| **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. MSU  Jerzy Ejsmont DSc. Tech University of Gdansk, Poland  (2) **Statistical Pass By**  Tim Casey (HDR) Inc  3) ROBOTIC texture evaluation  To 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-94  Mn/DOT Initial Testing, Mn/Dot Rodeo (June 2008)  Spring Noise Texture, Ride Friction Measurements  Consultant Appointed For Data Analysis And Reporting  Strategies For Additional Testing  Testing And Monitoring of Cell 9  Draft Brief on cell 9  Construction 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.** * **Statistical Pass Bys Testing Completed.** * **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** | | |
| **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 | | |
| **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 | | |