

# Transportation Research Forum

## Safety Research

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Office of Safety

Federal Highway Administration

# Low Cost Safety Improvement Evaluations

Pooled Fund Project: 26 States (\$2.88M), FHWA (\$1.5M)

- Phase I
  - Increased Retro-reflectivity of Stop Signs
  - Flashing Beacons
  - Two-Way Left-Turn Lanes
  - Stop Ahead Pavement Markings
- Before/after data collection guidance/CD
- Phase II
  - Lane width and shoulder width combinations
  - Advanced warning signs at intersections
  - Modify sight distance on horizontal curves
  - Shoulder and centerline rumble stripes (MO DOT)

# Low Cost Safety Improvement Evaluations

## Pooled Fund Project- continued:

### Phase III: Simulations

- Lane/shoulder delineation for curves
- Advanced/dynamic curve warning
- Offset LT lanes
- Road narrowing (ped/bike)
- Intersection traffic calming (ped/bike)

[www.tfhrc.gov](http://www.tfhrc.gov)

click on: Safety

Evaluations of Low Cost Safety Imp'ts

NCHRP 17-35: Signalized Intersections (\$750K)

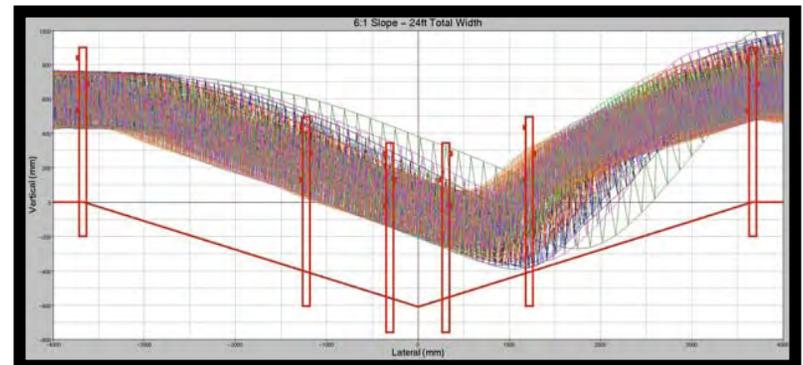
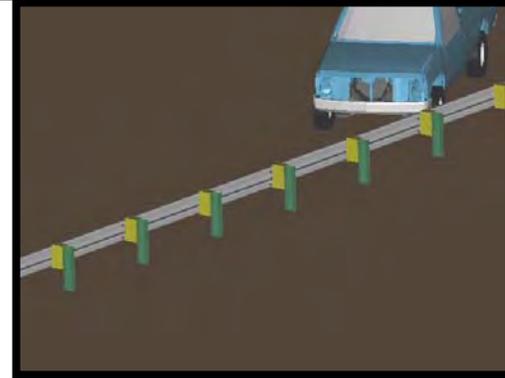
# SafetyAnalyst

- Software tool: ID and Manage System-wide Program of Site-Specific Safety Improvements
- Beta version testing by participating pooled-fund states (19 currently) began December 2006
- Solicitation pending for additional pooled-fund states - public release by September 2008
- Web conference
  - introduce and demonstrate beta version
  - plans for next phase of development

[www.safetyanalyst.org](http://www.safetyanalyst.org)

# Road Departure Mitigation Research

- Advances in Crash Analysis & Simulation
- W-Beam Guardrail Height
  - Reconsider RDG tolerances ( $\pm 3''$ )
- Cable Barrier Effectiveness
  - Highly recommended
  - Analysis of barrier placement
  - effects on performance for some vehicles

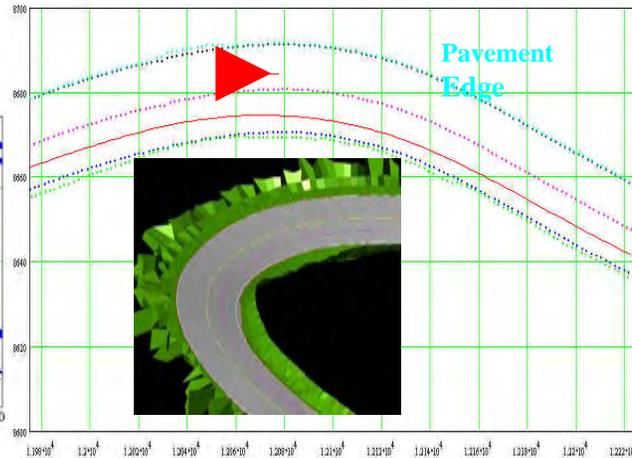
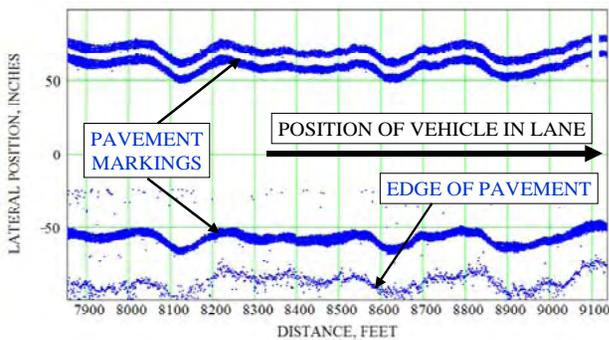


# Digital Highway Measurement System

- Vert/Horz Alignment; super elevation, points of curvature/tangency; linear referencing, signs, etc.
- Lane definition (markings and edge)
- Pavement surface condition & subsurface
- Roadside hardware and side slopes
- Vertical clearance
- Pooled Fund # 1038

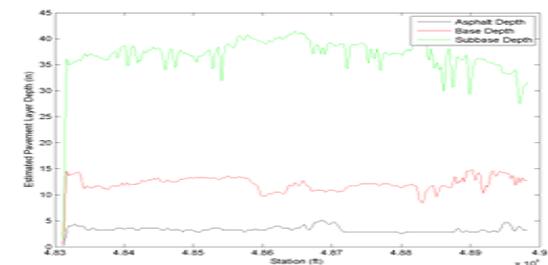
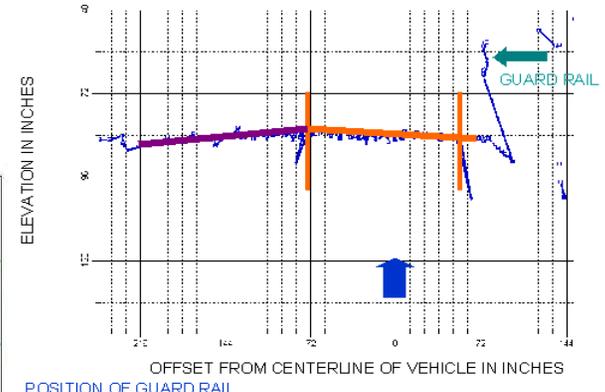


## MEASURING VEHICLE WANDER IN LANE USING DHM LASER



**Plan view of two-lane rural road geometry and vehicle trajectory**

## CROSS-SECTIONAL SCANS

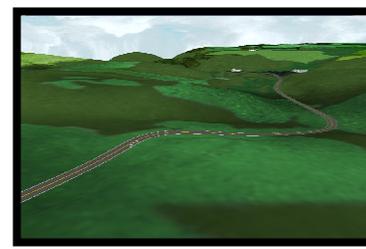
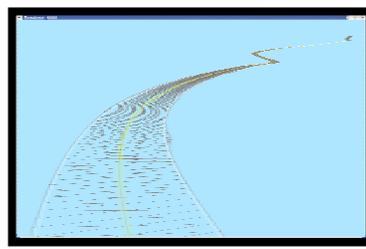


**Subsurface**

# Human Factors and Driver Simulation

- HF Studies Using Simulation

2-Lane Roundabout, CFI, Speed Sign Spacing, Shared 3 Lane (2+1), and Safety Evaluation Pooled Fund

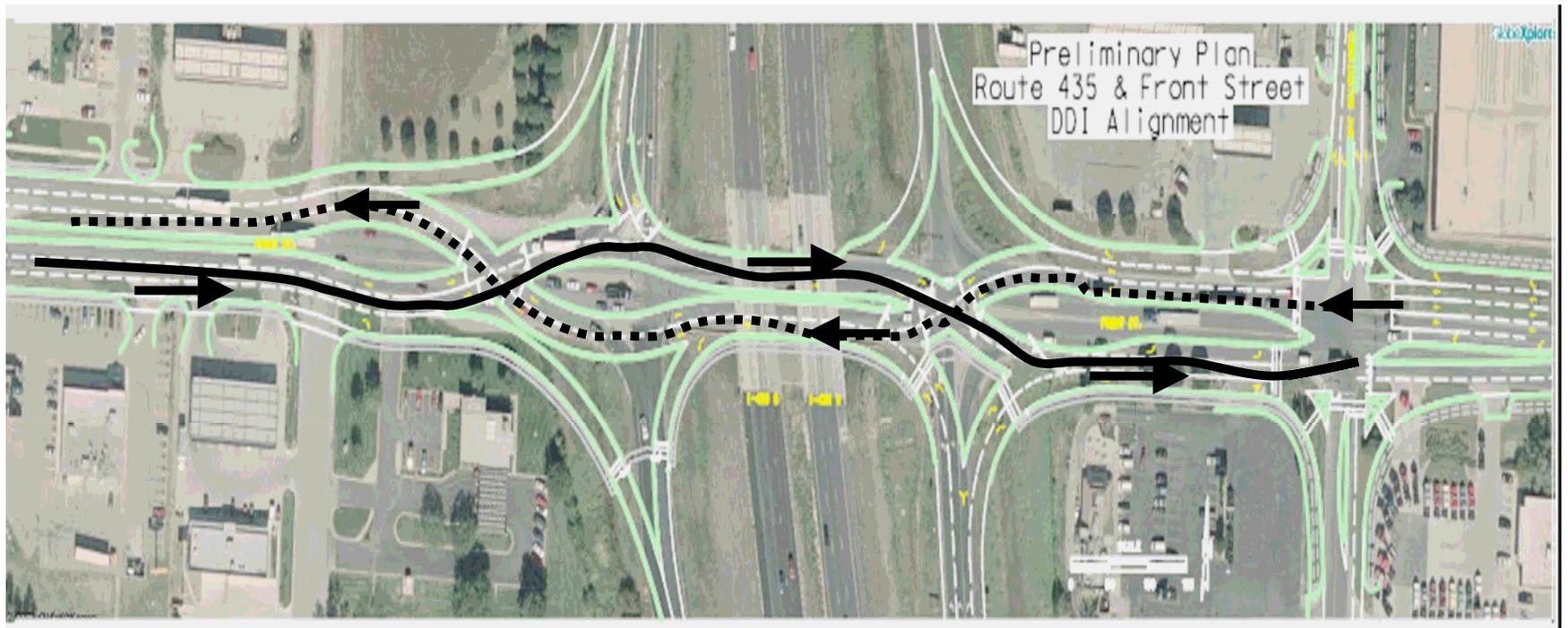


- PA Rte. 851 Study

- Divergent Diamond Interchange-KC

- Research consultation
- Roadway Design Assistance
- Simulation used:
  - Community Outreach
  - Public Education

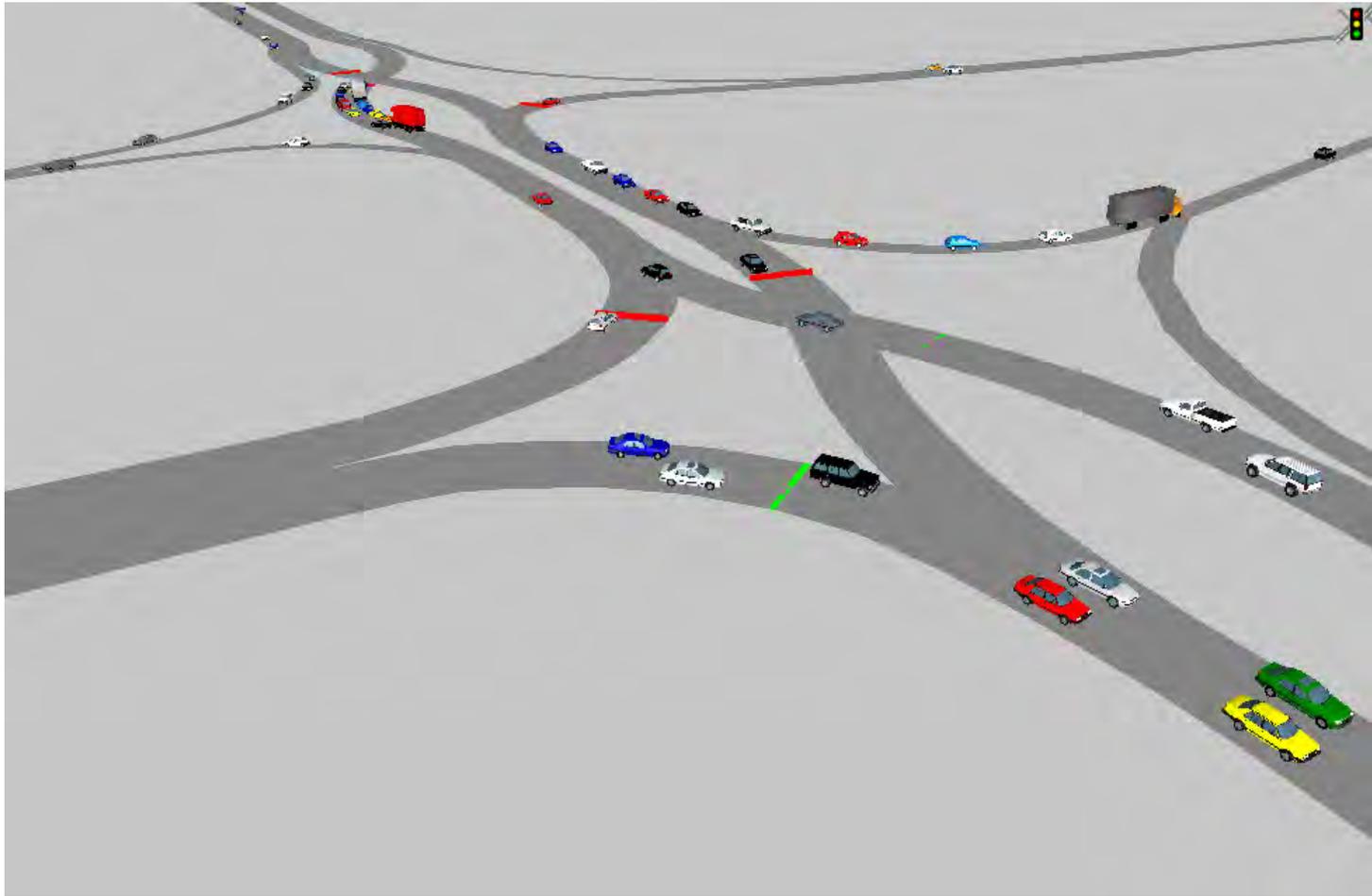
# Diverging Diamond: I-435 & Front St. Kansas City, MO



# I-435 & Front St. Overhead View



# Front St.- Looking West



# Contact

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