| **State Planning and Research Program****Annual Report** |
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| **PROJECT TITLE**: Pavement Surface Characteristics Rehabilitation MnROAD Study. TPF 5-(134).**OBJECTIVES**: To demonstrate and field-validate some lab-tested unique diamond grinding configurations that optimize noise, Friction, Texture and Ride Quality |
| **PERIOD COVERED**: April – June 2011. **STATUS**: Active. **LEAD STATE:** Minnesota Department of Transportation |
| **PARTICIPATING AGENCIES: Mn/DOT, TXDOT, FHWA, ACPA, IGGA.**  |
| **PROJECT MANAGER**: Bernard Izevbekhai**LEAD AGENCY**: Mn/DOT**PRINCIPAL INVESTIGATORs**: (1) **Data Analysis, Rolling Resistance**W. James Wilde, PhD, P.E. MSUJerzy Ejsmont DSc. Tech University of Gdansk, Poland(2) **Statistical Pass By** Tim Casey (HDR) Inc3) ROBOTIC texture evaluationTo be decided | **SP&R PROJECT NO**: TPF5-(134) | PROJECT IS: Planning  X Research &  Development    |
| **ANNUAL BUDGET**:$275,000 for 5 years+$45000 for Rolling Resistance | **PROJECT EXPENDITURES TO DATE**:Non-Federal Match. In-Kind Cost of Grinding And Noise Testing On Cell 37 MnRoad. As A Proof Of Concept.Full Width Grinding On Cells 7-8 MnRoad Mainline I-94Mn/DOT Initial Testing, Mn/Dot Rodeo (June 2008) Spring Noise Texture, Ride Friction MeasurementsConsultant Appointed For Data Analysis And ReportingStrategies For Additional TestingTesting And Monitoring of Cell 9 Draft Brief on cell 9Construction Report 7 8 & 9.**Spring OBSI testing****Spring Ride Quality testing****Publication of Task 1 (Jim Wilde)****Completion of Draft Report on SPPB Tests on I-94 and MnROAD Cells****Completion of HDR SPPB /Mn/DOT OBSI Report.****Development of Rolling Resistance Initiative****Assistance with Technology Deployment: Mn/DOT Metro, Mn/DOT District 1 Duluth Projects****Summer OBSI, Ride Texture and Friction measurement****Fall OBSI, Ride Texture and Friction Measurement****Test Strip #5 Ground on Cell 37. Innovative with Improved friction.****Contract extended to accommodate Rolling Resistance testing****Contract documents initiated for comprehensive Robotex texture evaluation of cells at MnROAD** |
| **WORK COMPLETED:*** ACPA / IGGA performed the Grinding of 3 configurations at MnROAD Cell 37 for a proof –of –Concept and Preliminary On-Board -Sound –Intensity (OBSI) pre and post grind measurements on the 3 configurations + control. Mn/DOT performed Ride Friction, and Texture measurements on the same pre and post grind configurations.
* Memorandum of Understanding with Diamond Surface Incorporated to perform the Diamond Grinding Full width on cell 7 and 8 MnROAD.
* Measurements of Surface Characteristics parameters on the MnROAD Low volume Road
* Actual grinding of the Mainline cells 7 and 8 to the current and Innovative grinding configurations.
* Pre-grind Measurements for the MnROAD Mainline
* Grinding of Cells 7 and 8 full Width by Diamond Surfaces Inc.
* Initial Post Construction Ride texture friction Ride measurement by Mn/.DOT
* Draft Construction (Grinding Report for cells 7 and 8 Innovative Grinding & Conventional configurations)
* Development of Limited Scope of Consultant Activity for MnSCU Mankato
* Mn/DOT Initial Testing, Mn/DOT Rodeo (June 2008)
* Spring Testing Noise texture, Ride friction Measurements
* Consultant (Minnesota State University, Mankato) Appointed for Data Analysis and Reporting. Principal Investigator is W. James Wilde, PhD.
* MnROAD Cell 9 Ultimate Grinding Cell Created Ground and Tested.
* Spring Testing (Texture ASTM E-965, E-2157, Friction GN & FN, IRI, OBSI)
* Proposal to Conduct comprehensive evaluation (OBSI, CPB, SPB) on a Real Roadway. (Prescott WI or Monticello TH 94 MN) Estimated to Cost $62,000. ($20,000 Approved from by the Pooled Fund) Contract with HDR executed.
* OBSI and SPB in Progress near Hasty MN. The 1000-ft section is ground and east of that section an unground portion is being evaluated.
* Successful Web meeting on June 1 2009. Plans for a RODEO discussed but not yet done.
* Analysis of Friction Ride and OBSI over time Presented by W.J. Wilde
* Omnibus Cell 7 8 & 9 Report
* Mn/DOT Transtec Rodeo on Cells 37 7,8, 9 and others.
* OBSI and SPB in Progress near Hasty MN. The 1000-ft section is ground and east of that section an unground portion is being evaluated. Draft SPB Report Review.
* Summer 2009 Measurements
* Fall 2009 Measurements
* **Statistical Pass Bys Testing Completed.**
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* **Draft report on Statistical Pass Bys Testing Completed.**
* **Spring testing by Mn/DOT OBSI Ride and texture.**
* **Final Statistical pass-by report Submitted for Publication**
* **Test Strip #5 ground on cell 37.**
* **Cell 71 ground innovative Driving and conventional passing**
* **Subcontract for Rolling Resistance measurements**

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| **SUMMARY OF ACTIVITIES EXPECTED TO BE PERFORMED NEXT QUARTER**:* Continuous monitoring
* Final Report on SPB
* Rolling Resistance Contracts
* Award of Robotex Measurements, Possible Robotex Measurement
* Construction and initial Performance Report Published
* Final Statistical Passby Evaluation published
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| **STATUS AND COMPLETION DATE:** * Project is on schedule. Consultant Task 1 Draft report Completed
* Data Analysis (OBSI Friction, texture , IRI)
* Can be completed On Schedule
* Draft Final Report to be on schedule
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