



U.S. Department
of Transportation
Federal Highway
Administration



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Outline

- EDC Overview
- EDC Initiatives
- Closing



Every Day Counts Initiative

- National Initiative designed to Identify and Deploy Innovation
- Launched In November 2009.
- Summits around the Country Fall 2010.
- Summit participants included State DOTs, Local Governments, State and Federal Agencies, LTAP/TTAP, Consultant industry, and others.
- Three Basic Areas:
 - Shortening Project Delivery (Project Development)
 - Accelerating Project Delivery (Procurement)
 - Accelerating Technology Deployment



Shortening Project Delivery

- To Eliminate Time-consuming Duplicate Efforts:
 - Planning And Environmental Linkages
 - Legal Sufficiency Enhancements
 - Expanding Use Of Programmatic Agreements



Shortening Project Delivery

- Encourage Use Of Existing Regulatory Flexibilities:
 - Use Of In-Lieu Fee And Mitigation
 - Clarifying The Scope Of Preliminary Design
 - Flexibilities In Right-of-Way
 - Flexibilities In Utility Accommodation And Relocation
 - Enhanced Technical Assistance On Delayed Environmental Impact Statements
 - Mitigation Banking



Accelerating Project Delivery

- Make Standard Procurement Practice:
 - Construction Manager/General Contractor (CMGC)
 - Design Build



Accelerating Technology and Innovation Deployment

- Move Effective, Proven, and Market-Ready Technologies into Widespread Use
- Specific Technologies:
 - Warm-Mix Asphalt
 - Safety Edge
 - Prefabricated Bridge Elements And Systems
 - Geosynthetic Reinforced Soil-Integrated Bridge System
 - Adaptive Signal Control



Initiatives in VA

- CMGC
- Design-Build
- Warm Mix Asphalt
- Safety Edge
- Prefabricated Bridge Elements
- Geosynthetic Reinforced Soil – Integrated Bridge System
- Adaptive Signal Control



Construction Manager General Contractor

- Owner contracts with construction manager early in design process.
 - Design and construction contracts are separate.
- CMGC firm chosen based on experience, qualifications, or best-value.
- Design and construction can overlap.
 - CM provides price, schedule, constructability, and value engineering.
 - Owner and CM agree to negotiated prices for construction packages or “guaranteed maximum price” for entire project.



Design Build

- Combines design and construction phases into a single contract.
- Allows design and construction activities to overlap.
- Single procurement phase.
- Contractor involved early in design, so design can tailor plans to construction.



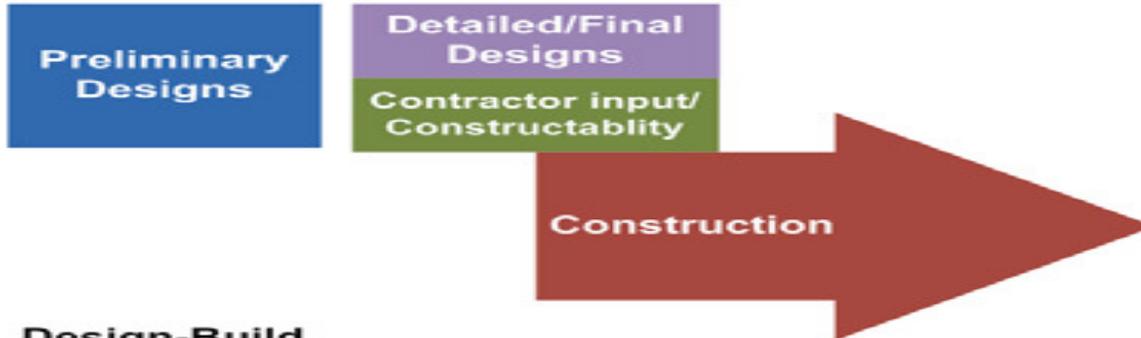
Delivery Comparison

Design-Bid-Build vs. CM/GC vs. Design Build

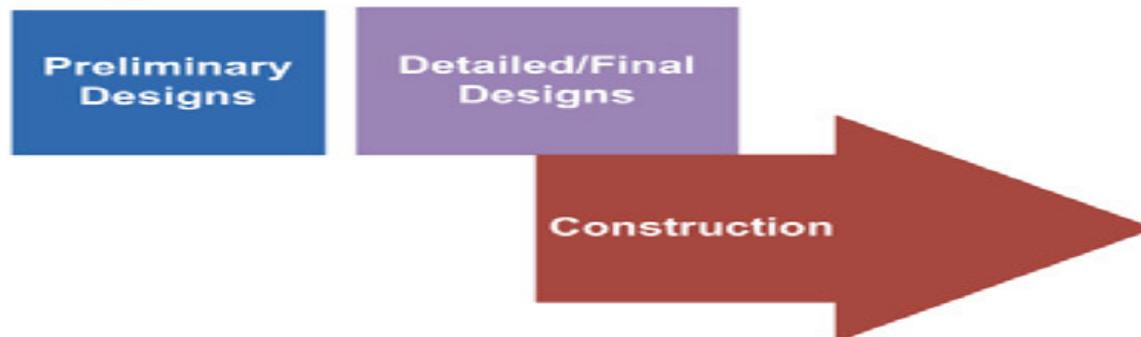
Design-Bid-Build



Construction Manager/General Contractor (CM/GC)



Design-Build





Warm Mix Asphalt (WMA)

- A variety of technologies allowing producers of asphalt to reduce the temperatures of mixing and placing.
 - Generally 30°-70°F lower temperatures
 - Can reduce paving costs
 - Reduce fuel consumption by 20%
 - Can extend paving season
 - Can improve asphalt compaction
 - Can allow hauling over longer distances



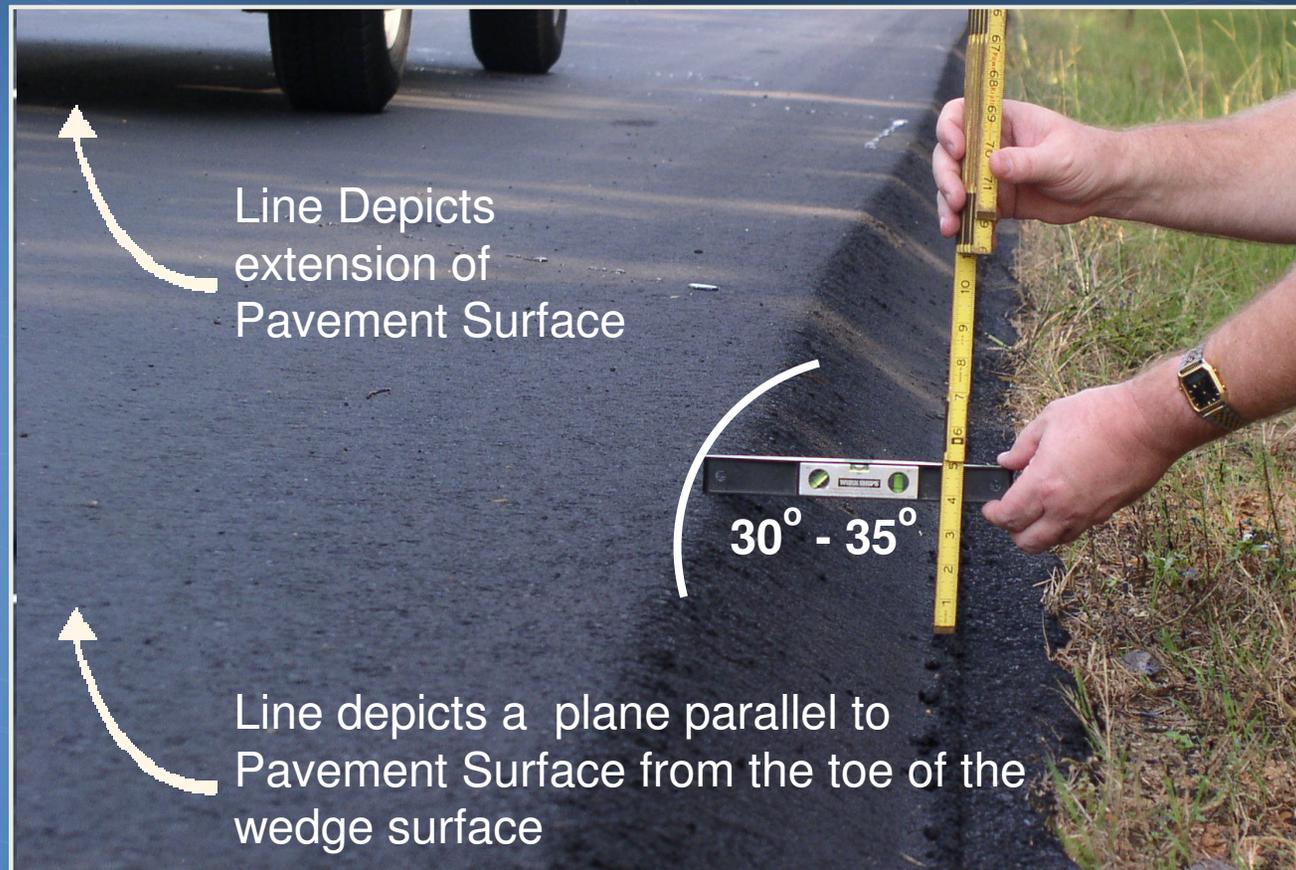


How WMA Works

- Use additives in the asphalt mix.
- Reduce viscosity of asphalt binder to allow coating of aggregates at lower temperatures.
- Lower viscosity also eases manipulation and compaction at lower temperature.



Safety Edge





Benefits of Safety Edge

- Temporary safety benefit during construction
- Providing “Due Care”
- Aid vehicle re-entry
- Reduced Crashes Over Life of the Pavement
- Increased Pavement Edge Durability

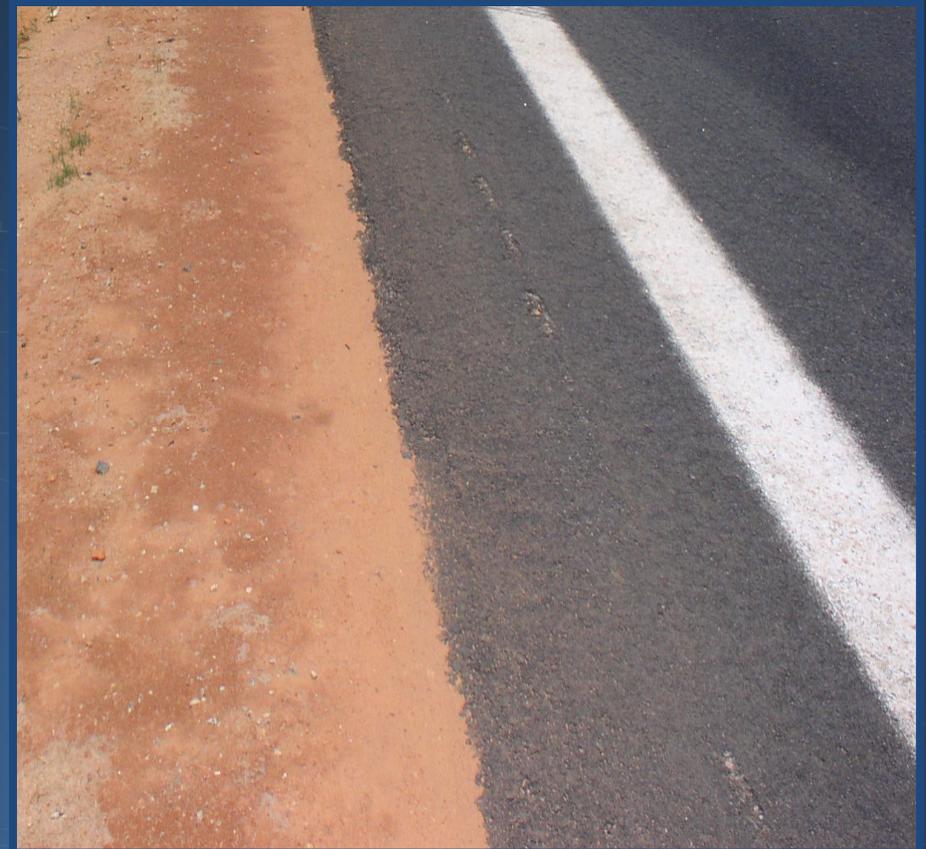


Costs of Safety Edge

- Hardware
 - Approximately \$3000 per shoe
 - Reusable
- Material
 - Minor additional asphalt (depends on shoulder condition)
- Paving Process
 - No change in paving speed
 - No additional operation
 - Minimal monitoring
- Surface Details
 - No change in smoothness/ride quality



Finished Surface





Prefabricated Bridge Elements (PBES)





How PBES Works

- Manufacturing structural elements or systems off-site to install upon delivery to the site.
- Elements can include footings, columns, pier caps, beams, deck panels, decks, and others.
- Reduces on-site construction time.
- Reduces traffic disruption and work zone hazard exposure.



Geosynthetic Reinforced Soil-Integrated Bridge System

Three Main Components

Reinforced Soil Foundation



GRS Abutment



GRS Approach





How GRS-IBS Works

- Uses geosynthetic reinforced soil to create an integrated bridge system.
- Integrates block, compacted fill, and geosynthetic fabric layers to construct bridge abutment mass.
- GRS approach way built behind bridge beams to transition to approach roadway.
- A form of accelerated bridge construction.
 - Lower cost, reduce time, improve durability, and improve safety.



Adaptive Signal Control





How ASC Works

- Adapts with changes in traffic.
- System collects data, evaluates data, develops and applies improved signal timing.
- Repeats process every few minutes.
- Applied to a system of intersections rather than just one.
- Can reduce corridor stops by 60-90%, fuel consumption by 20%, and emissions by 30%.



Summary

- Deploying market-ready initiatives nationwide to shorten/accelerate project delivery and deploy technology innovations.
- Reduce time and cost.
- Improve quality and safety.
- VA actively deploying design-build, WMA, PBES, GRS-IBS, and ASC.
- VDOT currently evaluating CMGC and safety edge for deployment.



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