

# BETTER QUALITY PAVEMENTS USING SHRP2 TECHNOLOGIES

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# SHRP2 – MoDOT Implementation Efforts

- ▣ Implementing Eco-Logical (C06) – User Incentive
- ▣ Tools to Organize for Reliability (L01/L06) – Lead Adopter
- ▣ Innovative Bridge Designs for Rapid Renewal (R04) – Lead Adopter
- ▣ Guidelines for the Preservation of High-Traffic-Volume Roadways (R26) – Lead Adopter
- ▣ **Performance Specifications for Rapid Renewal (R07)**
- ▣ GeoTechTools (R02) -- User Incentive
- ▣ Nondestructive Testing for Concrete Bridge Decks (R06A)
- ▣ **Technologies to Enhance Quality Control on Asphalt Pavements (R06C)**

# Pave IR - Infrared Scanner

A system used to map the temperature profile of freshly placed hot asphalt pavement directly behind paver



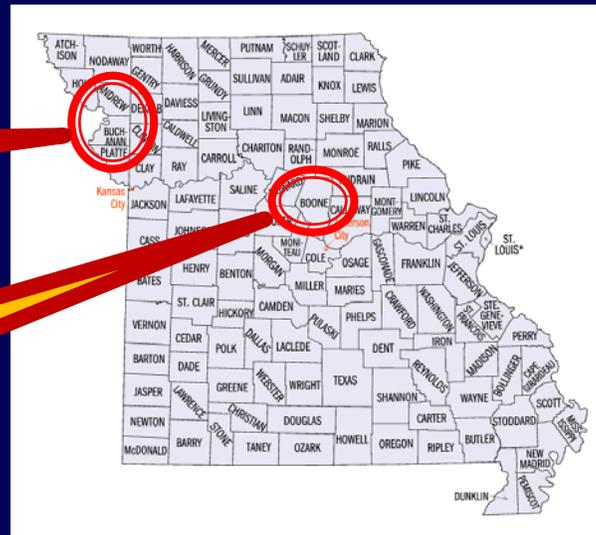
# MoDOT History with Scanner

- Demonstrated unit in conjunction with the IC Proof of Concept study on US 63 South of Columbia with APAC in 2014
- Earlier this year MoDOT acquired a unit through the SHPR2 Implementation Program



2015, I-29

2014,  
US 63



# Field Demo

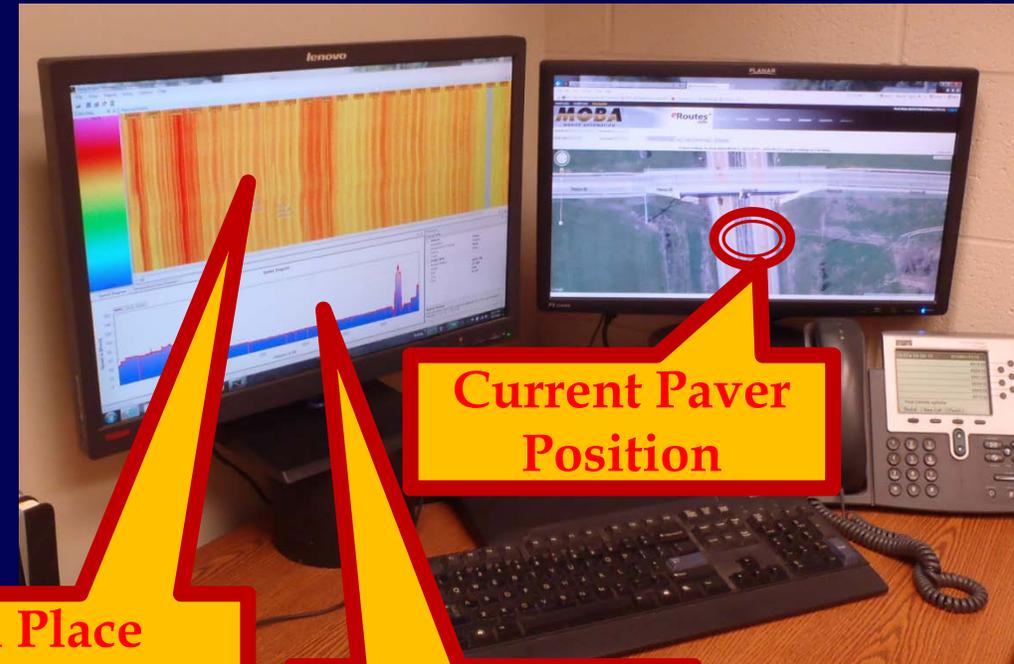
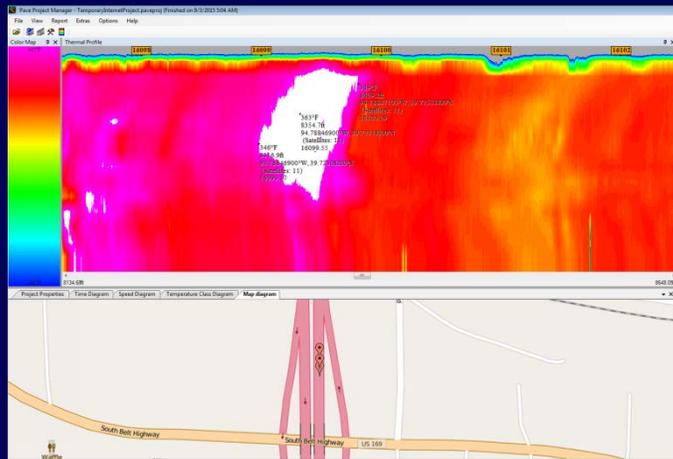
Route: I-29  
Project: J112213  
Contract: 141121-A01  
Contractor: Herzog Contracting Corp.

- Part of the R06C Implementation Assistance Program
- Density readings taken at both hot and cold spots in the Mat
- Field cores taken to correlate with non-nuclear density measurements



# Real-Time Information at the Plant or Anywhere

- Thermal profile available in real-time on site to facilitate trouble shooting
- Automatically detects problems with thermal segregation in real time
- Easily Locates Areas of Concern
- Provides information on paver speed and position to make corrections in real-time



In Place  
Temperature

Current Paver  
Position

Paver Speed  
and Stops

# Benefits of Obtaining IR Data

## Owner (MoDOT)

- Ability to identify and quantify thermal segregation
- Confirm placement temperatures within acceptable tolerances
- Provides a valuable QC Tool to facilitate the laydown operation and improve both density and smoothness.

## Contactors

- Real-time monitoring to placement operations
  - Paver Location
  - Travel Rate
  - Pavement Temperature
- Record of production process
- Effective day or night



# MoDOT receives Accelerated Innovation and Deployment (AID) Grant

## AID Grant details

- Approximately \$750k in grant funding-requires 20% match
- Incorporates Intelligent Compaction and Infrared Scanning in up to 10 projects
- Projects to be identified from upcoming lettings
- Consultant to be hired through RFP process to provide on-site evaluation during the IC/IR projects

# Thank You,

**For R06C:** FHWA: Steve Cooper, [Stephen.J.Cooper@dot.gov](mailto:Stephen.J.Cooper@dot.gov)  
AASHTO: Kate Kurgan, [kkurgan@ashto.org](mailto:kkurgan@ashto.org)

**For R07:** FHWA: Jennifer Balis, [jennifer.balis@dot.gov](mailto:jennifer.balis@dot.gov)  
AASHTO: Keith Platte, [kplatte@ashto.org](mailto:kplatte@ashto.org)

## **R06C Product Page:**

[http://www.fhwa.dot.gov/goshrp2/Solutions/Renewal/R06C/Technologies\\_to\\_Enhance\\_Quality\\_Control\\_on\\_Aspphalt\\_Pavements](http://www.fhwa.dot.gov/goshrp2/Solutions/Renewal/R06C/Technologies_to_Enhance_Quality_Control_on_Aspphalt_Pavements)

## **R07 Product Page:**

[http://shrp2.transportation.org/Pages/R07\\_PerformanceSpecificationsforRapidRenewal.aspx](http://shrp2.transportation.org/Pages/R07_PerformanceSpecificationsforRapidRenewal.aspx)