GAM Program Initialization for Missouri DOT

Aine Mines, CEG

Landslide Technology

MoDOT

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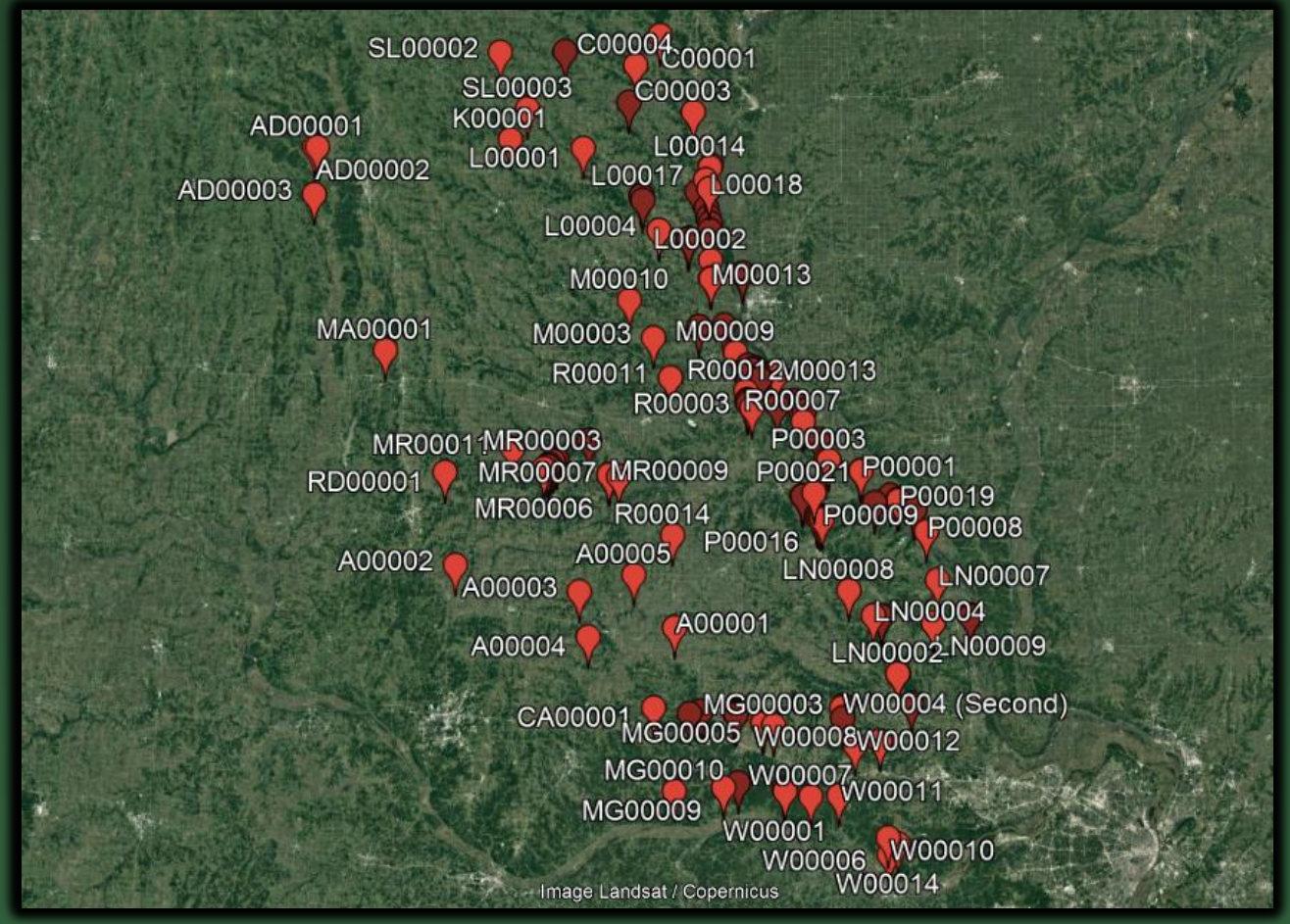
Previous Inventory and Assessment Work



- 2012: Research project to create a Landslide database – realigned to a Slide Repair Guidebook due to funding shortages
- Northeast District Geotechs lead internal effort to create a map of known landslide locations in their district, compile data in folders on the internal server

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2020 Research Funding

- Start with northern part of state (less geotechnically complex)
- Focus on developing and field testing an application that can be used statewide

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Asset Rating Category Development

Six Asset Types:

- Engineered Embankments
- Retaining Walls
- Rock Slopes
- Soil Slopes
- Subgrades/Ground Improvement
- Subsidence

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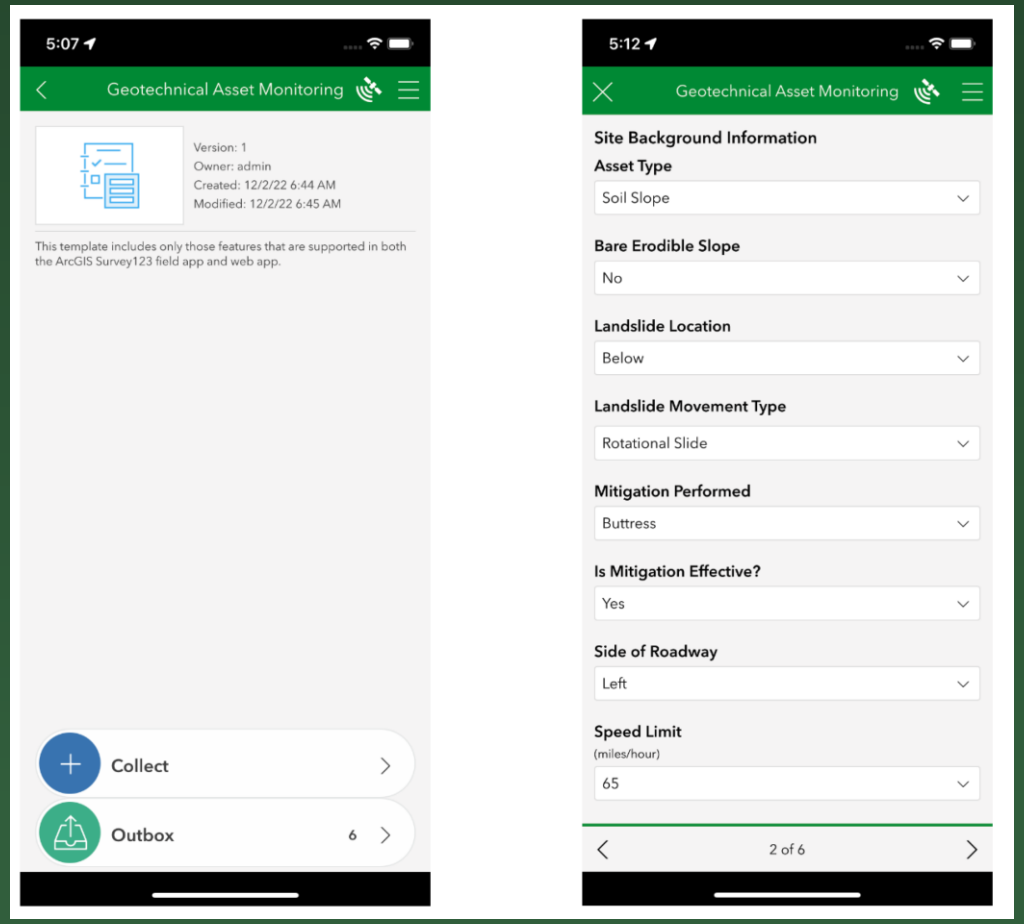
Survey123 Mobile App Development



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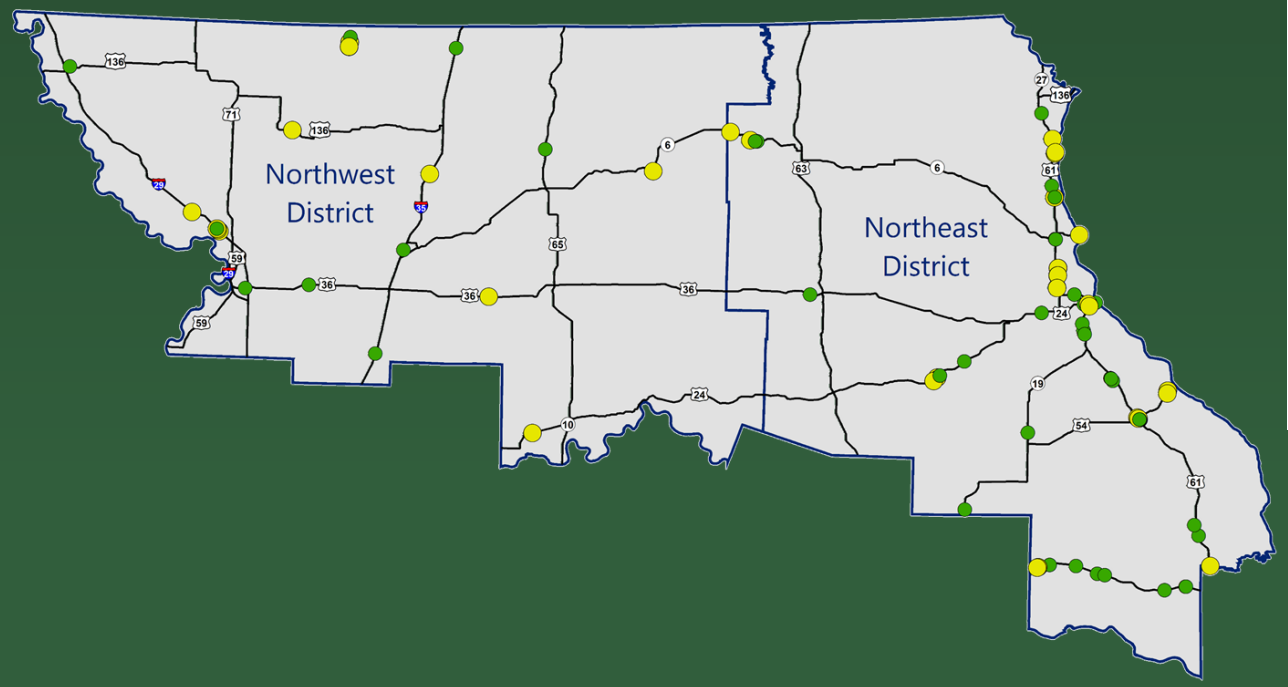
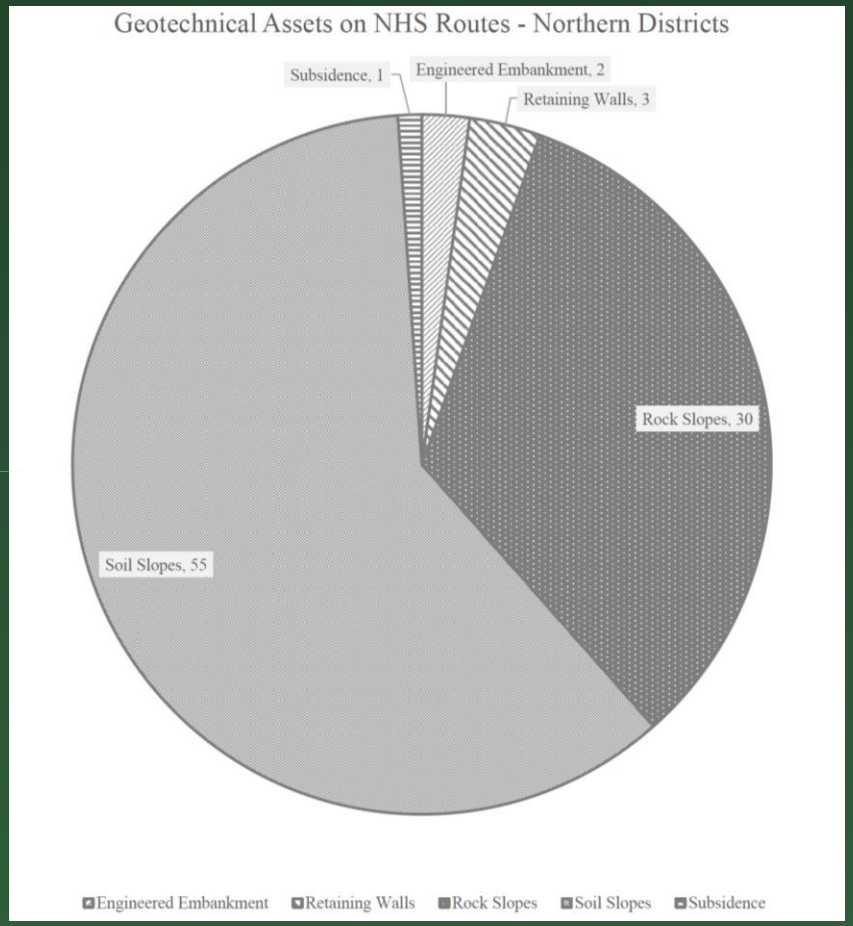
October 2022 Field Work

- NHS Routes in NW and NE Districts
- 2,200 miles, approximately 2 weeks
- 91 total sites, 5 asset groups





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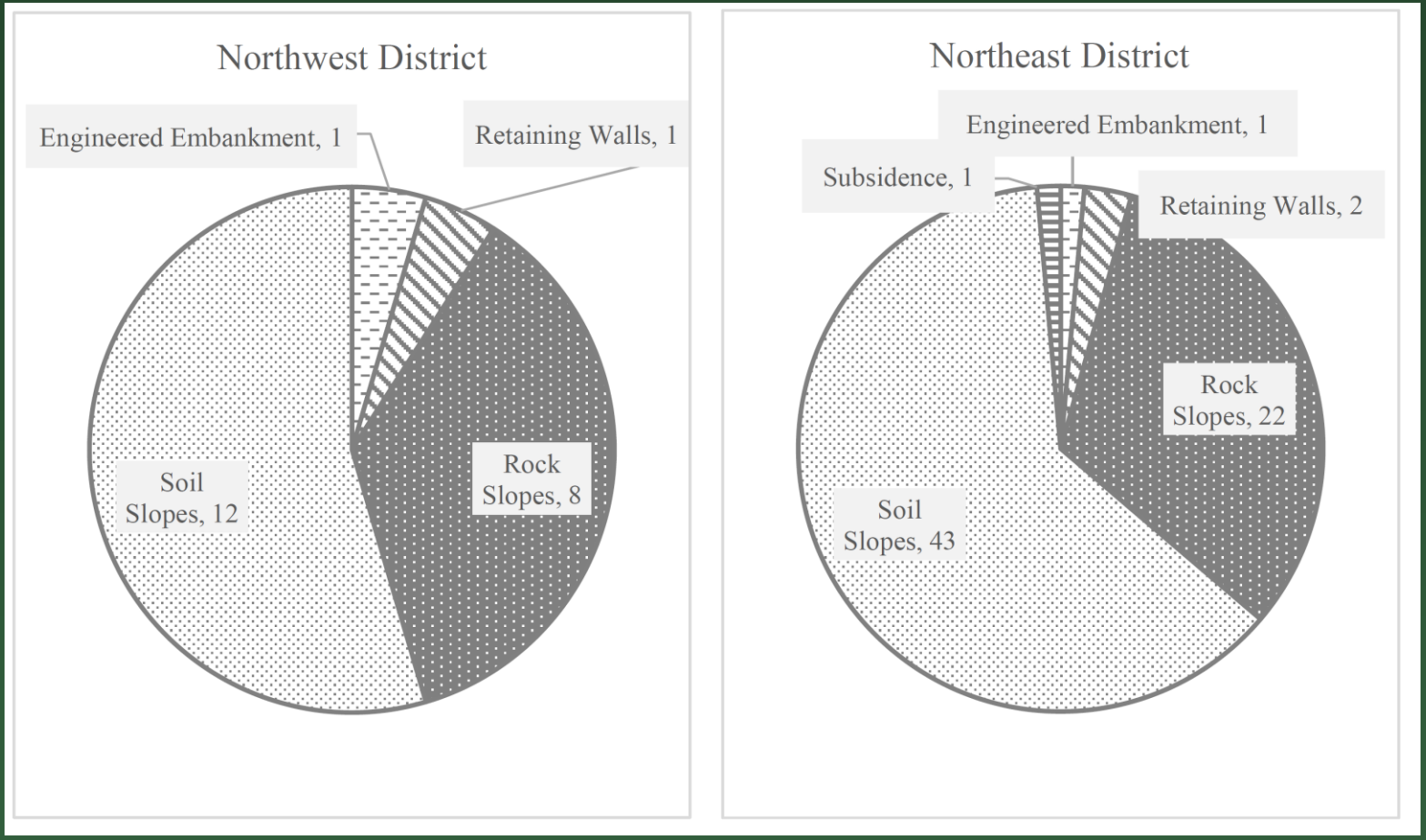
Summary of Site Ratings

- Majority of sites in Northeast District
- Predominately soil and rock slopes
- Soil slopes included slides in embankment side slopes



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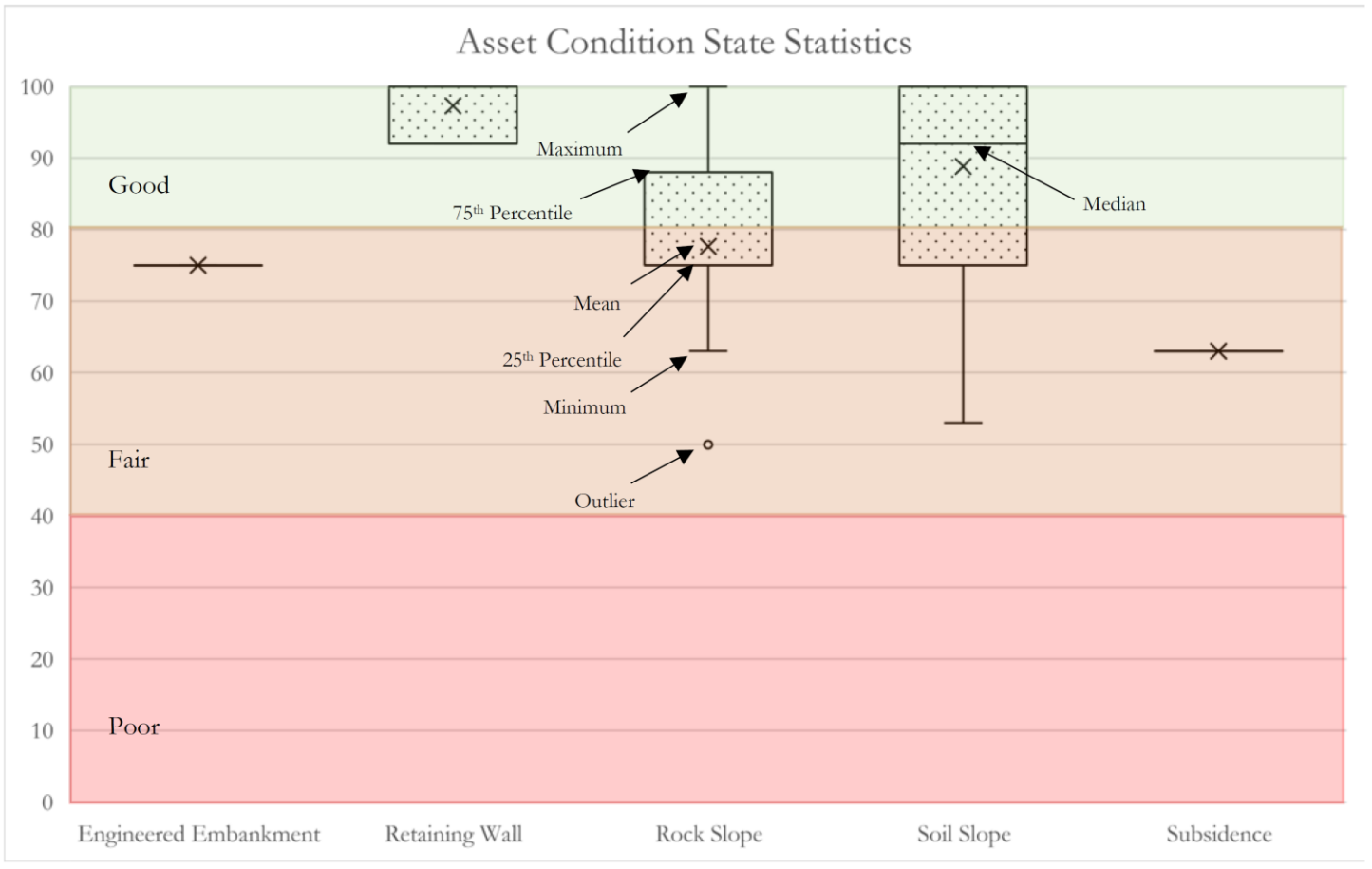
Overall Asset Condition



- Geotechnical assets in Good to Fair condition
- Soil slopes and rock slope groups large enough for statistical analysis
- 52% of soil slopes had be previously mitigated (29 of 55)

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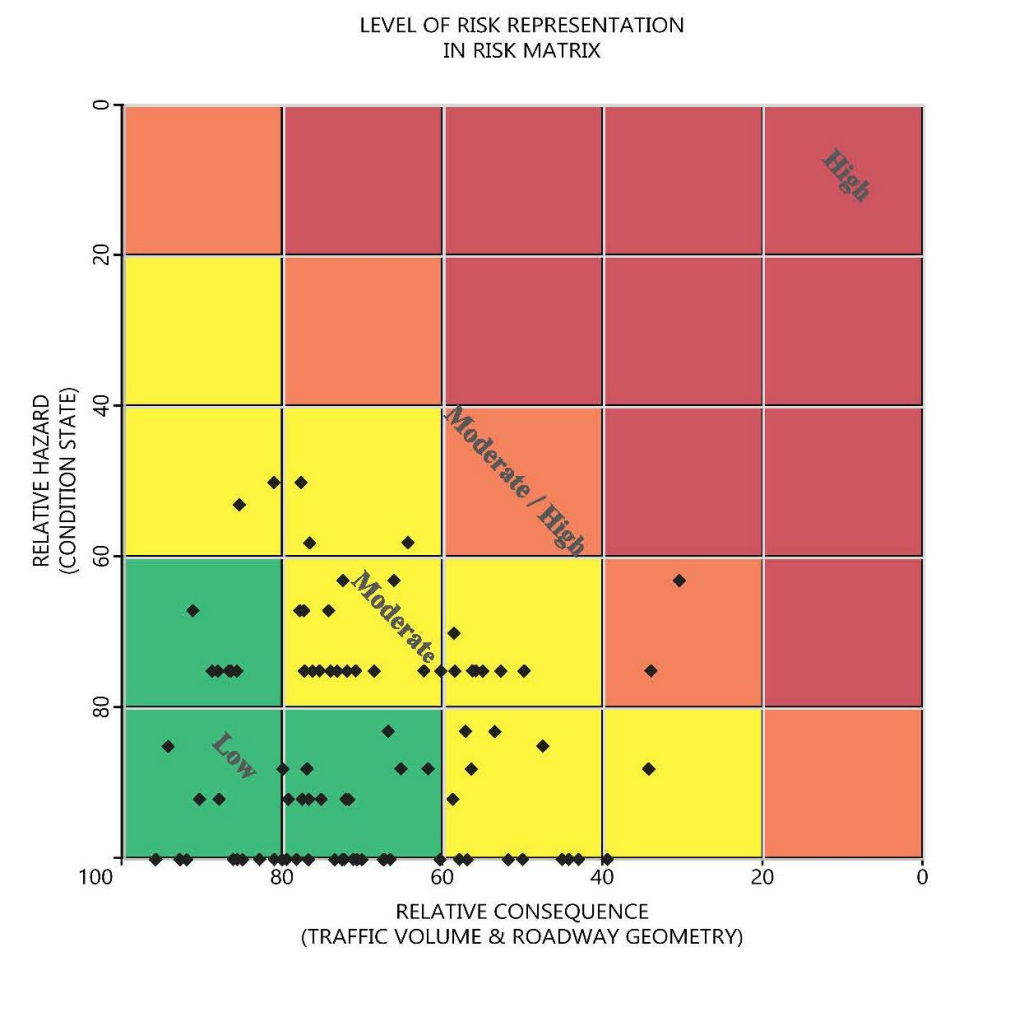
Summary of Relative Risk



- How to describe level of risk when there is no data on impact of geotechnical failures?
- Used rating categories from the inventory and assessment program
- Consequence based on roadway traffic volume and roadway geometry
- Interim approximation while additional data is collected

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Next Steps

- Confirm with IT Group that field testing and app edits are complete
- Hold training for MoDOT personnel so that project can expand statewide
- Submit final report with recommendations for joint management of the app and database by IT group and Geotech group

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