

Pavement Design & Performance Research Reports

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RR-011	The Design of Concrete Pavements for Postwar Construction	Michigan State Hwy Dept.	Mar-45
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RR-102	Comparative Studies of Pneumatic Tire Rolling	P. J. Serafin, L. L. Kole	Jan-62
RR-104	Cumulative Changes in Rigid Pavement With Age in Service	W. S. Housel	Jan-62

RR-109	The Michigan Pavement Performance Study for Design Control and Serviceability Rating	W. S. Housel	Aug-62
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SPR-473	Early Scaling of Concrete Pavement: US-41 Marquette Bypass (Construction Project U 52042E, C8)	M. G. Brown, R. H. Merrill	Nov-64
SPR-474	Galvanized (Zinc Alloy) Steel Base Plates for Joints	O. L. Lindy	Sep-64

SPR-477	Test Application and First Inspection of Koppers Concrete Sealer on Northbound I-496 over GTW RR (X06 of 33045)	F. J. Bashore, R. H. Merrill	Sep-64
SPR-479	Summary of Laboratory Evaluation of "Silexore" Protective Coatings for Concrete	M. G. Brown	Oct-64
SPR-481	Thermoplastic Pavement Marking on W. P. Chrysler Freeway (Projects BI 82111C, C24; BI 82251C, C34)	A. J. Permoda	Nov-64
SPR-484	Performance of Extruded Neoprene Joint Sealer: I-96 from Waverly Road to M-99 (Construction Project EBACI 33083A C1)	C. C. Rhodes, J. E. Simonsen, D. F. Simmons	Nov-64
SPR-485R	Evaluation of Hook Bolts for Longitudinal Bulkhead Construction Joints	J. E. Simonsen, P. Milliman	Jan-65
SPR-487	Construction and Sealing of Transverse Contraction Joints Containing Acme Load Transfer Assemblies	J. E. Simonsen	Dec-64
SPR-488	Study of Defective Concrete in Structures on US-2 West of Watersmeet (B02, B03, B04 of 27023B)	R. H. Merrill	Dec-64
SPR-491	Progress Report on Salt Stabilized Sections of M-46 (Howard City to Newaygo): 1964 Surveys and Testing	R. C. Mainfort	Jan-65
SPR-493	Performance of Hot-Poured and Cold-Applied Joint Sealers	C. C. Rhodes, L. T. Oehler	Feb-65
SPR-496R	Evaluation of Two-Component, Cold-Pour Joint Sealing in I-75 Rest Areas: Construction Projects I 25032C, C7; BI 73171C, C19; I 09034C, C10 Federal Designations I-75-2(89), I-75-2(90), I-75-2(91)	D. F. Simmons	Mar-65

SPR-507	Test Rod Skidometer Data for the 1964 Test Year	P. M. Schafer	Apr-65
SPR-518	Evaluation of "Ethaforam" Proposed Joint Sealer	M. G. Brown	May-65
SPR-521	Skid Proofing Treatments at South Cedar Street (US-127) Intersections with Holmes Road and Baker Street in Lansing	R. H. Merrill	Jun-65
SPR-523	Pavement Evaluation of I-94 Control Section 82022: Detroit Industrial Expressway from Ozga Road to US-24 Telegraph Road	F. Copple	Jun-65
SPR-525	Failures of Two-Component, Cold-Pour Joint Sealant in New Pavement Construction	F. J. Bashore	Jun-65
SPR-526	Summaries of Michigan Pavement Roughness: 1963-64 Test Program	P. M. Schafer	Jun-65
SPR-528	Met-Fiber Joint-Forming Material	L. T. Oehler	Jun-65
SPR-533	Inspection of Pavement Joint Blowup on US-131 North of Grand Rapids (Construction Project 41-90, C4)	F. Copple	Jul-65
SPR-536	Joint Failures on Eastbound I-94, Parma to Jackson (Construction Project 38-48, C9)	J. E. Simonsen	Jul-65
SPR-539	Pavement Evaluation of I-94 Control Sections 81041, 81062, and 81063: Detroit Industrial Expressway from Carpenter Road to Rawsonville Road (Washtenaw-Wayne County Line)	F. Copple	Jun-65

SPR-541	US-127 Blowup South of Jackson (Construction Project 38-7, C5)	J. E. Simonsen	Sep-65
SPR-543	Evaluation of Expansion-Contraction Joint Construction Methods: M-153 North of Ypsilanti (Construction Project F 81121A, C2)	J. E. Simonsen	Sep-65
SPR-545	Joint Blowup, I-94 East of US-127 Bypass, Jackson County	F. Copple	Sep-65
SPR-548	Fifth Progress Report on Salt Stabilized Sections of M-46 (Howard City to Newaygo): 1965 Surveys and Testing	R. C. Mainfort	Sep-65
SPR-555	Inspection of Pavement Joints on US-127, Hillsdale County	F. Copple	Mar-66
SPR-557	Grade Separation Carrying Eight Mile Rd over the Couzens Expressway (I-696)	A. J. Permoda, W. L. Frederick	Oct-65
SPR-560	Progress Report on Thermoplastic Pavement Markings on W. P. Chrysler Freeway (Projects BI 82111C, C24; BI 82251C,C34)	A. J. Permoda	Nov-65
SPR-561R	Prestressed Concrete Beam Construction Practice	C. J. Arnold	Mar-66
SPR-563	Performance of Joint Sealants Used in 1964-65 Michigan Construction	J. E. Simonsen, F. J. Bashore	Dec-65
SPR-566R	Slab Faulting Measurements at Blowup Repairs on I-94 near Jackson	E. A. Finney	Feb-66

SPR-567	1965 Failure and Repair of Continuously Reinforced Experimental Pavement: I-96 from Portland Road to M-66	J. E. Simonsen	Feb-66
SPR-570	Summaries of Michigan Pavement Roughness: 1965 Test Program	P. T. Luce	Jun-66
SPR-582	An Appraisal of Transverse Joint Base Plates	E. A. Finney	Jun-66
SPR-585	Summaries of Michigan Pavement Skid Resistance: 1965 Test Program	P. M. Schafer	Jun-66
SPR-592	Compaction Control of a Major Construction Project With the Michigan Nuclear Gage: US-127 Relocation, Holt Road to I-96 (F 33035B, C1 BI 33084A, C21)	J. H. Defoe, R. C. Mainfort	Nov-66
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SPR-609	Procedure for Design of Continuously Reinforced Concrete Pavements	F. Copple	Oct-66
SPR-622	Investigation of Pavement Damage Caused by Gasoline Truck Fire on Northbound US-23 near Fenton (Construction Project 25031, C2)	H. L. Patterson	Jan-67
SPR-623	Investigation of Concrete Pavement Cracking on the Southbound I-75 Fisher Freeway (Sta. 987+00 to 990+00, Construction Project BI 82194E, C4)	H. L. Patterson	Feb-67
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SPR-630	Laboratory Testing of Bituminous Base Course Samples: I-75 North of Wolverine (Construction Project EBI 16093), C3RN	R. C. Mainfort, E. C. Novak	Mar-67
SPR-631	Summaries of Michigan Pavement Skid Resistance: 1966 Test Program	P. M. Schafer	Apr-67
SPR-632	Summaries of Michigan Pavement Roughness: 1966 Test Program	P. T. Luce	Apr-67
SPR-633	Method of Test and Equipment for Measurement of Pavement Skid Resistance	N/A	Apr-67
SPR-634	Final Report on Michigan Experimental Transverse Joint Project	J. E. Simonsen	Sep-67
SPR-636	Low Compressive Strength of Concrete Pavement Cores from the Eastbound I 75-Fisher Freeway (Sta. 1101+07 to 1101+70, construction Project BI 82194H, C21, Part1)	H. L. Patterson	May-67
SPR-641	Application of Instrumental Methods for Evaluating Highway Materials: Second Progress Report; Detection and Determination of Ground, Cured Scrap Rubber in Hot- Poured Joint Sealers	W. L. Frederick, R. J. Matel	Dec-67
SPR-642	Effect of De-Icing Chemicals on Air-Entrained Concrete at Early Ages	P. T. Luce	Jul-67
SPR-646	Inspection Report of Field Applications of "Speed Crete" Patching Mixtures	M. G. Brown	Aug-67
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SPR-654	Extrusion of Neoprene Seals from Expansion Joints in Concrete Pavement	F. J. Bashore	Sep-67
SPR-657R	Investigation of Concrete Pavement Cores from the Northbound I-75 Freeway	H. L. Patterson	Dec-67
SPR-668	Procedures for Repairing Continuously Reinforced Concrete Pavements	J. E. Simonsen	Mar-68
SPR-670	Performance of Joint Sealants Used in 1964 Through 1967 Michigan Construction, Third Annual Report	F. J. Bashore	Apr-68
SPR-674	Summaries of Michigan Pavement Skid Resistance – 1967 Test Program	P. M. Schafer	Jul-68
SPR-675	Summaries of Michigan Pavement Roughness – 1967 Test Program	R. L. Felter, P. T. Luce	May-68
SPR-676	Second Inspection Report of Field Application of “Speed Crete” Patching Mixtures	M. G. Brown	Jun-68
SPR-677	The Effect of Slab Warpage on Stresses at Contraction Joints	E. L. Marvin	Aug-68
SPR-680	Pavement Damage Related to Tire Studs	F. Copple	Oct-68
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SPR-693B	Joint Repairs on M-59 near Howell	L. T. Oehler	Feb-69
SPR-697	Summaries of Michigan Pavement Roughness; 1968 Test Program	R. L. Felter	May-69
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SPR-703	Continuously Reinforced Concrete Pavement: Welded Bar Mat Reinforcement	J. E. Simonsen	Jun-69
SPR-704	Summaries of Michigan Pavement Skid Resistance; 1968 Test Program	Physical Research Unit	Aug-69
SPR-706	Third Progress Report on Thermoplastic Pavement Markings on W. P. Chrysler Freeway	A. J. Permoda	Jun-69
SPR-711	Performance of Michigan's Postwar Concrete Pavement	L. T. Oehler, L. F. Holbrook	Jun-69
SPR-716	Protection of Substructure Concrete from A588 Steel Staining by Use of an Aluminum- Pigmented Coating	L. T. Oehler	Aug-69

SPR-718	Joint Load Transfer Test Road to Evaluate Acme Load Transfer Assemblies, Plastic Coated Dowels, and End-of-Pour Construction Joint Assemblies	L. T. Oehler	Oct-69
SPR-721	Summary of Highway Department Concern in Connection with the Use of Tire Studs	L. T. Oehler	Dec-69
SPR-723	Determination of Cement Content of Hardened Slag Concrete	W. J. Frederick, J. T. Ellis, V. J. Troms, R. J. Matel	Jul-70
SPR-725	Investigation of Pavement Damage by Gasoline Truck Fires to M-20, (Control Section 56023), City of Midland and US-27 (Control Section 37017, C4), South of Mt. Pleasant	H. L. Patterson	Jan-70
SPR-733	Studded Tire Survey, Winter 1970	F. Copple	Mar-70
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SPR-738	Summaries of Michigan Pavement Roughness, 1969 Test Program	Michigan State Highway Commission	May-70
SPR-743	Pavement Joint Spacing in Portland Cement Concrete Pavements	L. T. Oehler	Jun-70
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SPR-762	Progress Report, Concrete Pavement Joint Repair with Pre-Cast Slabs	J. E. Simonsen	Apr-71
SPR-763	Concrete capping Study Final Report, Groesbeck Highway (Project F 50-7, C5) US-127 (project f 33-54, C2)	C. A. Zapata	Mar-71
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SPR-771	Report on Ten-Year Service of Experimental Continuously Reinforced Concrete Pavement in Michigan	J. E. Simonsen, G. R. Cudney	Feb-72
SPR-774	Determination of Extent of Fire Damage to Span 7 of X03 of 25042 (Ramp B over GT&W RR and I-75 – M-78 Interchange Southwest of Flint)	H. L. Patterson	Aug-71

SPR-775	A Survey of Vehicles Using Studded, Smooth, or Snow Tires in Michigan	F. Copple	Jul-71
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SPR-783	Determination and Improvement of Relevant Pavement Skid Coefficients	F. Copple	Aug-71
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SPR-809	Skid Testing of Seal Coats	L. T. Oehler	Mar-72
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SPR-827	Investigation of Low and Erratic Concrete Pavement Core Compressive Strength	H. L. Patterson, M. G. Brown	Feb-73
SPR-831	Summaries of Michigan Pavement Skid Resistance, 1971 Test Program	Michigan State Highway Commission	Sep-72
SPR-837	Frost Insulating Properties of Asphalt-Treated Bases	R. C. Mainfort, E. C. Novak, Jr.	Oct-72
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SPR-842	Experimental Concrete Pavement Ramps Construction Report	C. J. Arnold, M. A. Chiunti	Jan-73
SPR-852	Experimental Steel-Fiber-Reinforced Concrete Overlay	C. J. Arnold, M. G. Brown	Apr-73
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SPR-887	Annual Studded Tire Survey, Winter 1972-1973	R. L. Felter, P. M. Schafer	Oct-73
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SPR-905	General Evaluation of Current Concrete Pavement Performance in Michigan, Jointed Concrete Pavement Deterioration Considered as a Probability Process	L. F. Holbrook, W.H. Kuo	Mar-74
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SPR-944	Summaries of Michigan Pavement Skid Resistance, 1973 Test Program	Michigan State Highway Commission	Oct-74
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SPR-974	Experimental Field Application of “Pozicon” Fly Ash in the Median Barrier of I-75 Near the City of Flint	H. J. Patterson	Apr-76
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SPR-1011	Fracture Toughness and Fatigue Properties of Steel Plate Butt Joints Welded by Submerged Arc and Electroslag Welding Procedures	J. D. Culp	May-76
SPR-1016	Experimental Short Slab Pavements (Construction Report)	M. A. Chiunti	Aug-76
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SPR-1049	Summaries of Michigan Pavement Skid Resistance, 1975 Test Program, MDSHT Report No. 249	Michigan State Highway Commission	Feb-77
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SPR-1065	Maintenance of Neoprene Sealed Concrete Pavements, First Progress Report	J. E. Simonsen, F. J. Bashore, A. W. Price	Jul-77
SPR-1080	Petrographic Analysis of Coarse Aggregate: Champion , Inc., Moon Lake Pit No. 22-4	R. W. Muethel	Jan-78
SPR-1081	A Report on the Cause of Deterioration of Sections of Flexible I-94 Pavement	E. C. Novak, Jr.	Feb-78
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SPR-1103	Inspection of Low Slump and Latex Modified Overlays on I-94 in the Detroit Area	M. G. Brown	Dec-78

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SPR-1120	Continuously Reinforced Concrete Pavement in Michigan, A Historical Summary	J. E. Simonsen	Jun-79
SPR-1122	Effectiveness of Neoprene Seals in Preventing Concrete Pavement Contraction Joint Deterioration	F. J. Bashore, A. W. Price	Jul-79
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SPR-1134	Evaluation of Sprinkle Treatment for Improving Skid Resistance of Asphalt Surfaces, Progress Report	J. H. DeFoe	Jan-80

SPR-1137	Final Report on Joint Load Transfer Test Road to Evaluate Acme Load Transfer Assemblies, Plastic Coated Dowels and End-of-Pour Construction Joint Assemblies	J. E. Simonsen	Mar-80
SPR-1140	Summaries of Michigan Pavement Friction Measurements (1978 Test Program)	P. M. Schafer	Mar-80
SPR-1141	Preventive Maintenance of Concrete Pavements – US-27, Final Report	J. E. Simonsen	Apr-80
SPR-1143	Investigation of Popout Problems on M-14	L. T. Oehler	May-80
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SPR-1151	Performance of Several Types of Corrosion Resistant Load Transfer Bars, for as Much as 21 Years of Service in Concrete Pavements	C. J. Arnold	Aug-80
SPR-1152	Base and Subbase Properties Affecting Longitudinal Cracking of I-275	Michigan Trans. Commission	Apr-81
SPR-1156	Study of Cores for Potential Recycled Concrete Pavement	R. W. Muethel	Mar-81
SPR-1160	Evaluation of Cold-Mix Emulsion Black Base at the Secondary Complex, Final Report	L. T. Oehler	Feb-81
SPR-1169	Jointed Concrete Pavements-Design, Performance and Repair	C. J. Arnold, M. A. Chiunti, K. S. Bancroft	May-81

SPR-1170	Summaries of Michigan Pavement Friction Measurements (1979 Test Program)	P. M. Schafer	May-81
SPR-1171	Concrete Pavement Performance Problems and Foundation Investigation of I-75 from the Ohio Line Northerly to the Huron River	J. E. Simonsen, E. C. Novak, Jr.	May-81
SPR-1173	Surface Texture Measurements by the Putty Impression Method	C. A. Zapata	Jun-81
SPR-1178	A Study of Seasonal Variation in Pavement Conditions by Means of Benkelman Beam Deflection and Frost Depth Measurements	R. C. Mainfort	Aug-81
#REF!	PCC Pavement Joint Restoration and Rehabilitation (Federal Highway Administration NEEP Project 27) (Construction Report)	J. E. Simonsen, F. J. Bashore, A. W. Price	Aug-81
SPR-1183	Evaluation of 'Monoslabs' for Paving Ditches and Service Drives (Final Report)	J. H. DeFoe	Nov-81
SPR-1185	A Five-Year Evaluation of Preventive Maintenance Concepts on Jointed Concrete Pavement (I-75 and I-696 in Oakland County)	C. J. Arnold, M. A. Chiunti, K. S. Bancroft	Feb-82
SPR-1191	Early Cracking of a Bituminous Concrete Section of US-2 Located in District 2	E. C. Novak, Jr.	Apr-82
SPR-1194	Frost Heave Investigation of I-275	E. C. Novak, Jr.	Apr-82
SPR-1195	Evaluation of Wet Bottom Slag Bituminous Wearing Course, I-94 in Dearborn Heights, Final Report	G. M. Smith	May-82

SPR-1198	Concrete Pavement Cracking, Interim Report	R. L. Felter	Jun-82
SPR-1208	Degradation of Acid-Treated and Untreated Steel Furnace Slag as an Open Graded Base Course for Concrete Pavement	E. C. Novak, Jr.	Apr-83
SPR-1216	Investigation of Steel Furnace Slag Open Graded Drainage Course Base on I-69 Airport Road Ramps	Michigan Trans. Commission	Mar-83
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SPR-1231	Evaluation of Cast-in-Place Joint Repairs in Concrete Pavement	C.A. Zapata	7/1/1983
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SPR-1243	Performance Evaluation of Plastic Fabrics as Overlay Reinforcement to Control Reflection Cracking	C. A. Zapata, M. A. Chiunti, L. J. Pearson	Apr-84

SPR-1251	Field Trial of Foamed Asphalt Stabilization, Final Report	Michigan Trans. Commission	Oct-84
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#REF!	Comparison of Cracked and Uncracked Flexible Pavements in Michigan, Final Report	J. H. DeFoe	Oct-88
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SPR-1303	Performance Evaluation of Concrete Pavement Overlays, Final Report	J. E. Simonsen, A. W. Price	Dec-89
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#REF!	Evaluation of Glasgrid Bituminous Pavement Reinforcement Mesh and a Bituminous Separation Course With and Without Latex	V. T. Barnhart	Oct-95

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