

FY2020 MoDOT Research Projects

The following are the projects that MoDOT intends to proceed with contracting with an external organization. They are organized by broad topic. In most cases, a Request for Proposal will be developed and posted, depending on funding availability and internal staffing levels. Given that MoDOT may have higher interest levels in one aspect or portion of a submitted research idea, some externally submitted ideas for research may be reflected in part or in combination with other similar ideas.

Asphalt

- Develop asphalt mix performance prediction models
- Use of recycled materials in the development of stone mastic asphalt mixes

Bridge

- Analyze bridge scour using site-specific tests and hydraulic models
- Evaluate National Bridge Inventory data for effective service life bridge network
- Assess and repair damaged prestressed bridge girders from over-height vehicles

Concrete

- Evaluate concrete overlay performance

Construction

- Risk-based inspection for construction

Environmental

- Develop storm water management guidelines

Geotechnical

- Determine how accurate thermal integrity profiling is for detecting drilled shaft defects
- Geotechnical asset management (gam) and condition estimation for MoDOT Northwest and Northeast Districts
- Remote sensing for monitoring an active landslide (Highway 65-Branson, MO)

Maintenance

- Develop a tool for establishing a winter severity index
- Evaluate snow and ice treatment products
- Instrument and monitor assets using “Industrial Internet of Things”
- Evaluate sealer effectiveness

Traffic Safety

- Use driving simulators to improve zipper merge work zone configurations
- High friction surface treatments
 - Evaluate effectiveness
 - Evaluate alternative aggregate including cost/benefit analysis
 - Evaluate Safety before/after