Good afternoon.

Today I’m going to talk about the Concrete Pavement Technology Program (CPTP) that operates within the Federal Highway Administration (FHWA).

Specifically, I'm going to talk about the Technology Transfer component of the program, which is designated as “CPTP Task 65”.

I’ll provide an overview of the entire CPTP and then focus on two of the technology areas that have generated special interest in recent months.
The CPTP –

► A National program to improve the performance and cost-effectiveness of concrete pavements for Federal-Aid Highways

► A partnership including State DOTs, Industry, Academia and FHWA

I will refer to the Concrete Pavement Technology Program by the acronym “CPTP”.

The CPTP is a National program to improve the performance and cost-effectiveness of concrete pavements for Federal-Aid Highways.

It was developed with funding from previous Highway Legislation, TEA-21, the Transportation Equity Act for the 21st Century.

Most importantly, the CPTP was developed as a partnership including State DOTs, Industry, Academia, and FHWA.
The CPTP – continued

- Operates within FHWA’s Infrastructure Office of Pavement Technology
- Program oversight provided by Expert Task Groups (ETGs)
  - Engineering ETG
  - Executive ETG

Membership:
Chief Engineers, Industry & Academia

The CPTP Operates within FHWA’s Infrastructure Office of Pavement Technology.

Program oversight is provided by Expert Task Groups (ETGs) that meet with FHWA’s Technology Transfer Contractor and FHWA twice each year. A balanced membership for these ETGs includes representatives from State DOTs, Industry and Academia.

The State DOT members of the Engineering ETG are drawn from the Pavements and Materials Offices.

State DOT representation in the Executive ETG is by Chief Engineers or their representatives. I have been an active member of the Executive ETG since its initial meeting in August 2004.
The GOALS for the CPTP’s Technology Transfer, Deployment and Delivery activities are to:

- Reduce User Delays
- Improve Safety
- Reduce Costs
- Improve Performance
- Foster Innovation

The work of the CPTP is focused on concrete pavements that are Safer, Smoother, Quieter, and Longer-Lasting.
The **FOCUS AREAS** for the CPTP include:

- Advanced Designs
- Optimized Materials
- Improved Construction
- Rapid Repair / Rehabilitation
- User Satisfaction
The variety of PRODUCTS that have resulted from the CPTP include:

• Guidelines & Technical Briefs
• Test Protocols / Draft Specs
• Non-Destructive Test Equipment
• Workshops / Conferences
• Software / Reports / Videos, and
• Demonstration Projects
Following a recommendation by the Executive ETG, FHWA has established an Equipment Demonstration and Loan Program.

The equipment loan program provides an opportunity for the State DOT to learn about new testing equipment through hands-on experience during 30-day trial periods, which can be extended based on availability of equipment and the timing of requests by other States.

The activities of FHWA’s new CPTP Equipment Demo / Loan Program are coordinated with the activities of FHWA’s familiar Mobile Concrete Laboratory for maximum efficiency and responsiveness to the needs of the States.
The most popular item of equipment in the CPTP Demo / Loan Program currently is the MIT Scan, which quickly and accurately records the 3-dimensional alignment of metal dowel bars in either fresh or hardened concrete.

The 3-dimensional position of every dowel in a selected joint can be recorded in a single pass of the equipment in less than one minute.

The States currently using or requesting the MIT Scan through the CPTP Demo / Loan Program include: Florida, Iowa, Kansas, Mississippi, South Dakota, Virginia, Washington, and Wisconsin.

Virginia DOT is pleased to have been the first to participate in the CPTP Demo / Loan Program.
Virginia DOT was fortunate to have a couple of time extensions for using the MIT Scan.

As a result, we were able to evaluate dowel bar alignment at five (5) project locations.

We found the device to be effective not only for locating dowels in transverse joints, but also for tie bars in shoulders and longitudinal steel in a continuously reinforced concrete pavement.

Our work with the MIT Scan will be published in a report later this year.
Field demonstrations of FHWA’s system for Precast Prestressed Concrete Pavement are of interest to a number of State DOTs.

The feasibility of using precast pretensioned panels for roadway segments that are assembled on-site and post-tensioned was demonstrated in a pilot project that was constructed in Texas in 2002.
Subsequent to the successful pilot project on the Texas frontage road, FHWA has funded a series of precast prestressed concrete pavement demonstration projects.

• In California, a project demonstrating Night-Time Construction was Completed in 2004.
• In Missouri, an Interstate Pavement Rehabilitation project was Completed 2005.

Other States where demonstrations may be completed in 2006 are:
• Iowa, where a precast prestressed Bridge Approach Slab will be used;
• In Indiana, where the prestressed pavement section will be used to gain Vertical Clearance at an Underpass; and
• In Texas, where a special precast panel will be fabricated to receive a Weigh-in-Motion Scale.

FHWA’s CPTP anticipates up to eight (8) additional State DOT demonstrations of the precast prestressed pavement system during 2007 through 2010.
The essential concepts for FHWA’s precast prestressed concrete pavement system can be summarized as follows:

• Precasting is performed utilizing the facilities already familiar to bridge engineers.
• Stockpiling of precast panels provides for rapid delivery as needed.
• Constructability and performance are facilitated by the design features of the precast panels.
I have given a broad overview of the CPTP and some details about the Equipment Demonstration and Loan Program and the Precast Prestressed Concrete Pavement Demonstration Program.

There is much more valuable technology to be shared with State DOTs in each of the five (5) focus areas of the CPTP:

• Advanced Designs  
• Optimized Materials  
• Improved Construction  
• Rapid Repair / Rehabilitation  
• User Satisfaction

For more information, please contact FHWA’s Infrastructure Office of Pavement Technology –
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Thank you.

Thank you!