Midwest Transportation Center

Region 7 UTC

*Data Driven Performance Measures for Enhanced Infrastructure Condition, Safety, and Project Delivery*

**Partners**
- Iowa State University
- Creighton University in Omaha, Nebraska
- Harris-Stowe State University in St. Louis
- University of Missouri, Columbia in Columbia, Missouri
- University of Missouri, St. Louis in St. Louis, Missouri
- Wichita State University in Wichita, Kansas
- Collaborator: Seward Community College
Coordinate

- Conduct annual focus group with partners and regional agencies
  - MTC focus group
  - Smart Work Zone Deployment Initiative focus group

- Identify common priorities among DOTs

- Align with federal priorities
  - Toward Zero Deaths
  - Every Day Counts
  - Connected vehicles
  - Speed management
  - FHWA safety focus areas (intersections, roadway departures, pedestrian)

- Identify opportunities for team members to collaborate
  - Develop regional CMFs (share data among partners)
Conduct Research

- Roadway departure
  - rural curve countermeasures
  - development of CMFs for roadway departure countermeasures
  - demonstration projects – implementation of Safety Edge with PCC
  - Safety Edge
  - paved shoulder
  - usRAP/IRAP
  - high friction surface treatments
  - cable median barrier

- Speed management
  - rural community speed management
  - work zone speed management
  - high to low speed transition zones
  - maximum speed limits for interstates and two-lane highways
  - differential speed limits for trucks and buses
Conduct Research

- Work zone
  - Driver behavior in work zone merges
  - Relationship between driver behavior, speed, and safety critical events
  - Work zone pavement marking

- Traffic operations and safety
  - Access management
  - Development of safety performance functions
  - Vision based traffic conflict detection

- Road safety assessment
  - usRAP/IRAP
  - SHRP 2 Roadway Information Database
Innovative Funding/Partnerships

- Projects with innovative partnerships
  - Harris Stowe conducted “Economic Sustainability of Inner City Streets”
    - 3 City of St. Louis wards/Missouri DOT/ST. Louis Street department/MTC

- Projects sponsored with multiple funding sources
  - Evaluation of dynamic speed feedback signs & Evaluation of Dynamic Sequential Chevrons
    - FHWA/MTC/Iowa Highway Research Board (IHRB)/Iowa DOT
  - Use of SHRP2 NDS Data to Evaluate Roadway Departure Characteristics
    - FHWA/MTC/Iowa DOT
  - Evaluation of Work zone Safety Using the SHRP 2 Naturalistic Driving Study Data
    - FHWA/MTC/Iowa DOT
  - Evaluation of LED Stop Signs at Rural Intersections & Evaluation of Rumble Stripes
    - FHWA/MTC/Iowa Highway Research Board (IHRB)/Iowa DOT
  - Seed funding for innovative research with IHRB
    - High-risk
    - Proof-of-concept
    - Basic research
    - Open to all universities in region
Implement

- Establish impact/value of select past research projects
- Each research project is required to have an implementation plan, technical advisory committee, and tech briefs
- Development of toolboxes, synthesis web pages, guides
- Webinars
  - FHWA Roadway Departure Focus State Initiative
  - FHWA Office of Safety’s webinar on Speed Management for Pedestrian and Bicycle Safety
  - TRB High to Low Speed Transition Zone Design and Mitigation Webinar
Implement

- Research has been translated into policies, guidance, best practices
  - Paved shoulder, Safety Edge incorporated into Iowa DOT Design manual

- Identify opportunities to translate research to training/workshops in conjunction with Local Technical Assistance Program

- Implementation series
  - Mid-continent
  - Workshop series
Engage

- **K-12**
  - Go! Online e-zine to interest teenagers in transportation
  - Distracted driving workshops (Developed in conjunction with UTC at University of Iowa’s National Advanced Driving Simulator)
  - Transportation outreach kits based on AASHTO TRACS/RIDES in partnership with the Iowa DOT
  - Sponsoring teach for NSF research experience for teachers
  - Coordinating K-12 with NSF Engineering Research Center for Biorenewable Chemicals (CBiRC)

- **Graduate/Undergraduate**
  - Summer internship
  - MTC scholars
  - Spring seminar
  - Study abroad

- **Partners with Midwest Transportation Workforce Center**

---

6/18/2014

Midwest Transportation Center