoing involvement of the design team throughout the process puts a greater focus on quality control and assurance and allows better coordination between the needs of the project and the contractor's capabilities.

Construction Manager/General Contractor occupies the middle ground between the traditional design-bid-build approach and DB. In a general CM/GC scenario, the project owner hires a general contractor to serve as the construction manager and to provide the owner with constructability, pricing, and scheduling information during the design phase. As the design phase nears completion, if the owner and construction manager are able to agree on a price for construction, they sign a construction contract and the construction manager becomes the general contractor. CM/GC allows State DOTs to remain active in the design process while assigning risks to the parties most able to mitigate them. As with the DB approach, there are potential time savings because of the ability to undertake a number of activities concurrently. This approach provides several other additional benefits, including: increased partnership and team building, which fosters an environment where innovation can be nurtured, rewarded, and flourish; potential for lower project costs, primarily due to risk identification and allocation during early project development; and enhanced cost certainty at an earlier point in design because of real time costing information inherent to CM/GC. Because FHWA does not have general authority to permit CM/GC on a general basis, CM/GC projects under the Federal-aid highway program are carried out under FHWA's Special Experimental Project No. 14 (SEP-14).

Utah DOT (UDOT) used this innovative contracting method to reconstruct 15 bridges and widen Interstate 80. CM/GC allowed UDOT to reduce the project schedule from 3 years to 2 years. By working with the general contractor throughout the design process, UDOT was able to take advantage of the contractor's resources, design the most efficient scope for the project goals, and meet quality and public expectations for maintenance of traffic. UDOT has estimated direct savings for 7 of its larger projects to be \$13.8 million, with estimated user cost savings of \$289 million.

## **Accelerating Technology and Innovation Deployment**

Our second pillar of EDC provides outreach and education to the highway community on 5 technologies that we believe should be widely deployed into the field today: warm-mix asphalt, prefabricated bridge elements and systems, adaptive signal control technology, the Safety Edge, and geosynthetic reinforced soil. Every Day Counts is not about inventing the next "big thing"—it is about taking effective, proven and market-ready technologies and ensuring their widespread use. By advancing these 21<sup>st</sup> century solutions, we can accelerate project delivery, improve safety, reduce congestion, and keep America moving and competitive.

### *Warm-Mix Asphalt*

Warm-Mix Asphalt (WMA) is the generic term for a variety of technologies that allow asphalt to be produced and then placed on the road at lower temperatures than the conventional hot-mix method. WMA production occurs at temperatures ranging from 30 to 120 degrees lower than hot mix. In most cases, the lower temperatures result in significant cost savings and reduced greenhouse gas emissions because less fuel is required. WMA also has the potential to extend the construction season, allowing projects to be delivered faster. By 2009, more than 40 States constructed WMA projects, with 14 adopting specifications to accommodate WMA.

### *Prefabricated Bridges*

With Prefabricated Bridge Elements and Systems (PBES), many time-consuming construction tasks no longer need to be done sequentially in work zones. An old bridge can be demolished while the new bridge elements are built at the same time off-site. Because PBES are usually fabricated under controlled climate conditions, weather has less impact on the quality, safety, and duration of the project. The use of PBES also offers cost savings in both small and large projects. The ability to rapidly install PBES on-site can reduce the environmental impact of bridge construction in environmentally sensitive areas. And there is less disruption to the traveling public during construction.

The \$4.164 million Phillipston Heavy Lift Bridge Project in Phillipston, Massachusetts used PBES, innovative construction methods, procurement, and communication to surpass its ambitious goal to replace a well-travelled highway bridge while minimizing road user impacts to just a few days. The DB team demolished and replaced the bridge in just 121 hours. Road users and residents were pleased with the brevity of the detour period and rapid construction. The Massachusetts Department of Transportation estimates the cost avoidance totals to users to be approximately \$2.5 million.

### *Adaptive Signal Control*

Adaptive signal control technologies adjust when green lights start and end to accommodate current traffic patterns, promote smooth flow, and ease traffic congestion. The main benefits of adaptive signal control technology over conventional signal systems are that it can automatically adapt to unexpected changes in traffic conditions, improve travel time reliability, reduce

congestion and fuel consumption, and prolong the effectiveness of traffic signal timing. An array of adaptive signal control solutions exist, from those that tackle the complexity of large urban areas to those that can be deployed on arterial streets typically found in smaller cities. Selecting the proper products and solutions is a significant element in implementing efficient and cost effective adaptive signal control technology.

### *Safety Edge*

The Safety Edge is a simple and extremely effective solution that can help save lives by allowing drivers who drift off highways to return to the road safely. Instead of a vertical drop-off, the Safety Edge consolidates the edge of the pavement at 30 degrees. The Safety Edge provides a strong, durable transition for all vehicles. Even at higher speeds, vehicles can return to the paved road smoothly and easily. By including the Safety Edge detail while paving, this countermeasure can be implemented system-wide at a very low cost. The Safety Edge provides a more durable pavement edge that prevents edge raveling. FHWA's goal is to accelerate the use of the Safety Edge technology, working with States to develop specifications and adopt this pavement edge treatment as a standard practice on all new and resurfacing pavement projects.

Nationwide, thousands of lives are lost each year in crashes where vehicles run off the road or drivers cross into on-coming traffic after trying to over-correct when their wheels leave the pavement. This safety matter is why States such as Iowa have embraced this technology so quickly to address the problems that occur when vehicles leave the roadway. The Iowa Department of Transportation (Iowa DOT) has adopted the Safety Edge as a standard practice and has implemented it across the entire State. The evaluations of Iowa DOT and others have shown that simply providing this slope, allowing drivers to more easily recover when their tires leave the pavement, can reduce total crashes by more than 5 percent. Experiences like Iowa's have shown that rapidly implementing innovation cannot only save lives but can do so at very little cost. Following the conclusion of the EDC summits last fall, 47 States and many of their local agencies have selected the Safety Edge as one of their EDC priority initiatives.

### *GRS-IBS*

Instead of conventional bridge support technology, Geosynthetic Reinforced Soil (GRS) Integrated Bridge System (IBS) technology uses alternating layers of compacted granular fill material and fabric sheets of geotextile reinforcement to provide support for the bridge. GRS also provides a smooth transition from the bridge onto the roadway, and alleviates the "bump at the end of the bridge" problem caused by uneven settlement between the bridge and approaching roadway. The technology offers unique advantages in the construction of small bridges, including:

- reduced construction time and cost, with costs reduced 25 to 60 percent from conventional construction methods;
- easy to build with common equipment and materials and easy to maintain because of fewer parts; and

- flexible design that is easily modified in the field for unforeseen site conditions, including unfavorable weather conditions.

Defiance County, Ohio officials are implementing this method to build bridges using readily available materials and common construction equipment. Using this innovative technology on the Stever Road Bridge project, the County reduced construction time by 2 months and reduced construction costs from an estimated \$800,000 if built conventionally, to \$620,000 using GRS—a net savings of \$180,000 on one bridge project. Defiance County has built 15 bridges using GRS with another 7 bridges planned. The savings the County achieves using GRS helps stretch the limited funds the County receives for its bridge needs.

### **State-Based Model**

FHWA recognizes that each State operates in a unique environment and, therefore, decisions on which initiatives to advance must be made at the State level. Accordingly, one of the keys to making EDC successful is working with each individual State to develop an approach that works best for it. Each State currently is selecting its priority initiatives and working with its FHWA partners and local and private stakeholder partners to create an implementation plan tailored to meet the unique needs, laws, and regulations of the State.

### **SAFETEA-LU IMPLEMENTATION**

Section 6002 of SAFETEA-LU authorized changes to make the environmental review process more efficient, while protecting environmental and community resources. We do not know the full extent to which the enactment of 6002 may have furthered these objectives. However, early results from FHWA's tracking of Environmental Impact Statements (EISs) since SAFETEA-LU's enactment indicate a reduction in the average time of environmental reviews. For the 18 EIS projects initiated and completed after SAFETEA-LU, the average time to complete the process (from Notice of Intent to Record of Decision) was 43 months. In comparison, in the 6 years prior to SAFETEA-LU, the average time to complete this process was 73 months. Additionally, FHWA has seen a positive reaction from agencies and the public regarding their early involvement in the environmental review process.

Section 6004 of SAFETEA-LU allows for FHWA to assign, and for State Departments of Transportation (State DOTs) to assume, responsibilities for determining whether certain highway projects meet criteria to be classified as categorically excluded from the requirements to prepare either an Environmental Assessment (EA) or an EIS. Responsibilities for complying with other related environmental laws and regulations also may be assigned to State DOTs. California, Alaska, and Utah, the 3 States with assignments, have reported that they have been successful in saving processing time of categorically-excluded projects as well as in maintaining and improving decision-making.

Section 6005 of SAFETEA-LU established a pilot program to allow the Secretary to assign, and the State to assume, the Secretary's responsibilities under the National Environmental Policy Act (NEPA) for one or more highway projects. Implementation of the pilot by the California

Department of Transportation (Caltrans) has provided indicators of success in accelerating project review times. In June 2007, FHWA and Caltrans entered into a Memorandum of Understanding (MOU) that established the assignments and assumptions of responsibility to Caltrans. Under the MOU, Caltrans assumed the majority of FHWA's responsibilities under NEPA (excluding project level air quality conformity analysis and tribal consultation), as well as FHWA's responsibilities under other Federal environmental laws, for most highway projects in California. While during this period of time no EIS projects have been processed solely under the pilot program, Caltrans claims time savings in the range of 12 to 17 months in connection with about 50 EAs processed. Having such authority for the process has given Caltrans increased confidence in managing its projects.

Section 6009 of SAFETEA-LU also helps accelerate project delivery for projects that impact publicly owned parks, recreation areas, wildlife and waterfowl refuges, or historic sites, which are protected under section 4(f) of the Department of Transportation Act. Specifically, section 6009 provides that section 4(f) requirements will be considered satisfied if the United States Department of Transportation determines that the project will have a *de minimis* impact on the area in question. It also establishes conditions for *de minimis* impacts findings. Our Phase I evaluation results suggest that the *de minimis* impact provision can enable transportation agencies to better balance the timely delivery of transportation projects with protection of these publicly owned facilities. In addition, the *de minimis* impact provision has simplified the fulfillment of section 4(f) requirements, particularly in cases where the official with section 4(f) jurisdiction initiates or sponsors the transportation project. We are currently surveying State DOTs, other entities, and stakeholders for the Phase II report, which will include an update of *de minimis* findings and evaluate application of the new feasible and prudent standard.

## CONCLUSION

Our society and the transportation community face an unprecedented list of challenges. We need to deliver projects more efficiently and with greater accountability. We need to find ways to make our roads safer and maintain environmental quality.

But it is not sufficient to simply address those challenges. We need to do so with a new sense of urgency. It is that urgency that I have tried to capture in FHWA's EDC initiative. In challenging times, it is imperative we pursue better, faster, and smarter ways of doing business.

This is a very busy and important year for the transportation community as we work on a new authorization of our surface transportation programs. President Obama's Fiscal Year 2012 Budget released yesterday outlines some of the Administration's ideas for investing in our infrastructure in a way that will support thousands of jobs, make our roads safer and our communities more livable, and lay a foundation for future economic growth. I look forward to working with you and other members of Congress in the weeks and months ahead as we look for innovative ways to make every day—and every dollar—count.

Mr. Chairman, thank you for the opportunity to appear before you today. I would be happy to answer your questions.