

LRRB Pavement Roadmap
Past, Present, Future Projects Supporting Allowable Axle Load System Product

<u>Project ID</u>	<u>Project Title</u>	<u>Thread or Theme</u>	<u>C=Complete</u> <u>A=Active</u> <u>G=Gap</u>
2003-057R	Evaluation of Portable Non-Intrusive Traffic Detection Systems <small>ME, PM</small>	Veh. Loading	C
2005-026R	Development of Portable Eight-Channel WIM System Based on Analog WIM Signals <small>ME, PM</small>	Veh. Loading	C
2005-027R	Feasibility Study of Portable WIM Systems for Highway Speed <small>ME, PM</small>	Veh. Loading	C
89488	Pavement Data Pilot for Local Roads (FWD) <small>PM</small>	Pvmt Rating	C
Inv 820	Impacts of Overweight Implements of Husbandry on Minnesota Roads and Bridges <small>PM</small>	Veh. Loading	C
Inv 821 86953	Assess Life-Cycle Costs and Roadway Surfacing Impacts of Increasing Roadway Construction Standards to Accommodate Greater Axle Loads on Local Residential Streets in Minnesota Cities	Life/Cycle	C
Inv 828	Local Road Materials Properties and Calibration of MnPAVE <small>ME</small>	Life/Cycle	C
2006-047R	Development of Data Warehouse and Applications for Continuous Vehicle Class and WIM Data <small>ME, PM</small>	Veh. Loading	A, 0904
Inv 851	Allowable Axle Loads On Pavement (Subgrade Analysis)	Life/Cycle	A, 0907
Inv 844	Update of Vehicle Classification for County Road Pavement Design <small>ME, PM</small>	Veh. Loading	A, 0909
2007-080C	Truck Weight Compliance Education and Outreach Program	Veh. Loading	A, 0911
Inv 854, TPF 5(148)	Effects of Implements of Husbandry on Pavement Performance <small>ME, PM</small>	Veh. Loading	A, 1101
Data	Pavement Data for Local Roads (Expansion of FWD data pilot) <small>PM</small>	Pvmt Rating	G, Pending: State Aid
Data	Expansion of Vehicle Classification for County Road Pavement Design <small>ME, PM</small>	Veh. Loading	G, Pending: State Aid? + LRRB?
Software	Upgrade MnPAVE to include Allowable Axle Load Function	Life/Cycle	G, Needed in 2009
Training	Training for 2010 version of MnPAVE (which will include Best Value and Allowable Axle Load capabilities) <small>ME</small>	Life/Cycle	G, Needed in 2010
Data	Seamless access to all pavement related data needed by local trans. agencies (This is the tool to feed required data to the Allowable Axle Load, ME Design, and Pavement Management Tools.) <small>ME, PM</small>	Veh. Loading Pvmt Rating	G, The Holy Grail. Who takes the lead?

ME Project also supports ME Design Tool

PM Project also supports Pavement Management Best Practices

Boxed project indicates critical path project

LRRB Pavement Roadmap
Past, Present, Future Projects Supporting ME Design Tool Product

<u>Project ID</u>	<u>Project Title</u>	<u>Thread or Theme</u>	<u>C=Complete</u> <u>A=Active</u> <u>G=Gap</u>
2001-057R	Resilient Modulus Testing Following LTPP-46 Protocol	Life/Cycle	C
2003-038R	Pavement Design Using Unsaturated Soil Technology	Life/Cycle	C
2003-057R	Evaluation of Portable Non-Intrusive Traffic Detection Systems <small>AA, PM</small>	Veh. Loading	C
2005-026R	Development of Portable Eight-Channel WIM System Based on Analog WIM Signals <small>AA, PM</small>	Veh. Loading	C
2005-027R	Feasibility Study of Portable WIM Systems for Highway Speed <small>AA, PM</small>	Veh. Loading	C
Inv 801	Adaption of ME 2002 Guide for Design of Minnesota Low Volume PCC Pavements	Life/Cycle	C
Inv 812	Resilient Modulus & Strength of Base Course with Recycled Asphalt Pavements	Life/Cycle	C
Inv 828	Local Road Materials Properties and Calibration of MnPAVE <small>AA</small>	Life/Cycle	C
Inv 815	Calibration of the 2002 AASHTO Pavement Design Guide for MN PCC/HMA Pavements	Life/Cycle	A, 0901
2006-047R	Development of Data Warehouse and Applications for Continuous Vehicle Class and WIM Data <small>AA, PM</small>	Veh. Loading	A, 0904
Inv 844	Update of Vehicle Classification for County Road Pavement Design <small>AA, PM</small>	Veh. Loading	A, 0909
Inv 854, TPF 5(148)	Effects of Implements of Husbandry on Pavement Performance <small>AA, PM</small>	Veh. Loading	A, 1101
Training	Provide Training for 2008 Version of MnPAVE		G, Does LRRB want a proposal?
Research	Best Value Granular Material for Road Foundations	Life/Cycle	G, Pending: Mn/DOT
Data	Expansion of Vehicle Classification for County Road Pavement Design <small>AA, PM</small>	Veh. Loading	G, Pending: State Aid? + LRRB?
Training	Training for 2010 Verson of MnPAVE (which will include Best Value and Allowable Axle Load capabilities) <small>AA</small>	Life/Cycle	G, Needed in 2010
Data	Seamless access to all pavement related data needed by local trans. agencies (This is the tool to feed required data to the Allowable Axle Load, ME Design, and Pavement Management Tools.) <small>AA, PM</small>	Veh. Loading Pvmt Rating	G, The Holy Grail. Who takes the lead?

AA Project also supports Allowable Axle Load System

PM Project also supports Pavement Management Best Practices

Boxed projects indicates critical path projects

**LRRB Pavement Roadmap
Past, Present, Future Projects Supporting Pavement Management Best Practices Product**

Project ID	Project Title	Thread or Theme	C=Complete A=Active G=Gap
2003-057R	Evaluation of Portable Non-Intrusive Traffic Detection Systems ^{AA, ME}	Veh. Loading	C
2005-026R	Development of Portable Eight-Channel WIM System Based on Analog WIM Signals ^{AA, ME}	Veh. Loading	C
2005-027R	Feasibility Study of Portable WIM Systems for Highway Speed ^{AA, ME}	Veh. Loading	C
89488	Pavement Data Pilot for Local Roads (FWD) ^{AA}	Pvmt Rating	C
Inv 769, RIC #11	To Pave or Not to Pave?	Life/Cycle	C
Inv 808	Reclaiming Pavement - Low Volume Roads	Life/Cycle	C
Inv 820	Impacts of Overweight Implements of Husbandry on Minnesota Roads and Bridges ^{AA}	Veh. Loading	C
RIC #8	Ground Penetrating Radar (GPR) Capability Brochure/Demo	Pvmt Rating	C
RIC #9	Best Practices Manual for Rehabilitation of Low Volume Concrete Roads in Minnesota	Life/Cycle	C
Inv 817	Determination of Optimum Time for the Application of Surface Treatments to Asphalt Concrete Pavements	Life/Cycle	A, 0807
Inv 831	Investigation of Stripping in MN Class7 (RAP) and Full Depth Reclamation Base Material	Life/Cycle	A, 0807
Inv 836	Design Procedures for Bituminous Stabilized Road Surfaces for Low Volume Roads	Life/Cycle	A, 0809
Inv 846	Hydraulic, Mechanical, and Leaching Characteristics of Recycled Materials	Life/Cycle	A, 0811
Inv 826	Appropriate Use of RAP	Life/Cycle	A, 0812
Inv 856	Investigation Of In-Place Asphalt Film Thickness And Performance Of Minnesota Hot Mix Asphalt Mixtures	Life/Cycle	A, 0812
Inv 830	Evaluating Roadway Subsurface Drainage Practices	Life/Cycle	A, 0901
Inv 847	Use of Fly Ash for Reconstruction of Bituminous Road	Life/Cycle	A, 0901
Inv 861	Best Management Practices For Pavement Preservation Of Hot Mix Asphalt	Life/Cycle	A, 0902
2006-047R	Development of Data Warehouse and Applications for Continuous Vehicle Class and WIM Data ^{AA, ME}	Veh. Loading	A, 0904
2007-033R	Post-Construction Evaluation of Forecast Accuracy	Veh. Loading	A, 0905
Inv 844	Update of Vehicle Classification for County Road Pavement Design ^{AA, ME}	Veh. Loading	A, 0909
MnDOT MOU	4 Year Condition Rating of Local Roads	Pvmt Rating	A, 0912?
Inv 854, TPF 5(148)	Effects of Implements of Husbandry on Pavement Performance ^{AA, ME}	Veh. Loading	A, 1101
Training	Pavement Management Best Practices, RIC Survey and Training	Pvmt Rating	G, Pending with RIC
Data	Pavement Data for Local Roads (Expansion of FWD data pilot) ^{AA}	Pvmt Rating	G, Pending: State Aid
Data	Expansion of Vehicle Classification for County Road Pavement Design ^{AA, ME}	Veh. Loading	G, Pending: State Aid? + LRRB?
Data	Seamless access to all pavement related data needed by local trans. agencies (This is the tool to feed required data to the Allowable Axle Load, ME Design, and Pavement Management Tools.) ^{AA, ME}	Veh. Loading Pvmt Rating	G, The Holy Grail. Who takes the lead?

^{AA} Project also supports Allowable Axle Load System

^{ME} Project also supports ME Design Tool

Boxed project indicates critical path project