Overview of Technology Division Studies and Projects

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Technology Division Top Projects

1. SmartPark: Real-Time Parking Availability
2. Employer Notification Service: Phase II
3. Enhanced Rear Signaling: Phase II
4. Wireless Roadside Inspection Program: Phase II – Pilot Test
5. Indirect Viewing System Field Test: Phase III
6. On-Board Safety Systems Effectiveness Evaluation
Technology Division Top Projects

7. CVISN Deployment Program – Support for Expanded Capabilities
8. CDL 3rd Party Testing Anti-Fraud Software
9. Integrated Vehicle-Based Safety Systems
10. Onboard Safety Systems Deployment Program
11. Smart Infra-red Inspection System
Technology Division Personnel

- Michael Johnsen – Acting Division Chief
- Chris Flanigan – ENS, rear signaling, onboard safety systems
- Quon Kwan – CVISN grants, truck parking, CDL 3rd Party Testing Anti-Fraud
- Julie Lane – CVISN, smart roadside, CSA2010 integration
- Jeff Loftus – Motor carrier efficiency, wireless roadside inspection
Technology Division Webinar Program

- SmartPark – Quon Kwan
- Motor Carrier Efficiency Study – Jeff Loftus
- Employer Notification Service – Chris Flanigan
SmartPark: Real-Time Parking

- Demonstrate technology for conveying real-time information on parking availability to truckers on the road
- 2 contractors, 2 different approaches
SmartPark – Purpose

To demonstrate technology for conveying real-time information on parking availability to truckers on the road
SmartPark – 2007 Contract Awards

♦ Foster-Miller
  ● Imaging technology
  ● Demonstration Site
    – Charlton (public), westbound, I-90

♦ Vehicle Sense, Inc.
  ● Magnetometer technology
  ● Demonstration Sites
    – Mile Marker 9 (public), northbound, I-95
    – Interstate Travel Plaza (private), northbound, US-1
SmartPark – Foster-Miller Approach

- AutoScope Solo Terra video camera system
- Multiple trip line algorithm identifies and classifies vehicles by length
- Software algorithms adjust for variations due to weather, shadows, lighting conditions
SmartPark – Foster-Miller Approach
SmartPark – Vehicle Sense Approach

Communications Diagram for MM9
Motor Carrier Efficiency Study (Sec. 5503)

- Conduct a study to:
  1. Identify freight inefficiencies
  2. Evaluate the safety & productivity benefits of wireless technologies
  3. Conduct, as appropriate, field tests

- Program Elements
  - Fuel monitoring and management systems
  - Radio frequency identification technology
  - Electronic manifest systems
  - Cargo theft prevention
  - Roadside inspection systems
MCES: Phase I Study Results

- Priority inefficiencies
  - Waiting time for unloading
  - Waiting time for border crossings
  - Congestion delays
  - Empty miles
  - Hours of Service
  - Fuel waste due to excessive speed
  - Lack of backhaul
  - Poor routing
MCES: Phase II – Current Activities

♦ Wireless Drayage Updating

- Integrated wireless solution for drayage motor carriers
  - Wireless load notification and selection
  - Truck-specific congestion avoidance
  - Wireless facility queuing notification and management (Virtual Queueing)

- Addresses:
  - Time loading/unloading
  - Empty miles
  - Congestion delays
  - Safety risks associated with bobtails

- Part of USDOT-led Cross-Town Improvement Program

Partners: FHWA (lead), Kansas City Smartport, Mid-America Regional Council, Motor Carriers (Greer Transportation, Mid-Cities Transportation), Railroads (Union Pacific, Burlington Northern Santa Fe, Norfolk Southern, Kansas City Southern)
Employer Notification Service

- FMCSA research indicates that truck and bus drivers with past convictions are statistically more likely to be involved in future crashes.
- Employers are not always notified about these convictions and are unable to take immediate and appropriate corrective action with drivers.
- FMCSA requires:
  - carriers to check driver history annually
  - drivers to report CDL status changes within 30 days and suspensions within one day
Employer notification programs:

- Done on a State level and offered by private companies
- Proactively notify a carrier about the driving record of its drivers
- Allow the carrier to have real time updates of its drivers’ CDL status
- Streamlines a carrier’s ability to oversee its drivers
ENS: National Deployment Scenarios

- Federally-administered
- Third-party, market-based approach
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