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Guide for Mechanistic-Empirical Design
OF NEW AND REHABILITATED PAVEMENT STRUCTURES

FINAL DOCUMENT

APPENDIX FF:
CALIBRATION SECTIONS FOR RIGID PAVEMENTS

NCHRP

Prepared for
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Data used in model calibration of the design procedures for new PCC pavements and the rehabilitation of existing pavements (all types) with PCC was assembled at ARA-ERES. The author of Appendix FF is Mr. Leslie Titus-Glover. Dr. Darter provided technical and managerial coordination, monitored progress, set schedules and deadlines, and provided periodic technical review of the assembled data. Mr. Joseph A. Stefanski assisted with the database assembly.

Foreword

The contents of this appendix are provided in support of PART 3, Chapters 4 and 7 and Appendices JJ – Joint Faulting in Jointed Plain Concrete Pavements, KK – Transverse Cracking in Jointed Plain Concrete Pavements, LL – Punchouts in Continuously Reinforced Concrete Pavements, and NN – PCC Rehabilitation of Existing Pavements of the Design Guide. It presents a summary of the data used in model calibration of the design procedures for new PCC pavements and the rehabilitation of existing pavements (all types) with PCC. The Design Guide is limited to jointed plain concrete pavements (JPCP) and continuously reinfornced concrete pavements (CRCP).

APPENDIX FF: CALIBRATION SECTIONS FOR RIGID PAVEMENTS

1.0 INTRODUCTION

This document presents a summary of the data used in model calibration of the design procedures for new PCC pavements and the rehabilitation of existing pavements (all types) with PCC. The 2002 design guide is limited to jointed plain concrete pavements (JPCP) and continuously reinfornced concrete pavements (CRCP). Sources of data used for model development, calibration, verification, and validation are summarized in table FF.1.

Table FF.1. Data sources for new PCC and rehabilitation with PCC model calibration.

Design Type	Description	Distress Types	Data used in Model Calibration
New	JPCP	Tranverse joint faulting Transverse cracking	• LTPP GPS-3 • LTPP SPS-2 • FHWA RPPR
	CRCP	Punchouts	• LTPP GPS-5 • Engineering/design reports
Rehabilitation	JPCP restoration	Tranverse joint faulting Transverse cracking	• LTPP SPS-6 (test sections 0601, 0602, 0605) • ACPA diamond grinding
	JPCP Overlays (over all types of existing pavements)	Tranverse joint faulting Transverse cracking	• LTPP GPS-9
	CRCP Overlays (over all types of existing pavements)	Punchouts	• LTPP SPS-7 • NCHRP 10-41

The key inputs required for model calibration are summarized in the next few sections of this appendix.

2.0 DATA REQUIREMENTS FOR MODEL DEVELOPMENT AND CALIBRATION (NEW PCC AND REHABILITATION WITH PCC)

A summary of the input data used in model calibration is presented in table FF.2 and are categorized as follows:

- General information.
- Site/project identification.

Table FF.2. Inputs data requirements for new PCC and rehabilitation with PCC model calibration.

General Description	Variable	Design Type				
		New JPCP	New CRCP	Existing JPCP Restoration	JPCP Overlays[1]	CRCP Overlays[2]
General information	Project name and description	✓	✓	✓	✓	✓
	Design life, years	✓	✓	✓	✓	✓
	Existing pavement construction date	✓	✓	✓	✓	✓
	Pavement overlay construction date		✓	✓	✓	✓
	Pavement restoration construction date			✓		
	Traffic opening date	✓	✓	✓	✓	✓
	Type of rehabilitation strategy		✓	✓	✓	✓
Site/project identification	Location of the project	✓	✓	✓	✓	✓
	Project identification	✓	✓	✓	✓	✓
	Functional class	✓	✓	✓	✓	✓
Analysis parameters	Analysis type (deterministic or probabilistic)	✓	✓	✓	✓	✓
	Initial smoothness (after rehabilitation)	✓	✓	✓	✓	✓
	Performance criteria	✓	✓	✓	✓	✓
Climate[3]	Hourly profiles of temperature distribution through PCC slab	✓	✓	✓	✓	✓
	Hourly temperature and moisture profiles (including frost depth calculations) through the other pavement layers	✓	✓	✓	✓	✓
	Zero stress temperature for JPCP and CRCP	✓	✓	✓	✓	✓
	Monthly or semi-monthly (during frozen or recently frozen periods) predictions of layer moduli for asphalt, unbound base/subbase, and subgrade layers	✓	✓	✓	✓	✓
	Mean annual freezing index, number of wet days, number of air freeze-thaw cycles	✓	✓	✓	✓	
	Mean monthly relative humidity.	✓	✓	✓	✓	✓
Traffic	AADTT, percent trucks, vehicle speed, and others	✓	✓	✓	✓	✓
	Traffic volume adjustment factors	✓	✓	✓	✓	✓
	Axle load adjustment factors	✓	✓	✓	✓	✓
	Wheel location, traffic wander, and others	✓	✓	✓	✓	✓

1. PCC bonded overlays of existing JPCP and JPCP overlays of existing flexible pavements.
2. PCC bonded overlays of existing CRCP and CRCP overlays of existing flexible pavements.
3. Note that the climatic inputs listed are generated using the Enhanced Intergated Climatic Model (EICM). The actual inputs required by EICM are presented later in this appendix.

Table FF.2. Inputs data requirements for new PCC and rehabilitation with PCC model calibration, continued.

General Description	Variable	Design Type				
		New JPCP	New CRCP	Existing JPCP Restoration	JPCP Overlays[1]	CRCP Overlays[2]
Drainage and surface properties	Pavement surface layer (PCC) shortwave absorptivity	✓	✓	✓	✓	✓
	Potential for infiltration	✓	✓	✓	✓	✓
	Pavement cross slope	✓	✓	✓	✓	✓
	Length of drainage path	✓	✓	✓	✓	✓
Layer definition and material properties	Layer number, description, and material type	✓	✓	✓	✓	✓
	Layer thickness	✓	✓	✓	✓	✓
	Elastic modulus	✓	✓	✓	✓	✓
	Flexural, compressive, and tensile strength	✓	✓	✓	✓	✓
	Ultimate shrinkage	✓	✓	✓	✓	✓
	Unit weight, Poisson's ratio	✓	✓	✓	✓	✓
	Coefficient of thermal expansion	✓	✓	✓	✓	✓
	Thermal conductivity, heat capacity, etc.	✓	✓	✓	✓	✓
Design features	Permanent curl/warp (effective temperature difference) in PCC slab due to construction curling and moisture warping	✓	✓	✓	✓	✓
	Transverse joint spacing (average or random)	✓		✓	✓	
	Transverse joint sealant type	✓		✓	✓	
	Dowel diameter and spacing	✓		✓	✓	
	Edge support (tied PCC, widened lane, slab width, etc.)	✓	✓	✓	✓	✓
	Lane-shoulder joint load transfer efficiency (LTE) (for tied PCC shoulders)	✓	✓	✓	✓	✓
	Slab width (for widened slabs)	✓		✓	✓	
	Number of years after which PCC/base interface is unbonded N_{bond} (for JPCP with a stabilized base)	✓		✓	✓	
	Base erodibility index	✓	✓	✓	✓	✓
	Total longitudinal steel cross-sectional area as percent of PCC slab cross-sectional area		✓			✓
	Diameter of longitudinal reinforcing steel		✓			✓
	Depth of steel placement from pavement surface		✓			✓
	PCC slab/base friction coefficient[1]		✓			✓
	Crack spacing (mean and standard deviation)		✓			✓

Table FF.2. Inputs data requirements for new PCC and rehabilitation with PCC model calibration, continued.

General Description	Variable	Rehabilitation Type				
		New JPCP	New CRCP	Existing JPCP Restoration	JPCP Overlays[1]	CRCP Overlays[2]
Rehabilitation	Existing distress—percent slabs with transverse cracks plus previously replaced slabs			✓		
	Percent of slabs with repairs after restoration			✓		
	Foundation support—modulus of subgrade reaction			✓		
	Month modulus of subgrade reaction was measured			✓		

- Analysis parameters.
- Traffic.
- Climate.
- Pavement structure.
    - Pavement design features.
    - Drainage and surface properties.
    - Layer definition and material properties.
- Rehabilitation.

The remaining sections of this appendix describe all inputs required for the different categories of inputs presented in table FF.2. Appropriate commentary on how they were obtained (i.e., levels 1 through 3 inputs as described throughout the design guide is also presented. Note that a detailed description of input data variables and the three input levels is described in the following sections and in PART 1, Chapter 1 and PART 2, Chapters 1 through 5.

3.0 GENERAL INFORMATION AND SITE/PROJECT IDENTIFICATION

General Information

Detailed description of the general information required for each test section/project used in model development is described in table FF.3 below. They range in simplicity from project name to new design or rehabilitation with PCC design/strategy type—a key input parameter since most of the subsequent input data depends on it. Level of input is not applicable to general information data.

Site/Project Identification

Site/project identification inputs identify the following features with regard to the projects used in model development and calibration:

- Location of the project.
- Project identification – Project ID, Section ID, begin and end mile posts, and traffic direction.
- Functional class of the pavement being designed. The choices under this option include the following:
    - Principal Arterial – Interstate and Defense Route.
    - Principal Arterials – Others.
    - Minor Arterials.
    - Major Collectors.
    - Minor Collectors.
    - Local Routes and Streets.

Level of input is not applicable to site/project identification input data.

Table FF.3. Description of the general information required for new PCC and rehabilitation PCC model development.

Input Variable	Description/Source of Information
Project name and description	• User input
Design life	• Expected rehabilitation design life
Existing pavement construction date	• Month in which existing pavement was constructed (first of the month) • Year in which existing pavement was constructed
Pavement overlay construction date[1]	• Month in which PCC overlay construction is expected (first of the month) • Year in which PCC overlay construction is expected
Pavement restoration date[2]	• Month in which existing PCC restoration is expected (first of the month) • Year in which existing PCC is restoration is expected
Traffic opening date	• Expected month in which rehabilitated pavement will be opened to traffic (end of the month) • Expected year in which rehabilitated pavement will be opened to traffic
Type of rehabilitation strategy	• New design 1. New JPCP 2. New CRCP • JPCP rehabilitation without overlays 1. Existing JPCP subjected to CPR[3] • Rehabilitation with JPCP or CRCP overlays 1. Existing JPCP, JRCP, CRCP, or composite overlaid with unbonded JPCP overlay 2. Existing JPCP, JRCP, CRCP, or composite overlaid with unbonded CRCP overlay 3. Existing JPCP and CRCP overlaid with bonded PCC overlay 4. Existing flexible pavement overlaid with JPCP overlay 5. Existing flexible pavement overlaid with CRCP overlay

1. Applicable to PCC overlays only.
2. Applicable to existing JPCP subjected to CPR only.
3. Restoration or CPR is defined as diamond grinding with a combination of CPR treatments such as full-depth patching, load transfer restoration, shoulder replacement, and lane widening.

Analysis Parameters

Inputs that fall under the analysis parameter category are initial and terminal smoothness (for both JPCP and CRCP), terminal transverse joint faulting and transverse cracking for JPCP, terminal punchouts for CRCP, and the analysis type (deterministic or probabilistic). None of these inputs were relevant for distress model development. Note that smoothness model development for JPCP and CRCP is presented in Appendix PP.

A summary of the general information and site/project identification information for the projects used in model development and calibration is presented in tables FF.4 through FF.6.

Table FF.4. Summary of general information and site/project identification information for the projects used in New JPCP model development and calibration (obtained from LTPP GPS-3 and SPS-2 and FHWA RPPR).

SHRP_ID	State	County	Functional Class	Route Signing	Route No.	Direction of Travel	Mile Point	Section Length, ft	Const. Month	Const. Year	Traffic Opening Month	Traffic Opening Year
1_3028	Alabama	Jefferson	Urban Principal Arterial - Interstate	Interstate	59	North	138.1	500	6	1971	6	1971
12_3804	Florida	Hillsborough	Rural Principal Arterial - Interstate	Interstate	75	South	262.4	500	7	1985	9	1985
12_3811	Florida	Gadsden	Rural Principal Arterial - Interstate	Interstate	10	West	187.1	500	2	1976	6	1976
12_4000	Florida	Volusia	Rural Principal Arterial - Other	U.S.	92	East	4.48	500	11	1974	11	1974
12_4057	Florida	Hillsborough	Rural Principal Arterial - Interstate	Interstate	75	South	256.33	500	6	1986	6	1986
12_4059	Florida	Volusia	Rural Principal Arterial - Other	U.S.	1	South	10.2	500	6	1989	6	1989
12_4109	Florida	Volusia	Rural Principal Arterial - Other	U.S.	1	South	11.37	500	3	1989	3	1989
12_4138	Florida	Volusia	Rural Principal Arterial - Other	U.S.	92	East	9.59	500	11	1974	11	1974
16_3017	Idaho	Power	Rural Principal Arterial - Interstate	Interstate	86	East	24.72	500	9	1986	11	1986
16_3023	Idaho	Payette	Rural Principal Arterial - Interstate	Interstate	84	West	15.08	500	10	1983	12	1983
18_3002	Indiana	Benton	Rural Principal Arterial - Other	U.S.	41	South		500	8	1976	8	1976
18_3003	Indiana	Marshall	Rural Principal Arterial - Other	U.S.	31	North		500	1	1975	1	1975
18_3031	Indiana	Posey	Rural Minor Arterial	State	62	West		500	7	1977	7	1977
19_3006	Iowa	Clinton	Rural Principal Arterial - Other	U.S.	30	East	318.3	500	10	1975	11	1975
20_0201	Kansas	Dickinson	Rural Principal Arterial - Interstate	Interstate	70	West	283	500	7	1992	8	1992
20_0202	Kansas	Dickinson	Rural Principal Arterial - Interstate	Interstate	70	West	283	500	7	1992	8	1992
20_0203	Kansas	Dickinson	Rural Principal Arterial - Interstate	Interstate	70	West	283	500	7	1992	8	1992
20_0204	Kansas	Dickinson	Rural Principal Arterial - Interstate	Interstate	70	West	283	500	7	1992	8	1992

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SHRP_ID	State	County	Functional Class	Route Signing	Route No.	Direction of Travel	Mile Point	Section Length, ft	Const. Month	Const. Year	Traffic Opening Month	Traffic Opening Year
20_0205	Kansas	Dickinson	Rural Principal Arterial - Interstate	Interstate	70	West	283	500	7	1992	8	1992
20_0206	Kansas	Dickinson	Rural Principal Arterial - Interstate	Interstate	70	West	283	500	7	1992	8	1992
20_0207	Kansas	Dickinson	Rural Principal Arterial - Interstate	Interstate	70	West	283	500	7	1992	8	1992
20_0208	Kansas	Dickinson	Rural Principal Arterial - Interstate	Interstate	70	West	283	500	7	1992	8	1992
20_0209	Kansas	Dickinson	Rural Principal Arterial - Interstate	Interstate	70	West	283	500	7	1992	8	1992
20_0210	Kansas	Dickinson	Rural Principal Arterial - Interstate	Interstate	70	West	283	500	7	1992	8	1992
20_0211	Kansas	Dickinson	Rural Principal Arterial - Interstate	Interstate	70	West	283	500	7	1992	8	1992
20_0212	Kansas	Dickinson	Rural Principal Arterial - Interstate	Interstate	70	West	283	500	7	1992	8	1992
20_3015	Kansas	FiFFey	Rural Principal Arterial - Other	U.S.	50	East	65.73	500	1	1985	1	1985
21_3016	Kentucky	Bullitt	Rural Principal Arterial - Interstate	Interstate	65	North	106.59	500	11	1985	11	1985
26_0213	Michigan	Monroe	Rural Principal Arterial - Other	U.S.	23	North	2.02	500	9	1993	11	1993
26_0214	Michigan	Monroe	Rural Principal Arterial - Other	U.S.	23	North	2.02	500	9	1993	11	1993
26_0215	Michigan	Monroe	Rural Principal Arterial - Other	U.S.	23	North	2.02	500	9	1993	11	1993
26_0216	Michigan	Monroe	Rural Principal Arterial - Other	U.S.	23	North	2.02	500	9	1993	11	1993
26_0217	Michigan	Monroe	Rural Principal Arterial - Other	U.S.	23	North	2.02	500	9	1993	11	1993
26_0218	Michigan	Monroe	Rural Principal Arterial - Other	U.S.	23	North	2.02	500	9	1993	11	1993
26_0219	Michigan	Monroe	Rural Principal Arterial - Other	U.S.	23	North	2.02	500	9	1993	11	1993
26_0220	Michigan	Monroe	Rural Principal Arterial - Other	U.S.	23	North	2.02	500	9	1993	11	1993

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SHRP_ID	State	County	Functional Class	Route Signing	Route No.	Direction of Travel	Mile Point	Section Length, ft	Const. Month	Const. Year	Traffic Opening Month	Traffic Opening Year
26_0221	Michigan	Monroe	Rural Principal Arterial - Other	U.S.	23	North	2.02	500	9	1993	11	1993
26_0222	Michigan	Monroe	Rural Principal Arterial - Other	U.S.	23	North	2.02	500	9	1993	11	1993
26_0223	Michigan	Monroe	Rural Principal Arterial - Other	U.S.	23	North	2.02	500	9	1993	11	1993
26_0224	Michigan	Monroe	Rural Principal Arterial - Other	U.S.	23	North	2.02	500	9	1993	11	1993
26_3068	Michigan	Clare	Rural Principal Arterial - Other	U.S.	10	West	0.4	500	10	1974	11	1974
26_3069	Michigan	Clare	Rural Principal Arterial - Other	U.S.	10	West	0.4	500	1	1974	1	1974
27_3003	Minnesota	Nicollet	Rural Principal Arterial - Other	State	15	North	65.9	500	10	1986	11	1986
27_3013	Minnesota	Hennepin	Urban Principal Arterial - Other Freeways or Expressways	U.S.	169	South	140.62	500	10	1985	10	1985
28_3018	Mississippi	Tishomingo	Rural Principal Arterial - Other	U.S.	72	West		500	10	1984	11	1984
28_3019	Mississippi	Tishomingo	Rural Principal Arterial - Other	U.S.	72	West		500	10	1984	11	1984
31_3018	Nebraska	Buffalo	Rural Principal Arterial - Interstate	Interstate	80	West	274.5	500	5	1985	6	1985
31_3024	Nebraska	Hamilton	Rural Principal Arterial - Interstate	Interstate	80	West	327.04	500	12	1984	12	1984
32_0201	Nevada	Lander	Rural Principal Arterial - Interstate	Interstate	80	East	177.2	500	7	1995	9	1995
32_0202	Nevada	Lander	Rural Principal Arterial - Interstate	Interstate	80	East	177.2	500	7	1995	9	1995
32_0203	Nevada	Lander	Rural Principal Arterial - Interstate	Interstate	80	East	177.2	500	7	1995	9	1995
32_0204	Nevada	Lander	Rural Principal Arterial - Interstate	Interstate	80	East	177.2	500	7	1995	9	1995
32_0205	Nevada	Lander	Rural Principal Arterial - Interstate	Interstate	80	East	177.2	500	7	1995	9	1995
32_0206	Nevada	Lander	Rural Principal Arterial - Interstate	Interstate	80	East	177.2	500	7	1995	9	1995

Table FF.4. Summary of general information and site/project identification information for the projects used in New JPCP model development and calibration (obtained from LTPP GPS-3 and SPS-2 and FHWA RPPR).

SHRP_ID	State	County	Functional Class	Route Signing	Route No.	Direction of Travel	Mile Point	Section Length, ft	Const. Month	Const. Year	Traffic Opening Month	Traffic Opening Year
32_0207	Nevada	Lander	Rural Principal Arterial - Interstate	Interstate	80	East	177.2	500	7	1995	9	1995
32_0208	Nevada	Lander	Rural Principal Arterial - Interstate	Interstate	80	East	177.2	500	7	1995	9	1995
32_0209	Nevada	Lander	Rural Principal Arterial - Interstate	Interstate	80	East	177.2	500	7	1995	9	1995
32_0210	Nevada	Lander	Rural Principal Arterial - Interstate	Interstate	80	East	177.2	500	7	1995	9	1995
32_0211	Nevada	Lander	Rural Principal Arterial - Interstate	Interstate	80	East	177.2	500	7	1995	9	1995
32_3010	Nevada	Elko	Rural Principal Arterial - Interstate	Interstate	80	West	348.56	500	8	1982	8	1982
32_3013	Nevada	Elko	Rural Principal Arterial - Interstate	Interstate	80	West	400.98	500	8	1981	12	1981
32_7084	Nevada	Clark	Rural Principal Arterial - Interstate	Interstate	15	North	20.87	500	2	1990	2	1990
37_0201	North Carolina	Davidson	Rural Principal Arterial - Other	U.S.	52	South	91.49	500	11	1993	7	1993
37_0202	North Carolina	Davidson	Rural Principal Arterial - Other	U.S.	52	South	91.49	500	11	1993	7	1993
37_0203	North Carolina	Davidson	Rural Principal Arterial - Other	U.S.	52	South	91.49	500	11	1993	7	1993
37_0204	North Carolina	Davidson	Rural Principal Arterial - Other	U.S.	52	South	91.49	500	11	1993	7	1993
37_0205	North Carolina	Davidson	Rural Principal Arterial - Other	U.S.	52	South	91.49	500	11	1993	7	1993
37_0206	North Carolina	Davidson	Rural Principal Arterial - Other	U.S.	52	South	91.49	500	11	1993	7	1993
37_0207	North Carolina	Davidson	Rural Principal Arterial - Other	U.S.	52	South	91.49	500	11	1993	7	1993
37_0208	North Carolina	Davidson	Rural Principal Arterial - Other	U.S.	52	South	91.49	500	11	1993	7	1993
37_0209	North Carolina	Davidson	Rural Principal Arterial - Other	U.S.	52	South	91.49	500	11	1993	7	1993
37_0210	North Carolina	Davidson	Rural Principal Arterial - Other	U.S.	52	South	91.49	500	11	1993	7	1993

Table FF.4. Summary of general information and site/project identification information for the projects used in New JPCP model development and calibration (obtained from LTPP GPS-3 and SPS-2 and FHWA RPPR).

SHRP_ID	State	County	Functional Class	Route Signing	Route No.	Direction of Travel	Mile Point	Section Length, ft	Const. Month	Const. Year	Traffic Opening Month	Traffic Opening Year
37_0211	North Carolina	Davidson	Rural Principal Arterial - Other	U.S.	52	South	91.49	500	11	1993	7	1993
37_0212	North Carolina	Davidson	Rural Principal Arterial - Other	U.S.	52	South	91.49	500	11	1993	7	1993
37_3008	North Carolina	Cleveland	Urban Other Principal Arterial	U.S.	74	East	22.93	500	6	1984	6	1984
37_3011	North Carolina	Nash	Rural Principal Arterial - Interstate	Interstate	95	North	129	500	9	1977	9	1977
37_3044	North Carolina	Durham	Rural Principal Arterial - Interstate	Interstate	85	South	181.6	500	8	1966	8	1966
37_3807	North Carolina	Davidson	Rural Principal Arterial - Other	U.S.	52	North	22.98	500	8	1980	8	1980
37_3816	North Carolina	Durham	Rural Principal Arterial - Other	State	147	North	5.95	500	4	1973	4	1973
39_3013	Ohio	Brown	Rural Minor Arterial	U.S.	68	South	21.7	500	3	1970	7	1970
39_3801	Ohio	Belmont	Urban Other Principal Arterial	U.S.	7	South	12.33	500	6	1983	12	1983
4_0213	Arizona	Maricopa	Rural Principal Arterial - Interstate	Interstate	10	East	109	500	9	1993	10	1993
4_0214	Arizona	Maricopa	Rural Principal Arterial - Interstate	Interstate	10	East	109	500	9	1993	10	1993
4_0215	Arizona	Maricopa	Rural Principal Arterial - Interstate	Interstate	10	East	109	500	9	1993	10	1993
4_0216	Arizona	Maricopa	Rural Principal Arterial - Interstate	Interstate	10	East	109	500	9	1993	10	1993
4_0217	Arizona	Maricopa	Rural Principal Arterial - Interstate	Interstate	10	East	109	500	9	1993	10	1993
4_0218	Arizona	Maricopa	Rural Principal Arterial - Interstate	Interstate	10	East	109	500	9	1993	10	1993
4_0219	Arizona	Maricopa	Rural Principal Arterial - Interstate	Interstate	10	East	109	500	9	1993	10	1993
4_0220	Arizona	Maricopa	Rural Principal Arterial - Interstate	Interstate	10	East	109	500	9	1993	10	1993
4_0221	Arizona	Maricopa	Rural Principal Arterial - Interstate	Interstate	10	East	109	500	9	1993	10	1993
4_0222	Arizona	Maricopa	Rural Principal Arterial -	Interstate	10	East	109	500	9	1993	10	1993

Table FF.4. Summary of general information and site/project identification information for the projects used in New JPCP model development and calibration (obtained from LTPP GPS-3 and SPS-2 and FHWA RPPR).

SHRP_ID	State	County	Functional Class	Route Signing	Route No.	Direction of Travel	Mile Point	Section Length, ft	Const. Month	Const. Year	Traffic Opening Month	Traffic Opening Year
			Interstate									
4_0223	Arizona	Maricopa	Rural Principal Arterial - Interstate	Interstate	10	East	109	500	9	1993	10	1993
4_0224	Arizona	Maricopa	Rural Principal Arterial - Interstate	Interstate	10	East	109	500	9	1993	10	1993
4_7613	Arizona	Maricopa	Urban Other Principal Arterial	State	360	West	7.42	500	3	1979	10	1979
4_7614	Arizona	Maricopa	Rural Principal Arterial - Interstate	Interstate	10	West	130.5	500	5	1984	5	1984
40_3018	Oklahoma	Oklahoma	Urban Principal Arterial - Interstate	Interstate	240	West		500	6	1976	6	1976
40_4160	Oklahoma	Pontotoc	Urban Principal Arterial - Other Freeways or Expressways	State	3W	West		500	6	1979	6	1979
40_4162	Oklahoma	Comanche	Rural Principal Arterial - Other	U.S.	62	East		500	6	1985	6	1985
46_3012	South Dakota	Meade	Rural Principal Arterial - Interstate	Interstate	90	East	37.98	500	9	1981	9	1981
5_3011	Arkansas	White	Rural Principal Arterial - Other	U.S.	67	South	11	500	5	1983	5	1983
53_0201	Washington	Adams	Urban Principal Arterial - Other Freeways or Expressways	State	395	North	91.57	500	9	1995	11	1995
53_0202	Washington	Adams	Urban Principal Arterial - Other Freeways or Expressways	State	395	North	91.57	500	9	1995	11	1995
53_0203	Washington	Adams	Urban Principal Arterial - Other Freeways or Expressways	State	395	North	91.57	500	9	1995	11	1995
53_0204	Washington	Adams	Urban Principal Arterial - Other Freeways or Expressways	State	395	North	91.57	500	9	1995	11	1995
53_0205	Washington	Adams	Urban Principal Arterial - Other Freeways or Expressways	State	395	North	91.57	500	9	1995	11	1995
53_0206	Washington	Adams	Urban Principal Arterial -	State	395	North	91.57	500	9	1995	11	1995

Table FF.4. Summary of general information and site/project identification information for the projects used in New JPCP model development and calibration (obtained from LTPP GPS-3 and SPS-2 and FHWA RPPR).

SHRP_ID	State	County	Functional Class	Route Signing	Route No.	Direction of Travel	Mile Point	Section Length, ft	Const. Month	Const. Year	Traffic Opening Month	Traffic Opening Year
			Other Freeways or Expressways									
53_0207	Washington	Adams	Urban Principal Arterial - Other Freeways or Expressways	State	395	North	91.57	500	9	1995	11	1995
53_0208	Washington	Adams	Urban Principal Arterial - Other Freeways or Expressways	State	395	North	91.57	500	9	1995	11	1995
53_0209	Washington	Adams	Urban Principal Arterial - Other Freeways or Expressways	State	395	North	91.57	500	9	1995	11	1995
53_0210	Washington	Adams	Urban Principal Arterial - Other Freeways or Expressways	State	395	North	91.57	500	9	1995	11	1995
53_0211	Washington	Adams	Urban Principal Arterial - Other Freeways or Expressways	State	395	North	91.57	500	9	1995	11	1995
53_0212	Washington	Adams	Urban Principal Arterial - Other Freeways or Expressways	State	395	North	91.57	500	9	1995	11	1995
53_3011	Washington	Whatcom	Urban Principal Arterial - Interstate	Interstate	5	South	259.7	500	5	1977	6	1977
53_3013	Washington	Spokane	Rural Principal Arterial - Other	U.S.	195	North	91.6	500	10	1970	2	1970
53_3014	Washington	Franklin	Rural Principal Arterial - Other	U.S.	395	North	26.11	500	4	1986	4	1986
53_3019	Washington	Benton	Urban Principal Arterial - Interstate	Interstate	82	East	115.01	500	4	1986	8	1986
53_3813	Washington	Clark	Urban Other Principal Arterial	State	14	West	11.03	500	8	1966	9	1966
53_7409	Washington	Yakima	Rural Principal Arterial - Interstate	Interstate	82	East	49	500	5	1981	5	1981
55_3008	Wisconsin	Ozaukee	Rural Principal Arterial - Interstate	Interstate	43	North	26.54	500	12	1975	12	1975
55_3009	Wisconsin	Sheboygan	Rural Principal Arterial - Other	State	23	East	258.94	500	10	1984	10	1984

Table FF.4. Summary of general information and site/project identification information for the projects used in New JPCP model development and calibration (obtained from LTPP GPS-3 and SPS-2 and FHWA RPPR).

SHRP_ID	State	County	Functional Class	Route Signing	Route No.	Direction of Travel	Mile Point	Section Length, ft	Const. Month	Const. Year	Traffic Opening Month	Traffic Opening Year
55_3010	Wisconsin	Sheboygan	Rural Principal Arterial - Other	State	23	West	262.23	500	10	1978	10	1978
55_3015	Wisconsin	Marquette	Rural Principal Arterial - Other	U.S.	51	South	101.27	500	9	1984	10	1984
55_3016	Wisconsin	Waushara	Rural Principal Arterial - Other	U.S.	51	North	122.32	500	6	1986	9	1986
55_6351	Wisconsin	Iowa	Rural Principal Arterial - Other	U.S.	18	East		500	6	1989	8	1989
55_6352	Wisconsin	Iowa	Rural Principal Arterial - Other	U.S.	18	East		500	6	1989	8	1989
55_6353	Wisconsin	Iowa	Rural Principal Arterial - Other	U.S.	18	East		500	6	1989	8	1989
55_6354	Wisconsin	Iowa	Rural Principal Arterial - Other	U.S.	18	East		500	6	1989	8	1989
55_6355	Wisconsin	Dane	Rural Principal Arterial - Other	U.S.	18	East		500	6	1989	8	1989
6_3005	California	Siskiyou	Rural Principal Arterial - Interstate	Interstate	5	North	14.58	500	11	1973	8	1973
6_3021	California	San Diego	Rural Principal Arterial - Interstate	Interstate	8	East	55.1	500	4	1974	4	1974
6_3030	California	Shasta	Rural Principal Arterial - Interstate	Interstate	5	South	43.18	500	10	1972	10	1972
6_3042	California	San Joaquin	Rural Principal Arterial - Interstate	Interstate	5	South	48.6	500	6	1979	6	1979
8_0213	Colorado	Adams	Rural Principal Arterial - Interstate	Interstate	76	East	18.46	500	10	1993	11	1993
8_0214	Colorado	Adams	Rural Principal Arterial - Interstate	Interstate	76	East	18.46	500	10	1993	11	1993
8_0215	Colorado	Adams	Rural Principal Arterial - Interstate	Interstate	76	East	18.46	500	10	1993	11	1993
8_0216	Colorado	Adams	Rural Principal Arterial - Interstate	Interstate	76	East	18.46	500	10	1993	11	1993
8_0217	Colorado	Adams	Rural Principal Arterial - Interstate	Interstate	76	East	18.46	500	9	1993	11	1993
8_0218	Colorado	Adams	Rural Principal Arterial - Interstate	Interstate	76	East	18.46	500	10	1993	11	1993

Table FF.4. Summary of general information and site/project identification information for the projects used in New JPCP model development and calibration (obtained from LTPP GPS-3 and SPS-2 and FHWA RPPR).

SHRP_ID	State	County	Functional Class	Route Signing	Route No.	Direction of Travel	Mile Point	Section Length, ft	Const. Month	Const. Year	Traffic Opening Month	Traffic Opening Year
8_0219	Colorado	Adams	Rural Principal Arterial - Interstate	Interstate	76	East	18.46	500	10	1993	11	1993
8_0220	Colorado	Adams	Rural Principal Arterial - Interstate	Interstate	76	East	18.46	500	9	1993	11	1993
8_0221	Colorado	Adams	Rural Principal Arterial - Interstate	Interstate	76	East	18.46	500	9	1993	11	1993
8_0222	Colorado	Adams	Rural Principal Arterial - Interstate	Interstate	76	East	18.46	500	9	1993	11	1993
8_0223	Colorado	Adams	Rural Principal Arterial - Interstate	Interstate	76	East	18.46	500	9	1993	11	1993
8_0224	Colorado	Adams	Rural Principal Arterial - Interstate	Interstate	76	East	18.46	500	9	1993	11	1993
8_3032	Colorado	Garfield	Rural Principal Arterial - Interstate	Interstate	70	East	95.75	500	6	1977	6	1977
83_3802	Manitoba	Ste Agathe	Rural Principal Arterial - Other		75	North		500	9	1985	10	1985
89_3015	Quebec		Rural Principal Arterial - Interstate	Interstate	40	West	138	500	9	1984	9	1984
AZ1	Arizona	Phoenix		RT	360		6481		7	1972	10	1972
AZ2	Arizona	Phoenix		Interstate	10	East	6481		7	1983	10	1983
CA1	California	Tracy		Interstate	5	North/ South	8999		7	1971	10	1971
CA10	California	Ukiah		US	101		9124		7	1990	10	1990
CA11	California	Sacramento		Interstate	5	South	7630		7	1979	10	1979
CA2	California	Los Angeles		Interstate	210	East	5114		7	1980	10	1980
CA3	California	Geyserville		US	101	North	3878		7	1975	10	1975
CA6	California	Solemint		RT	14	South	2516		7	1971	10	1971
CA7	California	Sacramento		Interstate	5	North	7630		7	1979	10	1979
CA8	California	Thousand Oaks		US	101	North	4867		7	1983	10	1983
CA9	California	Milpitas		Interstate	680	North/ South	7821		7	1974	10	1974
FL2	Florida	Tampa		Interstate	75	North	8780		7	1986	10	1986
FL3	Florida	Tampa		Interstate	75	South	8780		7	1982	10	1982

Table FF.4. Summary of general information and site/project identification information for the projects used in New JPCP model development and calibration (obtained from LTPP GPS-3 and SPS-2 and FHWA RPPR).

SHRP_ID	State	County	Functional Class	Route Signing	Route No.	Direction of Travel	Mile Point	Section Length, ft	Const. Month	Const. Year	Traffic Opening Month	Traffic Opening Year
FL4	Florida	Ft. Meyers		US	41	South	3186		7	1978	10	1978
GA1	Georgia	Newnan		Interstate	85	South	6335		7	1971	10	1971
GA2	Georgia	La Grange		Interstate	85	South	4949		7	1977	10	1977
MI1	Michigan	Clare		US	10	East/West	3616		7	1975	10	1975
MI6	Michigan	Detroit		Davison Fry		West	2102		7	1942	10	1942
MN2	Minnesota	Albert Lea		Interstate	90	East	0075		7	1977	10	1977
MN4	Minnesota	New Ulm		TH	15		5887		7	1986	10	1986
MN7	Minnesota	Roseville		TH	36	East/West	7377		7	1958	10	1958
NC1	North Carolina	Rocky Mount		Interstate	95	North/South	7395		7	1967	10	1967
NC2	North Carolina	Greensboro		Interstate	85	North	3630		7	1982	10	1982
NY1	New York	Catskill		RT	23	West	4025		7	1968	10	1968
NY2	New York	Otego		Interstate	88	West	7195		7	1975	10	1975
OH2	Ohio	Vermilion		SR	2	East/West	6196		7	1974	10	1974
ONT1	Ontario	Ruthven		HWY	3N	East/West			7	1982	10	1982
ONT2	Ontario	Toronto		HWY	427	South			7	1971	10	1971
WI1	Wisconsin	Stoughton		Interstate	90	West	8229		7	1990	10	1990
WI2	Wisconsin	Dane County		USH	18/151	East	0929		7	1988	10	1988
WI3	Wisconsin	Dane County		STH	14	East/West	1416		7	1988	10	1988
WI4	Wisconsin	Waukesha County		STH	164	South	8937		7	1988	10	1988
WI5	Wisconsin	Kenosha County		STH	50	East	1205		7	1988	10	1988
WI6	Wisconsin	Brown County		STH	29	East	3269		7	1988	10	1988
WI7	Wisconsin	Iowa County		USH	18/151	East	2173		7	1988	10	1988
WV1	West Virginia	Charleston		Interstate	77	North/South	1570		7	1989	10	1989

Table FF.5. Summary of general information and site/project identification information for the projects used in CRCP model development and calibration (LTPP GPS-5 and other sources).

SHRP_ID	State	County	Functional Class	Route Signing	Route No.	Direction of Travel	Mile Point	Section Length, ft	Const. Month	Const. Year	Traffic Opening Month	Traffic Opening Year
1_5008	Alabama	Cleburne	Rural Principal Arterial - Interstate	Interstate	20	East	212.35	500	9	1976	12	1977
16_5025	Idaho	Bannock	Rural Principal Arterial - Interstate	Interstate	15	South	27.34	500	9	1972	9	1972
17_5020	Illinois	Clinton	Rural Principal Arterial - Other	U.S.	50	West		500	5	1986	10	1986
17_5843	Illinois	Ogle	Rural Principal Arterial - Interstate	Interstate	39	North		500	8	1982	9	1982
17_5849	Illinois	Champaign	Rural Principal Arterial - Interstate	Interstate	57	South	256	500	1	1971	11	1971
17_5854	Illinois	Peoria	Rural Principal Arterial - Other	State	6	North		500	9	1982	10	1982
17_5869	Illinois	Peoria	Urban Principal Arterial - Other Freeways or Expressways	State	6	South		500	8	1979	12	1979
17_5908	Illinois	Williamson	Rural Principal Arterial - Other	State	13	East	5.4	500	12	1970	4	1971
17_9267	Illinois	Rock Island	Rural Principal Arterial - Interstate	Interstate	80	East	5	500	1	1966	10	1966
18_5022	Indiana	Marion	Urban Principal Arterial - Interstate	Interstate	65	North		500	1	1972	1	1972
18_5043	Indiana	Vanderburgh	Rural Principal Arterial - Other	State	66	East		500	1	1969	1	1969
18_5518	Indiana	Tippecanoe	Rural Principal Arterial - Interstate	Interstate	65	North		500	10	1970	12	1970
19_5042	Iowa	Wright	Rural Principal Arterial - Interstate	Interstate	35	North	152.2	500	9	1975	12	1975
19_9116	Iowa	Worth	Rural Principal Arterial - Interstate	Interstate	35	North	216.84	500	6	1972	8	1972
28_3099	Mississippi	Scott	Rural Principal Arterial - Interstate	Interstate	20	East	93	500	11	1970	11	1970
28_5006	Mississippi	Lee	Rural Principal Arterial - Other	U.S.	78	West		500	4	1979	4	1979
28_5025	Mississippi	Lincoln	Rural Principal Arterial - Other	U.S.	84	West		500	7	1978	7	1978
28_5803	Mississippi	Marshall	Rural Principal Arterial - Other	U.S.	78	West		500	9	1979	9	1979

Table FF.5. Summary of general information and site/project identification information for the projects used in CRCP model development and calibration (LTPP GPS-5 and other sources).

SHRP_ID	State	County	Functional Class	Route Signing	Route No.	Direction of Travel	Mile Point	Section Length, ft	Const. Month	Const. Year	Traffic Opening Month	Traffic Opening Year
28_5805	Mississippi	Harrison	Urban Principal Arterial - Interstate	Interstate	10	West	36.1	500	6	1975	6	1975
29_5047	Missouri	St Louis	Urban Principal Arterial - Other Freeways or Expressways	U.S.	40	East		500	10	1971	2	1972
31_5052	Nebraska	Douglas	Urban Principal Arterial - Interstate	Interstate	80	North	5.6	500	12	1969	12	1969
37_5037	North Carolina	Buncombe	Urban Principal Arterial - Interstate	Interstate	40	West	54.52	500	10	1972	10	1972
37_5827	North Carolina	Rockingham	Rural Principal Arterial - Other	U.S.	29	South	10.12	500	3	1973	3	1973
38_5002	North Dakota	Cass	Rural Principal Arterial - Interstate	Interstate	29	South	52.53	500	10	1973	11	1973
39_5003	Ohio	Lorain	Rural Principal Arterial - Other	U.S.	20	East	11.11	500	6	1988	9	1988
39_5010	Ohio	Mahoning	Rural Principal Arterial - Interstate	Interstate	680	East	15.01	500	7	1975	7	1975
4_7079	Arizona	Maricopa	Urban Principal Arterial - Other Freeways or Expressways	Other	101	North	11.9	500	3	1989	8	1989
40_4158	Oklahoma	Washington	Rural Principal Arterial - Other	U.S.	75	South		500	6	1989	6	1989
40_4166	Oklahoma	Pittsburg	Rural Principal Arterial - Other	U.S.	69	North		500	5	1990	6	1990
40_5021	Oklahoma	Mayes	Rural Principal Arterial - Other	State	33	West		500	10	1987	10	1987
41_5005	Oregon	Linn	Rural Principal Arterial - Interstate	Interstate	5	South	232.35	500	10	1985	10	1985
41_5006	Oregon	Union	Rural Principal Arterial - Interstate	Interstate	84	East	265.87	500	6	1973	6	1973
41_5008	Oregon	Union	Rural Principal Arterial - Interstate	Interstate	84	West	264.07	500	6	1972	6	1972
41_5021	Oregon	Lane	Rural Principal Arterial - Interstate	Interstate	5	North	181.84	500	7	1986	7	1986
41_5022	Oregon	Lane	Rural Principal Arterial - Interstate	Interstate	5	South	185.99	500	10	1984	10	1984
41_7081	Oregon	Umatilla	Rural Principal Arterial - Interstate	Interstate	82	East	8.7	500	9	1988	9	1988

Table FF.5. Summary of general information and site/project identification information for the projects used in CRCP model development and calibration (LTPP GPS-5 and other sources).

SHRP_ID	State	County	Functional Class	Route Signing	Route No.	Direction of Travel	Mile Point	Section Length, ft	Const. Month	Const. Year	Traffic Opening Month	Traffic Opening Year
42_5020	Pennsylvania	Montgomery	Urban Principal Arterial - Interstate	Interstate	476	South	18.6	500	3	1978	5	1979
45_5017	South Carolina	Richland	Rural Principal Arterial - Interstate	Interstate	77	North	22.8	500	2	1979	3	1979
45_5034	South Carolina	Darlington	Rural Principal Arterial - Interstate	Interstate	20	West	130.22	500	5	1975	6	1975
45_5035	South Carolina	Florence	Rural Principal Arterial - Interstate	Interstate	20	West	139.9	500	10	1975	11	1975
46_5020	South Dakota	Lawrence	Rural Principal Arterial - Interstate	Interstate	90	West	15.86	500	8	1972	8	1972
46_5025	South Dakota	Jackson	Rural Principal Arterial - Interstate	Interstate	90	East	128.94	500	11	1974	11	1974
48_3779	Texas	El Paso	Urban Principal Arterial - Interstate	U.S.	54	South	7.08	500	6	1978	6	1978
48_5024	Texas	Colorado	Rural Principal Arterial - Other	State	71	South	10.49	500	7	1981	1	1982
48_5026	Texas	Brazoria	Rural Minor Arterial	Other	2004	North		500	3	1987	6	1988
48_5154	Texas	Gonzales	Rural Principal Arterial - Interstate	Interstate	10	West	655.49	500	7	1971	8	1971
48_5278	Texas	Midland	Rural Major Collector	U.S.	80	West	5.19	500	6	1975	6	1975
48_5328	Texas	Montague	Rural Principal Arterial - Other	U.S.	287	South		500	9	1975	9	1975
48_5334	Texas	Wheeler	Rural Principal Arterial - Interstate	Interstate	40	East	164.91	500	4	1970	4	1970
48_5336	Texas	Randall	Rural Principal Arterial - Interstate	Interstate	27	South	105.94	500	8	1985	12	1986
5_5803	Arkansas	Pulaski	Urban Principal Arterial - Interstate	Interstate	630	West	3.4	500	5	1973	5	1973
5_5805	Arkansas	Pulaski	Urban Principal Arterial - Interstate	Interstate	430	North	1.4	500	8	1975	8	1975
51_2564	Virginia	Chesapeake City	Urban Principal Arterial - Interstate	Interstate	64	East	27.02	500	2	1969	2	1969
51_5010	Virginia	Henrico	Rural Principal Arterial - Interstate	Interstate	295	North	27.46	500	5	1988	10	1988
55_5037	Wisconsin	Barron	Rural Principal Arterial - Other	U.S.	53	South		500	9	1973	11	1973
55_5040	Wisconsin	Sheboygan	Rural Principal Arterial -	Interstate	43	North	59.4	500	11	1980	11	1980

Table FF.5. Summary of general information and site/project identification information for the projects used in CRCP model development and calibration (LTPP GPS-5 and other sources).

SHRP_ID	State	County	Functional Class	Route Signing	Route No.	Direction of Travel	Mile Point	Section Length, ft	Const. Month	Const. Year	Traffic Opening Month	Traffic Opening Year
			Interstate									
6_7455	California	San Joaquin	Rural Principal Arterial - Interstate	Interstate	5	South	8.69	500	5	1971	12	1971
I80_EB_137.65	Illinois	Cook	Rural Principal Arterial - Interstate	Interstate	80	East	137.65	528	6	1968	7	1968
I80_EB_143.79	Illinois	Cook	Rural Principal Arterial - Interstate	Interstate	80	East	143.79	528	6	1968	7	1968
I80_EB_151.12	Illinois	Cook	Rural Principal Arterial - Interstate	Interstate	80	East	151.12	528	6	1968	7	1968
I80_EB_152.33	Illinois	Cook	Rural Principal Arterial - Interstate	Interstate	80	East	152.33	528	6	1968	7	1968
I80_WB_137.65	Illinois	Cook	Rural Principal Arterial - Interstate	Interstate	80	West	137.65	528	6	1968	7	1968
I80_WB_143.79	Illinois	Cook	Rural Principal Arterial - Interstate	Interstate	80	West	143.79	528	6	1968	7	1968
I80_WB_148.39	Illinois	Cook	Rural Principal Arterial - Interstate	Interstate	80	West	148.39	528	6	1968	7	1968
I80_WB_152.33	Illinois	Cook	Rural Principal Arterial - Interstate	Interstate	80	West	152.33	528	6	1968	7	1968
I94_edens_28.46	Illinois	Cook	Rural Principal Arterial - Interstate	Interstate	94	East	28.46	528	6	1980	7	1980
I94_edens_30.11	Illinois	Cook	Rural Principal Arterial - Interstate	Interstate	94	East	30.11	528	6	1980	7	1980
I94_edens_32.90	Illinois	Cook	Rural Principal Arterial - Interstate	Interstate	94	East	32.9	528	6	1980	7	1980
Vandalia1	Illinois	Fayette	Rural Principal Arterial - Other	U.S.	40	West	4.76	528	11	1947	5	1948
Vandalia3	Illinois	Fayette	Rural Principal Arterial - Other	U.S.	40	West	0.66	528	10	1947	5	1948
Vandalia4	Illinois	Fayette	Rural Principal Arterial - Other	U.S.	40	West	1.32	528	10	1947	5	1948
Vandalia5	Illinois	Fayette	Rural Principal Arterial - Other	U.S.	40	West	3.96	528	11	1947	5	1948
Vandalia7	Illinois	Fayette	Rural Principal Arterial - Other	U.S.	40	West	2.64	528	5	1947	5	1948
Vandalia8	Illinois	Fayette	Rural Principal Arterial - Other	U.S.	40	West	3.3	528	5	1947	5	1948

Table FF.6. Summary of general information and site/project identification information for the projects used for rehabilitation with PCC (JPCP and CRCP) model development and calibration (LTPP SPS-6, SPS-7, GPS-9, ACPA Diamond Grinding Study, and NCHRP 10-41).

SHRP_ID	State	LTPP County Code	Rehab. Type	Functional Class	Route Signing	Route No.	Direction of Travel	MP	Section Length, ft	Const. Month	Const. Year	Traffic Opening Month	Traffic Opening Year
1_0600	Alabama	55	CPR	Rural Principal Arterial - Interstate	Interstate	59	South		500, 1000	5	1966	6	1966
4_0600	Arizona	5	CPR	Rural Principal Arterial - Interstate	Interstate	40	East	202.16	500, 1000	9	1966	1	1967
6_0600	California	93	CPR	Rural Principal Arterial - Interstate	Interstate	5	North	14.58	500, 1000	8	1977	11	1977
6_9048	California	73	Unbonded JPCP	Rural Principal Arterial - Interstate	Interstate	8	East	33.44	500	5	1969	5	1969
6_9049	California	113	Unbonded JPCP	Urban Principal Arterial (Freeways or Expressways)	US	50	West	0.54	500	6	1954	6	1954
6_9107	California	61	Unbonded JPCP	Rural Principal Arterial - Interstate	Interstate	80	West	63.22	500	10	1964	10	1964
8_9019	Colorado	123	Unbonded JPCP	Rural Principal Arterial - Interstate	Interstate	25	North	246.5	500	9	1966	9	1966
8_9020	Colorado	69	Unbonded JPCP	Rural Principal Arterial - Interstate	Interstate	25	South	256.4	500	10	1962	1	1963
13_4118	Georgia	207	Unbonded JPCP	Rural Principal Arterial - Interstate	Interstate	401	South	183.4	500	6	1963	6	1963
18_9020	Indiana	53	Unbonded JPCP	Rural Principal Arterial - Interstate	Interstate	69	South	66.47	500	6	1964	6	1964
19_0700	Iowa	—	Bonded CRCP	Rural Principal Arterial - Interstate	Interstate	35	—	—	500	9	1967	10	1967
20_9037	Kansas	177	Unbonded JPCP	Urban Principal Arterial - Other Freeways or Expressways	US	74	East	365.64	500	6	1957	6	1957
22_0700	Loiusiana	—	Bonded CRCP	Rural Principal Arterial - Interstate	Interstate	10	—	—	500	4	1978	6	1979
27_0700	Minnesota	—	Bonded CRCP	Rural Principal Arterial - Interstate	Interstate	94	—	—	500	7	1970	9	1970
27_9075	Minnesota	129	Unbonded JPCP	Rural Principal Arterial - Other	US	71	North	103.13	500	1	1947	1	1947
28_7012	Mississippi	149	Unbonded JPCP	Rural Principal Arterial - Interstate	Interstate	20	West	13.7	500	7	1959	7	1959
29_0700	Missouri	—	Bonded JPCP	Rural Principal Arterial - Other	US	67			500	9	1955	11	1955

Table FF.6. Summary of general information and site/project identification information for the projects used for rehabilitation with PCC (JPCP and CRCP) model development and calibration (LTPP SPS-6, SPS-7, GPS-9, ACPA Diamond Grinding Study, and NCHRP 10-41).

SHRP_ID	State	LTPP County Code	Rehab. Type	Functional Class	Route Signing	Route No.	Direction of Travel	MP	Section Length, ft	Const. Month	Const. Year	Traffic Opening Month	Traffic Opening Year
31_6701	Nebraska	79	Unbonded JPCP	Urban Other Principal Arterial	US	281	North	69.59	500	6	1964	6	1964
40_4155	Oklahoma	147	Unbonded JPCP	Rural Principal Arterial - Other	US	75	North		500	6	1970	6	1970
42_1627	Pennsylvania	33	Unbonded JPCP	Rural Principal Arterial - Interstate	Interstate	1	West		500	5	1967	9	1967
46_0600	South Dakota	13	CPR	Rural Principal Arterial - Other	US	12	West	308	500, 1000	4	1973	10	1973
47_0600	Tenneesse	113	CPR	Rural Principal Arterial - Interstate	Interstate	40	West		500, 1000	6	1964	7	1964
48_3569	Texas	223	Unbonded CRCP	Rural Principal Arterial - Interstate	Interstate	30	West	115.3	500	6	1960	6	1960
48_3845	Texas	97	Unbonded CRCP	Rural Principal Arterial - Interstate	Interstate	35	South		500	6	1960	6	1960
48_9167	Texas	349	Unbonded JPCP	Rural Principal Arterial - Interstate	Interstate	45	North	215.21	500	7	1967	4	1968
48_9355	Texas	139	Unbonded JPCP	Urban Principal Arterial - Interstate	Interstate	35E	South	407.6	500	11	1960	12	1960
89_9018	Quebec	5	Unbonded JPCP	Rural Principal Arterial - Other	US	30	West	3.2	500	1	1975	1	1975
GA-1	Georgia	—	Unbonded CRCP	Rural Principal Arterial - Interstate	Interstate	85	—	—	—	—	1975	—	—
GA-4	Georgia	—	Unbonded CRCP	Rural Principal Arterial - Interstate	Interstate	75	—	—	—	—	1972	—	—
GA-5	Georgia	—	Unbonded CRCP	Urban Principal Arterial (Freeways or Expressways)	Interstate	85	—	—	—	—	1975	—	—
IL- 3	Illinois	—	Unbonded CRCP	Rural Principal Arterial - Interstate	Interstate	70	—	—	—	—	1967	—	—
PA-5	Pennsylvania	—	Unbonded CRCP	Rural Principal Arterial - Interstate	Interstate	90	—	—	—	—	1976	—	—
WI-1	Wisconsin	—	Unbonded CRCP	Rural Principal Arterial - Interstate	Interstate	94	—	—	—	—	1980	—	—
AL-IH-20E-183.0	Alabama	Calhoun	CPR	Rural Principal Arterial - Interstate	Interstate	20	East	183	480		1986		
AL-IH-59N-235.5	Alabama	Dekalb	CPR	Rural Principal Arterial - Interstate	Interstate	59	North	235	500		1983		
CA-IH-8E-	California	Imperial	CPR	Rural Principal	Interstate	8	East	43.4	1010		1997		

Table FF.6. Summary of general information and site/project identification information for the projects used for rehabilitation with PCC (JPCP and CRCP) model development and calibration (LTPP SPS-6, SPS-7, GPS-9, ACPA Diamond Grinding Study, and NCHRP 10-41).

SHRP_ID	State	LTPP County Code	Rehab. Type	Functional Class	Route Signing	Route No.	Direction of Travel	MP	Section Length, ft	Const. Month	Const. Year	Traffic Opening Month	Traffic Opening Year
43.4				Arterial – Interstate									
FL-IH-10E-214.7	Florida	Leon	CPR	Urban Principal Arterial - Interstate	Interstate	10	East	214.7	540		1992		
GA-IH-16W-59.9	Georgia	Laurens	CPR	Rural Principal Arterial - Other	Interstate	16	West	59.9	600		1997		
IA-IH-80W-87.7	Iowa	Adair	CPR	Rural Principal Arterial - Interstate	Interstate	80	West	87.7	500		1984		
NE-IH-80W-420.1	Nebraska	Cass	CPR	Rural Principal Arterial - Interstate	Interstate	80	West	420.1	510		1989		
SD-IH-29S-174.0	South Dakota	Codington	CPR	Rural Principal Arterial - Interstate	Interstate	29	South	174	930		1990		
WI-IH-43N-2.7	Wisconsin	Rock	CPR	Rural Principal Arterial - Interstate	Interstate	43	North	2.7	900		1994		

4.0 DISTRESS

The distress information required for JPCP and CRCP surface pavements include, mean transverse joint faulting for JPCP, percent slabs with transverse cracking for JPCP, and total number of punchouts per mile of CRCP.

For the LTPP data, joint edge (measured 12-in from the slab shoulder joint) and wheelpath (measured 24-in from the slab shoulder joint) faulting are measured for each joint within the 500-ft or 1000-ft pavement test section. The number of joints for each test section varies with the slab lenth or joint spacing. A 500-ft test pavement with slab length of 20 ft would have 25 joints. The mean transverse joint faulting is the mean value of all joints within a given test pavement section. For model development and calibration the mean edge joint faulting was used. For data obtained from FHWA RPPR database and other sources mean joint faulting compatible with the LTPP edge joint faulting (measured 12-in from the slab shoulder joint and sometimes called wheelpath faulting in other data bases) were used.

For both the LTPP and RPPR databases, percent slabs cracked was computed by simply summing all transverse cracks observed (all severties) for a given test sections and dividing it by the number of slabs within the test section. The results were multiplied by 100 to transform it into a percentage. It was possible for situations were there were multiple cracks per slab for the computed percent slabs cracked to exceed 100 percent. The computed percent slabs cracked was capped at 100 in these circumstances. For the LTPP data the number of punchouts observed was reported by 500-ft sections. The observed numbers were multiplied by 10.56 (5280/500) to convert it to number of punchouts per mile, the unit used for calibration. Data from other sources were converted by multiplying the observed number of punchouts by the factor (5280/monitoring section length). Note that all severities of puchouts were summed up to obtain the total number of punchouts, however, nearly all were low severity. Tables FF.7 through FF.11 presents a summary of the distress data used in model development for new PCC and rehabilitation with PCC. (Note that the distress data presented for LTPP and RPPR test sections were derived from actual distress maps for each slab panel and thus may vary from the summaries presented in the LTPP databases).

5.0 CLIMATE

Environmental conditions have a significant effect on the performance of PCC pavements and are thus required as inputs for model development and calibration. For the 2002 Design Guide model calibration, climate related input variables (basically temperature, moisture profiles, and humidity in the pavement structure and subgrade) were computed using the Enhanced Integrated Climatic Model (EICM). The EICM software requires the following input data; pavement location (latitude and longitude), elevation, and depth to water table.

A detailed description of how this data is used to compute temperature and moisture profiles in the pavement structure and subgrade is presented in Appendix DD. Tables FF.12 through FF.14 presents the climate input data used in model development and calibration for new PCC and rehabilitation with PCC.

Table FF.7. Summary of cracking data for new PCC (LTPP GPS-3, LTPP SPS-2, and FHWA RPPR) model development and calibration (measured on a 500-ft section).

SHRP_ID	Joint Spacing, ft	Age, months	Age, years	Percent Slabs Cracked (all severities)
1_3028	20	243.6	20.3	0.0
1_3028	20	261.6	21.8	0.0
1_3028	20	318	26.5	0.0
12_3811	20	188.4	15.7	60.0
12_3811	20	223.2	18.6	64.0
12_3811	20	253.2	21.1	68.0
12_3811	20	277.2	23.1	76.0
12_4000	18	201.6	16.8	0.0
12_4000	18	220.8	18.4	0.0
12_4000	18	270	22.5	0.0
12_4000	18	296.4	24.7	0.0
12_4000	22	201.6	16.8	0.0
12_4000	22	220.8	18.4	0.0
12_4000	22	270	22.5	0.0
12_4000	22	296.4	24.7	0.0
12_4057	13	61.2	5.1	0.0
12_4057	13	133.2	11.1	0.0
12_4057	13	164.4	13.7	0.0
12_4057	19	61.2	5.1	0.0
12_4057	19	133.2	11.1	0.0
12_4057	19	164.4	13.7	0.0
12_4109	14	28.8	2.4	0.0
12_4109	14	48	4	0.0
12_4109	14	97.2	8.1	0.0
12_4109	14	132	11	0.0
12_4138	18	201.6	16.8	16.7
12_4138	18	220.8	18.4	16.7
12_4138	18	270	22.5	33.3
12_4138	18	303.6	25.3	33.3
12_4138	22	201.6	16.8	14.3
12_4138	22	220.8	18.4	14.3
12_4138	22	270	22.5	42.9
12_4138	22	303.6	25.3	42.9
16_3017	14	64.8	5.4	0.0
16_3017	14	130.8	10.9	0.0
16_3017	14	156	13	0.0
16_3017	16	64.8	5.4	0.0
16_3017	16	130.8	10.9	0.0
16_3017	16	156	13	0.0
16_3023	14	70.8	5.9	0.0
16_3023	14	165.6	13.8	0.0
16_3023	14	188.4	15.7	0.0
16_3023	16	70.8	5.9	0.0
16_3023	16	165.6	13.8	0.0

Table FF.7. Summary of cracking data for new PCC (LTPP GPS-3, LTPP SPS-2, and FHWA RPPR) model development and calibration (measured on a 500-ft section).

SHRP_ID	Joint Spacing, ft	Age, months	Age, years	Percent Slabs Cracked (all severities)
16_3023	16	188.4	15.7	0.0
18_3002	13	147.6	12.3	0.0
18_3002	13	201.6	16.8	0.0
18_3002	13	226.8	18.9	0.0
18_3002	13	254.4	21.2	0.0
18_3002	19	147.6	12.3	0.0
18_3002	19	201.6	16.8	0.0
18_3002	19	226.8	18.9	0.0
18_3002	19	254.4	21.2	0.0
18_3003	20	195.6	16.3	0.0
18_3003	20	212.4	17.7	0.0
18_3003	20	321.6	26.8	0.0
18_3031	13	165.6	13.8	0.0
18_3031	13	188.4	15.7	0.0
18_3031	13	216	18	0.0
18_3031	13	262.8	21.9	0.0
18_3031	19	165.6	13.8	0.0
18_3031	19	188.4	15.7	0.0
18_3031	19	216	18	0.0
18_3031	19	262.8	21.9	0.0
19_3006	20	226.8	18.9	16.0
19_3006	20	282	23.5	16.0
19_3006	20	298.8	24.9	20.0
20_0201	15	57.6	4.8	
20_0201	15	88.8	7.4	
20_0202	15	58.8	4.9	0.0
20_0202	15	88.8	7.4	0.0
20_0203	15	57.6	4.8	0.0
20_0203	15	87.6	7.3	0.0
20_0204	15	57.6	4.8	0.0
20_0204	15	87.6	7.3	0.0
20_0205	15	58.8	4.9	0.0
20_0205	15	88.8	7.4	0.0
20_0206	15	58.8	4.9	0.0
20_0206	15	88.8	7.4	0.0
20_0207	15	58.8	4.9	0.0
20_0207	15	88.8	7.4	0.0
20_0208	15	58.8	4.9	0.0
20_0208	15	88.8	7.4	0.0
20_0209	15	58.8	4.9	0.0
20_0209	15	88.8	7.4	0.0
20_0210	15	58.8	4.9	0.0
20_0210	15	88.8	7.4	0.0
20_0211	15	58.8	4.9	0.0
20_0211	15	88.8	7.4	0.0

Table FF.7. Summary of cracking data for new PCC (LTPP GPS-3, LTPP SPS-2, and FHWA RPPR) model development and calibration (measured on a 500-ft section).

SHRP_ID	Joint Spacing, ft	Age, months	Age, years	Percent Slabs Cracked (all severities)
20_0212	15	58.8	4.9	0.0
20_0212	15	88.8	7.4	0.0
20_3015	15	43.2	3.6	0.0
20_3015	15	169.2	14.1	0.0
21_3016	13	36	3	0.0
21_3016	13	66	5.5	0.0
21_3016	13	88.8	7.4	0.0
21_3016	13	147.6	12.3	0.0
21_3016	18	36	3	0.0
21_3016	18	66	5.5	0.0
21_3016	18	88.8	7.4	0.0
21_3016	18	147.6	12.3	0.0
26_0213	15	14.4	1.2	0.0
26_0213	15	20.4	1.7	0.0
26_0213	15	44.4	3.7	0.0
26_0213	15	61.2	5.1	9.0
26_0214	15	14.4	1.2	0.0
26_0214	15	20.4	1.7	0.0
26_0214	15	62.4	5.2	0.0
26_0214	15	73.2	6.1	0.0
26_0215	15	14.4	1.2	0.0
26_0215	15	20.4	1.7	0.0
26_0215	15	62.4	5.2	0.0
26_0215	15	73.2	6.1	6.0
26_0216	15	14.4	1.2	0.0
26_0216	15	20.4	1.7	0.0
26_0216	15	61.2	5.1	0.0
26_0216	15	73.2	6.1	0.0
26_0217	15	14.4	1.2	0.0
26_0217	15	20.4	1.7	0.0
26_0217	15	44.4	3.7	0.0
26_0218	15	14.4	1.2	30.0
26_0218	15	20.4	1.7	36.0
26_0219	15	14.4	1.2	0.0
26_0219	15	20.4	1.7	0.0
26_0219	15	62.4	5.2	0.0
26_0219	15	73.2	6.1	0.0
26_0220	15	14.4	1.2	0.0
26_0220	15	20.4	1.7	0.0
26_0220	15	61.2	5.1	0.0
26_0220	15	73.2	6.1	0.0
26_0221	15	14.4	1.2	0.0
26_0221	15	20.4	1.7	0.0
26_0221	15	44.4	3.7	0.0
26_0221	15	61.2	5.1	0.0

Table FF.7. Summary of cracking data for new PCC (LTPP GPS-3, LTPP SPS-2, and FHWA RPPR) model development and calibration (measured on a 500-ft section).

SHRP_ID	Joint Spacing, ft	Age, months	Age, years	Percent Slabs Cracked (all severities)
26_0221	15	73.2	6.1	0.0
26_0222	15	14.4	1.2	0.0
26_0222	15	62.4	5.2	0.0
26_0222	15	73.2	6.1	0.0
26_0223	15	14.4	1.2	0.0
26_0223	15	62.4	5.2	0.0
26_0223	15	73.2	6.1	0.0
26_0224	15	14.4	1.2	0.0
26_0224	15	61.2	5.1	0.0
26_0224	15	73.2	6.1	0.0
27_3003	15	24	2	0.0
27_3003	15	153.6	12.8	0.0
27_3013	15	36	3	0.0
27_3013	15	165.6	13.8	0.0
28_3018	20	76.8	6.4	0.0
28_3018	20	105.6	8.8	0.0
28_3018	20	133.2	11.1	0.0
28_3018	20	183.6	15.3	0.0
28_3019	20	76.8	6.4	0.0
28_3019	20	105.6	8.8	0.0
28_3019	20	134.4	11.2	0.0
28_3019	20	183.6	15.3	0.0
31_3018	18	38.4	3.2	0.0
31_3018	18	102	8.5	0.0
31_3018	18	120	10	0.0
31_3018	18	150	12.5	0.0
32_3010	13	108	9	0.0
32_3010	13	170.4	14.2	0.0
32_3010	13	200.4	16.7	0.0
32_3010	13	212.4	17.7	0.0
32_3010	19	108	9	13.3
32_3010	19	170.4	14.2	13.3
32_3010	19	200.4	16.7	13.3
32_3010	19	212.4	17.7	13.3
32_3013	13	126	10.5	0.0
32_3013	13	189.6	15.8	0.0
32_3013	19	126	10.5	40.0
32_3013	19	189.6	15.8	60.0
32_7084	13	78	6.5	0.0
32_7084	13	106.8	8.9	0.0
32_7084	13	121.2	10.1	0.0
32_7084	15	78	6.5	0.0
32_7084	15	106.8	8.9	0.0
32_7084	15	121.2	10.1	0.0
37_0201	15	24	2	0.0

Table FF.7. Summary of cracking data for new PCC (LTPP GPS-3, LTPP SPS-2, and FHWA RPPR) model development and calibration (measured on a 500-ft section).

SHRP_ID	Joint Spacing, ft	Age, months	Age, years	Percent Slabs Cracked (all severities)
37_0201	15	32.4	2.7	0.0
37_0201	15	46.8	3.9	0.0
37_0201	15	57.6	4.8	0.0
37_0201	15	72	6	0.0
37_0201	15	75.6	6.3	0.0
37_0202	15	39.6	3.3	0.0
37_0202	15	72	6	0.0
37_0203	15	40.8	3.4	0.0
37_0203	15	72	6	0.0
37_0204	15	40.8	3.4	0.0
37_0204	15	73.2	6.1	0.0
37_0205	15	39.6	3.3	0.0
37_0205	15	72	6	0.0
37_0206	15	39.6	3.3	0.0
37_0206	15	72	6	0.0
37_0207	15	39.6	3.3	0.0
37_0207	15	72	6	0.0
37_0208	15	39.6	3.3	0.0
37_0208	15	72	6	0.0
37_0209	15	24	2	0.0
37_0209	15	39.6	3.3	0.0
37_0209	15	55.2	4.6	0.0
37_0209	15	72	6	0.0
37_0210	15	39.6	3.3	0.0
37_0210	15	72	6	0.0
37_0211	15	39.6	3.3	0.0
37_0211	15	72	6	0.0
37_0212	15	39.6	3.3	0.0
37_0212	15	72	6	0.0
37_3008	19	140.4	11.7	0.0
37_3008	19	178.8	14.9	0.0
37_3008	25	140.4	11.7	0.0
37_3008	25	178.8	14.9	0.0
37_3011	30	223.2	18.6	0.0
37_3011	30	270	22.5	0.0
37_3044	30	348	29	12.0
37_3807	19	204	17	0.0
37_3807	25	204	17	0.0
37_3816	30	272.4	22.7	0.0
37_3816	30	324	27	0.0
39_3013	17	222	18.5	0.0
39_3013	17	279.6	23.3	0.0
39_3801	20	62.4	5.2	0.0
39_3801	20	94.8	7.9	0.0
39_3801	20	120	10	0.0

Table FF.7. Summary of cracking data for new PCC (LTPP GPS-3, LTPP SPS-2, and FHWA RPPR) model development and calibration (measured on a 500-ft section).

SHRP_ID	Joint Spacing, ft	Age, months	Age, years	Percent Slabs Cracked (all severities)
39_3801	20	144	12	0.0
4_0213	15	16.8	1.4	0.0
4_0213	15	50.4	4.2	0.0
4_0213	15	63.6	5.3	0.0
4_0213	15	78	6.5	0.0
4_0214	15	18	1.5	0.0
4_0214	15	49.2	4.1	0.0
4_0214	15	63.6	5.3	0.0
4_0214	15	78	6.5	0.0
4_0215	15	18	1.5	0.0
4_0215	15	49.2	4.1	0.0
4_0215	15	78	6.5	0.0
4_0216	15	18	1.5	0.0
4_0216	15	49.2	4.1	0.0
4_0216	15	63.6	5.3	0.0
4_0216	15	78	6.5	0.0
4_0217	15	18	1.5	0.0
4_0217	15	50.4	4.2	12.0
4_0217	15	63.6	5.3	15.0
4_0217	15	78	6.5	15.0
4_0218	15	18	1.5	0.0
4_0218	15	49.2	4.1	12.0
4_0218	15	63.6	5.3	21.0
4_0218	15	78	6.5	27.0
4_0219	15	18	1.5	0.0
4_0219	15	49.2	4.1	0.0
4_0219	15	63.6	5.3	0.0
4_0219	15	78	6.5	0.0
4_0220	15	18	1.5	0.0
4_0220	15	49.2	4.1	0.0
4_0220	15	63.6	5.3	0.0
4_0220	15	78	6.5	0.0
4_0221	15	18	1.5	0.0
4_0221	15	50.4	4.2	0.0
4_0221	15	63.6	5.3	0.0
4_0221	15	78	6.5	0.0
4_0222	15	18	1.5	0.0
4_0222	15	49.2	4.1	0.0
4_0222	15	63.6	5.3	0.0
4_0222	15	78	6.5	0.0
4_0223	15	18	1.5	0.0
4_0223	15	49.2	4.1	0.0
4_0223	15	63.6	5.3	0.0
4_0223	15	78	6.5	0.0
4_0224	15	18	1.5	0.0

Table FF.7. Summary of cracking data for new PCC (LTPP GPS-3, LTPP SPS-2, and FHWA RPPR) model development and calibration (measured on a 500-ft section).

SHRP_ID	Joint Spacing, ft	Age, months	Age, years	Percent Slabs Cracked (all severities)
4_0224	15	49.2	4.1	0.0
4_0224	15	63.6	5.3	0.0
4_0224	15	78	6.5	0.0
4_7614	13	127.2	10.6	0.0
4_7614	13	163.2	13.6	0.0
4_7614	13	178.8	14.9	0.0
4_7614	15	127.2	10.6	0.0
4_7614	15	163.2	13.6	0.0
4_7614	15	178.8	14.9	0.0
4_7614	17	127.2	10.6	0.0
4_7614	17	163.2	13.6	0.0
4_7614	17	178.8	14.9	0.0
40_3018	15	184.8	15.4	0.0
40_3018	15	196.8	16.4	0.0
40_3018	15	220.8	18.4	0.0
40_3018	15	254.4	21.2	0.0
40_3018	15	279.6	23.3	0.0
40_4160	15	148.8	12.4	0.0
40_4160	15	160.8	13.4	0.0
40_4160	15	184.8	15.4	0.0
40_4160	15	218.4	18.2	0.0
40_4160	15	243.6	20.3	0.0
40_4162	15	76.8	6.4	0.0
40_4162	15	88.8	7.4	0.0
40_4162	15	112.8	9.4	0.0
40_4162	15	146.4	12.2	0.0
40_4162	15	163.2	13.6	0.0
46_3012	15	82.8	6.9	0.0
46_3012	15	145.2	12.1	3.0
46_3012	15	213.6	17.8	3.0
5_3011	15	100.8	8.4	0.0
5_3011	15	139.2	11.6	0.0
5_3011	15	171.6	14.3	0.0
53_0201	15	19.2	1.6	0.0
53_0201	15	36	3	0.0
53_0201	15	43.2	3.6	0.0
53_0202	15	19.2	1.6	0.0
53_0202	15	36	3	0.0
53_0202	15	43.2	3.6	0.0
53_0203	15	19.2	1.6	0.0
53_0203	15	36	3	0.0
53_0203	15	43.2	3.6	0.0
53_0204	15	19.2	1.6	0.0
53_0204	15	36	3	0.0
53_0204	15	43.2	3.6	0.0

Table FF.7. Summary of cracking data for new PCC (LTPP GPS-3, LTPP SPS-2, and FHWA RPPR) model development and calibration (measured on a 500-ft section).

SHRP_ID	Joint Spacing, ft	Age, months	Age, years	Percent Slabs Cracked (all severities)
53_0205	15	19.2	1.6	3.0
53_0205	15	43.2	3.6	9.0
53_0205	15	55.2	4.6	9.0
53_0206	15	20.4	1.7	6.0
53_0206	15	43.2	3.6	6.0
53_0206	15	55.2	4.6	6.0
53_0207	15	20.4	1.7	0.0
53_0207	15	36	3	0.0
53_0207	15	43.2	3.6	0.0
53_0208	15	19.2	1.6	0.0
53_0208	15	36	3	0.0
53_0208	15	43.2	3.6	0.0
53_0209	15	19.2	1.6	0.0
53_0209	15	36	3	0.0
53_0209	15	43.2	3.6	0.0
53_0210	15	19.2	1.6	0.0
53_0210	15	36	3	0.0
53_0210	15	43.2	3.6	0.0
53_0211	15	19.2	1.6	0.0
53_0211	15	36	3	0.0
53_0211	15	43.2	3.6	0.0
53_0212	15	19.2	1.6	0.0
53_0212	15	36	3	0.0
53_0212	15	43.2	3.6	0.0
53_3011	14	240	20	0.0
53_3011	14	265.2	22.1	0.0
53_3013	13	286.8	23.9	0.0
53_3013	13	336	28	0.0
53_3013	19	286.8	23.9	0.0
53_3013	19	336	28	0.0
53_3014	13	133.2	11.1	0.0
53_3014	13	156	13	0.0
53_3014	13	169.2	14.1	0.0
53_3014	14	133.2	11.1	0.0
53_3014	14	156	13	0.0
53_3014	14	169.2	14.1	0.0
53_3019	13	132	11	0.0
53_3019	13	156	13	0.0
53_3019	14	132	11	0.0
53_3019	14	156	13	0.0
53_3813	15	348	29	9.0
53_3813	15	379.2	31.6	9.0
53_3813	15	405.6	33.8	9.0
53_7409	13	192	16	0.0
53_7409	13	214.8	17.9	0.0

Table FF.7. Summary of cracking data for new PCC (LTPP GPS-3, LTPP SPS-2, and FHWA RPPR) model development and calibration (measured on a 500-ft section).

SHRP_ID	Joint Spacing, ft	Age, months	Age, years	Percent Slabs Cracked (all severities)
53_7409	14	192	16	0.0
53_7409	14	214.8	17.9	0.0
55_3008	13	152.4	12.7	0.0
55_3008	13	228	19	0.0
55_3008	19	152.4	12.7	0.0
55_3008	19	228	19	6.3
55_3009	13	46.8	3.9	0.0
55_3009	13	121.2	10.1	0.0
55_3009	13	178.8	14.9	0.0
55_3009	19	46.8	3.9	0.0
55_3009	19	121.2	10.1	0.0
55_3009	19	178.8	14.9	0.0
55_3010	13	118.8	9.9	0.0
55_3010	13	193.2	16.1	0.0
55_3010	13	250.8	20.9	0.0
55_3010	19	118.8	9.9	0.0
55_3010	19	193.2	16.1	0.0
55_3010	19	250.8	20.9	0.0
55_3016	13	38.4	3.2	0.0
55_3016	13	100.8	8.4	0.0
55_3016	19	38.4	3.2	0.0
55_3016	19	100.8	8.4	0.0
55_6351	13	122.4	10.2	0.0
55_6351	19	122.4	10.2	31.3
55_6352	13	122.4	10.2	0.0
55_6352	19	122.4	10.2	0.0
55_6353	13	64.8	5.4	0.0
55_6353	13	122.4	10.2	0.0
55_6353	19	64.8	5.4	0.0
55_6353	19	122.4	10.2	0.0
55_6354	13	64.8	5.4	0.0
55_6354	13	122.4	10.2	0.0
55_6354	19	64.8	5.4	0.0
55_6354	19	122.4	10.2	0.0
55_6355	13	122.4	10.2	0.0
55_6355	19	122.4	10.2	0.0
6_3005	13	222	18.5	56.3
6_3005	13	271.2	22.6	81.3
6_3005	13	294	24.5	81.3
6_3005	13	309.6	25.8	100.0
6_3005	19	222	18.5	100.0
6_3005	19	271.2	22.6	100.0
6_3005	19	294	24.5	100.0
6_3005	19	309.6	25.8	100.0
6_3021	13	211.2	17.6	0.0

Table FF.7. Summary of cracking data for new PCC (LTPP GPS-3, LTPP SPS-2, and FHWA RPPR) model development and calibration (measured on a 500-ft section).

SHRP_ID	Joint Spacing, ft	Age, months	Age, years	Percent Slabs Cracked (all severities)
6_3021	13	273.6	22.8	0.0
6_3021	13	297.6	24.8	0.0
6_3021	13	312	26	0.0
6_3021	19	211.2	17.6	0.0
6_3021	19	273.6	22.8	6.3
6_3021	19	297.6	24.8	6.3
6_3021	19	312	26	6.3
6_3030	13	230.4	19.2	6.3
6_3030	13	294	24.5	6.3
6_3030	13	324	27	6.3
6_3030	19	230.4	19.2	25.0
6_3030	19	294	24.5	31.3
6_3030	19	324	27	31.3
6_3042	13	151.2	12.6	0.0
6_3042	13	189.6	15.8	0.0
6_3042	13	224.4	18.7	0.0
6_3042	13	249.6	20.8	0.0
6_3042	19	151.2	12.6	6.3
6_3042	19	189.6	15.8	12.5
6_3042	19	224.4	18.7	18.8
6_3042	19	249.6	20.8	18.8
8_0213	15	30	2.5	0.0
8_0213	15	57.6	4.8	0.0
8_0213	15	70.8	5.9	0.0
8_0214	15	30	2.5	0.0
8_0214	15	57.6	4.8	0.0
8_0214	15	70.8	5.9	0.0
8_0215	15	30	2.5	0.0
8_0215	15	57.6	4.8	0.0
8_0215	15	70.8	5.9	0.0
8_0216	15	30	2.5	0.0
8_0216	15	57.6	4.8	0.0
8_0216	15	70.8	5.9	0.0
8_0217	15	31.2	2.6	0.0
8_0217	15	58.8	4.9	0.0
8_0217	15	72	6	0.0
8_0218	15	30	2.5	3.0
8_0218	15	57.6	4.8	3.0
8_0218	15	79.2	6.6	3.0
8_0219	15	30	2.5	0.0
8_0219	15	57.6	4.8	0.0
8_0219	15	69.6	5.8	0.0
8_0220	15	31.2	2.6	0.0
8_0220	15	58.8	4.9	0.0
8_0220	15	72	6	0.0

Table FF.7. Summary of cracking data for new PCC (LTPP GPS-3, LTPP SPS-2, and FHWA RPPR) model development and calibration (measured on a 500-ft section).

SHRP_ID	Joint Spacing, ft	Age, months	Age, years	Percent Slabs Cracked (all severities)
8_0221	15	31.2	2.6	0.0
8_0221	15	58.8	4.9	0.0
8_0221	15	72	6	0.0
8_0222	15	31.2	2.6	0.0
8_0222	15	58.8	4.9	0.0
8_0222	15	72	6	0.0
8_0223	15	31.2	2.6	0.0
8_0223	15	58.8	4.9	0.0
8_0223	15	72	6	0.0
8_0224	15	31.2	2.6	0.0
8_0224	15	58.8	4.9	0.0
8_0224	15	72	6	0.0
8_3032	13	176.4	14.7	0.0
8_3032	13	255.6	21.3	0.0
8_3032	19	176.4	14.7	6.3
8_3032	19	255.6	21.3	12.5
GA1_1	20	252	21	0.0
GA1_10	20	252	21	0.0
GA1_2	20	252	21	0.0
GA1_3	20	252	21	0.0
GA1_4	20	252	21	0.0
GA1_5	20	252	21	0.0
GA1_6	20	252	21	0.0
GA1_7	20	252	21	0.0
GA1_8	20	252	21	0.0
GA1_9	20	252	21	0.0
GA2	20	180	15	0.0
MI1_10a3	13	204	17	0.0
MI1_10a3	19	204	17	31.3
MI1_10b	13	144	12	0.0
MI1_10b	13	204	17	0.0
MI1_10b	19	144	12	10.0
MI1_10b	19	204	17	10.6
MI1_25	13	144	12	0.0
MI1_25	13	204	17	0.0
MI1_25	19	144	12	17.0
MI1_25	19	204	17	25.0
MN7_24	20	408	34	5.9
MN7_9	20	408	34	5.9
NC1_1	30	240	20	3.0
NC1_1	30	300	25	11.4
NC1_2	30	240	20	6.0
NC1_2	30	300	25	6.0
NC1_3	30	240	20	3.0
NC1_3	30	300	25	5.7

Table FF.7. Summary of cracking data for new PCC (LTPP GPS-3, LTPP SPS-2, and FHWA RPPR) model development and calibration (measured on a 500-ft section).

SHRP_ID	Joint Spacing, ft	Age, months	Age, years	Percent Slabs Cracked (all severities)
NC1_4	30	240	20	0.0
NC1_4	30	300	25	0.0
NC1_5	30	240	20	0.0
NC1_5	30	300	25	0.0
NC1_6	30	240	20	0.0
NC1_6	30	300	25	8.6
NC1_8	30	240	20	37.0
NC1_8	30	300	25	77.1
NC2	19	60	5	0.0
NC2	19	120	10	0.0
NC2	24	60	5	8.0
NC2	24	120	10	8.3
NY1_1	20	228	19	0.0
NY1_1	20	288	24	6.7
NY1_5a	20	288	24	11.0
NY1_5b	20	288	24	16.0
NY1_6	20	228	19	10.0
NY1_6	20	288	24	16.7
NY1_8a	20	228	19	3.0
NY1_8a	20	288	24	10.0
NY1_8b	20	228	19	0.0
NY1_8b	20	288	24	6.7
NY2_11	27	144	12	13.0
NY2_11	27	204	17	20.0
NY2_3	20	144	12	13.0
NY2_3	20	204	17	20.8
NY2_9	20	144	12	9.0
NY2_9	20	204	17	9.4

Table FF.8. Summary of transverse joint faulting data for new PCC (LTPP GPS-3, LTPP SPS-2, and FHWA RPPR) model development and calibration (measured on a 500-ft section).

Section_ID	Age, months	Age, years	Mean Transverse Joint Faulting, in
1_3028	243	20.3	0.129
1_3028	262	21.8	0.209
1_3028	318	26.5	0.296
12_3804	75	6.3	0.044
12_3804	144	12.0	0.076
12_3804	168	14.0	0.112
12_3811	188	15.7	0.098
12_3811	223	18.6	0.128
12_4000	203	16.9	0.050
12_4000	220	18.3	0.088
12_4000	269	22.4	0.072
12_4000	296	24.7	0.079
12_4057	63	5.3	0.004
12_4057	133	11.1	0.007
12_4057	164	13.7	0.028
12_4059	28	2.3	0.000
12_4059	45	3.8	0.063
12_4059	94	7.8	0.000
12_4109	31	2.6	-0.001
12_4109	48	4.0	0.061
12_4109	97	8.1	0.007
12_4109	131	10.9	0.026
12_4138	203	16.9	0.195
12_4138	220	18.3	0.202
12_4138	269	22.4	0.189
16_3017	64	5.3	-0.001
16_3017	130	10.8	0.000
16_3017	155	12.9	0.023
18_3002	201	16.8	0.034
18_3002	226	18.8	0.030
18_3002	234	19.5	0.036
18_3002	254	21.2	0.045
18_3002	254	21.2	0.045
18_3003	196	16.3	0.005
18_3003	212	17.7	0.024
18_3031	188	15.7	0.027
18_3031	215	17.9	0.031
20_0201	58	4.8	0.000
20_0201	88	7.3	0.000
20_0202	58	4.8	0.000
20_0202	88	7.3	0.022
20_0203	8	0.7	0.000
20_0203	58	4.8	0.000
20_0203	88	7.3	0.019

Table FF.8. Summary of transverse joint faulting data for new PCC (LTPP GPS-3, LTPP SPS-2, and FHWA RPPR) model development and calibration (measured on a 500-ft section).

Section_ID	Age, months	Age, years	Mean Transverse Joint Faulting, in
20_0204	8	0.7	0.000
20_0204	58	4.8	0.000
20_0204	88	7.3	0.010
20_0205	58	4.8	0.000
20_0205	88	7.3	0.002
20_0206	8	0.7	0.000
20_0206	58	4.8	0.000
20_0206	88	7.3	0.022
20_0207	58	4.8	0.000
20_0207	88	7.3	0.010
20_0208	58	4.8	0.000
20_0208	88	7.3	0.006
20_0209	58	4.8	0.000
20_0209	89	7.4	0.007
20_0210	58	4.8	0.000
20_0210	89	7.4	0.000
20_0211	9	0.8	-0.002
20_0211	58	4.8	0.000
20_0211	88	7.3	0.009
20_0212	8	0.7	0.000
20_0212	58	4.8	0.000
20_0212	88	7.3	0.006
21_3016	65	5.4	0.000
21_3016	88	7.3	0.019
21_3016	147	12.3	-0.012
26_0213	1	0.1	0.000
26_0213	14	1.2	0.033
26_0213	20	1.7	0.000
26_0213	44	3.7	0.000
26_0215	2	0.2	0.000
26_0215	14	1.2	0.018
26_0215	20	1.7	0.017
26_0215	72	6.0	0.057
26_0216	1	0.1	0.000
26_0216	14	1.2	0.019
26_0216	20	1.7	0.000
26_0216	61	5.1	0.016
26_0216	72	6.0	-0.012
26_0217	1	0.1	0.000
26_0217	14	1.2	0.013
26_0217	20	1.7	0.000
26_0217	44	3.7	0.006
26_0218	2	0.2	0.000
26_0218	14	1.2	0.023
26_0218	20	1.7	0.035

Table FF.8. Summary of transverse joint faulting data for new PCC (LTPP GPS-3, LTPP SPS-2, and FHWA RPPR) model development and calibration (measured on a 500-ft section).

Section_ID	Age, months	Age, years	Mean Transverse Joint Faulting, in
26_0219	2	0.2	0.000
26_0219	14	1.2	0.007
26_0219	20	1.7	0.004
26_0219	61	5.1	0.020
26_0220	1	0.1	0.000
26_0220	14	1.2	0.018
26_0220	20	1.7	0.000
26_0220	61	5.1	0.007
26_0220	72	6.0	-0.012
26_0221	1	0.1	0.000
26_0221	1	0.1	0.000
26_0221	14	1.2	0.008
26_0221	14	1.2	0.008
26_0221	20	1.7	0.000
26_0221	20	1.7	0.000
26_0221	44	3.7	0.000
26_0221	44	3.7	0.000
26_0221	61	5.1	0.007
26_0221	61	5.1	0.007
26_0221	72	6.0	-0.002
26_0221	72	6.0	-0.002
26_0222	2	0.2	0.000
26_0222	14	1.2	0.013
26_0222	20	1.7	0.022
26_0222	62	5.2	0.036
26_0223	2	0.2	0.000
26_0223	14	1.2	0.007
26_0223	20	1.7	0.006
26_0223	61	5.1	0.020
26_0224	1	0.1	0.000
26_0224	14	1.2	0.014
26_0224	20	1.7	0.000
26_0224	61	5.1	0.014
26_0224	72	6.0	-0.001
28_3018	77	6.4	0.000
28_3018	85	7.1	0.024
28_3018	133	11.1	0.066
28_3018	183	15.3	0.033
28_3019	77	6.4	0.000
28_3019	85	7.1	0.013
28_3019	134	11.2	0.050
28_3019	183	15.3	0.118
31_3018	119	9.9	0.116
31_3018	130	10.8	0.127
31_3018	135	11.3	0.184

Table FF.8. Summary of transverse joint faulting data for new PCC (LTPP GPS-3, LTPP SPS-2, and FHWA RPPR) model development and calibration (measured on a 500-ft section).

Section_ID	Age, months	Age, years	Mean Transverse Joint Faulting, in
31_3018	150	12.5	0.165
32_0201	8	0.7	0.039
32_0201	40	3.3	-0.014
32_0201	52	4.3	-0.004
32_0202	8	0.7	0.045
32_0202	22	1.8	0.008
32_0203	8	0.7	0.030
32_0203	40	3.3	-0.005
32_0203	51	4.3	-0.023
32_0204	8	0.7	0.030
32_0204	14	1.2	0.037
32_0204	15	1.3	0.054
32_0204	19	1.6	-0.002
32_0204	20	1.7	-0.002
32_0204	23	1.9	-0.005
32_0204	25	2.1	0.000
32_0204	40	3.3	-0.005
32_0204	51	4.3	-0.006
32_0205	8	0.7	0.032
32_0205	40	3.3	-0.006
32_0205	52	4.3	0.005
32_0206	8	0.7	0.013
32_0206	22	1.8	0.001
32_0207	8	0.7	0.032
32_0207	40	3.3	-0.016
32_0207	51	4.3	-0.029
32_0208	8	0.7	0.033
32_0208	40	3.3	-0.005
32_0208	51	4.3	0.004
32_0209	8	0.7	0.026
32_0209	22	1.8	0.002
32_0209	40	3.3	-0.012
32_0209	52	4.3	-0.017
32_0210	8	0.7	0.030
32_0210	22	1.8	0.002
32_0210	40	3.3	-0.010
32_0210	51	4.3	-0.017
32_0211	8	0.7	0.032
32_0211	40	3.3	-0.006
32_0211	51	4.3	-0.008
32_3010	114	9.5	0.139
32_3010	200	16.7	0.164
32_3010	213	17.8	0.198
32_7084	78	6.5	-0.013
32_7084	106	8.8	0.033

Table FF.8. Summary of transverse joint faulting data for new PCC (LTPP GPS-3, LTPP SPS-2, and FHWA RPPR) model development and calibration (measured on a 500-ft section).

Section_ID	Age, months	Age, years	Mean Transverse Joint Faulting, in
37_0201	24	2.0	0.035
37_0201	29	2.4	0.005
37_0201	33	2.8	0.001
37_0201	39	3.3	0.007
37_0201	46	3.8	0.002
37_0201	51	4.3	0.017
37_0201	55	4.6	0.006
37_0201	58	4.8	0.006
37_0201	60	5.0	0.006
37_0201	71	5.9	0.004
37_0201	75	6.3	0.036
37_0202	39	3.3	0.005
37_0202	71	5.9	-0.014
37_0203	40	3.3	0.013
37_0203	72	6.0	0.001
37_0204	40	3.3	0.002
37_0205	39	3.3	-0.008
37_0205	71	5.9	0.004
37_0206	39	3.3	0.006
37_0206	71	5.9	-0.010
37_0207	39	3.3	0.008
37_0207	39	3.3	0.008
37_0207	72	6.0	0.001
37_0207	72	6.0	0.001
37_0208	39	3.3	0.013
37_0208	39	3.3	0.013
37_0208	71	5.9	0.001
37_0208	71	5.9	0.001
37_0209	24	2.0	0.000
37_0209	39	3.3	-0.002
37_0209	46	3.8	0.002
37_0209	55	4.6	0.001
37_0209	60	5.0	-0.002
37_0209	71	5.9	-0.002
37_0210	39	3.3	0.000
37_0210	71	5.9	-0.004
37_0211	39	3.3	0.007
37_0211	39	3.3	0.007
37_0211	72	6.0	-0.005
37_0211	72	6.0	-0.005
37_0212	39	3.3	0.010
37_0212	72	6.0	0.004
37_3008	140	11.7	0.012
37_3008	178	14.8	0.010
37_3011	223	18.6	0.017

Table FF.8. Summary of transverse joint faulting data for new PCC (LTPP GPS-3, LTPP SPS-2, and FHWA RPPR) model development and calibration (measured on a 500-ft section).

Section_ID	Age, months	Age, years	Mean Transverse Joint Faulting, in
37_3011	270	22.5	0.025
37_3807	204	17.0	0.034
37_3816	272	22.7	0.065
37_3816	284	23.7	0.067
37_3816	324	27.0	0.083
39_3013	279	23.3	0.139
39_3801	119	9.9	0.013
39_3801	144	12.0	0.011
4_0213	17	1.4	0.016
4_0213	49	4.1	-0.016
4_0213	63	5.3	-0.007
4_0213	78	6.5	0.008
4_0214	17	1.4	0.020
4_0214	49	4.1	0.001
4_0214	63	5.3	-0.007
4_0214	78	6.5	0.019
4_0215	17	1.4	0.042
4_0215	23	1.9	-0.005
4_0215	26	2.2	0.002
4_0215	29	2.4	0.041
4_0215	30	2.5	0.000
4_0215	34	2.8	0.000
4_0215	35	2.9	0.004
4_0215	49	4.1	0.000
4_0215	52	4.3	0.003
4_0215	55	4.6	0.002
4_0215	57	4.8	0.001
4_0215	61	5.1	0.004
4_0215	63	5.3	-0.006
4_0215	78	6.5	0.025
4_0216	17	1.4	0.011
4_0216	49	4.1	-0.008
4_0216	63	5.3	-0.012
4_0216	78	6.5	0.007
4_0217	17	1.4	0.030
4_0217	49	4.1	-0.004
4_0217	63	5.3	-0.009
4_0217	78	6.5	0.010
4_0218	17	1.4	0.027
4_0218	49	4.1	-0.001
4_0218	63	5.3	-0.007
4_0218	78	6.5	0.005
4_0219	17	1.4	0.030
4_0219	49	4.1	-0.002
4_0219	63	5.3	-0.019

Table FF.8. Summary of transverse joint faulting data for new PCC (LTPP GPS-3, LTPP SPS-2, and FHWA RPPR) model development and calibration (measured on a 500-ft section).

Section_ID	Age, months	Age, years	Mean Transverse Joint Faulting, in
4_0219	78	6.5	0.012
4_0220	17	1.4	0.030
4_0220	49	4.1	-0.005
4_0220	63	5.3	-0.006
4_0220	78	6.5	0.011
4_0221	17	1.4	0.032
4_0221	49	4.1	-0.007
4_0221	63	5.3	-0.010
4_0221	78	6.5	0.012
4_0222	17	1.4	0.018
4_0222	49	4.1	0.000
4_0222	63	5.3	-0.003
4_0222	78	6.5	0.017
4_0223	17	1.4	0.029
4_0223	49	4.1	-0.002
4_0223	63	5.3	-0.017
4_0223	78	6.5	0.005
4_0224	17	1.4	0.016
4_0224	49	4.1	-0.002
4_0224	63	5.3	-0.004
4_0224	78	6.5	0.004
4_7614	127	10.6	0.029
4_7614	162	13.5	0.017
4_7614	178	14.8	-0.004
40_4162	76	6.3	0.002
40_4162	89	7.4	0.024
40_4162	113	9.4	0.014
40_4162	146	12.2	0.030
40_4162	163	13.6	0.041
46_3012	145	12.1	0.128
5_3011	100	8.3	0.001
5_3011	139	11.6	0.008
5_3011	171	14.3	0.022
53_0201	0	0.0	0.024
53_0201	19	1.6	0.001
53_0201	36	3.0	0.012
53_0201	42	3.5	0.005
53_0202	0	0.0	0.008
53_0202	19	1.6	0.000
53_0202	36	3.0	0.000
53_0202	42	3.5	0.000
53_0203	0	0.0	0.020
53_0203	19	1.6	0.002
53_0203	36	3.0	0.008
53_0203	42	3.5	0.000

Table FF.8. Summary of transverse joint faulting data for new PCC (LTPP GPS-3, LTPP SPS-2, and FHWA RPPR) model development and calibration (measured on a 500-ft section).

Section_ID	Age, months	Age, years	Mean Transverse Joint Faulting, in
53_0204	0	0.0	0.023
53_0204	19	1.6	-0.001
53_0204	36	3.0	0.013
53_0204	42	3.5	0.001
53_0205	0	0.0	0.019
53_0205	19	1.6	0.000
53_0205	36	3.0	0.016
53_0205	42	3.5	0.005
53_0206	0	0.0	0.025
53_0206	19	1.6	0.000
53_0206	36	3.0	0.011
53_0206	43	3.6	0.006
53_0208	0	0.0	0.017
53_0208	19	1.6	0.005
53_0208	36	3.0	0.016
53_0208	43	3.6	0.002
53_0209	0	0.0	0.024
53_0209	19	1.6	0.000
53_0209	36	3.0	0.007
53_0209	42	3.5	-0.002
53_0210	0	0.0	0.014
53_0210	19	1.6	-0.003
53_0210	36	3.0	-0.016
53_0210	42	3.5	0.010
53_0211	0	0.0	0.016
53_0211	19	1.6	0.005
53_0211	36	3.0	0.002
53_0211	42	3.5	-0.008
53_0212	0	0.0	0.012
53_0212	19	1.6	-0.007
53_0212	36	3.0	-0.011
53_0212	42	3.5	0.002
53_3011	240	20.0	0.085
53_3011	264	22.0	0.103
53_3013	287	23.9	0.136
53_3014	132	11.0	0.025
53_3014	156	13.0	0.047
53_3014	168	14.0	0.064
53_3019	132	11.0	0.037
53_3019	156	13.0	0.073
53_3813	347	28.9	0.127
53_3813	351	29.3	0.133
53_3813	354	29.5	0.196
53_3813	356	29.7	0.191
53_3813	379	31.6	0.074

Table FF.8. Summary of transverse joint faulting data for new PCC (LTPP GPS-3, LTPP SPS-2, and FHWA RPPR) model development and calibration (measured on a 500-ft section).

Section_ID	Age, months	Age, years	Mean Transverse Joint Faulting, in
53_3813	383	31.9	0.119
53_3813	387	32.3	0.106
53_3813	388	32.3	0.098
53_7409	191	15.9	0.042
53_7409	215	17.9	0.063
55_3009	121	10.1	0.370
55_3009	127	10.6	0.319
55_3010	193	16.1	0.122
55_3016	101	8.4	0.076
55_6351	122	10.2	0.066
55_6352	122	10.2	0.006
55_6353	65	5.4	0.049
55_6353	122	10.2	0.080
55_6354	65	5.4	0.014
55_6354	122	10.2	0.023
55_6355	122	10.2	0.003
6_3021	211	17.6	0.078
6_3021	273	22.8	0.109
6_3021	297	24.8	0.070
6_3021	311	25.9	0.094
8_0213	30	2.5	0.004
8_0213	57	4.8	0.013
8_0213	70	5.8	0.007
8_0214	30	2.5	0.013
8_0214	57	4.8	-0.002
8_0214	70	5.8	0.004
8_0215	30	2.5	0.001
8_0215	57	4.8	0.001
8_0215	70	5.8	0.011
8_0216	30	2.5	0.012
8_0216	57	4.8	-0.001
8_0216	70	5.8	-0.001
8_0217	31	2.6	0.004
8_0217	59	4.9	0.002
8_0217	71	5.9	0.006
8_0218	30	2.5	0.035
8_0218	57	4.8	0.009
8_0218	69	5.8	0.013
8_0219	30	2.5	0.011
8_0219	57	4.8	0.010
8_0219	70	5.8	0.014
8_0220	31	2.6	0.014
8_0220	59	4.9	-0.004
8_0220	71	5.9	-0.002
8_0221	31	2.6	0.005

Table FF.8. Summary of transverse joint faulting data for new PCC (LTPP GPS-3, LTPP SPS-2, and FHWA RPPR) model development and calibration (measured on a 500-ft section).

Section_ID	Age, months	Age, years	Mean Transverse Joint Faulting, in
8_0221	59	4.9	0.005
8_0221	71	5.9	0.000
8_0222	31	2.6	0.005
8_0222	59	4.9	-0.002
8_0222	71	5.9	0.002
8_0223	31	2.6	0.017
8_0223	59	4.9	0.018
8_0223	71	5.9	0.017
8_0224	31	2.6	0.023
8_0224	59	4.9	0.010
8_0224	71	5.9	0.009
8_3032	176	14.7	0.016
8_3032	255	21.3	0.043
AZ1_1	180	15.0	0.080
AZ1_1	240	20.0	0.075
AZ1_2	144	12.0	0.010
AZ1_2	204	17.0	0.014
AZ1_4	96	8.0	0.010
AZ1_4	156	13.0	0.019
AZ1_5	96	8.0	0.030
AZ1_5	156	13.0	0.033
AZ1_6	72	6.0	0.010
AZ1_6	132	11.0	0.015
AZ1_7	72	6.0	0.020
AZ1_7	132	11.0	0.015
AZ2	48	4.0	0.010
AZ2	108	9.0	0.014
CA1_10	252	21.0	0.126
CA1_3	192	16.0	0.100
CA1_3	252	21.0	0.082
CA1_4	252	21.0	0.104
CA1_5	192	16.0	0.110
CA1_5	252	21.0	0.113
CA1_6	252	21.0	0.112
CA1_7	192	16.0	0.060
CA1_7	252	21.0	0.024
CA1_8	252	21.0	0.035
CA1_9	192	16.0	0.130
CA1_9	252	21.0	0.111
CA10	24	2.0	0.045
CA2_2	84	7.0	0.110
CA2_2	144	12.0	0.157
CA2_3	84	7.0	0.110
CA2_3	144	12.0	0.132
CA3_1	144	12.0	0.080

Table FF.8. Summary of transverse joint faulting data for new PCC (LTPP GPS-3, LTPP SPS-2, and FHWA RPPR) model development and calibration (measured on a 500-ft section).

Section_ID	Age, months	Age, years	Mean Transverse Joint Faulting, in
CA3_1	204	17.0	0.091
CA3_10	204	17.0	0.090
CA3_2	144	12.0	0.110
CA3_2	204	17.0	0.090
CA3_3	204	17.0	0.046
CA3_4	204	17.0	0.104
CA3_5	144	12.0	0.100
CA3_5	204	17.0	0.080
CA3_6	204	17.0	0.042
CA3_7	204	17.0	0.115
CA3_8	204	17.0	0.101
CA3_9	204	17.0	0.105
CA6_1	192	16.0	0.150
CA6_1	252	21.0	0.141
CA6_2	144	12.0	0.052
CA7	96	8.0	0.060
CA7	156	13.0	0.049
CA8	48	4.0	0.040
CA8	108	9.0	0.049
CA9_10	216	18.0	0.100
CA9_2	216	18.0	0.154
CA9_3	216	18.0	0.143
CA9_4	216	18.0	0.120
CA9_5	216	18.0	0.121
CA9_8	216	18.0	0.167
FL2	12	1.0	0.010
FL2	72	6.0	0.046
FL3	60	5.0	0.080
FL3	120	10.0	0.048
FL4_1	168	14.0	0.090
MI1_10a	144	12.0	0.140
MI1_10a	204	17.0	0.133
MI1_10b	204	17.0	0.151
MI1_4a	144	12.0	0.030
MI1_4a	204	17.0	0.026
MI1_4a10	204	17.0	0.017
MI1_4a12	204	17.0	0.017
MI1_7a	144	12.0	0.040
MI1_7a	204	17.0	0.046
MI1_7a5	204	17.0	0.047
MI1_7b	144	12.0	0.040
MI1_7b	204	17.0	0.029
MI1_7b5	204	17.0	0.064
MN2_1	120	10.0	0.060
MN2_1	180	15.0	0.076

Table FF.8. Summary of transverse joint faulting data for new PCC (LTPP GPS-3, LTPP SPS-2, and FHWA RPPR) model development and calibration (measured on a 500-ft section).

Section_ID	Age, months	Age, years	Mean Transverse Joint Faulting, in
MN2_2	120	10.0	0.060
MN2_2	180	15.0	0.078
MN4	12	1.0	0.010
MN4	72	6.0	0.013
MN7_10	408	34.0	0.065
MN7_15	408	34.0	0.009
MN7_17	408	34.0	0.154
MN7_18	408	34.0	0.162
MN7_24	408	34.0	0.009
MN7_9	408	34.0	0.069
NC1_2	240	20.0	0.160
NC1_2	300	25.0	0.162
NC1_3	240	20.0	0.130
NC1_3	300	25.0	0.137
NC1_4	240	20.0	0.130
NC1_4	300	25.0	0.125
NC1_5	240	20.0	0.160
NC1_5	300	25.0	0.165
NC1_8	240	20.0	0.220
NC1_8	300	25.0	0.227
NC2	60	5.0	0.020
NC2	120	10.0	0.015
NY2_11	144	12.0	0.010
NY2_11	204	17.0	0.008
NY2_3	144	12.0	0.010
NY2_3	204	17.0	0.013
NY2_9	144	12.0	0.020
NY2_9	204	17.0	0.007
OH2_1	216	18.0	0.065
OH2_2	156	13.0	0.110
OH2_2	216	18.0	0.084
OH2_3	156	13.0	0.110
OH2_3	216	18.0	0.139
WI1_1	24	2.0	0.009
WI1_2	24	2.0	0.006
WI1_3	24	2.0	0.000
WI2_1	48	4.0	0.013
WI2_2	48	4.0	0.007
WI2_3	48	4.0	0.010
WI2_4	48	4.0	0.009
WI2_5	48	4.0	0.007
WI3_1	48	4.0	0.028
WI3_2	48	4.0	0.134
WI3_3	48	4.0	0.146
WI4_6	48	4.0	0.083

Table FF.8. Summary of transverse joint faulting data for new PCC (LTPP GPS-3, LTPP SPS-2, and FHWA RPPR) model development and calibration (measured on a 500-ft section).

Section_ID	Age, months	Age, years	Mean Transverse Joint Faulting, in
WI5_1	48	4.0	0.026
WI5_2	48	4.0	0.050
WI5_3	48	4.0	0.057
WI5_4	48	4.0	0.057
WI5_5	48	4.0	0.042
WI5_6	48	4.0	0.033
WI6_1	48	4.0	0.067
WI6_2	48	4.0	0.043
WI6_3	48	4.0	-0.007
WI6_4	48	4.0	-0.002
WI7_1	48	4.0	0.028
WI7_10	48	4.0	0.006
WI7_2	48	4.0	0.033
WI7_3	48	4.0	0.014
WI7_4	48	4.0	0.037
WI7_5	48	4.0	0.012
WI7_6	48	4.0	0.019
WI7_7	48	4.0	0.023
WI7_8	48	4.0	0.035
WI7_9	48	4.0	0.043
WV1_3	36	3.0	0.040

Table FF.9. Summary of distress data for new CRCP (LTPP GPS-5 and engineering/design reports) model development and calibration.

Section ID	Construction Date	Survey Date	Age, yrs	No. of Punchouts/mile	Section Length, ft
4_7079	1-Mar-89	28-Jan-95	5.92	0	500
4_7079	1-Mar-89	28-Oct-97	8.67	0	500
4_7079	1-Mar-89	28-Dec-98	9.83	0	500
4_7079	1-Mar-89	28-Jul-01	12.42	0	500
1_5008	1-Sep-76	28-Jun-93	16.83	0	500
1_5008	1-Sep-76	27-Jun-98	21.83	0	500
16_5025	1-Sep-72	27-Jul-95	22.92	10	500
17_5020	1-May-86	28-Jul-98	12.25	0	500
17_5020	1-May-86	25-Feb-01	14.83	0	500
17_5843	1-Aug-82	28-Jul-98	16.00	0	500
17_5843	1-Aug-82	29-Apr-91	8.75	0	500
17_5843	1-Aug-82	29-Jul-94	12.00	20	500
17_5849	1-Jan-71	24-Nov-97	26.92	0	500
17_5854	1-Sep-82	30-May-91	8.75	10	500
17_5869	1-Aug-79	27-Jul-98	19.00	0	500
17_5869	1-Aug-79	26-Jul-00	21.00	0	500
17_5908	1-Dec-70	26-Mar-93	22.33	0	500
17_5908	1-Dec-70	24-Aug-98	27.75	0	500
17_5908	1-Dec-70	24-Mar-01	30.33	10	500
17_9267	1-Jan-66	26-Oct-88	22.83	0	500
18_5022	1-Jan-72	27-Oct-88	16.83	0	500
18_5043	1-Jan-69	25-Apr-98	29.33	0	500
18_5518	1-Oct-70	26-Aug-90	19.92	10	500
18_5518	1-Oct-70	25-Jun-93	22.75	10	500
19_5042	1-Sep-75	26-Aug-99	24.00	0	500
19_5042	1-Sep-75	27-Jul-94	18.92	10	500
19_9116	1-Jun-72	26-Jul-94	22.17	0	500
19_9116	1-Jun-72	25-Aug-99	27.25	0	500
28_3099	1-Nov-70	27-May-91	20.58	0	500
28_5006	1-Apr-79	28-Mar-93	14.00	0	500
28_5006	1-Apr-79	27-Jul-95	16.33	0	500
28_5006	1-Apr-79	25-Nov-99	20.67	0	500
28_5025	1-Jul-78	26-Feb-91	12.67	0	500
28_5025	1-Jul-78	27-Jun-93	15.00	0	500
28_5025	1-Jul-78	25-Nov-99	21.42	0	500
28_5803	1-Sep-79	26-Dec-99	20.33	10	500
28_5803	1-Sep-79	27-Oct-95	16.17	20	500
28_5803	1-Sep-79	28-Jun-93	13.83	50	500
28_5805	1-Jun-75	26-Nov-90	15.50	0	500
29_5047	1-Oct-71	23-Jan-99	27.33	0	500
31_5052	1-Dec-69	26-Apr-93	23.42	0	500
37_5037	1-Oct-72	26-Mar-96	23.50	30	500
37_5037	1-Oct-72	26-May-99	26.67	30	500
37_5037	1-Oct-72	24-Dec-01	29.25	30	500

Table FF.9. Summary of distress data for new CRCP (LTPP GPS-5 and engineering/design reports) model development and calibration.

Section ID	Construction Date	Survey Date	Age, yrs	No. of Punchouts/mile	Section Length, ft
37_5827	1-Mar-73	25-Mar-96	23.08	0	500
37_5827	1-Mar-73	23-Nov-96	23.75	0	500
37_5827	1-Mar-73	23-Feb-00	27.00	0	500
37_5827	1-Mar-73	24-May-01	28.25	10	500
38_5002	1-Oct-73	27-Sep-89	16.00	0	500
38_5002	1-Oct-73	27-Jun-91	17.75	0	500
38_5002	1-Oct-73	26-Apr-95	21.58	0	500
39_5003	1-Jun-88	28-Jul-00	12.17	0	500
39_5003	1-Jun-88	26-Feb-01	12.75	10	500
39_5010	1-Jul-75	27-Jul-89	14.08	0	500
40_4158	1-Jun-89	30-Aug-92	3.25	0	500
40_4158	1-Jun-89	29-Sep-93	4.33	0	500
40_4158	1-Jun-89	29-Sep-95	6.33	0	500
40_4158	1-Jun-89	30-Mar-98	8.83	0	500
40_4158	1-Jun-89	28-Aug-00	11.25	0	500
40_4166	1-May-90	28-Aug-99	9.33	0	500
40_4166	1-May-90	30-Aug-91	1.33	0	500
40_4166	1-May-90	29-Oct-92	2.50	0	500
40_4166	1-May-90	29-Oct-94	4.50	0	500
40_5021	1-Oct-87	28-Aug-99	11.92	0	500
40_5021	1-Oct-87	30-Aug-91	3.92	0	500
40_5021	1-Oct-87	29-Oct-92	5.08	0	500
40_5021	1-Oct-87	29-Oct-94	7.08	0	500
40_5021	1-Oct-87	28-Apr-97	9.58	10	500
41_5005	1-Oct-85	29-Aug-94	8.92	0	500
41_5005	1-Oct-85	28-Jun-99	13.75	0	500
41_5005	1-Oct-85	27-Dec-01	16.25	0	500
41_5006	1-Jun-73	26-Mar-96	22.83	0	500
41_5006	1-Jun-73	24-Sep-98	25.33	0	500
41_5006	1-Jun-73	24-Jul-01	28.17	0	500
41_5008	1-Jun-72	24-Jul-01	29.17	0	500
41_5008	1-Jun-72	24-Sep-98	26.33	40	500
41_5008	1-Jun-72	26-Mar-96	23.83	60	500
41_5021	1-Jul-86	29-May-94	7.92	0	500
41_5021	1-Jul-86	26-Feb-99	12.67	0	500
41_5021	1-Jul-86	26-Sep-01	15.25	0	500
41_5022	1-Oct-84	28-Jun-96	11.75	0	500
41_5022	1-Oct-84	28-Apr-99	14.58	0	500
41_5022	1-Oct-84	26-Nov-01	17.17	0	500
41_7081	1-Sep-88	30-Apr-96	7.67	0	500
41_7081	1-Sep-88	29-Nov-98	10.25	0	500
41_7081	1-Sep-88	28-Sep-01	13.08	0	500
42_5020	1-Mar-78	26-Jul-96	18.42	10	500
42_5020	1-Mar-78	25-Apr-97	19.17	10	500
42_5020	1-Mar-78	24-Jan-98	19.92	30	500

Table FF.9. Summary of distress data for new CRCP (LTPP GPS-5 and engineering/design reports) model development and calibration.

Section ID	Construction Date	Survey Date	Age, yrs	No. of Punchouts/mile	Section Length, ft
45_5017	1-Feb-79	29-Dec-91	12.92	0	500
45_5017	1-Feb-79	29-Mar-93	14.17	0	500
45_5017	1-Feb-79	28-Mar-97	18.17	0	500
45_5017	1-Feb-79	27-Nov-98	19.83	0	500
45_5017	1-Feb-79	26-Jan-01	22.00	0	500
45_5034	1-May-75	25-Feb-92	16.83	0	500
45_5034	1-May-75	26-May-93	18.08	0	500
45_5034	1-May-75	25-May-97	22.08	0	500
45_5034	1-May-75	23-Jan-99	23.75	0	500
45_5034	1-May-75	23-Jun-01	26.17	0	500
45_5035	1-Oct-75	26-Feb-92	16.42	0	500
45_5035	1-Oct-75	27-May-93	17.67	0	500
45_5035	1-Oct-75	26-May-97	21.67	0	500
45_5035	1-Oct-75	24-Jan-99	23.33	10	500
46_5020	1-Aug-72	25-Sep-93	21.17	0	500
46_5020	1-Aug-72	26-May-99	26.83	0	500
46_5025	1-Nov-74	26-Aug-99	24.83	0	500
48_3779	1-Jun-78	27-Jun-93	15.08	0	500
48_3779	1-Jun-78	27-Oct-95	17.42	0	500
48_3779	1-Jun-78	27-May-97	19.00	0	500
48_5024	1-Jul-81	29-Mar-91	9.75	0	500
48_5024	1-Jul-81	28-Mar-93	11.75	0	500
48_5024	1-Jul-81	28-Jun-95	14.00	0	500
48_5024	1-Jul-81	27-May-97	15.92	0	500
48_5024	1-Jul-81	27-Apr-99	17.83	0	500
48_5024	1-Jul-81	25-Nov-01	20.42	0	500
48_5026	1-Mar-87	28-Feb-91	4.00	0	500
48_5026	1-Mar-87	27-Nov-92	5.75	0	500
48_5026	1-Mar-87	27-Jan-95	7.92	0	500
48_5026	1-Mar-87	26-Jan-98	10.92	0	500
48_5026	1-Mar-87	26-Jan-99	11.92	0	500
48_5026	1-Mar-87	25-Feb-01	14.00	0	500
48_5154	1-Jul-71	26-Apr-91	19.83	0	500
48_5154	1-Jul-71	25-Mar-93	21.75	0	500
48_5154	1-Jul-71	25-Jun-95	24.00	0	500
48_5154	1-Jul-71	24-May-97	25.92	0	500
48_5154	1-Jul-71	24-Apr-99	27.83	10	500
48_5278	1-Jun-75	27-Apr-91	15.92	0	500
48_5278	1-Jun-75	26-Jun-93	18.08	0	500
48_5278	1-Jun-75	27-May-95	20.00	0	500
48_5278	1-Jun-75	26-May-97	22.00	0	500
48_5278	1-Jun-75	25-Jul-99	24.17	0	500
48_5328	1-Sep-75	28-May-91	15.75	0	500
48_5328	1-Sep-75	27-Jul-93	17.92	0	500
48_5328	1-Sep-75	26-Mar-98	22.58	0	500

Table FF.9. Summary of distress data for new CRCP (LTPP GPS-5 and engineering/design reports) model development and calibration.

Section ID	Construction Date	Survey Date	Age, yrs	No. of Punchouts/mile	Section Length, ft
48_5334	1-Apr-70	24-Apr-97	27.08	0	500
48_5334	1-Apr-70	25-Oct-91	21.58	0	500
48_5334	1-Apr-70	25-Apr-93	23.08	0	500
48_5334	1-Apr-70	25-Jul-95	25.33	10	500
48_5334	1-Apr-70	24-Jul-99	29.33	10	500
48_5336	1-Aug-85	30-Jul-95	10.00	20	500
48_5336	1-Aug-85	30-Apr-91	5.75	10	500
48_5336	1-Aug-85	29-Apr-93	7.75	10	500
5_5803	1-May-73	25-Oct-94	21.50	0	500
5_5803	1-May-73	25-May-97	24.08	0	500
5_5803	1-May-73	24-May-00	27.08	0	500
5_5805	1-Aug-75	27-Aug-91	16.08	0	500
5_5805	1-Aug-75	26-Oct-94	19.25	0	500
5_5805	1-Aug-75	26-Jul-97	22.00	0	500
5_5805	1-Aug-75	25-May-00	24.83	0	500
51_2564	1-Feb-69	25-Sep-97	28.67	0	500
51_2564	1-Feb-69	24-Oct-01	32.75	0	500
51_5010	1-May-88	28-Oct-97	9.50	0	500
51_5010	1-May-88	28-Jul-00	12.25	0	500
55_5037	1-Sep-73	26-May-96	22.75	0	500
55_5040	1-Nov-80	29-Jan-91	10.25	0	500
55_5040	1-Nov-80	28-Dec-94	14.17	0	500
6_7455	1-May-71	24-Nov-91	20.58	0	500
6_7455	1-May-71	24-Mar-98	26.92	0	500
6_7455	1-May-71	22-Feb-99	27.83	0	500
6_7455	1-May-71	23-May-00	29.08	0	500
I80_EB_137.65			9.08	1.3	32419
I80_EB_137.65			17.08	4.2	32419
I80_EB_137.65			19.08	3.23	32419
I80_EB_137.65			21.08	10.7	32419
I80_EB_143.79			17.08	7.1	24288
I80_EB_143.79			19.08	15.5	24288
I80_EB_151.12			10.08	0.748	6389
I80_EB_152.33			18.08	6.4	10824
I80_EB_152.33			20.08	14.67	10824
I80_EB_152.33			27.08	33.33	10824
I80_WB_137.65			9.08	1.3	32419
I80_WB_137.65			17.08	6.45	32419
I80_WB_137.65			19.08	11.15	32419
I80_WB_137.65			21.08	23.7	32419
I80_WB_137.65			26.08	27	32419
I80_WB_143.79			17.08	11.34	24288
I80_WB_143.79			26.08	50.88	24288
I80_WB_148.39			9.08	2.26	7234
I80_WB_152.33			18.08	0	10824

Table FF.9. Summary of distress data for new CRCP (LTPP GPS-5 and engineering/design reports) model development and calibration.

Section ID	Construction Date	Survey Date	Age, yrs	No. of Punchouts/mile	Section Length, ft
I80_WB_152.33			20.08	5.28	10824
I80_WB_152.33			22.08	23.76	10824
I80_WB_152.33			27.08	60	10824
I94_edens_28.46			14.08	0	8712
I94_edens_28.46			22.08	1	8712
I94_edens_30.11			14.08	0	14731
I94_edens_30.11			22.08	1	14731
I94_edens_32.90			14.08	0	15154
I94_edens_32.90			22.08	1	15154
Vandalia1			1.58	0	4224
Vandalia1			5.58	0	4224
Vandalia1			10.58	0	4224
Vandalia1			15.58	0	4224
Vandalia1			20.58	0.6	4224
Vandalia3			15.58	28	3485
Vandalia3			20.58	29.6	3485
Vandalia4			15.58	0	3485
Vandalia4			20.58	2	3485
Vandalia5			1.58	0	4224
Vandalia5			5.58	0	4224
Vandalia5			10.58	0	4224
Vandalia5			15.58	0	4224
Vandalia5			20.58	1	4224
Vandalia7			1.08	0	3485
Vandalia7			5.08	0	3485
Vandalia7			10.08	0	3485
Vandalia7			15.08	0.3	3485
Vandalia7			20.08	3.4	3485
Vandalia8			1.08	0	3485
Vandalia8			5.08	0	3485
Vandalia8			10.08	0	3485
Vandalia8			15.08	0	3485
Vandalia8			20.08	7	3485

Table FF.10. Summary of distress data for rehabilitation with JPCP (LTPP GPS-9, SPS-6, and ACPA Diamond Grinding Study) model development and calibration.

SHRP_ID	Const. Date	Survey Date	Age, yrs	Avg. Joint Faulting, in		No of Corner Breaks			Pct Slabs with Corner Breaks	No of Transverse Cracks			Pct Slabs with Transverse Cracks
				Edge	Wheelpath	Low	Med.	High		Low	Med.	High	
1_0601	10-Apr-98	5-Feb-98	-0.18	0.15	0.17	0	0	0	0.0	0	0	0	0.0
1_0601	10-Apr-98	1-Jul-98	0.22	0.15	0.16	0	0	0	0.0	0	0	0	0.0
1_0601	10-Apr-98	30-Sep-99	1.47	0.16	0.17	0	0	0	0.0	1	0	0	4.0
1_0601	10-Apr-98	25-Sep-00	2.46	0.17	0.17	0	0	0	0.0	1	0	0	4.0
1_0602	10-Apr-98	5-Feb-98	-0.18	0.13	0.13	0	0	0	0.0	0	0	1	2.0
1_0602	10-Apr-98	1-Jul-98	0.22	0.00	0.00	0	0	0	0.0	0	0	0	0.0
1_0602	10-Apr-98	30-Sep-99	1.47	0.08	0.07	0	0	0	0.0	0	0	0	0.0
1_0602	10-Apr-98	25-Sep-00	2.46	0.05	0.05	0	0	0	0.0	0	0	0	0.0
1_0605	10-Apr-98	5-Feb-98	-0.18	0.17	0.17	0	0	1	2.0	0	2	1	6.0
1_0605	10-Apr-98	1-Jul-98	0.22	0.00	0.00	0	0	0	0.0	0	0	0	0.0
1_0605	10-Apr-98	30-Sep-99	1.47	0.04	0.04	0	0	0	0.0	0	0	0	0.0
1_0605	10-Apr-98	26-Sep-00	2.47	0.05	0.05	0	0	0	0.0	0	0	0	0.0
18_9020	1-Jan-87	25-Jul-94	7.57	0.01	0.01	0	0	0	0.0	1	0	0	3.1
18_9020	1-Jan-87	24-Mar-99	12.23	0.00	0.00	0	0	0	0.0	0	1	0	3.1
20_9037	1-Jan-78	12-May-94	16.37	0.12	0.11	0	0	0	0.0	12	2	0	42.0
27_9075	1-Jan-77	1-Jun-95	18.42	0.07	0.07	0	0	0	0.0	1	0	0	3.1
28_7012	1-Jul-85	15-Jul-93	8.04			0	0	0	0.0	0	0	0	0.0
28_7012	1-Jul-85	4-Feb-00	14.61	0.01	0.01	0	0	1	4.2	0	0	0	0.0
29_A601	3-Sep-88	18-Jun-98	9.79	-0.03	-0.03	0	0	0	0.0	0	9	2	66.0
29_A601	3-Sep-88	10-Feb-00	11.44	0.04	0.04	0	0	1	6.0	3	4	6	78.0
29_A602	3-Sep-88	18-Jun-98	9.79	-0.01	-0.01	0	0	0	0.0	0	7	0	21.0
29_A602	3-Sep-88	9-Feb-00	11.44	0.01	0.01	0	0	0	0.0	0	7	0	21.0
29_A605	3-Sep-88	15-Feb-00	11.46	0.01	0.00	0	0	0	0.0	0	3	0	9.0
31_6701	1-Oct-88	8-Nov-99	11.11	0.00	0.00	0	0	0	0.0	1	0	0	3.3
4_0601	24-Jul-90	26-Sep-91	1.18	0.04	0.00	0	5	0	15.0	6	9	5	60.0
4_0602	24-Jul-90	25-Sep-91	1.17	0.12		2	6	0	12.0	10	8	15	49.5
4_0605	24-Jul-90	12-Apr-91	0.72			9	9	7	37.5	2	0	0	3.0
4_0605	24-Jul-90	25-Sep-91	1.17	0.03		3	2	0	7.5	18	4	2	36.0
42_1627	1-Sep-88	31-Aug-95	7.00	0.00	0.00	0	0	0	0.0	0	0	0	0.0

Table FF.10. Summary of distress data for rehabilitation with JPCP (LTPP GPS-9, SPS-6, and ACPA Diamond Grinding Study) model development and calibration.

SHRP_ID	Const. Date	Survey Date	Age, yrs	Avg. Joint Faulting, in		No of Corner Breaks			Pct Slabs with Corner Breaks	No of Transverse Cracks			Pct Slabs with Transverse Cracks
				Edge	Wheelpath	Low	Med.	High		Low	Med.	High	
42_1627	1-Sep-88	25-Mar-98	9.57	0.02	0.01	0	0	0	0.0	0	0	0	0.0
42_1627	1-Sep-88	9-Aug-00	11.95	0.00	0.00	0	0	0	0.0	1	1	0	8.2
46_0601	29-Aug-92	8-Oct-92	0.11	0.20	0.19	0	1	2	12.0	5	0	0	20.0
46_0601	29-Aug-92	7-Jun-94	1.77	0.22	0.20	0	0	2	8.0	3	0	3	24.0
46_0601	29-Aug-92	9-Aug-95	2.95	0.20	0.20	1	0	3	16.0	2	0	2	16.0
46_0601	29-Aug-92	7-Aug-98	5.94	0.21	0.18	0	1	4	20.0	1	1	2	16.0
46_0602	29-Aug-92	8-Oct-92	0.11	0.01	0.01	6	0	0	12.0	0	1	0	2.0
46_0602	29-Aug-92	10-Aug-95	2.95	0.05	0.05	1	1	3	10.0	3	1	0	8.0
46_0602	29-Aug-92	6-Aug-98	5.94	0.10	0.08	0	1	5	12.0	7	0	1	16.0
46_0605	29-Aug-92	8-Oct-92	0.11	0.01	0.02	3	2	1	12.0	0	0	0	0.0
46_0605	29-Aug-92	9-Aug-95	2.95	0.02	0.02	0	1	1	4.0	2	0	0	4.0
46_0605	29-Aug-92	6-Aug-98	5.94	0.05	0.05	0	1	3	8.0	2	0	2	8.0
47_0601	30-Apr-96	11-Mar-96	-0.14	0.12	0.15	0	0	0	0.0	0	0	1	5.0
47_0601	30-Apr-96	28-Oct-96	0.50	0.11	0.12	0	0	0	0.0	0	0	0	0.0
47_0601	30-Apr-96	14-Jun-99	3.12	0.14	0.15	0	0	0	0.0	0	0	0	0.0
47_0601	30-Apr-96	12-Jun-00	4.12	0.15	0.15	1	0	0	5.0	0	0	0	0.0
47_0602	30-Apr-96	11-Mar-96	-0.14	0.12	0.14	0	0	0	0.0	0	0	0	0.0
47_0602	30-Apr-96	29-Oct-96	0.50	0.06	0.02	0	0	0	0.0	0	1	0	2.5
47_0602	30-Apr-96	14-Jun-99	3.12	0.09	0.06	0	0	0	0.0	0	0	0	0.0
47_0602	30-Apr-96	11-Jun-00	4.12	0.10	0.07	0	0	0	0.0	0	0	0	0.0
47_0605	30-Apr-96	12-Mar-96	-0.13	0.11	0.12	0	0	0	0.0	0	0	0	0.0
47_0605	30-Apr-96	29-Oct-96	0.50	0.04	0.02	0	0	0	0.0	0	0	0	0.0
47_0605	30-Apr-96	14-Jun-99	3.12	0.10	0.08	0	0	1	2.5	0	3	0	7.5
47_0605	30-Apr-96	11-Jun-00	4.12	0.07	0.04	0	0	0	0.0	0	0	0	0.0
48_9167	15-Jun-88	16-Jul-91	3.08	0.00		0	0	0	0.0	0	0	0	0.0
48_9167	15-Jun-88	6-Aug-93	5.15	0.01	0.01	0	0	0	0.0	0	0	0	0.0
48_9167	15-Jun-88	30-Jun-95	7.04	0.00	0.00	0	0	0	0.0	0	0	0	0.0
48_9167	15-Jun-88	1-Jun-98	9.97	0.00	0.01	0	0	0	0.0	0	0	0	0.0
48_9167	15-Jun-88	24-Jan-01	12.62	0.02	0.02	0	0	0	0.0	0	0	0	0.0
48_9355	1-Mar-90	15-Jul-91	1.37	0.00	0.00	0	0	0	0.0	0	0	0	0.0

Table FF.10. Summary of distress data for rehabilitation with JPCP (LTPP GPS-9, SPS-6, and ACPA Diamond Grinding Study) model development and calibration.

SHRP_ID	Const. Date	Survey Date	Age, yrs	Avg. Joint Faulting, in		No of Corner Breaks			Pct Slabs with Corner Breaks	No of Transverse Cracks			Pct Slabs with Transverse Cracks
				Edge	Wheelpath	Low	Med.	High		Low	Med.	High	
48_9355	1-Mar-90	9-Aug-93	3.44	0.00	0.01	0	0	0	0.0	0	0	0	0.0
48_9355	1-Mar-90	28-Jun-95	5.33	0.00	0.00	0	0	0	0.0	0	0	0	0.0
48_9355	1-Mar-90	17-Apr-98	8.13	0.00	0.00	0	0	0	0.0	0	0	0	0.0
6_0601	12-May-92												
6_0602	12-May-92	5-May-92	-0.02			0	0	0	0.0	3	8	7	55.8
6_0602	12-May-92	9-Oct-92	0.41			0	0	0	0.0	18	0	19	114.7
6_0602	12-May-92	18-Jun-96	4.10	0.04	0.06	1	0	0	3.1	11	10	17	117.8
6_0602	12-May-92	20-Apr-98	5.94	0.02	0.04	2	1	0	9.3	8	28	1	114.7
6_0602	12-May-92	28-Jul-99	7.21	0.04	0.03	0	1	2	9.3	7	8	15	93.0
6_0602	12-May-92	16-Aug-00	8.27	0.03	0.04	4	1	1	18.6	20	5	10	108.5
6_0605	12-May-92	8-Oct-92	0.41	0.01	0.01	0	0	0	0.0	3	0	0	9.3
6_0605	12-May-92	18-Jun-96	4.10	0.04	0.04	1	0	1	6.2	4	2	16	68.2
6_0605	12-May-92	28-Jul-99	7.21	0.06	0.07	0	1	1	6.2	13	3	17	102.3
6_0605	12-May-92	16-Aug-00	8.27	0.03	0.02	0	4	0	12.4	3	0	20	71.3
6_9048	7-Oct-70	22-Nov-91	21.14	0.07	0.04	1	0	0	3.1	0	0	0	0.0
6_9048	7-Oct-70	29-Jan-97	26.33	0.13	0.08	0	4	1	15.5	4	1	0	15.5
6_9048	7-Oct-70	22-Jan-99	28.31	0.10	0.07	0	4	1	15.5	1	10	1	37.2
6_9049	1-Jun-68	18-Dec-91	23.56	0.00	0.00	6	2	10	55.8	2	0	2	12.4
6_9049	1-Jun-68	3-Nov-98	30.44	0.02	0.01	2	8	2	37.2	4	5	4	40.3
6_9107	1-Oct-88	9-Jul-92	3.77	0.02	0.01	0	0	0	0.0	0	0	0	0.0
6_9107	1-Oct-88	4-Sep-97	8.93			0	0	0	0.0	0	0	0	0.0
8_9019	1-Feb-86	14-Aug-98	12.54	0.09	0.07	0	0	2	5.2	0	0	0	0.0
8_9020	1-Oct-86	24-Aug-98	11.90	0.10	0.08	0	1	0	4.0	0	1	0	4.0
89_9018	1-Aug-87	12-Jun-95	7.87	0.10	0.11	0	1	0	3.3	0	0	0	0.0
89_9018	1-Aug-87	14-May-98	10.79	0.14	0.15	0	2	0	6.5	0	0	0	0.0
AL-IH-20E-183.0	1986	1997	11		0.13								83
AL-IH-59N-235.5	1983	1997	14		0.03								4
CA-IH-8E-43.4	1997	1997	1		0.03								2

Table FF.10. Summary of distress data for rehabilitation with JPCP (LTPP GPS-9, SPS-6, and ACPA Diamond Grinding Study) model development and calibration.

SHRP_ID	Const. Date	Survey Date	Age, yrs	Avg. Joint Faulting, in		No of Corner Breaks			Pct Slabs with Corner Breaks	No of Transverse Cracks			Pct Slabs with Transverse Cracks
				Edge	Wheelpath	Low	Med.	High		Low	Med.	High	
FL-IH-10E-214.7	1992	1997	5		0.08								11
GA-IH-16W-59.9	1997	1997	1		0.01								0
IA-IH-80W-87.7	1984	1997	13		0.01								0
NE-IH-80W-420.1	1989	1997	8		0.06								3
SD-IH-29S-174.0	1990	1997	7		0.03								2
WI-IH-43N-2.7	1994	1997	3		0.03								0

Table FF.11. Summary of distress data for rehabilitation with JPCP (LTPP GPS-9 and NCHRP 10-41) model development and calibration.

SHRP_ID	Const. Date	Survey Date	Age, yrs	No. of Punchouts			No. of Punchouts/mile
				Low	Med.	High	
13_4118	1-Jun-71	8-Apr-91	19.87	0	0	0	0
13_4118	1-Jun-71	26-Oct-94	23.42	0	0	0	0
13_4118	1-Jun-71	13-May-97	25.97	0	0	0	0
13_4118	1-Jun-71	16-Mar-99	27.81	0	0	0	0
19_0701	29-Sep-92	23-Aug-93	0.90	0	0	0	0
19_0701	29-Sep-92	6-Apr-99	6.52	4	0	0	42
19_0702	29-Sep-92	26-Aug-92	-0.09	0	0	0	0
19_0702	29-Sep-92	24-Aug-93	0.90	0	0	0	0
19_0702	29-Sep-92	6-Apr-99	6.52	0	0	0	0
19_0703	29-Sep-92	26-Aug-92	-0.09	0	0	0	0
19_0703	29-Sep-92	24-Aug-93	0.90	0	0	0	0
19_0703	29-Sep-92	6-Apr-99	6.52	1	0	0	11
19_0704	29-Sep-92	8-Jul-92	-0.23	0	0	0	0
19_0704	29-Sep-92	26-Aug-92	-0.09	0	0	0	0
19_0704	29-Sep-92	26-Aug-93	0.91	0	0	0	0
19_0704	29-Sep-92	9-Apr-99	6.53	0	0	0	0
19_0705	29-Sep-92	8-Jul-92	-0.23	0	0	0	0
19_0705	29-Sep-92	26-Aug-92	-0.09	0	0	0	0
19_0705	29-Sep-92	26-Aug-93	0.91	0	0	0	0
19_0705	29-Sep-92	9-Apr-99	6.53	0	0	0	0
19_0706	29-Sep-92	8-Jul-92	-0.23	0	0	0	0
19_0706	29-Sep-92	26-Aug-92	-0.09	0	0	0	0
19_0706	29-Sep-92	26-Aug-93	0.91	0	0	0	0
19_0706	29-Sep-92	8-Apr-99	6.53	0	0	0	0
19_0707	29-Sep-92	8-Jul-92	-0.23	0	0	0	0
19_0707	29-Sep-92	26-Aug-92	-0.09	0	0	0	0
19_0707	29-Sep-92	25-Aug-93	0.90	0	0	0	0
19_0707	29-Sep-92	8-Apr-99	6.53	0	0	0	0
19_0708	29-Sep-92	26-Aug-92	-0.09	0	0	0	0
19_0708	29-Sep-92	25-Aug-93	0.90	0	0	0	0
19_0708	29-Sep-92	7-Apr-99	6.52	0	0	0	0
19_0709	29-Sep-92	26-Aug-92	-0.09	0	0	0	0
19_0709	29-Sep-92	24-Aug-93	0.90	0	0	0	0
19_0709	29-Sep-92	7-Apr-99	6.52	0	0	0	0
22_0702	6-May-92	2-Apr-92	-0.09	2	2	0	42
22_0702	6-May-92	8-Dec-92	0.59	0	0	0	0
22_0702	6-May-92	12-Jul-94	2.18	0	0	0	0
22_0702	6-May-92	18-Mar-97	4.87	0	0	0	0
22_0703	6-May-92	2-Apr-92	-0.09	0	0	0	0
22_0703	6-May-92	8-Dec-92	0.59	0	0	0	0
22_0703	6-May-92	12-Jul-94	2.18	0	0	0	0
22_0703	6-May-92	18-Mar-97	4.87	0	0	0	0
22_0704	6-May-92	2-Apr-92	-0.09	0	0	0	0

Table FF.11. Summary of distress data for rehabilitation with JPCP (LTPP GPS-9 and NCHRP 10-41) model development and calibration.

SHRP_ID	Const. Date	Survey Date	Age, yrs	No. of Punchouts			No. of Punchouts/mile
				Low	Med.	High	
22_0704	6-May-92	8-Dec-92	0.59	0	0	0	0
22_0704	6-May-92	12-Jul-94	2.18	0	0	0	0
22_0704	6-May-92	18-Mar-97	4.87	0	0	0	0
22_0705	6-May-92	3-Apr-92	-0.09	0	0	0	0
22_0705	6-May-92	8-Dec-92	0.59	0	0	0	0
22_0705	6-May-92	12-Jul-94	2.18	0	0	0	0
22_0705	6-May-92	18-Mar-97	4.87	0	0	0	0
22_0706	6-May-92	3-Apr-92	-0.09	0	0	0	0
22_0706	6-May-92	9-Dec-92	0.59	0	0	0	0
22_0706	6-May-92	12-Jul-94	2.18	0	3	0	32
22_0706	6-May-92	19-Mar-97	4.87	0	0	0	0
22_0707	6-May-92	3-Apr-92	-0.09	0	0	0	0
22_0707	6-May-92	9-Dec-92	0.59	0	0	0	0
22_0707	6-May-92	12-Jul-94	2.18	0	3	0	32
22_0707	6-May-92	19-Mar-97	4.87	0	0	0	0
22_0708	6-May-92	3-Apr-92	-0.09	0	0	0	0
22_0708	6-May-92	9-Dec-92	0.59	0	0	0	0
22_0708	6-May-92	12-Jul-94	2.18	0	0	0	0
22_0708	6-May-92	19-Mar-97	4.87	0	0	0	0
22_0709	6-May-92	2-Apr-92	-0.09	0			!
22_0709	6-May-92	9-Dec-92	0.59	0	0	0	0
22_0709	6-May-92	12-Jul-94	2.18	0	0	0	0
22_0709	6-May-92	19-Mar-97	4.87	0	0	0	0
27_0701	21-Oct-90	2-Jun-92	1.62	0	0	0	0
27_0701	21-Oct-90	16-Aug-93	2.82	0	0	0	0
27_0701	21-Oct-90	10-Jul-95	4.72	0	1	1	21
27_0701	21-Oct-90	30-Oct-98	8.03	0	0	0	0
27_0702	21-Oct-90	2-Jun-92	1.62	0	0	0	0
27_0702	21-Oct-90	17-Aug-93	2.82	0	0	0	0
27_0702	21-Oct-90	11-Jul-95	4.72	0	0	0	0
27_0702	21-Oct-90	28-Oct-98	8.02	0	0	0	0
27_0703	21-Oct-90	3-Jun-92	1.62	0	0	0	0
27_0703	21-Oct-90	17-Aug-93	2.82	0	0	0	0
27_0703	21-Oct-90	11-Jul-95	4.72	0	0	0	0
27_0703	21-Oct-90	28-Oct-98	8.02	0	0	0	0
27_0704	21-Oct-90	4-Jun-92	1.62	0	0	0	0
27_0704	21-Oct-90	17-Aug-93	2.82	0	0	0	0
27_0704	21-Oct-90	11-Jul-95	4.72	0	0	0	0
27_0704	21-Oct-90	29-Oct-98	8.03	0	0	0	0
27_0705	21-Oct-90	4-Jun-92	1.62	0	0	0	0
27_0705	21-Oct-90	18-Aug-93	2.83	0	0	0	0
27_0705	21-Oct-90	12-Jul-95	4.73	0	0	0	0
27_0706	21-Oct-90	4-Jun-92	1.62	0	0	0	0
27_0706	21-Oct-90	18-Aug-93	2.83	0	0	0	0

Table FF.11. Summary of distress data for rehabilitation with JPCP (LTPP GPS-9 and NCHRP 10-41) model development and calibration.

SHRP_ID	Const. Date	Survey Date	Age, yrs	No. of Punchouts			No. of Punchouts/mile
				Low	Med.	High	
27_0706	21-Oct-90	12-Jul-95	4.73	0	0	0	0
27_0707	21-Oct-90	4-Jun-92	1.62	0	0	0	0
27_0707	21-Oct-90	18-Aug-93	2.83	0	0	0	0
27_0707	21-Oct-90	12-Jul-95	4.73	1	0	0	11
27_0708	21-Oct-90	2-Jun-92	1.62	0	0	0	0
27_0708	21-Oct-90	19-Aug-93	2.83	0	0	0	0
27_0708	21-Oct-90	13-Jul-95	4.73	0	0	1	11
27_0709	21-Oct-90	19-Aug-93	2.83	0	0	0	0
27_0709	21-Oct-90	13-Jul-95	4.73	0	0	0	0
40_4155	1-Jun-89	10-Oct-91	2.36	0	0	0	0
40_4155	1-Jun-89	4-Nov-92	3.43	0	0	0	0
40_4155	1-Jun-89	1-Nov-94	5.42	0	0	0	0
40_4155	1-Jun-89	21-May-97	7.98	0	0	0	0
40_4155	1-Jun-89	28-Sep-99	10.33	0	0	0	0
48_3569	1-Feb-89	26-Jun-91	2.40	0	0	0	0
48_3569	1-Feb-89	26-Jun-91	2.40	0	0	0	0
48_3569	1-Feb-89	13-Aug-93	4.53	0	0	0	0
48_3569	1-Feb-89	13-Aug-93	4.53	0	0	0	0
48_3569	1-Feb-89	21-Jul-95	6.47	0	0	0	0
48_3569	1-Feb-89	21-Jul-95	6.47	0	0	0	0
48_3569	1-Feb-89	16-Jul-97	8.46	0	0	0	0
48_3569	1-Feb-89	16-Jul-97	8.46	0	0	0	0
48_3569	1-Feb-89	24-May-99	10.31	0	0	0	0
48_3569	1-Feb-89	24-May-99	10.31	0	0	0	0
48_3845	1-Aug-90	20-Jun-91	0.88	0	0	0	0
48_3845	1-Aug-90	20-Jun-91	0.88	0	0	0	0
48_3845	1-Aug-90	5-Aug-93	3.01	0	0	0	0
48_3845	1-Aug-90	5-Aug-93	3.01	0	0	0	0
48_3845	1-Aug-90	14-Apr-98	7.71	0	0	0	0
48_3845	1-Aug-90	14-Apr-98	7.71	0	0	0	0
48_3845	1-Aug-90	22-Jan-01	10.48	0	0	0	0
48_3845	1-Aug-90	22-Jan-01	10.48	0	0	0	0
GA-1	15-Jun-75	10-Jun-93	18				3
GA-4	15-Jun-72	11-Jun-90	18				37
GA-5	15-Jun-75	10-Jun-93	18				20
IL_3_6_07*	16-Jun-67	11-Jun-86	19				39
IL_3_6_10*	16-Jun-67	11-Jun-86	19				26
IL_3_7_07*	16-Jun-67	11-Jun-86	19				3
IL_3_7_10*	16-Jun-67	11-Jun-86	19				12
IL_3_8_06*	16-Jun-67	11-Jun-86	19				0
PA-5*	16-Jun-76	12-Jun-93	17				66
WI-1*	16-Jun-80	13-Jun-93	13				90

*Estimated for the number of failures and patching.

Table FF.12. Summary of EICM input data for new JPCP model development and calibration (LTPP GPS-3, SPS-2, and FHWA RPPR).

SHRP_ID	Longitude, deg	Latitude, deg	Elevation, ft	Depth to Water Table, ft
1_3028	86.65	33.61	810	10
12_3804	82.33	28.01	26	10
12_3811	84.49	30.52	194	10
12_4000	81.24	29.08	45	10
12_4057	82.33	27.93	34	10
12_4059	80.87	28.92	14	10
12_4109	80.87	28.91	14	10
12_4138	81.18	29.12	41	10
16_3017	113.05	42.64	4254	40
16_3023	116.76	43.84	2503	40
18_3002	87.38	40.60	831	10
18_3003	86.27	41.27	810	10
18_3031	87.85	37.94	380	10
19_3006	90.47	41.81	686	10
20_0201	97.09	38.97	1194	10
20_0202	97.09	38.97	1194	10
20_0203	97.09	38.97	1194	10
20_0204	97.09	38.97	1194	10
20_0205	97.09	38.97	1194	10
20_0206	97.09	38.97	1194	10
20_0207	97.09	38.97	1194	10
20_0208	97.09	38.97	1194	10
20_0209	97.09	38.97	1194	10
20_0210	97.09	38.97	1194	10
20_0211	97.09	38.97	1194	10
20_0212	97.09	38.97	1194	10
20_3015	100.86	38.00	2879	40
21_3016	85.71	37.85	460	10
26_0213	83.70	41.75	677	10
26_0214	83.70	41.75	677	10
26_0215	83.70	41.75	677	10
26_0216	83.70	41.75	677	10
26_0217	83.70	41.75	677	10
26_0218	83.70	41.75	677	10
26_0219	83.70	41.75	677	10
26_0220	83.70	41.75	677	10
26_0221	83.70	41.75	677	10
26_0222	83.70	41.75	677	10
26_0223	83.70	41.75	677	10
26_0224	83.70	41.75	677	10
26_3068	84.87	43.87	944	10
26_3069	84.87	43.87	935	10
27_3003	94.41	44.41	1066	10

Table FF.12. Summary of EICM input data for new JPCP model development and calibration (LTPP GPS-3, SPS-2, and FHWA RPPR).

SHRP_ID	Longitude, deg	Latitude, deg	Elevation, ft	Depth to Water Table, ft
27_3013	93.39	45.12	860	10
28_3018	88.18	34.78	595	10
28_3019	88.13	34.77	531	10
31_3018	99.05	40.67	2134	10
31_3024	98.10	40.82	1807	10
32_0201	117.04	40.72	4550	40
32_0202	117.04	40.72	4550	40
32_0203	117.04	40.72	4550	40
32_0204	117.04	40.72	4550	40
32_0205	117.04	40.72	4550	40
32_0206	117.04	40.72	4550	40
32_0207	117.04	40.72	4550	40
32_0208	117.04	40.72	4550	40
32_0209	117.04	40.72	4550	40
32_0210	117.04	40.72	4550	40
32_0211	117.04	40.72	4550	40
32_3010	115.02	41.11	5813	40
32_3013	114.18	40.82	4692	40
32_7084	115.24	35.87	2710	40
37_0201	80.27	35.87	741	10
37_0202	80.27	35.87	741	10
37_0203	80.27	35.87	741	10
37_0204	80.27	35.87	741	10
37_0205	80.27	35.87	741	10
37_0206	80.27	35.87	741	10
37_0207	80.27	35.87	741	10
37_0208	80.27	35.87	741	10
37_0209	80.27	35.87	741	10
37_0210	80.27	35.87	741	10
37_0211	80.27	35.87	741	10
37_0212	80.27	35.87	741	10
37_3008	81.35	35.25	965	10
37_3011	77.96	35.87	165	10
37_3044	78.82	36.04	335	10
37_3807	80.23	35.99	780	10
37_3816	78.86	35.94	350	10
39_3013	83.89	38.88	960	10
39_3801	80.75	40.00	655	10
4_0213	112.74	33.45	1100	40
4_0214	112.74	33.45	1100	40
4_0215	112.74	33.45	1100	40
4_0216	112.74	33.45	1100	40
4_0217	112.74	33.45	1100	40
4_0218	112.74	33.45	1100	40

Table FF.12. Summary of EICM input data for new JPCP model development and calibration (LTPP GPS-3, SPS-2, and FHWA RPPR).

SHRP_ID	Longitude, deg	Latitude, deg	Elevation, ft	Depth to Water Table, ft
4_0219	112.74	33.45	1100	40
4_0220	112.74	33.45	1100	40
4_0221	112.74	33.45	1100	40
4_0222	112.74	33.45	1100	40
4_0223	112.74	33.45	1100	40
4_0224	112.74	33.45	1100	40
4_7613	111.84	33.39	1190	40
4_7614	112.33	33.46	990	40
40_3018	97.45	35.39	1294	10
40_4160	96.68	34.75	968	10
40_4162	98.48	34.63	1193	10
46_3012	103.44	44.33	3640	10
5_3011	91.54	35.33	223	10
53_0201	118.42	47.06	1631	40
53_0202	118.42	47.06	1631	40
53_0203	118.42	47.06	1631	40
53_0204	118.42	47.06	1631	40
53_0205	118.42	47.06	1631	40
53_0206	118.42	47.06	1631	40
53_0207	118.42	47.06	1631	40
53_0208	118.42	47.06	1631	40
53_0209	118.42	47.06	1631	40
53_0210	118.42	47.06	1631	40
53_0211	118.42	47.06	1631	40
53_0212	118.42	47.06	1631	40
53_3011	122.55	48.82	149	10
53_3013	117.41	47.59	2356	40
53_3014	119.09	46.30	432	40
53_3019	119.20	46.13	390	40
53_3813	122.46	45.58	440	10
53_7409	120.33	46.42	1166	40
55_3008	87.91	43.41	803	10
55_3009	87.86	43.75	750	10
55_3010	87.80	43.75	690	10
55_3015	89.47	43.71	827	10
55_3016	89.51	44.01	1000	10
55_6351	90.01	42.99	1195	10
55_6352	89.85	43.01	1238	10
55_6353	89.98	43.00	1147	10
55_6354	89.94	43.01	1192	10
55_6355	89.82	43.01	1244	10
6_3005	122.36	41.36	4034	10
6_3021	116.46	32.72	3260	40
6_3030	122.22	40.17	1217	10

Table FF.12. Summary of EICM input data for new JPCP model development and calibration (LTPP GPS-3, SPS-2, and FHWA RPPR).

SHRP_ID	Longitude, deg	Latitude, deg	Elevation, ft	Depth to Water Table, ft
6_3042	121.44	38.24	11	40
8_0213	104.79	39.97	5077	40
8_0214	104.79	39.97	5077	40
8_0215	104.79	39.97	5077	40
8_0216	104.79	39.97	5077	40
8_0217	104.79	39.97	5077	40
8_0218	104.79	39.97	5077	40
8_0219	104.79	39.97	5077	40
8_0220	104.79	39.97	5077	40
8_0221	104.79	39.97	5077	40
8_0222	104.79	39.97	5077	40
8_0223	104.79	39.97	5077	40
8_0224	104.79	39.97	5077	40
8_3032	107.68	39.53	5345	40
83_3802	97.14	49.63	773	10
89_3015	72.35	46.47	104	10
AZ1	112.01	33.26	1110	40
AZ2	112.01	33.26	1110	40
CA1	121.25	37.42	140	40
CA10	123.16	39.08	1900	10
CA11	121.3	38.31	18	40
CA2	118.23	33.56	100	40
CA3	122.52	38.37	100	10
CA6	118.32	34.29	1455	40
CA7	121.3	38.31	18	40
CA8	118.53	34.05	1600	40
CA9	121.54	37.21	67	40
FL2	80.5	25.45	15	10
FL3	80.5	25.45	15	10
FL4	81.52	26.35	15	10
GA1	84.47	33.26	920	10
GA2	85.01	33.03	715	10
MI1	84.48	44.02	1156	10
MI6	83.01	42.25	625	10
MN2	93.25	43.37	1230	10
MN4	94.27	44.18	860	10
MN7	93.05	44.58	915	10
NC1	77.53	35.54	130	10
NC2	79.57	36.05	886	10
NY1	73.48	42.15	60	10
NY2	75.24	42.23	1030	10
OH2	82.13	41.16	816	10
ONT1	82.41	42.03	650	10
ONT2	79.38	43.4	568	10

Table FF.12. Summary of EICM input data for new JPCP model development and calibration (LTPP GPS-3, SPS-2, and FHWA RPPR).

SHRP_ID	Longitude, deg	Latitude, deg	Elevation, ft	Depth to Water Table, ft
WI1	89.13	42.55	840	10
WI2	89.48	42.58	940	10
WI3	89.28	43.03	910	10
WI4	88.14	43.01	860	10
WI5	88.16	42.4	760	10
WI6	88.08	44.29	682	10
WI7	90.07	42.58	1110	10
WV1	81.36	38.22	1015	10

Table FF.13. Summary of EICM input data for new CRCP (LTPP GPS-5 and engineering/design reports) model development and calibration.

Section ID	Longitude, deg	Latitude, deg	Elevation, ft	Depth to Water Table, ft
1_5008	85.39	33.66	1023	10
16_5025	112.21	42.38	4979	40
17_5020	89.51	38.62	459	10
17_5843	89.02	42.04	780	10
17_5849	88.13	40.39	765	10
17_5854	89.66	40.79	693	10
17_5869	89.67	40.77	669	10
17_5908	89.05	37.75	465	10
17_9267	90.34	41.51	592	10
18_5022	86.07	39.63	836	10
18_5043	87.66	38.03	446	10
18_5518	86.85	40.48	543	10
19_5042	93.54	42.59	1183	10
19_9116	93.35	43.48	1268	10
28_3099	89.41	32.33	468	10
28_5006	88.81	34.33	329	10
28_5025	90.44	31.55	420	10
28_5803	89.44	34.74	530	10
28_5805	89.06	30.44	30	10
29_5047	90.59	38.67	461	10
31_5052	96.07	41.30	1188	10
37_5037	82.47	35.58	2110	10
37_5827	79.62	36.38	630	10
38_5002	96.83	46.69	915	10
39_5003	82.15	41.31	753	10
39_5010	80.64	40.98	1160	10
4_7079	112.25	33.60	1151	40
40_4158	95.94	36.62	731	10
40_4166	95.71	35.04	621	10
40_5021	95.38	36.17	634	10
41_5005	123.06	44.62	240	10
41_5006	118.03	45.28	2713	40

Table FF.13. Summary of EICM input data for new CRCP (LTPP GPS-5 and engineering/design reports) model development and calibration.

Section ID	Longitude, deg	Latitude, deg	Elevation, ft	Depth to Water Table, ft
41_5008	118.05	45.31	2729	40
41_5021	123.01	43.90	559	10
41_5022	123.01	43.96	521	10
41_7081	119.38	45.82	585	40
42_5020	75.31	40.09	130	10
45_5017	80.96	34.15	396	10
45_5034	80.04	34.21	178	10
45_5035	79.87	34.20	140	10
46_5020	103.79	44.48	3932	40
46_5025	101.94	43.86	2588	40
48_3779	106.44	31.79	3778	40
48_5024	96.58	29.73	210	10
48_5026	95.47	29.04	18	10
48_5154	97.21	29.69	355	10
48_5278	102.21	31.92	2868	40
48_5328	97.97	33.59	1033	10
48_5334	100.21	35.23	2302	10
48_5336	101.87	34.97	3551	10
5_5803	92.32	34.75	383	10
5_5805	92.41	34.69	305	10
51_2564	76.38	36.78	22	10
51_5010	77.30	37.48	155	10
55_5037	91.70	45.34	1064	10
55_5040	87.77	43.84	690	10
6_7455	121.28	37.88	52	40
I80_EB_137.65	87.8	41.5	706	10
I80_EB_143.79	87.8	41.5	706	10
I80_EB_151.12	87.8	41.5	706	10
I80_EB_152.33	87.8	41.5	706	10
I80_WB_137.65	87.8	41.5	706	10
I80_WB_143.79	87.8	41.5	706	10
I80_WB_148.39	87.8	41.5	706	10
I80_WB_152.33	87.8	41.5	706	10
I94_edens_28.46	87.8	41.5	706	10
I94_edens_30.11	87.8	41.5	706	10
I94_edens_32.90	87.8	41.5	706	10
Vandalia1	88.17	39.29	702	10
Vandalia3	88.17	39.29	702	10
Vandalia4	88.17	39.29	702	10
Vandalia5	88.17	39.29	702	10
Vandalia7	88.17	39.29	702	10
Vandalia8	88.17	39.29	702	10

Table FF.14. Summary of EICM input data for rehabilitation with PCC (LTPP SPS-6, SPS-7, GPS-9, ACPA Diamond Grinding Study, and NCHRP 10-41) model development and calibration.

SHRP_ID	Elevation, ft	Longitude (deg)	Latitude (deg)	Depth to Water Table, ft
4_0601	6900	111.56	35.22	10
4_0602	6900	111.56	35.22	10
4_0605	6900	111.56	35.22	10
6_0602	1230	122.15	41.02	10
6_0605	1230	122.15	41.02	10
18_0601	893	86.25	41.18	10
18_0602	893	86.25	41.18	10
18_0605	893	86.25	41.18	10
46_0601	1317	98.11	45.46	10
46_0602	1317	98.11	45.46	10
46_0605	1317	98.11	45.46	10
47_0601	575	88.67	35.70	10
47_0602	575	88.67	35.70	10
47_0605	575	88.67	35.70	10
1_0601	1335	85.96	34.18	10
1_0602	1335	85.96	34.18	10
1_0605	1335	85.96	34.18	10
5_A601	300	92.20	34.43	10
5_A602	300	92.20	34.43	10
5_A605	300	92.20	34.43	10
29_A601	1071	94.01	40.20	10
29_A602	1071	94.01	40.20	10
29_A605	1071	94.01	40.20	10
42_1627	1300	78.41	41.04	10
48_3569	523	95.75	33.13	10
48_3845	762	97.17	33.57	10
13_4118	750	83.88	33.01	10
40_4155	734	95.94	36.62	10
39_5569	719	82.08	39.34	10
27_6300	1685	95.78	43.64	10
31_6701	1871	98.38	40.94	10
28_7012	156	90.70	32.36	10
39_9006	1008	83.89	39.50	10
89_9018	52	72.48	46.32	10
8_9019	4970	104.98	40.22	40
18_9020	860	85.55	40.59	10
8_9020	4550	104.99	40.39	40
39_9022	841	82.90	40.05	10
42_9027	535	75.92	40.57	10
26_9029	810	85.01	42.88	10
26_9030	678	83.66	41.92	10
28_9030	265	90.76	32.35	10
20_9037	850	95.71	39.09	10
6_9048	2510	116.70	32.84	40

Table FF.14. Summary of EICM input data for rehabilitation with PCC (LTPP SPS-6, SPS-7, GPS-9, ACPA Diamond Grinding Study, and NCHRP 10-41) model development and calibration.

SHRP_ID	Elevation, ft	Longitude (deg)	Latitude (deg)	Depth to Water Table, ft
6_9049	13	121.56	38.58	40
27_9075	1090	95.04	44.84	10
6_9107	5641	120.55	39.31	10
48_9167	356	96.37	31.90	10
48_9355	635	96.83	32.48	10
GA-1	1001	84.00	34.00	10
GA-4	704	84.00	33.00	10
GA-5	1004	84.00	34.00	10
IL- 3	436	90.00	39.00	10
PA-5	540	80.00	42.00	10
WI-1	920	91.00	44.00	10
AL-IH-20E-183.0	500	85.6	34	10
AL-IH-59N-235.5	500	85.6	35	10
CA-IH-8E-43.4	3260	116.5	33	40
FL-IH-10E-214.7	194	84.5	30	10
GA-IH-16W-59.9	215	82.3	33	10
IA-IH-80W-87.7	1115	91.75	42	10
NE-IH-80W-420.1	2134	91.05	41	10
SD-IH-29S-174.0	1800	97	45	10
WI-IH-43N-2.7	803	87	42	10

5.0 TRAFFIC

Traffic data is one of the key data elements required for the model development and calibration. The following is a list of data required for traffic characterization:

- Traffic Volume
    - Base and subsequent years traffic volumes.
    - Truck-traffic directional and lane distribution factors.
- Traffic volume adjustment factors.
    - Monthly adjustment.
    - Vehicle class distribution.
    - Hourly truck distribution.
    - Traffic growth factors.
- Axle load distribution factors.
- General traffic inputs.
    - Number axles/trucks.
    - Wheel base.
    - Vehicle (truck) operational speed.
    - Axle and wheel base configurations.
    - Tire characteristics and inflation pressure.
    - Truck lateral distribution factor.

Existng traffic data was obtained in many forms. Transformation of the data for use in model development and calibration was based on the type and nature of existing data (e.g., axle counts vs. ESALs). The procedure for converting the existing data into the useable form required by the 2002 guide procedure is summarized in the following sections.

Case I—Availability of Axle Counts for Each Axle Type and Axle Load Category Considered by the 2002 Design Procedure

Only the LTPP database had information on axle counts for each load category for a given axle type (e.g., load category 4,000 to 5,000 lbs for the single axle). The data was collected from weigh-in-motion (WIM) sites as part of the LTPP data collection program. The collected raw data was used directly compute the following:

- The base axle count volume and growth rate of the total number of single, tandem, tridem, and quad axle applied over pavement life (in some cases this involved using linear or non linear models to interpolate, extrapolate, and project past or future traffic volumes).
- Axle load distribution for each axle type.

The computed data was used to directly develop traffic input files (e.g., singleaxleload.csv) for used in model development and calibration. Note that the traffic input files contain the mean number of axles applied per day for each month throughout the entire pavement life. Since the LTPP data reported only annual counts, the projected or actual annual counts were divided by 365 to obtain the mean daily number of axles applied.

Axle load distribution was computed for all the years with data and averaged for use in model development. The average values were assumed to be constant throughout the pavement life.

Case II—Availability of Annual Daily Traffic (ADT) or Average Annual Daily Traffic (AADT)

Traffic data from the NCHRP 10-41 and engineering/design reports were generally in the form of ADT or AADT for the entire highway. This was true for test sections from the LTPP database without WIM data. ADT and AADT were transformed for use in model development as follows:

1. Determine percentage of total traffic due to trucks—percent trucks were used. In rare cases were it was not available a percentage ranging from 10 to 35 was assumed.
2. Determine average annual daily truck traffic (AADTT)—this was done by multiplying the ADT or AADT with percent trucks obtained in step 1.
3. Determine the lane/directional distribution of AADTT—site specific values were applied when available, otherwise default values in the 2002 Design Guide software was applied. The defaults are presented as Part 2, Chapter 4 of the Design Guide. The AADTT determined in step 2 was multiplied by the directional distribution factor and the lane distribution factor to obtain the AADTT for the monitored test section (design) lane.
4. Determine truck class distribution factor—site specific values were applied when available, otherwise default values in the 2002 Design Guide software was applied. The defaults are presented as follows:

Vehicle Class	Percent of Truck Traffic (Class 4 through 13)	Vehicle Class	Percent of Truck Traffic (Class 4 through 13)
4	1.8	9	31.3
5	24.6	10	9.8
6	7.6	11	0.8
7	0.5	12	3.3
8	5.0	13	15.3

The AADTT (which represents the total number of all trucks applied daily in a given month during the design period in the monitored test section lane [determined in step 3]) was multiplied by the vehicle class factors to obtain the number of vehicles in each class category (4 through 13).

5. Determine the number of axles (single, tandem, tridem, and so on) per truck class—site specific values were applied when available, otherwise default values in the 2002 Design Guide software was used. The defaults are as follows:

Truck Classification	Number of Single Axles per Truck	Number of Tandem Axles per Truck	Number of Tridem Axles per Truck	Number of Quad Axles per Truck
4	1.62	0.39	0.00	0.00
5	2.00	0.00	0.00	0.00
6	1.02	0.99	0.00	0.00
7	1.00	0.26	0.83	0.00
8	2.38	0.67	0.00	0.00
9	1.13	1.93	0.00	0.00
10	1.19	1.09	0.89	0.00
11	4.29	0.26	0.06	0.00
12	3.52	1.14	0.06	0.00
13	2.15	2.13	0.35	0.00

Note: The number of quad axles per truck class is 0.00, because there were too few counted in the LTPP traffic database.

The total number of axles applied was determine by multiplying the total number of vehicles applied for each class by the number of single, tandem, tridem, and quads axles expected for that vehicle class. As an example, if a total of 100 class 10 trucks are applied within a given time period this translates to the application of 119 single, 109 tandem, and 89 tridem axles to the pavement.

6. Determine axle load distribution—site specific axle load distributions were applied were available. Otherwise regional/Statewide or the default axle load distribution developed as part of the 2002 design procedure was used. The defaults for single and tandem axles are presented in tables FF.15 and FF16 (see Part 2, Chapter 4 of the Design Guide for further information on defaults used in traffic characterization). Note that the defaults generally are representive of the mix of vehicular traffic expected on high-type rural pavements such as the Interstates and US highways used in model development and calibration.

7. Determine traffic growth—Site specific data was applied when available, otherwise a growth rate ranging from 4 to 10 percent annual was assumed. The growth function (linear, compound, or otherwise) was also assumed. Traffic growth rate and growth model were applied to the base year ADT or AADT to project future traffic volumes througout the pavement life.

Case III—Availability of Equivalent Single ESALs

Traffic data from the RPPR and engineering/design reports were generally in the form of ESALs for the monitored test section/lane. ESALs was used to estimate traffic inputs for LTPP and NCHRP 10-41 test sections without WIM or ADT and AADT data. In cases where estimates of ESALs were available for the entire highway, lane and directional distribution factors were applied to determine the monitoring lane trafftc as described in Case II.

Table FF.15. Single-axle load distribution default values (percentages) for each vehicle/truck class.

Mean Axle Load, lbs.	Vehicle/Truck Class									
	4	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**
3000	1.80	10.03	2.47	2.14	11.62	1.74	3.64	3.55	6.68	8.88
4000	0.96	13.19	1.78	0.55	5.36	1.37	1.24	2.91	2.29	2.67
5000	2.91	16.40	3.45	2.42	7.82	2.84	2.36	5.19	4.87	3.81
6000	3.99	10.69	3.95	2.70	6.98	3.53	3.38	5.27	5.86	5.23
7000	6.80	9.21	6.70	3.21	7.98	4.93	5.18	6.32	5.97	6.03
8000	11.45	8.26	8.44	5.81	9.69	8.43	8.34	6.97	8.85	8.10
9000	11.28	7.11	11.93	5.26	9.98	13.66	13.84	8.07	9.57	8.35
10000	11.04	5.84	13.55	7.38	8.49	17.66	17.33	9.70	9.95	10.69
11000	9.86	4.53	12.12	6.85	6.46	16.69	16.19	8.54	8.59	10.69
12000	8.53	3.46	9.47	7.41	5.18	11.63	10.30	7.28	7.09	11.11
13000	7.32	2.56	6.81	8.99	4.00	6.09	6.52	7.16	5.86	7.34
14000	5.55	1.92	5.05	8.15	3.38	3.52	3.94	5.65	6.58	3.78
15000	4.23	1.54	2.74	7.77	2.73	1.91	2.33	4.77	4.55	3.10
16000	3.11	1.19	2.66	6.84	2.19	1.55	1.57	4.35	3.63	2.58
17000	2.54	0.90	1.92	5.67	1.83	1.10	1.07	3.56	2.56	1.52
18000	1.98	0.68	1.43	4.63	1.53	0.88	0.71	3.02	2.00	1.32
19000	1.53	0.52	1.07	3.50	1.16	0.73	0.53	2.06	1.54	1.00
20000	1.19	0.40	0.82	2.64	0.97	0.53	0.32	1.63	0.98	0.83
21000	1.16	0.31	0.64	1.90	0.61	0.38	0.29	1.27	0.71	0.64
22000	0.66	0.31	0.49	1.31	0.55	0.25	0.19	0.76	0.51	0.38
23000	0.56	0.18	0.38	0.97	0.36	0.17	0.15	0.59	0.29	0.52
24000	0.37	0.14	0.26	0.67	0.26	0.13	0.17	0.41	0.27	0.22
25000	0.31	0.15	0.24	0.43	0.19	0.08	0.09	0.25	0.19	0.13
26000	0.18	0.12	0.13	1.18	0.16	0.06	0.05	0.14	0.15	0.26
27000	0.18	0.08	0.13	0.26	0.11	0.04	0.03	0.21	0.12	0.28
28000	0.14	0.05	0.08	0.17	0.08	0.03	0.02	0.07	0.08	0.12
29000	0.08	0.05	0.08	0.17	0.05	0.02	0.03	0.09	0.09	0.13
30000	0.05	0.02	0.05	0.08	0.04	0.01	0.02	0.06	0.02	0.05
31000	0.04	0.02	0.03	0.72	0.04	0.01	0.03	0.03	0.03	0.05
32000	0.04	0.02	0.03	0.06	0.12	0.01	0.01	0.04	0.01	0.08
33000	0.04	0.02	0.03	0.03	0.01	0.01	0.02	0.01	0.01	0.06
34000	0.03	0.02	0.02	0.03	0.02	0.01	0.01	0.01	0.01	0.02
35000	0.02	0.02	0.01	0.02	0.02	0.00	0.01	0.01	0.01	0.01
36000	0.02	0.02	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01
37000	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.00	0.01	0.01
38000	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.02	0.01	0.01
39000	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.00	0.01
40000	0.01	0.00	0.01	0.01	0.00	0.00	0.04	0.02	0.00	0.00
41000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table FF.16. Tandem-axle load distribution default values (percentages) for each vehicle/truck class.

Mean Axle Load, lbs.	Vehicle/Truck Class									
	4	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**
6000	5.88	7.06	5.28	13.74	18.95	2.78	2.45	7.93	5.23	6.41
8000	1.44	35.42	8.42	6.71	8.05	3.92	2.19	3.15	1.75	3.85
10000	1.94	13.23	10.81	6.49	11.15	6.51	3.65	5.21	3.35	5.58
12000	2.73	6.32	8.99	3.46	11.92	7.61	5.40	8.24	5.89	5.66
14000	3.63	4.33	7.71	7.06	10.51	7.74	6.90	8.88	8.72	5.73
16000	4.96	5.09	7.50	4.83	8.25	7.00	7.51	8.45	8.37	5.53
18000	7.95	5.05	6.76	4.97	6.77	5.82	6.99	7.08	9.76	4.90
20000	11.58	4.39	6.06	4.58	5.32	5.59	6.61	5.49	10.85	4.54
22000	14.20	2.31	5.71	4.26	4.13	5.16	6.26	5.14	10.78	6.45
24000	13.14	2.28	5.17	3.85	3.12	5.05	5.95	5.99	7.24	4.77
26000	10.75	1.53	4.52	3.44	2.34	5.28	6.16	5.73	6.14	4.34
28000	7.47	1.96	3.96	6.06	1.82	5.53	6.54	4.37	4.93	5.63
30000	5.08	1.89	3.21	3.68	1.58	6.13	6.24	6.57	3.93	7.24
32000	3.12	2.19	3.91	2.98	1.20	6.34	5.92	4.61	3.09	4.69
34000	1.87	1.74	2.12	2.89	1.05	5.67	4.99	4.48	2.74	4.51
36000	1.30	1.78	1.74	2.54	0.94	4.46	3.63	2.91	1.73	3.93
38000	0.76	1.67	1.44	2.66	0.56	3.16	2.79	1.83	1.32	4.20
40000	0.53	0.38	1.26	2.50	0.64	2.13	2.24	1.12	1.07	3.22
42000	0.52	0.36	1.01	1.57	0.28	1.41	1.69	0.84	0.58	2.28
44000	0.30	0.19	0.83	1.53	0.28	0.91	1.26	0.68	0.51	1.77
46000	0.21	0.13	0.71	2.13	0.41	0.59	1.54	0.32	0.43	1.23
48000	0.18	0.13	0.63	1.89	0.20	0.39	0.73	0.21	0.22	0.85
50000	0.11	0.14	0.49	1.17	0.14	0.26	0.57	0.21	0.22	0.64
52000	0.06	0.20	0.39	1.07	0.11	0.17	0.40	0.07	0.23	0.39
54000	0.04	0.06	0.32	0.87	0.06	0.11	0.38	0.13	0.20	0.60
56000	0.08	0.06	0.26	0.81	0.05	0.08	0.25	0.15	0.12	0.26
58000	0.01	0.02	0.19	0.47	0.03	0.05	0.16	0.09	0.07	0.18
60000	0.02	0.02	0.17	0.49	0.02	0.03	0.15	0.03	0.19	0.08
62000	0.10	0.01	0.13	0.38	0.06	0.02	0.09	0.06	0.09	0.14
64000	0.01	0.01	0.08	0.24	0.02	0.02	0.08	0.01	0.04	0.07
66000	0.02	0.01	0.06	0.15	0.02	0.02	0.06	0.01	0.02	0.08
68000	0.01	0.00	0.07	0.16	0.00	0.02	0.05	0.01	0.04	0.03
70000	0.01	0.02	0.04	0.06	0.00	0.01	0.11	0.00	0.12	0.01
72000	0.00	0.01	0.04	0.13	0.00	0.01	0.04	0.00	0.01	0.04
74000	0.00	0.00	0.02	0.06	0.00	0.01	0.01	0.00	0.01	0.02
76000	0.00	0.00	0.01	0.06	0.00	0.00	0.01	0.00	0.01	0.04
78000	0.00	0.00	0.00	0.02	0.00	0.00	0.01	0.00	0.01	0.02
80000	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.08
82000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

ESALs were transformed for use in model development as follows. This procedure was based on the assumption that the ESALs reported represented only truck traffic. A violation of this assumption would however not significantly alter the estimates obtained.

1. Determine growth rate—the rate of growth of traffic was computed by fitting a linear or non-linear model to the age and corresponding ESALs data available. The same method was also used to determine the base ESALs and corresponding number of trucks.
2. Determine ESALs to truck ratio—site specific information was used where available otherwise an assumed value of 1.5 was applied. The total number of trucks applied to the pavement in its base year was determined by multiplying the total number of ESALs applied with the ESALs to truck ratio.
3. Truck class distribution, axles per truck class, and axle load distribution were determined as presented in steps 4 through 6 in Case II.

For Cases I, II, and II the following further assumption were made:

1. Traffic volume monthly adjustment factors—annual traffic was evenly distributed for all months during a given year.
2. Hourly truck traffic distribution—hourly traffic distribution for a given day was as presented below in table FF.17.

Table FF.17. Hourly traffic distribution for a given 24-hour period.

Time Period	Distribution, percent	Time Period	Distribution, percent
12:00 a.m. - 1:00 a.m.	2.3	12:00 p.m. - 1:00 p.m.	5.9
1:00 a.m. - 2:00 a.m.	2.3	1:00 p.m. - 2:00 p.m.	5.9
2:00 a.m. - 3:00 a.m.	2.3	2:00 p.m. - 3:00 p.m.	5.9
3:00 a.m. - 4:00 a.m.	2.3	3:00 p.m. - 4:00 p.m.	5.9
4:00 a.m. - 5:00 a.m.	2.3	4:00 p.m. - 5:00 p.m.	4.6
5:00 a.m. - 6:00 a.m.	2.3	5:00 p.m. - 6:00 p.m.	4.6
6:00 a.m. - 7:00 a.m.	5.0	6:00 p.m. - 7:00 p.m.	4.6
7:00 a.m. - 8:00 a.m.	5.0	7:00 p.m. - 8:00 p.m.	4.6
8:00 a.m. - 9:00 a.m.	5.0	8:00 p.m. - 9:00 p.m.	3.1
9:00 a.m. - 10:00 a.m.	5.0	9:00 p.m. - 10:00 p.m.	3.1
10:00 a.m. – 11:00 a.m.	5.9	10:00 p.m. - 11:00 p.m.	3.1
11:00 a.m. – 12:00 p.m.	5.9	11:00 p.m. - 12:00 a.m.	3.1

3. General wheelpath characteristics are assumed as follows:

   - Lateral wander = 18 in.
   - Lateral wander standard deviation = 10 in.
   - Design lane width = 12 ft.

4. Wheelbase—default values used are provided as follows:

- Average axle spacing (ft) – short, medium, or long. The default values are 12, 15, and 18 ft for short, medium, and long axle spacing, respectively.
- Percent of trucks in class 8 through 13 with the short, medium, and long axle spacing – Use even distribution (e.g., 33, 33, and 34 percent for short, medium, and long axles, respectively), unless more accurate information is available.

  Note that axle spacing distribution is applicable to only truck tractors (Class 8 and above). In situations where other vehicles in the traffic stream had axle spacing in the range of the short, medium, and long axles as defined above the frequency of those vehicles were added to the axle-spacing distribution of truck tractors.

5. Axle configurations—default values applied were as follows:

- Average axle edge-to-edge outside dimension = 8.5 ft.
- Dual tire spacing = 12 in.
- Single tire pressure = 120 psi.
- Dual tire pressure = 120 psi.
- Tire spacing
  - Tandem axle = 51.6 in.
  - Tridem axle = 49.2 in.
  - Quad axle = 49.2 in.

Table FF.18 through FF.38 presents a summary of axle load distribution factors for projects with site specific or regional/Statewide data.

Table FF.18. Summary of single axle load distribution factors for new JPCP (0 through 21,999 Ibs) (data was obtained from site specific or regional/Statewide WIM sites or default values).

SHRP ID	< 3000 Ibs	3000 to 3999 Ibs	4000 to 4999 Ibs	5000 to 5999 Ibs	6000 to 6999 Ibs	7000 to 7999 Ibs	8000 to 8999 Ibs	9000 to 9999 Ibs	10000 to 10999 Ibs	11000 to 11999 Ibs	12000 to 12999 Ibs	13000 to 13999 Ibs	14000 to 14999 Ibs	15000 to 15999 Ibs	16000 to 16999 Ibs	17000 to 17999 Ibs	18000 to 18999 Ibs	19000 to 19999 Ibs	20000 to 20999 Ibs	21000 to 21999 Ibs
1_3028	1.04	0.37	2.40	4.46	7.20	9.52	9.49	11.00	13.06	11.86	7.59	4.35	3.43	2.66	2.05	1.68	1.61	1.51	1.26	0.96
4_0200	0.59	2.04	2.09	1.74	2.08	2.99	5.16	9.56	16.30	22.14	15.19	6.00	3.48	3.04	2.67	2.15	1.50	0.79	0.30	0.10
4_7613	5.44	4.92	17.52	9.45	8.33	8.73	9.06	8.49	7.16	5.41	3.73	2.72	1.97	1.65	1.29	1.12	0.82	0.62	0.50	0.34
4_7614	3.39	3.54	11.26	6.08	5.18	6.14	9.35	13.55	13.42	9.10	5.47	3.40	2.47	2.04	1.82	1.35	0.95	0.63	0.37	0.21
5_3011	3.72	4.70	5.24	4.98	5.94	8.26	11.64	14.53	13.72	9.21	5.40	3.64	2.76	2.01	1.39	0.84	0.45	0.31	0.19	0.13
6_3005	2.87	5.31	7.19	8.42	4.15	3.99	6.06	11.44	17.34	13.43	4.37	2.41	2.41	2.53	2.48	2.15	1.57	0.95	0.48	0.22
6_3021	6.90	9.24	7.68	4.98	6.03	9.13	11.11	14.22	12.46	4.83	2.28	1.94	2.15	2.34	2.06	1.44	0.75	0.29	0.10	0.04
6_3030	3.86	5.53	5.39	3.82	3.61	4.50	6.94	10.70	15.41	14.36	6.14	2.97	2.90	3.60	4.13	3.38	1.81	0.66	0.19	0.05
6_3042	2.84	6.38	6.32	4.21	3.95	6.12	9.02	10.80	11.70	8.71	4.05	2.73	3.35	4.43	4.92	4.32	3.06	1.79	0.84	0.31
8_0200	2.41	4.45	5.91	5.30	5.33	5.97	8.44	11.85	12.66	11.81	9.27	5.81	3.43	2.18	1.54	1.17	0.92	0.63	0.40	0.25
8_3032	6.33	10.49	7.92	4.74	4.27	4.50	5.37	8.06	11.28	11.83	8.40	4.73	2.85	2.01	1.61	1.36	1.20	0.99	0.71	0.47
12_3804	4.30	1.08	9.03	11.10	5.54	5.22	8.72	10.84	11.25	8.74	6.34	4.83	2.87	1.66	1.45	1.23	1.07	0.81	0.82	0.64
12_3811	3.53	0.95	4.02	4.89	7.39	11.27	15.83	18.13	12.58	6.65	3.63	2.73	2.00	1.60	1.44	1.11	0.71	0.47	0.28	0.19
12_4000	0.70	1.81	8.94	5.98	6.95	8.96	11.72	12.36	11.44	8.99	5.36	3.33	2.60	2.07	1.70	1.59	1.45	1.25	0.97	0.65
12_4057	1.68	0.55	5.84	4.30	6.23	12.97	18.11	15.64	10.62	5.46	3.27	2.64	2.19	1.90	1.64	1.56	1.41	1.22	0.97	0.72
12_4059	0.97	2.14	12.94	7.07	6.83	8.10	9.54	10.36	9.43	8.48	6.26	4.09	3.08	2.27	1.70	1.46	1.24	1.18	0.90	0.58
12_4109	0.93	1.93	12.44	6.63	6.73	7.90	9.76	10.74	9.68	8.78	6.40	4.20	3.12	2.36	1.71	1.48	1.27	1.15	0.87	0.55
12_4138	0.88	2.11	9.38	5.82	6.79	8.75	11.15	12.48	11.29	9.02	5.45	3.34	2.52	1.99	1.72	1.47	1.39	1.31	1.07	0.75
16_3017	4.40	5.57	4.62	3.12	3.33	4.75	7.93	12.84	17.06	15.03	7.07	3.21	2.43	2.43	2.28	1.73	1.07	0.52	0.27	0.15
16_3023	2.88	3.42	3.56	2.99	3.27	3.86	5.73	10.30	16.07	16.59	10.41	5.24	3.70	3.34	3.08	2.46	1.55	0.82	0.39	0.18
18_3002	2.16	3.68	3.05	1.96	2.41	5.89	14.02	20.78	16.18	7.90	4.06	3.25	3.29	3.22	2.86	2.09	1.38	0.80	0.45	0.24
18_3003	3.03	5.86	6.00	4.01	3.55	5.20	9.03	13.85	15.72	12.88	6.88	2.94	2.05	1.92	1.81	1.58	1.36	0.96	0.58	0.33
18_3031	9.04	12.51	10.94	7.28	6.59	10.65	12.22	10.98	7.64	4.16	2.14	1.31	0.98	0.83	0.71	0.58	0.43	0.31	0.21	0.16
19_3006	5.73	6.61	8.27	6.39	5.63	7.73	8.80	11.86	10.02	8.71	5.20	4.58	3.56	2.39	1.35	0.91	0.70	0.45	0.35	0.22
20_0200	1.49	1.86	3.90	4.78	3.45	2.81	4.19	3.96	6.88	9.79	9.51	12.13	7.54	7.83	7.68	4.35	3.43	1.66	1.04	0.98
20_3015	21.88	10.93	8.10	5.24	4.66	6.48	7.72	10.32	8.16	7.29	3.10	2.02	1.00	0.83	0.59	0.41	0.37	0.23	0.20	0.16
21_3016	5.02	3.49	5.30	6.63	5.80	7.57	11.79	15.57	13.88	7.90	4.01	2.51	2.04	1.85	1.79	1.66	1.31	0.90	0.50	0.24
26_0200	4.40	5.40	4.17	3.07	3.03	4.57	8.62	14.84	17.92	10.87	4.01	2.72	2.64	2.68	2.65	2.44	2.11	1.50	0.97	0.58
26_3068	2.56	5.66	17.66	7.53	6.92	8.94	10.67	10.40	8.15	5.81	3.93	2.88	2.25	1.81	1.39	1.02	0.69	0.49	0.34	0.24
26_3069	7.11	9.08	9.21	7.51	8.23	10.06	11.39	11.12	8.79	5.92	3.80	2.46	1.74	1.08	0.80	0.61	0.39	0.23	0.17	0.10
27_3003	9.91	6.55	4.83	4.52	5.92	8.77	11.26	12.17	11.50	8.71	4.97	2.75	1.94	1.55	1.31	1.00	0.79	0.50	0.33	0.29
27_3013	15.76	15.18	8.09	5.05	5.72	8.44	11.14	10.01	6.96	3.98	2.43	1.82	1.50	1.11	0.79	0.55	0.40	0.28	0.21	0.16

Table FF.18. Summary of single axle load distribution factors for new JPCP (0 through 21,999 Ibs) (data was obtained from site specific or regional/Statewide WIM sites or default values).

SHRP ID	< 3000 Ibs	3000 to 3999 Ibs	4000 to 4999 Ibs	5000 to 5999 Ibs	6000 to 6999 Ibs	7000 to 7999 Ibs	8000 to 8999 Ibs	9000 to 9999 Ibs	10000 to 10999 Ibs	11000 to 11999 Ibs	12000 to 12999 Ibs	13000 to 13999 Ibs	14000 to 14999 Ibs	15000 to 15999 Ibs	16000 to 16999 Ibs	17000 to 17999 Ibs	18000 to 18999 Ibs	19000 to 19999 Ibs	20000 to 20999 Ibs	21000 to 21999 Ibs
28_3018	1.93	1.92	5.23	4.85	6.93	14.09	19.12	18.66	11.68	5.28	2.38	1.54	1.23	1.07	1.02	0.83	0.68	0.44	0.30	0.22
28_3019	1.93	1.92	5.23	4.84	6.93	14.09	19.13	18.68	11.69	5.28	2.38	1.54	1.23	1.07	1.02	0.83	0.68	0.44	0.30	0.22
31_3018	3.22	3.83	5.25	15.14	26.93	14.42	3.73	2.42	3.12	2.52	1.31	1.46	2.40	3.47	3.46	2.81	1.98	1.19	0.67	0.31
31_3024	3.63	4.18	5.61	15.74	23.65	16.57	4.21	3.60	4.35	2.31	0.78	0.99	2.28	2.72	2.61	2.47	1.66	1.06	0.72	0.42
32_0200	1.67	2.02	6.06	4.31	2.60	3.22	4.17	9.22	18.29	23.90	5.57	3.90	2.19	3.17	2.97	3.51	2.09	0.72	0.30	0.07
32_3010	0.47	0.27	2.65	3.15	2.52	3.41	4.01	9.70	30.18	18.69	4.34	6.50	5.60	3.80	1.89	1.52	0.69	0.25	0.19	0.05
32_3013	1.06	0.73	2.59	3.12	2.37	3.20	3.88	9.32	19.01	27.73	6.45	4.47	2.94	3.74	2.94	3.16	1.86	1.14	0.20	0.04
32_7084	0.41	0.56	0.99	2.42	4.79	6.72	10.62	14.39	14.20	8.58	5.00	4.46	4.51	4.29	4.24	4.08	3.74	2.99	1.72	0.79
37_0200	3.34	4.49	3.07	2.43	3.13	5.22	8.67	12.14	13.79	11.82	8.21	5.18	3.37	2.63	2.28	2.08	1.91	1.70	1.43	1.07
37_3008	0.45	0.68	4.03	4.50	8.66	12.90	15.65	14.12	9.96	6.85	5.07	3.86	3.25	2.50	1.84	1.38	1.00	0.80	0.70	0.42
37_3011	6.73	2.11	4.91	3.95	5.31	10.98	17.70	19.35	10.95	5.77	2.64	1.95	1.64	1.75	1.45	1.20	0.78	0.40	0.23	0.10
37_3044	0.71	0.81	3.50	3.94	6.61	11.78	15.53	16.97	13.63	8.70	4.97	3.19	2.50	1.76	1.44	1.09	0.72	0.61	0.41	0.30
37_3807	0.57	1.18	4.02	4.15	6.60	10.63	13.92	14.37	12.17	9.17	5.99	4.37	3.16	2.55	1.95	1.57	1.11	0.84	0.61	0.38
37_3816	0.90	0.59	4.42	5.42	10.78	16.65	17.21	13.06	8.93	6.17	4.37	3.18	2.18	1.85	1.35	0.85	0.68	0.52	0.35	0.13
39_3013	7.63	4.83	3.64	3.56	7.19	10.54	9.44	11.15	12.96	8.47	5.51	2.88	2.81	2.64	2.44	1.48	0.88	0.71	0.72	0.37
39_3801	3.43	2.96	4.17	3.85	4.53	7.56	15.56	19.49	13.88	6.54	3.91	2.94	2.36	2.14	1.91	1.56	1.09	0.71	0.42	0.24
40_3018	17.98	18.94	8.50	4.83	5.18	5.63	6.46	7.61	6.92	5.24	3.56	2.50	1.67	1.23	0.91	0.77	0.50	0.41	0.23	0.25
40_4160	22.80	12.88	8.37	3.82	4.15	6.99	10.06	10.59	6.79	4.57	2.40	1.32	1.23	1.45	0.99	0.37	0.58	0.15	0.21	0.10
40_4162	0.24	0.61	3.36	7.28	11.18	13.39	16.72	16.85	11.07	5.84	3.57	2.69	2.10	1.71	1.35	0.83	0.45	0.37	0.13	0.12
46_3012	3.37	8.38	10.04	5.56	4.14	5.56	7.21	12.08	13.91	12.69	4.01	1.96	1.38	1.83	2.05	2.71	1.84	0.78	0.32	0.09
53_0200	6.20	7.80	7.26	4.75	3.66	5.56	6.98	12.29	10.36	10.72	5.51	4.99	2.98	2.93	2.10	2.10	1.44	0.83	0.62	0.31
53_3011	9.43	3.66	4.88	7.13	8.33	11.02	14.31	14.49	10.20	5.21	2.58	1.81	1.45	1.30	1.20	1.06	0.78	0.51	0.30	0.16
53_3013	9.58	12.82	11.30	7.05	6.35	7.61	8.65	9.47	8.50	6.71	3.64	2.24	1.54	1.18	0.87	0.70	0.52	0.38	0.31	0.18
53_3014	5.76	4.94	5.69	5.21	4.66	5.50	8.21	13.08	14.92	12.45	5.74	2.96	2.12	1.90	1.74	1.67	1.36	0.90	0.59	0.30
53_3019	8.00	6.45	4.77	4.30	4.53	5.59	8.36	12.45	14.66	12.58	7.55	3.70	2.19	1.64	1.23	0.89	0.56	0.29	0.13	0.07
53_3812	10.36	9.73	8.92	6.39	5.71	6.92	7.52	9.60	8.99	8.17	5.08	3.62	2.26	1.85	1.40	1.13	0.79	0.50	0.35	0.21
53_3813	12.92	8.98	7.78	6.49	6.72	7.68	8.84	9.49	8.29	6.61	4.32	3.04	2.11	1.76	1.36	1.05	0.80	0.59	0.42	0.26
53_7409	16.17	5.28	6.52	5.88	6.34	8.40	10.41	10.71	8.92	6.37	4.01	2.62	1.95	1.61	1.31	1.04	0.77	0.52	0.37	0.24
55_3008	3.60	4.34	12.21	7.69	4.97	5.84	7.39	11.15	12.89	9.25	3.86	3.15	2.64	1.73	1.69	1.61	1.23	1.27	0.44	0.69
55_3009	4.97	0.83	5.34	5.47	3.72	6.35	8.67	15.90	15.83	7.98	4.65	2.38	3.45	4.63	4.96	2.52	0.21	0.83	0.79	0.10
55_3010	0.52	1.15	7.02	4.40	3.89	7.39	12.30	18.52	15.63	7.79	4.38	3.42	3.51	2.91	2.21	2.03	1.05	0.88	0.54	0.24
55_3015	4.77	0.36	3.93	4.01	4.21	7.42	13.11	17.90	17.23	9.07	4.19	3.09	2.42	2.55	1.86	1.59	1.05	0.60	0.31	0.10

Table FF.18. Summary of single axle load distribution factors for new JPCP (0 through 21,999 Ibs) (data was obtained from site specific or regional/Statewide WIM sites or default values).

SHRP ID	< 3000 Ibs	3000 to 3999 Ibs	4000 to 4999 Ibs	5000 to 5999 Ibs	6000 to 6999 Ibs	7000 to 7999 Ibs	8000 to 8999 Ibs	9000 to 9999 Ibs	10000 to 10999 Ibs	11000 to 11999 Ibs	12000 to 12999 Ibs	13000 to 13999 Ibs	14000 to 14999 Ibs	15000 to 15999 Ibs	16000 to 16999 Ibs	17000 to 17999 Ibs	18000 to 18999 Ibs	19000 to 19999 Ibs	20000 to 20999 Ibs	21000 to 21999 Ibs
55_3016	3.70	4.13	10.46	4.71	3.13	5.82	7.03	15.74	19.80	8.45	3.37	3.96	2.85	2.43	1.62	0.95	0.55	0.33	0.36	0.13
55_6351	0.68	2.20	13.95	7.63	5.90	6.43	8.37	9.52	11.36	11.73	9.48	5.00	1.85	1.20	0.88	0.76	0.76	0.83	0.53	0.30
55_6352	0.68	2.20	13.95	7.63	5.90	6.43	8.37	9.52	11.37	11.73	9.47	5.00	1.85	1.20	0.88	0.76	0.76	0.83	0.53	0.30
55_6353	0.68	2.20	13.95	7.63	5.90	6.43	8.37	9.52	11.36	11.73	9.48	5.00	1.85	1.20	0.88	0.76	0.76	0.83	0.53	0.30
55_6354	0.68	2.20	13.95	7.63	5.90	6.43	8.37	9.52	11.36	11.73	9.48	5.00	1.85	1.20	0.88	0.76	0.76	0.83	0.53	0.30
55_6355	0.68	2.20	13.95	7.63	5.90	6.43	8.37	9.52	11.36	11.73	9.48	5.00	1.85	1.20	0.88	0.76	0.76	0.83	0.53	0.30
83_3802	3.41	4.44	5.21	4.71	6.52	10.79	14.92	18.32	15.06	9.34	3.18	1.27	0.86	0.72	0.43	0.26	0.16	0.12	0.15	0.04
89_3015	0.26	0.61	2.66	3.44	3.60	5.18	8.28	13.49	16.88	14.09	7.68	4.36	3.44	3.01	2.69	2.24	1.87	1.54	1.28	0.94

Table FF.19. Summary of single axle load distribution factors for new JPCP (22,000 through 40,999 Ibs) (data was obtained from site specific or regional/Statewide WIM sites or default values).

SHRP ID	22000 to 22999 Ibs	23000 to 23999 Ibs	24000 to 24999 Ibs	25000 to 25999 Ibs	26000 to 26999 Ibs	27000 to 27999 Ibs	28000 to 28999 Ibs	29000 to 29999 Ibs	30000 to 30999 Ibs	31000 to 31999 Ibs	32000 to 32999 Ibs	33000 to 33999 Ibs	34000 to 34999 Ibs	35000 to 35999 Ibs	36000 to 36999 Ibs	37000 to 37999 Ibs	38000 to 38999 Ibs	39000 to 39999 Ibs	40000 to 40999 Ibs
1_3028	0.70	0.49	0.40	0.28	0.14	0.11	0.13	0.06	0.03	0.04	0.04	0.03	0.02	0.00	0.00	0.00	0.02	0.00	0.00
4_0200	0.05	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4_7613	0.24	0.17	0.13	0.07	0.06	0.03	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4_7614	0.13	0.08	0.04	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5_3011	0.10	0.09	0.10	0.06	0.08	0.03	0.05	0.04	0.04	0.05	0.04	0.05	0.04	0.03	0.04	0.05	0.02	0.03	0.01
6_3005	0.09	0.04	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6_3021	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6_3030	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6_3042	0.10	0.03	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8_0200	0.11	0.06	0.04	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8_3032	0.31	0.19	0.12	0.07	0.05	0.03	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00
12_3804	0.49	0.42	0.37	0.28	0.19	0.22	0.17	0.11	0.06	0.04	0.02	0.00	0.02	0.02	0.01	0.02	0.01	0.01	0.00
12_3811	0.14	0.09	0.08	0.05	0.05	0.03	0.03	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00
12_4000	0.43	0.27	0.17	0.11	0.07	0.05	0.03	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12_4057	0.45	0.26	0.14	0.07	0.05	0.03	0.02	0.02	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12_4059	0.46	0.34	0.19	0.14	0.09	0.05	0.03	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12_4109	0.46	0.34	0.20	0.14	0.09	0.05	0.03	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12_4138	0.48	0.29	0.20	0.13	0.07	0.05	0.03	0.03	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16_3017	0.08	0.06	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16_3023	0.07	0.03	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18_3002	0.12	0.07	0.04	0.03	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18_3003	0.19	0.10	0.06	0.04	0.03	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18_3031	0.11	0.07	0.05	0.03	0.02	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19_3006	0.14	0.08	0.05	0.06	0.04	0.03	0.02	0.04	0.01	0.02	0.01	0.00	0.01	0.02	0.00	0.01	0.00	0.00	0.00
20_0200	0.14	0.12	0.12	0.12	0.02	0.08	0.03	0.00	0.01	0.00	0.02	0.04	0.00	0.01	0.00	0.00	0.01	0.01	0.00
20_3015	0.10	0.07	0.03	0.02	0.03	0.02	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21_3016	0.11	0.06	0.03	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26_0200	0.33	0.19	0.11	0.07	0.05	0.03	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26_3068	0.15	0.10	0.08	0.05	0.05	0.03	0.03	0.02	0.02	0.02	0.01	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.00
26_3069	0.07	0.03	0.02	0.02	0.00	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27_3003	0.15	0.09	0.07	0.04	0.03	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27_3013	0.11	0.08	0.05	0.03	0.02	0.02	0.01	0.04	0.01	0.01	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00

Table FF.19. Summary of single axle load distribution factors for new JPCP (22,000 through 40,999 Ibs) (data was obtained from site specific or regional/Statewide WIM sites or default values).

SHRP ID	22000 to 22999 Ibs	23000 to 23999 Ibs	24000 to 24999 Ibs	25000 to 25999 Ibs	26000 to 26999 Ibs	27000 to 27999 Ibs	28000 to 28999 Ibs	29000 to 29999 Ibs	30000 to 30999 Ibs	31000 to 31999 Ibs	32000 to 32999 Ibs	33000 to 33999 Ibs	34000 to 34999 Ibs	35000 to 35999 Ibs	36000 to 36999 Ibs	37000 to 37999 Ibs	38000 to 38999 Ibs	39000 to 39999 Ibs	40000 to 40999 Ibs
28_3018	0.13	0.11	0.08	0.08	0.05	0.04	0.04	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28_3019	0.13	0.11	0.08	0.08	0.05	0.04	0.04	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31_3018	0.13	0.06	0.04	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00
31_3024	0.23	0.11	0.05	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32_0200	0.03	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32_3010	0.06	0.01	0.01	0.01	0.02	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32_3013	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32_7084	0.25	0.14	0.02	0.03	0.01	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
37_0200	0.76	0.48	0.31	0.19	0.12	0.07	0.04	0.03	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
37_3008	0.36	0.26	0.18	0.16	0.10	0.08	0.07	0.06	0.04	0.03	0.01	0.00	0.02	0.00	0.00	0.00	0.00	0.01	0.00
37_3011	0.06	0.03	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
37_3044	0.21	0.14	0.10	0.08	0.07	0.06	0.04	0.03	0.03	0.02	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00
37_3807	0.20	0.16	0.11	0.08	0.04	0.04	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
37_3816	0.06	0.11	0.09	0.04	0.02	0.00	0.03	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
39_3013	0.08	0.04	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
39_3801	0.17	0.14	0.11	0.08	0.06	0.05	0.04	0.03	0.02	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40_3018	0.25	0.14	0.09	0.07	0.05	0.01	0.02	0.01	0.02	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00
40_4160	0.10	0.07	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40_4162	0.05	0.02	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
46_3012	0.05	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
53_0200	0.21	0.11	0.09	0.06	0.04	0.02	0.02	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
53_3011	0.07	0.04	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
53_3013	0.14	0.09	0.06	0.05	0.03	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
53_3014	0.15	0.07	0.04	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
53_3019	0.03	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
53_3812	0.15	0.09	0.06	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00
53_3813	0.16	0.10	0.06	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
53_7409	0.14	0.09	0.06	0.05	0.03	0.03	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00
55_3008	0.19	0.31	0.46	0.23	0.21	0.01	0.23	0.00	0.33	0.02	0.00	0.20	0.00	0.05	0.05	0.00	0.00	0.05	0.00
55_3009	0.40	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
55_3010	0.16	0.03	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
55_3015	0.10	0.06	0.02	0.03	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
55_3016	0.07	0.00	0.00	0.00	0.00	0.00	0.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.21	0.00	0.00	0.00	0.00
55_6351	0.15	0.05	0.08	0.07	0.07	0.04	0.03	0.02	0.01	0.01	0.03	0.00	0.03	0.00	0.03	0.01	0.01	0.00	0.00

Table FF.19. Summary of single axle load distribution factors for new JPCP (22,000 through 40,999 Ibs) (data was obtained from site specific or regional/Statewide WIM sites or default values).

SHRP ID	22000 to 22999 Ibs	23000 to 23999 Ibs	24000 to 24999 Ibs	25000 to 25999 Ibs	26000 to 26999 Ibs	27000 to 27999 Ibs	28000 to 28999 Ibs	29000 to 29999 Ibs	30000 to 30999 Ibs	31000 to 31999 Ibs	32000 to 32999 Ibs	33000 to 33999 Ibs	34000 to 34999 Ibs	35000 to 35999 Ibs	36000 to 36999 Ibs	37000 to 37999 Ibs	38000 to 38999 Ibs	39000 to 39999 Ibs	40000 to 40999 Ibs
55_6352	0.15	0.05	0.08	0.07	0.07	0.04	0.03	0.02	0.01	0.01	0.03	0.00	0.03	0.00	0.03	0.01	0.01	0.00	0.00
55_6353	0.15	0.05	0.08	0.07	0.07	0.04	0.03	0.02	0.01	0.01	0.03	0.00	0.03	0.00	0.03	0.01	0.01	0.00	0.00
55_6354	0.15	0.05	0.08	0.07	0.07	0.04	0.03	0.02	0.01	0.01	0.03	0.00	0.03	0.00	0.03	0.01	0.01	0.00	0.00
55_6355	0.15	0.05	0.08	0.07	0.07	0.04	0.03	0.02	0.01	0.01	0.03	0.00	0.03	0.00	0.03	0.01	0.01	0.00	0.00
83_3802	0.02	0.01	0.01	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
89_3015	0.68	0.47	0.37	0.27	0.18	0.13	0.10	0.07	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.00	0.00	0.00

Table FF.20. Summary of single axle load distribution factors for new CRCP (0 through 21,999 Ibs) (data was obtained from site specific or regional/Statewide WIM sites or default values).

SHRP ID	< 3000 Ibs	3000 to 3999 Ibs	4000 to 4999 Ibs	5000 to 5999 Ibs	6000 to 6999 Ibs	7000 to 7999 Ibs	8000 to 8999 Ibs	9000 to 9999 Ibs	10000 to 10999 Ibs	11000 to 11999 Ibs	12000 to 12999 Ibs	13000 to 13999 Ibs	14000 to 14999 Ibs	15000 to 15999 Ibs	16000 to 16999 Ibs	17000 to 17999 Ibs	18000 to 18999 Ibs	19000 to 19999 Ibs	20000 to 20999 Ibs	21000 to 21999 Ibs
1_5008	1.34	0.35	0.59	0.63	0.42	0.23	1.18	1.06	1.01	50.49	14.99	7.84	4.63	3.57	2.30	3.51	1.89	0.86	1.98	0.57
16_5025	3.01	4.68	4.19	3.77	4.50	6.49	10.12	14.60	15.02	10.63	6.72	4.62	3.45	2.69	1.97	1.27	0.86	0.51	0.35	0.22
17_5020	9.10	9.18	9.68	6.97	6.38	7.55	8.87	10.24	10.30	8.43	5.61	3.27	1.66	0.96	0.61	0.37	0.26	0.18	0.14	0.10
17_5843	1.63	2.21	3.41	3.41	3.66	4.71	6.67	9.58	13.24	15.40	13.12	8.33	4.87	3.07	2.18	1.56	1.10	0.74	0.46	0.27
17_5849	1.23	1.62	3.21	2.91	2.50	3.22	6.43	12.69	18.51	17.86	10.90	5.46	3.59	2.93	2.49	1.85	1.21	0.68	0.35	0.16
17_5854	2.53	5.79	8.33	8.06	8.96	11.07	12.48	11.90	9.49	6.80	4.53	3.07	2.09	1.48	1.04	0.72	0.49	0.34	0.23	0.15
17_5869	2.62	4.84	8.09	8.21	7.86	9.00	10.42	11.07	10.55	8.97	6.53	4.34	2.72	1.75	1.12	0.70	0.45	0.28	0.17	0.11
17_5908	5.23	7.72	9.85	9.04	8.32	8.75	9.68	10.22	9.19	7.38	5.07	3.28	2.07	1.34	0.94	0.67	0.44	0.29	0.17	0.10
17_9267	1.41	1.92	3.52	3.28	3.05	3.25	4.39	7.48	13.84	20.07	16.33	8.47	4.53	3.08	2.30	1.54	0.84	0.40	0.17	0.07
18_5022	8.93	9.86	8.31	4.88	4.09	6.62	11.34	14.70	11.86	6.90	3.48	2.06	1.57	1.37	1.25	1.05	0.76	0.45	0.25	0.13
18_5043	15.76	20.34	13.09	9.09	7.85	7.58	6.61	5.61	3.84	2.74	1.88	1.31	0.95	0.77	0.55	0.44	0.35	0.28	0.22	0.16
18_5518	3.58	7.21	7.04	4.10	2.92	4.17	8.77	14.82	18.12	12.01	4.82	2.38	2.01	1.74	1.65	1.47	1.17	0.83	0.53	0.32
19_5042	9.89	8.16	13.13	11.02	8.50	10.15	8.23	8.30	4.85	4.16	2.55	3.03	1.96	1.60	0.94	0.88	0.70	0.43	0.39	0.23
19_9116	4.00	4.56	4.69	3.97	3.64	4.21	7.14	13.02	15.73	13.93	10.09	5.52	3.79	2.79	1.70	0.61	0.36	0.16	0.03	0.01
28_3099	1.26	0.86	3.68	3.21	4.28	7.19	12.05	16.40	15.06	10.36	6.91	4.87	3.52	2.62	2.07	1.64	1.27	0.94	0.66	0.43
28_5006	0.83	1.06	4.07	4.18	6.22	10.31	14.88	16.36	13.70	9.48	5.98	3.81	2.69	2.07	1.57	1.12	0.71	0.43	0.24	0.13
28_5025	2.58	4.00	12.26	10.65	10.28	11.68	14.04	12.51	8.16	3.68	1.74	1.03	0.84	0.69	0.66	0.62	0.52	0.43	0.38	0.32
28_5803	0.93	0.74	3.66	2.53	2.55	4.97	10.92	15.91	17.55	12.70	7.32	4.59	3.35	2.83	2.44	2.09	1.72	1.29	0.81	0.50
28_5805	2.16	1.37	6.48	6.10	10.11	14.89	16.82	14.19	9.68	5.94	3.59	2.31	1.69	1.30	0.98	0.71	0.47	0.33	0.22	0.15
29_5047	6.71	11.50	11.87	11.69	11.19	10.17	9.40	7.95	5.92	3.95	2.55	1.79	1.28	1.02	0.78	0.62	0.46	0.30	0.22	0.19
31_5052	0.46	13.07	11.18	8.80	13.11	17.02	11.14	4.40	3.93	3.27	2.28	0.84	1.35	1.71	1.64	1.68	1.62	1.29	0.54	0.27
37_5037	8.70	5.30	7.52	6.98	5.59	8.10	9.24	13.53	9.95	8.47	4.39	3.43	1.94	2.04	1.24	1.26	0.90	0.45	0.38	0.18
37_5827	0.41	0.53	2.09	3.88	7.09	14.28	18.93	17.44	11.96	7.08	4.47	2.90	2.35	2.02	1.56	1.05	0.76	0.50	0.31	0.16
38_5002	4.33	12.71	20.30	8.18	6.24	7.29	8.37	9.45	8.84	6.54	3.74	1.84	0.94	0.50	0.31	0.17	0.12	0.05	0.04	0.01
39_5003	0.46	0.80	4.33	3.53	5.16	11.28	19.00	18.12	11.28	6.15	4.57	3.51	2.54	2.36	2.10	1.74	1.15	0.72	0.50	0.33

Table FF.20. Summary of single axle load distribution factors for new CRCP (0 through 21,999 Ibs) (data was obtained from site specific or regional/Statewide WIM sites or default values).

SHRP ID	< 3000 Ibs	3000 to 3999 Ibs	4000 to 4999 Ibs	5000 to 5999 Ibs	6000 to 6999 Ibs	7000 to 7999 Ibs	8000 to 8999 Ibs	9000 to 9999 Ibs	10000 to 10999 Ibs	11000 to 11999 Ibs	12000 to 12999 Ibs	13000 to 13999 Ibs	14000 to 14999 Ibs	15000 to 15999 Ibs	16000 to 16999 Ibs	17000 to 17999 Ibs	18000 to 18999 Ibs	19000 to 19999 Ibs	20000 to 20999 Ibs	21000 to 21999 Ibs
39_5010	1.70	1.73	3.59	3.57	3.22	6.70	12.96	20.26	23.51	7.12	2.76	2.24	1.83	1.64	1.85	2.01	1.58	0.93	0.42	0.19
04_7079	1.33	2.02	11.87	9.85	10.18	10.76	10.13	8.87	7.14	5.86	4.89	4.23	3.62	2.85	2.11	1.54	1.07	0.69	0.39	0.23
40_4158	1.98	8.98	8.72	7.78	9.62	11.80	12.33	11.79	8.60	5.61	3.46	2.31	1.56	1.27	1.09	0.83	0.66	0.50	0.35	0.24
40_4166	0.20	0.35	2.64	4.52	5.71	8.41	13.92	20.88	16.55	7.63	4.30	3.24	3.02	2.81	2.41	1.61	0.94	0.43	0.20	0.11
40_5021	11.63	10.29	5.41	3.98	4.74	7.85	13.15	15.07	12.01	6.50	2.87	1.57	1.10	0.90	0.73	0.59	0.49	0.33	0.23	0.12
41_5005	2.11	1.26	6.07	5.06	5.32	6.04	7.96	10.99	13.23	12.13	8.54	5.15	3.52	2.87	2.43	2.02	1.60	1.21	0.83	0.55
41_5006	2.93	5.30	7.57	5.36	5.07	5.12	6.20	7.87	11.20	13.19	10.43	4.90	3.42	2.78	2.43	1.92	1.42	0.94	0.87	0.52
41_5008	3.83	3.23	6.25	3.89	3.31	4.12	6.29	9.40	11.54	12.92	10.47	6.78	4.39	3.23	2.66	2.18	1.63	1.17	0.74	0.49
41_5021	3.90	2.70	7.49	4.42	3.90	4.30	6.17	9.96	13.61	14.15	10.13	5.39	3.46	2.75	2.33	1.92	1.43	0.93	0.52	0.28
41_5022	3.15	1.67	7.34	4.62	4.38	5.30	7.55	10.36	12.58	12.06	8.83	5.27	3.59	2.97	2.72	2.33	1.88	1.37	0.90	0.54
41_7081	2.70	3.14	8.62	4.88	4.83	7.16	10.08	11.35	11.15	10.17	8.30	6.12	3.86	2.37	1.59	1.21	0.85	0.61	0.39	0.26
42_5020	5.57	12.83	10.62	20.62	18.40	9.53	1.81	4.32	4.19	1.19	0.25	1.23	2.08	2.01	1.36	1.09	0.79	0.66	0.54	0.39
45_5017	0.45	0.30	2.69	3.36	5.79	12.33	25.43	19.43	8.00	3.60	3.70	3.16	2.80	2.29	1.89	1.99	1.20	0.46	0.50	0.16
45_5034	1.38	0.93	4.63	2.47	3.32	6.21	12.90	23.62	23.48	7.99	2.37	1.86	1.56	1.35	1.17	1.20	1.11	0.79	0.52	0.29
45_5035	0.88	0.67	3.51	2.58	5.10	11.18	23.04	25.00	11.45	3.06	2.37	2.36	1.84	1.66	1.48	1.11	0.88	0.55	0.31	0.19
46_5020	3.37	8.38	10.04	5.56	4.14	5.56	7.21	12.08	13.91	12.69	4.01	1.96	1.38	1.83	2.05	2.71	1.84	0.78	0.32	0.09
46_5025	3.37	8.38	10.04	5.56	4.14	5.56	7.21	12.08	13.91	12.69	4.01	1.96	1.38	1.83	2.05	2.71	1.84	0.78	0.32	0.09
48_3779	5.87	4.14	7.23	10.69	12.46	10.80	10.91	11.49	7.61	5.36	2.56	2.54	1.74	1.41	1.22	0.80	0.56	0.60	1.46	0.13
48_5024	3.96	5.83	7.06	5.30	5.04	7.60	11.99	14.57	14.11	8.81	4.36	2.60	1.84	1.53	1.01	1.07	1.00	0.80	0.61	0.37
48_5026	9.53	14.62	10.93	7.87	9.13	9.32	9.01	7.50	5.35	4.51	2.98	2.04	1.15	1.27	0.76	0.83	0.40	0.81	0.36	0.34
48_5154	2.64	4.60	3.69	2.92	4.14	6.37	10.58	15.64	16.98	12.16	5.95	3.47	2.74	2.07	1.66	1.56	0.92	0.79	0.57	0.29
48_5278	3.94	3.01	17.28	18.12	2.11	4.42	3.65	19.94	2.74	19.17	1.51	1.04	0.81	0.71	0.60	0.76	0.09	0.00	0.09	0.00
48_5328	4.71	4.93	3.71	3.80	4.98	7.34	11.16	14.78	13.88	9.34	5.43	3.57	2.77	2.35	1.94	1.55	1.27	0.94	0.56	0.40
48_5334	9.08	2.49	1.57	3.24	5.36	9.26	17.65	21.57	11.69	5.43	3.46	3.35	1.83	1.27	0.56	0.36	0.22	0.26	0.04	0.19
48_5336	5.46	16.07	10.34	3.88	2.80	2.91	4.38	7.36	12.06	13.63	10.35	5.46	1.97	0.79	0.42	0.37	0.33	0.32	0.31	0.29
5_5803	10.59	6.99	10.53	9.52	10.19	10.50	8.69	8.28	6.96	4.86	3.50	2.21	1.60	1.24	1.21	1.11	0.72	0.49	0.39	0.16

Table FF.20. Summary of single axle load distribution factors for new CRCP (0 through 21,999 Ibs) (data was obtained from site specific or regional/Statewide WIM sites or default values).

SHRP ID	< 3000 Ibs	3000 to 3999 Ibs	4000 to 4999 Ibs	5000 to 5999 Ibs	6000 to 6999 Ibs	7000 to 7999 Ibs	8000 to 8999 Ibs	9000 to 9999 Ibs	10000 to 10999 Ibs	11000 to 11999 Ibs	12000 to 12999 Ibs	13000 to 13999 Ibs	14000 to 14999 Ibs	15000 to 15999 Ibs	16000 to 16999 Ibs	17000 to 17999 Ibs	18000 to 18999 Ibs	19000 to 19999 Ibs	20000 to 20999 Ibs	21000 to 21999 Ibs
5_5805	9.42	11.76	10.67	9.61	7.34	7.94	8.33	8.85	8.39	6.30	4.06	2.31	1.68	1.04	0.94	0.51	0.41	0.18	0.11	0.08
51_2564	4.03	6.24	6.46	6.05	7.44	9.93	12.19	12.72	10.90	7.72	4.71	2.86	1.92	1.44	1.13	0.95	0.78	0.62	0.49	0.37
51_5010	5.57	7.63	5.92	3.62	3.64	5.18	8.45	12.22	13.56	11.10	7.24	4.17	2.50	1.76	1.43	1.22	1.08	0.93	0.79	0.62
55_5037	0.21	0.38	4.61	3.06	4.20	7.30	17.01	18.86	13.97	8.45	5.61	6.63	3.03	1.84	1.49	2.06	0.49	0.13	0.35	0.30
55_5040	6.45	2.14	3.81	5.05	5.07	5.69	9.12	18.49	14.98	4.58	2.32	2.20	1.86	2.07	2.22	2.21	2.35	1.76	1.16	0.61
6_7455	4.19	6.91	5.72	4.03	5.95	9.21	12.40	15.25	10.78	4.23	3.04	3.67	4.36	4.37	3.28	1.74	0.65	0.17	0.04	0.01
I80*	4.31	3.46	5.37	5.04	6.06	8.46	11.68	13.94	12.76	9.17	5.56	3.65	2.40	1.97	1.49	1.21	0.93	0.71	0.52	0.36
Edens*	4.31	3.46	5.37	5.04	6.06	8.46	11.68	13.94	12.76	9.17	5.56	3.65	2.40	1.97	1.49	1.21	0.93	0.71	0.52	0.36
Vandalia*	1.23	1.62	3.21	2.91	2.50	3.22	6.43	12.69	18.51	17.86	10.90	5.46	3.59	2.93	2.49	1.85	1.21	0.68	0.35	0.16

Table FF.21. Summary of single axle load distribution factors for new CRCP (22,000 through 40,999 Ibs) (data was obtained from site specific or regional/Statewide WIM sites or default values).

SHRP ID	22000 to 22999 Ibs	23000 to 23999 Ibs	24000 to 24999 Ibs	25000 to 25999 Ibs	26000 to 26999 Ibs	27000 to 27999 Ibs	28000 to 28999 Ibs	29000 to 29999 Ibs	30000 to 30999 Ibs	31000 to 31999 Ibs	32000 to 32999 Ibs	33000 to 33999 Ibs	34000 to 34999 Ibs	35000 to 35999 Ibs	36000 to 36999 Ibs	37000 to 37999 Ibs	38000 to 38999 Ibs	39000 to 39999 Ibs	40000 to 40999 Ibs
1_5008	0.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16_5025	0.12	0.10	0.05	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17_5020	0.06	0.02	0.02	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17_5843	0.15	0.09	0.05	0.03	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17_5849	0.09	0.05	0.01	0.01	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17_5854	0.10	0.07	0.06	0.04	0.03	0.03	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.00	0.00
17_5869	0.07	0.04	0.03	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17_5908	0.08	0.06	0.03	0.03	0.01	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17_9267	0.03	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18_5022	0.07	0.04	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18_5043	0.10	0.09	0.08	0.06	0.05	0.03	0.03	0.03	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.00
18_5518	0.17	0.07	0.04	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19_5042	0.22	0.13	0.11	0.08	0.08	0.05	0.04	0.04	0.02	0.02	0.02	0.02	0.01	0.02	0.01	0.01	0.01	0.01	0.00
19_9116	0.01	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28_3099	0.27	0.16	0.10	0.06	0.04	0.02	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28_5006	0.07	0.04	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28_5025	0.27	0.23	0.22	0.22	0.19	0.17	0.16	0.15	0.15	0.16	0.13	0.13	0.12	0.13	0.13	0.12	0.11	0.14	0.01
28_5803	0.28	0.16	0.07	0.04	0.03	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28_5805	0.10	0.08	0.06	0.04	0.04	0.03	0.03	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00
29_5047	0.11	0.08	0.06	0.04	0.04	0.02	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
31_5052	0.16	0.15	0.04	0.03	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
37_5037	0.19	0.09	0.06	0.02	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
37_5827	0.09	0.07	0.01	0.02	0.01	0.02	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
38_5002	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
39_5003	0.17	0.10	0.04	0.03	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
39_5010	0.10	0.04	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
04_7079	0.15	0.08	0.05	0.03	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table FF.21. Summary of single axle load distribution factors for new CRCP (22,000 through 40,999 Ibs) (data was obtained from site specific or regional/Statewide WIM sites or default values).

SHRP ID	22000 to 22999 Ibs	23000 to 23999 Ibs	24000 to 24999 Ibs	25000 to 25999 Ibs	26000 to 26999 Ibs	27000 to 27999 Ibs	28000 to 28999 Ibs	29000 to 29999 Ibs	30000 to 30999 Ibs	31000 to 31999 Ibs	32000 to 32999 Ibs	33000 to 33999 Ibs	34000 to 34999 Ibs	35000 to 35999 Ibs	36000 to 36999 Ibs	37000 to 37999 Ibs	38000 to 38999 Ibs	39000 to 39999 Ibs	40000 to 40999 Ibs
40_4158	0.17	0.10	0.05	0.06	0.03	0.02	0.04	0.00	0.01	0.01	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00
40_4166	0.05	0.03	0.01	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40_5021	0.07	0.07	0.04	0.05	0.03	0.03	0.02	0.03	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.00
41_5005	0.33	0.20	0.13	0.09	0.08	0.05	0.05	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00
41_5006	0.25	0.14	0.13	0.03	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
41_5008	0.29	0.20	0.14	0.12	0.12	0.11	0.11	0.09	0.06	0.05	0.04	0.03	0.03	0.02	0.02	0.02	0.02	0.01	0.00
41_5021	0.13	0.06	0.03	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41_5022	0.30	0.15	0.07	0.04	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41_7081	0.18	0.09	0.05	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
42_5020	0.20	0.15	0.07	0.05	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45_5017	0.19	0.04	0.06	0.06	0.05	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45_5034	0.29	0.11	0.11	0.08	0.04	0.06	0.02	0.02	0.04	0.00	0.02	0.02	0.02	0.00	0.00	0.00	0.02	0.00	0.00
45_5035	0.19	0.10	0.23	0.04	0.08	0.00	0.03	0.00	0.00	0.00	0.08	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00
46_5020	0.05	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
46_5025	0.05	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48_3779	0.09	0.08	0.03	0.05	0.07	0.05	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48_5024	0.17	0.06	0.20	0.03	0.01	0.01	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48_5026	0.26	0.09	0.45	0.17	0.04	0.14	0.00	0.00	0.00	0.00	0.06	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48_5154	0.16	0.03	0.04	0.02	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48_5278	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48_5328	0.26	0.12	0.08	0.04	0.05	0.02	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48_5334	0.12	0.04	0.03	0.08	0.00	0.20	0.01	0.03	0.13	0.04	0.00	0.16	0.04	0.04	0.05	0.06	0.04	0.04	0.00
48_5336	0.20	0.14	0.07	0.04	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5_5803	0.10	0.05	0.03	0.04	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5_5805	0.04	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
51_2564	0.28	0.19	0.14	0.10	0.08	0.06	0.04	0.03	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00
51_5010	0.45	0.31	0.21	0.14	0.09	0.06	0.04	0.02	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
55_5037	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
55_5040	1.12	0.55	0.56	0.58	0.64	0.26	0.53	0.44	0.29	0.35	0.29	0.03	0.03	0.03	0.03	0.01	0.01	0.08	0.00

Table FF.21. Summary of single axle load distribution factors for new CRCP (22,000 through 40,999 lbs) (data was obtained from site specific or regional/Statewide WIM sites or default values).

SHRP ID	22000 to 22999 lbs	23000 to 23999 lbs	24000 to 24999 lbs	25000 to 25999 lbs	26000 to 26999 lbs	27000 to 27999 lbs	28000 to 28999 lbs	29000 to 29999 lbs	30000 to 30999 lbs	31000 to 31999 lbs	32000 to 32999 lbs	33000 to 33999 lbs	34000 to 34999 lbs	35000 to 35999 lbs	36000 to 36999 lbs	37000 to 37999 lbs	38000 to 38999 lbs	39000 to 39999 lbs	40000 to 40999 lbs
6_7455	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I-80	0.25	0.19	0.13	0.10	0.08	0.05	0.04	0.02	0.02	0.03	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00
Edens	0.25	0.19	0.13	0.10	0.08	0.05	0.04	0.02	0.02	0.03	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00
Vandalia*	0.09	0.05	0.01	0.01	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

*Applicable to all Vandalia sections.

Table FF.22. Summary of single axle load distribution factors for rehabilitation with PCC (0 through 21,999 lbs) (data was obtained from site specific or regional/Statewide WIM sites or default values).

SHRP ID	< 3000 lbs	3000 to 3999 lbs	4000 to 4999 lbs	5000 to 5999 lbs	6000 to 6999 lbs	7000 to 7999 lbs	8000 to 8999 lbs	9000 to 9999 lbs	10000 to 10999 lbs	11000 to 11999 lbs	12000 to 12999 lbs	13000 to 13999 lbs	14000 to 14999 lbs	15000 to 15999 lbs	16000 to 16999 lbs	17000 to 17999 lbs	18000 to 18999 lbs	19000 to 19999 lbs	20000 to 20999 lbs	21000 to 21999 lbs
AZ1	5.44	4.92	17.52	9.45	8.33	8.73	9.06	8.49	7.16	5.41	3.73	2.72	1.97	1.65	1.29	1.12	0.82	0.62	0.50	0.34
AZ2	3.39	3.54	11.26	6.08	5.18	6.14	9.35	13.55	13.42	9.10	5.47	3.40	2.47	2.04	1.82	1.35	0.95	0.63	0.37	0.21
CA1	2.84	6.38	6.32	4.21	3.95	6.12	9.02	10.80	11.70	8.71	4.05	2.73	3.35	4.43	4.92	4.32	3.06	1.79	0.84	0.31
CA10	3.65	6.57	6.57	4.99	4.29	6.06	8.62	11.46	13.23	9.56	4.07	2.58	2.94	3.66	3.94	3.36	2.27	1.26	0.57	0.22
CA2	2.84	6.38	6.32	4.21	3.95	6.12	9.02	10.80	11.70	8.71	4.05	2.73	3.35	4.43	4.92	4.32	3.06	1.79	0.84	0.31
CA3	3.65	6.57	6.57	4.99	4.29	6.06	8.62	11.46	13.23	9.56	4.07	2.58	2.94	3.66	3.94	3.36	2.27	1.26	0.57	0.22
CA6	3.65	6.57	6.57	4.99	4.29	6.06	8.62	11.46	13.23	9.56	4.07	2.58	2.94	3.66	3.94	3.36	2.27	1.26	0.57	0.22
CA7	3.65	6.57	6.57	4.99	4.29	6.06	8.62	11.46	13.23	9.56	4.07	2.58	2.94	3.66	3.94	3.36	2.27	1.26	0.57	0.22
CA8	3.65	6.57	6.57	4.99	4.29	6.06	8.62	11.46	13.23	9.56	4.07	2.58	2.94	3.66	3.94	3.36	2.27	1.26	0.57	0.22
CA9	2.84	6.38	6.32	4.21	3.95	6.12	9.02	10.80	11.70	8.71	4.05	2.73	3.35	4.43	4.92	4.32	3.06	1.79	0.84	0.31
FL2	1.68	0.55	5.84	4.30	6.23	12.97	18.11	15.64	10.62	5.46	3.27	2.64	2.19	1.90	1.64	1.56	1.41	1.22	0.97	0.72
FL3	1.68	0.55	5.84	4.30	6.23	12.97	18.11	15.64	10.62	5.46	3.27	2.64	2.19	1.90	1.64	1.56	1.41	1.22	0.97	0.72

Table FF.22. Summary of single axle load distribution factors for rehabilitation with PCC (0 through 21,999 Ibs) (data was obtained from site specific or regional/Statewide WIM sites or default values).

SHRP ID	< 3000 Ibs	3000 to 3999 Ibs	4000 to 4999 Ibs	5000 to 5999 Ibs	6000 to 6999 Ibs	7000 to 7999 Ibs	8000 to 8999 Ibs	9000 to 9999 Ibs	10000 to 10999 Ibs	11000 to 11999 Ibs	12000 to 12999 Ibs	13000 to 13999 Ibs	14000 to 14999 Ibs	15000 to 15999 Ibs	16000 to 16999 Ibs	17000 to 17999 Ibs	18000 to 18999 Ibs	19000 to 19999 Ibs	20000 to 20999 Ibs	21000 to 21999 Ibs
FL4	1.79	1.53	9.06	6.52	6.65	8.99	12.03	12.84	10.88	8.08	5.29	3.61	2.64	2.00	1.63	1.42	1.23	1.07	0.84	0.59
MI1	2.56	5.66	17.66	7.53	6.92	8.94	10.67	10.40	8.15	5.81	3.93	2.88	2.25	1.81	1.39	1.02	0.69	0.49	0.34	0.24
MN2	3.37	8.38	10.04	5.56	4.14	5.56	7.21	12.08	13.91	12.69	4.01	1.96	1.38	1.83	2.05	2.71	1.84	0.78	0.32	0.09
MN4	9.91	6.55	4.83	4.52	5.92	8.77	11.26	12.17	11.50	8.71	4.97	2.75	1.94	1.55	1.31	1.00	0.79	0.50	0.33	0.29
MN7	12.84	10.87	6.46	4.79	5.82	8.60	11.20	11.09	9.23	6.35	3.70	2.28	1.72	1.33	1.05	0.77	0.59	0.39	0.27	0.23
NC1	6.73	2.11	4.91	3.95	5.31	10.98	17.70	19.35	10.95	5.77	2.64	1.95	1.64	1.75	1.45	1.20	0.78	0.40	0.23	0.10
NC2	0.71	0.81	3.50	3.94	6.61	11.78	15.53	16.97	13.63	8.70	4.97	3.19	2.50	1.76	1.44	1.09	0.72	0.61	0.41	0.30
NY2	5.77	7.35	6.21	4.71	6.77	10.44	11.82	13.09	13.62	7.98	3.31	1.86	1.43	1.36	1.24	1.09	0.81	0.48	0.27	0.15
OH2	3.67	4.24	4.31	3.37	3.17	5.78	11.12	18.10	21.28	9.72	3.36	2.01	1.73	1.73	1.81	1.78	1.34	0.80	0.36	0.16
WI1	1.44	2.18	1.92	1.75	2.77	6.35	14.32	23.93	22.11	8.94	2.65	1.97	2.26	2.39	2.07	1.40	0.78	0.40	0.20	0.10
WI2	0.68	2.20	13.95	7.63	5.90	6.43	8.37	9.52	11.36	11.73	9.48	5.00	1.85	1.20	0.88	0.76	0.76	0.83	0.53	0.30
WI3	0.68	2.20	13.95	7.63	5.90	6.43	8.37	9.52	11.36	11.73	9.48	5.00	1.85	1.20	0.88	0.76	0.76	0.83	0.53	0.30
WI4	0.68	2.20	13.95	7.63	5.90	6.43	8.37	9.52	11.36	11.73	9.48	5.00	1.85	1.20	0.88	0.76	0.76	0.83	0.53	0.30
WI5	2.04	2.10	10.79	6.48	4.91	6.48	8.92	12.71	13.71	10.02	6.84	4.04	2.49	2.19	1.90	1.34	0.74	0.82	0.54	0.27
WI6	0.68	2.20	13.95	7.63	5.90	6.43	8.37	9.52	11.36	11.73	9.48	5.00	1.85	1.20	0.88	0.76	0.76	0.83	0.53	0.30
WI7	0.68	2.20	13.95	7.63	5.90	6.43	8.37	9.52	11.36	11.73	9.48	5.00	1.85	1.20	0.88	0.76	0.76	0.83	0.53	0.30
WV1	2.20	1.50	2.82	3.10	4.91	8.72	12.12	17.71	13.93	9.03	4.62	4.06	3.40	3.43	2.55	2.15	1.44	0.77	0.53	0.26
1_0600	6.84	5.49	7.57	6.40	6.86	8.45	9.90	11.11	10.09	7.99	5.24	3.50	2.51	1.99	1.40	1.12	0.86	0.65	0.49	0.36
13_4118	6.84	5.49	7.57	6.40	6.86	8.44	9.89	11.11	10.09	7.99	5.24	3.50	2.51	1.99	1.40	1.12	0.86	0.65	0.49	0.36
18_9020	4.33	5.33	5.75	4.82	4.79	6.79	10.41	13.76	11.94	7.85	4.80	3.10	2.41	2.17	1.92	1.68	1.50	1.27	1.04	0.89
19_0700	99.20	0.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20_9037	0.83	6.21	13.77	11.32	12.77	10.06	12.96	9.27	7.48	5.75	2.93	1.79	1.81	1.49	0.61	0.33	0.35	0.07	0.09	0.07
22_0700	6.83	5.49	7.56	6.41	6.86	8.45	9.90	11.11	10.09	7.98	5.24	3.50	2.51	1.99	1.40	1.12	0.86	0.65	0.49	0.36
27_0700	6.83	5.49	7.56	6.41	6.86	8.45	9.90	11.11	10.09	7.98	5.24	3.50	2.51	1.99	1.40	1.12	0.86	0.65	0.49	0.36
27_9075	10.80	6.90	5.40	5.04	6.48	9.84	13.32	13.50	10.46	5.90	3.60	2.26	1.68	1.38	0.98	0.80	0.62	0.40	0.22	0.14

Table FF.22. Summary of single axle load distribution factors for rehabilitation with PCC (0 through 21,999 lbs) (data was obtained from site specific or regional/Statewide WIM sites or default values).

SHRP ID	< 3000 lbs	3000 to 3999 lbs	4000 to 4999 lbs	5000 to 5999 lbs	6000 to 6999 lbs	7000 to 7999 lbs	8000 to 8999 lbs	9000 to 9999 lbs	10000 to 10999 lbs	11000 to 11999 lbs	12000 to 12999 lbs	13000 to 13999 lbs	14000 to 14999 lbs	15000 to 15999 lbs	16000 to 16999 lbs	17000 to 17999 lbs	18000 to 18999 lbs	19000 to 19999 lbs	20000 to 20999 lbs	21000 to 21999 lbs
28_7012	1.60	1.52	4.95	3.95	6.14	9.40	11.53	12.27	11.69	10.27	8.40	6.51	4.43	2.71	1.65	1.07	0.71	0.45	0.28	0.17
29_A600	6.84	5.49	7.57	6.40	6.86	8.44	9.89	11.11	10.09	7.99	5.24	3.50	2.51	1.99	1.40	1.12	0.86	0.65	0.49	0.36
31_6701	8.27	10.72	9.52	11.58	17.51	15.43	8.32	4.23	2.49	1.94	1.02	0.77	1.05	1.40	1.79	1.20	1.03	0.69	0.47	0.22
4_0600	6.84	5.49	7.57	6.40	6.86	8.44	9.89	11.11	10.09	7.99	5.24	3.50	2.51	1.99	1.40	1.12	0.86	0.65	0.49	0.36
40_4155	6.84	5.49	7.57	6.40	6.86	8.44	9.89	11.11	10.09	7.99	5.24	3.50	2.51	1.99	1.40	1.12	0.86	0.65	0.49	0.36
42_1627	0.93	1.20	2.96	2.76	2.68	4.96	9.19	16.58	19.33	13.46	4.47	2.96	2.32	2.60	2.62	2.76	2.54	1.76	1.26	0.64
46_0600	6.84	5.49	7.57	6.40	6.86	8.44	9.89	11.11	10.09	7.99	5.24	3.50	2.51	1.99	1.40	1.12	0.86	0.65	0.49	0.36
47_0600	6.84	5.49	7.57	6.40	6.86	8.44	9.89	11.11	10.09	7.99	5.24	3.50	2.51	1.99	1.40	1.12	0.86	0.65	0.49	0.36
48_3569	6.84	5.49	7.57	6.40	6.86	8.44	9.89	11.11	10.09	7.99	5.24	3.50	2.51	1.99	1.40	1.12	0.86	0.65	0.49	0.36
48_3845	6.84	5.49	7.57	6.40	6.86	8.44	9.89	11.11	10.09	7.99	5.24	3.50	2.51	1.99	1.40	1.12	0.86	0.65	0.49	0.36
48_9167	5.51	4.77	4.72	4.76	6.06	9.19	12.94	14.78	12.39	8.53	4.81	2.90	1.99	1.71	1.27	1.10	0.80	0.62	0.35	0.23
48_9355	3.16	2.29	2.68	2.79	3.74	6.72	11.10	15.50	15.10	11.44	7.70	4.96	3.26	2.54	2.18	1.69	1.22	0.80	0.46	0.26
6_0600	6.84	5.49	7.57	6.40	6.86	8.44	9.89	11.11	10.09	7.99	5.24	3.50	2.51	1.99	1.40	1.12	0.86	0.65	0.49	0.36
6_9048	2.73	5.19	6.64	7.04	3.97	3.92	6.10	11.85	17.99	13.89	4.62	2.52	2.51	2.63	2.57	2.24	1.64	0.99	0.51	0.23
6_9049	6.84	5.49	7.56	6.40	6.86	8.45	9.89	11.11	10.09	7.99	5.24	3.50	2.51	1.99	1.40	1.12	0.86	0.65	0.49	0.36
6_9107	2.73	5.19	6.64	7.04	3.97	3.92	6.10	11.85	17.99	13.89	4.62	2.52	2.51	2.63	2.57	2.24	1.64	0.99	0.51	0.23
8_9019	4.71	7.98	7.28	6.44	7.93	10.82	13.26	13.22	10.10	6.38	3.96	2.61	1.86	1.31	0.89	0.54	0.31	0.17	0.09	0.05
8_9020	0.90	5.52	7.80	7.57	8.51	11.64	13.43	13.01	9.59	6.28	4.27	3.14	2.44	1.88	1.35	0.95	0.62	0.40	0.26	0.17
89_9018	10.80	6.90	5.40	5.04	6.48	9.84	13.32	13.50	10.46	5.90	3.60	2.26	1.68	1.38	0.98	0.80	0.62	0.40	0.22	0.14
AL_IH_20E_183.0	6.20	4.90	6.93	6.02	6.64	8.41	10.27	11.77	10.72	8.31	5.38	3.54	2.52	2.04	1.48	1.20	0.91	0.70	0.52	0.37
AL_IH_59N_235.5	6.20	4.90	6.93	6.02	6.64	8.41	10.27	11.77	10.72	8.31	5.38	3.54	2.52	2.04	1.48	1.20	0.91	0.70	0.52	0.37
CA_IH_8E_43.4	6.20	4.90	6.93	6.02	6.64	8.41	10.27	11.77	10.72	8.31	5.38	3.54	2.52	2.04	1.48	1.20	0.91	0.70	0.52	0.37
FL_IH_10E_214.7	6.20	4.90	6.93	6.02	6.64	8.41	10.27	11.77	10.72	8.31	5.38	3.54	2.52	2.04	1.48	1.20	0.91	0.70	0.52	0.37
GA_IH_16W_59.9	6.20	4.90	6.93	6.02	6.64	8.41	10.27	11.77	10.72	8.31	5.38	3.54	2.52	2.04	1.48	1.20	0.91	0.70	0.52	0.37
GA-1	6.84	5.49	7.57	6.40	6.86	8.44	9.89	11.11	10.09	7.99	5.24	3.50	2.51	1.99	1.40	1.12	0.86	0.65	0.49	0.36

Table FF.22. Summary of single axle load distribution factors for rehabilitation with PCC (0 through 21,999 Ibs) (data was obtained from site specific or regional/Statewide WIM sites or default values).

SHRP ID	< 3000 Ibs	3000 to 3999 Ibs	4000 to 4999 Ibs	5000 to 5999 Ibs	6000 to 6999 Ibs	7000 to 7999 Ibs	8000 to 8999 Ibs	9000 to 9999 Ibs	10000 to 10999 Ibs	11000 to 11999 Ibs	12000 to 12999 Ibs	13000 to 13999 Ibs	14000 to 14999 Ibs	15000 to 15999 Ibs	16000 to 16999 Ibs	17000 to 17999 Ibs	18000 to 18999 Ibs	19000 to 19999 Ibs	20000 to 20999 Ibs	21000 to 21999 Ibs
GA-4	6.84	5.49	7.57	6.40	6.86	8.44	9.89	11.11	10.09	7.99	5.24	3.50	2.51	1.99	1.40	1.12	0.86	0.65	0.49	0.36
GA-5	6.84	5.49	7.57	6.40	6.86	8.44	9.89	11.11	10.09	7.99	5.24	3.50	2.51	1.99	1.40	1.12	0.86	0.65	0.49	0.36
IA_IH_80W_87.7	6.20	4.90	6.93	6.02	6.64	8.41	10.27	11.77	10.72	8.31	5.38	3.54	2.52	2.04	1.48	1.20	0.91	0.70	0.52	0.37
IL-3_6_07	6.84	5.49	7.57	6.40	6.86	8.44	9.89	11.11	10.09	7.99	5.24	3.50	2.51	1.99	1.40	1.12	0.86	0.65	0.49	0.36
IL-3_6_10	6.84	5.49	7.57	6.40	6.86	8.44	9.89	11.11	10.09	7.99	5.24	3.50	2.51	1.99	1.40	1.12	0.86	0.65	0.49	0.36
IL-3_7_07	6.84	5.49	7.57	6.40	6.86	8.44	9.89	11.11	10.09	7.99	5.24	3.50	2.51	1.99	1.40	1.12	0.86	0.65	0.49	0.36
IL-3_7_10	6.84	5.49	7.57	6.40	6.86	8.44	9.89	11.11	10.09	7.99	5.24	3.50	2.51	1.99	1.40	1.12	0.86	0.65	0.49	0.36
IL-3_8_06	6.84	5.49	7.57	6.40	6.86	8.44	9.89	11.11	10.09	7.99	5.24	3.50	2.51	1.99	1.40	1.12	0.86	0.65	0.49	0.36
NE_IH_80W_420.1	6.20	4.90	6.93	6.02	6.64	8.41	10.27	11.77	10.72	8.31	5.38	3.54	2.52	2.04	1.48	1.20	0.91	0.70	0.52	0.37
PA-5	6.84	5.49	7.57	6.40	6.86	8.44	9.89	11.11	10.09	7.99	5.24	3.50	2.51	1.99	1.40	1.12	0.86	0.65	0.49	0.36
SD_IH_29S_174	6.20	4.90	6.93	6.02	6.64	8.41	10.27	11.77	10.72	8.31	5.38	3.54	2.52	2.04	1.48	1.20	0.91	0.70	0.52	0.37
WI_IH_43N_2.7	6.20	4.90	6.93	6.02	6.64	8.41	10.27	11.77	10.72	8.31	5.38	3.54	2.52	2.04	1.48	1.20	0.91	0.70	0.52	0.37
WI-1	6.84	5.49	7.57	6.40	6.86	8.44	9.89	11.11	10.09	7.99	5.24	3.50	2.51	1.99	1.40	1.12	0.86	0.65	0.49	0.36

Table FF.23. Summary of single axle load distribution factors for rehabilitation with PCC (22,000 through 40,999 Ibs) (data was obtained from site specific or regional/Statewide WIM sites or default values).

SHRP ID	22000 to 22999 Ibs	23000 to 23999 Ibs	24000 to 24999 Ibs	25000 to 25999 Ibs	26000 to 26999 Ibs	27000 to 27999 Ibs	28000 to 28999 Ibs	29000 to 29999 Ibs	30000 to 30999 Ibs	31000 to 31999 Ibs	32000 to 32999 Ibs	33000 to 33999 Ibs	34000 to 34999 Ibs	35000 to 35999 Ibs	36000 to 36999 Ibs	37000 to 37999 Ibs	38000 to 38999 Ibs	39000 to 39999 Ibs	40000 to 40999 Ibs
AZ1	0.24	0.17	0.13	0.07	0.06	0.03	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AZ2	0.13	0.08	0.04	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CA1	0.10	0.03	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CA10	0.08	0.03	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CA2	0.10	0.03	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CA3	0.08	0.03	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CA6	0.08	0.03	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CA7	0.08	0.03	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CA8	0.08	0.03	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CA9	0.10	0.03	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FL2	0.45	0.26	0.14	0.07	0.05	0.03	0.02	0.02	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FL3	0.45	0.26	0.14	0.07	0.05	0.03	0.02	0.02	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FL4	0.42	0.29	0.19	0.13	0.09	0.07	0.05	0.03	0.02	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
MI1	0.15	0.10	0.08	0.05	0.05	0.03	0.03	0.02	0.02	0.02	0.01	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.00
MN2	0.05	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MN4	0.15	0.09	0.07	0.04	0.03	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MN7	0.13	0.09	0.06	0.04	0.02	0.02	0.01	0.03	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
NC1	0.06	0.03	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NC2	0.21	0.14	0.10	0.08	0.07	0.06	0.04	0.03	0.03	0.02	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00
NY2	0.09	0.05	0.04	0.02	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OH2	0.09	0.04	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WI1	0.04	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WI2	0.15	0.05	0.08	0.07	0.07	0.04	0.03	0.02	0.01	0.01	0.03	0.00	0.03	0.00	0.03	0.01	0.01	0.00	0.00
WI3	0.15	0.05	0.08	0.07	0.07	0.04	0.03	0.02	0.01	0.01	0.03	0.00	0.03	0.00	0.03	0.01	0.01	0.00	0.00

Table FF.23. Summary of single axle load distribution factors for rehabilitation with PCC (22,000 through 40,999 Ibs) (data was obtained from site specific or regional/Statewide WIM sites or default values).

SHRP ID	22000 to 22999 Ibs	23000 to 23999 Ibs	24000 to 24999 Ibs	25000 to 25999 Ibs	26000 to 26999 Ibs	27000 to 27999 Ibs	28000 to 28999 Ibs	29000 to 29999 Ibs	30000 to 30999 Ibs	31000 to 31999 Ibs	32000 to 32999 Ibs	33000 to 33999 Ibs	34000 to 34999 Ibs	35000 to 35999 Ibs	36000 to 36999 Ibs	37000 to 37999 Ibs	38000 to 38999 Ibs	39000 to 39999 Ibs	40000 to 40999 Ibs
WI4	0.15	0.05	0.08	0.07	0.07	0.04	0.03	0.02	0.01	0.01	0.03	0.00	0.03	0.00	0.03	0.01	0.01	0.00	0.00
WI5	0.19	0.06	0.09	0.05	0.06	0.02	0.05	0.01	0.03	0.01	0.01	0.02	0.01	0.01	0.03	0.00	0.00	0.00	0.00
WI6	0.15	0.05	0.08	0.07	0.07	0.04	0.03	0.02	0.01	0.01	0.03	0.00	0.03	0.00	0.03	0.01	0.01	0.00	0.00
WI7	0.15	0.05	0.08	0.07	0.07	0.04	0.03	0.02	0.01	0.01	0.03	0.00	0.03	0.00	0.03	0.01	0.01	0.00	0.00
WV1	0.17	0.09	0.09	0.07	0.05	0.03	0.04	0.03	0.04	0.03	0.02	0.02	0.02	0.03	0.01	0.01	0.01	0.01	0.00
1_0600	0.29	0.19	0.14	0.14	0.12	0.07	0.06	0.03	0.03	0.04	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00
13_4118	0.29	0.19	0.14	0.14	0.12	0.07	0.06	0.03	0.03	0.04	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00
18_9020	0.70	0.56	0.47	0.40	0.33	0.24	0.21	0.18	0.15	0.11	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19_0700	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20_9037	0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22_0700	0.29	0.19	0.14	0.14	0.12	0.07	0.06	0.03	0.03	0.04	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00
27_0700	0.29	0.19	0.14	0.14	0.12	0.07	0.06	0.03	0.03	0.04	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00
27_9075	0.10	0.06	0.04	0.02	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28_7012	0.10	0.06	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29_A600	0.29	0.19	0.14	0.14	0.12	0.07	0.06	0.03	0.03	0.04	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00
31_6701	0.13	0.05	0.09	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4_0600	0.29	0.19	0.14	0.14	0.12	0.07	0.06	0.03	0.03	0.04	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00
40_4155	0.29	0.19	0.14	0.14	0.12	0.07	0.06	0.03	0.03	0.04	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00
42_1627	0.49	0.30	0.26	0.18	0.17	0.10	0.11	0.09	0.06	0.06	0.04	0.04	0.03	0.03	0.02	0.02	0.02	0.02	0.00
46_0600	0.29	0.19	0.14	0.14	0.12	0.07	0.06	0.03	0.03	0.04	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00
47_0600	0.29	0.19	0.14	0.14	0.12	0.07	0.06	0.03	0.03	0.04	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00
48_3569	0.29	0.19	0.14	0.14	0.12	0.07	0.06	0.03	0.03	0.04	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00
48_3845	0.29	0.19	0.14	0.14	0.12	0.07	0.06	0.03	0.03	0.04	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00
48_9167	0.19	0.14	0.04	0.04	0.05	0.02	0.03	0.03	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48_9355	0.17	0.09	0.04	0.02	0.02	0.03	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
6_0600	0.29	0.19	0.14	0.14	0.12	0.07	0.06	0.03	0.03	0.04	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00
6_9048	0.10	0.04	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table FF.23. Summary of single axle load distribution factors for rehabilitation with PCC (22,000 through 40,999 Ibs) (data was obtained from site specific or regional/Statewide WIM sites or default values).

SHRP ID	22000 to 22999 Ibs	23000 to 23999 Ibs	24000 to 24999 Ibs	25000 to 25999 Ibs	26000 to 26999 Ibs	27000 to 27999 Ibs	28000 to 28999 Ibs	29000 to 29999 Ibs	30000 to 30999 Ibs	31000 to 31999 Ibs	32000 to 32999 Ibs	33000 to 33999 Ibs	34000 to 34999 Ibs	35000 to 35999 Ibs	36000 to 36999 Ibs	37000 to 37999 Ibs	38000 to 38999 Ibs	39000 to 39999 Ibs	40000 to 40999 Ibs
6_9049	0.29	0.19	0.14	0.14	0.12	0.07	0.06	0.03	0.03	0.04	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00
6_9107	0.10	0.04	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8_9019	0.03	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8_9020	0.09	0.08	0.03	0.03	0.02	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
89_9018	0.10	0.06	0.04	0.02	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AL_IH_20E_183.0	0.29	0.20	0.14	0.13	0.11	0.06	0.06	0.03	0.03	0.04	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00
AL_IH_59N_235.5	0.29	0.20	0.14	0.13	0.11	0.06	0.06	0.03	0.03	0.04	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00
CA_IH_8E_43.4	0.29	0.20	0.14	0.13	0.11	0.06	0.06	0.03	0.03	0.04	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00
FL_IH_10E_214.7	0.29	0.20	0.14	0.13	0.11	0.06	0.06	0.03	0.03	0.04	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00
GA_IH_16W_59.9	0.29	0.20	0.14	0.13	0.11	0.06	0.06	0.03	0.03	0.04	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00
GA-1	0.29	0.19	0.14	0.14	0.12	0.07	0.06	0.03	0.03	0.04	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00
GA-4	0.29	0.19	0.14	0.14	0.12	0.07	0.06	0.03	0.03	0.04	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00
GA-5	0.29	0.19	0.14	0.14	0.12	0.07	0.06	0.03	0.03	0.04	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00
IA_IH_80W_87.7	0.29	0.20	0.14	0.13	0.11	0.06	0.06	0.03	0.03	0.04	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00
IL-3_6_07	0.29	0.19	0.14	0.14	0.12	0.07	0.06	0.03	0.03	0.04	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00
IL-3_6_10	0.29	0.19	0.14	0.14	0.12	0.07	0.06	0.03	0.03	0.04	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00
IL-3_7_07	0.29	0.19	0.14	0.14	0.12	0.07	0.06	0.03	0.03	0.04	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00
IL-3_7_10	0.29	0.19	0.14	0.14	0.12	0.07	0.06	0.03	0.03	0.04	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00
IL-3_8_06	0.29	0.19	0.14	0.14	0.12	0.07	0.06	0.03	0.03	0.04	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00
NE_IH_80W_420.1	0.29	0.20	0.14	0.13	0.11	0.06	0.06	0.03	0.03	0.04	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00
PA-5	0.29	0.19	0.14	0.14	0.12	0.07	0.06	0.03	0.03	0.04	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00
SD_IH_29S_174	0.29	0.20	0.14	0.13	0.11	0.06	0.06	0.03	0.03	0.04	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00
WI_IH_43N_2.7	0.29	0.20	0.14	0.13	0.11	0.06	0.06	0.03	0.03	0.04	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00
WI-1	0.29	0.19	0.14	0.14	0.12	0.07	0.06	0.03	0.03	0.04	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00

Table FF.24. Summary of tandem axle load distribution factors for JPCP (0 through 41,999 Ibs) (data was obtained from site specific or regional/Statewide WIM sites or default values).

SHRP ID	< 6000 Ibs	6000 to 7999 Ibs	8000 to 9999 Ibs	10000 to 11999 Ibs	12000 to 13999 Ibs	14000 to 15999 Ibs	16000 to 17999 Ibs	18000 to 19999 Ibs	20000 to 21999 Ibs	22000 to 23999 Ibs	24000 to 25999 Ibs	26000 to 27999 Ibs	28000 to 29999 Ibs	30000 to 31999 Ibs	32000 to 33999 Ibs	34000 to 35999 Ibs	36000 to 37999 Ibs	38000 to 39999 Ibs	40000 to 41999 Ibs
1_3028	0.95	2.65	5.49	7.50	5.39	5.28	4.19	4.97	5.13	4.83	4.19	5.45	7.06	9.74	10.42	8.39	4.23	2.43	0.68
4_0200	0.67	1.38	2.32	2.93	3.94	4.82	5.68	6.16	6.40	6.63	7.22	8.74	11.46	13.41	11.21	5.46	1.23	0.24	0.06
4_7613	2.33	4.25	8.51	11.84	11.61	9.58	7.72	5.78	5.10	4.30	3.86	3.69	3.62	3.74	3.53	2.80	2.23	1.60	1.20
4_7614	0.88	1.54	4.89	7.81	7.96	8.02	6.85	5.70	5.22	5.09	5.19	6.02	7.38	8.26	7.56	5.13	2.98	1.46	0.89
5_3011	2.89	5.18	7.94	8.14	7.12	5.85	5.09	5.02	5.67	6.17	7.51	8.08	8.50	6.58	4.15	2.43	1.47	0.82	0.47
6_3005	1.49	1.51	2.50	3.98	5.02	6.66	7.61	5.52	4.48	4.69	5.34	6.41	7.86	9.50	10.89	9.20	4.52	1.46	0.58
6_3021	2.64	3.10	8.00	8.39	8.94	7.64	6.51	6.68	6.56	5.89	5.45	6.08	7.93	8.75	5.05	1.59	0.44	0.17	0.08
6_3030	1.90	1.80	3.66	4.69	4.36	4.19	3.83	3.69	3.81	4.06	4.97	8.09	15.36	19.75	11.60	3.32	0.67	0.15	0.05
6_3042	1.49	5.11	8.39	7.73	7.03	5.71	4.26	3.82	3.73	3.58	3.50	4.19	7.00	12.09	12.29	6.70	2.43	0.64	0.16
8_0200	2.40	4.95	11.61	12.94	11.55	9.08	6.55	5.04	4.32	3.70	3.54	4.17	4.12	3.71	3.63	3.29	2.43	1.53	0.78
8_3032	2.46	2.55	4.51	6.00	6.40	6.30	6.20	6.03	5.87	5.48	5.10	5.04	5.41	6.29	6.98	6.80	5.41	3.39	1.82
12_3804	6.79	8.49	9.30	7.44	6.36	6.26	7.25	6.28	4.52	3.46	2.94	2.54	2.46	3.02	3.38	3.37	3.29	3.05	2.55
12_3811	1.65	2.64	5.21	7.85	6.99	7.51	6.45	5.47	4.73	5.12	5.75	7.37	9.02	9.08	7.23	4.30	1.91	0.82	0.36
12_4000	0.64	1.20	4.41	7.71	8.71	7.60	6.02	5.11	4.94	4.80	4.40	4.58	4.92	6.46	7.23	6.35	3.82	1.92	1.37
12_4057	1.51	4.24	7.12	8.18	7.22	6.92	6.12	5.25	4.98	4.80	4.63	5.07	6.09	6.76	6.85	5.45	3.14	2.04	1.48
12_4059	1.27	3.32	6.31	7.91	9.14	11.05	9.71	7.32	6.03	5.65	5.16	4.71	4.05	3.68	3.26	2.53	2.14	1.62	1.18
12_4109	0.88	3.50	6.59	7.86	9.14	11.12	9.55	7.11	5.92	5.67	5.13	4.86	4.23	3.86	3.27	2.57	2.12	1.61	1.13
12_4138	0.95	1.31	4.23	7.68	8.72	7.42	6.07	5.02	4.95	4.72	4.21	4.12	4.30	5.63	6.99	6.76	4.24	2.04	1.40
16_3017	1.98	3.84	4.65	5.73	6.27	4.38	3.26	3.18	3.29	3.46	4.18	5.89	10.41	14.38	12.53	7.29	3.37	1.31	0.39
16_3023	2.10	3.43	4.05	4.49	4.44	4.48	4.72	4.50	4.41	4.88	5.90	7.89	11.42	14.55	11.48	5.09	1.66	0.40	0.08
18_3002	0.55	1.81	4.95	6.75	6.79	5.64	4.74	4.55	4.65	5.02	5.81	7.25	9.09	9.86	8.65	6.21	3.74	2.02	1.02
18_3003	1.42	1.68	4.90	8.93	10.83	9.00	6.71	5.50	4.96	4.55	4.31	4.45	5.41	6.77	7.18	6.07	3.86	1.94	0.84
18_3031	3.00	13.82	12.96	11.23	10.96	6.28	3.49	2.92	2.63	2.37	2.22	2.49	3.25	4.48	5.51	4.86	3.35	1.97	1.02
19_3006	6.16	6.53	9.05	9.19	8.52	6.02	5.31	4.52	3.77	4.73	6.30	7.49	6.58	4.91	3.29	2.50	1.86	1.45	0.83
20_0200	1.50	1.48	2.78	4.00	4.66	5.09	5.42	6.31	5.41	5.69	5.45	5.28	5.85	7.51	7.77	7.22	6.61	4.89	2.89
20_3015	5.02	10.94	13.13	11.39	7.49	4.70	2.79	2.20	2.44	3.20	4.66	6.20	6.83	6.32	4.66	3.12	1.65	0.92	0.47
21_3016	4.18	4.53	5.49	6.17	6.07	6.07	6.11	5.84	5.42	5.49	6.10	6.94	8.19	8.58	7.20	4.42	2.05	0.70	0.25
26_0200	1.14	3.29	6.09	7.16	7.68	7.11	6.47	5.87	5.21	4.79	4.68	4.99	5.90	7.09	7.64	6.42	4.11	2.30	1.15
26_3068	2.56	5.87	9.86	11.15	10.70	9.26	7.41	5.84	4.99	4.94	5.13	5.22	4.69	3.81	2.92	2.00	1.36	0.88	0.55

Table FF.24. Summary of tandem axle load distribution factors for JPCP (0 through 41,999 Ibs) (data was obtained from site specific or regional/Statewide WIM sites or default values).

SHRP ID	< 6000 Ibs	6000 to 7999 Ibs	8000 to 9999 Ibs	10000 to 11999 Ibs	12000 to 13999 Ibs	14000 to 15999 Ibs	16000 to 17999 Ibs	18000 to 19999 Ibs	20000 to 21999 Ibs	22000 to 23999 Ibs	24000 to 25999 Ibs	26000 to 27999 Ibs	28000 to 29999 Ibs	30000 to 31999 Ibs	32000 to 33999 Ibs	34000 to 35999 Ibs	36000 to 37999 Ibs	38000 to 39999 Ibs	40000 to 41999 Ibs
26_3069	7.12	8.97	11.94	12.11	10.43	8.55	6.22	4.80	3.92	4.08	4.74	4.82	4.68	3.68	2.22	1.09	0.43	0.11	0.05
27_3003	4.47	7.96	9.42	7.71	5.85	4.52	3.84	3.45	3.40	3.75	4.57	5.70	6.98	7.60	7.10	5.64	3.90	2.16	1.11
27_3013	0.97	3.13	9.45	17.33	20.58	12.49	7.28	4.81	3.65	3.15	2.67	2.47	2.50	2.52	2.29	1.74	1.18	0.69	0.45
28_3018	2.52	7.68	10.94	10.09	6.61	4.97	4.48	4.23	4.13	4.35	5.09	6.70	8.18	7.84	5.50	3.31	1.73	0.88	0.39
28_3019	2.52	7.69	10.94	10.09	6.61	4.97	4.47	4.23	4.13	4.34	5.09	6.71	8.19	7.84	5.51	3.31	1.73	0.88	0.39
31_3018	0.59	0.92	2.43	5.20	7.28	7.69	6.03	5.73	6.71	6.17	5.58	6.86	7.95	9.42	9.00	6.54	3.52	1.52	0.54
31_3024	0.55	1.14	3.32	6.73	9.20	8.78	7.29	7.60	7.91	6.20	5.24	5.38	5.76	7.02	6.65	5.25	3.07	1.57	0.77
32_0200	1.30	1.83	4.23	4.10	3.87	4.61	4.18	4.69	5.13	5.18	5.20	5.72	7.14	13.09	19.04	9.12	1.30	0.16	0.05
32_3010	0.35	0.74	1.41	1.54	2.03	2.43	2.62	3.41	5.63	8.18	10.00	14.46	23.78	16.09	5.41	1.37	0.35	0.11	0.05
32_3013	0.74	1.06	1.69	2.28	3.55	4.26	5.09	6.21	6.82	7.03	7.03	7.69	9.19	14.92	17.17	4.32	0.45	0.41	0.05
32_7084	0.83	0.59	0.63	1.88	3.77	4.29	4.83	5.62	7.09	7.98	7.60	6.98	8.15	10.15	11.50	9.54	5.20	2.10	0.67
37_0200	0.48	0.64	2.25	5.61	9.22	9.96	8.41	6.62	5.27	4.54	4.15	3.83	3.94	4.31	5.20	6.00	6.18	5.11	3.46
37_3008	0.66	3.52	8.47	10.66	10.74	9.21	7.44	5.89	4.92	3.81	3.85	3.82	4.36	4.19	4.05	3.53	2.84	2.21	1.50
37_3011	0.98	0.93	2.71	4.82	5.72	5.72	5.63	5.54	5.56	6.21	7.37	9.85	11.99	11.07	7.69	4.23	2.09	1.00	0.51
37_3044	0.49	2.38	7.07	8.39	7.76	7.12	6.45	6.07	5.75	6.12	6.63	7.40	7.01	6.21	4.93	3.55	2.37	1.53	0.91
37_3807	0.81	5.14	10.34	11.10	9.58	7.52	6.15	5.40	4.96	4.96	5.31	5.86	6.05	5.23	3.92	2.87	1.82	1.11	0.69
37_3816	0.74	3.00	6.95	10.31	10.53	8.80	7.63	6.03	5.17	3.84	4.19	4.87	5.86	6.11	5.33	3.81	2.80	1.71	0.79
39_3013	1.06	0.74	0.76	2.03	5.82	8.33	8.72	7.88	7.28	6.49	5.99	5.38	6.43	7.37	7.91	6.45	4.47	2.54	1.29
39_3801	0.52	0.97	3.50	8.88	10.76	11.67	9.01	5.75	4.30	3.12	2.54	2.62	3.14	4.29	5.72	5.25	3.77	2.59	2.04
40_3018	3.76	3.47	7.84	10.41	10.47	8.70	7.58	7.30	4.67	4.00	3.40	3.68	3.08	4.00	4.51	3.56	3.26	2.05	1.42
40_4160	3.51	6.45	7.20	10.09	11.33	8.28	5.66	3.52	2.39	2.31	4.36	6.72	6.85	7.02	6.84	2.58	1.95	1.31	1.06
40_4162	1.70	7.17	13.44	15.49	12.06	7.66	5.40	3.99	3.34	3.36	4.43	5.14	5.46	4.68	2.94	1.86	0.86	0.47	0.26
46_3012	1.61	3.68	3.89	5.88	6.11	3.98	3.50	3.72	4.16	4.60	6.59	8.23	8.22	11.04	13.53	7.51	2.69	0.79	0.17
53_0200	2.57	3.73	3.73	5.73	6.65	5.60	4.89	4.83	4.82	5.01	5.58	6.97	8.79	10.17	9.12	5.33	2.56	1.32	0.75
53_3011	1.56	3.38	7.44	10.15	9.39	7.78	5.87	4.66	4.46	4.61	4.81	5.58	6.79	8.10	7.69	4.70	1.88	0.66	0.24
53_3013	3.56	7.23	10.35	13.05	12.54	10.68	7.79	5.72	4.38	3.41	2.88	2.65	2.73	2.76	2.67	2.37	1.74	1.19	0.82
53_3014	0.87	1.75	5.36	7.60	9.56	7.80	5.52	4.40	3.92	3.80	3.97	4.30	5.24	7.45	10.39	9.85	5.15	1.99	0.70
53_3019	0.77	1.36	4.05	5.85	6.65	6.04	5.15	4.55	4.48	5.02	6.83	9.42	11.89	11.68	8.55	4.60	2.02	0.72	0.24
53_3812	2.86	3.69	7.11	7.75	7.32	6.40	5.90	5.78	6.14	6.74	7.66	8.22	8.11	6.43	4.38	2.54	1.34	0.68	0.35

Table FF.24. Summary of tandem axle load distribution factors for JPCP (0 through 41,999 Ibs) (data was obtained from site specific or regional/Statewide WIM sites or default values).

SHRP ID	< 6000 Ibs	6000 to 7999 Ibs	8000 to 9999 Ibs	10000 to 11999 Ibs	12000 to 13999 Ibs	14000 to 15999 Ibs	16000 to 17999 Ibs	18000 to 19999 Ibs	20000 to 21999 Ibs	22000 to 23999 Ibs	24000 to 25999 Ibs	26000 to 27999 Ibs	28000 to 29999 Ibs	30000 to 31999 Ibs	32000 to 33999 Ibs	34000 to 35999 Ibs	36000 to 37999 Ibs	38000 to 39999 Ibs	40000 to 41999 Ibs
53_3813	3.00	5.88	7.81	10.05	11.21	7.41	5.17	4.67	4.69	4.74	4.77	4.75	5.28	5.80	5.36	4.07	2.59	1.41	0.70
53_7409	4.30	6.16	8.67	9.51	9.15	8.14	6.49	5.24	4.54	4.37	4.90	5.92	6.45	5.77	4.19	2.70	1.70	0.91	0.41
55_3008	1.55	0.49	0.79	1.58	2.54	3.24	8.04	15.29	13.97	8.21	7.03	5.67	6.01	6.18	8.72	6.36	2.35	1.13	0.27
55_3009	0.94	2.28	2.64	5.68	9.76	10.48	9.55	15.23	5.48	3.24	2.51	4.12	7.41	7.18	6.45	2.77	1.82	0.40	0.51
55_3010	0.45	1.20	3.01	6.48	11.16	13.30	11.76	9.82	6.70	5.56	4.64	4.05	4.54	4.82	4.95	4.15	1.96	0.87	0.34
55_3015	0.35	0.73	1.49	4.04	8.64	9.19	8.81	7.33	6.11	5.14	5.20	4.83	5.39	8.08	9.92	7.92	4.33	1.29	1.01
55_3016	0.03	0.26	0.90	3.43	6.55	12.19	12.76	10.98	7.19	7.04	3.95	4.73	6.56	8.78	5.91	5.51	2.53	0.44	0.17
55_6351	4.39	4.87	6.50	8.21	8.73	7.55	6.14	4.34	3.41	3.09	2.90	2.71	3.58	5.05	6.96	8.53	8.37	3.71	0.71
55_6352	4.39	4.87	6.50	8.21	8.73	7.55	6.14	4.34	3.41	3.09	2.90	2.71	3.58	5.05	6.96	8.53	8.37	3.71	0.71
55_6353	4.39	4.87	6.50	8.21	8.73	7.55	6.14	4.34	3.41	3.10	2.90	2.71	3.58	5.05	6.96	8.53	8.37	3.71	0.71
55_6354	4.39	4.87	6.50	8.21	8.73	7.55	6.14	4.33	3.41	3.09	2.90	2.71	3.58	5.05	6.96	8.53	8.37	3.71	0.71
55_6355	4.39	4.87	6.50	8.21	8.73	7.55	6.14	4.34	3.41	3.09	2.90	2.71	3.58	5.05	6.96	8.53	8.37	3.71	0.71
83_3802	1.93	5.30	7.90	8.10	6.54	5.27	4.60	4.42	4.98	4.96	6.07	6.14	5.84	4.70	4.72	4.77	3.89	3.18	2.74
89_3015	0.46	1.92	5.22	7.00	8.81	7.67	5.63	4.35	4.09	4.33	5.15	6.21	7.08	7.06	6.47	5.46	4.28	3.01	2.07

Table FF.25. Summary of tandem axle load distribution factors new JPCP (42,000 through 81,999 Ibs) (data was obtained from site specific or regional/Statewide WIM sites or default values).

SHRP ID	42000 to 43999 Ibs	44000 to 45999 Ibs	46000 to 47999 Ibs	48000 to 49999 Ibs	50000 to 51999 Ibs	52000 to 53999 Ibs	54000 to 55999 Ibs	56000 to 57999 Ibs	58000 to 59999 Ibs	60000 to 61999 Ibs	62000 to 63999 Ibs	64000 to 65999 Ibs	66000 to 67999 Ibs	68000 to 69999 Ibs	70000 to 71999 Ibs	72000 to 73999 Ibs	74000 to 75999 Ibs	76000 to 77999 Ibs	78000 to 79999 Ibs	80000 to 81999 Ibs
1_3028	0.71	0.11	0.02	0.13	0.03	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4_0200	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4_7613	0.84	0.61	0.42	0.28	0.15	0.11	0.09	0.06	0.03	0.04	0.03	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
4_7614	0.50	0.31	0.18	0.08	0.03	0.02	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5_3011	0.33	0.16	0.14	0.08	0.06	0.04	0.03	0.03	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6_3005	0.32	0.21	0.12	0.07	0.03	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6_3021	0.05	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6_3030	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6_3042	0.05	0.03	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8_0200	0.35	0.17	0.07	0.03	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8_3032	0.92	0.45	0.23	0.13	0.08	0.04	0.03	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12_3804	2.46	1.51	1.11	0.63	0.42	0.35	0.33	0.18	0.17	0.04	0.02	0.01	0.01	0.00	0.02	0.01	0.00	0.00	0.00	0.00
12_3811	0.17	0.11	0.07	0.05	0.04	0.02	0.02	0.01	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12_4000	1.33	1.44	1.57	1.30	0.95	0.53	0.31	0.18	0.09	0.06	0.03	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12_4057	1.00	0.64	0.26	0.11	0.05	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12_4059	0.87	0.88	0.80	0.56	0.39	0.23	0.10	0.05	0.03	0.01	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12_4109	0.87	0.85	0.76	0.54	0.38	0.22	0.11	0.05	0.03	0.01	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12_4138	1.52	1.68	1.87	1.57	1.13	0.64	0.35	0.22	0.11	0.08	0.04	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16_3017	0.14	0.05	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16_3023	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18_3002	0.46	0.22	0.10	0.04	0.03	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18_3003	0.37	0.16	0.07	0.04	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18_3031	0.53	0.28	0.15	0.08	0.04	0.03	0.02	0.02	0.01	0.01	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
19_3006	0.50	0.18	0.12	0.05	0.04	0.03	0.01	0.01	0.01	0.00	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
20_0200	1.87	0.90	0.94	0.34	0.06	0.01	0.01	0.01	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20_3015	0.28	0.24	0.14	0.09	0.23	0.17	0.24	0.19	0.12	0.08	0.08	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00

Table FF.25. Summary of tandem axle load distribution factors new JPCP (42,000 through 81,999 Ibs) (data was obtained from site specific or regional/Statewide WIM sites or default values).

SHRP ID	42000 to 43999 Ibs	44000 to 45999 Ibs	46000 to 47999 Ibs	48000 to 49999 Ibs	50000 to 51999 Ibs	52000 to 53999 Ibs	54000 to 55999 Ibs	56000 to 57999 Ibs	58000 to 59999 Ibs	60000 to 61999 Ibs	62000 to 63999 Ibs	64000 to 65999 Ibs	66000 to 67999 Ibs	68000 to 69999 Ibs	70000 to 71999 Ibs	72000 to 73999 Ibs	74000 to 75999 Ibs	76000 to 77999 Ibs	78000 to 79999 Ibs	80000 to 81999 Ibs
21_3016	0.10	0.04	0.03	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26_0200	0.51	0.22	0.09	0.04	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26_3068	0.34	0.20	0.13	0.06	0.05	0.02	0.02	0.02	0.01	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
26_3069	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27_3003	0.51	0.21	0.08	0.04	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27_3013	0.22	0.14	0.09	0.05	0.05	0.03	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28_3018	0.18	0.09	0.05	0.03	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28_3019	0.18	0.09	0.05	0.03	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31_3018	0.18	0.06	0.04	0.02	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31_3024	0.32	0.13	0.06	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32_0200	0.03	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32_3010	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32_3013	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32_7084	0.25	0.12	0.08	0.06	0.04	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.01	0.03	0.00	0.00	0.00	0.00	0.00
37_0200	2.13	1.24	0.70	0.37	0.19	0.10	0.05	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
37_3008	1.17	0.82	0.63	0.46	0.41	0.28	0.20	0.11	0.09	0.07	0.03	0.03	0.02	0.00	0.00	0.00	0.01	0.00	0.00	0.00
37_3011	0.20	0.09	0.04	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
37_3044	0.55	0.39	0.25	0.14	0.13	0.10	0.10	0.04	0.05	0.03	0.03	0.02	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00
37_3807	0.43	0.29	0.17	0.10	0.05	0.04	0.03	0.03	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
37_3816	0.64	0.31	0.22	0.13	0.07	0.02	0.05	0.00	0.00	0.02	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
39_3013	0.77	0.74	0.59	0.52	0.25	0.14	0.03	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
39_3801	1.84	1.65	1.45	1.20	0.95	0.78	0.62	0.47	0.32	0.18	0.08	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40_3018	0.90	0.69	0.53	0.21	0.15	0.13	0.08	0.14	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40_4160	0.13	0.20	0.07	0.06	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40_4162	0.11	0.08	0.04	0.03	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
46_3012	0.05	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
53_0200	0.52	0.39	0.31	0.23	0.17	0.12	0.07	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
53_3011	0.13	0.06	0.03	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table FF.25. Summary of tandem axle load distribution factors new JPCP (42,000 through 81,999 Ibs) (data was obtained from site specific or regional/Statewide WIM sites or default values).

SHRP ID	42000 to 43999 Ibs	44000 to 45999 Ibs	46000 to 47999 Ibs	48000 to 49999 Ibs	50000 to 51999 Ibs	52000 to 53999 Ibs	54000 to 55999 Ibs	56000 to 57999 Ibs	58000 to 59999 Ibs	60000 to 61999 Ibs	62000 to 63999 Ibs	64000 to 65999 Ibs	66000 to 67999 Ibs	68000 to 69999 Ibs	70000 to 71999 Ibs	72000 to 73999 Ibs	74000 to 75999 Ibs	76000 to 77999 Ibs	78000 to 79999 Ibs	80000 to 81999 Ibs
53_3013	0.52	0.34	0.20	0.13	0.10	0.06	0.03	0.03	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
53_3014	0.24	0.08	0.03	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
53_3019	0.08	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
53_3812	0.20	0.11	0.07	0.05	0.04	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
53_3813	0.33	0.17	0.08	0.04	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
53_7409	0.18	0.09	0.05	0.03	0.03	0.02	0.02	0.01	0.00	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
55_3008	0.09	0.22	0.05	0.01	0.00	0.00	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
55_3009	0.51	0.05	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.
55_3010	0.11	0.05	0.03	0.04	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
55_3015	0.14	0.05	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
55_3016	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
55_6351	0.15	0.02	0.01	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
55_6352	0.15	0.02	0.01	0.00	0.00	0.01	0.00	0.00	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
55_6353	0.15	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
55_6354	0.15	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00
55_6355	0.15	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
83_3802	1.81	1.15	0.60	0.25	0.10	0.02	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
89_3015	1.33	0.87	0.56	0.35	0.22	0.15	0.10	0.06	0.04	0.03	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table FF.26. Summary of tandem axle load distribution factors for new CRCP (0 through 41,999 Ibs) (data was obtained from site specific or regional/Statewide WIM sites or default values).

SHRP ID	< 6000 Ibs	6000 to 7999 Ibs	8000 to 9999 Ibs	10000 to 11999 Ibs	12000 to 13999 Ibs	14000 to 15999 Ibs	16000 to 17999 Ibs	18000 to 19999 Ibs	20000 to 21999 Ibs	22000 to 23999 Ibs	24000 to 25999 Ibs	26000 to 27999 Ibs	28000 to 29999 Ibs	30000 to 31999 Ibs	32000 to 33999 Ibs	34000 to 35999 Ibs	36000 to 37999 Ibs	38000 to 39999 Ibs	40000 to 41999 Ibs
1_5008	0.06	0.42	1.63	2.93	4.46	4.43	5.08	5.55	4.59	5.09	6.07	8.86	13.22	16.04	12.64	6.25	1.92	0.51	0.07
16_5025	2.89	7.68	11.69	11.00	10.22	7.06	4.85	4.19	4.39	5.07	6.11	7.12	6.76	4.64	2.80	1.57	0.96	0.48	0.27
17_5020	3.20	4.16	8.55	11.41	10.79	7.31	5.43	4.94	5.55	7.20	9.14	8.76	6.41	3.72	1.93	0.84	0.30	0.13	0.05
17_5843	2.16	3.97	6.31	7.18	6.70	5.96	5.39	5.04	4.98	5.28	6.04	7.21	8.25	8.13	6.81	4.78	2.85	1.52	0.75
17_5849	0.81	0.79	2.46	5.30	6.59	6.83	6.34	6.00	5.80	5.96	6.73	8.66	11.25	11.27	7.89	4.03	1.77	0.78	0.35
17_5854	4.19	7.80	11.48	12.90	11.02	8.14	6.10	5.18	4.84	4.93	5.19	4.86	4.28	3.40	2.36	1.49	0.85	0.46	0.23
17_5869	2.70	4.67	8.69	11.84	11.33	8.89	7.13	6.15	5.73	5.65	5.80	5.97	5.50	4.12	2.55	1.44	0.76	0.43	0.25
17_5908	3.40	5.08	8.23	9.50	9.65	7.03	5.27	4.54	4.43	4.60	5.19	5.88	6.86	7.04	5.45	3.42	1.95	0.99	0.57
17_9267	0.95	0.85	2.02	3.74	4.84	5.32	5.22	5.30	5.69	6.00	6.62	8.61	11.97	13.41	10.22	5.57	2.42	0.87	0.26
18_5022	3.13	2.30	5.13	7.21	7.02	6.13	5.92	6.02	6.04	5.78	5.71	6.45	8.01	8.75	7.77	4.91	2.31	0.91	0.33
18_5043	8.91	9.07	10.77	10.25	10.07	8.21	6.83	5.35	4.12	3.38	3.46	3.39	3.01	2.91	2.66	2.15	1.50	1.17	0.81
18_5518	1.35	2.93	6.24	7.17	8.46	7.44	6.29	5.77	5.39	4.97	4.73	5.06	6.16	7.55	8.04	6.58	3.73	1.45	0.46
19_5042	10.32	8.62	9.52	10.47	9.32	7.92	7.13	6.50	5.95	5.57	5.00	3.48	2.15	1.53	1.32	1.26	0.94	0.66	0.53
19_9116	2.65	2.42	5.07	6.33	7.17	7.48	6.17	6.32	5.64	6.09	8.07	11.92	12.17	7.23	3.16	1.66	0.39	0.06	0.00
28_3099	0.72	1.14	2.77	4.63	5.62	5.67	5.85	6.15	6.33	6.54	7.13	8.34	9.50	9.61	7.97	5.46	3.15	1.65	0.83
28_5006	0.63	3.67	7.76	9.92	8.88	7.59	6.89	6.19	5.60	5.48	5.81	6.48	6.87	6.36	4.86	3.14	1.82	0.98	0.52
28_5025	2.41	8.21	9.29	9.90	7.89	5.00	4.52	3.98	3.01	2.55	2.75	3.66	5.08	6.33	6.48	5.66	4.50	3.25	2.14
28_5803	0.69	2.19	4.99	7.96	7.25	6.62	6.37	5.89	5.30	4.77	4.44	4.38	5.08	6.67	7.99	7.58	5.39	3.11	1.59
28_5805	1.47	5.12	8.22	8.95	8.18	6.82	5.87	5.36	5.45	6.21	7.28	7.68	6.83	5.52	3.95	2.59	1.64	1.02	0.65
29_5047	6.40	6.70	7.67	7.75	7.31	7.07	7.19	6.80	6.10	5.73	5.54	5.32	5.09	4.45	3.57	2.51	1.60	1.00	0.68
31_5052	0.00	1.72	3.77	7.06	8.76	8.26	6.78	5.56	4.74	4.18	3.56	4.61	4.20	6.50	6.45	7.57	6.26	4.33	2.45
37_5037	1.80	1.25	2.00	3.78	6.48	7.90	8.36	8.06	7.73	7.43	6.62	6.78	6.48	6.39	5.62	4.64	3.36	2.33	1.41
37_5827	0.38	2.26	8.10	11.31	10.01	7.12	5.57	5.05	4.58	5.00	5.48	7.38	7.46	6.55	5.22	3.79	2.27	1.21	0.69
38_5002	5.71	4.88	8.39	9.77	8.59	6.18	4.14	4.07	4.99	6.52	7.52	8.19	7.88	5.88	3.40	2.04	0.97	0.45	0.21

Table FF.26. Summary of tandem axle load distribution factors for new CRCP (0 through 41,999 Ibs) (data was obtained from site specific or regional/Statewide WIM sites or default values).

SHRP ID	< 6000 Ibs	6000 to 7999 Ibs	8000 to 9999 Ibs	10000 to 11999 Ibs	12000 to 13999 Ibs	14000 to 15999 Ibs	16000 to 17999 Ibs	18000 to 19999 Ibs	20000 to 21999 Ibs	22000 to 23999 Ibs	24000 to 25999 Ibs	26000 to 27999 Ibs	28000 to 29999 Ibs	30000 to 31999 Ibs	32000 to 33999 Ibs	34000 to 35999 Ibs	36000 to 37999 Ibs	38000 to 39999 Ibs	40000 to 41999 Ibs
39_5003	0.32	1.19	4.33	6.56	7.81	6.24	5.13	5.32	5.68	6.78	8.49	8.97	9.50	8.70	6.38	3.93	2.17	1.17	0.59
39_5010	0.44	1.38	5.33	8.85	11.97	10.15	7.35	5.78	5.29	4.56	4.32	4.61	5.64	7.58	8.61	5.24	1.77	0.68	0.28
04_7079	1.78	4.83	7.05	7.44	6.67	5.90	5.51	5.17	5.60	6.76	7.69	7.96	7.63	6.22	4.73	3.38	2.23	1.34	0.80
40_4158	5.20	6.97	11.09	11.38	9.32	7.01	5.46	4.65	3.93	3.91	4.17	4.77	4.83	4.73	4.10	3.16	2.07	1.30	0.75
40_4166	1.56	3.05	6.37	7.30	8.40	7.92	6.55	5.88	5.71	5.60	6.09	7.77	10.52	9.52	4.99	1.73	0.58	0.24	0.10
40_5021	1.41	4.80	8.38	10.12	9.36	6.47	5.64	5.50	5.15	4.88	4.71	5.51	6.69	7.02	5.91	4.08	2.21	1.14	0.51
41_5005	1.79	1.92	4.00	6.42	7.26	6.82	5.72	5.05	4.95	5.09	5.39	5.92	6.73	7.58	7.88	6.87	4.97	2.89	1.43
41_5006	3.16	2.47	3.38	3.92	4.64	4.83	5.20	5.51	5.41	5.28	5.48	6.70	8.16	8.12	8.00	7.52	5.63	3.94	1.47
41_5008	2.16	2.04	2.58	3.30	4.13	4.52	4.69	5.11	5.51	5.93	6.62	7.73	8.91	9.89	9.16	7.24	4.61	2.53	1.25
41_5021	2.82	4.22	4.42	5.16	6.37	5.80	5.46	4.96	4.65	4.69	5.06	6.18	8.22	9.92	9.41	6.74	3.65	1.50	0.51
41_5022	1.95	1.79	3.33	4.81	5.41	5.02	4.64	4.58	4.56	4.77	5.59	7.10	8.86	10.33	10.02	8.03	5.06	2.58	1.03
41_7081	2.23	2.99	4.42	5.45	5.67	5.08	4.54	4.27	4.18	4.56	5.47	7.08	8.84	9.20	7.94	6.18	4.64	3.28	2.05
42_5020	0.54	7.02	14.74	14.36	10.74	5.76	4.65	4.01	3.47	2.81	3.99	3.50	4.92	5.68	5.21	3.55	2.07	1.30	0.73
45_5017	0.04	0.23	1.08	5.99	12.54	10.09	7.22	6.07	6.79	5.41	5.22	6.34	9.55	9.80	7.52	3.50	1.59	0.57	0.24
45_5034	0.40	0.33	0.79	3.00	12.05	14.50	7.51	6.05	4.62	4.30	3.87	5.03	6.39	6.97	6.94	6.13	4.51	3.13	1.54
45_5035	0.04	0.52	1.47	6.10	13.74	11.23	7.77	5.77	5.58	4.33	4.50	5.69	6.23	7.57	8.00	6.20	3.16	1.02	0.61
46_5020	1.61	3.68	3.89	5.88	6.11	3.98	3.50	3.72	4.16	4.60	6.59	8.23	8.22	11.04	13.53	7.51	2.69	0.79	0.17
46_5025	1.61	3.68	3.89	5.88	6.11	3.98	3.50	3.72	4.16	4.60	6.59	8.23	8.22	11.04	13.53	7.51	2.69	0.79	0.17
48_3779	8.02	9.70	9.81	9.24	11.52	7.65	6.76	6.61	6.38	7.28	7.17	3.30	2.38	1.10	1.05	0.87	0.50	0.21	0.11
48_5024	3.59	3.57	6.99	9.14	9.32	8.66	5.85	3.25	3.48	2.55	2.69	2.64	4.26	5.57	5.84	7.36	5.81	4.96	2.26
48_5026	21.27	9.11	8.23	10.46	7.79	7.76	3.38	1.96	2.08	2.30	1.73	1.59	2.57	2.98	4.57	3.44	3.19	2.44	1.53
48_5154	2.82	3.21	3.14	5.88	6.34	6.13	5.73	5.17	5.18	5.06	5.47	6.56	8.05	9.31	8.56	6.15	3.82	2.07	0.88
48_5278	12.46	2.09	4.33	5.34	7.10	8.30	9.32	12.24	10.24	10.45	8.09	3.74	2.20	1.72	1.56	0.34	0.27	0.20	0.00
48_5328	2.98	3.56	5.24	6.58	7.33	6.24	5.10	4.36	4.32	3.97	4.66	6.49	8.06	8.20	7.27	5.73	3.84	2.46	1.44
48_5334	3.36	3.79	5.45	7.62	9.79	13.77	15.42	13.19	14.69	7.80	1.86	0.87	0.38	0.28	0.10	0.23	0.22	0.20	0.08
48_5336	1.90	3.22	5.50	6.39	6.23	5.40	5.28	4.69	4.52	3.96	3.87	3.78	4.81	5.18	6.94	7.41	6.44	5.48	4.11
5_5803	10.67	3.99	6.09	6.24	6.57	8.60	7.91	8.87	6.86	4.67	3.72	4.27	3.97	5.09	4.51	3.76	2.11	1.06	0.61

Table FF.26. Summary of tandem axle load distribution factors for new CRCP (0 through 41,999 Ibs) (data was obtained from site specific or regional/Statewide WIM sites or default values).

SHRP ID	< 6000 Ibs	6000 to 7999 Ibs	8000 to 9999 Ibs	10000 to 11999 Ibs	12000 to 13999 Ibs	14000 to 15999 Ibs	16000 to 17999 Ibs	18000 to 19999 Ibs	20000 to 21999 Ibs	22000 to 23999 Ibs	24000 to 25999 Ibs	26000 to 27999 Ibs	28000 to 29999 Ibs	30000 to 31999 Ibs	32000 to 33999 Ibs	34000 to 35999 Ibs	36000 to 37999 Ibs	38000 to 39999 Ibs	40000 to 41999 Ibs
5_5805	5.61	3.78	7.87	8.52	8.39	7.59	6.00	4.94	4.49	3.94	5.12	6.05	6.57	7.41	6.26	3.46	2.32	0.92	0.37
51_2564	3.57	8.03	10.82	10.53	8.74	7.14	5.66	5.10	4.56	4.05	3.86	3.91	4.09	4.32	4.30	3.65	2.67	1.74	1.11
51_5010	2.03	2.66	4.26	4.85	4.92	4.45	3.97	3.74	3.69	3.75	3.93	4.43	5.50	7.09	8.45	8.72	7.75	5.97	4.05
55_5037	0.00	0.20	3.47	8.65	8.47	9.32	5.96	11.64	9.73	5.28	5.61	5.16	3.88	5.89	8.31	5.20	2.07	0.55	0.12
55_5040	1.22	2.86	8.23	10.53	10.60	8.36	5.89	5.65	5.72	5.17	3.94	3.32	4.33	5.91	6.96	5.49	3.43	1.10	0.68
6_7455	1.43	3.57	7.74	6.38	7.75	6.53	4.60	4.38	4.22	4.38	6.03	10.04	14.62	13.17	4.43	0.51	0.09	0.04	0.02
I-80	3.42	4.10	6.69	7.74	7.82	7.06	5.91	5.65	5.21	5.04	5.20	5.39	5.92	6.03	5.41	4.25	3.02	2.06	1.36
Edens	3.42	4.10	6.69	7.74	7.82	7.06	5.91	5.65	5.21	5.04	5.20	5.39	5.92	6.03	5.41	4.25	3.02	2.06	1.36
Vandalia	0.81	0.79	2.46	5.30	6.59	6.83	6.34	6.00	5.80	5.96	6.73	8.66	11.25	11.27	7.89	4.03	1.77	0.78	0.35

*All test section on I-80, Edens, and Vandalia.

Table FF.27. Summary of tandem axle load distribution factors for new CRCP (42,000 through 81,999 Ibs) (data was obtained from site specific or regional/Statewide WIM sites or default values).

SHRP ID	42000 to 43999 Ibs	44000 to 45999 Ibs	46000 to 47999 Ibs	48000 to 49999 Ibs	50000 to 51999 Ibs	52000 to 53999 Ibs	54000 to 55999 Ibs	56000 to 57999 Ibs	58000 to 59999 Ibs	60000 to 61999 Ibs	62000 to 63999 Ibs	64000 to 65999 Ibs	66000 to 67999 Ibs	68000 to 69999 Ibs	70000 to 71999 Ibs	72000 to 73999 Ibs	74000 to 75999 Ibs	76000 to 77999 Ibs	78000 to 79999 Ibs	80000 to 81999 Ibs
1_5008	0.00	0.00	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16_5025	0.12	0.06	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17_5020	0.03	0.02	0.02	0.03	0.02	0.02	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17_5843	0.36	0.17	0.08	0.04	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17_5849	0.15	0.08	0.05	0.03	0.03	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table FF.27. Summary of tandem axle load distribution factors for new CRCP (42,000 through 81,999 Ibs) (data was obtained from site specific or regional/Statewide WIM sites or default values).

SHRP ID	42000 to 43999 Ibs	44000 to 45999 Ibs	46000 to 47999 Ibs	48000 to 49999 Ibs	50000 to 51999 Ibs	52000 to 53999 Ibs	54000 to 55999 Ibs	56000 to 57999 Ibs	58000 to 59999 Ibs	60000 to 61999 Ibs	62000 to 63999 Ibs	64000 to 65999 Ibs	66000 to 67999 Ibs	68000 to 69999 Ibs	70000 to 71999 Ibs	72000 to 73999 Ibs	74000 to 75999 Ibs	76000 to 77999 Ibs	78000 to 79999 Ibs	80000 to 81999 Ibs
17_5854	0.12	0.07	0.04	0.02	0.02	0.01	0.01	0.01	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17_5869	0.15	0.09	0.06	0.03	0.02	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17_5908	0.37	0.22	0.14	0.08	0.05	0.04	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17_9267	0.07	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18_5022	0.10	0.04	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18_5043	0.51	0.46	0.41	0.24	0.09	0.12	0.06	0.03	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18_5518	0.14	0.05	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19_5042	0.39	0.30	0.21	0.16	0.14	0.13	0.10	0.08	0.07	0.05	0.04	0.03	0.03	0.02	0.02	0.01	0.01	0.00	0.00	0.00
19_9116	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28_3099	0.42	0.22	0.12	0.07	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28_5006	0.27	0.13	0.07	0.03	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28_5025	1.33	0.85	0.55	0.28	0.15	0.10	0.06	0.03	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28_5803	0.83	0.45	0.22	0.13	0.05	0.03	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28_5805	0.40	0.24	0.15	0.10	0.07	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00
29_5047	0.45	0.31	0.22	0.16	0.11	0.09	0.06	0.04	0.03	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31_5052	1.46	0.82	0.52	0.21	0.11	0.07	0.01	0.02	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
37_5037	0.72	0.41	0.24	0.09	0.05	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
37_5827	0.28	0.13	0.08	0.03	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
38_5002	0.09	0.04	0.03	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
39_5003	0.30	0.15	0.08	0.05	0.04	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00
39_5010	0.10	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
04_7079	0.50	0.30	0.19	0.11	0.05	0.04	0.02	0.01	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40_4158	0.46	0.29	0.17	0.12	0.08	0.03	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40_4166	0.05	0.03	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40_5021	0.24	0.11	0.06	0.04	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
41_5005	0.63	0.32	0.17	0.08	0.05	0.03	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table FF.27. Summary of tandem axle load distribution factors for new CRCP (42,000 through 81,999 Ibs) (data was obtained from site specific or regional/Statewide WIM sites or default values).

SHRP ID	42000 to 43999 Ibs	44000 to 45999 Ibs	46000 to 47999 Ibs	48000 to 49999 Ibs	50000 to 51999 Ibs	52000 to 53999 Ibs	54000 to 55999 Ibs	56000 to 57999 Ibs	58000 to 59999 Ibs	60000 to 61999 Ibs	62000 to 63999 Ibs	64000 to 65999 Ibs	66000 to 67999 Ibs	68000 to 69999 Ibs	70000 to 71999 Ibs	72000 to 73999 Ibs	74000 to 75999 Ibs	76000 to 77999 Ibs	78000 to 79999 Ibs	80000 to 81999 Ibs
41_5006	0.55	0.28	0.10	0.12	0.06	0.05	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41_5008	0.62	0.30	0.15	0.11	0.09	0.08	0.07	0.06	0.06	0.06	0.06	0.05	0.06	0.07	0.06	0.06	0.05	0.04	0.02	0.00
41_5021	0.15	0.06	0.03	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41_5022	0.35	0.11	0.04	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41_7081	1.13	0.48	0.17	0.07	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
42_5020	0.28	0.30	0.20	0.04	0.03	0.04	0.01	0.02	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45_5017	0.14	0.03	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45_5034	0.95	0.47	0.39	0.08	0.00	0.00	0.02	0.04	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45_5035	0.19	0.12	0.11	0.03	0.00	0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
46_5020	0.05	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
46_5025	0.05	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48_3779	0.07	0.15	0.04	0.01	0.02	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48_5024	1.15	0.53	0.26	0.07	0.04	0.04	0.01	0.05	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48_5026	1.09	0.28	0.05	0.16	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48_5154	0.31	0.07	0.03	0.03	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48_5278	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48_5328	0.91	0.53	0.28	0.21	0.08	0.07	0.04	0.02	0.01	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48_5334	0.21	0.17	0.16	0.10	0.01	0.08	0.03	0.05	0.03	0.02	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
48_5336	2.49	1.38	0.53	0.28	0.09	0.03	0.02	0.03	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5_5803	0.25	0.04	0.11	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5_5805	0.21	0.16	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
51_2564	0.71	0.44	0.29	0.20	0.15	0.10	0.08	0.05	0.03	0.03	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00
51_5010	2.48	1.40	0.80	0.46	0.26	0.15	0.09	0.05	0.03	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
55_5037	0.25	0.07	0.04	0.04	0.04	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
55_5040	0.05	0.11	0.04	0.03	0.02	0.00	0.29	0.01	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6_7455	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table FF.27. Summary of tandem axle load distribution factors for new CRCP (42,000 through 81,999 Ibs) (data was obtained from site specific or regional/Statewide WIM sites or default values).

SHRP ID	42000 to 43999 Ibs	44000 to 45999 Ibs	46000 to 47999 Ibs	48000 to 49999 Ibs	50000 to 51999 Ibs	52000 to 53999 Ibs	54000 to 55999 Ibs	56000 to 57999 Ibs	58000 to 59999 Ibs	60000 to 61999 Ibs	62000 to 63999 Ibs	64000 to 65999 Ibs	66000 to 67999 Ibs	68000 to 69999 Ibs	70000 to 71999 Ibs	72000 to 73999 Ibs	74000 to 75999 Ibs	76000 to 77999 Ibs	78000 to 79999 Ibs	80000 to 81999 Ibs
I-80*	0.89	0.59	0.39	0.26	0.17	0.12	0.09	0.05	0.03	0.03	0.02	0.02	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00
Edens*	0.89	0.59	0.39	0.26	0.17	0.12	0.09	0.05	0.03	0.03	0.02	0.02	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00
Vandalia*	0.15	0.08	0.05	0.03	0.03	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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Table FF.28. Summary of tandem axle load distribution factors for rehabilitation with PCC (0 through 41,999 Ibs) (data was obtained from site specific or regional/Statewide WIM sites or default values).

SHRP ID	< 6000 Ibs	6000 to 7999 Ibs	8000 to 9999 Ibs	10000 to 11999 Ibs	12000 to 13999 Ibs	14000 to 15999 Ibs	16000 to 17999 Ibs	18000 to 19999 Ibs	20000 to 21999 Ibs	22000 to 23999 Ibs	24000 to 25999 Ibs	26000 to 27999 Ibs	28000 to 29999 Ibs	30000 to 31999 Ibs	32000 to 33999 Ibs	34000 to 35999 Ibs	36000 to 37999 Ibs	38000 to 39999 Ibs	40000 to 41999 Ibs
AZ1	2.33	4.25	8.51	11.84	11.61	9.58	7.72	5.78	5.10	4.30	3.86	3.69	3.62	3.74	3.53	2.80	2.23	1.60	1.20
AZ2	0.88	1.54	4.89	7.81	7.96	8.02	6.85	5.70	5.22	5.09	5.19	6.02	7.38	8.26	7.56	5.13	2.98	1.46	0.89
CA1	1.49	5.11	8.39	7.73	7.03	5.71	4.26	3.82	3.73	3.58	3.50	4.19	7.00	12.09	12.29	6.70	2.43	0.64	0.16
CA10	1.73	3.76	6.75	6.84	6.68	6.00	5.14	4.57	4.34	4.21	4.32	5.36	8.34	12.06	10.76	5.84	2.22	0.64	0.20
CA2	1.49	5.11	8.39	7.73	7.03	5.71	4.26	3.82	3.73	3.58	3.50	4.19	7.00	12.09	12.29	6.70	2.43	0.64	0.16
CA3	1.73	3.76	6.75	6.84	6.68	6.00	5.14	4.57	4.34	4.21	4.32	5.36	8.34	12.06	10.76	5.84	2.22	0.64	0.20
CA6	1.73	3.76	6.75	6.84	6.68	6.00	5.14	4.57	4.34	4.21	4.32	5.36	8.34	12.06	10.76	5.84	2.22	0.64	0.20
CA7	1.73	3.76	6.75	6.84	6.68	6.00	5.14	4.57	4.34	4.21	4.32	5.36	8.34	12.06	10.76	5.84	2.22	0.64	0.20
CA8	1.73	3.76	6.75	6.84	6.68	6.00	5.14	4.57	4.34	4.21	4.32	5.36	8.34	12.06	10.76	5.84	2.22	0.64	0.20
CA9	1.49	5.11	8.39	7.73	7.03	5.71	4.26	3.82	3.73	3.58	3.50	4.19	7.00	12.09	12.29	6.70	2.43	0.64	0.16
FL2	1.51	4.24	7.12	8.18	7.22	6.92	6.12	5.25	4.98	4.80	4.63	5.07	6.09	6.76	6.85	5.45	3.14	2.04	1.48
FL3	1.51	4.24	7.12	8.18	7.22	6.92	6.12	5.25	4.98	4.80	4.63	5.07	6.09	6.76	6.85	5.45	3.14	2.04	1.48

Table FF.28. Summary of tandem axle load distribution factors for rehabilitation with PCC (0 through 41,999 Ibs) (data was obtained from site specific or regional/Statewide WIM sites or default values).

SHRP ID	< 6000 Ibs	6000 to 7999 Ibs	8000 to 9999 Ibs	10000 to 11999 Ibs	12000 to 13999 Ibs	14000 to 15999 Ibs	16000 to 17999 Ibs	18000 to 19999 Ibs	20000 to 21999 Ibs	22000 to 23999 Ibs	24000 to 25999 Ibs	26000 to 27999 Ibs	28000 to 29999 Ibs	30000 to 31999 Ibs	32000 to 33999 Ibs	34000 to 35999 Ibs	36000 to 37999 Ibs	38000 to 39999 Ibs	40000 to 41999 Ibs
FL4	1.88	3.45	6.12	7.80	8.10	8.34	7.34	5.95	5.17	4.91	4.61	4.75	4.98	5.48	5.45	4.47	2.95	1.87	1.35
MI1	2.56	5.87	9.86	11.15	10.70	9.26	7.41	5.84	4.99	4.94	5.13	5.22	4.69	3.81	2.92	2.00	1.36	0.88	0.55
MN2	1.61	3.68	3.89	5.88	6.11	3.98	3.50	3.72	4.16	4.60	6.59	8.23	8.22	11.04	13.53	7.51	2.69	0.79	0.17
MN4	4.47	7.96	9.42	7.71	5.85	4.52	3.84	3.45	3.40	3.75	4.57	5.70	6.98	7.60	7.10	5.64	3.90	2.16	1.11
MN7	2.72	5.54	9.43	12.52	13.21	8.50	5.56	4.13	3.53	3.45	3.62	4.08	4.74	5.06	4.70	3.69	2.54	1.43	0.78
NC1	0.98	0.93	2.71	4.82	5.72	5.72	5.63	5.54	5.56	6.21	7.37	9.85	11.99	11.07	7.69	4.23	2.09	1.00	0.51
NC2	0.49	2.38	7.07	8.39	7.76	7.12	6.45	6.07	5.75	6.12	6.63	7.40	7.01	6.21	4.93	3.55	2.37	1.53	0.91
NY2	1.08	3.09	5.05	5.52	6.31	6.45	6.11	6.06	6.41	7.00	7.45	7.24	7.17	7.74	7.33	4.69	2.66	1.33	0.63
OH2	0.66	1.39	4.50	6.80	9.17	8.60	6.98	6.13	5.78	5.22	5.16	5.56	6.57	8.42	9.07	5.63	2.55	1.04	0.43
WI1	1.33	2.81	4.18	4.99	5.77	5.84	5.65	5.66	5.65	5.84	6.86	9.00	11.20	10.57	7.43	3.98	1.96	0.87	0.30
WI2	4.39	4.87	6.50	8.21	8.73	7.55	6.14	4.34	3.41	3.09	2.90	2.71	3.58	5.05	6.96	8.53	8.37	3.71	0.71
WI3	4.39	4.87	6.50	8.21	8.73	7.55	6.14	4.34	3.41	3.09	2.90	2.71	3.58	5.05	6.96	8.53	8.37	3.71	0.71
WI4	4.39	4.87	6.50	8.21	8.73	7.55	6.14	4.34	3.41	3.09	2.90	2.71	3.58	5.05	6.96	8.53	8.37	3.71	0.71
WI5	2.56	3.06	4.28	6.46	8.52	8.87	8.25	8.44	5.48	4.27	3.59	3.62	4.87	5.92	6.82	6.57	5.33	2.22	0.56
WI6	4.39	4.87	6.50	8.21	8.73	7.55	6.14	4.34	3.41	3.09	2.90	2.71	3.58	5.05	6.96	8.53	8.37	3.71	0.71
WI7	4.39	4.87	6.50	8.21	8.73	7.55	6.14	4.34	3.41	3.09	2.90	2.71	3.58	5.05	6.96	8.53	8.37	3.71	0.71
WV1	0.97	1.73	3.16	4.62	6.17	6.61	6.96	6.91	6.92	7.13	7.57	8.60	8.89	8.32	6.35	4.23	2.21	1.00	0.47
1_0600	4.47	4.07	6.28	7.01	7.21	6.75	5.90	5.61	5.85	5.12	5.03	5.43	6.05	5.40	4.82	3.86	3.15	2.30	1.58
13_4118	4.47	4.07	6.28	7.01	7.21	6.75	5.90	5.61	5.85	5.12	5.03	5.43	6.05	5.40	4.82	3.86	3.15	2.30	1.58
18_9020	5.55	5.57	6.63	6.90	6.80	6.39	6.13	5.91	5.50	5.17	5.05	5.20	5.57	5.29	4.44	3.59	2.89	2.23	1.61
19_0700	4.47	4.07	6.28	7.01	7.21	6.75	5.90	5.61	5.85	5.12	5.03	5.43	6.05	5.40	4.82	3.86	3.15	2.30	1.58
20_9037	3.98	7.64	11.88	8.19	7.46	5.08	6.58	5.23	5.37	5.45	9.50	8.22	8.26	5.08	1.02	0.51	0.22	0.29	0.04
22_0700	4.47	4.07	6.28	7.01	7.21	6.75	5.90	5.61	5.85	5.12	5.03	5.43	6.05	5.40	4.82	3.86	3.15	2.30	1.58
27_0700	4.47	4.07	6.28	7.01	7.21	6.75	5.90	5.61	5.85	5.12	5.03	5.43	6.05	5.40	4.82	3.86	3.15	2.30	1.58
27_9075	4.86	9.22	13.30	10.30	6.34	4.46	3.85	3.53	3.55	4.29	5.61	6.81	7.17	6.26	4.46	2.69	1.50	0.82	0.46
28_7012	1.00	2.89	4.95	6.08	6.65	6.96	7.18	7.54	8.07	8.80	8.85	8.16	7.19	5.77	4.02	2.51	1.51	0.83	0.40

Table FF.28. Summary of tandem axle load distribution factors for rehabilitation with PCC (0 through 41,999 Ibs) (data was obtained from site specific or regional/Statewide WIM sites or default values).

SHRP ID	< 6000 Ibs	6000 to 7999 Ibs	8000 to 9999 Ibs	10000 to 11999 Ibs	12000 to 13999 Ibs	14000 to 15999 Ibs	16000 to 17999 Ibs	18000 to 19999 Ibs	20000 to 21999 Ibs	22000 to 23999 Ibs	24000 to 25999 Ibs	26000 to 27999 Ibs	28000 to 29999 Ibs	30000 to 31999 Ibs	32000 to 33999 Ibs	34000 to 35999 Ibs	36000 to 37999 Ibs	38000 to 39999 Ibs	40000 to 41999 Ibs
29_A600	4.47	4.07	6.28	7.01	7.21	6.75	5.90	5.61	5.85	5.12	5.03	5.43	6.05	5.40	4.82	3.86	3.15	2.30	1.58
31_6701	1.55	5.41	11.82	9.90	9.18	5.64	4.10	3.55	3.99	3.58	4.55	4.37	6.16	6.27	6.61	5.97	3.48	2.18	1.06
4_0600	4.47	4.07	6.28	7.01	7.21	6.75	5.90	5.61	5.85	5.12	5.03	5.43	6.05	5.40	4.82	3.86	3.15	2.30	1.58
40_4155	4.47	4.07	6.28	7.01	7.21	6.75	5.90	5.61	5.85	5.12	5.03	5.43	6.05	5.40	4.82	3.86	3.15	2.30	1.58
42_1627	1.00	2.49	4.80	5.20	6.12	5.66	5.38	5.46	5.33	5.11	4.98	5.43	6.72	9.07	10.88	8.44	4.23	1.84	0.87
46_0600	4.47	4.07	6.28	7.01	7.21	6.75	5.90	5.61	5.85	5.12	5.03	5.43	6.05	5.40	4.82	3.86	3.15	2.30	1.58
47_0600	4.47	4.07	6.28	7.01	7.21	6.75	5.90	5.61	5.85	5.12	5.03	5.43	6.05	5.40	4.82	3.86	3.15	2.30	1.58
48_3569	4.47	4.07	6.28	7.01	7.21	6.75	5.90	5.61	5.85	5.12	5.03	5.43	6.05	5.40	4.82	3.86	3.15	2.30	1.58
48_3845	4.47	4.07	6.28	7.01	7.21	6.75	5.90	5.61	5.85	5.12	5.03	5.43	6.05	5.40	4.82	3.86	3.15	2.30	1.58
48_9167	8.66	8.55	8.84	8.42	7.52	5.88	4.88	4.89	5.41	6.16	5.12	4.49	4.40	4.27	3.67	3.14	2.24	1.57	0.90
48_9355	2.01	4.06	6.11	8.18	6.77	6.59	6.61	6.21	5.54	5.45	5.30	5.52	7.21	7.65	7.14	4.99	2.58	1.21	0.49
6_0600	4.47	4.07	6.28	7.01	7.21	6.75	5.90	5.61	5.85	5.12	5.03	5.43	6.05	5.40	4.82	3.86	3.15	2.30	1.58
6_9048	1.28	1.13	2.12	3.69	4.65	6.12	6.75	5.33	4.62	4.91	5.57	6.72	8.22	9.96	11.41	9.56	4.79	1.63	0.66
6_9049	4.47	4.07	6.28	7.01	7.21	6.75	5.90	5.61	5.85	5.12	5.03	5.43	6.05	5.40	4.82	3.86	3.15	2.30	1.58
6_9107	1.28	1.13	2.12	3.69	4.65	6.12	6.75	5.33	4.62	4.91	5.57	6.72	8.22	9.96	11.41	9.56	4.79	1.63	0.66
8_9019	6.46	6.60	8.76	9.38	9.15	7.91	7.15	6.57	6.18	6.01	5.98	5.80	5.13	3.80	2.34	1.28	0.70	0.37	0.19
8_9020	4.39	8.55	9.44	9.18	7.84	6.25	4.80	4.18	3.95	4.32	5.92	7.73	7.69	5.70	3.84	2.54	1.56	0.89	0.51
89_9018	4.86	9.22	13.30	10.30	6.34	4.46	3.85	3.53	3.55	4.29	5.61	6.81	7.17	6.26	4.46	2.69	1.50	0.82	0.46
AL_IH_20E_183.0	4.20	4.08	6.43	7.27	7.41	6.82	5.84	5.55	5.58	5.05	5.05	5.41	6.05	5.62	5.06	4.03	3.15	2.24	1.52
AL_IH_59N_235.5	4.20	4.08	6.43	7.27	7.41	6.82	5.84	5.55	5.58	5.05	5.05	5.41	6.05	5.62	5.06	4.03	3.15	2.24	1.52
CA_IH_8E_43.4	4.20	4.08	6.43	7.27	7.41	6.82	5.84	5.55	5.58	5.05	5.05	5.41	6.05	5.62	5.06	4.03	3.15	2.24	1.52
FL_IH_10E_214.7	4.20	4.08	6.43	7.27	7.41	6.82	5.84	5.55	5.58	5.05	5.05	5.41	6.05	5.62	5.06	4.03	3.15	2.24	1.52
GA_IH_16W_59.9	4.20	4.08	6.43	7.27	7.41	6.82	5.84	5.55	5.58	5.05	5.05	5.41	6.05	5.62	5.06	4.03	3.15	2.24	1.52
GA-1	4.47	4.07	6.28	7.01	7.21	6.75	5.90	5.61	5.85	5.12	5.03	5.43	6.05	5.40	4.82	3.86	3.15	2.30	1.58
GA-4	4.47	4.07	6.28	7.01	7.21	6.75	5.90	5.61	5.85	5.12	5.03	5.43	6.05	5.40	4.82	3.86	3.15	2.30	1.58
GA-5	4.47	4.07	6.28	7.01	7.21	6.75	5.90	5.61	5.85	5.12	5.03	5.43	6.05	5.40	4.82	3.86	3.15	2.30	1.58

Table FF.28. Summary of tandem axle load distribution factors for rehabilitation with PCC (0 through 41,999 Ibs) (data was obtained from site specific or regional/Statewide WIM sites or default values).

SHRP ID	< 6000 Ibs	6000 to 7999 Ibs	8000 to 9999 Ibs	10000 to 11999 Ibs	12000 to 13999 Ibs	14000 to 15999 Ibs	16000 to 17999 Ibs	18000 to 19999 Ibs	20000 to 21999 Ibs	22000 to 23999 Ibs	24000 to 25999 Ibs	26000 to 27999 Ibs	28000 to 29999 Ibs	30000 to 31999 Ibs	32000 to 33999 Ibs	34000 to 35999 Ibs	36000 to 37999 Ibs	38000 to 39999 Ibs	40000 to 41999 Ibs
IA_IH_80W_87.7	4.20	4.08	6.43	7.27	7.41	6.82	5.84	5.55	5.58	5.05	5.05	5.41	6.05	5.62	5.06	4.03	3.15	2.24	1.52
IL-3_6_07	4.47	4.07	6.28	7.01	7.21	6.75	5.90	5.61	5.85	5.12	5.03	5.43	6.05	5.40	4.82	3.86	3.15	2.30	1.58
IL-3_6_10	4.47	4.07	6.28	7.01	7.21	6.75	5.90	5.61	5.85	5.12	5.03	5.43	6.05	5.40	4.82	3.86	3.15	2.30	1.58
IL-3_7_07	4.47	4.07	6.28	7.01	7.21	6.75	5.90	5.61	5.85	5.12	5.03	5.43	6.05	5.40	4.82	3.86	3.15	2.30	1.58
IL-3_7_10	4.47	4.07	6.28	7.01	7.21	6.75	5.90	5.61	5.85	5.12	5.03	5.43	6.05	5.40	4.82	3.86	3.15	2.30	1.58
IL-3_8_06	4.47	4.07	6.28	7.01	7.21	6.75	5.90	5.61	5.85	5.12	5.03	5.43	6.05	5.40	4.82	3.86	3.15	2.30	1.58
NE_IH_80W_420.1	4.20	4.08	6.43	7.27	7.41	6.82	5.84	5.55	5.58	5.05	5.05	5.41	6.05	5.62	5.06	4.03	3.15	2.24	1.52
PA-5	4.47	4.07	6.28	7.01	7.21	6.75	5.90	5.61	5.85	5.12	5.03	5.43	6.05	5.40	4.82	3.86	3.15	2.30	1.58
SD_IH_29S_174	4.20	4.08	6.43	7.27	7.41	6.82	5.84	5.55	5.58	5.05	5.05	5.41	6.05	5.62	5.06	4.03	3.15	2.24	1.52
WI_IH_43N_2.7	4.20	4.08	6.43	7.27	7.41	6.82	5.84	5.55	5.58	5.05	5.05	5.41	6.05	5.62	5.06	4.03	3.15	2.24	1.52
WI-1	4.47	4.07	6.28	7.01	7.21	6.75	5.90	5.61	5.85	5.12	5.03	5.43	6.05	5.40	4.82	3.86	3.15	2.30	1.58

Table FF.29. Summary of tandem axle load distribution factors for rehabilitation with PCC (42,000 through 81,999 Ibs) (data was obtained from site specific or regional/Statewide WIM sites or default values).

SHRP ID	42000 to 43999 Ibs	44000 to 45999 Ibs	46000 to 47999 Ibs	48000 to 49999 Ibs	50000 to 51999 Ibs	52000 to 53999 Ibs	54000 to 55999 Ibs	56000 to 57999 Ibs	58000 to 59999 Ibs	60000 to 61999 Ibs	62000 to 63999 Ibs	64000 to 65999 Ibs	66000 to 67999 Ibs	68000 to 69999 Ibs	70000 to 71999 Ibs	72000 to 73999 Ibs	74000 to 75999 Ibs	76000 to 77999 Ibs	78000 to 79999 Ibs	80000 to 81999 Ibs
AZ1	0.84	0.61	0.42	0.28	0.15	0.11	0.09	0.06	0.03	0.04	0.03	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
AZ2	0.50	0.31	0.18	0.08	0.03	0.02	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CA1	0.05	0.03	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CA10	0.09	0.06	0.03	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CA2	0.05	0.03	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table FF.29. Summary of tandem axle load distribution factors for rehabilitation with PCC (42,000 through 81,999 Ibs) (data was obtained from site specific or regional/Statewide WIM sites or default values).

SHRP ID	42000 to 43999 Ibs	44000 to 45999 Ibs	46000 to 47999 Ibs	48000 to 49999 Ibs	50000 to 51999 Ibs	52000 to 53999 Ibs	54000 to 55999 Ibs	56000 to 57999 Ibs	58000 to 59999 Ibs	60000 to 61999 Ibs	62000 to 63999 Ibs	64000 to 65999 Ibs	66000 to 67999 Ibs	68000 to 69999 Ibs	70000 to 71999 Ibs	72000 to 73999 Ibs	74000 to 75999 Ibs	76000 to 77999 Ibs	78000 to 79999 Ibs	80000 to 81999 Ibs
CA3	0.09	0.06	0.03	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CA6	0.09	0.06	0.03	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CA7	0.09	0.06	0.03	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CA8	0.09	0.06	0.03	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CA9	0.05	0.03	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FL2	1.00	0.64	0.26	0.11	0.05	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FL3	1.00	0.64	0.26	0.11	0.05	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FL4	1.17	1.02	0.94	0.70	0.49	0.29	0.18	0.10	0.07	0.03	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MI1	0.34	0.20	0.13	0.06	0.05	0.02	0.02	0.02	0.01	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
MN2	0.05	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MN4	0.51	0.21	0.08	0.04	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MN7	0.37	0.18	0.08	0.05	0.03	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NC1	0.20	0.09	0.04	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NC2	0.55	0.39	0.25	0.14	0.13	0.10	0.10	0.04	0.05	0.03	0.03	0.02	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00
NY2	0.29	0.15	0.09	0.06	0.04	0.03	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OH2	0.18	0.08	0.04	0.02	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WI1	0.07	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WI2	0.15	0.02	0.01	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
WI3	0.15	0.02	0.01	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
WI4	0.15	0.02	0.01	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
WI5	0.19	0.04	0.02	0.01	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
WI6	0.15	0.02	0.01	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
WI7	0.15	0.02	0.01	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
WV1	0.22	0.15	0.11	0.08	0.09	0.08	0.06	0.07	0.07	0.05	0.05	0.05	0.04	0.03	0.03	0.02	0.01	0.01	0.00	0.00
1_0600	1.14	0.85	0.55	0.40	0.26	0.28	0.16	0.10	0.07	0.07	0.04	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.02	0.00
13_4118	1.14	0.85	0.55	0.40	0.26	0.28	0.16	0.10	0.07	0.07	0.04	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.02	0.00
18_9020	1.10	0.77	0.53	0.38	0.26	0.18	0.13	0.09	0.07	0.04	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table FF.29. Summary of tandem axle load distribution factors for rehabilitation with PCC (42,000 through 81,999 Ibs) (data was obtained from site specific or regional/Statewide WIM sites or default values).

SHRP ID	42000 to 43999 Ibs	44000 to 45999 Ibs	46000 to 47999 Ibs	48000 to 49999 Ibs	50000 to 51999 Ibs	52000 to 53999 Ibs	54000 to 55999 Ibs	56000 to 57999 Ibs	58000 to 59999 Ibs	60000 to 61999 Ibs	62000 to 63999 Ibs	64000 to 65999 Ibs	66000 to 67999 Ibs	68000 to 69999 Ibs	70000 to 71999 Ibs	72000 to 73999 Ibs	74000 to 75999 Ibs	76000 to 77999 Ibs	78000 to 79999 Ibs	80000 to 81999 Ibs
19_0700	1.14	0.85	0.55	0.40	0.26	0.28	0.16	0.10	0.07	0.07	0.04	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.02	0.00
20_9037	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22_0700	1.14	0.85	0.55	0.40	0.26	0.28	0.16	0.10	0.07	0.07	0.04	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.02	0.00
27_0700	1.14	0.85	0.55	0.40	0.26	0.28	0.16	0.10	0.07	0.07	0.04	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.02	0.00
27_9075	0.21	0.13	0.09	0.04	0.04	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28_7012	0.19	0.10	0.07	0.06	0.05	0.05	0.04	0.03	0.03	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29_A600	1.14	0.85	0.55	0.40	0.26	0.28	0.16	0.10	0.07	0.07	0.04	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.02	0.00
31_6701	0.50	0.05	0.01	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4_0600	1.14	0.85	0.55	0.40	0.26	0.28	0.16	0.10	0.07	0.07	0.04	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.02	0.00
40_4155	1.14	0.85	0.55	0.40	0.26	0.28	0.16	0.10	0.07	0.07	0.04	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.02	0.00
42_1627	0.43	0.22	0.13	0.08	0.05	0.03	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
46_0600	1.14	0.85	0.55	0.40	0.26	0.28	0.16	0.10	0.07	0.07	0.04	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.02	0.00
47_0600	1.14	0.85	0.55	0.40	0.26	0.28	0.16	0.10	0.07	0.07	0.04	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.02	0.00
48_3569	1.14	0.85	0.55	0.40	0.26	0.28	0.16	0.10	0.07	0.07	0.04	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.02	0.00
48_3845	1.14	0.85	0.55	0.40	0.26	0.28	0.16	0.10	0.07	0.07	0.04	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.02	0.00
48_9167	0.52	0.23	0.10	0.06	0.02	0.02	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48_9355	0.15	0.11	0.04	0.02	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6_0600	1.14	0.85	0.55	0.40	0.26	0.28	0.16	0.10	0.07	0.07	0.04	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.02	0.00
6_9048	0.37	0.24	0.13	0.07	0.03	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6_9049	1.14	0.85	0.55	0.40	0.26	0.28	0.16	0.10	0.07	0.07	0.04	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.02	0.00
6_9107	0.37	0.24	0.13	0.07	0.03	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8_9019	0.10	0.05	0.03	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8_9020	0.28	0.19	0.09	0.09	0.04	0.03	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
89_9018	0.21	0.13	0.09	0.04	0.04	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AL_IH_20E_183.0	1.06	0.76	0.50	0.35	0.23	0.23	0.13	0.09	0.05	0.05	0.04	0.04	0.02	0.02	0.02	0.01	0.01	0.00	0.02	0.00
AL_IH_59N_235.5	1.06	0.76	0.50	0.35	0.23	0.23	0.13	0.09	0.05	0.05	0.04	0.04	0.02	0.02	0.02	0.01	0.01	0.00	0.02	0.00
CA_IH_8E_43.4	1.06	0.76	0.50	0.35	0.23	0.23	0.13	0.09	0.05	0.05	0.04	0.04	0.02	0.02	0.02	0.01	0.01	0.00	0.02	0.00

Table FF.29. Summary of tandem axle load distribution factors for rehabilitation with PCC (42,000 through 81,999 Ibs) (data was obtained from site specific or regional/Statewide WIM sites or default values).

SHRP ID	42000 to 43999 Ibs	44000 to 45999 Ibs	46000 to 47999 Ibs	48000 to 49999 Ibs	50000 to 51999 Ibs	52000 to 53999 Ibs	54000 to 55999 Ibs	56000 to 57999 Ibs	58000 to 59999 Ibs	60000 to 61999 Ibs	62000 to 63999 Ibs	64000 to 65999 Ibs	66000 to 67999 Ibs	68000 to 69999 Ibs	70000 to 71999 Ibs	72000 to 73999 Ibs	74000 to 75999 Ibs	76000 to 77999 Ibs	78000 to 79999 Ibs	80000 to 81999 Ibs
FL_IH_10E_214.7	1.06	0.76	0.50	0.35	0.23	0.23	0.13	0.09	0.05	0.05	0.04	0.04	0.02	0.02	0.02	0.01	0.01	0.00	0.02	0.00
GA_IH_16W_59.9	1.06	0.76	0.50	0.35	0.23	0.23	0.13	0.09	0.05	0.05	0.04	0.04	0.02	0.02	0.02	0.01	0.01	0.00	0.02	0.00
GA-1	1.14	0.85	0.55	0.40	0.26	0.28	0.16	0.10	0.07	0.07	0.04	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.02	0.00
GA-4	1.14	0.85	0.55	0.40	0.26	0.28	0.16	0.10	0.07	0.07	0.04	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.02	0.00
GA-5	1.14	0.85	0.55	0.40	0.26	0.28	0.16	0.10	0.07	0.07	0.04	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.02	0.00
IA_IH_80W_87.7	1.06	0.76	0.50	0.35	0.23	0.23	0.13	0.09	0.05	0.05	0.04	0.04	0.02	0.02	0.02	0.01	0.01	0.00	0.02	0.00
IL-3_6_07	1.14	0.85	0.55	0.40	0.26	0.28	0.16	0.10	0.07	0.07	0.04	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.02	0.00
IL-3_6_10	1.14	0.85	0.55	0.40	0.26	0.28	0.16	0.10	0.07	0.07	0.04	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.02	0.00
IL-3_7_07	1.14	0.85	0.55	0.40	0.26	0.28	0.16	0.10	0.07	0.07	0.04	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.02	0.00
IL-3_7_10	1.14	0.85	0.55	0.40	0.26	0.28	0.16	0.10	0.07	0.07	0.04	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.02	0.00
IL-3_8_06	1.14	0.85	0.55	0.40	0.26	0.28	0.16	0.10	0.07	0.07	0.04	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.02	0.00
NE_IH_80W_420.1	1.06	0.76	0.50	0.35	0.23	0.23	0.13	0.09	0.05	0.05	0.04	0.04	0.02	0.02	0.02	0.01	0.01	0.00	0.02	0.00
PA-5	1.14	0.85	0.55	0.40	0.26	0.28	0.16	0.10	0.07	0.07	0.04	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.02	0.00
SD_IH_29S_174	1.06	0.76	0.50	0.35	0.23	0.23	0.13	0.09	0.05	0.05	0.04	0.04	0.02	0.02	0.02	0.01	0.01	0.00	0.02	0.00
WI_IH_43N_2.7	1.06	0.76	0.50	0.35	0.23	0.23	0.13	0.09	0.05	0.05	0.04	0.04	0.02	0.02	0.02	0.01	0.01	0.00	0.02	0.00
WI-1	1.14	0.85	0.55	0.40	0.26	0.28	0.16	0.10	0.07	0.07	0.04	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.02	0.00

Table FF.30. Summary of tridem axle load distribution factors for new JPCP (0 through 56,999 lbs.) (data was obtained from site specific or regional/Statewide WIM sites or default values).

SHRP ID	< 12000 lbs	12000 to 14999 lbs	15000 to 17999 lbs	18000 to 20999 lbs	21000 to 23999 lbs	24000 to 26999 lbs	27000 to 29999 lbs	30000 to 32999 lbs	33000 to 35999 lbs	36000 to 38999 lbs	39000 to 41999 lbs	42000 to 44999 lbs	45000 to 47999 lbs	48000 to 50999 lbs	51000 to 53999 lbs	54000 to 56999 lbs
1_3028	2.31	0.00	0.00	0.00	4.87	0.00	0.00	0.00	0.00	0.00	4.87	3.21	0.00	2.14	10.72	20.49
4_0200	10.36	4.84	6.51	6.87	7.35	10.64	12.12	11.53	12.92	8.01	3.15	1.77	1.75	0.99	0.58	0.33
4_7613	7.97	4.31	4.26	3.24	1.59	2.36	3.36	3.69	4.56	6.51	18.89	8.11	6.14	5.84	14.86	2.04
4_7614	7.75	6.90	5.15	3.30	2.24	1.91	6.19	10.15	21.21	18.33	6.12	4.17	2.37	2.28	0.68	0.00
5_3011	14.97	6.94	3.52	2.33	12.36	6.41	3.88	4.38	6.29	3.09	6.09	9.94	9.78	5.86	1.97	0.68
6_3005	7.38	4.61	12.42	14.05	9.34	6.82	6.49	10.65	14.92	9.05	2.90	0.82	0.27	0.10	0.07	0.04
6_3021	13.04	20.72	8.75	4.45	3.69	5.21	5.55	13.22	6.13	3.10	4.45	3.10	3.69	3.25	1.26	0.36
6_3030	6.61	3.96	4.27	5.07	7.60	14.16	18.13	12.93	14.55	9.31	2.41	0.61	0.22	0.12	0.04	0.01
6_3042	14.05	5.05	3.67	4.55	6.47	13.81	14.79	11.00	11.99	8.92	3.69	1.22	0.42	0.26	0.06	0.03
8_0200	19.97	15.83	10.94	7.44	5.84	4.45	4.88	5.93	5.58	5.69	3.49	2.81	1.89	2.12	1.20	0.76
8_3032	23.99	12.94	10.33	6.86	5.97	5.63	4.63	4.47	4.86	4.21	3.55	3.01	1.89	1.54	1.36	1.05
12_3804	12.08	6.23	4.49	16.88	5.53	3.61	3.95	4.19	3.45	7.47	2.76	2.55	3.49	4.23	3.59	2.87
12_3811	13.00	10.72	10.00	7.87	10.04	11.15	4.46	3.65	3.63	6.08	8.64	2.52	1.54	2.75	0.52	0.00
12_4000	0.21	0.88	0.97	0.92	1.32	1.76	2.07	1.85	1.54	2.47	4.28	10.22	13.80	17.38	15.00	10.66
12_4057	1.54	2.92	2.94	2.60	2.13	2.39	2.03	1.93	2.41	3.36	4.20	6.57	10.78	14.24	15.45	13.14
12_4059	7.28	5.42	8.91	3.70	1.52	1.27	1.27	1.52	1.52	0.98	2.65	3.16	4.56	5.11	10.02	9.73
12_4109	7.26	5.66	8.05	2.02	1.73	0.95	1.73	1.73	2.78	0.95	2.78	2.02	3.06	5.17	9.95	9.95
12_4138	0.49	1.69	1.31	1.56	1.56	2.95	2.76	1.69	1.37	1.00	1.75	5.03	11.45	20.01	16.30	12.58
16_3017	30.82	6.80	2.57	2.70	2.38	2.24	2.93	4.57	8.44	12.96	12.87	6.40	2.55	0.83	0.56	0.22
16_3023	16.33	2.33	2.11	2.58	3.17	4.20	5.84	8.36	12.64	16.94	14.72	7.43	2.30	0.60	0.24	0.14
18_3002	6.82	5.68	2.79	2.38	2.58	2.75	3.73	6.41	10.08	10.58	10.40	8.57	7.78	5.47	4.33	3.44
18_3003	12.67	4.87	2.88	1.99	2.01	1.55	1.22	1.79	3.05	5.20	7.12	9.06	10.14	9.65	8.74	6.94
18_3031	10.96	3.66	5.24	2.38	1.78	1.71	1.20	1.89	2.17	2.60	4.39	5.27	5.64	7.46	13.20	14.52
19_3006	22.01	7.06	3.87	4.06	6.56	7.39	10.74	7.16	8.92	4.18	6.84	3.70	2.38	1.98	0.90	0.56
20_0200	35.17	6.69	1.42	2.85	4.77	2.36	2.36	0.95	5.94	4.26	5.69	10.68	10.93	4.51	0.00	0.00
20_3015	36.50	6.66	2.45	2.45	2.86	2.76	5.26	8.13	11.46	8.69	5.56	2.34	1.01	0.76	0.76	0.07

Table FF.30. Summary of tridem axle load distribution factors for new JPCP (0 through 56,999 Ibs.) (data was obtained from site specific or regional/Statewide WIM sites or default values).

SHRP ID	< 12000 Ibs	12000 to 14999 Ibs	15000 to 17999 Ibs	18000 to 20999 Ibs	21000 to 23999 Ibs	24000 to 26999 Ibs	27000 to 29999 Ibs	30000 to 32999 Ibs	33000 to 35999 Ibs	36000 to 38999 Ibs	39000 to 41999 Ibs	42000 to 44999 Ibs	45000 to 47999 Ibs	48000 to 50999 Ibs	51000 to 53999 Ibs	54000 to 56999 Ibs
21_3016	39.48	15.08	9.25	5.66	2.85	2.10	2.46	2.60	2.85	2.89	3.20	2.52	2.28	2.84	1.58	0.90
26_0200	14.32	7.05	3.40	2.07	2.12	2.07	2.14	3.34	5.55	8.59	11.49	12.54	10.48	6.88	3.90	2.04
26_3068	18.07	11.04	9.19	6.38	5.68	5.65	6.90	8.79	8.19	6.02	4.66	3.15	2.19	1.61	0.82	0.44
26_3069	31.95	7.80	7.36	5.56	4.14	6.09	6.83	7.38	8.04	7.60	3.33	2.65	0.32	0.07	0.51	0.16
27_3003	4.48	2.23	1.28	2.09	2.26	3.24	5.78	9.29	13.50	18.31	18.16	10.67	5.03	2.03	0.87	0.50
27_3013	53.89	17.87	2.00	0.57	0.93	0.99	1.53	3.40	4.35	4.16	3.71	2.55	1.58	1.04	0.59	0.29
28_3018	11.97	6.28	6.17	7.32	6.04	9.58	8.14	10.52	10.71	7.13	4.69	4.49	2.29	1.94	1.06	0.81
28_3019	11.97	6.28	6.19	7.31	6.05	9.60	8.10	10.51	10.72	7.14	4.69	4.50	2.30	1.94	1.06	0.80
31_3018	11.31	11.99	8.75	5.27	5.29	7.32	7.05	9.28	9.61	9.24	6.32	3.35	2.25	1.38	0.93	0.18
31_3024	6.73	9.46	5.28	4.96	10.34	9.53	13.55	11.54	8.30	6.25	6.14	3.25	1.79	0.73	1.71	0.18
32_0200	15.25	16.32	6.96	4.72	3.99	3.41	2.62	3.33	9.51	17.85	10.17	3.81	1.07	0.48	0.22	0.19
32_3010	4.34	2.29	2.09	1.23	1.00	2.82	2.27	8.27	20.29	27.75	19.23	5.39	1.34	0.85	0.30	0.25
32_3013	7.96	2.96	2.60	2.13	2.34	3.47	8.41	15.20	13.87	21.81	12.87	3.66	1.02	0.54	0.44	0.31
32_7084	4.00	5.03	9.27	12.78	7.73	10.84	7.54	6.24	7.00	3.93	9.18	2.07	5.03	4.77	0.33	3.94
37_0200	10.91	11.74	10.76	5.85	4.22	4.09	4.19	4.19	4.61	5.59	6.08	6.83	5.70	3.79	3.43	3.19
37_3008	5.47	8.48	6.78	4.76	7.11	3.03	6.67	3.28	8.07	5.33	7.44	7.32	4.15	2.28	5.83	4.80
37_3011	20.03	11.50	6.77	4.47	8.51	4.86	7.42	8.05	6.83	7.95	3.78	4.62	2.38	1.19	0.56	0.71
37_3044	3.45	2.75	4.01	1.89	1.66	2.50	4.59	4.72	18.53	9.60	15.70	7.15	5.84	4.37	3.05	1.89
37_3807	6.01	6.10	3.79	3.54	2.77	5.40	2.47	7.69	7.62	7.45	9.21	8.32	7.66	5.10	4.08	5.03
37_3816	6.80	5.28	6.62	4.51	4.91	2.54	2.96	6.97	11.03	16.80	13.00	6.14	3.99	2.37	4.28	1.11
39_3013	8.11	2.38	6.92	4.86	2.70	1.95	1.51	2.38	0.97	4.00	3.03	14.05	4.43	8.65	14.81	12.11
39_3801	1.41	2.94	2.14	2.22	1.29	1.60	1.54	1.52	2.16	5.62	8.49	4.18	4.22	5.62	7.52	7.70
40_3018	19.83	10.65	13.72	8.39	7.59	4.28	3.55	6.17	6.84	4.16	4.22	1.99	1.94	2.98	0.00	0.56
40_4160	24.97	23.05	13.32	3.84	3.84	7.79	0.00	0.00	11.67	3.84	0.00	0.00	0.00	3.84	0.00	0.00
40_4162	14.99	10.08	6.80	5.88	14.00	6.66	7.65	6.80	5.38	2.82	1.82	4.66	0.54	6.80	2.82	0.24
46_3012	10.81	8.00	2.11	1.43	1.87	2.48	3.19	5.72	10.66	16.10	19.13	11.73	3.65	1.51	0.79	0.42

Table FF.30. Summary of tridem axle load distribution factors for new JPCP (0 through 56,999 Ibs.) (data was obtained from site specific or regional/Statewide WIM sites or default values).

SHRP ID	< 12000 Ibs	12000 to 14999 Ibs	15000 to 17999 Ibs	18000 to 20999 Ibs	21000 to 23999 Ibs	24000 to 26999 Ibs	27000 to 29999 Ibs	30000 to 32999 Ibs	33000 to 35999 Ibs	36000 to 38999 Ibs	39000 to 41999 Ibs	42000 to 44999 Ibs	45000 to 47999 Ibs	48000 to 50999 Ibs	51000 to 53999 Ibs	54000 to 56999 Ibs
53_0200	24.85	16.58	6.67	3.27	3.08	3.49	4.46	6.35	8.58	7.85	6.58	3.67	1.56	0.99	0.59	0.51
53_3011	14.47	9.71	5.21	3.59	3.98	4.48	5.54	8.67	12.08	12.75	8.91	5.21	2.77	1.41	0.69	0.26
53_3013	35.40	21.83	15.31	6.38	1.77	1.25	1.17	1.28	1.77	2.33	2.50	2.83	2.61	1.61	0.75	0.50
53_3014	16.54	19.14	5.98	3.31	1.94	1.43	1.61	2.48	3.97	6.82	11.48	12.62	8.03	3.16	0.95	0.31
53_3019	17.08	9.40	2.54	1.87	1.93	2.58	4.23	7.37	12.20	15.49	13.04	7.02	3.35	1.18	0.42	0.18
53_3812	13.84	6.48	4.53	3.68	3.51	4.56	6.94	10.50	13.93	12.45	8.69	4.76	2.74	1.44	0.68	0.51
53_3813	33.24	18.91	4.05	1.65	1.33	1.59	2.75	4.15	5.39	6.64	7.06	5.69	3.93	2.02	0.99	0.37
53_7409	25.42	12.88	8.52	5.58	4.54	4.54	5.20	5.54	5.89	5.85	5.40	4.15	2.79	1.51	0.71	0.37
55_3008	8.43	3.32	16.06	5.92	6.73	10.32	11.75	0.80	3.41	4.30	12.92	5.92	3.23	5.20	0.00	0.00
55_3009	0.40	0.00	0.00	0.00	18.99	9.29	0.00	0.40	1.66	7.46	7.04	12.84	21.27	2.06	0.00	0.00
55_3010	0.17	0.62	1.68	5.86	8.13	7.82	7.61	6.68	7.89	12.14	10.27	10.36	5.93	5.12	3.89	1.54
55_3015	0.00	0.53	0.53	1.57	2.28	2.45	1.70	3.03	2.70	4.96	15.60	5.91	8.49	3.88	7.15	19.57
55_3016	3.43	5.15	10.35	3.43	3.43	8.57	5.15	0.00	1.71	15.13	9.96	3.43	17.18	0.00	0.00	0.00
55_6351	5.17	3.60	4.63	7.74	2.30	5.17	3.33	2.07	1.53	9.31	11.60	14.48	8.50	11.87	2.57	4.37
55_6352	5.20	3.62	4.66	7.51	2.31	5.20	3.35	2.08	1.27	9.36	11.67	14.56	8.55	11.94	2.58	4.39
55_6353	5.18	3.61	4.65	7.53	2.30	5.18	3.38	2.07	1.54	9.33	11.67	14.55	8.29	11.94	2.57	4.42
55_6354	5.17	3.60	4.63	7.77	2.30	5.17	3.37	2.07	1.26	9.31	11.64	14.52	8.54	11.91	2.57	4.40
55_6355	5.15	3.62	4.66	7.76	2.33	5.15	3.34	2.05	1.53	9.33	11.66	14.52	8.28	11.90	2.57	4.38
83_3802	5.58	4.02	1.22	1.10	1.54	1.16	1.52	2.08	3.03	6.05	8.44	8.62	9.30	12.13	14.48	11.93
89_3015	4.43	11.02	7.37	3.70	2.51	2.15	2.65	3.46	4.86	6.98	8.84	10.49	9.96	7.78	4.89	3.16

Table FF.31. Summary of tridem axle load distribution factors for new JPCP (57,000 through 101,999 lbs.) (data was obtained from site specific or regional/Statewide WIM sites or default values).

SHRP ID	57000 to 59999 lbs	60000 to 62999 lbs	63000 to 65999 lbs	66000 to 68999 lbs	69000 to 71999 lbs	72000 to 74999 lbs	75000 to 77999 lbs	78000 to 80999 lbs	81000 to 83999 lbs	84000 to 86999 lbs	87000 to 89999 lbs	90000 to 92999 lbs	93000 to 95999 lbs	96000 to 98999 lbs	99000 to 101999 lbs
1_3028	9.74	22.93	16.58	2.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4_0200	0.19	0.04	0.00	0.00	0.04	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4_7613	1.16	0.49	0.19	0.09	0.21	0.04	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.00
4_7614	0.14	1.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5_3011	0.71	0.55	0.15	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6_3005	0.02	0.00	0.00	0.00	0.01	0.02	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00
6_3021	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6_3030	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6_3042	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8_0200	0.41	0.28	0.15	0.05	0.05	0.10	0.00	0.05	0.05	0.00	0.05	0.00	0.00	0.00	0.00
8_3032	1.20	0.66	0.59	0.24	0.36	0.31	0.17	0.01	0.05	0.05	0.05	0.00	0.00	0.00	0.00
12_3804	2.71	1.98	1.66	2.52	1.49	0.72	0.61	0.73	0.20	0.00	0.00	0.00	0.00	0.00	0.00
12_3811	0.99	2.14	0.07	0.16	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12_4000	6.90	4.28	2.07	1.01	0.30	0.08	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12_4057	6.70	2.56	1.29	0.47	0.11	0.08	0.02	0.00	0.01	0.07	0.05	0.00	0.00	0.00	0.00
12_4059	11.70	8.14	6.99	2.87	1.27	0.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12_4109	12.87	8.85	7.81	3.06	1.21	0.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12_4138	8.68	4.27	2.00	1.12	0.30	0.11	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16_3017	0.13	0.02	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16_3023	0.07	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18_3002	2.48	1.80	0.90	0.61	0.26	0.09	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18_3003	5.38	3.49	1.42	0.55	0.23	0.03	0.01	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00
18_3031	9.53	3.18	1.20	0.83	0.65	0.29	0.08	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19_3006	0.75	0.34	0.20	0.20	0.06	0.11	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20_0200	0.00	0.70	0.00	0.00	0.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20_3015	0.04	0.83	0.20	0.00	0.62	0.00	0.00	0.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table FF.31. Summary of tridem axle load distribution factors for new JPCP (57,000 through 101,999 Ibs.) (data was obtained from site specific or regional/Statewide WIM sites or default values).

SHRP ID	57000 to 59999 Ibs	60000 to 62999 Ibs	63000 to 65999 Ibs	66000 to 68999 Ibs	69000 to 71999 Ibs	72000 to 74999 Ibs	75000 to 77999 Ibs	78000 to 80999 Ibs	81000 to 83999 Ibs	84000 to 86999 Ibs	87000 to 89999 Ibs	90000 to 92999 Ibs	93000 to 95999 Ibs	96000 to 98999 Ibs	99000 to 101999 Ibs
21_3016	0.58	0.38	0.19	0.08	0.05	0.04	0.02	0.11	0.01	0.01	0.00	0.00	0.00	0.00	0.00
26_0200	1.04	0.51	0.25	0.12	0.06	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26_3068	0.36	0.29	0.22	0.08	0.05	0.08	0.07	0.05	0.03	0.00	0.00	0.00	0.00	0.00	0.00
26_3069	0.04	0.00	0.01	0.01	0.04	0.01	0.01	0.00	0.04	0.00	0.01	0.04	0.00	0.00	0.00
27_3003	0.16	0.01	0.10	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27_3013	0.16	0.11	0.08	0.08	0.05	0.04	0.04	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28_3018	0.42	0.08	0.05	0.18	0.00	0.06	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28_3019	0.40	0.06	0.05	0.18	0.00	0.06	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31_3018	0.04	0.01	0.01	0.04	0.02	0.00	0.15	0.00	0.04	0.02	0.11	0.00	0.02	0.00	0.00
31_3024	0.00	0.21	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32_0200	0.08	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32_3010	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32_3013	0.36	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32_7084	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
37_0200	1.93	1.11	1.03	0.21	0.40	0.05	0.09	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00
37_3008	0.63	1.12	1.12	0.80	1.34	0.88	0.88	0.00	1.25	0.50	0.00	0.67	0.00	0.00	0.00
37_3011	0.21	0.10	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
37_3044	1.40	0.48	1.24	1.36	0.86	0.68	0.52	0.54	0.15	0.30	0.41	0.14	0.04	0.19	0.00
37_3807	3.07	2.06	0.17	1.75	0.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
37_3816	0.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
39_3013	3.68	1.95	1.19	0.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
39_3801	7.89	7.45	7.58	5.83	4.30	3.68	1.68	0.79	0.34	0.19	0.07	0.01	0.00	0.00	0.00
40_3018	2.27	0.00	0.00	0.00	0.00	0.00	0.00	0.84	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40_4160	0.00	0.00	3.84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40_4162	1.88	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00
46_3012	0.28	0.09	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
53_0200	0.34	0.22	0.17	0.08	0.06	0.02	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
53_3011	0.16	0.07	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table FF.31. Summary of tridem axle load distribution factors for new JPCP (57,000 through 101,999 Ibs.) (data was obtained from site specific or regional/Statewide WIM sites or default values).

SHRP ID	57000 to 59999 Ibs	60000 to 62999 Ibs	63000 to 65999 Ibs	66000 to 68999 Ibs	69000 to 71999 Ibs	72000 to 74999 Ibs	75000 to 77999 Ibs	78000 to 80999 Ibs	81000 to 83999 Ibs	84000 to 86999 Ibs	87000 to 89999 Ibs	90000 to 92999 Ibs	93000 to 95999 Ibs	96000 to 98999 Ibs	99000 to 101999 Ibs
53_3013	0.26	0.15	0.11	0.06	0.02	0.03	0.03	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00
53_3014	0.12	0.06	0.03	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
53_3019	0.07	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
53_3812	0.25	0.14	0.10	0.07	0.03	0.04	0.03	0.03	0.02	0.01	0.01	0.01	0.01	0.01	0.00
53_3813	0.15	0.06	0.03	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
53_7409	0.24	0.17	0.11	0.08	0.09	0.07	0.05	0.06	0.06	0.06	0.02	0.04	0.05	0.02	0.00
55_3008	0.00	0.00	0.00	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
55_3009	0.00	18.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
55_3010	1.73	1.40	0.33	0.17	0.50	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
55_3015	9.77	9.66	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
55_3016	3.43	9.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
55_6351	1.26	0.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
55_6352	1.27	0.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
55_6353	1.27	0.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
55_6354	1.26	0.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
55_6355	1.29	0.00	0.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
83_3802	5.08	2.01	0.31	0.24	0.13	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
89_3015	2.18	1.53	0.97	0.51	0.28	0.12	0.07	0.05	0.02	0.01	0.00	0.01	0.00	0.00	0.00

Table FF.32. Summary of tridem axle load distribution factors for new CRCP (0 through 56,999 Ibs.) (data was obtained from site specific or regional/Statewide WIM sites or default values).

SHRP ID	< 12000 Ibs	12000 to 14999 Ibs	15000 to 17999 Ibs	18000 to 20999 Ibs	21000 to 23999 Ibs	24000 to 26999 Ibs	27000 to 29999 Ibs	30000 to 32999 Ibs	33000 to 35999 Ibs	36000 to 38999 Ibs	39000 to 41999 Ibs	42000 to 44999 Ibs	45000 to 47999 Ibs	48000 to 50999 Ibs	51000 to 53999 Ibs	54000 to 56999 Ibs
1_5008	19.24	0.00	0.00	0.00	0.00	9.62	50.51	0.00	1.40	0.00	0.00	9.62	0.00	0.00	9.62	0.00
16_5025	28.64	5.80	2.42	2.35	2.51	3.95	6.41	8.89	9.77	8.82	6.68	5.13	3.94	2.48	1.16	0.52
17_5020	6.60	2.49	2.10	2.31	3.00	5.74	13.84	19.62	20.95	13.84	4.63	2.91	1.03	0.56	0.13	0.09
17_5843	23.77	11.52	7.17	4.71	3.35	3.27	3.89	5.29	6.69	7.27	6.23	4.44	3.20	2.40	1.87	1.45
17_5849	22.89	15.22	11.30	5.99	2.64	3.62	3.92	3.52	4.60	5.51	5.58	4.40	3.58	3.08	1.66	1.22
17_5854	29.96	14.81	9.04	5.61	5.07	4.52	4.85	5.88	5.28	4.46	3.70	2.78	1.58	0.98	0.66	0.33
17_5869	16.21	10.82	9.18	6.37	5.11	4.90	6.16	8.38	8.94	8.77	5.25	3.65	2.09	1.29	1.36	0.56
17_5908	21.10	10.29	6.28	3.01	4.11	4.48	6.80	9.86	9.34	8.44	5.43	3.43	2.32	2.16	0.69	0.63
17_9267	16.21	10.68	7.90	5.05	4.58	5.41	6.71	7.24	9.43	8.59	6.79	5.16	2.76	1.65	0.89	0.53
18_5022	28.52	10.23	4.01	3.40	3.03	2.83	3.55	3.55	6.57	7.84	6.42	6.74	5.00	3.13	2.36	1.14
18_5043	28.73	5.29	4.98	6.49	4.38	4.38	4.68	4.08	4.68	6.19	5.59	4.83	3.62	4.83	3.02	1.81
18_5518	14.06	9.83	7.81	5.72	4.96	5.21	4.77	5.99	8.62	9.13	7.51	5.21	3.40	1.79	2.23	1.85
19_5042	37.90	8.60	6.88	5.07	4.72	6.23	4.91	4.05	5.88	3.09	3.12	2.69	2.07	1.12	0.69	0.81
19_9116	49.66	4.23	4.21	1.68	2.04	0.85	6.79	6.76	5.94	2.55	6.98	5.77	1.68	0.00	0.85	0.00
28_3099	7.07	9.55	9.57	7.30	6.10	5.70	5.52	6.20	6.07	6.10	6.27	5.12	4.60	3.70	3.27	2.85
28_5006	13.35	18.16	11.54	7.13	5.69	5.97	5.21	5.97	5.85	5.49	3.81	3.05	2.57	1.84	1.44	1.08
28_5025	11.96	19.02	12.10	7.78	5.47	4.76	4.90	4.76	4.90	4.76	4.76	3.03	3.03	2.30	1.59	1.29
28_5803	8.14	10.98	10.27	6.79	4.42	5.29	6.48	4.42	8.37	7.58	6.95	5.61	4.19	2.61	1.74	1.34
28_5805	18.38	10.30	6.80	5.01	4.76	5.29	5.90	6.99	6.82	6.07	5.05	4.31	3.56	2.88	2.22	1.79
29_5047	38.63	10.61	7.48	5.38	4.59	4.77	4.43	3.39	3.45	3.71	3.33	2.07	1.97	1.58	1.18	0.98
31_5052	0.00	6.06	13.42	10.56	8.73	8.53	2.12	11.78	2.49	4.06	5.68	5.08	14.02	3.55	1.74	1.15
37_5037	10.01	4.63	5.57	6.20	3.18	2.81	6.12	4.73	6.78	9.59	12.28	8.94	6.50	5.45	2.11	3.03
37_5827	19.40	9.77	10.49	2.33	3.40	4.09	9.45	5.07	2.33	14.01	6.71	3.69	2.02	1.70	1.38	1.38
38_5002	36.99	8.56	5.12	4.71	3.74	5.43	5.79	8.35	7.79	5.69	4.15	2.25	0.87	0.41	0.10	0.00
39_5003	6.62	6.27	2.16	1.67	0.69	0.74	1.52	2.21	4.04	7.56	12.78	16.89	15.03	10.47	5.92	2.66
39_5010	4.10	16.99	12.06	3.87	2.02	2.13	2.47	2.86	4.82	10.71	14.30	11.38	5.61	2.30	0.96	0.84

Table FF.32. Summary of tridem axle load distribution factors for new CRCP (0 through 56,999 Ibs.) (data was obtained from site specific or regional/Statewide WIM sites or default values).

SHRP ID	< 12000 Ibs	12000 to 14999 Ibs	15000 to 17999 Ibs	18000 to 20999 Ibs	21000 to 23999 Ibs	24000 to 26999 Ibs	27000 to 29999 Ibs	30000 to 32999 Ibs	33000 to 35999 Ibs	36000 to 38999 Ibs	39000 to 41999 Ibs	42000 to 44999 Ibs	45000 to 47999 Ibs	48000 to 50999 Ibs	51000 to 53999 Ibs	54000 to 56999 Ibs
04_7079	0.44	0.70	1.62	1.49	3.19	3.55	8.16	16.76	15.65	14.22	12.13	7.28	6.98	2.66	1.69	1.61
40_4158	30.83	14.33	14.33	5.34	4.39	2.43	2.43	3.25	1.69	4.87	2.91	4.53	2.84	1.62	1.15	0.27
40_4166	17.17	19.83	6.50	7.90	4.34	5.97	5.81	5.41	4.49	4.49	3.44	3.25	2.96	2.91	2.02	1.37
40_5021	38.77	22.17	16.34	5.02	2.47	1.40	1.23	1.62	1.40	2.13	2.30	1.02	1.57	1.02	0.85	0.42
41_5005	16.02	22.98	11.82	3.73	2.18	2.59	3.64	4.60	5.74	7.10	7.19	5.84	3.44	1.66	0.73	0.39
41_5006	15.18	10.00	4.52	2.57	2.50	3.94	4.96	5.44	8.36	11.55	8.81	7.96	6.71	4.07	1.87	1.14
41_5008	11.09	8.03	3.74	2.03	1.97	2.64	3.80	5.48	7.99	11.54	13.16	11.75	7.73	4.64	2.10	1.07
41_5021	9.00	9.36	5.89	4.33	4.18	3.75	3.60	5.22	8.37	13.51	14.34	10.53	4.91	1.78	0.69	0.27
41_5022	15.16	10.93	3.23	2.01	2.82	4.75	6.34	7.63	9.98	10.96	11.14	7.79	4.37	1.93	0.60	0.15
41_7081	8.23	7.84	4.59	2.26	1.26	1.64	3.83	6.45	10.24	13.87	13.50	9.68	8.32	4.10	2.39	1.06
42_5020	4.33	1.07	1.50	0.80	0.92	1.69	2.00	3.46	5.08	4.28	9.09	9.99	13.15	13.99	10.05	7.02
45_5017	0.00	0.00	28.74	0.00	0.00	11.80	5.77	0.00	17.26	5.77	0.00	17.78	0.00	0.00	12.89	0.00
45_5034	0.00	4.01	12.00	8.00	12.00	12.00	12.00	8.00	8.00	8.00	3.99	0.00	0.00	8.00	0.00	0.00
45_5035	0.00	7.87	7.87	11.78	7.87	15.72	7.87	19.65	3.94	0.00	3.94	7.87	0.00	5.62	0.00	0.00
46_5020	10.81	8.00	2.12	1.43	1.87	2.48	3.19	5.72	10.65	16.09	19.12	11.73	3.65	1.51	0.79	0.43
46_5025	10.81	8.00	2.12	1.43	1.87	2.48	3.19	5.72	10.65	16.09	19.12	11.73	3.65	1.51	0.79	0.43
48_3779	58.81	17.73	4.86	0.00	5.81	5.81	0.00	3.18	0.00	2.63	0.00	0.00	0.00	0.00	0.00	0.59
48_5024	19.42	10.89	10.74	2.89	8.44	2.89	0.00	0.00	4.86	0.98	1.96	0.98	4.41	9.61	8.44	6.52
48_5026	74.78	12.71	2.06	2.30	0.00	1.27	0.00	2.30	0.00	2.06	0.00	0.00	0.00	0.44	0.00	0.00
48_5154	30.11	11.68	11.69	5.41	3.47	0.91	6.31	1.79	7.09	7.22	1.79	3.47	2.72	0.90	0.00	0.91
48_5278	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48_5328	38.60	12.64	5.92	5.43	3.56	3.61	4.54	4.33	4.18	3.38	4.07	1.49	3.11	2.29	1.09	1.22
48_5334	30.13	11.08	20.47	1.33	4.87	1.33	4.06	1.33	4.87	5.33	0.00	1.39	2.67	3.54	3.54	0.00
48_5336	8.54	12.82	9.25	6.82	4.68	4.21	4.03	6.33	6.43	10.27	7.16	5.03	4.25	2.77	2.79	1.31
5_5803	5.99	3.44	2.85	2.09	1.43	3.49	3.25	5.29	4.39	5.89	7.42	10.46	9.59	14.11	9.20	7.97
5_5805	14.03	3.29	0.79	3.37	0.65	3.44	1.48	2.56	8.29	8.49	11.62	14.57	11.97	7.04	3.06	2.00

Table FF.32. Summary of tridem axle load distribution factors for new CRCP (0 through 56,999 Ibs.) (data was obtained from site specific or regional/Statewide WIM sites or default values).

SHRP ID	< 12000 Ibs	12000 to 14999 Ibs	15000 to 17999 Ibs	18000 to 20999 Ibs	21000 to 23999 Ibs	24000 to 26999 Ibs	27000 to 29999 Ibs	30000 to 32999 Ibs	33000 to 35999 Ibs	36000 to 38999 Ibs	39000 to 41999 Ibs	42000 to 44999 Ibs	45000 to 47999 Ibs	48000 to 50999 Ibs	51000 to 53999 Ibs	54000 to 56999 Ibs
51_2564	21.38	10.54	5.78	3.90	3.72	3.23	3.73	3.56	4.23	4.67	6.28	6.98	6.75	5.11	3.68	2.46
51_5010	16.48	6.67	4.02	2.57	1.85	1.91	2.02	2.50	3.60	4.78	6.44	8.49	8.26	7.76	5.79	4.45
55_5037	0.00	0.00	0.00	0.00	1.80	1.80	7.69	7.69	7.69	24.87	23.08	7.69	9.74	5.90	1.03	0.00
55_5040	2.81	8.66	5.84	12.77	0.00	0.00	14.07	24.24	8.44	11.47	5.84	5.84	0.00	0.00	0.00	0.00
6_7455	4.19	4.08	4.22	6.21	13.07	25.76	15.28	12.05	9.42	3.68	1.27	0.37	0.24	0.14	0.03	0.01
I-80	15.13	9.42	7.58	6.05	5.23	4.57	4.62	5.10	6.27	6.43	6.12	4.94	4.61	3.23	2.63	2.26
Edens	15.13	9.42	7.58	6.05	5.23	4.57	4.62	5.10	6.27	6.43	6.12	4.94	4.61	3.23	2.63	2.26
Vandalia	22.89	15.22	11.30	5.99	2.64	3.62	3.92	3.52	4.60	5.51	5.58	4.40	3.58	3.08	1.66	1.22

Table FF.33. Summary of tridem axle load distribution factors for new CRCP (57,000 through 103,999 Ibs.) (data was obtained from site specific or regional/Statewide WIM sites or default values).

SHRP ID	57000 to 59999 Ibs	60000 to 62999 Ibs	63000 to 65999 Ibs	66000 to 68999 Ibs	69000 to 71999 Ibs	72000 to 74999 Ibs	75000 to 77999 Ibs	78000 to 80999 Ibs	81000 to 83999 Ibs	84000 to 86999 Ibs	87000 to 89999 Ibs	90000 to 92999 Ibs	93000 to 95999 Ibs	96000 to 98999 Ibs	99000 to 101999 Ibs	101999 to 103999 Ibs
1_5008	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16_5025	0.29	0.07	0.09	0.04	0.02	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17_5020	0.00	0.00	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17_5843	1.19	0.74	0.58	0.42	0.23	0.13	0.08	0.03	0.04	0.01	0.02	0.00	0.00	0.02	0.00	0.00
17_5849	0.71	0.10	0.07	0.24	0.03	0.00	0.00	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17_5854	0.27	0.16	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17_5869	0.38	0.21	0.14	0.10	0.03	0.00	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.03	0.00	0.00
17_5908	0.58	0.47	0.21	0.16	0.05	0.05	0.00	0.05	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17_9267	0.20	0.09	0.10	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18_5022	0.53	0.55	0.36	0.19	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18_5043	1.51	0.45	0.15	0.00	0.15	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00
18_5518	0.85	0.51	0.31	0.02	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00
19_5042	0.41	0.45	0.17	0.03	0.07	0.03	0.19	0.16	0.38	0.00	0.07	0.12	0.07	0.00	0.00	0.00
19_9116	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28_3099	1.77	1.33	0.97	0.55	0.22	0.05	0.08	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28_5006	0.84	0.48	0.20	0.12	0.08	0.04	0.04	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28_5025	1.29	0.58	0.43	0.29	0.29	0.29	0.29	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28_5803	0.95	1.90	1.34	0.32	0.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28_5805	1.13	0.73	0.68	0.43	0.29	0.26	0.09	0.10	0.03	0.03	0.02	0.03	0.02	0.02	0.02	0.00
29_5047	0.68	0.70	0.46	0.24	0.14	0.10	0.06	0.04	0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.00
31_5052	0.63	0.17	0.07	0.06	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
37_5037	1.20	0.77	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
37_5827	0.00	0.00	1.38	0.00	1.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
38_5002	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
39_5003	1.12	0.66	0.47	0.25	0.08	0.09	0.04	0.01	0.00	0.01	0.01	0.01	0.00	0.00	0.01	0.00
39_5010	1.40	0.39	0.50	0.17	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table FF.33. Summary of tridem axle load distribution factors for new CRCP (57,000 through 103,999 Ibs.) (data was obtained from site specific or regional/Statewide WIM sites or default values).

SHRP ID	57000 to 59999 Ibs	60000 to 62999 Ibs	63000 to 65999 Ibs	66000 to 68999 Ibs	69000 to 71999 Ibs	72000 to 74999 Ibs	75000 to 77999 Ibs	78000 to 80999 Ibs	81000 to 83999 Ibs	84000 to 86999 Ibs	87000 to 89999 Ibs	90000 to 92999 Ibs	93000 to 95999 Ibs	96000 to 98999 Ibs	99000 to 101999 Ibs	101999 to 103999 Ibs
04_7079	0.73	0.73	0.34	0.02	0.02	0.02	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
40_4158	0.61	0.47	0.47	0.20	0.68	0.14	0.07	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40_4166	0.75	0.31	0.26	0.18	0.10	0.27	0.10	0.00	0.00	0.00	0.00	0.00	0.08	0.10	0.00	0.00
40_5021	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41_5005	0.18	0.08	0.03	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41_5006	0.37	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41_5008	0.43	0.20	0.13	0.05	0.05	0.09	0.06	0.05	0.08	0.12	0.00	0.00	0.00	0.00	0.00	0.00
41_5021	0.18	0.04	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41_5022	0.11	0.04	0.01	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41_7081	0.31	0.33	0.02	0.04	0.01	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
42_5020	4.65	3.10	1.76	1.03	0.79	0.18	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45_5017	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45_5034	4.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45_5035	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
46_5020	0.28	0.10	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
46_5025	0.28	0.10	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48_3779	0.00	0.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48_5024	3.04	0.98	0.00	0.98	1.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48_5026	0.00	0.00	0.00	0.00	0.00	0.00	2.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48_5154	2.71	0.90	0.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48_5278	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48_5328	0.00	0.42	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48_5334	1.33	0.00	0.00	2.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48_5336	1.47	1.01	0.48	0.14	0.11	0.06	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5_5803	2.84	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5_5805	1.12	1.35	0.44	0.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
51_2564	1.44	1.04	0.51	0.42	0.25	0.13	0.04	0.05	0.08	0.01	0.01	0.01	0.01	0.00	0.00	0.00

Table FF.33. Summary of tridem axle load distribution factors for new CRCP (57,000 through 103,999 Ibs.) (data was obtained from site specific or regional/Statewide WIM sites or default values).

SHRP ID	57000 to 59999 Ibs	60000 to 62999 Ibs	63000 to 65999 Ibs	66000 to 68999 Ibs	69000 to 71999 Ibs	72000 to 74999 Ibs	75000 to 77999 Ibs	78000 to 80999 Ibs	81000 to 83999 Ibs	84000 to 86999 Ibs	87000 to 89999 Ibs	90000 to 92999 Ibs	93000 to 95999 Ibs	96000 to 98999 Ibs	99000 to 101999 Ibs	101999 to 103999 Ibs
51_5010	3.16	2.65	1.91	1.47	1.08	0.74	0.48	0.35	0.21	0.19	0.08	0.03	0.05	0.02	0.00	0.00
55_5037	0.00	0.00	0.00	1.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
55_5040	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6_7455	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I-80	1.50	1.01	0.98	0.54	0.64	0.31	0.25	0.16	0.13	0.08	0.06	0.06	0.03	0.02	0.02	0.00
Edens	1.50	1.01	0.98	0.54	0.64	0.31	0.25	0.16	0.13	0.08	0.06	0.06	0.03	0.02	0.02	0.00
Vandalia	0.71	0.10	0.07	0.24	0.03	0.00	0.00	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table FF.34. Summary of tridem axle load distribution factors for rehabilitation with PCC (0 through 56,999 Ibs.) (data was obtained from site specific or regional/Statewide WIM sites or default values).

SHRP ID	< 12000 Ibs	12000 to 14999 Ibs	15000 to 17999 Ibs	18000 to 20999 Ibs	21000 to 23999 Ibs	24000 to 26999 Ibs	27000 to 29999 Ibs	30000 to 32999 Ibs	33000 to 35999 Ibs	36000 to 38999 Ibs	39000 to 41999 Ibs	42000 to 44999 Ibs	45000 to 47999 Ibs	48000 to 50999 Ibs	51000 to 53999 Ibs	54000 to 56999 Ibs
AZ1	7.97	4.31	4.26	3.24	1.59	2.36	3.36	3.69	4.56	6.51	18.89	8.11	6.14	5.84	14.86	2.04
AZ2	7.75	6.90	5.15	3.30	2.24	1.91	6.19	10.15	21.21	18.33	6.12	4.17	2.37	2.28	0.68	0.00
CA1	14.05	5.05	3.67	4.55	6.47	13.81	14.79	11.00	11.99	8.92	3.69	1.22	0.42	0.26	0.06	0.03
CA10	11.84	7.45	6.05	6.18	6.63	11.26	12.29	11.55	11.82	8.02	3.53	1.39	0.92	0.72	0.26	0.08
CA2	14.05	5.05	3.67	4.55	6.47	13.81	14.79	11.00	11.99	8.92	3.69	1.22	0.42	0.26	0.06	0.03
CA3	11.84	7.45	6.05	6.18	6.63	11.26	12.29	11.55	11.82	8.02	3.53	1.39	0.92	0.72	0.26	0.08
CA6	11.84	7.45	6.05	6.18	6.63	11.26	12.29	11.55	11.82	8.02	3.53	1.39	0.92	0.72	0.26	0.08
CA7	11.84	7.45	6.05	6.18	6.63	11.26	12.29	11.55	11.82	8.02	3.53	1.39	0.92	0.72	0.26	0.08
CA8	11.84	7.45	6.05	6.18	6.63	11.26	12.29	11.55	11.82	8.02	3.53	1.39	0.92	0.72	0.26	0.08

Table FF.34. Summary of tridem axle load distribution factors for rehabilitation with PCC (0 through 56,999 Ibs.) (data was obtained from site specific or regional/Statewide WIM sites or default values).

SHRP ID	< 12000 Ibs	12000 to 14999 Ibs	15000 to 17999 Ibs	18000 to 20999 Ibs	21000 to 23999 Ibs	24000 to 26999 Ibs	27000 to 29999 Ibs	30000 to 32999 Ibs	33000 to 35999 Ibs	36000 to 38999 Ibs	39000 to 41999 Ibs	42000 to 44999 Ibs	45000 to 47999 Ibs	48000 to 50999 Ibs	51000 to 53999 Ibs	54000 to 56999 Ibs
CA9	14.05	5.05	3.67	4.55	6.47	13.81	14.79	11.00	11.99	8.92	3.69	1.22	0.42	0.26	0.06	0.03
FL2	1.54	2.92	2.94	2.60	2.13	2.39	2.03	1.93	2.41	3.36	4.20	6.57	10.78	14.24	15.45	13.14
FL3	1.54	2.92	2.94	2.60	2.13	2.39	2.03	1.93	2.41	3.36	4.20	6.57	10.78	14.24	15.45	13.14
FL4	5.83	4.69	5.19	4.84	3.28	3.30	2.56	2.33	2.37	3.09	3.84	4.68	7.05	9.94	10.27	8.54
MI1	18.07	11.04	9.19	6.38	5.68	5.65	6.90	8.79	8.19	6.02	4.66	3.15	2.19	1.61	0.82	0.44
MN2	10.81	8.00	2.11	1.43	1.87	2.48	3.19	5.72	10.66	16.10	19.13	11.73	3.65	1.51	0.79	0.42
MN4	4.48	2.23	1.28	2.09	2.26	3.24	5.78	9.29	13.50	18.31	18.16	10.67	5.03	2.03	0.87	0.50
MN7	29.18	10.05	1.64	1.33	1.59	2.12	3.66	6.35	8.92	11.24	10.94	6.61	3.30	1.53	0.73	0.40
NC1	20.03	11.50	6.77	4.47	8.51	4.86	7.42	8.05	6.83	7.95	3.78	4.62	2.38	1.19	0.56	0.71
NC2	3.45	2.75	4.01	1.89	1.66	2.50	4.59	4.72	18.53	9.60	15.70	7.15	5.84	4.37	3.05	1.89
NY2	11.28	8.72	6.89	4.87	3.40	4.61	4.87	4.87	5.21	6.13	6.23	4.08	7.01	3.64	4.21	3.73
OH2	7.79	12.82	9.40	3.93	2.57	2.49	2.69	2.86	4.71	8.16	10.03	8.56	6.09	3.04	4.04	3.02
WI1	16.84	7.44	6.27	4.70	4.70	3.87	6.11	9.18	10.49	9.95	7.95	4.63	3.56	2.23	0.98	0.66
WI2	5.17	3.60	4.63	7.74	2.30	5.17	3.33	2.07	1.53	9.31	11.60	14.48	8.50	11.87	2.57	4.37
WI3	5.17	3.60	4.63	7.74	2.30	5.17	3.33	2.07	1.53	9.31	11.60	14.48	8.50	11.87	2.57	4.37
WI4	5.17	3.60	4.63	7.74	2.30	5.17	3.33	2.07	1.53	9.31	11.60	14.48	8.50	11.87	2.57	4.37
WI5	3.66	2.61	4.76	5.41	6.28	6.79	4.11	2.13	2.51	9.25	10.84	11.72	10.56	7.54	2.07	3.21
WI6	5.17	3.60	4.63	7.74	2.30	5.17	3.33	2.07	1.53	9.31	11.60	14.48	8.50	11.87	2.57	4.37
WI7	5.17	3.60	4.63	7.74	2.30	5.17	3.33	2.07	1.53	9.31	11.60	14.48	8.50	11.87	2.57	4.37
WV1	25.35	4.96	6.23	4.38	4.77	4.12	3.82	7.23	8.31	7.25	5.61	4.45	3.38	2.06	5.17	1.27
1_0600	13.96	7.44	6.28	5.12	4.71	4.79	5.01	5.04	6.63	6.68	6.47	5.09	5.22	3.80	3.26	2.70
13_4118	13.96	7.44	6.28	5.12	4.71	4.79	5.01	5.04	6.63	6.68	6.47	5.09	5.22	3.80	3.26	2.70
18_9020	36.22	6.76	5.14	4.86	4.86	3.78	3.51	3.24	3.51	3.78	3.51	3.24	2.70	2.16	2.16	2.16
19_0700	13.96	7.44	6.28	5.12	4.71	4.79	5.01	5.04	6.63	6.68	6.47	5.09	5.22	3.80	3.26	2.70
20_9037	29.48	2.89	25.43	1.16	1.73	0.58	14.45	16.76	3.47	2.31	0.58	0.58	0.58	0.00	0.00	0.00
22_0700	13.96	7.44	6.28	5.12	4.71	4.79	5.01	5.04	6.63	6.68	6.47	5.09	5.22	3.80	3.26	2.70

Table FF.34. Summary of tridem axle load distribution factors for rehabilitation with PCC (0 through 56,999 Ibs.) (data was obtained from site specific or regional/Statewide WIM sites or default values).

SHRP ID	< 12000 Ibs	12000 to 14999 Ibs	15000 to 17999 Ibs	18000 to 20999 Ibs	21000 to 23999 Ibs	24000 to 26999 Ibs	27000 to 29999 Ibs	30000 to 32999 Ibs	33000 to 35999 Ibs	36000 to 38999 Ibs	39000 to 41999 Ibs	42000 to 44999 Ibs	45000 to 47999 Ibs	48000 to 50999 Ibs	51000 to 53999 Ibs	54000 to 56999 Ibs
27_0700	13.96	7.44	6.28	5.12	4.71	4.79	5.01	5.04	6.63	6.68	6.47	5.09	5.22	3.80	3.26	2.70
27_9075	25.63	8.04	4.52	3.52	3.02	5.03	9.05	9.55	10.55	9.55	4.02	3.02	1.51	1.01	1.01	0.50
28_7012	13.64	11.68	9.32	8.05	7.36	7.36	7.36	6.87	6.08	5.20	4.61	3.93	3.04	2.06	1.28	0.79
29_A600	13.96	7.44	6.28	5.12	4.71	4.79	5.01	5.04	6.63	6.68	6.47	5.09	5.22	3.80	3.26	2.70
31_6701	11.32	10.33	5.90	2.58	6.40	7.50	7.50	10.09	10.46	9.23	8.24	5.78	2.21	1.97	0.00	0.49
4_0600	13.96	7.44	6.28	5.12	4.71	4.79	5.01	5.04	6.63	6.68	6.47	5.09	5.22	3.80	3.26	2.70
40_4155	13.96	7.44	6.28	5.12	4.71	4.79	5.01	5.04	6.63	6.68	6.47	5.09	5.22	3.80	3.26	2.70
42_1627	2.59	1.12	0.76	0.87	1.15	0.80	1.42	1.79	3.04	4.42	4.64	3.32	3.82	5.20	9.56	14.96
46_0600	13.96	7.44	6.28	5.12	4.71	4.79	5.01	5.04	6.63	6.68	6.47	5.09	5.22	3.80	3.26	2.70
47_0600	13.96	7.44	6.28	5.12	4.71	4.79	5.01	5.04	6.63	6.68	6.47	5.09	5.22	3.80	3.26	2.70
48_3569	13.96	7.44	6.28	5.12	4.71	4.79	5.01	5.04	6.63	6.68	6.47	5.09	5.22	3.80	3.26	2.70
48_3845	13.96	7.44	6.28	5.12	4.71	4.79	5.01	5.04	6.63	6.68	6.47	5.09	5.22	3.80	3.26	2.70
48_9167	47.32	11.83	6.24	4.60	4.82	1.64	3.18	3.40	3.29	2.30	3.07	2.85	1.75	1.20	0.99	0.44
48_9355	38.75	27.75	7.65	1.63	2.23	3.18	3.95	1.55	4.73	0.00	0.77	2.41	0.77	0.77	1.55	1.55
6_0600	13.96	7.44	6.28	5.12	4.71	4.79	5.01	5.04	6.63	6.68	6.47	5.09	5.22	3.80	3.26	2.70
6_9048	5.60	3.97	11.44	14.11	9.94	7.27	6.88	11.11	15.75	9.51	3.05	0.84	0.28	0.09	0.05	0.05
6_9049	13.96	7.44	6.28	5.12	4.71	4.79	5.01	5.04	6.63	6.68	6.47	5.09	5.22	3.80	3.26	2.70
6_9107	5.60	3.97	11.44	14.11	9.94	7.27	6.88	11.11	15.75	9.51	3.05	0.84	0.28	0.09	0.05	0.05
8_9019	23.02	12.63	7.56	6.77	6.96	7.21	8.13	7.24	5.70	3.84	3.06	2.55	1.76	1.23	0.85	0.60
8_9020	0.90	5.52	7.80	7.57	8.51	11.64	13.43	13.01	9.59	6.28	4.27	3.14	2.44	1.88	1.35	0.95
89_9018	25.63	8.04	4.52	3.52	3.02	5.03	9.05	9.55	10.55	9.55	4.02	3.02	1.51	1.01	1.01	0.50
AL_IH_20E_183.0	13.44	7.11	6.13	5.01	4.52	4.71	4.94	4.91	6.59	6.52	6.47	5.16	5.34	3.97	3.55	3.04
AL_IH_59N_235.5	13.44	7.11	6.13	5.01	4.52	4.71	4.94	4.91	6.59	6.52	6.47	5.16	5.34	3.97	3.55	3.04
CA_IH_8E_43.4	13.44	7.11	6.13	5.01	4.52	4.71	4.94	4.91	6.59	6.52	6.47	5.16	5.34	3.97	3.55	3.04
FL_IH_10E_214.7	13.44	7.11	6.13	5.01	4.52	4.71	4.94	4.91	6.59	6.52	6.47	5.16	5.34	3.97	3.55	3.04
GA_IH_16W_59.9	13.44	7.11	6.13	5.01	4.52	4.71	4.94	4.91	6.59	6.52	6.47	5.16	5.34	3.97	3.55	3.04

Table FF.34. Summary of tridem axle load distribution factors for rehabilitation with PCC (0 through 56,999 Ibs.) (data was obtained from site specific or regional/Statewide WIM sites or default values).

SHRP ID	< 12000 Ibs	12000 to 14999 Ibs	15000 to 17999 Ibs	18000 to 20999 Ibs	21000 to 23999 Ibs	24000 to 26999 Ibs	27000 to 29999 Ibs	30000 to 32999 Ibs	33000 to 35999 Ibs	36000 to 38999 Ibs	39000 to 41999 Ibs	42000 to 44999 Ibs	45000 to 47999 Ibs	48000 to 50999 Ibs	51000 to 53999 Ibs	54000 to 56999 Ibs
GA-1	13.96	7.44	6.28	5.12	4.71	4.79	5.01	5.04	6.63	6.68	6.47	5.09	5.22	3.80	3.26	2.70
GA-4	13.96	7.44	6.28	5.12	4.71	4.79	5.01	5.04	6.63	6.68	6.47	5.09	5.22	3.80	3.26	2.70
GA-5	13.96	7.44	6.28	5.12	4.71	4.79	5.01	5.04	6.63	6.68	6.47	5.09	5.22	3.80	3.26	2.70
IA_IH_80W_87.7	13.44	7.11	6.13	5.01	4.52	4.71	4.94	4.91	6.59	6.52	6.47	5.16	5.34	3.97	3.55	3.04
IL-3_6_07	13.96	7.44	6.28	5.12	4.71	4.79	5.01	5.04	6.63	6.68	6.47	5.09	5.22	3.80	3.26	2.70
IL-3_6_10	13.96	7.44	6.28	5.12	4.71	4.79	5.01	5.04	6.63	6.68	6.47	5.09	5.22	3.80	3.26	2.70
IL-3_7_07	13.96	7.44	6.28	5.12	4.71	4.79	5.01	5.04	6.63	6.68	6.47	5.09	5.22	3.80	3.26	2.70
IL-3_7_10	13.96	7.44	6.28	5.12	4.71	4.79	5.01	5.04	6.63	6.68	6.47	5.09	5.22	3.80	3.26	2.70
IL-3_8_06	13.96	7.44	6.28	5.12	4.71	4.79	5.01	5.04	6.63	6.68	6.47	5.09	5.22	3.80	3.26	2.70
NE_IH_80W_420.1	13.44	7.11	6.13	5.01	4.52	4.71	4.94	4.91	6.59	6.52	6.47	5.16	5.34	3.97	3.55	3.04
PA-5	13.96	7.44	6.28	5.12	4.71	4.79	5.01	5.04	6.63	6.68	6.47	5.09	5.22	3.80	3.26	2.70
SD_IH_29S_174	13.44	7.11	6.13	5.01	4.52	4.71	4.94	4.91	6.59	6.52	6.47	5.16	5.34	3.97	3.55	3.04
WI_IH_43N_2.7	13.44	7.11	6.13	5.01	4.52	4.71	4.94	4.91	6.59	6.52	6.47	5.16	5.34	3.97	3.55	3.04
WI-1	13.96	7.44	6.28	5.12	4.71	4.79	5.01	5.04	6.63	6.68	6.47	5.09	5.22	3.80	3.26	2.70

Table FF.35. Summary of tridem axle load distribution factors for rehabilitation with PCC (57,000 through 101,999 Ibs.) (data was obtained from site specific or regional/Statewide WIM sites or default values).

SHRP ID	57000 to 59999 Ibs	60000 to 62999 Ibs	63000 to 65999 Ibs	66000 to 68999 Ibs	69000 to 71999 Ibs	72000 to 74999 Ibs	75000 to 77999 Ibs	78000 to 80999 Ibs	81000 to 83999 Ibs	84000 to 86999 Ibs	87000 to 89999 Ibs	90000 to 92999 Ibs	93000 to 95999 Ibs	96000 to 98999 Ibs	99000 to 101999 Ibs	101999 to 103999 Ibs
AZ1	1.16	0.49	0.19	0.09	0.21	0.04	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00
AZ2	0.14	1.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CA1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CA10	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CA2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CA3	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CA6	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CA7	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CA8	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CA9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FL2	6.70	2.56	1.29	0.47	0.11	0.08	0.02	0.00	0.01	0.07	0.05	0.00	0.00	0.00	0.00	0.00
FL3	6.70	2.56	1.29	0.47	0.11	0.08	0.02	0.00	0.01	0.07	0.05	0.00	0.00	0.00	0.00	0.00
FL4	7.40	4.73	3.25	1.63	0.68	0.26	0.10	0.10	0.03	0.01	0.01	0.00	0.00	0.00	0.00	0.00
MI1	0.36	0.29	0.22	0.08	0.05	0.08	0.07	0.05	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MN2	0.28	0.09	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MN4	0.16	0.01	0.10	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MN7	0.16	0.06	0.09	0.04	0.03	0.02	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NC1	0.21	0.10	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NC2	1.40	0.48	1.24	1.36	0.86	0.68	0.52	0.54	0.15	0.30	0.41	0.14	0.04	0.19	0.00	0.00
NY2	3.45	2.43	2.40	1.16	0.25	0.34	0.05	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OH2	3.28	1.82	1.44	0.68	0.33	0.19	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WI1	0.32	0.05	0.04	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table FF.35. Summary of tridem axle load distribution factors for rehabilitation with PCC (57,000 through 101,999 Ibs.) (data was obtained from site specific or regional/Statewide WIM sites or default values).

SHRP ID	57000 to 59999 Ibs	60000 to 62999 Ibs	63000 to 65999 Ibs	66000 to 68999 Ibs	69000 to 71999 Ibs	72000 to 74999 Ibs	75000 to 77999 Ibs	78000 to 80999 Ibs	81000 to 83999 Ibs	84000 to 86999 Ibs	87000 to 89999 Ibs	90000 to 92999 Ibs	93000 to 95999 Ibs	96000 to 98999 Ibs	99000 to 101999 Ibs	101999 to 103999 Ibs
WI2	1.26	0.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WI3	1.26	0.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WI4	1.26	0.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WI5	1.54	4.48	0.30	0.16	0.06	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WI6	1.26	0.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WI7	1.26	0.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WV1	0.53	0.61	0.37	0.00	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1_0600	1.58	1.30	1.37	0.69	0.66	0.57	0.53	0.29	0.30	0.11	0.11	0.13	0.04	0.05	0.05	0.00
13_4118	1.58	1.30	1.37	0.69	0.66	0.57	0.53	0.29	0.30	0.11	0.11	0.13	0.04	0.05	0.05	0.00
18_9020	1.89	1.35	1.35	1.08	0.81	0.54	0.54	0.27	0.27	0.27	0.00	0.00	0.00	0.00	0.00	0.00
19_0700	1.58	1.30	1.37	0.69	0.66	0.57	0.53	0.29	0.30	0.11	0.11	0.13	0.04	0.05	0.05	0.00
20_9037	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22_0700	1.58	1.30	1.37	0.69	0.66	0.57	0.53	0.29	0.30	0.11	0.11	0.13	0.04	0.05	0.05	0.00
27_0700	1.58	1.30	1.37	0.69	0.66	0.57	0.53	0.29	0.30	0.11	0.11	0.13	0.04	0.05	0.05	0.00
27_9075	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28_7012	0.59	0.20	0.20	0.20	0.10	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29_A600	1.58	1.30	1.37	0.69	0.66	0.57	0.53	0.29	0.30	0.11	0.11	0.13	0.04	0.05	0.05	0.00
31_6701	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4_0600	1.58	1.30	1.37	0.69	0.66	0.57	0.53	0.29	0.30	0.11	0.11	0.13	0.04	0.05	0.05	0.00
40_4155	1.58	1.30	1.37	0.69	0.66	0.57	0.53	0.29	0.30	0.11	0.11	0.13	0.04	0.05	0.05	0.00
42_1627	15.84	10.53	5.68	3.09	1.85	1.34	0.86	0.50	0.37	0.24	0.11	0.06	0.03	0.03	0.01	0.00
46_0600	1.58	1.30	1.37	0.69	0.66	0.57	0.53	0.29	0.30	0.11	0.11	0.13	0.04	0.05	0.05	0.00
47_0600	1.58	1.30	1.37	0.69	0.66	0.57	0.53	0.29	0.30	0.11	0.11	0.13	0.04	0.05	0.05	0.00
48_3569	1.58	1.30	1.37	0.69	0.66	0.57	0.53	0.29	0.30	0.11	0.11	0.13	0.04	0.05	0.05	0.00
48_3845	1.58	1.30	1.37	0.69	0.66	0.57	0.53	0.29	0.30	0.11	0.11	0.13	0.04	0.05	0.05	0.00

Table FF.35. Summary of tridem axle load distribution factors for rehabilitation with PCC (57,000 through 101,999 Ibs.) (data was obtained from site specific or regional/Statewide WIM sites or default values).

SHRP ID	57000 to 59999 Ibs	60000 to 62999 Ibs	63000 to 65999 Ibs	66000 to 68999 Ibs	69000 to 71999 Ibs	72000 to 74999 Ibs	75000 to 77999 Ibs	78000 to 80999 Ibs	81000 to 83999 Ibs	84000 to 86999 Ibs	87000 to 89999 Ibs	90000 to 92999 Ibs	93000 to 95999 Ibs	96000 to 98999 Ibs	99000 to 101999 Ibs	101999 to 103999 Ibs
48_9167	0.11	0.44	0.11	0.11	0.11	0.11	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48_9355	0.00	0.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6_0600	1.58	1.30	1.37	0.69	0.66	0.57	0.53	0.29	0.30	0.11	0.11	0.13	0.04	0.05	0.05	0.00
6_9048	0.01	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00
6_9049	1.58	1.30	1.37	0.69	0.66	0.57	0.53	0.29	0.30	0.11	0.11	0.13	0.04	0.05	0.05	0.00
6_9107	0.01	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00
8_9019	0.35	0.19	0.13	0.06	0.06	0.03	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8_9020	0.62	0.40	0.26	0.17	0.09	0.08	0.03	0.03	0.02	0.01	0.01	0.00	0.01	0.00	0.00	0.00
89_9018	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AL_IH_20E_183.0	1.77	1.45	1.51	0.76	0.76	0.62	0.57	0.31	0.32	0.11	0.11	0.14	0.04	0.05	0.06	0.00
AL_IH_59N_235.5	1.77	1.45	1.51	0.76	0.76	0.62	0.57	0.31	0.32	0.11	0.11	0.14	0.04	0.05	0.06	0.00
CA_IH_8E_43.4	1.77	1.45	1.51	0.76	0.76	0.62	0.57	0.31	0.32	0.11	0.11	0.14	0.04	0.05	0.06	0.00
FL_IH_10E_214.7	1.77	1.45	1.51	0.76	0.76	0.62	0.57	0.31	0.32	0.11	0.11	0.14	0.04	0.05	0.06	0.00
GA_IH_16W_59.9	1.77	1.45	1.51	0.76	0.76	0.62	0.57	0.31	0.32	0.11	0.11	0.14	0.04	0.05	0.06	0.00
GA-1	1.58	1.30	1.37	0.69	0.66	0.57	0.53	0.29	0.30	0.11	0.11	0.13	0.04	0.05	0.05	0.00
GA-4	1.58	1.30	1.37	0.69	0.66	0.57	0.53	0.29	0.30	0.11	0.11	0.13	0.04	0.05	0.05	0.00
GA-5	1.58	1.30	1.37	0.69	0.66	0.57	0.53	0.29	0.30	0.11	0.11	0.13	0.04	0.05	0.05	0.00
IA_IH_80W_87.7	1.77	1.45	1.51	0.76	0.76	0.62	0.57	0.31	0.32	0.11	0.11	0.14	0.04	0.05	0.06	0.00
IL-3_6_07	1.58	1.30	1.37	0.69	0.66	0.57	0.53	0.29	0.30	0.11	0.11	0.13	0.04	0.05	0.05	0.00
IL-3_6_10	1.58	1.30	1.37	0.69	0.66	0.57	0.53	0.29	0.30	0.11	0.11	0.13	0.04	0.05	0.05	0.00
IL-3_7_07	1.58	1.30	1.37	0.69	0.66	0.57	0.53	0.29	0.30	0.11	0.11	0.13	0.04	0.05	0.05	0.00
IL-3_7_10	1.58	1.30	1.37	0.69	0.66	0.57	0.53	0.29	0.30	0.11	0.11	0.13	0.04	0.05	0.05	0.00
IL-3_8_06	1.58	1.30	1.37	0.69	0.66	0.57	0.53	0.29	0.30	0.11	0.11	0.13	0.04	0.05	0.05	0.00
NE_IH_80W_420.1	1.77	1.45	1.51	0.76	0.76	0.62	0.57	0.31	0.32	0.11	0.11	0.14	0.04	0.05	0.06	0.00
PA-5	1.58	1.30	1.37	0.69	0.66	0.57	0.53	0.29	0.30	0.11	0.11	0.13	0.04	0.05	0.05	0.00

Table FF.35. Summary of tridem axle load distribution factors for rehabilitation with PCC (57,000 through 101,999 Ibs.) (data was obtained from site specific or regional/Statewide WIM sites or default values).

SHRP ID	57000 to 59999 Ibs	60000 to 62999 Ibs	63000 to 65999 Ibs	66000 to 68999 Ibs	69000 to 71999 Ibs	72000 to 74999 Ibs	75000 to 77999 Ibs	78000 to 80999 Ibs	81000 to 83999 Ibs	84000 to 86999 Ibs	87000 to 89999 Ibs	90000 to 92999 Ibs	93000 to 95999 Ibs	96000 to 98999 Ibs	99000 to 101999 Ibs	101999 to 103999 Ibs
SD_IH_29S_174	1.77	1.45	1.51	0.76	0.76	0.62	0.57	0.31	0.32	0.11	0.11	0.14	0.04	0.05	0.06	0.00
WI_IH_43N_2.7	1.77	1.45	1.51	0.76	0.76	0.62	0.57	0.31	0.32	0.11	0.11	0.14	0.04	0.05	0.06	0.00
WI-1	1.58	1.30	1.37	0.69	0.66	0.57	0.53	0.29	0.30	0.11	0.11	0.13	0.04	0.05	0.05	0.00

Table FF.36. Summary of truck volume for projects used for new JPCP model calibration.

SHRP ID	Const. Date	Survey Date	Age, yrs	Total ESALs	Estimate of No. of Trucks (Cls 4 to 13)
1_3028	6/1/1971	19-Sep-91	20.32	3,973,729	2,649,153
1_3028	6/1/1971	30-Mar-93	21.84	4,272,750	2,848,500
1_3028	6/1/1971	2-Dec-97	26.52	5,188,082	3,458,722
12_3804	7/1/1985	17-Jul-91	6.05	4,916,503	3,277,668
12_3804	7/1/1985	30-Sep-91	6.25	5,083,595	3,389,063
12_3804	7/1/1985	16-Jul-97	12.05	9,797,310	6,531,540
12_3804	7/1/1985	28-Jul-99	14.08	11,450,265	7,633,510
12_3811	2/1/1976	3-Oct-91	15.68	6,023,970	4,015,980
12_3811	2/1/1976	31-Aug-94	18.59	7,142,858	4,761,906
12_3811	2/1/1976	4-Mar-97	21.1	8,107,032	5,404,688
12_3811	2/1/1976	3-Mar-99	23.1	8,874,344	5,916,229
12_4000	11/1/1974	31-Jul-91	16.76	3,172,212	2,114,808
12_4000	11/1/1974	5-Oct-91	16.94	3,206,440	2,137,627
12_4000	11/1/1974	9-Mar-93	18.36	3,476,669	2,317,779
12_4000	11/1/1974	21-Apr-97	22.48	4,256,744	2,837,830
12_4000	11/1/1974	21-Jul-99	24.73	4,682,572	3,121,715
12_4057	6/1/1986	17-Jul-91	5.13	4,036,525	2,691,017
12_4057	6/1/1986	30-Sep-91	5.33	4,198,181	2,798,787
12_4057	6/1/1986	16-Jul-97	11.13	8,760,836	5,840,557
12_4057	6/1/1986	7-Feb-00	13.7	10,779,099	7,186,066
12_4059	6/1/1989	15-Oct-91	2.37	95,518	63,679
12_4059	6/1/1989	10-Mar-93	3.78	151,989	101,326
12_4059	6/1/1989	18-Apr-97	7.88	317,436	211,624
12_4059	6/1/1989	22-Jul-99	10.15	408,433	272,289
12_4109	3/1/1989	19-Jul-91	2.38	94,985	63,323
12_4109	3/1/1989	5-Oct-91	2.6	103,500	69,000
12_4109	3/1/1989	10-Mar-93	4.03	160,489	106,992
12_4109	3/1/1989	18-Apr-97	8.14	324,253	216,169
12_4109	3/1/1989	9-Feb-00	10.95	436,376	290,918
12_4138	11/1/1974	1-Aug-91	16.76	3,410,392	2,273,594
12_4138	11/1/1974	5-Oct-91	16.94	3,446,635	2,297,756
12_4138	11/1/1974	9-Mar-93	18.36	3,737,107	2,491,404
12_4138	11/1/1974	21-Apr-97	22.48	4,575,618	3,050,412
16_3017	9/1/1986	24-Jan-92	5.4	2,878,168	1,918,779
16_3017	9/1/1986	28-Jul-97	10.91	5,816,191	3,877,461
16_3017	9/1/1986	11-Aug-99	12.95	6,902,646	4,601,764
16_3023	10/1/1983	21-Aug-89	5.89	4,322,591	2,881,727
16_3023	10/1/1983	23-Jul-97	13.82	10,136,216	6,757,477
16_3023	10/1/1983	21-Jun-99	15.73	11,538,865	7,692,576
18_3002	8/1/1976	30-Nov-88	12.34	3,253,843	2,169,228
18_3002	8/1/1976	14-May-93	16.79	4,428,524	2,952,349
18_3002	8/1/1976	14-Jun-95	18.88	4,978,316	3,318,877
18_3002	8/1/1976	26-Jan-96	19.5	5,141,565	3,427,710
18_3002	8/1/1976	2-Oct-97	21.18	5,585,881	3,723,921

Table FF.36. Summary of truck volume for projects used for new JPCP model calibration.

SHRP ID	Const. Date	Survey Date	Age, yrs	Total ESALs	Estimate of No. of Trucks (Cls 4 to 13)
18_3002	8/1/1976	23-Oct-97	21.24	5,601,043	3,734,029
18_3003	1/1/1975	15-Jul-88	13.55	4,674,017	3,116,011
18_3003	1/1/1975	2-May-91	16.34	5,639,276	3,759,517
18_3003	1/1/1975	15-Sep-92	17.72	6,113,848	4,075,899
18_3031	7/1/1977	26-Jul-88	11.08	1,631,983	1,087,989
18_3031	7/1/1977	1-May-91	13.84	2,039,275	1,359,517
18_3031	7/1/1977	17-Mar-93	15.72	2,316,176	1,544,117
18_3031	7/1/1977	16-Jun-95	17.97	2,647,591	1,765,061
19_3006	10/1/1975	28-Jul-88	12.83	1,269,884	846,589
19_3006	10/1/1975	4-Aug-94	18.85	1,865,783	1,243,856
19_3006	10/1/1975	18-Mar-99	23.48	2,323,145	1,548,763
20_0201	7/25/1992	6-Apr-93	0.7	818,053	545,368
20_0201	7/25/1992	27-May-97	4.84	5,668,873	3,779,249
20_0201	7/25/1992	30-Nov-99	7.35	8,610,748	5,740,499
20_0202	7/18/1992	7-Apr-93	0.72	843,697	562,465
20_0202	7/18/1992	27-May-97	4.86	5,691,356	3,794,237
20_0202	7/18/1992	30-Nov-99	7.37	8,633,231	5,755,487
20_0203	7/27/1992	5-Apr-93	0.69	808,451	538,967
20_0203	7/27/1992	28-May-97	4.84	5,665,712	3,777,141
20_0203	7/27/1992	30-Nov-99	7.35	8,604,308	5,736,205
20_0204	7/27/1992	6-Apr-93	0.69	811,729	541,153
20_0204	7/27/1992	27-May-97	4.84	5,662,433	3,774,955
20_0204	7/27/1992	30-Nov-99	7.35	8,604,308	5,736,205
20_0205	7/18/1992	8-Apr-93	0.72	846,976	564,651
20_0205	7/18/1992	27-May-97	4.86	5,691,356	3,794,237
20_0205	7/18/1992	1-Dec-99	7.38	8,636,393	5,757,595
20_0206	7/18/1992	7-Apr-93	0.72	843,697	562,465
20_0206	7/18/1992	28-May-97	4.86	5,694,518	3,796,345
20_0206	7/18/1992	1-Dec-99	7.38	8,636,393	5,757,595
20_0207	7/17/1992	8-Apr-93	0.73	850,138	566,759
20_0207	7/17/1992	28-May-97	4.87	5,697,797	3,798,531
20_0207	7/17/1992	1-Dec-99	7.38	8,639,671	5,759,781
20_0208	7/17/1992	9-Apr-93	0.73	853,417	568,944
20_0208	7/17/1992	27-May-97	4.86	5,694,518	3,796,345
20_0208	7/17/1992	1-Dec-99	7.38	8,639,671	5,759,781
20_0209	7/2/1992	14-Apr-93	0.78	917,587	611,724
20_0209	7/2/1992	30-May-97	4.91	5,752,248	3,834,832
20_0209	7/2/1992	8-Dec-99	7.44	8,710,282	5,806,855
20_0210	7/2/1992	13-Apr-93	0.78	914,308	609,539
20_0210	7/2/1992	30-May-97	4.91	5,752,248	3,834,832
20_0210	7/2/1992	9-Dec-99	7.44	8,713,444	5,808,962
20_0211	7/7/1992	13-Apr-93	0.77	898,265	598,844
20_0211	7/7/1992	29-May-97	4.9	5,733,043	3,822,029
20_0211	7/7/1992	2-Dec-99	7.41	8,674,918	5,783,279
20_0212	7/17/1992	9-Apr-93	0.73	853,417	568,944

Table FF.36. Summary of truck volume for projects used for new JPCP model calibration.

SHRP ID	Const. Date	Survey Date	Age, yrs	Total ESALs	Estimate of No. of Trucks (Cls 4 to 13)
20_0212	7/17/1992	29-May-97	4.87	5,700,958	3,800,639
20_0212	7/17/1992	1-Dec-99	7.38	8,639,671	5,759,781
20_3015	1/1/1985	25-Aug-88	3.65	730,490	486,993
20_3015	1/1/1985	3-Feb-99	14.1	2,822,155	1,881,437
21_3016	11/1/1985	16-Nov-88	3.04	3,849,781	2,566,521
21_3016	11/1/1985	18-Apr-91	5.46	6,909,572	4,606,381
21_3016	11/1/1985	12-Mar-93	7.36	9,314,452	6,209,635
21_3016	11/1/1985	2-Feb-98	12.26	15,510,174	10,340,116
26_0213	9/19/1993	16-Nov-93	0.16	580,485	386,990
26_0213	9/19/1993	29-Nov-94	1.19	4,363,682	2,909,121
26_0213	9/19/1993	22-May-95	1.67	6,105,136	4,070,091
26_0213	9/19/1993	22-May-97	3.67	13,421,655	8,947,770
26_0213	9/19/1993	3-Nov-98	5.13	18,726,022	12,484,014
26_0214	9/13/1993	19-Nov-93	0.18	670,717	447,145
26_0214	9/13/1993	6-Dec-94	1.23	4,493,734	2,995,823
26_0214	9/13/1993	6-Jun-95	1.73	6,315,557	4,210,371
26_0214	9/13/1993	13-Nov-98	5.17	18,886,395	12,590,930
26_0214	9/13/1993	19-Oct-99	6.1	22,289,299	14,859,533
26_0215	9/12/1993	16-Nov-93	0.18	650,625	433,750
26_0215	9/12/1993	2-Dec-94	1.22	4,463,778	2,975,852
26_0215	9/12/1993	5-Jun-95	1.73	6,315,557	4,210,371
26_0215	9/12/1993	10-Nov-98	5.16	18,866,302	12,577,535
26_0215	9/12/1993	18-Oct-99	6.1	22,289,299	14,859,533
26_0216	9/21/1993	16-Nov-93	0.15	560,392	373,595
26_0216	9/21/1993	1-Dec-94	1.19	4,363,682	2,909,121
26_0216	9/21/1993	23-May-95	1.67	6,095,273	4,063,515
26_0216	9/21/1993	6-Nov-98	5.13	18,736,251	12,490,834
26_0216	9/21/1993	18-Oct-99	6.08	22,199,067	14,799,378
26_0217	9/19/1993	16-Nov-93	0.16	580,485	386,990
26_0217	9/19/1993	29-Nov-94	1.19	4,363,682	2,909,121
26_0217	9/19/1993	22-May-95	1.67	6,105,136	4,070,091
26_0217	9/19/1993	21-May-97	3.67	13,411,426	8,940,951
26_0218	9/13/1993	19-Nov-93	0.18	670,717	447,145
26_0218	9/13/1993	6-Dec-94	1.23	4,493,734	2,995,823
26_0218	9/13/1993	7-Jun-95	1.73	6,325,421	4,216,947
26_0219	9/15/1993	19-Nov-93	0.18	650,625	433,750
26_0219	9/15/1993	6-Dec-94	1.22	4,474,007	2,982,671
26_0219	9/15/1993	7-Jun-95	1.73	6,305,328	4,203,552
26_0219	9/15/1993	13-Nov-98	5.16	18,866,302	12,577,535
26_0219	9/15/1993	19-Oct-99	6.1	22,269,207	14,846,138
26_0220	9/21/1993	16-Nov-93	0.15	560,392	373,595
26_0220	9/21/1993	1-Dec-94	1.19	4,363,682	2,909,121
26_0220	9/21/1993	23-May-95	1.67	6,095,273	4,063,515
26_0220	9/21/1993	9-Nov-98	5.14	18,766,206	12,510,804
26_0220	9/21/1993	18-Oct-99	6.08	22,199,067	14,799,378

Table FF.36. Summary of truck volume for projects used for new JPCP model calibration.

SHRP ID	Const. Date	Survey Date	Age, yrs	Total ESALs	Estimate of No. of Trucks (Cls 4 to 13)
26_0221	9/19/1993	15-Nov-93	0.16	570,621	380,414
26_0221	9/19/1993	15-Nov-93	0.16	570,621	380,414
26_0221	9/19/1993	30-Nov-94	1.2	4,373,911	2,915,940
26_0221	9/19/1993	30-Nov-94	1.2	4,373,911	2,915,940
26_0221	9/19/1993	23-May-95	1.67	6,115,365	4,076,910
26_0221	9/19/1993	23-May-95	1.67	6,115,365	4,076,910
26_0221	9/19/1993	22-May-97	3.67	13,421,655	8,947,770
26_0221	9/19/1993	22-May-97	3.67	13,421,655	8,947,770
26_0221	9/19/1993	4-Nov-98	5.13	18,736,251	12,490,834
26_0221	9/19/1993	4-Nov-98	5.13	18,736,251	12,490,834
26_0221	9/19/1993	18-Oct-99	6.08	22,219,159	14,812,773
26_0221	9/19/1993	18-Oct-99	6.08	22,219,159	14,812,773
26_0222	9/13/1993	18-Nov-93	0.18	660,489	440,326
26_0222	9/13/1993	2-Dec-94	1.22	4,453,914	2,969,276
26_0222	9/13/1993	5-Jun-95	1.73	6,305,328	4,203,552
26_0222	9/13/1993	12-Nov-98	5.17	18,876,166	12,584,111
26_0222	9/13/1993	19-Oct-99	6.1	22,289,299	14,859,533
26_0223	9/12/1993	18-Nov-93	0.18	670,717	447,145
26_0223	9/12/1993	2-Dec-94	1.22	4,463,778	2,975,852
26_0223	9/12/1993	5-Jun-95	1.73	6,315,557	4,210,371
26_0223	9/12/1993	10-Nov-98	5.16	18,866,302	12,577,535
26_0223	9/12/1993	18-Oct-99	6.1	22,289,299	14,859,533
26_0224	9/21/1993	16-Nov-93	0.15	560,392	373,595
26_0224	9/21/1993	30-Nov-94	1.19	4,353,818	2,902,546
26_0224	9/21/1993	23-May-95	1.67	6,095,273	4,063,515
26_0224	9/21/1993	4-Nov-98	5.12	18,716,158	12,477,439
26_0224	9/21/1993	18-Oct-99	6.08	22,199,067	14,799,378
26_3068	10/1/1974	18-Jul-88	13.81	1,149,929	766,619
26_3069	1/1/1974	18-Jul-88	14.55	401,193	267,462
26_3069	1/1/1974	3-Nov-93	19.85	547,263	364,842
27_3003	10/1/1986	20-Sep-88	1.97	164,016	109,344
27_3003	10/1/1986	21-Jul-99	12.81	1,065,196	710,131
27_3013	10/1/1985	13-Oct-88	3.04	270,466	180,310
27_3013	10/1/1985	28-Jul-99	13.83	1,232,232	821,488
28_3018	10/1/1984	4-Mar-91	6.42	1,200,663	800,442
28_3018	10/1/1984	1-Nov-91	7.09	1,324,566	883,044
28_3018	10/1/1984	14-Jul-93	8.79	1,642,509	1,095,006
28_3018	10/1/1984	14-Nov-95	11.13	2,079,253	1,386,169
28_3018	10/1/1984	25-Jan-00	15.33	2,864,159	1,909,440
28_3019	10/1/1984	4-Mar-91	6.42	1,211,577	807,718
28_3019	10/1/1984	1-Nov-91	7.09	1,336,606	891,071
28_3019	10/1/1984	14-Jul-93	8.79	1,657,439	1,104,960
28_3019	10/1/1984	30-Nov-95	11.17	2,106,432	1,404,288
28_3019	10/1/1984	26-Jan-00	15.33	2,890,722	1,927,148
31_3018	5/1/1985	28-Jul-88	3.24	3,587,085	2,391,390

Table FF.36. Summary of truck volume for projects used for new JPCP model calibration.

SHRP ID	Const. Date	Survey Date	Age, yrs	Total ESALs	Estimate of No. of Trucks (Cls 4 to 13)
31_3018	5/1/1985	3-Nov-93	8.52	9,416,237	6,277,491
31_3018	5/1/1985	19-Apr-95	9.97	11,027,981	7,351,987
31_3018	5/1/1985	6-Mar-96	10.85	12,003,543	8,002,362
31_3018	5/1/1985	9-Aug-96	11.28	12,476,174	8,317,449
31_3018	5/1/1985	4-Nov-97	12.52	13,845,520	9,230,347
31_3024	12/1/1984	28-Jul-88	3.66	3,539,396	2,359,598
31_3024	12/1/1984	9-Nov-99	14.95	14,465,220	9,643,480
32_0201	7/18/1995	26-Mar-96	0.69	1,237,397	824,931
32_0201	7/18/1995	14-Dec-98	3.41	6,113,502	4,075,668
32_0201	7/18/1995	17-Nov-99	4.34	7,773,163	5,182,109
32_0202	7/28/1995	27-Mar-96	0.67	1,193,307	795,538
32_0202	7/28/1995	2-Jun-97	1.85	3,314,483	2,209,655
32_0203	7/20/1995	26-Mar-96	0.68	1,227,540	818,360
32_0203	7/20/1995	15-Dec-98	3.41	6,108,484	4,072,323
32_0203	7/20/1995	17-Nov-99	4.33	7,763,306	5,175,537
32_0204	7/24/1995	27-Mar-96	0.68	1,212,843	808,562
32_0204	7/24/1995	8-Oct-96	1.21	2,170,464	1,446,976
32_0204	7/24/1995	5-Nov-96	1.29	2,307,932	1,538,622
32_0204	7/24/1995	12-Mar-97	1.64	2,931,470	1,954,313
32_0204	7/24/1995	17-Apr-97	1.73	3,108,190	2,072,127
32_0204	7/24/1995	14-Jul-97	1.98	3,540,311	2,360,207
32_0204	7/24/1995	9-Sep-97	2.13	3,820,267	2,546,845
32_0204	7/24/1995	16-Dec-98	3.4	6,093,787	4,062,525
32_0204	7/24/1995	18-Nov-99	4.32	7,748,609	5,165,739
32_0205	7/17/1995	26-Mar-96	0.69	1,242,416	828,277
32_0205	7/17/1995	14-Dec-98	3.41	6,118,342	4,078,894
32_0205	7/17/1995	16-Nov-99	4.34	7,773,163	5,182,109
32_0206	7/31/1995	2-Apr-96	0.67	1,208,004	805,336
32_0206	7/31/1995	3-Jun-97	1.84	3,304,625	2,203,083
32_0207	7/21/1995	26-Mar-96	0.68	1,222,700	815,134
32_0207	7/21/1995	15-Dec-98	3.41	6,103,645	4,069,096
32_0207	7/21/1995	18-Nov-99	4.33	7,763,306	5,175,537
32_0208	7/21/1995	27-Mar-96	0.68	1,227,540	818,360
32_0208	7/21/1995	16-Dec-98	3.41	6,108,484	4,072,323
32_0208	7/21/1995	18-Nov-99	4.33	7,763,306	5,175,537
32_0209	7/18/1995	26-Mar-96	0.69	1,237,397	824,931
32_0209	7/18/1995	6-Jun-97	1.89	3,383,306	2,255,538
32_0209	7/18/1995	15-Dec-98	3.41	6,118,342	4,078,894
32_0209	7/18/1995	17-Nov-99	4.34	7,773,163	5,182,109
32_0210	7/28/1995	27-Mar-96	0.67	1,193,307	795,538
32_0210	7/28/1995	4-Jun-97	1.85	3,324,340	2,216,227
32_0210	7/28/1995	16-Dec-98	3.39	6,074,072	4,049,381
32_0210	7/28/1995	18-Nov-99	4.31	7,728,894	5,152,596
32_0211	7/20/1995	26-Mar-96	0.68	1,227,540	818,360
32_0211	7/20/1995	15-Dec-98	3.41	6,108,484	4,072,323

Table FF.36. Summary of truck volume for projects used for new JPCP model calibration.

SHRP ID	Const. Date	Survey Date	Age, yrs	Total ESALs	Estimate of No. of Trucks (Cls 4 to 13)
32_0211	7/20/1995	17-Nov-99	4.33	7,763,306	5,175,537
32_3010	8/1/1982	9-Aug-91	9.03	4,949,674	3,299,783
32_3010	8/1/1982	3-Feb-92	9.52	5,217,077	3,478,051
32_3010	8/1/1982	10-Oct-96	14.2	7,787,262	5,191,508
32_3010	8/1/1982	15-Apr-99	16.72	9,164,798	6,109,865
32_3010	8/1/1982	25-Apr-00	17.75	9,729,596	6,486,397
32_3013	8/1/1981	4-Feb-92	10.52	5,047,358	3,364,905
32_3013	8/1/1981	5-May-97	15.77	7,567,774	5,045,183
32_7084	2/1/1990	12-Aug-96	6.53	11,127,775	7,418,517
32_7084	2/1/1990	8-Dec-98	8.85	15,086,002	10,057,335
32_7084	2/1/1990	21-Mar-00	10.14	17,275,097	11,516,732
37_0201	11/22/1993	27-Nov-95	2.01		
37_0201	11/22/1993	23-Apr-96	2.42		
37_0201	11/22/1993	20-Aug-96	2.75		
37_0201	11/22/1993	17-Mar-97	3.32		
37_0201	11/22/1993	6-Oct-97	3.87		
37_0201	11/22/1993	12-Mar-98	4.3		
37_0201	11/22/1993	16-Jul-98	4.65		
37_0201	11/22/1993	24-Sep-98	4.84		
37_0201	11/22/1993	15-Dec-98	5.07		
37_0201	11/22/1993	9-Nov-99	5.97		
37_0201	11/22/1993	21-Mar-00	6.33		
37_0202	11/21/1993	18-Mar-97	3.32		
37_0202	11/21/1993	16-Nov-99	5.99		
37_0203	11/11/1993	20-Mar-97	3.36		
37_0203	11/11/1993	16-Nov-99	6.02		
37_0204	11/8/1993	20-Mar-97	3.36		
37_0204	11/8/1993	15-Dec-99	6.1		
37_0205	11/22/1993	17-Mar-97	3.32		
37_0205	11/22/1993	9-Nov-99	5.97		
37_0206	11/21/1993	18-Mar-97	3.32		
37_0206	11/21/1993	16-Nov-99	5.99		
37_0207	11/18/1993	10-Mar-97	3.31		
37_0207	11/18/1993	10-Mar-97	3.31		
37_0207	11/18/1993	16-Nov-99	6		
37_0207	11/18/1993	16-Nov-99	6		
37_0208	11/20/1993	10-Mar-97	3.3		
37_0208	11/20/1993	10-Mar-97	3.3		
37_0208	11/20/1993	17-Nov-99	5.99		
37_0208	11/20/1993	17-Nov-99	5.99		
37_0209	11/23/1993	27-Nov-95	2.01		
37_0209	11/23/1993	17-Mar-97	3.32		
37_0209	11/23/1993	6-Oct-97	3.87		
37_0209	11/23/1993	16-Jul-98	4.65		
37_0209	11/23/1993	16-Dec-98	5.07		

Table FF.36. Summary of truck volume for projects used for new JPCP model calibration.

SHRP ID	Const. Date	Survey Date	Age, yrs	Total ESALs	Estimate of No. of Trucks (Cls 4 to 13)
37_0209	11/23/1993	9-Nov-99	5.96		
37_0210	11/23/1993	18-Mar-97	3.32		
37_0210	11/23/1993	16-Nov-99	5.98		
37_0211	11/12/1993	10-Mar-97	3.33		
37_0211	11/12/1993	10-Mar-97	3.33		
37_0211	11/12/1993	17-Nov-99	6.02		
37_0211	11/12/1993	17-Nov-99	6.02		
37_0212	11/9/1993	10-Mar-97	3.33		
37_0212	11/9/1993	17-Nov-99	6.02		
37_3008	6/1/1984	31-Jan-96	11.67	3,492,637	2,328,425
37_3008	6/1/1984	6-Apr-99	14.85	4,444,271	2,962,847
37_3011	9/1/1977	19-Apr-96	18.64	13,609,987	9,073,325
37_3011	9/1/1977	1-Mar-00	22.51	16,433,994	10,955,996
37_3044	8/1/1966	17-Jul-95	28.98	19,789,527	13,193,018
37_3807	8/1/1980	12-Aug-97	17.04	4,479,986	2,986,657
37_3816	4/1/1973	20-Dec-95	22.73	5,405,157	3,603,438
37_3816	4/1/1973	12-Dec-96	23.72	5,638,370	3,758,913
37_3816	4/1/1973	30-Mar-00	27.01	6,422,627	4,281,751
39_3013	3/1/1970	18-Aug-88	18.48	1,158,580	772,387
39_3013	3/1/1970	16-Jun-93	23.31	1,461,405	974,270
39_3801	6/1/1983	17-Aug-88	5.22	2,048,540	1,365,694
39_3801	6/1/1983	29-Apr-91	7.92	3,108,351	2,072,234
39_3801	6/1/1983	17-May-93	9.97	3,914,195	2,609,463
39_3801	6/1/1983	9-Jun-95	12.03	4,724,359	3,149,573
4_0213	9/9/1993	20-Feb-95	1.45	2,699,392	1,799,595
4_0213	9/9/1993	4-Nov-97	4.16	7,741,125	5,160,750
4_0213	9/9/1993	8-Jan-99	5.33	9,935,207	6,623,472
4_0213	9/9/1993	15-Mar-00	6.52	12,139,720	8,093,147
4_0214	9/15/1993	27-Feb-95	1.45	2,704,607	1,803,071
4_0214	9/15/1993	3-Nov-97	4.14	7,705,364	5,136,909
4_0214	9/15/1993	6-Jan-99	5.31	9,894,418	6,596,278
4_0214	9/15/1993	14-Mar-00	6.5	12,103,959	8,069,306
4_0215	9/13/1993	27-Feb-95	1.46	2,714,665	1,809,777
4_0215	9/13/1993	25-Aug-95	1.95	3,628,059	2,418,706
4_0215	9/13/1993	13-Nov-95	2.17	4,036,329	2,690,886
4_0215	9/13/1993	12-Feb-96	2.42	4,500,663	3,000,442
4_0215	9/13/1993	8-Apr-96	2.57	4,786,564	3,191,043
4_0215	9/13/1993	22-Jul-96	2.86	5,322,233	3,548,155
4_0215	9/13/1993	21-Aug-96	2.94	5,475,335	3,650,223
4_0215	9/13/1993	4-Nov-97	4.15	7,720,637	5,147,091
4_0215	9/13/1993	20-Jan-98	4.36	8,113,635	5,409,090
4_0215	9/13/1993	24-Apr-98	4.61	8,593,241	5,728,827
4_0215	9/13/1993	16-Jun-98	4.76	8,863,683	5,909,122
4_0215	9/13/1993	28-Oct-98	5.13	9,547,425	6,364,950
4_0215	9/13/1993	8-Jan-99	5.32	9,914,906	6,609,937

Table FF.36. Summary of truck volume for projects used for new JPCP model calibration.

SHRP ID	Const. Date	Survey Date	Age, yrs	Total ESALs	Estimate of No. of Trucks (Cls 4 to 13)
4_0215	9/13/1993	15-Mar-00	6.51	12,119,232	8,079,488
4_0216	9/13/1993	27-Feb-95	1.46	2,714,665	1,809,777
4_0216	9/13/1993	4-Nov-97	4.15	7,720,637	5,147,091
4_0216	9/13/1993	8-Jan-99	5.32	9,914,906	6,609,937
4_0216	9/13/1993	15-Mar-00	6.51	12,119,232	8,079,488
4_0217	9/10/1993	28-Feb-95	1.47	2,735,153	1,823,435
4_0217	9/10/1993	4-Nov-97	4.15	7,735,910	5,157,273
4_0217	9/10/1993	8-Jan-99	5.33	9,930,179	6,620,119
4_0217	9/10/1993	15-Mar-00	6.52	12,134,691	8,089,794
4_0218	9/14/1993	27-Feb-95	1.45	2,709,636	1,806,424
4_0218	9/14/1993	3-Nov-97	4.14	7,710,393	5,140,262
4_0218	9/14/1993	7-Jan-99	5.32	9,904,662	6,603,108
4_0218	9/14/1993	14-Mar-00	6.5	12,109,174	8,072,783
4_0219	9/12/1993	28-Feb-95	1.46	2,724,909	1,816,606
4_0219	9/12/1993	4-Nov-97	4.15	7,725,666	5,150,444
4_0219	9/12/1993	7-Jan-99	5.32	9,914,906	6,609,937
4_0219	9/12/1993	15-Mar-00	6.51	12,124,447	8,082,965
4_0220	9/14/1993	27-Feb-95	1.45	2,709,636	1,806,424
4_0220	9/14/1993	3-Nov-97	4.14	7,710,393	5,140,262
4_0220	9/14/1993	7-Jan-99	5.32	9,904,662	6,603,108
4_0220	9/14/1993	14-Mar-00	6.5	12,109,174	8,072,783
4_0221	9/10/1993	28-Feb-95	1.47	2,735,153	1,823,435
4_0221	9/10/1993	4-Nov-97	4.15	7,735,910	5,157,273
4_0221	9/10/1993	8-Jan-99	5.33	9,930,179	6,620,119
4_0221	9/10/1993	15-Mar-00	6.52	12,134,691	8,089,794
4_0222	9/14/1993	27-Feb-95	1.45	2,709,636	1,806,424
4_0222	9/14/1993	3-Nov-97	4.14	7,710,393	5,140,262
4_0222	9/14/1993	7-Jan-99	5.32	9,904,662	6,603,108
4_0222	9/14/1993	14-Mar-00	6.5	12,109,174	8,072,783
4_0223	9/13/1993	28-Feb-95	1.46	2,719,880	1,813,253
4_0223	9/13/1993	4-Nov-97	4.15	7,720,637	5,147,091
4_0223	9/13/1993	7-Jan-99	5.32	9,909,691	6,606,460
4_0223	9/13/1993	15-Mar-00	6.51	12,119,232	8,079,488
4_0224	9/13/1993	27-Feb-95	1.46	2,714,665	1,809,777
4_0224	9/13/1993	4-Nov-97	4.15	7,720,637	5,147,091
4_0224	9/13/1993	7-Jan-99	5.32	9,909,691	6,606,460
4_0224	9/13/1993	14-Mar-00	6.5	12,114,203	8,076,135
4_7613	3/1/1979	9-Mar-95	16.03	4,002,155	2,668,103
4_7613	3/1/1979	8-Dec-98	19.79	4,939,084	3,292,722
4_7614	5/1/1984	15-Dec-94	10.63	4,577,769	3,051,846
4_7614	5/1/1984	19-Nov-97	13.56	5,840,197	3,893,465
4_7614	5/1/1984	12-Mar-99	14.87	6,404,166	4,269,444
40_3018	6/1/1976	8-Oct-91	15.36	1,547,624	1,031,749
40_3018	6/1/1976	2-Nov-92	16.43	1,655,553	1,103,702
40_3018	6/1/1976	3-Nov-94	18.44	1,857,318	1,238,212

Table FF.36. Summary of truck volume for projects used for new JPCP model calibration.

SHRP ID	Const. Date	Survey Date	Age, yrs	Total ESALs	Estimate of No. of Trucks (Cls 4 to 13)
40_3018	6/1/1976	19-Aug-97	21.23	2,138,853	1,425,902
40_3018	6/1/1976	21-Sep-99	23.32	2,349,453	1,566,302
40_4160	6/1/1979	16-Oct-91	12.38	431,882	287,921
40_4160	6/1/1979	2-Nov-92	13.43	468,476	312,317
40_4160	6/1/1979	31-Oct-94	15.43	538,035	358,690
40_4160	6/1/1979	19-Aug-97	18.23	635,780	423,853
40_4160	6/1/1979	27-Sep-99	20.34	709,259	472,839
40_4162	6/1/1985	14-Oct-91	6.37	257,002	171,335
40_4162	6/1/1985	6-Nov-92	7.44	299,985	199,990
40_4162	6/1/1985	3-Nov-94	9.43	380,309	253,539
40_4162	6/1/1985	20-Aug-97	12.23	493,122	328,748
40_4162	6/1/1985	12-Jan-99	13.62	549,474	366,316
46_3012	9/1/1981	13-Jul-88	6.87	1,919,780	1,279,853
46_3012	9/1/1981	6-Oct-93	12.1	3,383,156	2,255,437
46_3012	9/1/1981	24-Jun-99	17.82	4,981,309	3,320,873
5_3011	5/1/1983	10-Sep-91	8.37	1,910,672	1,273,781
5_3011	5/1/1983	30-Nov-94	11.59	2,647,049	1,764,699
5_3011	5/1/1983	6-Aug-97	14.28	3,260,160	2,173,440
53_0201	9/28/1995	24-Oct-95	0.07	43,554	29,036
53_0201	9/28/1995	21-May-97	1.65	1,007,256	671,504
53_0201	9/28/1995	1-Oct-98	3.01	1,841,885	1,227,923
53_0201	9/28/1995	28-Apr-99	3.58	2,192,155	1,461,437
53_0202	9/28/1995	24-Oct-95	0.07	43,554	29,036
53_0202	9/28/1995	20-May-97	1.64	1,005,543	670,362
53_0202	9/28/1995	29-Sep-98	3.01	1,838,520	1,225,680
53_0202	9/28/1995	22-Apr-99	3.57	2,182,061	1,454,708
53_0203	9/28/1995	24-Oct-95	0.07	43,554	29,036
53_0203	9/28/1995	20-May-97	1.64	1,005,543	670,362
53_0203	9/28/1995	29-Sep-98	3.01	1,838,520	1,225,680
53_0203	9/28/1995	22-Apr-99	3.57	2,182,061	1,454,708
53_0204	9/28/1995	24-Oct-95	0.07	43,554	29,036
53_0204	9/28/1995	21-May-97	1.65	1,007,256	671,504
53_0204	9/28/1995	1-Oct-98	3.01	1,841,885	1,227,923
53_0204	9/28/1995	28-Apr-99	3.58	2,192,155	1,461,437
53_0205	9/28/1995	24-Oct-95	0.07	43,554	29,036
53_0205	9/28/1995	22-May-97	1.65	1,008,908	672,605
53_0205	9/28/1995	1-Oct-98	3.01	1,841,885	1,227,923
53_0205	9/28/1995	28-Apr-99	3.58	2,192,155	1,461,437
53_0206	9/26/1995	24-Oct-95	0.08	46,919	31,279
53_0206	9/26/1995	22-May-97	1.65	1,012,272	674,848
53_0206	9/26/1995	5-Oct-98	3.03	1,851,917	1,234,611
53_0206	9/26/1995	29-Apr-99	3.59	2,197,171	1,464,781
53_0207	9/26/1995	24-Oct-95	0.08	46,919	31,279
53_0207	9/26/1995	28-May-97	1.67	1,022,304	681,536
53_0207	9/26/1995	5-Oct-98	3.03	1,851,917	1,234,611

Table FF.36. Summary of truck volume for projects used for new JPCP model calibration.

SHRP ID	Const. Date	Survey Date	Age, yrs	Total ESALs	Estimate of No. of Trucks (Cls 4 to 13)
53_0207	9/26/1995	29-Apr-99	3.59	2,197,171	1,464,781
53_0208	9/28/1995	24-Oct-95	0.07	43,554	29,036
53_0208	9/28/1995	22-May-97	1.65	1,008,908	672,605
53_0208	9/28/1995	5-Oct-98	3.02	1,848,553	1,232,368
53_0208	9/28/1995	29-Apr-99	3.59	2,193,806	1,462,538
53_0209	9/28/1995	24-Oct-95	0.07	43,554	29,036
53_0209	9/28/1995	21-May-97	1.65	1,007,256	671,504
53_0209	9/28/1995	30-Sep-98	3.01	1,840,172	1,226,781
53_0209	9/28/1995	26-Apr-99	3.58	2,188,790	1,459,194
53_0210	9/28/1995	24-Oct-95	0.07	43,554	29,036
53_0210	9/28/1995	20-May-97	1.64	1,005,543	670,362
53_0210	9/28/1995	30-Sep-98	3.01	1,840,172	1,226,781
53_0210	9/28/1995	26-Apr-99	3.58	2,188,790	1,459,194
53_0211	9/29/1995	24-Oct-95	0.07	41,903	27,935
53_0211	9/29/1995	21-May-97	1.64	1,005,543	670,362
53_0211	9/29/1995	30-Sep-98	3.01	1,838,520	1,225,680
53_0211	9/29/1995	26-Apr-99	3.58	2,187,078	1,458,052
53_0212	9/28/1995	24-Oct-95	0.07	43,554	29,036
53_0212	9/28/1995	21-May-97	1.65	1,007,256	671,504
53_0212	9/28/1995	30-Sep-98	3.01	1,840,172	1,226,781
53_0212	9/28/1995	26-Apr-99	3.58	2,188,790	1,459,194
53_3011	5/1/1977	7-May-97	20.03	5,676,357	3,784,238
53_3011	5/1/1977	17-May-99	22.06	6,250,905	4,167,270
53_3013	10/1/1970	30-Aug-94	23.93	1,163,239	775,493
53_3013	10/1/1970	28-Sep-98	28.01	1,361,685	907,790
53_3014	4/1/1986	17-Apr-97	11.05	5,132,972	3,421,981
53_3014	4/1/1986	7-Apr-99	13.02	6,049,115	4,032,743
53_3014	4/1/1986	27-Apr-00	14.08	6,540,254	4,360,169
53_3019	4/1/1986	16-Apr-97	11.05	5,952,103	3,968,069
53_3019	4/1/1986	6-Apr-99	13.02	7,014,715	4,676,477
53_3813	8/1/1966	18-Jul-95	28.98	1,914,703	1,276,468
53_3813	8/1/1966	20-Nov-95	29.32	1,937,331	1,291,554
53_3813	8/1/1966	21-Feb-96	29.58	1,954,165	1,302,777
53_3813	8/1/1966	17-Apr-96	29.73	1,964,300	1,309,533
53_3813	8/1/1966	25-Jun-96	29.92	1,976,787	1,317,858
53_3813	8/1/1966	28-Aug-96	30.1	1,988,375	1,325,583
53_3813	8/1/1966	17-Mar-98	31.65	2,090,827	1,393,884
53_3813	8/1/1966	21-Jul-98	31.99	2,113,633	1,409,089
53_3813	8/1/1966	5-Nov-98	32.28	2,132,998	1,421,999
53_3813	8/1/1966	9-Dec-98	32.38	2,139,155	1,426,104
53_7409	5/1/1981	15-Apr-97	15.97	4,833,845	3,222,564
53_7409	5/1/1981	5-Apr-99	17.94	5,431,026	3,620,684
55_3008	12/1/1975	17-Aug-88	12.72	8,740,530	5,827,020
55_3008	12/1/1975	9-Nov-94	18.95	13,023,290	8,682,193
55_3009	10/1/1984	18-Aug-88	3.88	677,091	451,394

Table FF.36. Summary of truck volume for projects used for new JPCP model calibration.

SHRP ID	Const. Date	Survey Date	Age, yrs	Total ESALs	Estimate of No. of Trucks (Cls 4 to 13)
55_3009	10/1/1984	4-Nov-94	10.1	1,761,288	1,174,192
55_3009	10/1/1984	4-May-95	10.59	1,847,777	1,231,852
55_3009	10/1/1984	17-Aug-99	14.88	2,596,062	1,730,708
55_3010	10/1/1978	18-Aug-88	9.89	942,368	628,245
55_3010	10/1/1978	8-Nov-94	16.12	1,535,883	1,023,922
55_3010	10/1/1978	1-Sep-99	20.93	1,994,920	1,329,947
55_3015	9/1/1984	25-Aug-88	3.98	1,139,100	759,400
55_3016	6/1/1986	16-Aug-89	3.21	670,095	446,730
55_3016	6/1/1986	3-Nov-94	8.43	1,759,254	1,172,836
55_6351	6/1/1989	15-Aug-89	0.21	59,551	39,701
55_6351	6/1/1989	24-Aug-99	10.24	2,966,145	1,977,430
55_6352	6/1/1989	15-Aug-89	0.21	59,588	39,725
55_6352	6/1/1989	25-Aug-99	10.24	2,968,780	1,979,186
55_6353	6/1/1989	15-Aug-89	0.21	59,732	39,821
55_6353	6/1/1989	1-Nov-94	5.42	1,575,959	1,050,640
55_6353	6/1/1989	24-Aug-99	10.24	2,975,136	1,983,424
55_6354	6/1/1989	15-Aug-89	0.21	59,821	39,881
55_6354	6/1/1989	2-Nov-94	5.42	1,579,137	1,052,758
55_6354	6/1/1989	25-Aug-99	10.24	2,980,411	1,986,940
55_6355	6/1/1989	14-Aug-89	0.2	56,042	37,361
55_6355	6/1/1989	25-Aug-99	10.24	2,830,676	1,887,117
6_3005	11/1/1973	6-May-92	18.52	15,950,638	10,633,758
6_3005	11/1/1973	19-Jun-96	22.65	19,501,261	13,000,841
6_3005	11/1/1973	17-Apr-98	24.47	21,074,857	14,049,905
6_3005	11/1/1973	28-Jul-99	25.75	22,176,564	14,784,376
6_3021	4/1/1974	18-Nov-91	17.64	1,579,605	1,053,070
6_3021	4/1/1974	21-Jan-97	22.82	2,043,438	1,362,292
6_3021	4/1/1974	15-Jan-99	24.81	2,221,015	1,480,677
6_3021	4/1/1974	16-Mar-00	25.98	2,325,503	1,550,335
6_3030	10/1/1972	6-Dec-91	19.19	14,121,233	9,414,156
6_3030	10/1/1972	18-Mar-97	24.48	18,009,837	12,006,558
6_3030	10/1/1972	29-Sep-99	27.01	19,874,563	13,249,709
6_3042	6/1/1979	18-Dec-91	12.56	17,981,234	11,987,489
6_3042	6/1/1979	30-Mar-95	15.84	22,681,542	15,121,028
6_3042	6/1/1979	28-Nov-95	16.5	23,634,864	15,756,576
6_3042	6/1/1979	15-Feb-96	16.72	23,944,762	15,963,175
6_3042	6/1/1979	11-Apr-96	16.87	24,164,583	16,109,722
6_3042	6/1/1979	20-Jun-96	17.07	24,439,252	16,292,835
6_3042	6/1/1979	25-Jul-96	17.16	24,576,444	16,384,296
6_3042	6/1/1979	26-Aug-96	17.25	24,702,035	16,468,023
6_3042	6/1/1979	13-Feb-98	18.72	26,805,016	17,870,010
6_3042	6/1/1979	7-Apr-98	18.86	27,012,951	18,008,634
6_3042	6/1/1979	19-Jun-98	19.06	27,299,363	18,199,575
6_3042	6/1/1979	2-Nov-98	19.44	27,832,948	18,555,299
6_3042	6/1/1979	30-Mar-00	20.84	29,849,575	19,899,717

Table FF.36. Summary of truck volume for projects used for new JPCP model calibration.

SHRP ID	Const. Date	Survey Date	Age, yrs	Total ESALs	Estimate of No. of Trucks (Cls 4 to 13)
8_0213	10/11/1993	23-Apr-96	2.53	785,258	523,505
8_0213	10/11/1993	6-Aug-98	4.82	1,494,135	996,090
8_0213	10/11/1993	19-Aug-99	5.86	1,815,030	1,210,020
8_0214	10/13/1993	23-Apr-96	2.53	783,585	522,390
8_0214	10/13/1993	6-Aug-98	4.82	1,492,430	994,954
8_0214	10/13/1993	19-Aug-99	5.85	1,813,357	1,208,904
8_0215	10/12/1993	24-Apr-96	2.53	785,258	523,505
8_0215	10/12/1993	6-Aug-98	4.82	1,493,298	995,532
8_0215	10/12/1993	20-Aug-99	5.86	1,815,030	1,210,020
8_0216	10/11/1993	23-Apr-96	2.53	785,258	523,505
8_0216	10/11/1993	5-Aug-98	4.82	1,493,298	995,532
8_0216	10/11/1993	18-Aug-99	5.85	1,814,193	1,209,462
8_0217	9/9/1993	24-Apr-96	2.62	813,301	542,201
8_0217	9/9/1993	10-Aug-98	4.92	1,524,687	1,016,458
8_0217	9/9/1993	23-Aug-99	5.96	1,845,614	1,230,409
8_0218	10/21/1993	24-Apr-96	2.51	777,635	518,424
8_0218	10/21/1993	7-Aug-98	4.8	1,486,512	991,008
8_0218	10/21/1993	20-Aug-99	5.83	1,807,407	1,204,938
8_0219	10/22/1993	24-Apr-96	2.51	776,768	517,845
8_0219	10/22/1993	10-Aug-98	4.8	1,488,185	992,123
8_0219	10/22/1993	23-Aug-99	5.84	1,809,112	1,206,074
8_0220	9/9/1993	25-Apr-96	2.63	814,137	542,758
8_0220	9/9/1993	10-Aug-98	4.92	1,524,687	1,016,458
8_0220	9/9/1993	24-Aug-99	5.96	1,846,450	1,230,967
8_0221	9/3/1993	26-Apr-96	2.65	820,087	546,725
8_0221	9/3/1993	11-Aug-98	4.94	1,530,637	1,020,424
8_0221	9/3/1993	24-Aug-99	5.98	1,851,532	1,234,355
8_0222	9/3/1993	26-Apr-96	2.65	820,087	546,725
8_0222	9/3/1993	11-Aug-98	4.94	1,530,637	1,020,424
8_0222	9/3/1993	24-Aug-99	5.98	1,851,532	1,234,355
8_0223	9/3/1993	26-Apr-96	2.65	820,087	546,725
8_0223	9/3/1993	11-Aug-98	4.94	1,530,637	1,020,424
8_0223	9/3/1993	25-Aug-99	5.98	1,852,400	1,234,933
8_0224	9/8/1993	25-Apr-96	2.63	814,974	543,316
8_0224	9/8/1993	10-Aug-98	4.92	1,525,555	1,017,037
8_0224	9/8/1993	24-Aug-99	5.96	1,847,287	1,231,525
8_3032	6/1/1977	10-Feb-92	14.7	3,161,792	2,107,861
8_3032	6/1/1977	27-Aug-98	21.25	4,569,794	3,046,530
83_3802	9/1/1985	13-Sep-88	3.04	701,646	467,764
83_3802	9/1/1985	9-Jun-93	7.78	1,797,177	1,198,118
83_3802	9/1/1985	15-Feb-94	8.46	1,956,132	1,304,088
83_3802	9/1/1985	22-Aug-94	8.98	2,075,192	1,383,461
83_3802	9/1/1985	29-Mar-95	9.58	2,213,875	1,475,917
83_3802	9/1/1985	19-Jun-95	9.8	2,265,789	1,510,526
83_3802	9/1/1985	15-Oct-96	11.13	2,572,303	1,714,869

Table FF.36. Summary of truck volume for projects used for new JPCP model calibration.

SHRP ID	Const. Date	Survey Date	Age, yrs	Total ESALs	Estimate of No. of Trucks (Cls 4 to 13)
83_3802	9/1/1985	20-Jun-97	11.81	2,729,339	1,819,559
83_3802	9/1/1985	15-Sep-97	12.05	2,784,443	1,856,295
89_3015	9/1/1984	19-May-94	9.72	6,029,606	4,019,737
89_3015	9/1/1984	11-Aug-94	9.95	6,172,376	4,114,917
89_3015	9/1/1984	13-Jun-95	10.79	6,692,578	4,461,719
89_3015	9/1/1984	19-Nov-96	12.22	7,585,062	5,056,708
89_3015	9/1/1984	20-May-97	12.72	7,894,429	5,262,953
89_3015	9/1/1984	23-Sep-97	13.07	8,108,615	5,405,744
89_3015	9/1/1984	2-Sep-98	14.01	8,693,408	5,795,606
89_3015	9/1/1984	7-Oct-99	15.11	9,373,320	6,248,880
89_3015	9/1/1984	2-Mar-00	15.51	9,623,245	6,415,497

Table FF.37. Summary of truck volume for projects used for new CRCP model calibration.

SHRP ID	Const. Date	Survey Date	Age, yrs	Total ESALs	Estimate of No. of Trucks (Cls 4 to 13)
1_5008			15.25	20,017,451	13,344,967
1_5008			20.25	29,644,892	19,763,261
16_5025			22.67	2,749,929	1,833,286
17_5020			11.75	586,749	391,166
17_5020			14.33	755,359	503,573
17_5843			8.67	11,116,509	7,411,006
17_5843			11.92	16,246,374	10,830,916
17_5843			15.92	23,424,999	15,616,666
17_5849			19.5	11,856,288	7,904,192
17_5849			22.58	14,186,507	9,457,671
17_5849			26.67	17,499,666	11,666,444
17_5854			8.67	592,288	394,858
17_5869			14.67	1,427,957	951,972
17_5869			18.67	2,100,466	1,400,311
17_5869			20.67	2,492,692	1,661,795
17_5908			20.33	1,497,408	998,272
17_5908			21.92	1,641,202	1,094,135
17_5908			27.33	2,169,105	1,446,070
17_5908			29.92	2,441,087	1,627,391
17_9267			22.67	25,734,330	17,156,220
18_5022			16.67	22,563,938	15,042,625
18_5043			21.5	69,095	46,064
18_5043			29.17	109,710	73,140
18_5518			19.58	19,783,355	13,188,903
18_5518			22.42	24,416,649	16,277,766
19_5042			18.67	5,869,205	3,912,803
19_5042			23.75	8,245,806	5,497,204
19_9116			22	7,692,859	5,128,572

Table FF.37. Summary of truck volume for projects used for new CRCP model calibration.

SHRP ID	Const. Date	Survey Date	Age, yrs	Total ESALs	Estimate of No. of Trucks (Cls 4 to 13)
19_9116			27.08	10,262,582	6,841,722
28_3099			20.33	11,300,930	7,533,953
28_5006			13.75	5,036,715	3,357,810
28_5006			16.08	6,625,334	4,416,889
28_5006			20.42	10,449,706	6,966,471
28_5025			12.42	2,097,490	1,398,327
28_5025			14.75	2,624,876	1,749,918
28_5025			21.17	4,375,002	2,916,668
28_5803			13.58	10,100,321	6,733,548
28_5803			15.92	12,717,641	8,478,427
28_5803			20.08	18,344,100	12,229,400
28_5805			15.25	9,134,319	6,089,546
29_5047			27	5,143,192	3,428,795
31_5052			23.25	8,037,971	5,358,647
37_5037			23.25	13,656,576	9,104,384
37_5037			26.42	16,998,826	11,332,551
37_5037			29	20,063,539	13,375,693
37_5827			22.83	5,187,061	3,458,041
37_5827			23.5	5,483,000	3,655,333
37_5827			26.75	7,108,851	4,739,234
37_5827			28	7,812,757	5,208,504
38_5002			15.92	1,012,218	674,812
38_5002			17.67	1,180,121	786,747
38_5002			21.5	1,600,397	1,066,931
39_5003			5.67	2,020,383	1,346,922
39_5003			11.83	4,651,489	3,100,992
39_5003			12.42	4,923,440	3,282,293
39_5010			13.83	1,504,886	1,003,258
4_7079			5.5	583,812	389,208
4_7079			8.25	1,067,619	711,746
4_7079			9.42	1,324,808	883,206
4_7079			12	2,024,882	1,349,921
40_4158			2.67	351,809	234,539
40_4158			3.75	494,732	329,821
40_4158			5.75	758,588	505,726
40_4158			8.25	1,088,410	725,606
40_4158			10.67	1,407,237	938,158
40_4166			1.25	524,499	349,666
40_4166			2.42	1,060,534	707,022
40_4166			4.42	2,101,960	1,401,306
40_4166			7.17	3,825,433	2,550,289
40_4166			9.25	5,393,977	3,595,984
40_5021			3.67	739,793	493,196
40_5021			4.83	991,049	660,699
40_5021			6.83	1,441,784	961,190

Table FF.37. Summary of truck volume for projects used for new CRCP model calibration.

SHRP ID	Const. Date	Survey Date	Age, yrs	Total ESALs	Estimate of No. of Trucks (Cls 4 to 13)
40_5021			9.33	2,042,302	1,361,534
40_5021			11.67	2,641,984	1,761,323
41_5005			8.67	16,284,208	10,856,139
41_5005			13.5	28,699,404	19,132,936
41_5005			16	36,233,405	24,155,603
41_5006			22.58	14,746,524	9,831,016
41_5006			25.08	18,047,716	12,031,811
41_5006			27.92	22,533,110	15,022,073
41_5008			23.58	19,753,457	13,168,972
41_5008			26.08	23,923,178	15,948,785
41_5008			28.92	29,448,834	19,632,556
41_5021			7.67	11,889,345	7,926,230
41_5021			12.42	21,258,568	14,172,379
41_5021			15	27,113,477	18,075,652
41_5022			11.58	20,511,340	13,674,227
41_5022			14.42	26,950,266	17,966,844
41_5022			17	33,404,753	22,269,836
41_7081			7.5	4,737,729	3,158,486
41_7081			10.08	7,348,798	4,899,198
41_7081			12.92	10,979,819	7,319,879
42_5020			17.5	11,329,757	7,553,171
42_5020			18.25	12,199,977	8,133,318
42_5020			19	13,111,780	8,741,187
45_5017			12.92	4,850,296	3,233,530
45_5017			14.17	5,484,557	3,656,371
45_5017			18.17	7,874,793	5,249,862
45_5017			19.83	9,078,640	6,052,427
45_5017			22	10,869,039	7,246,026
45_5034			16.67	6,216,560	4,144,374
45_5034			17.92	7,147,804	4,765,203
45_5034			21.92	10,888,431	7,258,954
45_5034			23.58	12,860,086	8,573,391
45_5034			26	16,233,971	10,822,647
45_5035			16.25	5,194,873	3,463,248
45_5035			17.5	5,981,884	3,987,922
45_5035			21.5	9,143,154	6,095,436
45_5035			23.17	10,809,434	7,206,290
46_5020			20.83	6,985,219	4,656,812
46_5020			20.92	7,019,689	4,679,793
46_5020			26.58	9,535,963	6,357,309
46_5025			24.58	5,951,997	3,967,998
48_3779			14.83	1,331,814	887,876
48_3779			17.17	1,666,485	1,110,990
48_3779			18.75	1,921,788	1,281,192
48_5024			9.25	1,910,686	1,273,791

Table FF.37. Summary of truck volume for projects used for new CRCP model calibration.

SHRP ID	Const. Date	Survey Date	Age, yrs	Total ESALs	Estimate of No. of Trucks (Cls 4 to 13)
48_5024			11.25	2,435,282	1,623,521
48_5024			13.5	3,110,688	2,073,792
48_5024			15.42	3,765,957	2,510,638
48_5024			17.33	4,504,586	3,003,057
48_5024			19.92	5,636,542	3,757,695
48_5026			3	81,170	54,113
48_5026			4.75	140,852	93,901
48_5026			6.92	231,194	154,129
48_5026			9.92	393,104	262,070
48_5026			10.92	458,574	305,716
48_5026			13	614,399	409,599
48_5154			19.75	9,784,852	6,523,235
48_5154			21.67	11,475,165	7,650,110
48_5154			23.92	13,718,978	9,145,986
48_5154			25.83	15,874,856	10,583,237
48_5154			27.75	18,283,465	12,188,977
48_5278			15.67	341,919	227,946
48_5278			17.83	389,205	259,470
48_5278			19.75	431,036	287,357
48_5278			21.75	474,685	316,457
48_5278			23.92	521,971	347,981
48_5323			10.67		
48_5323			12.58		
48_5323			14.83		
48_5323			16.58		
48_5328			15.5	7,769,281	5,179,521
48_5328			17.67	9,160,286	6,106,858
48_5328			22.33	12,823,807	8,549,205
48_5334			21.33	5,614,339	3,742,893
48_5334			22.83	6,401,108	4,267,405
48_5334			25.08	7,739,504	5,159,669
48_5334			26.83	8,930,114	5,953,410
48_5334			29.08	10,682,394	7,121,596
48_5336			4.42	1,690,702	1,127,134
48_5336			6.42	2,584,005	1,722,670
48_5336			8.67	3,699,117	2,466,078
48_5336			10.42	4,654,687	3,103,125
48_5336			12.5	5,904,570	3,936,380
5_5803			21.25	931,485	620,990
5_5803			23.83	1,226,109	817,406
5_5803			26.83	1,669,183	1,112,789
5_5805			15.83	1,591,034	1,060,689
5_5805			19	2,735,166	1,823,444
5_5805			21.75	3,975,789	2,650,526
5_5805			24.58	5,507,075	3,671,383

Table FF.37. Summary of truck volume for projects used for new CRCP model calibration.

SHRP ID	Const. Date	Survey Date	Age, yrs	Total ESALs	Estimate of No. of Trucks (Cls 4 to 13)
51_2564			28.17	21,689,858	14,459,905
51_2564			32.25	24,834,245	16,556,163
51_5010			9.08	11,013,646	7,342,431
51_5010			11.83	15,628,471	10,418,981
55_5037			22.58	2,106,563	1,404,375
55_5040			10.08	7,627,868	5,085,245
55_5040			14	11,780,319	7,853,546
6_7455			20	6,150,847	4,100,565
6_7455			26.33	10,903,176	7,268,784
6_7455			27.25	11,788,733	7,859,155
6_7455			28.5	13,092,948	8,728,632
Edens*			14	18,069,125	12,046,083
Edens			22	33,830,866	22,553,911
I80*			9	10,453,898	6,969,265
I80			10	11,859,879	7,906,586
I80			17	23,408,899	15,605,933
I80			18	25,333,079	16,888,719
I80			19	27,334,223	18,222,816
I80			20	29,415,415	19,610,277
I80			21	31,579,851	21,053,234
I80			22	33,830,866	22,553,911
I80			26	43,772,074	29,181,383
I80			27	46,510,777	31,007,185
Vandalia*			1	70,148	46,765
Vandalia			5	775,545	517,030
Vandalia			10	2,081,250	1,387,500
Vandalia			15	3,522,854	2,348,569
Vandalia			20	5,114,501	3,409,667

Table FF.38. Summary of truck volume for projects used for rehabilitation with PCC model calibration.

Section_ID	Age,yrs	Total ESALs	Estimate of No. of Trucks (Cls 4 to 13)
AZ1_1	15	4,108,762	2,739,175
AZ1_1	20	7,155,907	4,770,604
AZ1_2	12	3,516,513	2,344,342
AZ1_2	17	6,664,108	4,442,739
AZ1_4	8	2,526,103	1,684,068
AZ1_4	13	5,753,674	3,835,783
AZ1_5	8	2,881,924	1,921,283
AZ1_5	13	6,177,572	4,118,381
AZ1_6	6	2,081,856	1,387,904
AZ1_6	11	5,296,301	3,530,867

Table FF.38. Summary of truck volume for projects used for rehabilitation with PCC model calibration.

Section_ID	Age,yrs	Total ESALs	Estimate of No. of Trucks (Cls 4 to 13)
AZ1_7	6	1,783,489	1,188,992
AZ1_7	11	4,957,745	3,305,164
AZ2	4	3,174,764	2,116,510
AZ2	9	10,375,957	6,917,304
CA1_10	21	12,493,236	8,328,824
CA1_3	16	8,020,160	5,346,773
CA1_3	21	12,493,236	8,328,824
CA1_4	21	12,493,236	8,328,824
CA1_5	16	8,020,160	5,346,773
CA1_5	21	12,493,236	8,328,824
CA1_6	21	12,493,236	8,328,824
CA1_7	16	8,020,160	5,346,773
CA1_7	21	12,493,236	8,328,824
CA1_8	21	12,493,236	8,328,824
CA1_9	16	8,020,160	5,346,773
CA1_9	21	12,493,236	8,328,824
CA10	2	1,055,981	703,988
CA2_2	7	4,652,167	3,101,445
CA2_2	12	9,615,977	6,410,651
CA2_3	7	4,652,167	3,101,445
CA2_3	12	9,615,977	6,410,651
CA3_1	12	3,774,377	2,516,251
CA3_1	17	5,952,349	3,968,233
CA3_10	17	5,952,349	3,968,233
CA3_2	12	3,774,377	2,516,251
CA3_2	17	5,952,349	3,968,233
CA3_3	17	5,952,349	3,968,233
CA3_4	17	5,952,349	3,968,233
CA3_5	12	3,774,377	2,516,251
CA3_5	17	5,952,349	3,968,233
CA3_6	17	5,952,349	3,968,233
CA3_7	17	5,952,349	3,968,233
CA3_8	17	5,952,349	3,968,233
CA3_9	17	5,952,349	3,968,233
CA6_1	16	9,048,353	6,032,235
CA6_1	21	14,094,936	9,396,624
CA6_2	12	10,347,437	6,898,291
CA7	8	10,966,361	7,310,908
CA7	13	20,920,994	13,947,329
CA8	4	4,753,245	3,168,830
CA8	9	10,967,085	7,311,390
CA9_10	18	11,098,968	7,399,312
CA9_2	18	11,098,968	7,399,312
CA9_3	18	11,098,968	7,399,312
CA9_4	18	11,098,968	7,399,312

Table FF.38. Summary of truck volume for projects used for rehabilitation with PCC model calibration.

Section_ID	Age,yrs	Total ESALs	Estimate of No. of Trucks (Cls 4 to 13)
CA9_5	18	11,098,968	7,399,312
CA9_8	18	11,098,968	7,399,312
FL2	1	1,980,416	1,320,278
FL2	6	12,492,417	8,328,278
FL3	5	5,879,715	3,919,810
FL3	10	13,032,271	8,688,180
FL4_1	14	4,462,370	2,974,913
MI1_10a	12	905,275	603,516
MI1_10a	17	1,350,569	900,379
MI1_10b	17	1,350,569	900,379
MI1_4a	12	905,275	603,516
MI1_4a	17	1,350,569	900,379
MI1_4a10	17	1,350,569	900,379
MI1_4a12	17	1,350,569	900,379
MI1_7a	12	905,275	603,516
MI1_7a	17	1,350,569	900,379
MI1_7a5	17	1,350,569	900,379
MI1_7b	12	905,275	603,516
MI1_7b	17	1,350,569	900,379
MI1_7b5	17	1,350,569	900,379
MN2_1	10	2,817,653	1,878,435
MN2_1	15	4,449,793	2,966,529
MN2_2	10	2,817,653	1,878,435
MN2_2	15	4,449,793	2,966,529
MN4	1	176,000	117,333
MN4	6	1,058,639	705,759
MN7_10	34	7,047,140	4,698,093
MN7_15	34	7,047,140	4,698,093
MN7_17	34	7,047,140	4,698,093
MN7_18	34	7,047,140	4,698,093
MN7_24	34	7,047,140	4,698,093
MN7_9	34	7,047,140	4,698,093
NC1_2	20	9,819,187	6,546,125
NC1_2	25	17,496,435	11,664,290
NC1_3	20	9,819,187	6,546,125
NC1_3	25	17,496,435	11,664,290
NC1_4	20	9,819,187	6,546,125
NC1_4	25	17,496,435	11,664,290
NC1_5	20	9,819,187	6,546,125
NC1_5	25	17,496,435	11,664,290
NC1_8	20	9,819,187	6,546,125
NC1_8	25	17,496,435	11,664,290
NC2	5	5,383,082	3,588,721
NC2	10	14,867,235	9,911,490
NY2_11	12	2,822,467	1,881,644

Table FF.38. Summary of truck volume for projects used for rehabilitation with PCC model calibration.

Section_ID	Age,yrs	Total ESALs	Estimate of No. of Trucks (Cls 4 to 13)
NY2_11	17	6,327,628	4,218,418
NY2_3	12	2,822,467	1,881,644
NY2_3	17	6,327,628	4,218,418
NY2_9	12	2,822,467	1,881,644
NY2_9	17	6,327,628	4,218,418
OH2_1	18	6,871,154	4,580,769
OH2_2	13	3,945,184	2,630,123
OH2_2	18	6,871,154	4,580,769
OH2_3	13	3,945,184	2,630,123
OH2_3	18	6,871,154	4,580,769
WI1_1	2	5,304,858	3,536,572
WI1_2	2	5,304,858	3,536,572
WI1_3	2	5,304,858	3,536,572
WI2_1	4	1,323,734	882,490
WI2_2	4	1,323,734	882,490
WI2_3	4	1,323,734	882,490
WI2_4	4	1,323,734	882,490
WI2_5	4	1,323,734	882,490
WI3_1	4	1,222,065	814,710
WI3_2	4	1,222,065	814,710
WI3_3	4	1,222,065	814,710
WI4_6	4	1,527,073	1,018,048
WI5_1	4	1,436,707	957,805
WI5_2	4	1,436,707	957,805
WI5_3	4	1,436,707	957,805
WI5_4	4	1,436,707	957,805
WI5_5	4	1,436,707	957,805
WI5_6	4	1,436,707	957,805
WI6_1	4	4,272,140	2,848,094
WI6_2	4	4,272,140	2,848,094
WI6_3	4	4,272,140	2,848,094
WI6_4	4	4,272,140	2,848,094
WI7_1	4	1,331,041	887,361
WI7_10	4	1,331,041	887,361
WI7_2	4	1,331,041	887,361
WI7_3	4	1,331,041	887,361
WI7_4	4	1,331,041	887,361
WI7_5	4	1,331,041	887,361
WI7_6	4	1,331,041	887,361
WI7_7	4	1,331,041	887,361
WI7_8	4	1,331,041	887,361
WI7_9	4	1,331,041	887,361
WV1_3	3	3,833,453	2,555,636
1_0601	0.22	116,040	77,360
1_0601	1.47	705,596	470,397

Table FF.38. Summary of truck volume for projects used for rehabilitation with PCC model calibration.

Section_ID	Age,yrs	Total ESALs	Estimate of No. of Trucks (Cls 4 to 13)
1_0601	2.46	1,198,007	798,671
1_0602	0.22	116,040	77,360
1_0602	1.47	705,596	470,397
1_0602	2.46	1,198,007	798,671
1_0605	0.22	116,040	77,360
1_0605	1.47	705,596	470,397
1_0605	2.47	1,198,012	798,675
13_4118	19.87	44,430,725	29,620,484
13_4118	23.42	56,926,567	37,951,045
13_4118	25.97	66,765,825	44,510,550
13_4118	27.81	74,195,904	49,463,936
18_9020	7.57	8,956,336	5,970,891
18_9020	12.23	18,495,740	12,330,494
19_0702	0.9	348,353	232,235
19_0702	6.52	2,811,834	1,874,556
19_0709	0.9	440,527	293,685
19_0709	6.52	3,555,840	2,370,560
20_9037	16.37	855,849	570,566
22_0702	0.59	808,877	539,252
22_0702	2.18	3,096,801	2,064,534
22_0702	4.87	7,348,957	4,899,305
22_0709	0.59	808,877	539,252
22_0709	2.18	3,096,801	2,064,534
22_0709	4.87	7,348,957	4,899,305
27_0702	1.62	533,058	355,372
27_0702	2.82	980,627	653,752
27_0702	4.72	1,718,728	1,145,819
27_0702	8.02	3,106,648	2,071,098
27_0709	2.83	980,633	653,755
27_0709	4.73	1,718,733	1,145,822
27_9075	18.42	542,543	361,695
28_7012	8.04	11,327,108	7,551,405
28_7012	14.61	29,813,252	19,875,501
29_A601	9.79	5,407,294	3,604,862
29_A601	11.44	6,524,965	4,349,977
29_A602	9.79	5,407,294	3,604,862
29_A602	11.44	6,524,965	4,349,977
29_A605	11.46	6,581,684	4,387,790
31_6701	11.11	847,326	564,884
4_0601	1.18	960,719	640,480
4_0602	1.17	960,714	640,476
4_0605	0.72	818,636	545,758
4_0605	1.17	1,280,736	853,824
40_4155	2.36	788,944	525,963
40_4155	3.43	1,204,715	803,144

Table FF.38. Summary of truck volume for projects used for rehabilitation with PCC model calibration.

Section_ID	Age,yrs	Total ESALs	Estimate of No. of Trucks (Cls 4 to 13)
40_4155	5.42	2,056,104	1,370,736
40_4155	7.98	3,314,399	2,209,600
40_4155	10.33	4,613,868	3,075,912
42_1627	7	17,016,016	11,344,011
42_1627	9.57	23,297,361	15,531,574
42_1627	11.95	28,971,687	19,314,458
46_0601	0.11	45,519	30,346
46_0601	1.77	971,957	647,971
46_0601	2.95	1,655,277	1,103,518
46_0601	5.94	3,566,221	2,377,480
46_0602	0.11	45,519	30,346
46_0602	2.95	1,655,277	1,103,518
46_0602	5.94	3,566,221	2,377,480
46_0605	0.11	45,519	30,346
46_0605	2.95	1,655,277	1,103,518
46_0605	5.94	3,566,221	2,377,480
47_0601	0.5	232,112	154,741
47_0601	3.12	1,492,581	995,054
47_0601	4.12	2,016,439	1,344,292
47_0602	0.5	232,112	154,741
47_0602	3.12	1,492,581	995,054
47_0602	4.12	2,016,439	1,344,292
47_0605	0.5	232,112	154,741
47_0605	3.12	1,492,581	995,054
47_0605	4.12	2,016,439	1,344,292
48_3569	2.4	2,987,944	1,991,963
48_3569	4.53	5,894,237	3,929,491
48_3569	6.47	8,978,193	5,985,462
48_3569	8.46	12,350,386	8,233,590
48_3569	10.31	15,693,758	10,462,505
48_3845	0.88	1,325,528	883,685
48_3845	3.01	4,559,324	3,039,550
48_3845	7.71	13,142,045	8,761,363
48_3845	10.48	18,869,562	12,579,708
48_9167	3.08	679,110	452,740
48_9167	5.15	1,583,249	1,055,500
48_9167	7.04	2,682,110	1,788,074
48_9167	9.97	5,092,159	3,394,772
48_9167	12.62	7,762,406	5,174,938
48_9355	1.37	766,923	511,282
48_9355	3.44	2,420,404	1,613,603
48_9355	5.33	4,425,159	2,950,106
48_9355	8.13	8,238,513	5,492,342
6_0602	0.41	568,448	378,965
6_0602	4.1	5,926,244	3,950,829

Table FF.38. Summary of truck volume for projects used for rehabilitation with PCC model calibration.

Section_ID	Age,yrs	Total ESALs	Estimate of No. of Trucks (Cls 4 to 13)
6_0602	5.94	8,910,604	5,940,403
6_0602	7.21	11,223,769	7,482,513
6_0602	8.27	13,036,876	8,691,251
6_9048	21.14	15,654,439	10,436,292
6_9048	26.33	20,003,063	13,335,375
6_9048	28.31	21,747,191	14,498,127
6_9049	23.56	33,378,242	22,252,161
6_9049	30.44	43,896,637	29,264,424
6_9107	3.77	2,539,275	1,692,850
6_9107	8.93	6,195,388	4,130,259
8_9019	12.54	6,151,878	4,101,252
8_9020	11.9	7,685,595	5,123,730
89_9018	7.87	156,701	104,468
89_9018	10.79	242,831	161,887
GA-1	18	18,741,879	12,494,586
GA-4	18	29,960,933	19,973,955
GA-5	18	18,741,879	12,494,586
IL-3_6_07	19	39,023,970	26,015,980
IL-3_6_10	19	39,354,588	26,236,392
IL-3_7_07	19	39,354,588	26,236,392
IL-3_7_10	19	39,354,588	26,236,392
IL-3_8_06	19	39,354,588	26,236,392
PA-5	17	38,568,021	25,712,014
WI-1	13	29,804,316	19,869,544
AL_IH_20E_183.0	11	18,030,349	12,020,233
AL_IH_59N_235.5	14	6,291,326	4,194,218
CA_IH_8E_43.4	1	325,978	217,319
FL_IH_10E_214.7	5	5,373,518	3,582,346
GA_IH_16W_59.9	1	438,103	292,068
IA_IH_80W_87.7	13	18,487,063	12,324,708
NE_IH_80W_420.1	8	5,627,207	3,751,472
SD_IH_29S_174	7	1,545,549	1,030,366
WI_IH_43N_2.7	3	1,648,356	1,098,904

6.0 PAVEMENT STRUCTURE

Variables used to characterize pavement structure for the projects used in model development falls into the following three categories namely; pavement design features, drainage and surface properties, and layer definition and material properties. These are all key input requirements for model development and and calibration. The variables used to characterize the pavement structure were as follows:

- Pavement design features.
    - Permanent curling/warping.
    - Joint spacing, etc.
    - Presence of dowels, dowel diameter, and dowel spacing.
- Drainage and surface properties.
    - Pavement surface layer (PCC) shortwave absorptivity.
    - Potential for infiltration.
    - Pavement cross slope.
    - Length of drainage path.
- Layer definition and material properties.
    - Layer number, description, and material type.
    - Layer thickness.
    - Elastic modulus.
    - Flexural, compressive, and tensile strength.
    - Ultimate shrinkage.
    - Unit weight.
    - Poisson's ratio.
    - Coefficient of thermal expansion of PCC.
    - Thermal conductivity.
    - Heat capacity, etc.
    - PCC zero stress temperature.

A detailed description of listed variables including the default values used when they were not available is presented in the next few sections. Note that for critical variables such as layer thickness and strength the use of default values or guesstimates was not applicable. Table FF.39 describes the design variables required and the sources of such data. Tables FF.40 through FF.42 presents the design related variables used in new PCC and rehabilitation with PCC model development and calibration.

Table FF.39. Descriptions of sources of the data used to characterize pavement structure.

Pavement Type	Input Data Description	Level of Input		
		1	2	3 (Default)
JPCP	Permanent curl/warp effective temperature difference in PCC slab due to construction curling and moisture warping	No test data available	No data available	Range (XX through YY ^{o}F) Default = -10°F
	Transverse joint spacing (average or random)	✓	N/A	N/A
	Transverse joint sealant type (for JPCP)	✓ (if available)	N/A	Default = liquid
	Dowel diameter and spacing (for doweled JPCP)	✓	N/A	N/A
	Edge support (tied PCC, widened lane, slab width, etc.)	✓	N/A	N/A
	Lane-shoulder joint load transfer efficiency (LTE) (for tied PCC shoulders)[1]	N/A	N/A	Default =40
	Slab width (for widened slabs)[1]	✓	N/A	N/A
	Number of years after which PCC—stabilized base interface changes from bonded to unbonded interface, N_{bond} (for stabilized base JPCP)[1,2]	0	N/A	N/A
	Base erodibility index[1]	N/A	N/A	Based on recommendations described in Part 2, Chapter 2
CRCP	Permanent curl/warp effective temperature difference in PCC slab due to construction curling and moisture warping	N/A	N/A	Range (XX through YY ^{o}F) Default = -10°F
	Total longitudinal steel cross-sectional area as percent of PCC slab cross-sectional area (for CRCP)	✓	N/A	N/A
	Diameter of longitudinal reinforcing steel (CRCP)	✓	N/A	N/A
	Depth of steel placement from pavement surface (for CRCP)	✓	N/A	N/A
	Base erodibility index[1]	N/A	N/A	Based on recommendations described in Part 2, Chapter 2
	PCC slab/base friction coefficient[1]	N/A	N/A	Based on recommendations described in Part 2, Chapter 4
	Crack spacing (mean and standard deviation)	✓		2002 model generated

[1]For overlay design use the recommendations presented in Part 3, Chapter 4 directly, for CPR assume long-term values where relevant.
[2]For unbonded JPCP or CRCP over existing rigid pavements, bonded PCC over existing JPCP, and restored JPCP the PCC/base bond is nonexistent and hence N_{bond} = 0. For JPCP and CRCP overlays over existing flexible pavements Nbond is a user input and typically ranges from 0 to 10 years.

Table FF.40. Summary of the design features data used for new JPCP (LTPP GPS-3, SPS-2, and FHWA RPPR) model calibration.

SHRP_ID	Joint Spacing, ft	Random Spacing?	Transverse Joint Sealant Type	Dowel Diameter	Dowel Spacing	Tie Bar Diameter	Widened Lane?	Erodibility	PCC-Base Interface	Loss of Bond Age, months
1_3028	20	None	Liquid (L3)	0	N/A	No	No (Lane width =12 ft)	5	Unbonded	0
12_3804	19.5	17-23-22-16	Low Modulus Silicone	1.25	12	0.5	No (Lane width =12 ft)	4	Unbonded	0
12_3811	20	None	Preformed	0	N/A	0.5	No (Lane width =12 ft)	4	Unbonded	0
12_4000	20	20-22-18	Liquid (L3)	0	N/A	No	No (Lane width =12 ft)	4	Unbonded	0
12_4057	15.5	13,19,18,12	Low Modulus Silicone	1.25	12	0.6	No (Lane width =12 ft)	5	Unbonded	0
12_4059	14	None	Low Modulus Silicone	0.75 (1.5 L3)	12	0.5	No (Lane width =12 ft)	5	Unbonded	0
12_4109	14	None	Low Modulus Silicone	0.75 (1.5 L3)	12	0.5	No (Lane width =12 ft)	5	Unbonded	0
12_4138	20	20-22-18	Liquid (L3)	0	N/A	No	No (Lane width =12 ft)	3	Unbonded	0
16_3017	14.5	13,15,16,14	Low Modulus Silicone	1.25	12	0.25	Yes (Lane width =14 ft)	3	Unbonded	0
16_3023	13.5	12-15-13-14	Low Modulus Silicone	0	N/A	0.5	No (Lane width =12 ft)	5	Unbonded	0
18_3002	15.5	13-19-18-12	Asphalt	1.25	12	0.63	No (Lane width =12 ft)	5	Unbonded	0
18_3003	20	None	Liquid (L3)	1.25	18	No	No (Lane width =12 ft)	1	Unbonded	0
18_3031	15.5	18-12-13-19	Liquid (L3)	1.25	12	No	No (Lane width =12 ft)	3	Unbonded	0
19_3006	20	None	Rubberlized Asphalt	1.25	12	0.5	No (Lane width =12 ft)	3	Unbonded	0
20_0201	15	None	Low Modulus Silicone	1.25	12	0.63	No (Lane width =12 ft)	5	Unbonded	0
20_0202	15	None	Low Modulus Silicone	1.25	12	0.63	Yes (Lane width =14 ft)	5	Unbonded	0
20_0203	15	None	Low Modulus Silicone	1.5	12	0.63	Yes (Lane width =14 ft)	5	Unbonded	0
20_0204	15	None	Low Modulus Silicone	1.5	12	0.63	No (Lane width =12 ft)	5	Unbonded	0
20_0205	15	None	Low Modulus Silicone	1.25	12	0.63	No (Lane width =12 ft)	1	Unbonded	0
20_0206	15	None	Low Modulus Silicone	1.25	12	0.63	Yes (Lane width =14 ft)	1	Unbonded	0
20_0207	15	None	Low Modulus Silicone	1.5	12	0.63	Yes (Lane width =14 ft)	1	Unbonded	0
20_0208	15	None	Low Modulus Silicone	1.5	12	0.63	No (Lane width =12 ft)	1	Unbonded	0
20_0209	15	None	Low Modulus Silicone	1.25	12	0.63	No (Lane width =12 ft)	1	Unbonded	0
20_0210	15	None	Low Modulus Silicone	1.25	12	0.63	Yes (Lane width =14 ft)	1	Unbonded	0
20_0211	15	None	Low Modulus Silicone	1.5	12	0.63	Yes (Lane width =14 ft)	1	Unbonded	0
20_0212	15	None	Low Modulus Silicone	1.5	12	0.63	No (Lane width =12 ft)	1	Unbonded	0
20_3015	15	None	Low Modulus Silicone	0.5 (1 L3)	18	0.5	No (Lane width =12 ft)	1	Unbonded	0
21_3016	15	12-13-17-18	Liquid (L3)	1.37	12	No	No (Lane width =12 ft)	5	Unbonded	0
26_0213	15	None	Low Modulus Silicone	1.25	12	0.63	Yes (Lane width =14 ft)	5	Unbonded	0
26_0214	15	None	Low Modulus Silicone	1.25	12	0.63	No (Lane width =12 ft)	5	Unbonded	0
26_0215	15	None	Low Modulus Silicone	1.5	12	0.63	No (Lane width =12 ft)	5	Unbonded	0
26_0216	15	None	Low Modulus Silicone	1.5	12	0.63	Yes (Lane width =14 ft)	5	Unbonded	0
26_0217	15	None	Low Modulus Silicone	1.25	12	0.63	Yes (Lane width =14 ft)	1	Unbonded	0
26_0218	15	None	Low Modulus Silicone	1.25	12	0.63	No (Lane width =12 ft)	1	Unbonded	0
26_0219	15	None	Low Modulus Silicone	1.5	12	0.63	No (Lane width =12 ft)	1	Unbonded	0
26_0220	15	None	Low Modulus Silicone	1.5	12	0.63	No (Lane width =12 ft)	1	Unbonded	0

Table FF.40. Summary of the design features data used for new JPCP (LTPP GPS-3, SPS-2, and FHWA RPPR) model calibration.

SHRP_ID	Joint Spacing, ft	Random Spacing?	Transverse Joint Sealant Type	Dowel Diameter	Dowel Spacing	Tie Bar Diameter	Widened Lane?	Erodibility	PCC-Base Interface	Loss of Bond Age, months
26_0221	15	None	Low Modulus Silicone	1.25	12	0.63	Yes (Lane width =14 ft)	1	Unbonded	0
26_0222	15	None	Low Modulus Silicone	1.25	12	0.63	No (Lane width =12 ft)	1	Unbonded	0
26_0223	15	None	Low Modulus Silicone	1.5	12	0.63	No (Lane width =12 ft)	1	Unbonded	0
26_0224	15	None	Low Modulus Silicone	1.5	12	0.63	Yes (Lane width =14 ft)	1	Unbonded	0
26_3068	15.5	13-19-18-12	Liquid (L3)	1.25	12	No	No (Lane width =12 ft)	1	Unbonded	0
26_3069	14.5	13-17-16-12	Liquid (L3)	1.25	12	No	No (Lane width =12 ft)		Unbonded	0
27_3003	15	None	Liquid (L3)	0	N/A	0.5	Yes (Lane width =14 ft)	5	Unbonded	0
27_3013	15	None	Liquid (L3)	0	N/A	0.23	Yes (Lane width =14 ft)	5	Unbonded	0
28_3018	20	None	Low Modulus Silicone	1	12	0.5	No (Lane width =12 ft)	4	Unbonded	0
28_3019	20	None	Low Modulus Silicone	1	12	0.5	No (Lane width =12 ft)	4	Unbonded	0
31_3018	15.5	18-	Rubberlized Asphalt	0	N/A	0.68	No (Lane width =12 ft)	4	Unbonded	0
31_3024	15.5	13-14-18-17	Rubberlized Asphalt	0	N/A	0.68	No (Lane width =12 ft)	5	Unbonded	0
32_0201	15	None	Low Modulus Silicone	1.25	12	0.5	No (Lane width =12 ft)	5	Unbonded	0
32_0202	15	None	Low Modulus Silicone	1.25	12	0.5	Yes (Lane width =14 ft)	5	Unbonded	0
32_0203	15	None	Low Modulus Silicone	1.5	12	0.5	Yes (Lane width =14 ft)	5	Unbonded	0
32_0204	15	None	Low Modulus Silicone	1.5	12	0.5	No (Lane width =12 ft)	5	Unbonded	0
32_0205	15	None	Low Modulus Silicone	1.25	12	0.5	No (Lane width =12 ft)	1	Unbonded	0
32_0206	15	None	Low Modulus Silicone	1.25	12	0.5	Yes (Lane width =14 ft)	1	Unbonded	0
32_0207	15	None	Low Modulus Silicone	1.5	12	0.5	Yes (Lane width =14 ft)	1	Unbonded	0
32_0208	15	None	Low Modulus Silicone	1.5	12	0.5	No (Lane width =12 ft)	1	Unbonded	0
32_0209	15	None	Low Modulus Silicone	1.25	12	0.5	No (Lane width =12 ft)	1	Unbonded	0
32_0210	15	None	Low Modulus Silicone	1.25	12	0.5	Yes (Lane width =14 ft)	1	Unbonded	0
32_0211	15	None	Low Modulus Silicone	1.5	12	0.5	Yes (Lane width =14 ft)	1	Unbonded	0
32_3010	15.5	13,19,18,12	Polyethelene	0	N/A	0.5	No (Lane width =12 ft)	3	Unbonded	0
32_3013	15.5	18,12,13,19	Chlorinated Rubber	0	N/A	No	No (Lane width =12 ft)	3	Unbonded	0
32_7084	13.5	15-13-14-12	Low Modulus Silicone	0	N/A	0.5	No (Lane width =12 ft)	1	Unbonded	0
37_0201	15	None	Low Modulus Silicone	1.5	12	0.62	No (Lane width =12 ft)	5	Unbonded	0
37_0202	15	None	Low Modulus Silicone	1.5	12	0.62	Yes (Lane width =14 ft)	5	Unbonded	0
37_0203	15	None	Low Modulus Silicone	1.5	12	0.62	Yes (Lane width =14 ft)	5	Unbonded	0
37_0204	15	None	Low Modulus Silicone	1.5	12	0.62	No (Lane width =12 ft)	5	Unbonded	0
37_0205	15	None	Low Modulus Silicone	1.5	12	0.62	No (Lane width =12 ft)	1	Unbonded	0
37_0206	15	None	Low Modulus Silicone	1.5	12	0.62	Yes (Lane width =14 ft)	1	Unbonded	0
37_0207	15	None	Low Modulus Silicone	1.5	12	0.62	Yes (Lane width =14 ft)	1	Unbonded	0
37_0208	15	None	Low Modulus Silicone	1.5	12	0.62	No (Lane width =12 ft)	1	Unbonded	0
37_0209	15	None	Low Modulus Silicone	1.5	12	0.62	No (Lane width =12 ft)	1	Unbonded	0
37_0210	15	None	Low Modulus Silicone	1.5	12	0.62	Yes (Lane width =14 ft)	1	Unbonded	0
37_0211	15	None	Low Modulus Silicone	1.5	12	0.62	Yes (Lane width =14 ft)	1	Unbonded	0

Table FF.40. Summary of the design features data used for new JPCP (LTPP GPS-3, SPS-2, and FHWA RPPR) model calibration.

SHRP_ID	Joint Spacing, ft	Random Spacing?	Transverse Joint Sealant Type	Dowel Diameter	Dowel Spacing	Tie Bar Diameter	Widened Lane?	Erodibility	PCC-Base Interface	Loss of Bond Age, months
37_0212	15	None	Low Modulus Silicone	1.5	12	0.62	No (Lane width =12 ft)	1	Unbonded	0
37_3008	21.3	18-19-23-25	Preformed	1	12	0.5	Yes (Lane width =14 ft)	2	Unbonded	0
37_3011	30	None	Preformed	1.25	12	0.62	No (Lane width =12 ft)	3	Unbonded	0
37_3044	30	None	Asphalt	1	12	0.5	No (Lane width =12 ft)	5	Unbonded	0
37_3807	21.3	18-19-23-25	Preformed	0	N/A	0.62	No (Lane width =12 ft)	4	Unbonded	0
37_3816	30	None	Preformed	1.12	12	0.62	No (Lane width =12 ft)	3	Unbonded	0
39_3013	17	None	Liquid (L3)	0	N/A	0.63	No (Lane width =12 ft)	4	Unbonded	0
39_3801	20	None	Preformed	1.25		0.63	No (Lane width =12 ft)	3	Unbonded	0
4_0213	15	None	Low Modulus Silicone	1.25	12	0.63	Yes (Lane width =14 ft)	5	Unbonded	0
4_0214	15	None	Low Modulus Silicone	1.25	12	0.63	No (Lane width =12 ft)	5	Unbonded	0
4_0215	15	None	Low Modulus Silicone	1.5	12	0.63	No (Lane width =12 ft)	5	Unbonded	0
4_0216	15	None	Low Modulus Silicone	1.5	12	0.63	Yes (Lane width =14 ft)	5	Unbonded	0
4_0217	15	None	Low Modulus Silicone	1.25	12	0.63	Yes (Lane width =14 ft)	1	Unbonded	0
4_0218	15	None	Low Modulus Silicone	1.25	12	0.63	No (Lane width =12 ft)	1	Unbonded	0
4_0219	15	None	Low Modulus Silicone	1.5	12	0.63	No (Lane width =12 ft)	1	Unbonded	0
4_0220	15	None	Low Modulus Silicone	1.5	12	0.63	Yes (Lane width =14 ft)	1	Unbonded	0
4_0221	15	None	Low Modulus Silicone	1.25	12	0.63	Yes (Lane width =14 ft)	1	Unbonded	0
4_0222	15	None	Low Modulus Silicone	1.25	12	0.63	No (Lane width =12 ft)	1	Unbonded	0
4_0223	15	None	Low Modulus Silicone	1.5	12	0.63	No (Lane width =12 ft)	1	Unbonded	0
4_0224	15	None	Low Modulus Silicone	1.5	12	0.63	Yes (Lane width =14 ft)	1	Unbonded	0
4_7613	15	13-15-17	Liquid (L3)	0	N/A	0.5	No (Lane width =12 ft)	999	Unbonded	0
4_7614	15	13-15-17	Asphalt	1.25	12	0.5	No (Lane width =12 ft)	3	Unbonded	0
40_3018	15	None	Low Modulus Silicone	0	N/A	No	No (Lane width =12 ft)	4	Unbonded	0
40_4160	15	None	Liquid (L3)	0	N/A	No	No (Lane width =12 ft)	4	Unbonded	0
40_4162	15	None	Liquid (L3)	0	N/A	No	No (Lane width =12 ft)	1	Unbonded	0
46_3012	15	None	Low Modulus Silicone	0	N/A	No	No (Lane width =12 ft)	5	Unbonded	0
5_3011	15	None	Low Modulus Silicone	1	15	0.5	No (Lane width =12 ft)	3	Unbonded	0
53_0201	15	None	Rubberlized Asphalt	1.25	12	0.63	No (Lane width =12 ft)	5	Unbonded	0
53_0202	15	None	Rubberlized Asphalt	1.25	12	0.63	Yes (Lane width =14 ft)	5	Unbonded	0
53_0203	15	None	Rubberlized Asphalt	1.5	12	0.63	Yes (Lane width =14 ft)	5	Unbonded	0
53_0204	15	None	Rubberlized Asphalt	1.5	12	0.63	No (Lane width =12 ft)	5	Unbonded	0
53_0205	17 (L3)	None	Low Modulus Silicone	1.25	12	0.63	No (Lane width =12 ft)	1	Unbonded	0
53_0206	15 (L3)	None	Low Modulus Silicone	1.25	12	0.63	Yes (Lane width =14 ft)	1	Unbonded	0
53_0207	18 (L3)	None	Low Modulus Silicone	1.5	12	0.63	Yes (Lane width =14 ft)	1	Unbonded	0
53_0208	16 (L3)	None	Low Modulus Silicone	1.5	12	0.63	No (Lane width =12 ft)	1	Unbonded	0
53_0209	15	None	Rubberlized Asphalt	1.25	12	0.63	No (Lane width =12 ft)	1	Unbonded	0
53_0210	15	None	Rubberlized Asphalt	1.25	12	0.8	Yes (Lane width =14 ft)	1	Unbonded	0

Table FF.40. Summary of the design features data used for new JPCP (LTPP GPS-3, SPS-2, and FHWA RPPR) model calibration.

SHRP_ID	Joint Spacing, ft	Random Spacing?	Transverse Joint Sealant Type	Dowel Diameter	Dowel Spacing	Tie Bar Diameter	Widened Lane?	Erodibility	PCC-Base Interface	Loss of Bond Age, months
53_0211	15	None	Rubberlized Asphalt	1.5	12	0.63	Yes (Lane width =14 ft)	1	Unbonded	0
53_0212	15	None	Rubberlized Asphalt	1.5	12	0.63	No (Lane width =12 ft)	1	Unbonded	0
53_3011	11.5	9-10-14-13	Liquid (L3)	0	N/A	0.5	No (Lane width =12 ft)	5	Unbonded	0
53_3013	15.5	13-19-18-12	Rubberlized Asphalt	0	N/A	0.5	No (Lane width =12 ft)	5	Unbonded	0
53_3014	11.5	9-10-14-13	Rubberlized Asphalt	0	N/A	0.63	No (Lane width =12 ft)	5	Unbonded	0
53_3019	11.5	9-10-14-13	Rubberlized Asphalt	0	N/A	0.5	No (Lane width =12 ft)	5	Unbonded	0
53_3813	15	None	Rubberlized Asphalt	0	N/A	0.5	No (Lane width =12 ft)	5	Unbonded	0
53_7409	11.5	9-10-14-13	Rubberlized Asphalt	0	N/A	0.5	No (Lane width =12 ft)	5	Unbonded	0
55_3008	15.5	13-19-18-12	Neoprene Seal	0	N/A	0.5	No (Lane width =12 ft)	5	Unbonded	0
55_3009	15.3	13-19-18-12	Preformed	0	N/A	No	No (Lane width =12 ft)	5	Unbonded	0
55_3010	14.9	13-19-18-12	Rubberlized Asphalt	0	N/A	0.5	No (Lane width =12 ft)	5	Unbonded	0
55_3015	15.3	13-19-18-12	Preformed	0	N/A	0.5	No (Lane width =12 ft)	5	Unbonded	0
55_3016	15.5	13-19-18-12	Preformed	0	N/A	0.5	No (Lane width =12 ft)	5	Unbonded	0
55_6351	15.5	13-19-18-12	Liquid (L3)	0	N/A	No	Yes (Lane width =14 ft)	5	Unbonded	0
55_6352	15.5	13-19-18-12	Liquid (L3)	1.13	12	No	Yes (Lane width =14 ft)	5	Unbonded	0
55_6353	15.5	13-19-18-12	Liquid (L3)	0	N/A	No	Yes (Lane width =14 ft)	3	Unbonded	0
55_6354	15.5	13-19-18-12	Liquid (L3)	0	N/A	No	Yes (Lane width =14 ft)	1	Unbonded	0
55_6355	15.5	13-19-18-12	Liquid (L3)	1.13	12	No	Yes (Lane width =14 ft)	1	Unbonded	0
6_3005	15.5	19-18-12- 13	Liquid (L3)	0	N/A	No	No (Lane width =12 ft)	3	Unbonded	0
6_3021	15.5	13-19-18-12	Liquid (L3)	0	N/A	No	No (Lane width =12 ft)	3	Unbonded	0
6_3030	15.5	12-13-19-18	Liquid (L3)	0	N/A	No	No (Lane width =12 ft)	3	Unbonded	0
6_3042	15.5	13-19-18-12	Liquid (L3)	0	N/A	No	No (Lane width =12 ft)	3	Unbonded	0
8_0213	15	None	Dow Corning 887-Silicone	1.25	12	0.63	Yes (Lane width =14 ft)	5	Unbonded	0
8_0214	15	None	Compression	1.25	12	0.63	No (Lane width =12 ft)	5	Unbonded	0
8_0215	15	None	Dow Corning 888-Silicone	1.5	12	0.63	No (Lane width =12 ft)	5	Unbonded	0
8_0216	15	None	Low Modulus Silicone	1.5	12	0.63	Yes (Lane width =14 ft)	5	Unbonded	0
8_0217	15	None	Low Modulus Silicone	1.25	12	0.63	Yes (Lane width =14 ft)	1	Unbonded	0
8_0218	15	None	Low Modulus Silicone	1.25	12	0.63	No (Lane width =12 ft)	1	Unbonded	0
8_0219	15	None	Low Modulus Silicone	1.5	12	0.63	No (Lane width =12 ft)	1	Unbonded	0
8_0220	15	None	Low Modulus Silicone	1.5	12	0.63	Yes (Lane width =14 ft)	1	Unbonded	0
8_0221	15	None	Dow Corning 888	1.25	12	0.63	Yes (Lane width =14 ft)	1	Unbonded	0
8_0222	15	None	Low Modulus Silicone	1.25	12	0.63	No (Lane width =12 ft)	1	Unbonded	0
8_0223	15	None	Low Modulus Silicone	1.5	12	0.63	No (Lane width =12 ft)	1	Unbonded	0
8_0224	15	None	Low Modulus Silicone	1.5	12	0.63	Yes (Lane width =14 ft)	1	Unbonded	0
8_3032	15.5	None	Asphalt	0	N/A	0.5	No (Lane width =12 ft)	1	Unbonded	0
83_3802	15	12-13-17-18	Preformed	0	N/A	0.63	No (Lane width =12 ft)	5	Unbonded	0

Table FF.40. Summary of the design features data used for new JPCP (LTPP GPS-3, SPS-2, and FHWA RPPR) model calibration.

SHRP_ID	Joint Spacing, ft	Random Spacing?	Transverse Joint Sealant Type	Dowel Diameter	Dowel Spacing	Tie Bar Diameter	Widened Lane?	Erodibility	PCC-Base Interface	Loss of Bond Age, months
89_3015	19.7	None	Rubberlized Asphalt	1.38	12	0.59	No (Lane width =12 ft)	5	Unbonded	0
AZ1_1	13-17	None	Liquid	0.00	N/A	No	No (Lane width =12 ft)	2	Bonded	12
AZ1_2	13-17	None	Liquid	0.00	N/A	0.5	No (Lane width =12 ft)	5	Unbonded	0
AZ1_4	13-17	None	Liquid	0.00	N/A	0.5	No (Lane width =12 ft)	5	Unbonded	0
AZ1_5	13-17	None	Liquid	0.00	N/A	0.5	No (Lane width =12 ft)	5	Unbonded	0
AZ1_6	13-17	None	Liquid	0.00	N/A	0.5	No (Lane width =12 ft)	1	Bonded	12
AZ1_7	13-17	None	Liquid	0.00	N/A	0.5	No (Lane width =12 ft)	1	Bonded	12
AZ2	13-17	None	Liquid	1.25	12.0	0.5	No (Lane width =12 ft)	1	Bonded	12
CA1_10	13-18.4	None	None	0.00	N/A	No	No (Lane width =12 ft)	3	Bonded	12
CA1_3	13-18.4	None	None	0.00	N/A	No	No (Lane width =12 ft)	3	Bonded	12
CA1_4	13-18.4	None	None	0.00	N/A	No	No (Lane width =12 ft)	3	Bonded	12
CA1_5	13-18.4	None	None	0.00	N/A	No	No (Lane width =12 ft)	3	Bonded	12
CA1_6	13-18.4	None	None	0.00	N/A	No	No (Lane width =12 ft)	3	Bonded	12
CA1_7	13-18.4	None	None	0.00	N/A	No	No (Lane width =12 ft)	1	Bonded	12
CA1_8	13-18.4	None	None	0.00	N/A	No	No (Lane width =12 ft)	1	Bonded	12
CA1_9	13-18.4	None	None	0.00	N/A	No	No (Lane width =12 ft)	3	Bonded	12
CA10	13-14.5	None	None	0.00	N/A	No	No (Lane width =12 ft)	3	Bonded	12
CA11	13-18.4	None	None	0.00	N/A	No	No (Lane width =12 ft)	1	Bonded	12
CA2_2	13-18.4	None	None	0.00	N/A	No	No (Lane width =12 ft)	2	Bonded	12
CA2_3	13-18.4	None	None	0.00	N/A	No	No (Lane width =12 ft)	2	Bonded	12
CA3_1	13-18.4	None	Preformed	0.00	N/A	0.5	No (Lane width =12 ft)	2	Bonded	12
CA3_10	13-18.4	None	None	0.00	N/A	No	No (Lane width =12 ft)	2	Bonded	12
CA3_2	13-18.4	None	None	0.00	N/A	0.5	No (Lane width =12 ft)	2	Bonded	12
CA3_3	13-18.4	None	Preformed	0.00	N/A	No	No (Lane width =12 ft)	2	Bonded	12
CA3_4	13-18.4	None	None	0.00	N/A	No	No (Lane width =12 ft)	2	Bonded	12
CA3_5	13-18.4	None	None	0.00	N/A	No	No (Lane width =12 ft)	2	Bonded	12
CA3_6	13-18.4	None	Preformed	0.00	N/A	0.5	No (Lane width =12 ft)	2	Bonded	12
CA3_7	13-18.4	None	None	0.00	N/A	0.5	No (Lane width =12 ft)	2	Bonded	12
CA3_8	13-18.4	None	Preformed	0.00	N/A	No	No (Lane width =12 ft)	2	Bonded	12
CA3_9	13-18.4	None	None	0.00	N/A	No	No (Lane width =12 ft)	2	Bonded	12
CA6_1	13-18.4	None	None	0.00	N/A	No	No (Lane width =12 ft)	3	Bonded	12
CA6_2	13-18.4	None	None	0.00	N/A	No	No (Lane width =12 ft)	4	Bonded	12
CA7	13-18.4	None	None	0.00	N/A	No	No (Lane width =12 ft)	2	Bonded	12
CA8	13-18.4	None	None	0.00	N/A	No	Yes (Lane width =14 ft)	3	Bonded	12
CA9_10	13-18.4	None	Liquid	0.00	N/A	No	No (Lane width =12 ft)	2	Bonded	12
CA9_2	13-18.4	None	Preformed	0.00	N/A	No	No (Lane width =12 ft)	2	Bonded	12
CA9_3	13-18.4	None	Liquid	0.00	N/A	No	No (Lane width =12 ft)	2	Bonded	12
CA9_4	13-18.4	None	Liquid	0.00	N/A	No	No (Lane width =12 ft)	2	Bonded	12
CA9_5	13-18.4	None	Preformed	0.00	N/A	No	No (Lane width =12 ft)	2	Bonded	12

Table FF.40. Summary of the design features data used for new JPCP (LTPP GPS-3, SPS-2, and FHWA RPPR) model calibration.

SHRP_ID	Joint Spacing, ft	Random Spacing?	Transverse Joint Sealant Type	Dowel Diameter	Dowel Spacing	Tie Bar Diameter	Widened Lane?	Erodibility	PCC-Base Interface	Loss of Bond Age, months
CA9_8	13-18.4	None	None	0.00	N/A	No	No (Lane width =12 ft)	2	Bonded	12
FL2	13-18.4	None	Silicone	1.25	12.0	No	Yes (Lane width =14 ft)	5	Unbonded	0
FL3	16.5-22.5	None	Liquid	1.00	12.0	No	No (Lane width =12 ft)	1	Bonded	12
FL4_1	20.0	None	Preformed	0.00	N/A	No	No (Lane width =12 ft)	5	Unbonded	0
GA1_1	20.0	None	Liquid	1.13	12.0	No	No (Lane width =12 ft)	2	Bonded	12
GA1_10	20.0	None	Liquid	0.00	N/A	No	No (Lane width =12 ft)	2	Bonded	12
GA1_2	20.0	None	Liquid	0.00	N/A	No	No (Lane width =12 ft)	2	Bonded	12
GA1_3	20.0	None	Liquid	1.13	12.0	No	No (Lane width =12 ft)	2	Bonded	12
GA1_4	20.0	None	Liquid	0.00	N/A	No	No (Lane width =12 ft)	2	Bonded	12
GA1_5	20.0	None	Liquid	1.13	12.0	No	No (Lane width =12 ft)	2	Bonded	12
GA1_6	20.0	None	Liquid	1.13	12.0	No	No (Lane width =12 ft)	2	Bonded	12
GA1_7	20.0	None	Liquid	0.00	N/A	No	No (Lane width =12 ft)	2	Bonded	12
GA1_8	20.0	None	Liquid	1.13	12.0	No	No (Lane width =12 ft)	2	Bonded	12
GA1_9	20.0	None	Liquid	0.00	N/A	No	No (Lane width =12 ft)	2	Bonded	12
GA2	20.0	None	Liquid	1.13	12.0	0.5	No (Lane width =12 ft)	2	Bonded	12
MI1_10a	13-18.4	None	Preformed	0.00	N/A	No	No (Lane width =12 ft)	1	Bonded	12
MI1_10a3	13-18.4	None	Preformed	0.00	N/A	No	No (Lane width =12 ft)	1	Bonded	12
MI1_10b	13-18.4	None	Preformed	0.00	N/A	No	No (Lane width =12 ft)	1	Bonded	12
MI1_25	13-18.4	None	Preformed	0.00	N/A	0.5	No (Lane width =12 ft)	1	Bonded	12
MI1_4a	13-18.4	None	Preformed	0.00	N/A	No	No (Lane width =12 ft)	3	Bonded	12
MI1_4a10	13-18.4	None	Preformed	0.00	N/A	No	No (Lane width =12 ft)	3	Bonded	12
MI1_4a12	13-18.4	None	Preformed	0.00	N/A	No	No (Lane width =12 ft)	3	Bonded	12
MI1_7a	13-16.5	None	Preformed	1.25	12.0	No	No (Lane width =12 ft)	4	Unbonded	0
MI1_7a5	13-16.5	None	Preformed	1.25	12.0	No	No (Lane width =12 ft)	4	Unbonded	0
MI1_7b	13-16.5	None	Preformed	1.25	12.0	No	No (Lane width =12 ft)	4	Unbonded	0
MI1_7b5	13-16.5	None	Preformed	1.25	12.0	No	No (Lane width =12 ft)	4	Unbonded	0
MI6	25.0	None	None	0.00	N/A	0.5	No (Lane width =12 ft)	4	Unbonded	0
MN2_1	13-19	None	Silicone	1.00	12.0	0.5	No (Lane width =12 ft)	4	Unbonded	0
MN2_2	13-19	None	Silicone	1.00	12.0	0.5	No (Lane width =12 ft)	4	Unbonded	0
MN4	13-19	None	Preformed	1.00	12.0	No	Yes (Lane width =14 ft)	4	Unbonded	0
MN7_10	15.0	None	Liquid	0.00	N/A	No	No (Lane width =12 ft)	5	Unbonded	0
MN7_15	15.0	None	Liquid	1.00	12.0	No	No (Lane width =12 ft)	5	Unbonded	0
MN7_16	20.0	None	Liquid	1.00	12.0	No	No (Lane width =12 ft)	5	Unbonded	0
MN7_17	20.0	None	Liquid	0.00	N/A	No	No (Lane width =12 ft)	5	Unbonded	0
MN7_18	15.0	None	Liquid	0.00	N/A	No	No (Lane width =12 ft)	5	Unbonded	0
MN7_23	15.0	None	Liquid	1.00	12.0	No	No (Lane width =12 ft)	5	Unbonded	0
MN7_24	20.0	None	Liquid	1.00	12.0	No	No (Lane width =12 ft)	5	Unbonded	0
MN7_9	20.0	None	Liquid	0.00	N/A	No	No (Lane width =12 ft)	5	Unbonded	0
NC1_1	30.0	None	Liquid	0.00	N/A	No	No (Lane width =12 ft)	4	Unbonded	0

Table FF.40. Summary of the design features data used for new JPCP (LTPP GPS-3, SPS-2, and FHWA RPPR) model calibration.

SHRP_ID	Joint Spacing, ft	Random Spacing?	Transverse Joint Sealant Type	Dowel Diameter	Dowel Spacing	Tie Bar Diameter	Widened Lane?	Erodibility	PCC-Base Interface	Loss of Bond Age, months
NC1_2	30.0	None	Liquid	1.00	12.0	No	No (Lane width =12 ft)	3	Unbonded	0
NC1_3	30.0	None	Liquid	0.00	N/A	No	No (Lane width =12 ft)	3	Unbonded	0
NC1_4	30.0	None	Liquid	1.00	12.0	No	No (Lane width =12 ft)	4	Unbonded	0
NC1_5	30.0	None	Liquid	0.00	N/A	No	No (Lane width =12 ft)	2	Bonded	12
NC1_6	30.0	None	Liquid	0.00	N/A	No	No (Lane width =12 ft)	3	Bonded	12
NC1_8	30.0	None	Liquid	0.00	N/A	No	No (Lane width =12 ft)	4	Unbonded	0
NC2	18.4-24	None	Silicone	1.38	12.0	0.5	No (Lane width =12 ft)	2	Bonded	12
NY1_1	20.0	None	Preformed	1.50	12.0	No	No (Lane width =12 ft)	3	Bonded	12
NY1_5a	20.0	None	Preformed	0.00	N/A	No	No (Lane width =12 ft)	4	Unbonded	0
NY1_5b	20.0	None	Preformed	1.50	12.0	No	No (Lane width =12 ft)	4	Unbonded	0
NY1_6	20.0	None	Preformed	1.50	12.0	No	No (Lane width =12 ft)	4	Unbonded	0
NY1_8a	20.0	None	Preformed	0.00	N/A	No	No (Lane width =12 ft)	3	Bonded	12
NY1_8b	20.0	None	Preformed	0.00	N/A	No	No (Lane width =12 ft)	3	Bonded	12
NY2_11	26.7	None	Preformed	1.50	12.0	0.5	No (Lane width =12 ft)	4	Unbonded	0
NY2_3	20.0	None	Preformed	1.50	12.0	0.5	No (Lane width =12 ft)	4	Unbonded	0
NY2_9	20.0	None	Preformed	1.50	12.0	0.5	No (Lane width =12 ft)	4	Unbonded	0
OH2_1	20.0	None	Liquid	0.00	N/A	0.5	No (Lane width =12 ft)	5	Unbonded	0
OH2_2	20.0	None	Liquid	0.00	N/A	0.5	No (Lane width =12 ft)	5	Unbonded	0
OH2_3	20.0	None	Liquid	0.00	N/A	No	No (Lane width =12 ft)	5	Unbonded	0
OH2_4	20.0	None	Liquid	0.00	N/A	No	No (Lane width =12 ft)	5	Unbonded	0
ONT1_1	13-18.4	None	Liquid	0.00	N/A	No	No (Lane width =12 ft)	5	Unbonded	0
ONT1_2	13-18.4	None	Liquid	0.00	N/A	No	No (Lane width =12 ft)	4	Bonded	12
ONT1_3	13-18.4	None	Liquid	0.00	N/A	0.5	No (Lane width =12 ft)	1	Bonded	12
ONT1_4	13-18.4	None	Liquid	0.00	N/A	0.5	No (Lane width =12 ft)	1	Bonded	12
ONT2_1	13-18.4	None	Preformed	1.00	12.0	No	No (Lane width =12 ft)	2	Bonded	12
ONT2_1a	13-18.4	None	Preformed	1.00	12.0	No	No (Lane width =12 ft)	2	Bonded	12
WI1_1	17.5-20	None	Preformed	1.50	12.0	No	Yes (Lane width =14 ft)	2	Bonded	12
WI1_2	17.5-20	None	Preformed	1.50	12.0	No	Yes (Lane width =14 ft)	2	Bonded	12
WI1_3	17.5-20	None	Preformed	1.50	12.0	No	Yes (Lane width =14 ft)	2	Bonded	12
WI2_1	13-18.4	None	None	1.25	12.0	No	Yes (Lane width =14 ft)	2	Bonded	12
WI2_2	13-18.4	None	None	1.25	12.0	No	Yes (Lane width =14 ft)	2	Bonded	12
WI2_3	13-18.4	None	None	1.25	12.0	No	Yes (Lane width =14 ft)	4	Unbonded	0
WI2_4	13-18.4	None	None	1.25	12.0	No	Yes (Lane width =14 ft)	4	Unbonded	0
WI2_5	13-18.4	None	Preformed	1.25	12.0	No	Yes (Lane width =14 ft)	4	Unbonded	0
WI3_1	13-18.4	None	Silicone	0.00	N/A	No	No (Lane width =12 ft)	4	Bonded	12
WI3_2	13-18.4	None	Silicone	0.00	N/A	No	No (Lane width =12 ft)	4	Unbonded	0
WI3_3	13-18.4	None	Silicone	0.00	N/A	No	No (Lane width =12 ft)	4	Unbonded	0
WI4_1	20.0	None	Silicone	0.00	N/A	No	No (Lane width =12 ft)	4	Unbonded	0
WI4_2	20.0	None	Silicone	0.00	N/A	No	No (Lane width =12 ft)	4	Unbonded	0

Table FF.40. Summary of the design features data used for new JPCP (LTPP GPS-3, SPS-2, and FHWA RPPR) model calibration.

SHRP_ID	Joint Spacing, ft	Random Spacing?	Transverse Joint Sealant Type	Dowel Diameter	Dowel Spacing	Tie Bar Diameter	Widened Lane?	Erodibility	PCC-Base Interface	Loss of Bond Age, months
WI4_3	20.0	None	Silicone	0.00	N/A	No	No (Lane width =12 ft)	4	Unbonded	0
WI4_4	20.0	None	None	0.00	N/A	No	No (Lane width =12 ft)	4	Unbonded	0
WI4_5	20.0	None	None	0.00	N/A	No	No (Lane width =12 ft)	4	Unbonded	0
WI4_6	20.0	None	None	0.00	N/A	No	No (Lane width =12 ft)	4	Unbonded	0
WI5_1	13-18.4	None	Silicone	0.00	N/A	No	Yes (Lane width =14 ft)	4	Unbonded	0
WI5_2	13-18.4	None	None	0.00	N/A	No	Yes (Lane width =14 ft)	4	Unbonded	0
WI5_3	13-18.4	None	Silicone	0.00	N/A	No	Yes (Lane width =14 ft)	4	Unbonded	0
WI5_4	13-18.4	None	None	0.00	N/A	No	Yes (Lane width =14 ft)	4	Unbonded	0
WI5_5	13-18.4	None	Silicone	0.00	N/A	No	Yes (Lane width =14 ft)	4	Unbonded	0
WI5_6	13-18.4	None	None	0.00	N/A	No	Yes (Lane width =14 ft)	4	Unbonded	0
WI6_1	13-18.4	None	None	0.00	N/A	No	Yes (Lane width =14 ft)	2	Unbonded	0
WI6_2	13-18.4	None	Preformed	0.00	N/A	No	Yes (Lane width =14 ft)	2	Unbonded	0
WI6_3	13-18.4	None	Preformed	1.50	12.0	No	Yes (Lane width =14 ft)	2	Unbonded	0
WI6_4	13-18.4	None	None	1.50	12.0	No	Yes (Lane width =14 ft)	2	Unbonded	0
WI7_1	13-18.4	None	Preformed	0.00	N/A	No	Yes (Lane width =14 ft)	2	Unbonded	0
WI7_10	13-18.4	None	None	1.25	12.0	No	Yes (Lane width =14 ft)	4	Unbonded	0
WI7_2	13-18.4	None	None	0.00	N/A	No	Yes (Lane width =14 ft)	2	Unbonded	0
WI7_3	13-18.4	None	Preformed	0.00	N/A	No	Yes (Lane width =14 ft)	1	Bonded	12
WI7_4	13-18.4	None	None	0.00	N/A	No	Yes (Lane width =14 ft)	1	Bonded	12
WI7_5	13-18.4	None	Preformed	0.00	N/A	No	Yes (Lane width =14 ft)	2	Bonded	12
WI7_6	13-18.4	None	None	0.00	N/A	No	Yes (Lane width =14 ft)	2	Bonded	12
WI7_7	13-18.4	None	None	0.00	N/A	No	Yes (Lane width =14 ft)	4	Unbonded	0
WI7_8	13-18.4	None	Preformed	0.00	N/A	No	Yes (Lane width =14 ft)	4	Unbonded	0
WI7_9	13-18.4	None	None	0.00	N/A	No	Yes (Lane width =14 ft)	4	Unbonded	0
WV1_3	15.0	None	Silicone	1.25	12.0	No	Yes (Lane width =14 ft)	4	Unbonded	0

Table FF.41. Summary of the design features data for new CRCP model development and calibration.

Section ID	Shoulder Type	PCC Built-in Gradient	Percent Steel, %	Steel Diameter (in)	Depth to Steel (in)	Erodibility	Base Friction Coefficient	Base Type
1_5008	Tied PCC	-10	0.65781	0.75	4.5	1	7.5	Asphalt treated
4_7079	Tied PCC	-10	0.57	0.63	4.5	3	6	Asphalt treated
16_5025	HMAC	-10	0.59141	0.75	2.5	3	10.6	Cement treated
17_5020	HMAC	-10	0.67593	0.75	3	1	7	Cement treated
17_5843	HMAC	-10	0.68	0.75	2.3	1	3	Cement treated

Table FF.41. Summary of the design features data for new CRCP model development and calibration.

Section ID	Shoulder Type	PCC Built-in Gradient	Percent Steel, %	Steel Diameter (in)	Depth to Steel (in)	Erodibility	Base Friction Coefficient	Base Type
17_5849	HMAC	-10	0.7	0.63	3	3	3.7	Asphalt treated
17_5854	HMAC	-10	0.65	0.75	3.7	1	4.5	Cement treated
17_5869	HMAC	-10	0.60388	0.63	3.5	1	3.2	Cement treated
17_5908	HMAC	-10	0.54497	0.63	3	1	7	Asphalt treated
17_9267	Granular	-10	0.56421	0.63	3	1	4.5	Asphalt treated
18_5022	HMAC	-10	0.6	0.75	4.5	1	4.55	Asphalt treated
18_5043	HMAC	-10	0.6	0.63	3	5	3	Granular
18_5518	HMAC	-10	0.61	0.75	3	5	4	Granular
19_5042	HMAC	-10	0.65	0.75	3.5	3	4.5	Asphalt treated
19_9116	HMAC	-10	0.6634	0.75	3	1	7	Asphalt treated
28_3099	Granular	-10	0.61	0.63	3.8	4	23	Cement treated
28_5006	Granular	-10	0.59	0.63	3.8	4	8	Cement treated
28_5025	Granular	-10	0.55961	0.62	3.8	1	5.5	Asphalt treated
28_5803	Granular	-10	0.60706	0.63	3.8	4	6	Cement treated
28_5805	HMAC	-10	0.59	0.63	3	1	5	Asphalt treated
29_5047	Granular	-5	0.6	0.62	3.5	4	3.2	Granular
31_5052	HMAC	-10	0.75	0.68	2.5	3	4	Cement treated
37_5037	HMAC	-10	0.65	0.63	3.4	5	0.5	Granular
37_5827	HMAC	-10	0.63	0.63	3	5	2	Granular
38_5002	Tied PCC	-10	0.6	0.63	3.5	1	9.5	Asphalt treated
39_5003	Tied PCC	-10	0.88	0.96	4	1	6	Asphalt treated
39_5010	HMAC	-10	0.54497	0.63	4	3	8	Cement treated
40_4158	Tied PCC	-10	0.588	0.75	5	1	5.08	Asphalt treated
40_4166	Tied PCC	-35	0.665	0.79	5	4	8.55	Cement treated
40_5021	Tied PCC	-10	0.56574	0.63	4.5	3	8	Asphalt treated
41_5005	HMAC	-10	0.66235	0.75	4.8	1	12	Cement treated
41_5006	HMAC	-10	0.59947	0.63	4	3	10	Cement treated
41_5008	HMAC	-15	0.59207	0.63	4	4	7.5	Cement treated
41_5021	HMAC	-10	0.62933	0.75	4.3	3	13	Cement treated
41_5022	HMAC	-10	0.71905	0.75	3	5	2.5	Granular
41_7081	HMAC	-10	0.65353	0.75	4.3	1	20	Cement treated
42_5020	HMAC	-10	0.5938	0.75	3.5	5	3	Granular

Table FF.41. Summary of the design features data for new CRCP model development and calibration.

Section ID	Shoulder Type	PCC Built-in Gradient	Percent Steel, %	Steel Diameter (in)	Depth to Steel (in)	Erodibility	Base Friction Coefficient	Base Type
45_5017	HMAC	-10	0.57	0.63	3.9	3	7	Cement treated
45_5034	HMAC	-10	0.64	0.63	3.5	4	6.5	Cement treated
45_5035	HMAC	-10	0.67473	0.63	3.5	4	10	Cement treated
46_5020	HMAC	-10	0.56574	0.60706	2.5	1	10	Asphalt treated
46_5025	HMAC	-10	0.59	0.63	2.5	5	3	Granular
48_3779	HMAC	-10	0.4948	0.63	4	1	7	Asphalt treated
48_5024	Tied PCC	-10	0.54521	0.75	5	1	8	Asphalt treated
48_5026	Tied PCC	-10	0.56	0.75	5	1	10	Asphalt treated
48_5154	HMAC	-10	0.52	0.63	4	1	7.2	Asphalt treated
48_5278	HMAC	-10	0.59151	0.63	3	1	6.8	Asphalt treated
48_5328	Granular	-10	0.61	0.63	4	1	6.5	Asphalt treated
48_5334	Granular	-10	0.51	0.63	3.8	3	13	Asphalt treated
48_5336	HMAC	-35	0.61	0.75	4	3	8.35	Asphalt treated
5_5803	HMAC	-10	0.61	0.5	4	1	3.7	Asphalt treated
5_5805	Tied PCC	-10	0.61	0.63	3.5	3	9.6	Asphalt treated
51_2564	HMAC	-10	0.65765	0.63	3.5	4	9	Cement treated
51_5010	Tied PCC	-10	0.65	0.75	4	3	10.5	Cement treated
55_5037	HMAC	-10	0.61	0.75	3	5	1.85	Granular
55_5040	Tied PCC	-10	0.61875	0.75	3	5	2.5	Granular
6_7455	HMAC	-10	0.53885	0.63	3.95	1	12.5	Cement treated
I80_EB_137.65	HMAC	-10	0.6	0.625	3.5	3	8	Asphalt treated
I80_EB_143.79	HMAC	-10	0.6	0.625	3.5	3	8	Asphalt treated
I80_EB_151.12	HMAC	-10	0.6	0.625	3.5	3	8	Asphalt treated
I80_EB_152.33	HMAC	-10	0.6	0.625	3.5	3	8	Asphalt treated
I80_WB_137.65	HMAC	-10	0.6	0.625	3.5	3	8	Asphalt treated
I80_WB_143.79	HMAC	-10	0.6	0.625	3.5	3	8	Asphalt treated
I80_WB_148.39	HMAC	-10	0.6	0.625	3.5	3	8	Asphalt treated
I80_WB_152.33	HMAC	-10	0.6	0.625	3.5	3	8	Asphalt treated
I94_edens_28.46	HMAC	-10	0.75	0.625	3.5	3	8	Asphalt treated
I94_edens_30.11	HMAC	-10	0.75	0.625	3.5	3	8	Asphalt treated
I94_edens_32.90	HMAC	-10	0.75	0.625	3.5	3	8	Asphalt treated
Vandalia1	Granular	-3	1	0.75	3	5	0.8	Granular

Table FF.41. Summary of the design features data for new CRCP model development and calibration.

Section ID	Shoulder Type	PCC Built-in Gradient	Percent Steel, %	Steel Diameter (in)	Depth to Steel (in)	Erodibility	Base Friction Coefficient	Base Type
Vandalia3	Granular	-3	0.5	0.5	3	5	2	Granular
Vandalia4	Granular	-3	0.7	0.625	3	5	1.5	Granular
Vandalia5	Granular	-3	1	0.75	3	5	1	Granular
Vandalia7	Granular	-3	0.5	0.5	3	5	1	Granular
Vandalia8	Granular	-3	0.7	0.625	3	5	1.2	Granular

Table FF.42. Summary of the design features data for rehabilitation with JPCP model development and calibration.

SHRP ID	Lane Width, ft	Widened Lane?	Tied PCC Shoulder?	Tied Bar Diameter, in	Average Joint Spacing, ft	Random Joint Spacing?	Dowel Diameter, in	Dowel Spacing, in	Drainage Type	Transverse Joint Sealant Type	PCC Built-in Difference, oF
1_0601	12	No	No, Shoulder Type = Sand Asphalt	None	20	None	1.5	12	None	Silicone	-10
1_0602	12	No	No, Shoulder Type = Sand Asphalt	None	20	None	1.5	12	None	Silicone	-10
1_0605	12	No	No, Shoulder Type = Sand Asphalt	None	20	None	1.5	12	None	Silicone	-10
18_0601	12	No	No, Shoulder Type = AC	None	20	None	1	12	Longitudinal Edgedrain	Rubberlized Asphalt	-10
18_0602	12	No	No, Shoulder Type = AC	None	20	None	1	12	Longitudinal Edgedrain	Rubberlized Asphalt	-10
18_0605	12	No	No, Shoulder Type = AC	None	20	None	1	12	Longitudinal Edgedrain	Rubberlized Asphalt	-10
18_9020	12	No	No, Shoulder Type = AC	None	15.5		None	None	Transverse drain (X-drain)		-10
19_0700	9	No	No, Shoulder Type = AC	None					None		-10
20_9037	12	No	No, Shoulder Type = Granular	None	15	15, 12	0.5??	30	None	Asphalt	-10
22_0700	10	No	Yes, (Tied Bar Dia. = 0.5 in)	0.5					None		-10
26_9029	12	No	No, Shoulder Type = PCC	None	41		1.25	12	Longitudinal Edgedrain	Preformed	-10
26_9030	12	No	No, Shoulder Type = PCC	None	41		1.25	12	Longitudinal Edgedrain		-10
27_0700	11	No	No, Shoulder Type = AC	None					Longitudinal Edgedrain		-10
27_6300	14	Yes	No, Shoulder Type = AC	None			None	None	Longitudinal		-10

Table FF.42. Summary of the design features data for rehabilitation with JPCP model development and calibration.

SHRP ID	Lane Width, ft	Widened Lane?	Tied PCC Shoulder?	Tied Bar Diameter, in	Average Joint Spacing, ft	Random Joint Spacing?	Dowel Diameter, in	Dowel Spacing, in	Drainage Type	Transverse Joint Sealant Type	PCC Built-in Difference, oF
									Edgedrain		
27_9075	12	No	No, Shoulder Type = AC	None	15.5		None	None	None		-10
28_7012	12	No	No, Shoulder Type = AC	None	21		1	12	None	Rubberlized Asphalt	-10
28_9030	12	No	Yes, (Tied Bar Dia. = 0.62 in)	0.62	21.2		1.25	12	Longitudinal Edgedrain	Low-modulus silicone	-10
29_A601	12	No	No, Shoulder Type = Gravel	None	30	None	None	None	Longitudinal Edgedrain	Asphalt	-10
29_A602	12	No	No, Shoulder Type = Gravel	None	30	None	None	None	Longitudinal Edgedrain	Asphalt	-10
29_A605	12	No	No, Shoulder Type = Gravel	None	30	None	None	None	Longitudinal Edgedrain	Asphalt	-10
31_6701	12	No	Yes, (Tied Bar Dia. = 0.63 in)	0.68	16.5		None	None	None	Rubberlized Asphalt	-10
39_5569	12	No	Yes, (Tied Bar Dia. = 0.63 in)	0.63	14.5	13'-16'-14'-15'	None	None	None		-10
39_9006	12	No	Yes, (Tied Bar Dia. = 0.63 in)	0.63	27		1.13	12	Longitudinal Edgedrain	Preformed	-10
39_9022	12	No	Yes, (Tied Bar Dia. = 0.63 in)	0.63	13.5	12-14-13-15	1.25	12	Longitudinal Edgedrain	Rubberlized Asphalt	-10
4_0601	12	No	No, Shoulder Type = AC	None	15	15, 13, 15, 17	1.25	15	None	Silicone/AC	-10
4_0602	12	No	No, Shoulder Type = AC	None	15	15, 13, 15, 17	1.25	15	None	Silicone/AC	-10
4_0605	12	No	No, Shoulder Type = AC	None	15	15, 13, 15, 17	1.25	15	None	Silicone/AC	-10
42_1627	12	No	Yes, (Tied Bar Dia. = 0.63 in)	0.63	20.5		1.25	12	Longitudinal Edgedrain	Preformed	-10
42_9027	12	No	Yes, (Tied Bar Dia. = 0.5 in)	0.6	20		1.5	12	Longitudinal Edgedrain	Preformed	-10
46_0601	12	No	No, Shoulder Type = AC	None	20	None	None	None	Longitudinal Edgedrain		-10
46_0602	12	No	No, Shoulder Type = AC	None	20	None	None	None	Longitudinal Edgedrain		-10
46_0605	12	No	No, Shoulder Type = AC	None	20	None	None	None	Longitudinal Edgedrain		-10
47_0601	12	No	No, Shoulder Type = AC	None	25	None	None	None	None	Silicone	-10
47_0602	12	No	No, Shoulder Type = AC	None	25	None	None	None	None	Silicone	-10

Table FF.42. Summary of the design features data for rehabilitation with JPCP model development and calibration.

SHRP ID	Lane Width, ft	Widened Lane?	Tied PCC Shoulder?	Tied Bar Diameter, in	Average Joint Spacing, ft	Random Joint Spacing?	Dowel Diameter, in	Dowel Spacing, in	Drainage Type	Transverse Joint Sealant Type	PCC Built-in Difference, oF
47_0605	12	No	No, Shoulder Type = AC	None	25	None	None	None	None	Silicone	-10
48_9167	12	No	No, Shoulder Type = PCC	None	15		1.25	12	None	Rubberlized Asphalt	-10
48_9355	12	No	Yes, (Tied Bar Dia. = 0.5 in)	0.5	15		1.25	12	None	Preformed	-10
5_A601	12	No	No, Shoulder Type = N/A	None	45	None	1	12	None	Silicone/AC	-10
5_A602	12	No	No, Shoulder Type = N/A	None	45	None	1	12	None	Silicone/AC	-10
5_A605	12	No	No, Shoulder Type = N/A	None	45	None	1	12	None	Silicone/AC	-10
6_0602	12	No	No, Shoulder Type = AC	None	15.5	12, 13, 19, 18	1.13	12	Longitudinal Edgedrain		-10
6_0605	12	No	No, Shoulder Type = AC	None	15.5	12, 13, 19, 18	1.13	12	Longitudinal Edgedrain		-10
6_9048	12	No	No, Shoulder Type = AC	None	15.5	13,12,18,19	None	None	None		-10
6_9049	12	No	No, Shoulder Type = AC	None	15.5	13,19,18,12	None	None	None		-10
6_9107	12	No	No, Shoulder Type = AC	None	13.5	12, 15, 13, 14	None	None	Longitudinal Edgedrain	Rubberlized Asphalt	-10
8_9019	12	No	No, Shoulder Type = PCC	None	13		None	None	None	Asphalt	-10
8_9020	12	No	Yes, (Tied Bar Dia. = 0.5 in)	0.5	20		None	None	None	Polyguard JFR 3 Sealant	-10
89_9018	12	No	No, Shoulder Type = AC	None	16.3		None	None	None		-10
AL-IH-20E-183.0	12	No	No, Shoulder Type = AC	None	20		None	None	None	Liquid	-10
AL-IH-59N-235.5	12	No	No, Shoulder Type = AC	None	20		1.13	12	None	Liquid	-10
CA-IH-8E-43.4	12	No	No, Shoulder Type = AC	None	16		None	None	None	Liquid	-10
FL-IH-10E-214.7	12	No	No, Shoulder Type = AC	None	20		None	None	None	Liquid	-10
GA-IH-16W-59.9	12	No	No, Shoulder Type = AC	None	25		None	None	None	Liquid	-10
IA-IH-80W-87.7	12	No	No, Shoulder Type = AC	None	20		1.38	12	None	Liquid	-10
NE-IH-80W-420.1	12	No	No, Shoulder Type = AC	None	17		None	None	None	Liquid	-10
SD-IH-29S-174.0	12	No	No, Shoulder Type = AC	None	17		None	None	None	Liquid	-10
WI-IH-43N-2.7	12	No	No, Shoulder Type = AC	None	17		None	None	None	Liquid	-10

Table FF.43. Summary of the design features data for rehabilitation with CRCP model development and calibration.

SHRP ID	Lane Width, ft	Widened Lane?	Tied PCC Shoulder?	Tied Bar Diameter, in	PCC Built-in Difference, oF	Percent Steel, %	Steel Diameter (in)	Depth to Steel (in)	Erodibility	Base Friction Coefficient	Base Type
GA-1	12	No	No, Shoulder Type = PCC	None	-10	0.6	0.6	4	1	10	PCC
GA-4	12	No	No, Shoulder Type = AC	None	-10	0.6	0.6	4	1	8	PCC
GA-5	12	No	No, Shoulder Type = PCC	None	-10	0.6	0.6	4	1	8	PCC
IL- 3	12	No	No, Shoulder Type = AC	None	-10	0.7	0.625	3	1	7	HMAC
PA-5	12	No	No, Shoulder Type = AC	None	-10	0.7	0.625	3	3	7	HMAC
WI-1	12	No	No, Shoulder Type = AC	None	-10	0.65	0.75	4	3	8	HMAC
13_4118	12	No	No, Shoulder Type = AC	None	-10	0.62	0.63	3	1	12	PCC
40_4155	12	No	Yes, (Tied Bar Dia. = 0.5 in)	0.5	-10	0.61	0.75	5	1	7	HMAC
48_3569	12	No	No, Shoulder Type = PCC	None	-10	0.63	0.75	5	1	7	HMAC
48_3845	12	No	No, Shoulder Type = N/A	None	-10	0.75	0.75	4	1	7	HMAC
19_0700	12	No	No, Shoulder Type = AC	None	-10	0.63	0.625	3.4	3	1.5	Granular
22_0700	12	No	Yes, Shoulder Type = PCC	0.5	-10	0.62	0.63	3.5	1	7	HMAC
27_0700	12	No	No, Shoulder Type = AC	None	-10	0.7	0.63	3	3	1.5	Granular

Pavement Drainage and Surface Properties

A list of the pavement drainage and surface properties required and descriptions of sources of input data are presented in table FF.44.

Table FF.44. Descriptions of sources of the data used to characterize pavement drainage and surface properties.

Pavement Type	Variable	Level of Input		
		1	2	3
JPCP and CRCP	Pavement surface layer (PCC) shortwave absorptivity	N/A	N/A	0.85
	Potential for infiltration	N/A	N/A	Moderate
	Pavement cross slope, percent	N/A	N/A	2
	Length of drainage path, ft	N/A	N/A	12 (13 or 14 ft for widened slabs)

Pavement Layer Definition and Material Properties

A list of the pavement layer definition and material properties required and descriptions of sources of input data are presented in table FF.45. A summary of the data used in model development and calibration is presented in tables FF.46 through FF.48.

Table FF.45. Descriptions of sources of the data used to define pavement layers and characterize material properties.

Layer Definition and Material Properties Variables	Level of Input		
	1	2	3
Material Description	Test Data	N/A	N/A
Layer Type	Test Data	N/A	N/A
Layer No.	Test Data	N/A	N/A
Thickness, in	Test Data	N/A	N/A
Unbound Material Plasticity Index, percent	Test Data	N/A	N/A
Unbound Material Percent Passing No. 4 Sieve	Test Data	N/A	N/A
Unbound Material Percent Passing No. 200 Sieve	Test Data	N/A	N/A
Unbound Material D60 mm	Test Data	N/A	N/A
Unbound Material AASHTO Soil Class	Test Data	N/A	N/A
Unbound and Cementitiously Stabilized Material Modulus, psi	Test Data	N/A	Default based on material type (Part 2, Chapter 2)
Unbound and Cementitiously Stabilized Material Unit Weight, Ibs/in3	Test Data	N/A	Default based on material type (Part 2, Chapter 2)
Unbound and Cementitiously Stabilized, and PCC Material Poission Ratio	Test Data	N/A	Default based on material type (Part 2, Chapter 2)
PCC CTE (oF/oF/in)	Test Data	N/A	Default based on material type (Part 2, Chapter 2)
Unbound and Cementitiously	N/A	N/A	Default based on material

Table FF.45. Descriptions of sources of the data used to define pavement layers and characterize material properties.

Layer Definition and Material Properties Variables	Level of Input		
	1	2	3
Stabilized, and PCC Thermal conductivity			type (Part 2, Chapter 2)
Unbound and Cementitiously Stabilized, and PCC Heat capacity	N/A	N/A	Default based on material type (Part 2, Chapter 2)
CementType	Test Data	N/A	N/A
Cement Content, Ibs/in3	Test Data	N/A	N/A
PCC Water-to-Cement Ratio	Test Data	N/A	0.5
PCC Coarse Aggregate Type	Test Data	N/A	Limestone
PCC Reversible Shrinkage	N/A	N/A	50
Time to for PCC to Develop 50% Shringake, days	N/A	N/A	35
PCC Curing Method	Inventory Data		Membrane Curing
Material Underlying PCC Layer	Test Data		
AC Material Percent Retained on 3/8" Sieve	Test Data	N/A	N/A
AC Material Percent Retained on No. 4 Sieve	Test Data	N/A	N/A
AC Material Percent Passing No. 200 Sieve	Test Data	N/A	N/A
AC Material Asphalt Grade (Base)	Test Data		AC-20
AC Material Reference Temperature, oF	N/A	N/A	70
AC Material Binder Content (Base), percent	N/A	N/A	11
AC Material Binder Content (Subbase), percent	N/A	N/A	11
AC Material Percent Air Voids (Base)	N/A	N/A	8.5
AC Material Percent Air Voids (Subbase)	N/A	N/A	8.5
AC Material Unit Weight, pcf	N/A	N/A	148
AC Material Thermal conductivity	N/A	N/A	0.67
AC Material Heat Capacity	N/A	N/A	0.23
AC Material Poissons ratio	N/A	N/A	0.35
PCC Compressive Strength 7-day	Models	Models	N/A
PCC Compressive Strength 14-day	Test data	Models	N/A
PCC Compressive Strength 28-day	Test data	Models	N/A
PCC Compressive Strength 90-day	Models	Models	N/A
PCC Elastic Modulus 7-day	Models	Models	N/A
PCC Elastic Modulus 14-day	Models	Models	N/A
PCC Elastic Modulus 28-day	Test data	Models	N/A
PCC Elastic Modulus 90-day	Test data	Models	N/A
PCC Flexural Strength 7-day	Models	Models	N/A
PCC Flexural Strength 14-day	Test data	Models	N/A
PCC Flexural Strength 28-day	Test data	Models	N/A
PCC Flexural Strength 90-day	Models	Models	N/A
PCC Tensile Strength 7-day	Models	Models	N/A

Table FF.45. Descriptions of sources of the data used to define pavement layers and characterize material properties.

Layer Definition and Material Properties Variables	Level of Input		
	1	**2**	**3**
PCC Tensile Strength 14-day	Test data	Models	N/A
PCC Tensile Strength 28-day	Test data	Models	N/A
PCC Tensile Strength 90-day	Models	Models	N/A

Table FF.46. Layer definition, description, and material characterization data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Thickness, in	Plasticity Index, percent	Percent Passing No. 4 Sieve	Percent Passing No. 200 Sieve	D60 mm	AASHTO Soil Class	Resilient Modulus, psi	Unit Weight, lbs/in3	Poission Ratio	CTE (oF/oF/in)
1_3028	PCC-JPCP	PC	4	10.2	N/A	N/A	N/A	N/A	N/A	N/A	149.5	0.19	0.00000500
1_3028	Crushed Stone	GB	3	7	NP (1)	47	8.6	7.1	A-1-a	40000	N/A	N/A	N/A
1_3028	Soil-Aggregate Mixture (CG)	GS	2	10	17	79	32.35	2.0	A-6	17000	N/A	N/A	N/A
1_3028	Clayey sand	SS	1	Infinite	19	85.5	44.65	0.4	A-6	17000	N/A	N/A	N/A
12_3804	PCC-JPCP	PC	3	12	N/A	N/A	N/A	N/A	N/A	N/A	142.5	0.19	0.00000594
12_3804	Soil Cement	TB	2	6.7	N/A	N/A	N/A	N/A	N/A	40000	N/A	N/A	N/A
12_3804	Poorly Graded Sand	SS	1	Infinite	NP (1)	100	2.9	0.2	A-3	29000	N/A	N/A	N/A
12_3811	PCC-JPCP	PC	4	9.4	N/A	N/A	N/A	N/A	N/A	N/A	133.5	0.17	0.00000578
12_3811	Soil Cement	TB	3	6.4	N/A	N/A	N/A	N/A	N/A	40000	N/A	N/A	N/A
12_3811	Fine-grained Soils	GS	2	16.8	NP (1)	100	12.1	0.3	A-2-4	32000	N/A	N/A	N/A
12_3811	Clayey sand	SS	1	Infinite	8.5	100	31.05	0.3	A-2-4	32000	N/A	N/A	N/A
12_4000	PCC-JPCP	PC	3	8.2	N/A	N/A	N/A	N/A	N/A	N/A	137	0.15	0.00000494
12_4000	Soil Cement	TB	2	4.1	N/A	N/A	N/A	N/A	N/A	40000	N/A	N/A	N/A
12_4000	Silty sand	SS	1	Infinite	NP (1)	100	15.35	0.2	A-2-4	32000	N/A	N/A	N/A
12_4057	PCC-JPCP	PC	3	13.3	N/A	N/A	N/A	N/A	N/A	N/A	154	0.17	0.00000578
12_4057	Fine-grained Soils	GB	2	7.8	NP (1)	87.5	7.45	0.2	A-3	29000	N/A	N/A	N/A
12_4057	Poorly Graded Sand	SS	1	Infinite	NP (1)	94.5	2.5	0.2	A-3	29000	N/A	N/A	N/A
12_4059	PCC-JPCP	PC	5	6.4	N/A	N/A	N/A	N/A	N/A	N/A	135	0.21	0.00000550
12_4059	Hot-Mix (Dense-G)	AC	4		N/A	70	5.5			323000	N/A	N/A	N/A
12_4059	Hot-Mix (Dense-G)	AC	3		N/A	70	5.5			323000	N/A	N/A	N/A
12_4059	Limerock, Caliche	GB	2	8	NP (1)	90	33.4	0.4	A-2-4	32000	N/A	N/A	N/A
12_4059	Poorly Graded Sand	SS	1	Infinite	NP (1)	99.5	1	0.3	A-3	29000	N/A	N/A	N/A
12_4109	PCC-JPCP	PC	3	7.1	N/A	N/A	N/A	N/A	N/A	N/A	139	0.23	0.00000561
12_4109	Limerock, Caliche	GB	2	9.4	NP (1)	91	42.5	0.2	A-4	24000	N/A	N/A	N/A
12_4109	Poorly Graded Sand	SS	1	Infinite	NP (1)	97.5	2.8	0.3	A-3	29000	N/A	N/A	N/A
12_4138	PCC-JPCP	PC	3	8	N/A	N/A	N/A	N/A	N/A	N/A	135	0.26	0.00000600
12_4138	CAM	TB	2	4.8	N/A	N/A	N/A	N/A	N/A	400000	N/A	N/A	N/A
12_4138	Silty sand	SS	1	Infinite	NP (1)	100	14.7	0.3	A-2-4	32000	N/A	N/A	N/A

Table FF.46. Layer definition, description, and material characterization data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Thickness, in	Plasticity Index, percent	Percent Passing No. 4 Sieve	Percent Passing No. 200 Sieve	D60 mm	AASHTO Soil Class	Resilient Modulus, psi	Unit Weight, lbs/in3	Poission Ratio	CTE (oF/oF/in)
16_3017	PCC-JPCP	PC	4	10.3	N/A	N/A	N/A	N/A	N/A	N/A	143.5	0.17	0.00000550
16_3017	ATM	TB	3	5.4	N/A	74	6.7			200000	N/A	N/A	N/A
16_3017	Crushed Gravel	GS	2	11.6	NP (1)	68	11.05	2.0	A-1-b	38000	N/A	N/A	N/A
16_3017	Silt with Sand	SS	1	Infinite	21	92.5	67.95	0.1	A-6	17000	N/A	N/A	N/A
16_3023	PCC-JPCP	PC	5	9	N/A	N/A	N/A	N/A	N/A	N/A	140.5	0.16	0.00000550
16_3023	Crushed Gravel	GB	4	4.4	NP (1)	56	8.5	5.9	A-1-a	40000	N/A	N/A	N/A
16_3023	Soil-Aggregate Mixture (CG)	GS	3	5.3	NP (1)	45.5	5.8	12.7	A-1-a	40000	N/A	N/A	N/A
16_3023	Soil-Aggregate Mixture (FG)	GS	2	9	5	97	30.4	5.3	A-2-4	32000	N/A	N/A	N/A
16_3023	Silty sand	SS	1	Infinite	6.5	98.5	30.05	0.4	A-2-4	32000	N/A	N/A	N/A
18_3002	PCC-JPCP	PC	3	9.5	N/A	N/A	N/A	N/A	N/A	N/A	150	0.18	0.00000628
18_3002	Crushed Stone	GB	2	5.5	NP (1)	32	3.55	12.7	A-1-a	40000	N/A	N/A	N/A
18_3002	Sandy Lean Clay	SS	1	Infinite	14	96	67.4	0.1	A-6	17000	N/A	N/A	N/A
18_3003	PCC-JPCP	PC	3	10.2	N/A	N/A	N/A	N/A	N/A	N/A	141.5	0.22	0.00000639
18_3003	Dense-G Cold-Central-Plant-Mix	TB	2	3.8	N/A	N/A	N/A	N/A	N/A	323000	N/A	N/A	N/A
18_3003	Clayey sand	SS	1	Infinite	NP (1)	95.5	31.7	0.3	A-2-4	32000	N/A	N/A	N/A
18_3031	PCC-JPCP	PC	3	10.2	N/A	N/A	N/A	N/A	N/A	N/A	144	0.22	0.00000578
18_3031	ATM	TB	2	4.6	N/A	74	6.7			200000	N/A	N/A	N/A
18_3031	Lean Inorganic Clay	SS	1	Infinite	17.5	99	97.05	0.1	A-6	17000	N/A	N/A	N/A
19_3006	PCC-JPCP	PC	3	8.9	N/A	N/A	N/A	N/A	N/A	N/A	141.5	0.20	0.00000639
19_3006	CAM	TB	2	4.3	N/A	N/A	N/A	N/A	N/A	400000	N/A	N/A	N/A
19_3006	Sandy Lean Clay	SS	1	Infinite	11.5	97.5	60.85	0.1	A-6	17000	N/A	N/A	N/A
20_0201	PCC-JPCP	PC	4	7.7	N/A	N/A	N/A	N/A	N/A	N/A	145.5	0.15	0.00000550
20_0201	Crushed Stone	GB	3	6.1	2.7	43.333	11.333	9.5	A-1-a	40000	N/A	N/A	N/A
20_0201	Pozzolanic-Agg-Mix	TS	2	6	N/A	N/A	N/A	N/A	N/A	40000	N/A	N/A	N/A
20_0201	Silty Clay	SS	1	Infinite	27	97	62.5	0.1	A-7-6	8000	N/A	N/A	N/A
20_0202	PCC-JPCP	PC	4	7.4	N/A	N/A	N/A	N/A	N/A	N/A	145.5	0.15	0.00000550
20_0202	Crushed Stone	GB	3	5.9	2.7	43.333	11.333	9.5	A-1-a	40000	N/A	N/A	N/A
20_0202	Pozzolanic-Agg-Mix	TS	2	6	N/A	N/A	N/A	N/A	N/A	40000	N/A	N/A	N/A
20_0202	Silty Clay	SS	1	Infinite	27	97	62.5	0.1	A-7-6	8000	N/A	N/A	N/A

Table FF.46. Layer definition, description, and material characterization data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Thickness, in	Plasticity Index, percent	Percent Passing No. 4 Sieve	Percent Passing No. 200 Sieve	D60 mm	AASHTO Soil Class	Resilient Modulus, psi	Unit Weight, lbs/in3	Poission Ratio	CTE (oF/oF/in)
20_0203	PCC-JPCP	PC	4	11.1	N/A	N/A	N/A	N/A	N/A	N/A	145.5	0.15	0.00000550
20_0203	Crushed Stone	GB	3	5.7	2.7	43.333	11.333	9.5	A-1-a	40000	N/A	N/A	N/A
20_0203	Pozzolanic-Agg-Mix	TS	2	6	N/A	N/A	N/A	N/A	N/A	40000	N/A	N/A	N/A
20_0203	Silty Clay	SS	1	Infinite	27	97	62.5	0.1	A-7-6	8000	N/A	N/A	N/A
20_0204	PCC-JPCP	PC	4	11.3	N/A	N/A	N/A	N/A	N/A	N/A	145.5	0.15	0.00000550
20_0204	Crushed Stone	GB	3	5.5	2.7	43.333	11.333	9.5	A-1-a	40000	N/A	N/A	N/A
20_0204	Pozzolanic-Agg-Mix	TS	2	6	N/A	N/A	N/A	N/A	N/A	40000	N/A	N/A	N/A
20_0204	Silty Clay	SS	1	Infinite	27	97	62.5	0.1	A-7-6	8000	N/A	N/A	N/A
20_0205	PCC-JPCP	PC	4	7.8	N/A	N/A	N/A	N/A	N/A	N/A	145.5	0.15	0.00000550
20_0205	Lean Concrete	TB	3	6	N/A	N/A	N/A	N/A	N/A	2100000	N/A	N/A	N/A
20_0205	Pozzolanic-Agg-Mix	TS	2	6	N/A	N/A	N/A	N/A	N/A	40000	N/A	N/A	N/A
20_0205	Silty Clay	SS	1	Infinite	27	97	62.5	0.1	A-7-6	8000	N/A	N/A	N/A
20_0206	PCC-JPCP	PC	4	7.9	N/A	N/A	N/A	N/A	N/A	N/A	145.5	0.15	0.00000550
20_0206	Lean Concrete	TB	3	6	N/A	N/A	N/A	N/A	N/A	2100000	N/A	N/A	N/A
20_0206	Pozzolanic-Agg-Mix	TS	2	6	N/A	N/A	N/A	N/A	N/A	40000	N/A	N/A	N/A
20_0206	Silty Clay	SS	1	Infinite	27	97	62.5	0.1	A-7-6	8000	N/A	N/A	N/A
20_0207	PCC-JPCP	PC	4	11.3	N/A	N/A	N/A	N/A	N/A	N/A	145.5	0.15	0.00000550
20_0207	Lean Concrete	TB	3	5.9	N/A	N/A	N/A	N/A	N/A	2100000	N/A	N/A	N/A
20_0207	Pozzolanic-Agg-Mix	TS	2	6	N/A	N/A	N/A	N/A	N/A	40000	N/A	N/A	N/A
20_0207	Silty Clay	SS	1	Infinite	27	97	62.5	0.1	A-7-6	8000	N/A	N/A	N/A
20_0208	PCC-JPCP	PC	4	11	N/A	N/A	N/A	N/A	N/A	N/A	145.5	0.15	0.00000550
20_0208	Lean Concrete	TB	3	6	N/A	N/A	N/A	N/A	N/A	2100000	N/A	N/A	N/A
20_0208	Pozzolanic-Agg-Mix	TS	2	6	N/A	N/A	N/A	N/A	N/A	40000	N/A	N/A	N/A
20_0208	Silty Clay	SS	1	Infinite	27	97	62.5	0.1	A-7-6	8000	N/A	N/A	N/A
20_0209	PCC-JPCP	PC	5	8.5	N/A	N/A	N/A	N/A	N/A	N/A	145.5	0.15	0.00000550
20_0209	O-Graded (Hot-Central-Plant-Mix)	TB	4	3.9	N/A	5	1	N/A	N/A	303000	N/A	N/A	N/A
20_0209	Crushed Stone	GB	3	4.2	2.7	43.333	11.333	9.5	A-1-a	40000	N/A	N/A	N/A
20_0209	Pozzolanic-Agg-Mix	TS	2	6	N/A	N/A	N/A	N/A	N/A	40000	N/A	N/A	N/A

Table FF.46. Layer definition, description, and material characterization data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Thickness, in	Plasticity Index, percent	Percent Passing No. 4 Sieve	Percent Passing No. 200 Sieve	D60 mm	AASHTO Soil Class	Resilient Modulus, psi	Unit Weight, lbs/in3	Poission Ratio	CTE (oF/oF/in)
20_0209	Silty Clay	SS	1	Infinite	27	97	62.5	0.1	A-7-6	8000	N/A	N/A	N/A
20_0210	PCC-JPCP	PC	5	8.3	N/A	N/A	N/A	N/A	N/A	N/A	145.5	0.15	0.00000550
20_0210	O-Graded (Hot-Central-Plant-Mix)	TB	4	3.7	N/A	N/A	N/A	N/A	N/A	303000	N/A	N/A	N/A
20_0210	Crushed Stone	GB	3	3.9	2.7	43.333	11.333	9.5	A-1-a	40000	N/A	N/A	N/A
20_0210	Pozzolanic-Agg-Mix	TS	2	6	N/A	N/A	N/A	N/A	N/A	40000	N/A	N/A	N/A
20_0210	Silty Clay	SS	1	Infinite	27	97	62.5	0.1	A-7-6	8000	N/A	N/A	N/A
20_0211	PCC-JPCP	PC	5	11.1	N/A	N/A	N/A	N/A	N/A	N/A	145.5	0.15	0.00000550
20_0211	O-Graded (Hot-Central-Plant-Mix)	TB	4	4.2	N/A	N/A	N/A	N/A	N/A	303000	N/A	N/A	N/A
20_0211	Crushed Stone	GB	3	3.9	2.7	43.333	11.333	9.5	A-1-a	40000	N/A	N/A	N/A
20_0211	Pozzolanic-Agg-Mix	TS	2	6	N/A	N/A	N/A	N/A	N/A	40000	N/A	N/A	N/A
20_0211	Silty Clay	SS	1	Infinite	27	97	62.5	0.1	A-7-6	8000	N/A	N/A	N/A
20_0212	PCC-JPCP	PC	5	10.9	N/A	N/A	N/A	N/A	N/A	N/A	145.5	0.15	0.00000550
20_0212	O-Graded (Hot-Central-Plant-Mix)	TB	4	4.4	N/A	N/A	N/A	N/A	N/A	303000	N/A	N/A	N/A
20_0212	Crushed Stone	GB	3	4.1	2.7	43.333	11.333	9.5	A-1-a	40000	N/A	N/A	N/A
20_0212	Pozzolanic-Agg-Mix	TS	2	6	N/A	N/A	N/A	N/A	N/A	40000	N/A	N/A	N/A
20_0212	Silty Clay	SS	1	Infinite	27	97	62.5	0.1	A-7-6	8000	N/A	N/A	N/A
20_3015	PCC-JPCP	PC	3	9.2	N/A	N/A	N/A	N/A	N/A	N/A	138	0.27	0.00000661
20_3015	HMAC	TB	2	4.2	N/A	74	6.7			323000	N/A	N/A	N/A
20_3015	Lean Inorganic Clay	SS	1	Infinite	17	100	93.2	0.1	A-6	17000	N/A	N/A	N/A
21_3016	PCC-JPCP	PC	4	11.8	N/A	N/A	N/A	N/A	N/A	N/A	146.5	0.18	0.00000556
21_3016	Crushed Stone	GB	3	4	0	45	13	5.3	A-1-b	38000	N/A	N/A	N/A
21_3016	CAM	TS	2	2	N/A	N/A	N/A	N/A	N/A	400000	N/A	N/A	N/A
21_3016	Gravelly Lean Clay	SS	1	Infinite	14	70	52.25	2.0	A-6	17000	N/A	N/A	N/A
26_0213	PCC-JPCP	PC	4	8.6	N/A	N/A	N/A	N/A	N/A	N/A	145	0.15	0.00000550
26_0213	Crushed Stone	GB	3	6.1	NP (1)	39	9.267	12.7	A-1-a	40000	N/A	N/A	N/A
26_0213	Silty Clay	GS	2	18.5	10.9	92.6	69.5	0.1	A-6	17000	N/A	N/A	N/A
26_0213	Silty Clay	SS	1	Infinite	11.3	97	64.46	0.1	A-6	17000	N/A	N/A	N/A

Table FF.46. Layer definition, description, and material characterization data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Thickness, in	Plasticity Index, percent	Percent Passing No. 4 Sieve	Percent Passing No. 200 Sieve	D60 mm	AASHTO Soil Class	Resilient Modulus, psi	Unit Weight, lbs/in3	Poission Ratio	CTE (oF/oF/in)
26_0214	PCC-JPCP	PC	4	8.9	N/A	N/A	N/A	N/A	N/A	N/A	145.5	0.15	0.00000550
26_0214	Crushed Stone	GB	3	5.8	NP (1)	39	9.267	12.7	A-1-a	40000	N/A	N/A	N/A
26_0214	Silty Clay	GS	2	18.5	10.9	92.6	69.5	0.1	A-6	17000	N/A	N/A	N/A
26_0214	Silty Clay	SS	1	Infinite	11.3	97	64.46	0.1	A-6	17000	N/A	N/A	N/A
26_0215	PCC-JPCP	PC	4	11.2	N/A	N/A	N/A	N/A	N/A	N/A	141	0.15	0.00000550
26_0215	Crushed Stone	GB	3	6.2	NP (1)	39	9.267	12.7	A-1-a	40000	N/A	N/A	N/A
26_0215	Silty Clay	GS	2	15.5	10.9	92.6	69.5	0.1	A-6	17000	N/A	N/A	N/A
26_0215	Silty Clay	SS	1	Infinite	11.3	97	64.46	0.1	A-6	17000	N/A	N/A	N/A
26_0216	PCC-JPCP	PC	4	11.4	N/A	N/A	N/A	N/A	N/A	N/A	145.5	0.15	0.00000550
26_0216	Crushed Stone	GB	3	5.9	NP (1)	39	9.267	12.7	A-1-a	40000	N/A	N/A	N/A
26_0216	Silty Clay	GS	2	15.5	10.9	92.6	69.5	0.1	A-6	17000	N/A	N/A	N/A
26_0216	Silty Clay	SS	1	Infinite	11.3	97	64.46	0.1	A-6	17000	N/A	N/A	N/A
26_0217	PCC-JPCP	PC	4	8.5	N/A	N/A	N/A	N/A	N/A	N/A	145.5	0.15	0.00000550
26_0217	Lean Concrete	TB	3	6.2	N/A	N/A	N/A	N/A	N/A	2100000	N/A	N/A	N/A
26_0217	Silty Clay	GS	2	18.5	10.9	92.6	69.5	0.1	A-6	17000	N/A	N/A	N/A
26_0217	Silty Clay	SS	1	Infinite	11.3	97	64.46	0.1	A-6	17000	N/A	N/A	N/A
26_0218	PCC-JPCP	PC	4	7.1	N/A	N/A	N/A	N/A	N/A	N/A	145.5	0.15	0.00000550
26_0218	Lean Concrete	TB	3	6.9	N/A	N/A	N/A	N/A	N/A	2100000	N/A	N/A	N/A
26_0218	Silty Clay	GS	2	18.5	10.9	92.6	69.5	0.1	A-6	17000	N/A	N/A	N/A
26_0218	Silty Clay	SS	1	Infinite	11.3	97	64.46	0.1	A-6	17000	N/A	N/A	N/A
26_0219	PCC-JPCP	PC	4	10.9	N/A	N/A	N/A	N/A	N/A	N/A	140.5	0.15	0.00000550
26_0219	Lean Concrete	TB	3	6.3	N/A	N/A	N/A	N/A	N/A	2100000	N/A	N/A	N/A
26_0219	Silty Clay	GS	2	15.5	10.9	92.6	69.5	0.1	A-6	17000	N/A	N/A	N/A
26_0219	Sandy Clay	SS	1	Infinite	11.3	97	64.46	0.1	A-6	17000	N/A	N/A	N/A
26_0220	PCC-JPCP	PC	4	11.1	N/A	N/A	N/A	N/A	N/A	N/A	145.5	0.15	0.00000550
26_0220	Lean Concrete	TB	3	5.8	N/A	N/A	N/A	N/A	N/A	2100000	N/A	N/A	N/A
26_0220	Silty Clay	GS	2	15.5	10.9	92.6	69.5	0.1	A-6	17000	N/A	N/A	N/A
26_0220	Silty Clay	SS	1	Infinite	11.3	97	64.46	0.1	A-6	17000	N/A	N/A	N/A
26_0221	PCC-JPCP	PC	5	8.2	N/A	N/A	N/A	N/A	N/A	N/A	145.5	0.15	0.00000550

Table FF.46. Layer definition, description, and material characterization data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Thickness, in	Plasticity Index, percent	Percent Passing No. 4 Sieve	Percent Passing No. 200 Sieve	D60 mm	AASHTO Soil Class	Resilient Modulus, psi	Unit Weight, lbs/in3	Poission Ratio	CTE (oF/oF/in)
26_0221	O-Graded (Hot-Central-Plant-Mix)	TB	4	4.2	N/A	5	1	N/A	N/A	303000	N/A	N/A	N/A
26_0221	Crushed Stone	GB	3	4.4	NP (1)	39	9.267	12.7	A-1-a	40000	N/A	N/A	N/A
26_0221	Silty Clay	GS	2	16.5	10.9	92.6	69.5	0.1	A-6	17000	N/A	N/A	N/A
26_0221	Silty Clay	SS	1	Infinite	11.3	97	64.46	0.1	A-6	17000	N/A	N/A	N/A
26_0222	PCC-JPCP	PC	5	8.4	N/A	N/A	N/A	N/A	N/A	N/A	145.5	0.15	0.00000550
26_0222	O-Graded (Hot-Central-Plant-Mix)	TB	4	4.2	N/A	5	1	N/A	N/A	303000	N/A	N/A	N/A
26_0222	Crushed Stone	GB	3	4.2	NP (1)	39	9.267	12.7	A-1-a	40000	N/A	N/A	N/A
26_0222	Silty Clay	GS	2	16.5	10.9	92.6	69.5	0.1	A-6	17000	N/A	N/A	N/A
26_0222	Silty Clay	SS	1	Infinite	11.3	97	64.46	0.1	A-6	17000	N/A	N/A	N/A
26_0223	PCC-JPCP	PC	5	11	N/A	N/A	N/A	N/A	N/A	N/A	145.5	0.15	0.00000550
26_0223	O-Graded (Hot-Central-Plant-Mix)	TB	4	4.1	N/A	5	1	N/A	N/A	303000	N/A	N/A	N/A
26_0223	Crushed Stone	GB	3	4.3	NP (1)	39	9.267	12.7	A-1-a	40000	N/A	N/A	N/A
26_0223	Silty Clay	GS	2	13.5	10.9	92.6	69.5	0.1	A-6	17000	N/A	N/A	N/A
26_0223	Sandy Clay	SS	1	Infinite	11.3	97	64.46	0.1	A-6	17000	N/A	N/A	N/A
26_0224	PCC-JPCP	PC	5	11.2	N/A	N/A	N/A	N/A	N/A	N/A	145.5	0.15	0.00000550
26_0224	O-Graded (Hot-Central-Plant-Mix)	TB	4	4.3	N/A	5	1	N/A	N/A	303000	N/A	N/A	N/A
26_0224	Crushed Stone	GB	3	4	NP (1)	39	9.267	12.7	A-1-a	40000	N/A	N/A	N/A
26_0224	Silty Clay	GS	2	13.5	10.9	92.6	69.5	0.1	A-6	17000	N/A	N/A	N/A
26_0224	Sandy Clay	SS	1	Infinite	11.3	97	64.46	0.1	A-6	17000	N/A	N/A	N/A
26_3068	PCC-JPCP	PC	4	9	N/A	N/A	N/A	N/A	N/A	N/A	143	0.18	0.00000544
26_3068	HMAC	TB	3	4.8	N/A	74	6.7			323000	N/A	N/A	N/A
26_3068	Sand	GS	2	11.5	NP (1)	91	3.5	5.3	A-2-4	32000	N/A	N/A	N/A
26_3068	Poorly Graded Sand	SS	1	Infinite	NP (1)	96	3	0.3	A-3	29000	N/A	N/A	N/A
26_3069	PCC-JPCP	PC	2	9.2	N/A	N/A	N/A	N/A	N/A	N/A	145.5	0.19	0.00000628
26_3069	Poorly Graded Sand/Gravel	SS	1	Infinite	NP (1)	80.5	4.65	1.2	A-1-b	38000	N/A	N/A	N/A
27_3003	PCC-JPCP	PC	3	7.6	N/A	N/A	N/A	N/A	N/A	N/A	147.5	0.20	0.00000650

Table FF.46. Layer definition, description, and material characterization data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Thickness, in	Plasticity Index, percent	Percent Passing No. 4 Sieve	Percent Passing No. 200 Sieve	D60 mm	AASHTO Soil Class	Resilient Modulus, psi	Unit Weight, lbs/in3	Poission Ratio	CTE (oF/oF/in)
27_3003	Gravel (uncrushed)	GB	2	5	NP (1)	70	15.1	2.0	A-1-b	38000	N/A	N/A	N/A
27_3003	Sandy Lean Clay	SS	1	Infinite	19.5	95	54.4	0.1	A-6	17000	N/A	N/A	N/A
27_3013	PCC-JPCP	PC	3	8	N/A	N/A	N/A	N/A	N/A	N/A	148	0.14	0.00000633
27_3013	Gravel (uncrushed)	GB	2	6	NP (1)	73	9.3	2.0	A-1-b	38000	N/A	N/A	N/A
27_3013	Poorly Graded Sand/Silt	SS	1	Infinite	NP (1)	97.5	9.55	0.3	A-3	29000	N/A	N/A	N/A
28_3018	PCC-JPCP	PC	3	9.3	N/A	N/A	N/A	N/A	N/A	N/A	142.5	0.20	0.00000550
28_3018	Soil Cement	TB	2	5.7	N/A	N/A	N/A	N/A	N/A	40000	N/A	N/A	N/A
28_3018	Silty sand	SS	1	Infinite	NP (1)	99	26.3	0.2	A-2-4	32000	N/A	N/A	N/A
28_3019	PCC-JPCP	PC	3	9.4	N/A	N/A	N/A	N/A	N/A	N/A	140.5	0.17	0.00000550
28_3019	Soil Cement	TB	2	5.9	N/A	N/A	N/A	N/A	N/A	40000	N/A	N/A	N/A
28_3019	Silty gravel with sand	SS	1	Infinite	3.5	63	29.35	4.7	A-2-4	32000	N/A	N/A	N/A
31_3018	PCC-JPCP	PC	3	11.9	N/A	N/A	N/A	N/A	N/A	N/A	145.5	0.15	0.00000628
31_3018	Soil Cement	TB	2	5.6	N/A	N/A	N/A	N/A	N/A	40000	N/A	N/A	N/A
31_3018	Poorly Graded Sand	SS	1	Infinite	NP (1)	91	4.65	1.2	A-1-b	38000	N/A	N/A	N/A
31_3024	PCC-JPCP	PC	3	14.3	N/A	N/A	N/A	N/A	N/A	N/A	141	0.15	0.00000550
31_3024	N/A	N/A	2	N/A	7	84	35.5	3.8	A-2-4	32000	N/A	N/A	N/A
31_3024	Lean Inorganic Clay	SS	1	Infinite	12.5	95	71.7	0.1	A-6	17000	N/A	N/A	N/A
32_0201	PCC-JPCP	PC	5	9.2	N/A	N/A	N/A	N/A	N/A	N/A	137	0.12	0.00000550
32_0201	Crushed Gravel	GB	4	5.9	NP (1)	55.417	7.408	7.1	A-1-a	40000	N/A	N/A	N/A
32_0201	Soil-Aggregate Mixture (CG)	GS	3	21.7	5	67.917	23.775	2.0	A-1-b	38000	N/A	N/A	N/A
32_0201	Lime-Treated Soil	TS	2	12	N/A	N/A	N/A	N/A	N/A	45000	N/A	N/A	N/A
32_0201	Silty sand with gravel	SS	1	Infinite	NP (1)	31.028	11.407	88.9	A-1-a	40000	N/A	N/A	N/A
32_0202	PCC-JPCP	PC	5	8.2	N/A	N/A	N/A	N/A	N/A	N/A	145.5	0.15	0.00000550
32_0202	Crushed Gravel	GB	4	5.8	NP (1)	55.417	7.408	7.1	A-1-a	40000	N/A	N/A	N/A
32_0202	Soil-Aggregate Mixture (CG)	GS	3	22.7	5	67.917	23.775	2.0	A-1-b	38000	N/A	N/A	N/A
32_0202	Lime-Treated Soil	TS	2	12	N/A	N/A	N/A	N/A	N/A	45000	N/A	N/A	N/A
32_0202	Sandy Silt	SS	1	Infinite	52.5	99.4	59.08	0.1	A-7-5	12000	N/A	N/A	N/A
32_0203	PCC-JPCP	PC	5	11.9	N/A	N/A	N/A	N/A	N/A	N/A	145.5	0.15	0.00000550
32_0203	Crushed Gravel	GB	4	5.7	NP (1)	55.417	7.408	7.1	A-1-a	40000	N/A	N/A	N/A

Table FF.46. Layer definition, description, and material characterization data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Thickness, in	Plasticity Index, percent	Percent Passing No. 4 Sieve	Percent Passing No. 200 Sieve	D60 mm	AASHTO Soil Class	Resilient Modulus, psi	Unit Weight, lbs/in3	Poission Ratio	CTE (oF/oF/in)
32_0203	Soil-Aggregate Mixture (CG)	GS	3	20.2	5	67.917	23.775	2.0	A-1-b	38000	N/A	N/A	N/A
32_0203	Lime-Treated Soil	TS	2	12	N/A	N/A	N/A	N/A	N/A	45000	N/A	N/A	N/A
32_0203	Sandy Silt	SS	1	Infinite	52.5	99.4	59.08	0.1	A-7-5	12000	N/A	N/A	N/A
32_0204	PCC-JPCP	PC	5	11.8	N/A	N/A	N/A	N/A	N/A	N/A	137	0.13	0.00000550
32_0204	Crushed Gravel	GB	4	6.2	NP (1)	55.417	7.408	7.1	A-1-a	40000	N/A	N/A	N/A
32_0204	Soil-Aggregate Mixture (CG)	GS	3	20.5	5	67.917	23.775	2.0	A-1-b	38000	N/A	N/A	N/A
32_0204	Lime-Treated Soil	TS	2	12	N/A	N/A	N/A	N/A	N/A	45000	N/A	N/A	N/A
32_0204	Sandy Silt	SS	1	Infinite	52.5	99.4	59.08	0.1	A-7-5	12000	N/A	N/A	N/A
32_0205	PCC-JPCP	PC	5	8.5	N/A	N/A	N/A	N/A	N/A	N/A	137	0.17	0.00000550
32_0205	Lean Concrete	TB	4	6.8	N/A	N/A	N/A	N/A	N/A	2100000	N/A	N/A	N/A
32_0205	Soil-Aggregate Mixture (CG)	GS	3	22.6	5	67.917	23.775	2.0	A-1-b	38000	N/A	N/A	N/A
32_0205	Lime-Treated Soil	TS	2	12	N/A	N/A	N/A	N/A	N/A	45000	N/A	N/A	N/A
32_0205	Well-graded sand/clay&gravel	SS	1	Infinite	52.5	99.4	59.08	0.1	A-7-5	12000	N/A	N/A	N/A
32_0206	PCC-JPCP	PC	5	7.8	N/A	N/A	N/A	N/A	N/A	N/A	138	0.13	0.00000550
32_0206	Lean Concrete	TB	4	6.6	N/A	N/A	N/A	N/A	N/A	2100000	N/A	N/A	N/A
32_0206	Soil-Aggregate Mixture (CG)	GS	3	23.5	5	67.917	23.775	2.0	A-1-b	38000	N/A	N/A	N/A
32_0206	Lime-Treated Soil	TS	2	12	N/A	N/A	N/A	N/A	N/A	45000	N/A	N/A	N/A
32_0206	Sandy Silt	SS	1	Infinite	52.5	99.4	59.08	0.1	A-7-5	12000	N/A	N/A	N/A
32_0207	PCC-JPCP	PC	5	10.9	N/A	N/A	N/A	N/A	N/A	N/A	139	0.12	0.00000550
32_0207	Lean Concrete	TB	4	6.8	N/A	N/A	N/A	N/A	N/A	2100000	N/A	N/A	N/A
32_0207	Soil-Aggregate Mixture (CG)	GS	3	19.7	5	67.917	23.775	2.0	A-1-b	38000	N/A	N/A	N/A
32_0207	Lime-Treated Soil	TS	2	12	N/A	N/A	N/A	N/A	N/A	45000	N/A	N/A	N/A
32_0207	Sandy Silt	SS	1	Infinite	52.5	99.4	59.08	0.1	A-7-5	12000	N/A	N/A	N/A
32_0208	PCC-JPCP	PC	5	11	N/A	N/A	N/A	N/A	N/A	N/A	136	0.18	0.00000550
32_0208	Lean Concrete	TB	4	7.5	N/A	N/A	N/A	N/A	N/A	2100000	N/A	N/A	N/A
32_0208	Soil-Aggregate Mixture (CG)	GS	3	20.4	5	67.917	23.775	2.0	A-1-b	38000	N/A	N/A	N/A
32_0208	Lime-Treated Soil	TS	2	12	N/A	N/A	N/A	N/A	N/A	45000	N/A	N/A	N/A
32_0208	Sandy Silt	SS	1	Infinite	52.5	99.4	59.08	0.1	A-7-5	12000	N/A	N/A	N/A
32_0209	PCC-JPCP	PC	6	8.9	N/A	N/A	N/A	N/A	N/A	N/A	145.5	0.15	0.00000550

Table FF.46. Layer definition, description, and material characterization data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Thickness, in	Plasticity Index, percent	Percent Passing No. 4 Sieve	Percent Passing No. 200 Sieve	D60 mm	AASHTO Soil Class	Resilient Modulus, psi	Unit Weight, lbs/in3	Poission Ratio	CTE (oF/oF/in)
32_0209	HMAC	TB	5	3.7	N/A	5	1	N/A	N/A	323000	N/A	N/A	N/A
32_0209	Crushed Gravel	GB	4	4.2	NP (1)	55.417	7.408	7.1	A-1-a	40000	N/A	N/A	N/A
32_0209	Soil-Aggregate Mixture (CG)	GS	3	20.7	5	67.917	23.775	2.0	A-1-b	38000	N/A	N/A	N/A
32_0209	Lime-Treated Soil	TS	2	12	N/A	N/A	N/A	N/A	N/A	45000	N/A	N/A	N/A
32_0209	Sandy Silt	SS	1	Infinite	52.5	99.4	59.08	0.1	A-7-5	12000	N/A	N/A	N/A
32_0210	PCC-JPCP	PC	6	10.1	N/A	N/A	N/A	N/A	N/A	N/A	137	0.14	0.00000550
32_0210	HMAC	TB	5	3.7	N/A	5	1	N/A	N/A	323000	N/A	N/A	N/A
32_0210	Crushed Gravel	GB	4	4.2	NP (1)	55.417	7.408	7.1	A-1-a	40000	N/A	N/A	N/A
32_0210	Soil-Aggregate Mixture (CG)	GS	3	21.3	5	67.917	23.775	2.0	A-1-b	38000	N/A	N/A	N/A
32_0210	Lime-Treated Soil	TS	2	12	N/A	N/A	N/A	N/A	N/A	45000	N/A	N/A	N/A
32_0210	Sandy Silt	SS	1	Infinite	52.5	99.4	59.08	0.1	A-7-5	12000	N/A	N/A	N/A
32_0211	PCC-JPCP	PC	6	11.3	N/A	N/A	N/A	N/A	N/A	N/A	138	0.11	0.00000550
32_0211	HMAC	TB	5	3.7	N/A	5	1	N/A	N/A	323000	N/A	N/A	N/A
32_0211	Crushed Gravel	GB	4	4	NP (1)	55.417	7.408	7.1	A-1-a	40000	N/A	N/A	N/A
32_0211	Soil-Aggregate Mixture (CG)	GS	3	18.2	5	67.917	23.775	2.0	A-1-b	38000	N/A	N/A	N/A
32_0211	Lime-Treated Soil	TS	2	12	N/A	N/A	N/A	N/A	N/A	45000	N/A	N/A	N/A
32_0211	Sandy Silt	SS	1	Infinite	52.5	99.4	59.08	0.1	A-7-5	12000	N/A	N/A	N/A
32_3010	PCC-JPCP	PC	4	9.7	N/A	N/A	N/A	N/A	N/A	N/A	142	0.17	0.00000533
32_3010	CAM	TB	3	5.6	N/A	N/A	N/A	N/A	N/A	400000	N/A	N/A	N/A
32_3010	Gravel (uncrushed)	GS	2	4.8	NP (1)	38	7.8	9.5	A-1-a	40000	N/A	N/A	N/A
32_3010	Silty gravel	SS	1	Infinite	NP (1)	76	19.45	7.1	A-1-b	38000	N/A	N/A	N/A
32_3013	PCC-JPCP	PC	4	8.3	N/A	N/A	N/A	N/A	N/A	N/A	151	0.19	0.00000561
32_3013	CAM	TB	3	3.6	N/A	N/A	N/A	N/A	N/A	400000	N/A	N/A	N/A
32_3013	Crushed Gravel	GS	2	0	NP (1)	62	7.1	5.9	A-1-a	40000	N/A	N/A	N/A
32_3013	Poorly graded gravel/silt&sand	SS	1	Infinite	NP (1)	56	8.4	4.7	A-1-a	40000	N/A	N/A	N/A
32_7084	PCC-JPCP	PC	5	11	N/A	N/A	N/A	N/A	N/A	N/A	139	0.25	0.00000550
32_7084	Dense-G Cold-Central-Plant-Mix	TB	4	5	N/A	N/A	N/A	N/A	N/A	323000	N/A	N/A	N/A
32_7084	Soil-Aggregate Mixture (CG)	GS	3	17.2	NP (1)	38	9.4	4.7	A-1-a	40000	N/A	N/A	N/A
32_7084	Soil-Aggregate Mixture (CG)	GS	2	12.6	7.5	68	34.4	2.5	A-2-4	32000	N/A	N/A	N/A

Table FF.46. Layer definition, description, and material characterization data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Thickness, in	Plasticity Index, percent	Percent Passing No. 4 Sieve	Percent Passing No. 200 Sieve	D60 mm	AASHTO Soil Class	Resilient Modulus, psi	Unit Weight, lbs/in3	Poission Ratio	CTE (oF/oF/in)
32_7084	Rock	SS	1	Infinite	NP (1)	93.667	80.508	0.1	A-4	24000	N/A	N/A	N/A
37_0201	PCC-JPCP	PC	4	9	N/A	N/A	N/A	N/A	N/A	N/A	145.5	0.15	0.00000550
37_0201	Crushed Stone	GB	3	6.6	17	52	8.75	7.1	A-6	17000	N/A	N/A	N/A
37_0201	Lime-Treated Soil	GS	2	8	18	45.15	6.8	9.5	A-6	17000	N/A	N/A	N/A
37_0201	Clay	SS	1	Infinite	52.5	99.4	59.08	0.1	A-7-5	12000	N/A	N/A	N/A
37_0202	PCC-JPCP	PC	4	10.2	N/A	N/A	N/A	N/A	N/A	N/A	145.5	0.15	0.00000550
37_0202	Crushed Stone	GB	3	6	17	52	8.75	7.1	A-6	17000	N/A	N/A	N/A
37_0202	Lime-Treated Soil	GS	2	8	18	45.15	6.8	9.5	A-6	17000	N/A	N/A	N/A
37_0202	Clayey Silt	SS	1	Infinite	52.5	99.4	59.08	0.1	A-7-5	12000	N/A	N/A	N/A
37_0203	PCC-JPCP	PC	4	11.2	N/A	N/A	N/A	N/A	N/A	N/A	145.5	0.15	0.00000550
37_0203	Crushed Stone	GB	3	5.6	17	52	8.75	7.1	A-6	17000	N/A	N/A	N/A
37_0203	Sand	GS	2	7	18	45.15	6.8	9.5	A-6	17000	N/A	N/A	N/A
37_0203	Sandy Silt	SS	1	Infinite	52.5	99.4	59.08	0.1	A-7-5	12000	N/A	N/A	N/A
37_0204	PCC-JPCP	PC	4	11.2	N/A	N/A	N/A	N/A	N/A	N/A	145.5	0.15	0.00000550
37_0204	Crushed Stone	GB	3	5.4	17	52	8.75	7.1	A-6	17000	N/A	N/A	N/A
37_0204	Lime-Treated Soil	GS	2	7	18	45.15	6.8	9.5	A-6	17000	N/A	N/A	N/A
37_0204	Sandy Silt	SS	1	Infinite	52.5	99.4	59.08	0.1	A-7-5	12000	N/A	N/A	N/A
37_0205	PCC-JPCP	PC	4	8	N/A	N/A	N/A	N/A	N/A	N/A	145.5	0.15	0.00000550
37_0205	Lean Concrete	TB	3	6.5	N/A	N/A	N/A	N/A	N/A	2100000	N/A	N/A	N/A
37_0205	Lime-Treated Soil	GS	2	8	18	45.15	6.8	9.5	A-6	17000	N/A	N/A	N/A
37_0205	Clay	SS	1	Infinite	52.5	99.4	59.08	0.1	A-7-5	12000	N/A	N/A	N/A
37_0206	PCC-JPCP	PC	4	8.4	N/A	N/A	N/A	N/A	N/A	N/A	145.5	0.15	0.00000550
37_0206	Lean Concrete	TB	3	6.7	N/A	N/A	N/A	N/A	N/A	2100000	N/A	N/A	N/A
37_0206	Lime-Treated Soil	GS	2	8	18	45.15	6.8	9.5	A-6	17000	N/A	N/A	N/A
37_0206	Sandy Silt	SS	1	Infinite	52.5	99.4	59.08	0.1	A-7-5	12000	N/A	N/A	N/A
37_0207	PCC-JPCP	PC	4	11.6	N/A	N/A	N/A	N/A	N/A	N/A	145.5	0.15	0.00000550
37_0207	Lean Concrete	TB	3	5.6	N/A	N/A	N/A	N/A	N/A	2100000	N/A	N/A	N/A
37_0207	Sand	GS	2	7	18	45.15	6.8	9.5	A-6	17000	N/A	N/A	N/A
37_0207	Sandy Silt	SS	1	Infinite	52.5	99.4	59.08	0.1	A-7-5	12000	N/A	N/A	N/A

Table FF.46. Layer definition, description, and material characterization data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Thickness, in	Plasticity Index, percent	Percent Passing No. 4 Sieve	Percent Passing No. 200 Sieve	D60 mm	AASHTO Soil Class	Resilient Modulus, psi	Unit Weight, lbs/in3	Poission Ratio	CTE (oF/oF/in)
37_0208	PCC-JPCP	PC	4	11.2	N/A	N/A	N/A	N/A	N/A	N/A	145.5	0.15	0.00000550
37_0208	Lean Concrete	TB	3	5.9	N/A	N/A	N/A	N/A	N/A	2100000	N/A	N/A	N/A
37_0208	Lime-Treated Soil	GS	2	8	18	45.15	6.8	9.5	A-6	17000	N/A	N/A	N/A
37_0208	Sandy Silt	SS	1	Infinite	52.5	99.4	59.08	0.1	A-7-5	12000	N/A	N/A	N/A
37_0209	PCC-JPCP	PC	5	8.6	N/A	N/A	N/A	N/A	N/A	N/A	145.5	0.15	0.00000550
37_0209	O-Graded (Hot-Central-Plant-Mix)	TB	4	5.6	N/A	5	1	N/A	N/A	303000	N/A	N/A	N/A
37_0209	Crushed Stone	GB	3	5	17	52	8.75	7.1	A-6	17000	N/A	N/A	N/A
37_0209	Lime-Treated Soil	GS	2	5	18	45.15	6.8	9.5	A-6	17000	N/A	N/A	N/A
37_0209	Sandy Silty Clay	SS	1	Infinite	52.5	99.4	59.08	0.1	A-7-5	12000	N/A	N/A	N/A
37_0210	PCC-JPCP	PC	5	8.4	N/A	N/A	N/A	N/A	N/A	N/A	145.5	0.15	0.00000550
37_0210	O-Graded (Hot-Central-Plant-Mix)	TB	4	5.3	N/A	5	1	N/A	N/A	303000	N/A	N/A	N/A
37_0210	Crushed Stone	GB	3	4.7	17	52	8.75	7.1	A-6	17000	N/A	N/A	N/A
37_0210	Lime-Treated Soil	GS	2	5	18	45.15	6.8	9.5	A-6	17000	N/A	N/A	N/A
37_0210	Clayey Silt	SS	1	Infinite	52.5	99.4	59.08	0.1	A-7-5	12000	N/A	N/A	N/A
37_0211	PCC-JPCP	PC	5	11.4	N/A	N/A	N/A	N/A	N/A	N/A	145.5	0.15	0.00000550
37_0211	O-Graded (Hot-Central-Plant-Mix)	TB	4	3.6	N/A	5	1	N/A	N/A	303000	N/A	N/A	N/A
37_0211	Crushed Stone	GB	3	4.1	17	52	8.75	7.1	A-6	17000	N/A	N/A	N/A
37_0211	Lime-Treated Soil	GS	2	8	18	45.15	6.8	9.5	A-6	17000	N/A	N/A	N/A
37_0211	Sandy Silt	SS	1	Infinite	52.5	99.4	59.08	0.1	A-7-5	12000	N/A	N/A	N/A
37_0212	PCC-JPCP	PC	5	10.9	N/A	N/A	N/A	N/A	N/A	N/A	145.5	0.15	0.00000550
37_0212	O-Graded (Hot-Central-Plant-Mix)	TB	4	4.3	N/A	5	1	N/A	N/A	303000	N/A	N/A	N/A
37_0212	Crushed Stone	GB	3	3.8	17	52	8.75	7.1	A-6	17000	N/A	N/A	N/A
37_0212	Lime-Treated Soil	GS	2	8	18	45.15	6.8	9.5	A-6	17000	N/A	N/A	N/A
37_0212	Sandy Silt	SS	1	Infinite	52.5	99.4	59.08	0.1	A-7-5	12000	N/A	N/A	N/A
37_3008	PCC-JPCP	PC	3	7.9	N/A	N/A	N/A	N/A	N/A	N/A	155	0.18	0.00000550
37_3008	Econocrete	TB	2	5	N/A	74	6.7			400000	N/A	N/A	N/A

Table FF.46. Layer definition, description, and material characterization data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Thickness, in	Plasticity Index, percent	Percent Passing No. 4 Sieve	Percent Passing No. 200 Sieve	D60 mm	AASHTO Soil Class	Resilient Modulus, psi	Unit Weight, lbs/in3	Poission Ratio	CTE (oF/oF/in)
37_3008	Silty sand with gravel	SS	1	Infinite	NP (1)	77	33.85	0.4	A-2-4	32000	N/A	N/A	N/A
37_3011	PCC-JPCP	PC	3	10	N/A	N/A	N/A	N/A	N/A	N/A	143	0.14	0.00000550
37_3011	ATM	TB	2	4	N/A	74	6.7			200000	N/A	N/A	N/A
37_3011	Clayey sand	SS	1	Infinite	13	98	31.8	0.3	A-6	17000	N/A	N/A	N/A
37_3044	PCC-JPCP	PC	3	9	N/A	N/A	N/A	N/A	N/A	N/A	144	0.14	0.00000628
37_3044	Soil-Aggregate Mixture (FG)	GB	2	4.8	NP (1)	75	61.55	0.1	A-4	24000	N/A	N/A	N/A
37_3044	Silt with Sand	SS	1	216	NP (1)	93.5	79.05	0.1	A-4	24000	N/A	N/A	N/A
37_3807	PCC-JPCP	PC	3	9.4	N/A	N/A	N/A	N/A	N/A	N/A	153	0.19	0.00000550
37_3807	Soil Cement	TB	2	4	N/A	N/A	N/A	N/A	N/A	40000	N/A	N/A	N/A
37_3807	Silty sand	SS	1	Infinite	NP (1)	98	28.15	0.4	A-2-4	32000	N/A	N/A	N/A
37_3816	PCC-JPCP	PC	3	9.3	N/A	N/A	N/A	N/A	N/A	N/A	145	0.14	0.00000550
37_3816	CAM	TB	2	4.2	N/A	N/A	N/A	N/A	N/A	400000	N/A	N/A	N/A
37_3816	Silt	SS	1	Infinite	6.5	92.5	89.95	0.1	A-4	24000	N/A	N/A	N/A
39_3013	PCC-JPCP	PC	3	8.3	N/A	N/A	N/A	N/A	N/A	N/A	153.5	0.20	0.00000644
39_3013	Soil Cement	TB	2	4	N/A	N/A	N/A	N/A	N/A	40000	N/A	N/A	N/A
39_3013	Lean Clay with Sand	SS	1	Infinite	16.5	99	82.8	0.1	A-6	17000	N/A	N/A	N/A
39_3801	PCC-JPCP	PC	3	9.2	N/A	N/A	N/A	N/A	N/A	N/A	141	0.15	0.00000550
39_3801	CAM	TB	2	4.4	N/A	N/A	N/A	N/A	N/A	400000	N/A	N/A	N/A
39_3801	Clayey gravel with sand	SS	1	Infinite	9	71	46.8	2.0	A-4	24000	N/A	N/A	N/A
4_0213	PCC-JPCP	PC	3	7.9	N/A	N/A	N/A	N/A	N/A	N/A	143	0.15	0.00000550
4_0213	Crushed Gravel	GB	2	5.9	NP (1)	48.5	7.15	9.5	A-1-a	40000	N/A	N/A	N/A
4_0213	Silty sand with gravel	SS	1	Infinite	2.4	84.333	25.478	1.2	A-2-4	32000	N/A	N/A	N/A
4_0214	PCC-JPCP	PC	3	8.3	N/A	N/A	N/A	N/A	N/A	N/A	144.5	0.20	0.00000550
4_0214	Crushed Gravel	GB	2	6.1	NP (1)	48.5	7.15	9.5	A-1-a	40000	N/A	N/A	N/A
4_0214	Silty sand with gravel	SS	1	Infinite	2.4	84.333	25.478	1.2	A-2-4	32000	N/A	N/A	N/A
4_0215	PCC-JPCP	PC	3	11.3	N/A	N/A	N/A	N/A	N/A	N/A	143	0.14	0.00000550
4_0215	Crushed Gravel	GB	2	6.1	NP (1)	48.5	7.15	9.5	A-1-a	40000	N/A	N/A	N/A
4_0215	Silty sand with gravel	SS	1	Infinite	2.4	84.333	25.478	1.2	A-2-4	32000	N/A	N/A	N/A
4_0216	PCC-JPCP	PC	3	11.2	N/A	N/A	N/A	N/A	N/A	N/A	145	0.17	0.00000550

Table FF.46. Layer definition, description, and material characterization data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Thickness, in	Plasticity Index, percent	Percent Passing No. 4 Sieve	Percent Passing No. 200 Sieve	D60 mm	AASHTO Soil Class	Resilient Modulus, psi	Unit Weight, lbs/in3	Poission Ratio	CTE (oF/oF/in)
4_0216	Crushed Gravel	GB	2	6.2	NP (1)	48.5	7.15	9.5	A-1-a	40000	N/A	N/A	N/A
4_0216	Silty sand with gravel	SS	1	Infinite	2.4	84.333	25.478	1.2	A-2-4	32000	N/A	N/A	N/A
4_0217	PCC-JPCP	PC	3	8.1	N/A	N/A	N/A	N/A	N/A	N/A	145.5	0.19	0.00000550
4_0217	Lean Concrete	TB	2	6.1	N/A	N/A	N/A	N/A	N/A	2100000	N/A	N/A	N/A
4_0217	Silty sand with gravel	SS	1	Infinite	2.4	84.333	25.478	1.2	A-2-4	32000	N/A	N/A	N/A
4_0218	PCC-JPCP	PC	3	8.3	N/A	N/A	N/A	N/A	N/A	N/A	145.3	0.19	0.00000550
4_0218	Lean Concrete	TB	2	6.2	N/A	N/A	N/A	N/A	N/A	2100000	N/A	N/A	N/A
4_0218	Clayey sand with gravel	SS	1	Infinite	2.4	84.333	25.478	1.2	A-2-4	32000	N/A	N/A	N/A
4_0219	PCC-JPCP	PC	3	10.8	N/A	N/A	N/A	N/A	N/A	N/A	144	0.15	0.00000550
4_0219	Lean Concrete	TB	2	6.2	N/A	N/A	N/A	N/A	N/A	2100000	N/A	N/A	N/A
4_0219	Silty sand with gravel	SS	1	Infinite	2.4	84.333	25.478	1.2	A-2-4	32000	N/A	N/A	N/A
4_0220	PCC-JPCP	PC	3	11.3	N/A	N/A	N/A	N/A	N/A	N/A	145	0.21	0.00000550
4_0220	Lean Concrete	TB	2	6.1	N/A	N/A	N/A	N/A	N/A	2100000	N/A	N/A	N/A
4_0220	Clayey sand with gravel	SS	1	Infinite	2.4	84.333	25.478	1.2	A-2-4	32000	N/A	N/A	N/A
4_0221	PCC-JPCP	PC	4	8.2	N/A	N/A	N/A	N/A	N/A	N/A	145.5	0.15	0.00000550
4_0221	O-Graded (Hot-Central-Plant-Mix)	TB	3	4.1	N/A	5	1	N/A	N/A	303000	N/A	N/A	N/A
4_0221	Crushed Gravel	GB	2	4	NP (1)	48.5	7.15	9.5	A-1-a	40000	N/A	N/A	N/A
4_0221	Silty sand with gravel	SS	1	Infinite	2.4	84.333	25.478	1.2	A-2-4	32000	N/A	N/A	N/A
4_0222	PCC-JPCP	PC	4	8.6	N/A	N/A	N/A	N/A	N/A	N/A	145.5	0.15	0.00000550
4_0222	O-Graded (Hot-Central-Plant-Mix)	TB	3	3.8	N/A	5	1	N/A	N/A	303000	N/A	N/A	N/A
4_0222	Crushed Gravel	GB	2	4.2	NP (1)	48.5	7.15	9.5	A-1-a	40000	N/A	N/A	N/A
4_0222	Clayey sand with gravel	SS	1	Infinite	2.4	84.333	25.478	1.2	A-2-4	32000	N/A	N/A	N/A
4_0223	PCC-JPCP	PC	4	11.1	N/A	N/A	N/A	N/A	N/A	N/A	145.5	0.15	0.00000550
4_0223	O-Graded (Hot-Central-Plant-Mix)	TB	3	4.2	N/A	5	1	N/A	N/A	303000	N/A	N/A	N/A
4_0223	Crushed Gravel	GB	2	3.6	NP (1)	48.5	7.15	9.5	A-1-a	40000	N/A	N/A	N/A
4_0223	Silty sand with gravel	SS	1	Infinite	2.4	84.333	25.478	1.2	A-2-4	32000	N/A	N/A	N/A
4_0224	PCC-JPCP	PC	4	10.7	N/A	N/A	N/A	N/A	N/A	N/A	145.5	0.16	0.00000550

Table FF.46. Layer definition, description, and material characterization data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Thickness, in	Plasticity Index, percent	Percent Passing No. 4 Sieve	Percent Passing No. 200 Sieve	D60 mm	AASHTO Soil Class	Resilient Modulus, psi	Unit Weight, lbs/in3	Poission Ratio	CTE (oF/oF/in)
4_0224	O-Graded (Hot-Central-Plant-Mix)	TB	3	4.4	N/A	5	1	N/A	N/A	303000	N/A	N/A	N/A
4_0224	Crushed Gravel	GB	2	3.8	NP (1)	48.5	7.15	9.5	A-1-a	40000	N/A	N/A	N/A
4_0224	Clayey sand with gravel	SS	1	Infinite	2.4	84.333	25.478	1.2	A-2-4	32000	N/A	N/A	N/A
4_7613	PCC-JPCP	PC	2	13	N/A	N/A	N/A	N/A	N/A	N/A	147	0.19	0.00000550
4_7613	Clayey gravel with sand	SS	1	126	26.5	55	28.3	7.1	A-7-6	8000	N/A	N/A	N/A
4_7614	PCC-JPCP	PC	3	9.7	N/A	N/A	N/A	N/A	N/A	N/A	148	0.12	0.00000550
4_7614	CAM	TB	2	5.2	N/A	N/A	N/A	N/A	N/A	400000	N/A	N/A	N/A
4_7614	Silty sand with gravel	SS	1	Infinite	NP (1)	84.5	18.65	0.4	A-2-4	32000	N/A	N/A	N/A
40_3018	PCC-JPCP	PC	4	8.9	N/A	N/A	N/A	N/A	N/A	N/A	145.5	0.24	0.00000544
40_3018	Sand Asphalt	TB	3	3.6	N/A	N/A	N/A	N/A	N/A	40000	N/A	N/A	N/A
40_3018	Lime-Treated Soil	TS	2	6.1	18	45.15	6.8	9.5	A-6	17000	N/A	N/A	N/A
40_3018	Lean Inorganic Clay	SS	1	Infinite	25.4	97	89	0.9	A-7-6	8000	N/A	N/A	N/A
40_4160	PCC-JPCP	PC	4	9.2	N/A	N/A	N/A	N/A	N/A	N/A	144	0.21	0.00000578
40_4160	Sand Asphalt	TB	3	2.2	N/A	N/A	N/A	N/A	N/A	40000	N/A	N/A	N/A
40_4160	Fine-grained Soils	GS	2	12	7.5	76	41.6	0.3	A-4	24000	N/A	N/A	N/A
40_4160	Lean Clay with Sand	SS	1	Infinite	28.5	98.5	80.25	0.1	A-7-6	8000	N/A	N/A	N/A
40_4162	PCC-JPCP	PC	3	9.2	N/A	N/A	N/A	N/A	N/A	N/A	154.5	0.17	0.00000594
40_4162	HMAC	TB	2	2.9	N/A	74	6.7			323000	N/A	N/A	N/A
40_4162	Silty sand	SS	1	Infinite	3.5	93	41.55	0.3	A-4	24000	N/A	N/A	N/A
46_3012	PCC-JPCP	PC	3	10.1	N/A	N/A	N/A	N/A	N/A	N/A	146.5	0.19	0.00000567
46_3012	Crushed Gravel	GB	2	4.8	2.5	63	19.5	4.7	A-1-b	38000	N/A	N/A	N/A
46_3012	Sandy Lean Clay	SS	1	Infinite	13	86.5	64.5	0.1	A-6	17000	N/A	N/A	N/A
5_3011	PCC-JPCP	PC	4	10.1	N/A	N/A	N/A	N/A	N/A	N/A	144.5	0.15	0.00000706
5_3011	Hot-Mix (Dense-G)	AC	3	0.8	N/A	N/A	N/A	N/A	N/A	323000	N/A	N/A	N/A
5_3011	CAM	TB	2	5.9	N/A	N/A	N/A	N/A	N/A	400000	N/A	N/A	N/A
5_3011	Silty Clay with Sand	SS	1	Infinite	8	98	84.3	0.1	A-4	24000	N/A	N/A	N/A
53_0201	PCC-JPCP	PC	5	8.7	N/A	N/A	N/A	N/A	N/A	N/A	145.5	0.15	0.00000550
53_0201	Crushed Stone	GB	4	5.8	NP (1)	38.333	7.2	11.1	A-1-a	40000	N/A	N/A	N/A

Table FF.46. Layer definition, description, and material characterization data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Thickness, in	Plasticity Index, percent	Percent Passing No. 4 Sieve	Percent Passing No. 200 Sieve	D60 mm	AASHTO Soil Class	Resilient Modulus, psi	Unit Weight, lbs/in3	Poission Ratio	CTE (oF/oF/in)
53_0201	Silt with Sand	GS	3	45	NP (1)	97.333	84.217	0.1	A-4	24000	N/A	N/A	N/A
53_0201	Rock	GS	2	21.6	NP (1)	97.333	84.217	0.1	A-4	24000	N/A	N/A	N/A
53_0201	Poorly graded gravel	SS	1	132	NP (1)	39	7.45	19.1	A-1-a	40000	N/A	N/A	N/A
53_0202	PCC-JPCP	PC	4	8.3	N/A	N/A	N/A	N/A	N/A	N/A	150.5	0.15	0.00000550
53_0202	Crushed Stone	GB	3	6.5	NP (1)	38.333	7.2	11.1	A-1-a	40000	N/A	N/A	N/A
53_0202	Silt with Sand	GS	2	36.3	NP (1)	97.333	84.217	0.1	A-4	24000	N/A	N/A	N/A
53_0202	Poorly graded gravel	SS	1	12	NP (1)	39	7.45	19.1	A-1-a	40000	N/A	N/A	N/A
53_0203	PCC-JPCP	PC	3	11.1	N/A	N/A	N/A	N/A	N/A	N/A	149.5	0.11	0.00000550
53_0203	Crushed Stone	GB	2	6.9	NP (1)	38.333	7.2	11.1	A-1-a	40000	N/A	N/A	N/A
53_0203	Poorly graded gravel	SS	1	28.8	NP (1)	39	7.45	19.1	A-1-a	40000	N/A	N/A	N/A
53_0204	PCC-JPCP	PC	5	11.2	N/A	N/A	N/A	N/A	N/A	N/A	149.5	0.16	0.00000550
53_0204	Crushed Stone	GB	4	5.9	NP (1)	38.333	7.2	11.1	A-1-a	40000	N/A	N/A	N/A
53_0204	Silt with Sand	GS	3	39.7	NP (1)	97.333	84.217	0.1	A-4	24000	N/A	N/A	N/A
53_0204	Rock	GS	2	21.6	NP (1)	97.333	84.217	0.1	A-4	24000	N/A	N/A	N/A
53_0204	Poorly graded gravel	SS	1	68.4	NP (1)	39	7.45	19.1	A-1-a	40000	N/A	N/A	N/A
53_0205	PCC-JPCP	PC	5	8.5	N/A	N/A	N/A	N/A	N/A	N/A	145.5	0.17	0.00000550
53_0205	Lean Concrete	TB	4	6.1	N/A	N/A	N/A	N/A	N/A	2100000	N/A	N/A	N/A
53_0205	Silt with Sand	GS	3	43	NP (1)	97.333	84.217	0.1	A-4	24000	N/A	N/A	N/A
53_0205	Rock	GS	2	19.2	NP (1)	97.333	84.217	0.1	A-4	24000	N/A	N/A	N/A
53_0205	Poorly graded gravel	SS	1	Infinite	NP (1)	39	7.45	19.1	A-1-a	40000	N/A	N/A	N/A
53_0206	PCC-JPCP	PC	5	8.6	N/A	N/A	N/A	N/A	N/A	N/A	152.5	0.17	0.00000550
53_0206	Lean Concrete	TB	4	6.2	N/A	N/A	N/A	N/A	N/A	2100000	N/A	N/A	N/A
53_0206	Silt with Sand	GS	3	37	NP (1)	90	76.8	0.1	A-4	24000	N/A	N/A	N/A
53_0206	Rock	GS	2	18	NP (1)	90	76.8	0.1	A-4	24000	N/A	N/A	N/A
53_0206	Poorly graded gravel	SS	1	105.6	NP (1)	39	7.45	19.1	A-1-a	40000	N/A	N/A	N/A
53_0207	PCC-JPCP	PC	5	11.1	N/A	N/A	N/A	N/A	N/A	N/A	152.5	0.15	0.00000550
53_0207	Lean Concrete	TB	4	6.1	N/A	N/A	N/A	N/A	N/A	2100000	N/A	N/A	N/A
53_0207	Silt with Sand	GS	3	69.7	NP (1)	97.333	84.217	0.1	A-4	24000	N/A	N/A	N/A
53_0207	Rock	GS	2	14.4	NP (1)	97.333	84.217	0.1	A-4	24000	N/A	N/A	N/A

Table FF.46. Layer definition, description, and material characterization data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Thickness, in	Plasticity Index, percent	Percent Passing No. 4 Sieve	Percent Passing No. 200 Sieve	D60 mm	AASHTO Soil Class	Resilient Modulus, psi	Unit Weight, lbs/in3	Poission Ratio	CTE (oF/oF/in)
53_0207	Poorly graded gravel	SS	1	Infinite	NP (1)	39	7.45	19.1	A-1-a	40000	N/A	N/A	N/A
53_0208	PCC-JPCP	PC	5	11.2	N/A	N/A	N/A	N/A	N/A	N/A	148	0.17	0.00000550
53_0208	Lean Concrete	TB	4	6.5	N/A	N/A	N/A	N/A	N/A	2100000	N/A	N/A	N/A
53_0208	Silt with Sand	GS	3	33	NP (1)	90	76.8	0.1	A-4	24000	N/A	N/A	N/A
53_0208	Rock	GS	2	20.4	NP (1)	90	76.8	0.1	A-4	24000	N/A	N/A	N/A
53_0208	Poorly graded gravel	SS	1	48	NP (1)	39	7.45	19.1	A-1-a	40000	N/A	N/A	N/A
53_0209	PCC-JPCP	PC	6	9	N/A	N/A	N/A	N/A	N/A	N/A	145.5	0.15	0.00000550
53_0209	O-Graded (Hot-Central-Plant-Mix)	TB	5	3.9	N/A	5	1	N/A	N/A	303000	N/A	N/A	N/A
53_0209	Crushed Stone	GB	4	4.4	NP (1)	38.333	7.2	11.1	A-1-a	40000	N/A	N/A	N/A
53_0209	Silt with Sand	GS	3	47	NP (1)	90	76.8	0.1	A-4	24000	N/A	N/A	N/A
53_0209	Rock	GS	2	20.4	NP (1)	90	76.8	0.1	A-4	24000	N/A	N/A	N/A
53_0209	Poorly graded gravel	SS	1	15.6	NP (1)	39	7.45	19.1	A-1-a	40000	N/A	N/A	N/A
53_0210	PCC-JPCP	PC	5	8.3	N/A	N/A	N/A	N/A	N/A	N/A	145.5	0.15	0.00000550
53_0210	O-Graded (Hot-Central-Plant-Mix)	TB	4	3.8	N/A	5	1	N/A	N/A	303000	N/A	N/A	N/A
53_0210	Crushed Stone	GB	3	4.5	NP (1)	38.333	7.2	11.1	A-1-a	40000	N/A	N/A	N/A
53_0210	Silt with Sand	GS	2	48.7	NP (1)	97.333	84.217	0.1	A-4	24000	N/A	N/A	N/A
53_0210	Poorly graded gravel	SS	1	32.4	NP (1)	39	7.45	19.1	A-1-a	40000	N/A	N/A	N/A
53_0211	PCC-JPCP	PC	6	11.8	N/A	N/A	N/A	N/A	N/A	N/A	152	0.13	0.00000550
53_0211	O-Graded (Hot-Central-Plant-Mix)	TB	5	3.9	N/A	5	1	N/A	N/A	303000	N/A	N/A	N/A
53_0211	Crushed Stone	GB	4	4.6	NP (1)	38.333	7.2	11.1	A-1-a	40000	N/A	N/A	N/A
53_0211	Silt with Sand	GS	3	44	NP (1)	97.333	84.217	0.1	A-4	24000	N/A	N/A	N/A
53_0211	Rock	GS	2	15	NP (1)	97.333	84.217	0.1	A-4	24000	N/A	N/A	N/A
53_0211	Poorly graded gravel	SS	1	30	NP (1)	39	7.45	19.1	A-1-a	40000	N/A	N/A	N/A
53_0212	PCC-JPCP	PC	6	11.3	N/A	N/A	N/A	N/A	N/A	N/A	145.5	0.15	0.00000550
53_0212	O-Graded (Hot-Central-Plant-Mix)	TB	5	3.5	N/A	5	1	N/A	N/A	303000	N/A	N/A	N/A
53_0212	Crushed Stone	GB	4	4.6	NP (1)	38.333	7.2	11.1	A-1-a	40000	N/A	N/A	N/A

Table FF.46. Layer definition, description, and material characterization data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Thickness, in	Plasticity Index, percent	Percent Passing No. 4 Sieve	Percent Passing No. 200 Sieve	D60 mm	AASHTO Soil Class	Resilient Modulus, psi	Unit Weight, lbs/in3	Poission Ratio	CTE (oF/oF/in)
53_0212	Silt with Sand	GS	3	51.3	NP (1)	90	76.8	0.1	A-4	24000	N/A	N/A	N/A
53_0212	Rock	GS	2	20.4	NP (1)	90	76.8	0.1	A-4	24000	N/A	N/A	N/A
53_0212	Poorly graded gravel	SS	1	14.4	NP (1)	39	7.45	19.1	A-1-a	40000	N/A	N/A	N/A
53_3011	PCC-JPCP	PC	3	9.6	N/A	N/A	N/A	N/A	N/A	N/A	155	0.13	0.00000633
53_3011	Soil-Aggregate Mixture (FG)	GB	2	14	NP (1)	70	5.75	2.0	A-1-b	38000	N/A	N/A	N/A
53_3011	Silty sand with gravel	SS	1	Infinite	NP (1)	92	25.35	0.3	A-2-4	32000	N/A	N/A	N/A
53_3013	PCC-JPCP	PC	5	8.2	N/A	N/A	N/A	N/A	N/A	N/A	151	0.14	0.00000694
53_3013	Crushed Gravel	GB	4	2.2	NP (1)	58.5	8.4	4.7	A-1-a	40000	N/A	N/A	N/A
53_3013	Soil-Aggregate Mixture (CG)	GS	3	33.6	NP (1)	96	11.9	3.8	A-1-b	38000	N/A	N/A	N/A
53_3013	Soil-Aggregate Mixture (CG)	GS	2	3.3	NP (1)	87	33.4	5.3	A-2-4	32000	N/A	N/A	N/A
53_3013	silty sand	SS	1	Infinite	20	99	37.2	0.3	A-6	17000	N/A	N/A	N/A
53_3014	PCC-JPCP	PC	3	10.4	N/A	N/A	N/A	N/A	N/A	N/A	152.5	0.19	0.00000539
53_3014	Soil-Aggregate Mixture (CG)	GB	2	5.4	NP (1)	36	6.2	4.7	A-1-a	40000	N/A	N/A	N/A
53_3014	Silty sand	SS	1	Infinite	NP (1)	98	22	2.3	A-2-4	32000	N/A	N/A	N/A
53_3019	PCC-JPCP	PC	4	9.9	N/A	N/A	N/A	N/A	N/A	N/A	153	0.15	0.00000656
53_3019	Crushed Gravel	GB	3	5	NP (1)	30	7.85	12.7	A-1-a	40000	N/A	N/A	N/A
53_3019	Crushed Gravel	GS	2	8.4	NP (1)	65	40.5	2.5	A-4	24000	N/A	N/A	N/A
53_3019	Silt	SS	1	Infinite	24	94.5	80.15	0.1	A-6	17000	N/A	N/A	N/A
53_3813	PCC-JPCP	PC	6	8	N/A	N/A	N/A	N/A	N/A	N/A	155.5	0.18	0.00000578
53_3813	Soil-Aggregate Mixture (CG)	GB	5	1.5	NP (1)	62	15.2	4.7	A-1-b	38000	N/A	N/A	N/A
53_3813	Crushed Gravel	GS	4	7.4	NP (1)	45	11.4	4.7	A-1-a	40000	N/A	N/A	N/A
53_3813	Soil-Aggregate Mixture (FG)	GS	3	18.6	NP (1)	83	32.7	5.3	A-2-4	32000	N/A	N/A	N/A
53_3813	Soil-Aggregate Mixture (FG)	GS	2	12.7	6	96	57.9	0.9	A-4	24000	N/A	N/A	N/A
53_3813	Silty sand	SS	1	72	NP (1)	91.5	26.75	0.3	A-2-4	32000	N/A	N/A	N/A
53_7409	PCC-JPCP	PC	3	9.3	N/A	N/A	N/A	N/A	N/A	N/A	146	0.18	0.00000600
53_7409	Crushed Gravel	GB	2	6.6	NP (1)	32	5.7	11.1	A-1-a	40000	N/A	N/A	N/A
53_7409	poorly graded gravel/silt&sand	SS	1	24	19	32.5	8.45	12.7	A-6	17000	N/A	N/A	N/A
55_3008	PCC-JPCP	PC	3	10.7	N/A	N/A	N/A	N/A	N/A	N/A	152.5	0.20	0.00000650
55_3008	N/A	N/A	2	N/A	NP (1)	50	13.3	4.7	A-1-a	40000	N/A	N/A	N/A

Table FF.46. Layer definition, description, and material characterization data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Thickness, in	Plasticity Index, percent	Percent Passing No. 4 Sieve	Percent Passing No. 200 Sieve	D60 mm	AASHTO Soil Class	Resilient Modulus, psi	Unit Weight, lbs/in3	Poission Ratio	CTE (oF/oF/in)
55_3008	Sandy Lean Clay	SS	1	Infinite	10.5	91	65.15	0.1	A-4	24000	N/A	N/A	N/A
55_3009	PCC-JPCP	PC	3	8.6	N/A	N/A	N/A	N/A	N/A	N/A	153	0.16	0.00000589
55_3009	Crushed Gravel	GB	2	6.2	NP (1)	52.5	12.8	7.1	A-1-a	40000	N/A	N/A	N/A
55_3009	Lean Clay with Sand	SS	1	Infinite	14.5	96.5	74.2	0.1	A-6	17000	N/A	N/A	N/A
55_3010	PCC-JPCP	PC	3	10.8	N/A	N/A	N/A	N/A	N/A	N/A	152	0.25	0.00000661
55_3010	Gravel (uncrushed)	GB	2	7.8	NP (1)	54.5	10.55	7.1	A-1-a	40000	N/A	N/A	N/A
55_3010	Gravelly Silt with Sand	SS	1	Infinite	3.5	84	55.35	0.1	A-4	24000	N/A	N/A	N/A
55_3015	PCC-JPCP	PC	3	9.6	N/A	N/A	N/A	N/A	N/A	N/A	153	0.17	0.00000550
55_3015	Gravel (uncrushed)	GB	2	8	NP (1)	54	6	7.1	A-1-b	38000	N/A	N/A	N/A
55_3015	Poorly Graded Sand	SS	1	Infinite	NP (1)	94.5	2.85	0.4	A-3	29000	N/A	N/A	N/A
55_3016	PCC-JPCP	PC	3	8.9	N/A	N/A	N/A	N/A	N/A	N/A	153.5	0.16	0.00000550
55_3016	Gravel (uncrushed)	GB	2	8.9	NP (1)	61	6.4	4.7	A-1-b	38000	N/A	N/A	N/A
55_3016	Poorly Graded Sand/Silt	SS	1	Infinite	NP (1)	99.5	4.95	0.3	A-3	29000	N/A	N/A	N/A
55_6351	N/A	N/A	N/A	N/A	NP (1)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_6351	PCC-JPCP	PC	4	10	N/A	N/A	N/A	N/A	N/A	N/A	145.5	0.24	0.00000550
55_6351	Crushed Stone	GB	3	3.8	NP (1)	43.333	11.333	9.5	A-1-a	40000	N/A	N/A	N/A
55_6351	clayey gravel with sand	SS	1	Infinite	NP (1)	57	21.7	7.1	A-1-b	38000	N/A	N/A	N/A
55_6352	PCC-JPCP	PC	4	9.2	N/A	N/A	N/A	N/A	N/A	N/A	145	0.16	0.00000550
55_6352	Crushed Stone	GB	3	6.4	NP (1)	55	10.55	7.1	A-1-b	38000	N/A	N/A	N/A
55_6352	Crushed Stone	GS	2	10.6	NP (1)	54	14.15	7.1	A-1-b	38000	N/A	N/A	N/A
55_6352	Rock	SS	1	Infinite	NP (1)	93.667	80.508	0.1	A-4	24000	N/A	N/A	N/A
55_6353	PCC-JPCP	PC	5	10.5	N/A	N/A	N/A	N/A	N/A	N/A	142.5	0.19	0.00000550
55_6353	CAM	TB	4	3.2	N/A	N/A	N/A	N/A	N/A	400000	N/A	N/A	N/A
55_6353	Crushed Stone	GS	3	4	NP (1)	48	11.4	7.1	A-1-a	40000	N/A	N/A	N/A
55_6353	Crushed Stone	GS	2	12.5	NP (1)	55.5	15.9	7.1	A-1-b	38000	N/A	N/A	N/A
55_6353	Rock	SS	1	Infinite	NP (1)	93.667	80.508	0.1	A-4	24000	N/A	N/A	N/A
55_6354	PCC-JPCP	PC	5	9.6	N/A	N/A	N/A	N/A	N/A	N/A	142.5	0.18	0.00000550
55_6354	O-Graded (Hot-Central-Plant-Mix)	TB	4	3.2	N/A	5	1	N/A	N/A	303000	N/A	N/A	N/A

Table FF.46. Layer definition, description, and material characterization data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Thickness, in	Plasticity Index, percent	Percent Passing No. 4 Sieve	Percent Passing No. 200 Sieve	D60 mm	AASHTO Soil Class	Resilient Modulus, psi	Unit Weight, lbs/in3	Poission Ratio	CTE (oF/oF/in)
55_6354	Crushed Stone	GS	3	4	NP (1)	43.333	11.333	9.5	A-1-a	40000	N/A	N/A	N/A
55_6354	Crushed Stone	GS	2	12.2	NP (1)	47.5	14.1	11.1	A-1-b	38000	N/A	N/A	N/A
55_6354	Rock	SS	1	Infinite	NP (1)	93.667	80.508	0.1	A-4	24000	N/A	N/A	N/A
55_6355	PCC-JPCP	PC	5	9.3	N/A	N/A	N/A	N/A	N/A	N/A	144.5	0.23	0.00000550
55_6355	O-Graded (Hot-Central-Plant-Mix)	TB	4	3.6	N/A	5	1	N/A	N/A	303000	N/A	N/A	N/A
55_6355	Rock	SS	1	Infinite	NP (1)	93.667	80.508	0.1	A-4	24000	N/A	N/A	N/A
6_3005	PCC-JPCP	PC	3	8.2	N/A	N/A	N/A	N/A	N/A	N/A	136	0.14	0.00000667
6_3005	CAM	TB	2	3.7	N/A	N/A	N/A	N/A	N/A	400000	N/A	N/A	N/A
6_3005	Silty gravel with sand	SS	1	24	NP (1)	50.5	13.65	9.5	A-1-a	40000	N/A	N/A	N/A
6_3021	PCC-JPCP	PC	4	8.1	N/A	N/A	N/A	N/A	N/A	N/A	147	0.14	0.00000611
6_3021	CAM	TB	3	5.4	N/A	N/A	N/A	N/A	N/A	400000	N/A	N/A	N/A
6_3021	Soil-Aggregate Mixture (FG)	GS	2	5.9	NP (1)	97	11.05	1.2	A-1-b	38000	N/A	N/A	N/A
6_3021	silty sand with gravel	SS	1	108	NP (1)	98	14.45	1.2	A-1-b	38000	N/A	N/A	N/A
6_3030	PCC-JPCP	PC	5	8.5	N/A	N/A	N/A	N/A	N/A	N/A	150.5	0.14	0.00000589
6_3030	Hot-Mix (Dense-G)	AC	4	2.3	N/A	70	7.8			323000	N/A	N/A	N/A
6_3030	CAM	TB	3	3.2	N/A	N/A	N/A	N/A	N/A	400000	N/A	N/A	N/A
6_3030	Soil-Aggregate Mixture (CG)	GS	2	5.7	7.5	85.5	31.65	1.2	A-2-4	32000	N/A	N/A	N/A
6_3030	Clayey gravel with sand	SS	1	Infinite	21.5	84.5	51	0.2	A-7-6	8000	N/A	N/A	N/A
6_3042	PCC-JPCP	PC	4	8.8	N/A	N/A	N/A	N/A	N/A	N/A	153	0.13	0.00000589
6_3042	CAM	TB	3	4.5	N/A	N/A	N/A	N/A	N/A	400000	N/A	N/A	N/A
6_3042	Soil-Aggregate Mixture (CG)	GS	2	5.8	3	96.5	47.15	0.2	A-4	24000	N/A	N/A	N/A
6_3042	Sandy Lean Clay	SS	1	Infinite	9.5	99	64.5	0.1	A-4	24000	N/A	N/A	N/A
8_0213	PCC-JPCP	PC	3	8.7	N/A	N/A	N/A	N/A	N/A	N/A	148	0.15	0.00000550
8_0213	Crushed Gravel	GB	2	5.9	18	62.333	7.667	4.7	A-6	17000	N/A	N/A	N/A
8_0213	Poorly Graded Sand/Silt	SS	1	Infinite	16.2	94.714	32.929	0.3	A-6	17000	N/A	N/A	N/A
8_0214	PCC-JPCP	PC	3	8.4	N/A	N/A	N/A	N/A	N/A	N/A	149	0.15	0.00000550
8_0214	Crushed Gravel	GB	2	5.9	18	62.333	7.667	4.7	A-6	17000	N/A	N/A	N/A
8_0214	Clayey sand with gravel	SS	1	Infinite	16.2	94.714	32.929	0.3	A-6	17000	N/A	N/A	N/A

Table FF.46. Layer definition, description, and material characterization data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Thickness, in	Plasticity Index, percent	Percent Passing No. 4 Sieve	Percent Passing No. 200 Sieve	D60 mm	AASHTO Soil Class	Resilient Modulus, psi	Unit Weight, lbs/in3	Poission Ratio	CTE (oF/oF/in)
8_0215	PCC-JPCP	PC	3	11.4	N/A	N/A	N/A	N/A	N/A	N/A	151	0.15	0.00000550
8_0215	Crushed Gravel	GB	2	6	18	62.333	7.667	4.7	A-6	17000	N/A	N/A	N/A
8_0215	Sandy Clay	SS	1	Infinite	16.2	94.714	32.929	0.3	A-6	17000	N/A	N/A	N/A
8_0216	PCC-JPCP	PC	3	11.8	N/A	N/A	N/A	N/A	N/A	N/A	147	0.15	0.00000550
8_0216	Crushed Gravel	GB	2	5.8	18	62.333	7.667	4.7	A-6	17000	N/A	N/A	N/A
8_0216	Poorly Graded Sand/Silt	SS	1	Infinite	16.2	94.714	32.929	0.3	A-6	17000	N/A	N/A	N/A
8_0217	PCC-JPCP	PC	3	8.6	N/A	N/A	N/A	N/A	N/A	N/A	143	0.15	0.00000550
8_0217	Lean Concrete	TB	2	6.3	N/A	N/A	N/A	N/A	N/A	2100000	N/A	N/A	N/A
8_0217	Sandy Lean Clay	SS	1	Infinite	16.2	94.714	32.929	0.3	A-6	17000	N/A	N/A	N/A
8_0218	PCC-JPCP	PC	3	7.7	N/A	N/A	N/A	N/A	N/A	N/A	148	0.15	0.00000550
8_0218	Lean Concrete	TB	2	6.2	N/A	N/A	N/A	N/A	N/A	2100000	N/A	N/A	N/A
8_0218	Clayey sand with gravel	SS	1	Infinite	16.2	94.714	32.929	0.3	A-6	17000	N/A	N/A	N/A
8_0219	PCC-JPCP	PC	3	11.1	N/A	N/A	N/A	N/A	N/A	N/A	150	0.15	0.00000550
8_0219	Lean Concrete	TB	2	6.1	N/A	N/A	N/A	N/A	N/A	2100000	N/A	N/A	N/A
8_0219	Clayey sand with gravel	SS	1	Infinite	16.2	94.714	32.929	0.3	A-6	17000	N/A	N/A	N/A
8_0220	PCC-JPCP	PC	3	11.1	N/A	N/A	N/A	N/A	N/A	N/A	145	0.15	0.00000550
8_0220	Lean Concrete	TB	2	6.3	N/A	N/A	N/A	N/A	N/A	2100000	N/A	N/A	N/A
8_0220	Sandy Lean Clay	SS	1	Infinite	16.2	94.714	32.929	0.3	A-6	17000	N/A	N/A	N/A
8_0221	PCC-JPCP	PC	4	8.3	N/A	N/A	N/A	N/A	N/A	N/A	147.5	0.15	0.00000550
8_0221	O-Graded (Hot-Central-Plant-Mix)	TB	3	3.7	N/A	5	1	N/A	N/A	303000	N/A	N/A	N/A
8_0221	Crushed Gravel	GB	2	4.1	18	62.333	7.667	4.7	A-6	17000	N/A	N/A	N/A
8_0221	Sandy Lean Clay	SS	1	Infinite	16.2	94.714	32.929	0.3	A-6	17000	N/A	N/A	N/A
8_0222	PCC-JPCP	PC	4	8.7	N/A	N/A	N/A	N/A	N/A	N/A	151.5	0.15	0.00000550
8_0222	O-Graded (Hot-Central-Plant-Mix)	TB	3	4.5	N/A	5	1	N/A	N/A	303000	N/A	N/A	N/A
8_0222	Crushed Gravel	GB	2	4	18	62.333	7.667	4.7	A-6	17000	N/A	N/A	N/A
8_0222	Well Graded Sand with Silt	SS	1	Infinite	16.2	94.714	32.929	0.3	A-6	17000	N/A	N/A	N/A
8_0223	PCC-JPCP	PC	4	11.8	N/A	N/A	N/A	N/A	N/A	N/A	145.5	0.15	0.00000550

Table FF.46. Layer definition, description, and material characterization data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Thickness, in	Plasticity Index, percent	Percent Passing No. 4 Sieve	Percent Passing No. 200 Sieve	D60 mm	AASHTO Soil Class	Resilient Modulus, psi	Unit Weight, lbs/in3	Poission Ratio	CTE (oF/oF/in)
8_0223	O-Graded (Hot-Central-Plant-Mix)	TB	3	4.2	N/A	5	1	N/A	N/A	303000	N/A	N/A	N/A
8_0223	Crushed Gravel	GB	2	4.7	18	62.333	7.667	4.7	A-6	17000	N/A	N/A	N/A
8_0223	Well Graded Sand with Silt	SS	1	Infinite	16.2	94.714	32.929	0.3	A-6	17000	N/A	N/A	N/A
8_0224	PCC-JPCP	PC	4	11.7	N/A	N/A	N/A	N/A	N/A	N/A	146.5	0.15	0.00000550
8_0224	O-Graded (Hot-Central-Plant-Mix)	TB	3	4.6	N/A	5	1	N/A	N/A	303000	N/A	N/A	N/A
8_0224	Crushed Gravel	GB	2	3.1	18	62.333	7.667	4.7	A-6	17000	N/A	N/A	N/A
8_0224	Clayey sand	SS	1	Infinite	16.2	94.714	32.929	0.3	A-6	17000	N/A	N/A	N/A
8_3032	PCC-JPCP	PC	4	8.6	N/A	N/A	N/A	N/A	N/A	N/A	146	0.19	0.00000506
8_3032	Lean Concrete	TB	3	4.5	N/A	N/A	N/A	N/A	N/A	2100000	N/A	N/A	N/A
8_3032	Soil-Aggregate Mixture (CG)	GS	2	5.1	NP (1)	39	10.5	12.7	A-1-a	40000	N/A	N/A	N/A
8_3032	Poorly graded gravel/silt&sand	SS	1	27	NP (1)	39	7.45	19.1	A-1-a	40000	N/A	N/A	N/A
83_3802	PCC-JPCP	PC	4	9.8	N/A	N/A	N/A	N/A	N/A	N/A	145.5	0.21	0.00000572
83_3802	N/A	N/A	3	N/A	N/A	66	10.5	5.9	A-1-a	40000	N/A	N/A	N/A
83_3802	N/A	N/A	2	N/A	NP (1)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
83_3802	Fat Inorganic Clay	SS	1	Infinite	41.5	99	91.55	0.1	A-7-5	12000	N/A	N/A	N/A
89_3015	PCC-JPCP	PC	3	8.2	N/A	N/A	N/A	N/A	N/A	N/A	148	0.15	0.00000572
89_3015	Crushed Stone	GB	2	13.3	NP (1)	44.5	4.2	12.7	A-1-a	40000	N/A	N/A	N/A
89_3015	Poorly Graded Sand	SS	1	Infinite	NP (1)	91.5	2.9	0.3	A-3	29000	N/A	N/A	N/A

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SHRP ID	Material Description	Layer Type	Layer No.	Thickness, in	Plasticity Index, percent	Percent Passing No. 4 Sieve	Percent Passing No. 200 Sieve	D60 mm	AASHTO Soil Class	Resilient Modulus, psi	Unit Weight, lbs/in3	Poission Ratio	CTE (oF/oF/in)
AZ1_1	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
AZ1_1	Cement stabilized	Stabilized base	2	6					Cement stabilized				
AZ1_1	Crushed stone	Granular base	3	4	1	40	3	2	Crushed stone	38000			
AZ1_1	A-4	Subgrade	4	Infinite	13.3	56	36	0.018	A-4	29000			
AZ1_2	JPCP	PCC	1	13					JPCP		149	0.15	0.0000055
AZ1_2	A-6	Subgrade	2	Infinite	20	84	69	0.003	A-6	24000			
AZ1_4	JPCP	PCC	1	13					JPCP		149	0.15	0.0000055
AZ1_4	A-6	Subgrade	2	Infinite	20	84	69	0.003	A-6	24000			
AZ1_5	JPCP	PCC	1	11					JPCP		149	0.15	0.0000055
AZ1_5	A-6	Subgrade	2	Infinite	20	84	69	0.003	A-6	24000			
AZ1_6	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
AZ1_6	Cement stabilized	Stabilized base	2	4					Cement stabilized				
AZ1_6	A-6	Subgrade	3	Infinite	20	84	69	0.003	A-6	24000			
AZ1_7	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
AZ1_7	Cement stabilized	Stabilized base	2	4					Cement stabilized				
AZ1_7	A-6	Subgrade	3	Infinite	20	84	69	0.003	A-6	24000			
AZ2	JPCP	PCC	1	10					JPCP		149	0.15	0.0000055
AZ2	Cement stabilized	Stabilized base	2	5					Cement stabilized				
AZ2	A-6	Subgrade	3	Infinite	20	84	69	0.003	A-6	24000			
CA1_10	JPCP	PCC	1	8.4					JPCP		149	0.15	0.0000055
CA1_10	Cement stabilized	Stabilized base	2	5.4					Cement stabilized				
CA1_10	Crushed stone	Granular base	3	24	1	40	3	2	Crushed stone	38000			
CA1_10	A-1-a	Subgrade	4	Infinite	15.8	34	14	0.1870	A-1-a	40000			
CA1_3	JPCP	PCC	1	8.4					JPCP		149	0.15	0.0000055
CA1_3	Cement stabilized	Stabilized base	2	5.4					Cement stabilized				

Table FF.46. Layer definition, description, and material characterization data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Thickness, in	Plasticity Index, percent	Percent Passing No. 4 Sieve	Percent Passing No. 200 Sieve	D60 mm	AASHTO Soil Class	Resilient Modulus, psi	Unit Weight, lbs/in3	Poission Ratio	CTE (oF/oF/in)
CA1_3	Crushed stone	Granular base	3	24	1	40	3	2	Crushed stone	38000			
CA1_3	A-2-4	Subgrade	4	Infinite	15.8	34	14	0.1870	A-2-4	32000			
CA1_4	JPCP	PCC	1	8.4					JPCP		149	0.15	0.0000055
CA1_4	Cement stabilized	Stabilized base	2	5.4					Cement stabilized				
CA1_4	Crushed stone	Granular base	3	24	1	40	3	2	Crushed stone	38000			
CA1_4	A-2-4	Subgrade	4	Infinite	15.8	34	14	0.1870	A-2-4	32000			
CA1_5	JPCP	PCC	1	11.4					JPCP		149	0.15	0.0000055
CA1_5	Cement stabilized	Stabilized base	2	5.4					Cement stabilized				
CA1_5	Crushed stone	Granular base	3	24	1	40	3	2	Crushed stone	38000			
CA1_5	A-1-a	Subgrade	4	Infinite	15.8	34	14	0.1870	A-1-a	40000			
CA1_6	JPCP	PCC	1	11.4					JPCP		149	0.15	0.0000055
CA1_6	Cement stabilized	Stabilized base	2	5.4					Cement stabilized				
CA1_6	Crushed stone	Granular base	3	24	1	40	3	2	Crushed stone	38000			
CA1_6	A-1-a	Subgrade	4	Infinite	15.8	34	14	0.1870	A-1-a	40000			
CA1_7	JPCP	PCC	1	8.4					JPCP		149	0.15	0.000006
CA1_7	Cement stabilized	Stabilized base	2	5.4					Cement stabilized				
CA1_7	Crushed stone	Granular base	3	24	1	40	3	2	Crushed stone	38000			
CA1_7	A-1-a	Subgrade	4	Infinite	15.8	34	14	0.1870	A-1-a	40000			
CA1_8	JPCP	PCC	1	8.4					JPCP		149	0.15	0.0000055
CA1_8	Cement stabilized	Stabilized base	2	5.4					Cement stabilized				
CA1_8	Crushed stone	Granular base	3	24	1	40	3	2	Crushed stone	38000			
CA1_8	A-1-a	Subgrade	4	Infinite	15.8	34	14	0.1870	A-1-a	40000			
CA1_9	JPCP	PCC	1	8.4					JPCP		149	0.15	0.0000055
CA1_9	Cement stabilized	Stabilized base	2	5.4					Cement stabilized				
CA1_9	Crushed stone	Granular base	3	24	1	40	3	2	Crushed stone	38000			
CA1_9	A-1-a	Subgrade	4	Infinite	15.8	34	14	0.1870	A-1-a	40000			

Table FF.46. Layer definition, description, and material characterization data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Thickness, in	Plasticity Index, percent	Percent Passing No. 4 Sieve	Percent Passing No. 200 Sieve	D60 mm	AASHTO Soil Class	Resilient Modulus, psi	Unit Weight, lbs/in3	Poission Ratio	CTE (oF/oF/in)
CA10	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
CA10	Asphalt permeable base	Asphalt	2	4					Asphalt permeable base				
CA10	A-6	Subgrade	3	Infinite	20	84	69	0.003	A-6	24000			
CA11	JPCP	PCC	1	8.4					JPCP		149	0.15	0.0000055
CA11	Cement stabilized	Stabilized base	2	5.4					Cement stabilized				
CA11	Lime stabilized modified	Stabilized base	3	6					Lime stabilized modified				
CA11	A-7-6	Subgrade	4	Infinite	19.6	85	65	0.003	A-7-6	17500			
CA2_2	JPCP	PCC	1	8.4					JPCP		149	0.15	0.0000055
CA2_2	Asphalt concrete	Asphalt	2	7.8					Asphalt concrete				
CA2_2	Crushed stone	Granular base	3	3	1	40	3	2	Crushed stone	38000			
CA2_2	A-4	Subgrade	4	Infinite	19.6	74	54	0.0057	A-4	29000			
CA2_3	JPCP	PCC	1	8.4					JPCP		149	0.15	0.0000055
CA2_3	Cement stabilized	Stabilized base	2	5.4					Cement stabilized				
CA2_3	Crushed stone	Granular base	3	6	1	40	3	2	Crushed stone	38000			
CA2_3	A-4	Subgrade	4	Infinite	19.6	74	54	0.0057	A-4	29000			
CA3_1	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
CA3_1	Cement stabilized	Stabilized base	2	5.4					Cement stabilized				
CA3_1	Crushed stone	Granular base	3	6	1	40	3	2	Crushed stone	38000			
CA3_1	A-4	Subgrade	4	Infinite	19.6	74	54	0.0057	A-4	21652			
CA3_10	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
CA3_10	Cement stabilized	Stabilized base	2	5.4					Cement stabilized				
CA3_10	Crushed stone	Granular base	3	6	1	40	3	2	Crushed stone	38000			
CA3_10	A-4	Subgrade	4	Infinite	19.6	74	54	0.0057	A-4	23945			
CA3_2	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
CA3_2	Cement stabilized	Stabilized base	2	5.4					Cement stabilized				

Table FF.46. Layer definition, description, and material characterization data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Thickness, in	Plasticity Index, percent	Percent Passing No. 4 Sieve	Percent Passing No. 200 Sieve	D60 mm	AASHTO Soil Class	Resilient Modulus, psi	Unit Weight, lbs/in3	Poission Ratio	CTE (oF/oF/in)
CA3_2	Crushed stone	Granular base	3	6	1	40	3	2	Crushed stone	38000			
CA3_2	A-4	Subgrade	4	Infinite	19.6	74	54	0.0057	A-4	25518			
CA3_3	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
CA3_3	Cement stabilized	Stabilized base	2	5.4					Cement stabilized				
CA3_3	Crushed stone	Granular base	3	6	1	40	3	2	Crushed stone	38000			
CA3_3	A-4	Subgrade	4	Infinite	19.6	74	54	0.0057	A-4	23945			
CA3_4	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
CA3_4	Cement stabilized	Stabilized base	2	5.4					Cement stabilized				
CA3_4	Crushed stone	Granular base	3	6	1	40	3	2	Crushed stone	38000			
CA3_4	A-4	Subgrade	4	Infinite	19.6	74	54	0.0057	A-4	23945			
CA3_5	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
CA3_5	Cement stabilized	Stabilized base	2	5.4					Cement stabilized				
CA3_5	Crushed stone	Granular base	3	6	1	40	3	2	Crushed stone	38000			
CA3_5	A-4	Subgrade	4	Infinite	19.6	74	54	0.0057	A-4	29000			
CA3_6	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
CA3_6	Cement stabilized	Stabilized base	2	5.4					Cement stabilized				
CA3_6	Crushed stone	Granular base	3	6	1	40	3	2	Crushed stone	38000			
CA3_6	A-4	Subgrade	4	Infinite	19.6	74	54	0.0057	A-4	23945			
CA3_7	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
CA3_7	Cement stabilized	Stabilized base	2	5.4					Cement stabilized				
CA3_7	Crushed stone	Granular base	3	6	1	40	3	2	Crushed stone	38000			
CA3_7	A-4	Subgrade	4	Infinite	19.6	74	54	0.0057	A-4	23945			
CA3_8	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
CA3_8	Cement stabilized	Stabilized base	2	5.4					Cement stabilized				
CA3_8	Crushed stone	Granular base	3	6	1	40	3	2	Crushed stone	38000			
CA3_8	A-4	Subgrade	4	Infinite	19.6	74	54	0.0057	A-4	23945			

Table FF.46. Layer definition, description, and material characterization data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Thickness, in	Plasticity Index, percent	Percent Passing No. 4 Sieve	Percent Passing No. 200 Sieve	D60 mm	AASHTO Soil Class	Resilient Modulus, psi	Unit Weight, lbs/in3	Poission Ratio	CTE (oF/oF/in)
CA3_9	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
CA3_9	Cement stabilized	Stabilized base	2	5.4					Cement stabilized				
CA3_9	Crushed stone	Granular base	3	6	1	40	3	2	Crushed stone	38000			
CA3_9	A-4	Subgrade	4	Infinite	19.6	74	54	0.0057	A-4	23945			
CA6_1	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
CA6_1	Cement stabilized	Stabilized base	2	5.4					Cement stabilized				
CA6_1	Crushed stone	Granular base	3	24	1	40	3	2	Crushed stone	38000			
CA6_1	A-2-4	Subgrade	4	Infinite	15.8	34	14	0.1870	A-2-4	32000			
CA6_2	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
CA6_2	Asphalt permeable base	Asphalt	2	4.2					Asphalt permeable base				
CA6_2	Asphalt concrete	Asphalt	3	34.8					Asphalt concrete				
CA6_2	A-2-4	Subgrade	4	Infinite	15.8	34	14	0.1870	A-2-4	32000			
CA7	JPCP	PCC	1	10.2					JPCP		149	0.15	0.0000055
CA7	Cement stabilized	Stabilized base	2	5.4					Cement stabilized				
CA7	Lime stabilized modified	Stabilized base	3	5.4					Lime stabilized modified				
CA7	A-2-4	Subgrade	4	Infinite	15.8	34	14	0.1870	A-2-4	32000			
CA8	JPCP	PCC	1	10.2					JPCP		149	0.15	0.0000055
CA8	Asphalt concrete	Asphalt	2	5.4					Asphalt concrete				
CA8	Crushed stone	Granular base	3	9	1	40	3	2	Crushed stone	38000			
CA8	A-7-6	Subgrade	4	Infinite	19.6	74	54	0.0057	A-7-6	17500			
CA9_10	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
CA9_10	Cement stabilized	Stabilized base	2	5.4					Cement stabilized				
CA9_10	Crushed stone	Granular base	3	6	1	40	3	2	Crushed stone	38000			
CA9_10	A-6	Subgrade	4	Infinite	15.8	34	14	0.1870	A-6	32000			
CA9_2	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055

Table FF.46. Layer definition, description, and material characterization data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Thickness, in	Plasticity Index, percent	Percent Passing No. 4 Sieve	Percent Passing No. 200 Sieve	D60 mm	AASHTO Soil Class	Resilient Modulus, psi	Unit Weight, lbs/in3	Poission Ratio	CTE (oF/oF/in)
CA9_2	Cement stabilized	Stabilized base	2	5.4					Cement stabilized				
CA9_2	Crushed stone	Granular base	3	6	1	40	3	2	Crushed stone	38000			
CA9_2	A-6	Subgrade	4	Infinite	19.6	74	54	0.0057	A-6	13500			
CA9_3	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
CA9_3	Cement stabilized	Stabilized base	2	5.4					Cement stabilized				
CA9_3	Crushed stone	Granular base	3	6	1	40	3	2	Crushed stone	38000			
CA9_3	A-6	Subgrade	4	Infinite	19.6	74	54	0.0057	A-6	13500			
CA9_4	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
CA9_4	Cement stabilized	Stabilized base	2	5.4					Cement stabilized				
CA9_4	Crushed stone	Granular base	3	6	1	40	3	2	Crushed stone	38000			
CA9_4	A-6	Subgrade	4	Infinite	19.6	74	54	0.0057	A-6	13892			
CA9_5	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
CA9_5	Cement stabilized	Stabilized base	2	5.4					Cement stabilized				
CA9_5	Crushed stone	Granular base	3	6	1	40	3	2	Crushed stone	38000			
CA9_5	A-6	Subgrade	4	Infinite	19.6	74	54	0.0057	A-6	15993			
CA9_8	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
CA9_8	Cement stabilized	Stabilized base	2	5.4					Cement stabilized				
CA9_8	Crushed stone	Granular base	3	6	1	40	3	2	Crushed stone	38000			
CA9_8	A-6	Subgrade	4	Infinite	19.6	74	54	0.0057	A-6	13500			
FL2	JPCP	PCC	1	13					JPCP		149	0.15	0.0000055
FL2	Crushed stone	Granular base	2	6	1	80	10	0.2	Crushed stone	29000			
FL2	A-3	Subgrade	3	Infinite	1	35	15	0.0167	A-3	32809			
FL3	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
FL3	Cement stabilized	Stabilized base	2	6					Cement stabilized				
FL3	A-3	Subgrade	3	Infinite	1	35	15	0.0167	A-3	35000			
FL4_1	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055

Table FF.46. Layer definition, description, and material characterization data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Thickness, in	Plasticity Index, percent	Percent Passing No. 4 Sieve	Percent Passing No. 200 Sieve	D60 mm	AASHTO Soil Class	Resilient Modulus, psi	Unit Weight, lbs/in3	Poission Ratio	CTE (oF/oF/in)
FL4_1	Cement stabilized	Stabilized base	2	6					Cement stabilized				
FL4_1	A-3	Subgrade	3	Infinite	1	35	15	0.0167	A-3	32933			
GA1_1	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
GA1_1	Asphalt concrete	Asphalt	2	1					Asphalt concrete				
GA1_1	Cement stabilized	Stabilized base	3	5					Cement stabilized				
GA1_1	A-4	Subgrade	4	Infinite	14.7	58	38	0.0167	A-4	23945			
GA1_10	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
GA1_10	Cement stabilized	Stabilized base	2	6					Cement stabilized				
GA1_10	A-4	Subgrade	3	Infinite	14.7	58	38	0.0167	A-4	21500			
GA1_2	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
GA1_2	Asphalt concrete	Asphalt	2	1					Asphalt concrete				
GA1_2	Cement stabilized	Stabilized base	3	5					Cement stabilized				
GA1_2	A-4	Subgrade	4	Infinite	14.7	58	38	0.0167	A-4	23945			
GA1_3	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
GA1_3	Asphalt concrete	Asphalt	2	1					Asphalt concrete				
GA1_3	Cement stabilized	Stabilized base	3	5					Cement stabilized				
GA1_3	A-4	Subgrade	4	Infinite	14.7	58	38	0.0167	A-4	29000			
GA1_4	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
GA1_4	Asphalt concrete	Asphalt	2	1					Asphalt concrete				
GA1_4	Cement stabilized	Stabilized base	3	5					Cement stabilized				
GA1_4	A-4	Subgrade	4	Infinite	14.7	58	38	0.0167	A-4	21500			
GA1_5	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
GA1_5	Cement stabilized	Stabilized base	2	6					Cement stabilized				
GA1_5	A-4	Subgrade	3	Infinite	14.7	58	38	0.0167	A-4	21500			
GA1_6	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
GA1_6	Asphalt concrete	Asphalt	2	4					Asphalt concrete				

Table FF.46. Layer definition, description, and material characterization data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Thickness, in	Plasticity Index, percent	Percent Passing No. 4 Sieve	Percent Passing No. 200 Sieve	D60 mm	AASHTO Soil Class	Resilient Modulus, psi	Unit Weight, lbs/in3	Poission Ratio	CTE (oF/oF/in)
GA1_6	A-4	Subgrade	3	Infinite	14.7	58	38	0.0167	A-4	27443			
GA1_7	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
GA1_7	Asphalt concrete	Asphalt	2	4					Asphalt concrete				
GA1_7	A-4	Subgrade	3	Infinite	14.7	58	38	0.0167	A-4	29000			
GA1_8	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
GA1_8	Asphalt concrete	Asphalt	2	4					Asphalt concrete				
GA1_8	A-4	Subgrade	3	Infinite	14.7	58	38	0.0167	A-4	23945			
GA1_9	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
GA1_9	Asphalt concrete	Asphalt	2	4					Asphalt concrete				
GA1_9	A-4	Subgrade	3	Infinite	14.7	58	38	0.0167	A-4	23945			
GA2	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
GA2	Cement stabilized	Stabilized base	2	6					Cement stabilized				
GA2	A-2-6	Subgrade	3	Infinite	11	50	30	0.0478	A-2-6	31000			
MI1_10a	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
MI1_10a	Asphalt concrete	Asphalt	2	4					Asphalt concrete				
MI1_10a	Crushed stone	Granular base	3	10	1	40	3	2	Crushed stone	38000			
MI1_10a	A-2-4	Subgrade	4	Infinite	13	41	21	0.0083	A-2-4	32000			
MI1_10a3	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
MI1_10a3	Asphalt concrete	Asphalt	2	4					Asphalt concrete				
MI1_10a3	Crushed stone	Granular base	3	10	1	40	3	2	Crushed stone	38000			
MI1_10a3	A-2-4	Subgrade	4	Infinite	13	41	21	0.0083	A-2-4	32000			
MI1_10b	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
MI1_10b	Asphalt concrete	Asphalt	2	4					Asphalt concrete				
MI1_10b	Crushed stone	Granular base	3	10	1	40	3	2	Crushed stone	38000			
MI1_10b	A-2-4	Subgrade	4	Infinite	13	41	21	0.0083	A-2-4	32000			
MI1_25	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055

Table FF.46. Layer definition, description, and material characterization data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Thickness, in	Plasticity Index, percent	Percent Passing No. 4 Sieve	Percent Passing No. 200 Sieve	D60 mm	AASHTO Soil Class	Resilient Modulus, psi	Unit Weight, lbs/in3	Poission Ratio	CTE (oF/oF/in)
MI1_25	Asphalt concrete	Asphalt	2	4					Asphalt concrete				
MI1_25	Crushed stone	Granular base	3	10	1	40	3	2	Crushed stone	38000			
MI1_25	A-2-4	Subgrade	4	Infinite	13	41	21	0.0083	A-2-4	32000			
MI1_4a	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
MI1_4a	Asphalt permeable base	Asphalt	2	4					Asphalt permeable base				
MI1_4a	Crushed stone	Granular base	3	10	1	40	3	2	Crushed stone	38000			
MI1_4a	A-2-4	Subgrade	4	Infinite	13	41	21	0.0083	A-2-4	32000			
MI1_4a10	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
MI1_4a10	Asphalt permeable base	Asphalt	2	4					Asphalt permeable base				
MI1_4a10	Crushed stone	Granular base	3	10	1	40	3	2	Crushed stone	38000			
MI1_4a10	A-2-4	Subgrade	4	Infinite	13	41	21	0.0083	A-2-4	32000			
MI1_4a12	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
MI1_4a12	Asphalt permeable base	Asphalt	2	4					Asphalt permeable base				
MI1_4a12	Crushed stone	Granular base	3	10	1	40	3	2	Crushed stone	38000			
MI1_4a12	A-2-4	Subgrade	4	Infinite	13	41	21	0.0083	A-2-4	32000			
MI1_7a	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
MI1_7a	Crushed stone	Granular base	2	4	1	40	3	2	Crushed stone	38000			
MI1_7a	Crushed stone	Granular base	3	10	1	40	3	2	Crushed stone	38000			
MI1_7a	A-2-4	Subgrade	4	Infinite	13	41	21	0.0083	A-2-4	32000			
MI1_7a5	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
MI1_7a5	Crushed stone	Granular base	2	4	1	40	3	2	Crushed stone	38000			
MI1_7a5	Crushed stone	Granular base	3	10	1	40	3	2	Crushed stone	38000			
MI1_7a5	A-2-4	Subgrade	4	Infinite	13	41	21	0.0083	A-2-4	32000			
MI1_7b	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055

Table FF.46. Layer definition, description, and material characterization data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Thickness, in	Plasticity Index, percent	Percent Passing No. 4 Sieve	Percent Passing No. 200 Sieve	D60 mm	AASHTO Soil Class	Resilient Modulus, psi	Unit Weight, lbs/in3	Poission Ratio	CTE (oF/oF/in)
MI1_7b	Crushed stone	Granular base	2	4	1	40	3	2	Crushed stone	38000			
MI1_7b	Crushed stone	Granular base	3	10	1	40	3	2	Crushed stone	38000			
MI1_7b	A-2-4	Subgrade	4	Infinite	13	41	21	0.0083	A-2-4	32000			
MI1_7b5	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
MI1_7b5	Crushed stone	Granular base	2	4	1	40	3	2	Crushed stone	38000			
MI1_7b5	Crushed stone	Granular base	3	10	1	40	3	2	Crushed stone	38000			
MI1_7b5	A-2-4	Subgrade	4	Infinite	13	41	21	0.0083	A-2-4	32000			
MI6	JPCP	PCC	1	10					JPCP		149	0.15	0.0000055
MI6	Crushed stone	Granular base	2	5	1	40	3	2	Crushed stone	38000			
MI6	A-6	Subgrade	3	Infinite	19.6	62	42	0.0083	A-6	17996			
MN2_1	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
MN2_1	Crushed stone	Granular base	2	5	1	40	3	2	Crushed stone	38000			
MN2_1	A-6	Subgrade	3	Infinite	19.6	62	42	0.0083	A-6	13500			
MN2_2	JPCP	PCC	1	8					JPCP		149	0.15	0.0000055
MN2_2	Crushed stone	Granular base	2	6	1	40	3	2	Crushed stone	38000			
MN2_2	A-6	Subgrade	3	Infinite	19.6	62	42	0.0083	A-6	13500			
MN4	JPCP	PCC	1	7.5					JPCP		149	0.15	0.0000055
MN4	Crushed stone	Granular base	2	5	1	40	3	2	Crushed stone	38000			
MN4	A-2-6	Subgrade	3	Infinite	13	65	45	0.0235	A-2-6	21500			
MN7_10	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
MN7_10	Crushed stone	Granular base	2	3	1	40	3	2	Crushed stone	38000			
MN7_10	Crushed stone	Granular base	3	15	1	40	3	2	Crushed stone	38000			
MN7_10	A-4	Subgrade	4	Infinite	10	55	35	0.0167	A-4	21500			
MN7_15	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
MN7_15	Crushed stone	Granular base	2	3	1	40	3	2	Crushed stone	38000			
MN7_15	Crushed stone	Granular base	3	15	1	40	3	2	Crushed stone	38000			

Table FF.46. Layer definition, description, and material characterization data for new JPCP model development and calibration.

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MN7_15	A-4	Subgrade	4	Infinite	10	55	35	0.0167	A-4	21500			
MN7_16	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
MN7_16	Crushed stone	Granular base	2	3	1	40	3	2	Crushed stone	38000			
MN7_16	Crushed stone	Granular base	3	15	1	40	3	2	Crushed stone	38000			
MN7_16	A-4	Subgrade	4	Infinite	10	55	35	0.0167	A-4	21500			
MN7_17	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
MN7_17	Crushed stone	Granular base	2	3	1	40	3	2	Crushed stone	38000			
MN7_17	Crushed stone	Granular base	3	15	1	40	3	2	Crushed stone	38000			
MN7_17	A-4	Subgrade	4	Infinite	10	55	35	0.0167	A-4	21500			
MN7_18	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
MN7_18	Crushed stone	Granular base	2	3	1	40	3	2	Crushed stone	38000			
MN7_18	Crushed stone	Granular base	3	15	1	40	3	2	Crushed stone	38000			
MN7_18	A-4	Subgrade	4	Infinite	10	55	35	0.0167	A-4	21500			
MN7_23	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
MN7_23	Crushed stone	Granular base	2	3	1	40	3	2	Crushed stone	38000			
MN7_23	Crushed stone	Granular base	3	15	1	40	3	2	Crushed stone	38000			
MN7_23	A-4	Subgrade	4	Infinite	10	55	35	0.0167	A-4	21500			
MN7_24	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
MN7_24	Crushed stone	Granular base	2	3	1	40	3	2	Crushed stone	38000			
MN7_24	Crushed stone	Granular base	3	15	1	40	3	2	Crushed stone	38000			
MN7_24	A-4	Subgrade	4	Infinite	10	55	35	0.0167	A-4	21500			
MN7_9	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
MN7_9	Crushed stone	Granular base	2	3	1	40	3	2	Crushed stone	38000			
MN7_9	Crushed stone	Granular base	3	15	1	40	3	2	Crushed stone	38000			
MN7_9	A-4	Subgrade	4	Infinite	10	55	35	0.0167	A-4	21500			
NC1_1	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055

Table FF.46. Layer definition, description, and material characterization data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Thickness, in	Plasticity Index, percent	Percent Passing No. 4 Sieve	Percent Passing No. 200 Sieve	D60 mm	AASHTO Soil Class	Resilient Modulus, psi	Unit Weight, lbs/in3	Poission Ratio	CTE (oF/oF/in)
NC1_1	Crushed stone	Granular base	2	4	1	40	3	2	Crushed stone	38000			
NC1_1	A-6	Subgrade	3	Infinite	26.3	79	59	0.003	A-6	24000			
NC1_2	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
NC1_2	Cement stabilized	Stabilized base	2	6					Cement stabilized				
NC1_2	A-6	Subgrade	3	Infinite	26.3	79	59	0.003	A-6	24000			
NC1_3	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
NC1_3	Cement stabilized	Stabilized base	2	6					Cement stabilized				
NC1_3	A-6	Subgrade	3	Infinite	26.3	79	59	0.003	A-6	24000			
NC1_4	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
NC1_4	Crushed stone	Granular base	2	4	1	40	3	2	Crushed stone	38000			
NC1_4	A-7-6	Subgrade	3	Infinite	39.8	97	90	0.003	A-7-6	5000			
NC1_5	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
NC1_5	Cement stabilized	Stabilized base	2	4					Cement stabilized				
NC1_5	A-6	Subgrade	3	Infinite	26.3	79	59	0.003	A-6	24000			
NC1_6	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
NC1_6	Asphalt concrete	Asphalt	2	4					Asphalt concrete				
NC1_6	A-6	Subgrade	3	Infinite	26.3	79	59	0.003	A-6	24000			
NC1_8	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
NC1_8	Crushed stone	Granular base	2	4	1	40	3	2	Crushed stone	38000			
NC1_8	A-6	Subgrade	3	Infinite	26.3	79	59	0.003	A-6	24000			
NC2	JPCP	PCC	1	11					JPCP		149	0.15	0.0000055
NC2	Cement stabilized	Stabilized base	2	5					Cement stabilized				
NC2	A-4	Subgrade	3	Infinite	14.7	79	59	0.0787	A-4	23026			
NY1_1	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
NY1_1	Asphalt concrete	Asphalt	2	3					Asphalt concrete				
NY1_1	Crushed stone	Granular base	3	8	1	40	3	2	Crushed stone	38000			

Table FF.46. Layer definition, description, and material characterization data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Thickness, in	Plasticity Index, percent	Percent Passing No. 4 Sieve	Percent Passing No. 200 Sieve	D60 mm	AASHTO Soil Class	Resilient Modulus, psi	Unit Weight, lbs/in3	Poission Ratio	CTE (oF/oF/in)
NY1_1	A-2-4	Subgrade	4	Infinite	14.7	79	59	0.0029	A-2-4	32000			
NY1_5a	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
NY1_5a	Cement stabilized	Stabilized base	2	4					Cement stabilized				
NY1_5a	A-1-a	Subgrade	3	Infinite	20	45	25	0.0167	A-1-a	40000			
NY1_5b	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
NY1_5b	Cement stabilized	Stabilized base	2	4					Cement stabilized				
NY1_5b	A-1-a	Subgrade	3	Infinite	20	45	25	0.0167	A-1-a	40000			
NY1_6	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
NY1_6	Crushed stone	Granular base	2	4	1	40	3	2	Crushed stone	38000			
NY1_6	Crushed stone	Granular base	3	8	1	40	3	2	Crushed stone	38000			
NY1_6	A-1-a	Subgrade	4	Infinite	20	45	25	0.0167	A-1-a	40000			
NY1_8a	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
NY1_8a	Asphalt concrete	Asphalt	2	3					Asphalt concrete				
NY1_8a	Crushed stone	Granular base	3	8	1	40	3	2	Crushed stone	38000			
NY1_8a	A-2-4	Subgrade	4	Infinite	20	45	25	0.003	A-2-4	32000			
NY1_8b	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
NY1_8b	Asphalt concrete	Asphalt	2	3					Asphalt concrete				
NY1_8b	Crushed stone	Granular base	3	8	1	40	3	2	Crushed stone	38000			
NY1_8b	A-2-4	Subgrade	4	Infinite	20	45	25	0.003	A-2-4	32000			
NY2_11	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
NY2_11	Crushed stone	Granular base	2	6	1	40	3	2	Crushed stone	38000			
NY2_11	A-1-a	Subgrade	3	Infinite	20	45	25	0.0167	A-1-a	40000			
NY2_3	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
NY2_3	Crushed stone	Granular base	2	4	1	40	3	2	Crushed stone	38000			
NY2_3	Crushed stone	Granular base	3	8	1	40	3	2	Crushed stone	38000			
NY2_3	A-1-a	Subgrade	4	Infinite	20	45	25	0.0167	A-1-a	40000			

Table FF.46. Layer definition, description, and material characterization data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Thickness, in	Plasticity Index, percent	Percent Passing No. 4 Sieve	Percent Passing No. 200 Sieve	D60 mm	AASHTO Soil Class	Resilient Modulus, psi	Unit Weight, lbs/in3	Poission Ratio	CTE (oF/oF/in)
NY2_9	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
NY2_9	Crushed stone	Granular base	2	6	1	40	3	2	Crushed stone	38000			
NY2_9	A-1-a	Subgrade	3	Infinite	20	45	25	0.0167	A-1-a	40000			
OH2_1	JPCP	PCC	1	15					JPCP		149	0.15	0.0000055
OH2_1	A-6	Subgrade	2	Infinite	18	83	68	0.0065	A-6	24000			
OH2_2	JPCP	PCC	1	15					JPCP		149	0.15	0.0000055
OH2_2	A-4	Subgrade	2	Infinite	13	83	68	0.0065	A-4	29000			
OH2_3	JPCP	PCC	1	15					JPCP		149	0.15	0.0000055
OH2_3	A-4	Subgrade	2	Infinite	13	83	68	0.0065	A-4	24750			
OH2_4	JPCP	PCC	1	15					JPCP		149	0.15	0.0000055
OH2_4	A-6	Subgrade	2	Infinite	18	83	68	0.0065	A-6	24000			
ONT1_1	JPCP	PCC	1	12					JPCP		149	0.15	0.0000055
ONT1_1	A-7-6	Subgrade	2	Infinite	30	97	90	0.003	A-7-6	12596			
ONT1_2	JPCP	PCC	1	8					JPCP		149	0.15	0.0000055
ONT1_2	Asphalt permeable base	Asphalt	2	4					Asphalt permeable base				
ONT1_2	A-7-6	Subgrade	3	Infinite	30	97	90	0.003	A-7-6	9989			
ONT1_3	JPCP	PCC	1	8					JPCP		149	0.15	0.0000055
ONT1_3	Cement stabilized	Stabilized base	2	5					Cement stabilized				
ONT1_3	A-7-6	Subgrade	3	Infinite	30	97	90	0.003	A-7-6	6962			
ONT1_4	JPCP	PCC	1	7					JPCP		149	0.15	0.0000055
ONT1_4	Cement stabilized	Stabilized base	2	5					Cement stabilized				
ONT1_4	A-7-6	Subgrade	3	Infinite	30	97	90	0.003	A-7-6	8887			
ONT2_1	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
ONT2_1	Cement stabilized	Stabilized base	2	6					Cement stabilized				
ONT2_1	A-4	Subgrade	3	Infinite	19.6	85	65	0.0167	A-4	21500			

Table FF.46. Layer definition, description, and material characterization data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Thickness, in	Plasticity Index, percent	Percent Passing No. 4 Sieve	Percent Passing No. 200 Sieve	D60 mm	AASHTO Soil Class	Resilient Modulus, psi	Unit Weight, lbs/in3	Poission Ratio	CTE (oF/oF/in)
ONT2_1a	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
ONT2_1a	Cement stabilized	Stabilized base	2	6					Cement stabilized				
ONT2_1a	A-4	Subgrade	3	Infinite	19.6	85	65	0.0167	A-4	21500			
WI1_1	JPCP	PCC	1	11					JPCP		149	0.15	0.0000055
WI1_1	Cement stabilized	Stabilized base	2	4					Cement stabilized				
WI1_1	Crushed stone	Granular base	3	4	1	40	3	2	Crushed stone	38000			
WI1_1	A-4	Subgrade	4	Infinite	19.6	85	65	0.0167	A-4	23945			
WI1_2	JPCP	PCC	1	11					JPCP		149	0.15	0.0000055
WI1_2	Cement stabilized	Stabilized base	2	4					Cement stabilized				
WI1_2	Crushed stone	Granular base	3	4	1	40	3	2	Crushed stone	38000			
WI1_2	A-4	Subgrade	4	Infinite	19.6	85	65	0.0167	A-4	23945			
WI1_3	JPCP	PCC	1	11					JPCP		149	0.15	0.0000055
WI1_3	Cement stabilized	Stabilized base	2	4					Cement stabilized				
WI1_3	Crushed stone	Granular base	3	4	1	40	3	2	Crushed stone	38000			
WI1_3	A-4	Subgrade	4	Infinite	19.6	85	65	0.0167	A-4	23945			
WI2_1	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
WI2_1	Cement stabilized	Stabilized base	2	4					Cement stabilized				
WI2_1	Crushed stone	Granular base	3	16	1	40	3	2	Crushed stone	38000			
WI2_1	A-6	Subgrade	4	Infinite	39.8	89	74	0.0083	A-6	24000			
WI2_2	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
WI2_2	Asphalt permeable base	Asphalt	2	4					Asphalt permeable base				
WI2_2	Crushed stone	Granular base	3	16	1	40	3	2	Crushed stone	38000			
WI2_2	A-6	Subgrade	4	Infinite	39.8	89	74	0.0083	A-6	24000			
WI2_3	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
WI2_3	Crushed stone	Granular base	2	4	1	5	0.5	1.6	Crushed stone	28000			

Table FF.46. Layer definition, description, and material characterization data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Thickness, in	Plasticity Index, percent	Percent Passing No. 4 Sieve	Percent Passing No. 200 Sieve	D60 mm	AASHTO Soil Class	Resilient Modulus, psi	Unit Weight, lbs/in3	Poission Ratio	CTE (oF/oF/in)
WI2_3	Crushed stone	Granular base	3	16	1	40	3	2	Crushed stone	38000			
WI2_3	A-6	Subgrade	4	Infinite	39.8	89	74	0.0083	A-6	24000			
WI2_4	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
WI2_4	Crushed stone	Granular base	2	6	1	40	3	2	Crushed stone	38000			
WI2_4	Crushed stone	Granular base	3	12	1	40	3	2	Crushed stone	38000			
WI2_4	A-6	Subgrade	4	Infinite	39.8	89	74	0.00836	A-6	24000			
WI2_5	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
WI2_5	Crushed stone	Granular base	2	6	1	40	3	2	Crushed stone	38000			
WI2_5	Crushed stone	Granular base	3	12	1	40	3	2	Crushed stone	38000			
WI2_5	A-6	Subgrade	4	Infinite	39.8	89	74	0.0083	A-6	20355			
WI3_1	JPCP	PCC	1	8					JPCP		149	0.15	0.0000055
WI3_1	Asphalt permeable base	Asphalt	2	3.5					Asphalt permeable base				
WI3_1	Crushed stone	Granular base	3	6	1	40	3	2	Crushed stone	38000			
WI3_1	A-3	Subgrade	4	Infinite	14.7	79	59	0.0787	A-3	24000			
WI3_2	JPCP	PCC	1	8					JPCP		149	0.15	0.0000055
WI3_2	Crushed stone	Granular base	2	6	1	40	3	2	Crushed stone	38000			
WI3_2	A-3	Subgrade	3	Infinite	14.7	79	59	0.0787	A-3	35000			
WI3_3	JPCP	PCC	1	8					JPCP		149	0.15	0.0000055
WI3_3	Crushed stone	Granular base	2	6	1	40	3	2	Crushed stone	38000			
WI3_3	A-3	Subgrade	3	Infinite	14.7	79	59	0.0787	A-3	35000			
WI4_1	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
WI4_1	Crushed stone	Granular base	2	6	1	40	3	2	Crushed stone	38000			
WI4_1	A-4	Subgrade	3	Infinite	19.6	85	65	0.0167	A-4	23945			
WI4_2	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
WI4_2	Crushed stone	Granular base	2	6	1	40	3	2	Crushed stone	38000			

Table FF.46. Layer definition, description, and material characterization data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Thickness, in	Plasticity Index, percent	Percent Passing No. 4 Sieve	Percent Passing No. 200 Sieve	D60 mm	AASHTO Soil Class	Resilient Modulus, psi	Unit Weight, lbs/in3	Poission Ratio	CTE (oF/oF/in)
WI4_2	A-4	Subgrade	3	Infinite	19.6	85	65	0.0167	A-4	23945			
WI4_3	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
WI4_3	Crushed stone	Granular base	2	6	1	40	3	2	Crushed stone	38000			
WI4_3	A-4	Subgrade	3	Infinite	19.6	85	65	0.0167	A-4	23945			
WI4_4	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
WI4_4	Crushed stone	Granular base	2	6	1	40	3	2	Crushed stone	38000			
WI4_4	A-4	Subgrade	3	Infinite	19.6	85	65	0.0167	A-4	23945			
WI4_5	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
WI4_5	Crushed stone	Granular base	2	6	1	40	3	2	Crushed stone	38000			
WI4_5	A-4	Subgrade	3	Infinite	19.6	85	65	0.0167	A-4	23945			
WI4_6	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
WI4_6	Crushed stone	Granular base	2	6	1	40	3	2	Crushed stone	38000			
WI4_6	A-4	Subgrade	3	Infinite	19.6	85	65	0.0167	A-4	23945			
WI5_1	JPCP	PCC	1	10					JPCP		149	0.15	0.0000055
WI5_1	Crushed stone	Granular base	2	6	1	40	3	2	Crushed stone	38000			
WI5_1	A-6	Subgrade	3	Infinite	39.8	89	74	0.0083	A-6	24000			
WI5_2	JPCP	PCC	1	10					JPCP		149	0.15	0.0000055
WI5_2	Crushed stone	Granular base	2	6	1	40	3	2	Crushed stone	38000			
WI5_2	A-6	Subgrade	3	Infinite	39.8	89	74	0.0083	A-6	24000			
WI5_3	JPCP	PCC	1	10					JPCP		149	0.15	0.0000055
WI5_3	Crushed stone	Granular base	2	6	1	40	3	2	Crushed stone	38000			
WI5_3	A-2-4	Subgrade	3	Infinite	14.7	79	59	0.0040	A-2-4	32000			
WI5_4	JPCP	PCC	1	10					JPCP		149	0.15	0.0000055
WI5_4	Crushed stone	Granular base	2	6	1	40	3	2	Crushed stone	38000			
WI5_4	A-4	Subgrade	3	Infinite	19.6	85	65	0.0167	A-4	21500			
WI5_5	JPCP	PCC	1	10					JPCP		149	0.15	0.0000055

Table FF.46. Layer definition, description, and material characterization data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Thickness, in	Plasticity Index, percent	Percent Passing No. 4 Sieve	Percent Passing No. 200 Sieve	D60 mm	AASHTO Soil Class	Resilient Modulus, psi	Unit Weight, lbs/in3	Poission Ratio	CTE (oF/oF/in)
WI5_5	Crushed stone	Granular base	2	6	1	40	3	2	Crushed stone	38000			
WI5_5	A-4	Subgrade	3	Infinite	19.6	85	65	0.0167	A-4	21500			
WI5_6	JPCP	PCC	1	10					JPCP		149	0.15	0.0000055
WI5_6	Crushed stone	Granular base	2	6	1	40	3	2	Crushed stone	38000			
WI5_6	A-4	Subgrade	3	Infinite	19.6	85	65	0.0167	A-4	21500			
WI6_1	JPCP	PCC	1	10					JPCP		149	0.15	0.0000055
WI6_1	Crushed stone	Granular base	2	4	1	5	0.5	1.6	Crushed stone	28000			
WI6_1	Crushed stone	Granular base	3	4	1	40	3	2	Crushed stone	38000			
WI6_1	A-6	Subgrade	4	Infinite	39.8	89	74	0.0083	A-6	17996			
WI6_2	JPCP	PCC	1	10					JPCP		149	0.15	0.0000055
WI6_2	Crushed stone	Granular base	2	4	1	5	0.5	1.6	Crushed stone	28000			
WI6_2	Crushed stone	Granular base	3	4	1	40	3	2	Crushed stone	38000			
WI6_2	A-6	Subgrade	4	Infinite	39.8	89	74	0.0083	A-6	17996			
WI6_3	JPCP	PCC	1	10					JPCP		149	0.15	0.0000055
WI6_3	Crushed stone	Granular base	2	4	1	5	0.5	1.6	Crushed stone	28000			
WI6_3	Crushed stone	Granular base	3	4	1	40	3	2	Crushed stone	38000			
WI6_3	A-6	Subgrade	4	Infinite	39.8	89	74	0.0083	A-6	17996			
WI6_4	JPCP	PCC	1	10					JPCP		149	0.15	0.0000055
WI6_4	Crushed stone	Granular base	2	4	1	5	0.5	1.6	Crushed stone	28000			
WI6_4	Crushed stone	Granular base	3	4	1	40	3	2	Crushed stone	38000			
WI6_4	A-6	Subgrade	4	Infinite	39.8	89	74	0.0083	A-6	17996			
WI7_1	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
WI7_1	Crushed stone	Granular base	2	4	1	5	0.5	1.6	Crushed stone	28000			
WI7_1	Crushed stone	Granular base	3	16	1	40	3	2	Crushed stone	38000			
WI7_1	A-7-6	Subgrade	4	Infinite	27	96	89	0.003	A-7-6	17500			
WI7_10	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055

Table FF.46. Layer definition, description, and material characterization data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Thickness, in	Plasticity Index, percent	Percent Passing No. 4 Sieve	Percent Passing No. 200 Sieve	D60 mm	AASHTO Soil Class	Resilient Modulus, psi	Unit Weight, lbs/in3	Poission Ratio	CTE (oF/oF/in)
WI7_10	Crushed stone	Granular base	2	6	1	40	3	2	Crushed stone	38000			
WI7_10	Crushed stone	Granular base	3	12	1	40	3	2	Crushed stone	38000			
WI7_10	A-7-6	Subgrade	4	Infinite	27	96	89	0.003	A-7-6	17500			
WI7_2	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
WI7_2	Crushed stone	Granular base	2	4	1	5	0.5	1.6	Crushed stone	28000			
WI7_2	Crushed stone	Granular base	3	16	1	40	3	2	Crushed stone	38000			
WI7_2	A-7-6	Subgrade	4	Infinite	27	96	89	0.003	A-7-6	17500			
WI7_3	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
WI7_3	Cement stabilized	Stabilized base	2	4					Cement stabilized				
WI7_3	Crushed stone	Granular base	3	16	1	40	3	2	Crushed stone	38000			
WI7_3	A-7-6	Subgrade	4	Infinite	27	96	89	0.003	A-7-6	17500			
WI7_4	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
WI7_4	Cement stabilized	Stabilized base	2	4					Cement stabilized				
WI7_4	Crushed stone	Granular base	3	16	1	40	3	2	Crushed stone	38000			
WI7_4	A-7-6	Subgrade	4	Infinite	27	96	89	0.003	A-7-6	14778			
WI7_5	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
WI7_5	Asphalt permeable base	Asphalt	2	4					Asphalt permeable base				
WI7_5	Crushed stone	Granular base	3	16	1	40	3	2	Crushed stone	38000			
WI7_5	A-7-6	Subgrade	4	Infinite	27	96	89	0.003	A-7-6	17500			
WI7_6	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
WI7_6	Asphalt permeable base	Asphalt	2	4					Asphalt permeable base				
WI7_6	Crushed stone	Granular base	3	16	1	40	3	2	Crushed stone	38000			
WI7_6	A-7-6	Subgrade	4	Infinite	27	96	89	0.003	A-7-6	17500			
WI7_7	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
WI7_7	Crushed stone	Granular base	2	6	1	40	3	2	Crushed stone	38000			

Table FF.46. Layer definition, description, and material characterization data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Thickness, in	Plasticity Index, percent	Percent Passing No. 4 Sieve	Percent Passing No. 200 Sieve	D60 mm	AASHTO Soil Class	Resilient Modulus, psi	Unit Weight, lbs/in3	Poission Ratio	CTE (oF/oF/in)
WI7_7	Crushed stone	Granular base	3	12	1	40	3	2	Crushed stone	38000			
WI7_7	A-7-6	Subgrade	4	Infinite	27	96	89	0.003	A-7-6	17500			
WI7_8	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
WI7_8	Crushed stone	Granular base	2	6	1	40	3	2	Crushed stone	38000			
WI7_8	Crushed stone	Granular base	3	12	1	40	3	2	Crushed stone	38000			
WI7_8	A-7-6	Subgrade	4	Infinite	27	96	89	0.003	A-7-6	17500			
WI7_9	JPCP	PCC	1	9					JPCP		149	0.15	0.0000055
WI7_9	Crushed stone	Granular base	2	6	1	40	3	2	Crushed stone	38000			
WI7_9	Crushed stone	Granular base	3	12	1	40	3	2	Crushed stone	38000			
WI7_9	A-7-6	Subgrade	4	Infinite	27	96	89	0.003	A-7-6	8000			
WV1_3	JPCP	PCC	1	10					JPCP		149	0.15	0.0000055
WV1_3	Crushed stone	Granular base	2	6	1	40	3	2	Crushed stone	38000			
WV1_3	A-4	Subgrade	3	Infinite	14.7	79	59	0.0784	A-4	29000			

Table FF.47. PCC material characterization data for new JPCP model development and calibration, continued.

SHRP ID	Material Description	Layer Type	Layer No.	Thermal conductivity	Heat capacity	CementType	Cement Content, lbs/in3	Water-to-Cement Ratio	PCC Coarse Aggregate Type	Reversible Shrinkage	Time to Develop 50% Shringake, days	Curing Method
1_3028	PCC-JPCP	PC	4	1.25	0.28	II	489	0.51	Limestone	50	35	Membrane
1_3028	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1_3028	Soil-Aggregate Mixture (CG)	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1_3028	Clayey sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12_3804	PCC-JPCP	PC	3	1.25	0.28	I	457	0.56	Limestone (L3)	50	35	Membrane
12_3804	Soil Cement	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12_3804	Poorly Graded Sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12_3811	PCC-JPCP	PC	4	1.25	0.28	I	407	0.56	Limestone (L3)	50	35	Membrane
12_3811	Soil Cement	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12_3811	Fine-grained Soils	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12_3811	Clayey sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12_4000	PCC-JPCP	PC	3	1.25	0.28	I (L3)	546 (L3)	0.45 (L3)	Limestone (L3)	50	35	Curing Compound (L3)
12_4000	Soil Cement	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12_4000	Silty sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12_4057	PCC-JPCP	PC	3	1.25	0.28	I	458	0.61	Limestone	50	35	Membrane
12_4057	Fine-grained Soils	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12_4057	Poorly Graded Sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12_4059	PCC-JPCP	PC	5	1.25	0.28	I	508	0.49	Limestone	50	35	Membrane
12_4059	Hot-Mix (Dense-G)	AC	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12_4059	Hot-Mix (Dense-G)	AC	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12_4059	Limerock, Caliche	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12_4059	Poorly Graded Sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12_4109	PCC-JPCP	PC	3	1.25	0.28	I	508	0.49	Limestone	50	35	Membrane
12_4109	Limerock, Caliche	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12_4109	Poorly Graded Sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table FF.47. PCC material characterization data for new JPCP model development and calibration, continued.

SHRP ID	Material Description	Layer Type	Layer No.	Thermal conductivity	Heat capacity	CementType	Cement Content, lbs/in3	Water-to-Cement Ratio	PCC Coarse Aggregate Type	Reversible Shrinkage	Time to Develop 50% Shringake, days	Curing Method
12_4138	PCC-JPCP	PC	3	1.25	0.28	I (L3)	546 (L3)	0.45 (L3)	Limestone (L3)	50	35	Curing Compound (L3)
12_4138	CAM	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12_4138	Silty sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
16_3017	PCC-JPCP	PC	4	1.25	0.28	I	560	0.46	Quartzite	50	35	Membrane
16_3017	ATM	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
16_3017	Crushed Gravel	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
16_3017	Silt with Sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
16_3023	PCC-JPCP	PC	5	1.25	0.28	II	564	0.43	Granite	50	35	Membrane
16_3023	Crushed Gravel	GB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
16_3023	Soil-Aggregate Mixture (CG)	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
16_3023	Soil-Aggregate Mixture (FG)	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
16_3023	Silty sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
18_3002	PCC-JPCP	PC	3	1.25	0.28	IA	564	0.35	Limestone	50	35	Membrane
18_3002	Crushed Stone	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
18_3002	Sandy Lean Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
18_3003	PCC-JPCP	PC	3	1.25	0.28	IA	564	0.31	Limestone (L3)	50	35	Curing Compound (L3)
18_3003	Dense-G Cold-Central-Plant-Mix	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
18_3003	Clayey sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
18_3031	PCC-JPCP	PC	3	1.25	0.28	IA	564	0.33	Limestone (L3)	50	35	Membrane
18_3031	ATM	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
18_3031	Lean Inorganic Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19_3006	PCC-JPCP	PC	3	1.25	0.28	I	556	0.42	Dolomite	50	35	Membrane
19_3006	CAM	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19_3006	Sandy Lean Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0201	PCC-JPCP	PC	4	1.25	0.28	II	532	0.43	Limestone	50	35	Membrane
20_0201	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table FF.47. PCC material characterization data for new JPCP model development and calibration, continued.

SHRP ID	Material Description	Layer Type	Layer No.	Thermal conductivity	Heat capacity	CementType	Cement Content, lbs/in3	Water-to-Cement Ratio	PCC Coarse Aggregate Type	Reversible Shrinkage	Time to Develop 50% Shringake, days	Curing Method
20_0201	Pozzolanic-Agg-Mix	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0201	Silty Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0202	PCC-JPCP	PC	4	1.25	0.28	II	862	0.35	Sandstone	50	35	Membrane
20_0202	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0202	Pozzolanic-Agg-Mix	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0202	Silty Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0203	PCC-JPCP	PC	4	1.25	0.28	II	532	0.43	Limestone	50	35	Membrane
20_0203	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0203	Pozzolanic-Agg-Mix	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0203	Silty Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0204	PCC-JPCP	PC	4	1.25	0.28	II	862	0.35	Sandstone	50	35	Membrane
20_0204	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0204	Pozzolanic-Agg-Mix	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0204	Silty Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0205	PCC-JPCP	PC	4	1.25	0.28	II	532	0.43	Limestone	50	35	Membrane
20_0205	Lean Concrete	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0205	Pozzolanic-Agg-Mix	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0205	Silty Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0206	PCC-JPCP	PC	4	1.25	0.28	II	862	0.27	Sandstone	50	35	Membrane
20_0206	Lean Concrete	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0206	Pozzolanic-Agg-Mix	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0206	Silty Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0207	PCC-JPCP	PC	4	1.25	0.28	II	532	0.43	Limestone	50	35	Membrane
20_0207	Lean Concrete	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0207	Pozzolanic-Agg-Mix	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0207	Silty Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table FF.47. PCC material characterization data for new JPCP model development and calibration, continued.

SHRP ID	Material Description	Layer Type	Layer No.	Thermal conductivity	Heat capacity	CementType	Cement Content, lbs/in3	Water-to-Cement Ratio	PCC Coarse Aggregate Type	Reversible Shrinkage	Time to Develop 50% Shringake, days	Curing Method
20_0208	PCC-JPCP	PC	4	1.25	0.28	II	862	0.35	Sandstone	50	35	Membrane
20_0208	Lean Concrete	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0208	Pozzolanic-Agg-Mix	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0208	Silty Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0209	PCC-JPCP	PC	5	1.25	0.28	II	532	0.43	Limestone	50	35	Membrane
20_0209	O-Graded (Hot-Central-Plant-Mix)	TB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0209	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0209	Pozzolanic-Agg-Mix	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0209	Silty Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0210	PCC-JPCP	PC	5	1.25	0.28	II	862	0.35	Sandstone	50	35	Membrane
20_0210	O-Graded (Hot-Central-Plant-Mix)	TB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0210	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0210	Pozzolanic-Agg-Mix	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0210	Silty Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0211	PCC-JPCP	PC	5	1.25	0.28	II	532	0.43	Limestone	50	35	Membrane
20_0211	O-Graded (Hot-Central-Plant-Mix)	TB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0211	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0211	Pozzolanic-Agg-Mix	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0211	Silty Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0212	PCC-JPCP	PC	5	1.25	0.28	II	862	0.35	Sandstone	50	35	Membrane
20_0212	O-Graded (Hot-Central-Plant-Mix)	TB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0212	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0212	Pozzolanic-Agg-Mix	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0212	Silty Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table FF.47. PCC material characterization data for new JPCP model development and calibration, continued.

SHRP ID	Material Description	Layer Type	Layer No.	Thermal conductivity	Heat capacity	CementType	Cement Content, lbs/in3	Water-to-Cement Ratio	PCC Coarse Aggregate Type	Reversible Shrinkage	Time to Develop 50% Shringake, days	Curing Method
20_3015	PCC-JPCP	PC	3	1.25	0.28	I	620	0.43	Conglomerate	50	35	Membrane
20_3015	HMAC	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_3015	Lean Inorganic Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
21_3016	PCC-JPCP	PC	4	1.25	0.28	I (L3)	564	0.53	Limestone	50	35	Curing Compound (L3)
21_3016	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
21_3016	CAM	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
21_3016	Gravelly Lean Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0213	PCC-JPCP	PC	4	1.25	0.28	I	376	0.56	Dolomite	50	35	Membrane
26_0213	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0213	Silty Clay	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0213	Silty Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0214	PCC-JPCP	PC	4	1.25	0.28	I	750	0.38	Limestone	50	35	Membrane
26_0214	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0214	Silty Clay	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0214	Silty Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0215	PCC-JPCP	PC	4	1.25	0.28	I	376	0.56	Dolomite	50	35	Membrane
26_0215	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0215	Silty Clay	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0215	Silty Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0216	PCC-JPCP	PC	4	1.25	0.28	I	750	0.38	Limestone	50	35	Membrane
26_0216	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0216	Silty Clay	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0216	Silty Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0217	PCC-JPCP	PC	4	1.25	0.28	II	376	0.56	Dolomite	50	35	Membrane
26_0217	Lean Concrete	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0217	Silty Clay	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table FF.47. PCC material characterization data for new JPCP model development and calibration, continued.

SHRP ID	Material Description	Layer Type	Layer No.	Thermal conductivity	Heat capacity	CementType	Cement Content, lbs/in3	Water-to-Cement Ratio	PCC Coarse Aggregate Type	Reversible Shrinkage	Time to Develop 50% Shringake, days	Curing Method
26_0217	Silty Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0218	PCC-JPCP	PC	4	1.25	0.28	I	750	0.38	Limestone	50	35	Membrane
26_0218	Lean Concrete	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0218	Silty Clay	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0218	Silty Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0219	PCC-JPCP	PC	4	1.25	0.28	I	376	0.56	Dolomite	50	35	Membrane
26_0219	Lean Concrete	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0219	Silty Clay	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0219	Sandy Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0220	PCC-JPCP	PC	4	1.25	0.28	I	750	0.38	Limestone	50	35	Membrane
26_0220	Lean Concrete	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0220	Silty Clay	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0220	Silty Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0221	PCC-JPCP	PC	5	1.25	0.28	I	376	0.56	Dolomite	50	35	Membrane
26_0221	O-Graded (Hot-Central-Plant-Mix)	TB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0221	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0221	Silty Clay	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0221	Silty Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0222	PCC-JPCP	PC	5	1.25	0.28	I	750	0.38	Limestone	50	35	Membrane
26_0222	O-Graded (Hot-Central-Plant-Mix)	TB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0222	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0222	Silty Clay	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0222	Silty Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0223	PCC-JPCP	PC	5	1.25	0.28	I	376	0.56	Dolomite	50	35	Membrane
26_0223	O-Graded (Hot-Central-Plant-Mix)	TB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table FF.47. PCC material characterization data for new JPCP model development and calibration, continued.

SHRP ID	Material Description	Layer Type	Layer No.	Thermal conductivity	Heat capacity	CementType	Cement Content, lbs/in3	Water-to-Cement Ratio	PCC Coarse Aggregate Type	Reversible Shrinkage	Time to Develop 50% Shringake, days	Curing Method
26_0223	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0223	Silty Clay	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0223	Sandy Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0224	PCC-JPCP	PC	5	1.25	0.28	I	750	0.38	Limestone	50	35	Membrane
26_0224	O-Graded (Hot-Central-Plant-Mix)	TB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0224	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0224	Silty Clay	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0224	Sandy Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_3068	PCC-JPCP	PC	4	1.25	0.28	IA	564	0.48	Limestone (L3)	50	35	Curing Compound (L3)
26_3068	HMAC	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_3068	Sand	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_3068	Poorly Graded Sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_3069	PCC-JPCP	PC	2	1.25	0.28	IA	564	0.48	Limestone (L3)	50	35	Curing Compound (L3)
26_3069	Poorly Graded Sand/Gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
27_3003	PCC-JPCP	PC	3	1.25	0.28	I	534	0.64	Granite (L3)	50	35	Membrane
27_3003	Gravel (uncrushed)	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
27_3003	Sandy Lean Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
27_3013	PCC-JPCP	PC	3	1.25	0.28	I	450	0.54	Granite (L3)	50	35	Membrane
27_3013	Gravel (uncrushed)	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
27_3013	Poorly Graded Sand/Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
28_3018	PCC-JPCP	PC	3	1.25	0.28	I	545	0.72	Limestone	50	35	Membrane
28_3018	Soil Cement	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
28_3018	Silty sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
28_3019	PCC-JPCP	PC	3	1.25	0.28	I	545	0.72	Limestone	50	35	Membrane
28_3019	Soil Cement	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
28_3019	Silty gravel with sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table FF.47. PCC material characterization data for new JPCP model development and calibration, continued.

SHRP ID	Material Description	Layer Type	Layer No.	Thermal conductivity	Heat capacity	CementType	Cement Content, lbs/in3	Water-to-Cement Ratio	PCC Coarse Aggregate Type	Reversible Shrinkage	Time to Develop 50% Shringake, days	Curing Method
31_3018	PCC-JPCP	PC	3	1.25	0.28	I	576	0.41	Limestone	50	35	Membrane
31_3018	Soil Cement	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
31_3018	Poorly Graded Sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
31_3024	PCC-JPCP	PC	3	1.25	0.28	I	564	0.50	Conglomerate	50	35	Membrane
31_3024	N/A	N/A	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
31_3024	Lean Inorganic Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0201	PCC-JPCP	PC	5	1.25	0.28	IP	423	0.49	Limestone (L3)	50	35	Membrane
32_0201	Crushed Gravel	GB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0201	Soil-Aggregate Mixture (CG)	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0201	Lime-Treated Soil	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0201	Silty sand with gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0202	PCC-JPCP	PC	5	1.25	0.28	IP	846	0.32	Limestone (L3)	50	35	Membrane
32_0202	Crushed Gravel	GB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0202	Soil-Aggregate Mixture (CG)	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0202	Lime-Treated Soil	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0202	Sandy Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0203	PCC-JPCP	PC	5	1.25	0.28	IP	423	0.49	Limestone (L3)	50	35	Membrane
32_0203	Crushed Gravel	GB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0203	Soil-Aggregate Mixture (CG)	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0203	Lime-Treated Soil	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0203	Sandy Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0204	PCC-JPCP	PC	5	1.25	0.28	IP	846	0.32	Limestone (L3)	50	35	Membrane
32_0204	Crushed Gravel	GB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0204	Soil-Aggregate Mixture (CG)	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0204	Lime-Treated Soil	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0204	Sandy Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table FF.47. PCC material characterization data for new JPCP model development and calibration, continued.

SHRP ID	Material Description	Layer Type	Layer No.	Thermal conductivity	Heat capacity	CementType	Cement Content, lbs/in3	Water-to-Cement Ratio	PCC Coarse Aggregate Type	Reversible Shrinkage	Time to Develop 50% Shringake, days	Curing Method
32_0205	PCC-JPCP	PC	5	1.25	0.28	IP	423	0.49	Limestone (L3)	50	35	Membrane
32_0205	Lean Concrete	TB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0205	Soil-Aggregate Mixture (CG)	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0205	Lime-Treated Soil	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0205	Well-graded sand/clay&gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0206	PCC-JPCP	PC	5	1.25	0.28	IP	846	0.32	Limestone (L3)	50	35	Membrane
32_0206	Lean Concrete	TB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0206	Soil-Aggregate Mixture (CG)	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0206	Lime-Treated Soil	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0206	Sandy Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0207	PCC-JPCP	PC	5	1.25	0.28	IP	423	0.49	Limestone (L3)	50	35	Membrane
32_0207	Lean Concrete	TB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0207	Soil-Aggregate Mixture (CG)	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0207	Lime-Treated Soil	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0207	Sandy Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0208	PCC-JPCP	PC	5	1.25	0.28	IP	846	0.32	Limestone (L3)	50	35	Membrane
32_0208	Lean Concrete	TB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0208	Soil-Aggregate Mixture (CG)	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0208	Lime-Treated Soil	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0208	Sandy Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0209	PCC-JPCP	PC	6	1.25	0.28	IP	423	0.49	Limestone (L3)	50	35	Membrane
32_0209	HMAC	TB	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0209	Crushed Gravel	GB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0209	Soil-Aggregate Mixture (CG)	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0209	Lime-Treated Soil	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0209	Sandy Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table FF.47. PCC material characterization data for new JPCP model development and calibration, continued.

SHRP ID	Material Description	Layer Type	Layer No.	Thermal conductivity	Heat capacity	CementType	Cement Content, lbs/in3	Water-to-Cement Ratio	PCC Coarse Aggregate Type	Reversible Shrinkage	Time to Develop 50% Shringake, days	Curing Method
32_0210	PCC-JPCP	PC	6	1.25	0.28	IP	846	0.32	Limestone (L3)	50	35	Membrane
32_0210	HMAC	TB	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0210	Crushed Gravel	GB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0210	Soil-Aggregate Mixture (CG)	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0210	Lime-Treated Soil	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0210	Sandy Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0211	PCC-JPCP	PC	6	1.25	0.28	IP	423	0.49	Limestone (L3)	50	35	Membrane
32_0211	HMAC	TB	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0211	Crushed Gravel	GB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0211	Soil-Aggregate Mixture (CG)	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0211	Lime-Treated Soil	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0211	Sandy Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_3010	PCC-JPCP	PC	4	1.25	0.28	II	540	0.51	Limestone (L3)	50	35	Burlap/Polyethylene
32_3010	CAM	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_3010	Gravel (uncrushed)	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_3010	Silty gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_3013	PCC-JPCP	PC	4	1.25	0.28	II	532	0.42	Limestone	50	35	Membrane
32_3013	CAM	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_3013	Crushed Gravel	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_3013	Poorly graded gravel/silt&sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_7084	PCC-JPCP	PC	5	1.25	0.28	II	519	0.54	Limestone (L3)	50	35	Membrane
32_7084	Dense-G Cold-Central-Plant-Mix	TB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_7084	Soil-Aggregate Mixture (CG)	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_7084	Soil-Aggregate Mixture (CG)	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_7084	Rock	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table FF.47. PCC material characterization data for new JPCP model development and calibration, continued.

SHRP ID	Material Description	Layer Type	Layer No.	Thermal conductivity	Heat capacity	CementType	Cement Content, lbs/in3	Water-to-Cement Ratio	PCC Coarse Aggregate Type	Reversible Shrinkage	Time to Develop 50% Shringake, days	Curing Method
37_0201	PCC-JPCP	PC	4	1.25	0.28	I	421	0.72	Granite	50	35	Membrane
37_0201	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0201	Lime-Treated Soil	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0201	Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0202	PCC-JPCP	PC	4	1.25	0.28	I	772	0.45	Granite	50	35	Membrane
37_0202	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0202	Lime-Treated Soil	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0202	Clayey Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0203	PCC-JPCP	PC	4	1.25	0.28	I	421	0.72	Granite	50	35	Membrane
37_0203	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0203	Sand	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0203	Sandy Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0204	PCC-JPCP	PC	4	1.25	0.28	I	772	0.45	Granite	50	35	Membrane
37_0204	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0204	Lime-Treated Soil	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0204	Sandy Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0205	PCC-JPCP	PC	4	1.25	0.28	I	421	0.72	Granite	50	35	Membrane
37_0205	Lean Concrete	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0205	Lime-Treated Soil	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0205	Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0206	PCC-JPCP	PC	4	1.25	0.28	I	772	0.45	Granite	50	35	Membrane
37_0206	Lean Concrete	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0206	Lime-Treated Soil	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0206	Sandy Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0207	PCC-JPCP	PC	4	1.25	0.28	I	421	0.72	Granite	50	35	Membrane
37_0207	Lean Concrete	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table FF.47. PCC material characterization data for new JPCP model development and calibration, continued.

SHRP ID	Material Description	Layer Type	Layer No.	Thermal conductivity	Heat capacity	CementType	Cement Content, lbs/in3	Water-to-Cement Ratio	PCC Coarse Aggregate Type	Reversible Shrinkage	Time to Develop 50% Shringake, days	Curing Method
37_0207	Sand	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0207	Sandy Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0208	PCC-JPCP	PC	4	1.25	0.28	I	772	0.45	Granite	50	35	Membrane
37_0208	Lean Concrete	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0208	Lime-Treated Soil	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0208	Sandy Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0209	PCC-JPCP	PC	5	1.25	0.28	I	421	0.72	Granite	50	35	Membrane
37_0209	O-Graded (Hot-Central-Plant-Mix)	TB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0209	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0209	Lime-Treated Soil	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0209	Sandy Silty Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0210	PCC-JPCP	PC	5	1.25	0.28	I	772	0.45	Granite	50	35	Membrane
37_0210	O-Graded (Hot-Central-Plant-Mix)	TB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0210	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0210	Lime-Treated Soil	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0210	Clayey Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0211	PCC-JPCP	PC	5	1.25	0.28	I	421	0.72	Granite	50	35	Membrane
37_0211	O-Graded (Hot-Central-Plant-Mix)	TB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0211	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0211	Lime-Treated Soil	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0211	Sandy Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0212	PCC-JPCP	PC	5	1.25	0.28	I	772	0.45	Granite	50	35	Membrane
37_0212	O-Graded (Hot-Central-Plant-Mix)	TB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0212	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table FF.47. PCC material characterization data for new JPCP model development and calibration, continued.

SHRP ID	Material Description	Layer Type	Layer No.	Thermal conductivity	Heat capacity	CementType	Cement Content, lbs/in3	Water-to-Cement Ratio	PCC Coarse Aggregate Type	Reversible Shrinkage	Time to Develop 50% Shringake, days	Curing Method
37_0212	Lime-Treated Soil	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0212	Sandy Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_3008	PCC-JPCP	PC	3	1.25	0.28	I	526	0.49	Granite	50	35	Membrane
37_3008	Econocrete	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_3008	Silty sand with gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_3011	PCC-JPCP	PC	3	1.25	0.28	I	564	0.48	Granite	50	35	Membrane
37_3011	ATM	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_3011	Clayey sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_3044	PCC-JPCP	PC	3	1.25	0.28	I (L3)	546 (L3)	0.45 (L3)	Granite (L3)	50	35	Membrane
37_3044	Soil-Aggregate Mixture (FG)	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_3044	Silt with Sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_3807	PCC-JPCP	PC	3	1.25	0.28	I	564	0.48	Granite (L3)	50	35	Membrane
37_3807	Soil Cement	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_3807	Silty sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_3816	PCC-JPCP	PC	3	1.25	0.28	I	564	0.50	Granite	50	35	Membrane
37_3816	CAM	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_3816	Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
39_3013	PCC-JPCP	PC	3	1.25	0.28	I (L3)	546 (L3)	0.45 (L3)	Limestone (L3)	50	35	Membrane
39_3013	Soil Cement	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
39_3013	Lean Clay with Sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
39_3801	PCC-JPCP	PC	3	1.25	0.28	IA	600	0.38	Limestone (L3)	50	35	Membrane
39_3801	CAM	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
39_3801	Clayey gravel with sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0213	PCC-JPCP	PC	3	1.25	0.28	II	400	0.58	Granite (L3)	50	35	Membrane
4_0213	Crushed Gravel	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0213	Silty sand with gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table FF.47. PCC material characterization data for new JPCP model development and calibration, continued.

SHRP ID	Material Description	Layer Type	Layer No.	Thermal conductivity	Heat capacity	CementType	Cement Content, lbs/in3	Water-to-Cement Ratio	PCC Coarse Aggregate Type	Reversible Shrinkage	Time to Develop 50% Shringake, days	Curing Method
4_0214	PCC-JPCP	PC	3	1.25	0.28	II	799	0.37	Granite (L3)	50	35	Membrane
4_0214	Crushed Gravel	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0214	Silty sand with gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0215	PCC-JPCP	PC	3	1.25	0.28	II	400	0.58	Granite (L3)	50	35	Membrane
4_0215	Crushed Gravel	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0215	Silty sand with gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0216	PCC-JPCP	PC	3	1.25	0.28	II	799	0.37	Granite (L3)	50	35	Membrane
4_0216	Crushed Gravel	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0216	Silty sand with gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0217	PCC-JPCP	PC	3	1.25	0.28	II	400	0.58	Granite (L3)	50	35	Membrane
4_0217	Lean Concrete	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0217	Silty sand with gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0218	PCC-JPCP	PC	3	1.25	0.28	II	799	0.37	Granite (L3)	50	35	Membrane
4_0218	Lean Concrete	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0218	Clayey sand with gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0219	PCC-JPCP	PC	3	1.25	0.28	II	400	0.58	Granite (L3)	50	35	Membrane
4_0219	Lean Concrete	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0219	Silty sand with gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0220	PCC-JPCP	PC	3	1.25	0.28	II	799	0.37	Granite (L3)	50	35	Membrane
4_0220	Lean Concrete	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0220	Clayey sand with gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0221	PCC-JPCP	PC	4	1.25	0.28	I (L3)	399 (L3)	0.59 (L3)	Limestone (L3)	50	35	Membrane
4_0221	O-Graded (Hot-Central-Plant-Mix)	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0221	Crushed Gravel	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0221	Silty sand with gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0222	PCC-JPCP	PC	4	1.25	0.28	I (L3)	399 (L3)	0.59 (L3)	Limestone (L3)	50	35	Membrane

Table FF.47. PCC material characterization data for new JPCP model development and calibration, continued.

SHRP ID	Material Description	Layer Type	Layer No.	Thermal conductivity	Heat capacity	CementType	Cement Content, lbs/in3	Water-to-Cement Ratio	PCC Coarse Aggregate Type	Reversible Shrinkage	Time to Develop 50% Shringake, days	Curing Method
4_0222	O-Graded (Hot-Central-Plant-Mix)	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0222	Crushed Gravel	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0222	Clayey sand with gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0223	PCC-JPCP	PC	4	1.25	0.28	I (L3)	399 (L3)	0.59 (L3)	Limestone (L3)	50	35	Membrane
4_0223	O-Graded (Hot-Central-Plant-Mix)	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0223	Crushed Gravel	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0223	Silty sand with gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0224	PCC-JPCP	PC	4	1.25	0.28	I (L3)	399 (L3)	0.59 (L3)	Limestone (L3)	50	35	Membrane
4_0224	O-Graded (Hot-Central-Plant-Mix)	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0224	Crushed Gravel	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0224	Clayey sand with gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_7613	PCC-JPCP	PC	2	1.25	0.28	IIA	546 (L3)	0.45 (L3)	Granite (L3)	50	35	Curing Compound (L3)
4_7613	Clayey gravel with sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_7614	PCC-JPCP	PC	3	1.25	0.28	IIA	513	0.47	Granite (L3)	50	35	Membrane
4_7614	CAM	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_7614	Silty sand with gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
40_3018	PCC-JPCP	PC	4	1.25	0.28	I	564	0.44	Limestone	50	35	Membrane
40_3018	Sand Asphalt	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
40_3018	Lime-Treated Soil	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
40_3018	Lean Inorganic Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
40_4160	PCC-JPCP	PC	4	1.25	0.28	I	564	0.43	Limestone	50	35	Curing Compound (L3)
40_4160	Sand Asphalt	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
40_4160	Fine-grained Soils	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
40_4160	Lean Clay with Sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
40_4162	PCC-JPCP	PC	3	1.25	0.28	I	574	0.48	Limestone (L3)	50	35	Curing Compound (L3)

Table FF.47. PCC material characterization data for new JPCP model development and calibration, continued.

SHRP ID	Material Description	Layer Type	Layer No.	Thermal conductivity	Heat capacity	CementType	Cement Content, lbs/in3	Water-to-Cement Ratio	PCC Coarse Aggregate Type	Reversible Shrinkage	Time to Develop 50% Shringake, days	Curing Method
40_4162	HMAC	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
40_4162	Silty sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
46_3012	PCC-JPCP	PC	3	1.25	0.28	II	544	0.49	Conglomerate	50	35	Membrane
46_3012	Crushed Gravel	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
46_3012	Sandy Lean Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5_3011	PCC-JPCP	PC	4	1.25	0.28	I (L3)	500	0.40	Granite (L3)	50	35	Membrane
5_3011	Hot-Mix (Dense-G)	AC	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5_3011	CAM	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5_3011	Silty Clay with Sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0201	PCC-JPCP	PC	5	1.25	0.28	II	423	0.54	Peridotite	50	35	Membrane
53_0201	Crushed Stone	GB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0201	Silt with Sand	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0201	Rock	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0201	Poorly graded gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0202	PCC-JPCP	PC	4	1.25	0.28	II	925	0.31	Basalt	50	35	Membrane
53_0202	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0202	Silt with Sand	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0202	Poorly graded gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0203	PCC-JPCP	PC	3	1.25	0.28	III	423	0.54	Basalt	50	35	Membrane
53_0203	Crushed Stone	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0203	Poorly graded gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0204	PCC-JPCP	PC	5	1.25	0.28	II	925	0.31	Basalt	50	35	Membrane
53_0204	Crushed Stone	GB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0204	Silt with Sand	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0204	Rock	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0204	Poorly graded gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table FF.47. PCC material characterization data for new JPCP model development and calibration, continued.

SHRP ID	Material Description	Layer Type	Layer No.	Thermal conductivity	Heat capacity	CementType	Cement Content, lbs/in3	Water-to-Cement Ratio	PCC Coarse Aggregate Type	Reversible Shrinkage	Time to Develop 50% Shringake, days	Curing Method
53_0205	PCC-JPCP	PC	5	1.25	0.28	II	423	0.54	Basalt	50	35	Membrane
53_0205	Lean Concrete	TB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0205	Silt with Sand	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0205	Rock	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0205	Poorly graded gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0206	PCC-JPCP	PC	5	1.25	0.28	II	925	0.31	Basalt	50	35	Membrane
53_0206	Lean Concrete	TB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0206	Silt with Sand	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0206	Rock	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0206	Poorly graded gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0207	PCC-JPCP	PC	5	1.25	0.28	II	423	0.54	Basalt	50	35	Membrane
53_0207	Lean Concrete	TB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0207	Silt with Sand	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0207	Rock	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0207	Poorly graded gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0208	PCC-JPCP	PC	5	1.25	0.28	II	925	0.31	Basalt	50	35	Membrane
53_0208	Lean Concrete	TB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0208	Silt with Sand	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0208	Rock	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0208	Poorly graded gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0209	PCC-JPCP	PC	6	1.25	0.28	II	423	0.54	Basalt	50	35	Membrane
53_0209	O-Graded (Hot-Central-Plant-Mix)	TB	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0209	Crushed Stone	GB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0209	Silt with Sand	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0209	Rock	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0209	Poorly graded gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table FF.47. PCC material characterization data for new JPCP model development and calibration, continued.

SHRP ID	Material Description	Layer Type	Layer No.	Thermal conductivity	Heat capacity	CementType	Cement Content, lbs/in3	Water-to-Cement Ratio	PCC Coarse Aggregate Type	Reversible Shrinkage	Time to Develop 50% Shringake, days	Curing Method
53_0210	PCC-JPCP	PC	5	1.25	0.28	II	925	0.31	Basalt	50	35	Membrane
53_0210	O-Graded (Hot-Central-Plant-Mix)	TB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0210	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0210	Silt with Sand	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0210	Poorly graded gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0211	PCC-JPCP	PC	6	1.25	0.28	II	423	0.54	Basalt	50	35	Membrane
53_0211	O-Graded (Hot-Central-Plant-Mix)	TB	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0211	Crushed Stone	GB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0211	Silt with Sand	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0211	Rock	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0211	Poorly graded gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0212	PCC-JPCP	PC	6	1.25	0.28	II	925	0.31	Basalt	50	35	Membrane
53_0212	O-Graded (Hot-Central-Plant-Mix)	TB	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0212	Crushed Stone	GB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0212	Silt with Sand	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0212	Rock	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0212	Poorly graded gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_3011	PCC-JPCP	PC	3	1.25	0.28	II	565	0.40	Granite	50	35	Polyethylene Sheet
53_3011	Soil-Aggregate Mixture (FG)	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_3011	Silty sand with gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_3013	PCC-JPCP	PC	5	1.25	0.28	II	565	0.44	Basalt	50	35	Membrane
53_3013	Crushed Gravel	GB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_3013	Soil-Aggregate Mixture (CG)	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_3013	Soil-Aggregate Mixture (CG)	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_3013	silty sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table FF.47. PCC material characterization data for new JPCP model development and calibration, continued.

SHRP ID	Material Description	Layer Type	Layer No.	Thermal conductivity	Heat capacity	CementType	Cement Content, lbs/in3	Water-to-Cement Ratio	PCC Coarse Aggregate Type	Reversible Shrinkage	Time to Develop 50% Shringake, days	Curing Method
53_3014	PCC-JPCP	PC	3	1.25	0.28	II	565	0.33	Granite	50	35	Membrane
53_3014	Soil-Aggregate Mixture (CG)	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_3014	Silty sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_3019	PCC-JPCP	PC	4	1.25	0.28	II	565	0.34	Granite	50	35	Polyethylene Sheet
53_3019	Crushed Gravel	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_3019	Crushed Gravel	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_3019	Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_3813	PCC-JPCP	PC	6	1.25	0.28	IIA	564	0.44	Basalt	50	35	Membrane
53_3813	Soil-Aggregate Mixture (CG)	GB	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_3813	Crushed Gravel	GS	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_3813	Soil-Aggregate Mixture (FG)	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_3813	Soil-Aggregate Mixture (FG)	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_3813	Silty sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_7409	PCC-JPCP	PC	3	1.25	0.28	II	565	0.43	Granite	50	35	Membrane
53_7409	Crushed Gravel	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_7409	poorly graded gravel/silt&sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_3008	PCC-JPCP	PC	3	1.25	0.28	I	565	0.40	Dolomite	50	35	Curing Compound (L3)
55_3008	N/A	N/A	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_3008	Sandy Lean Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_3009	PCC-JPCP	PC	3	1.25	0.28	I	565	0.34	Dolomite	50	35	Membrane
55_3009	Crushed Gravel	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_3009	Lean Clay with Sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_3010	PCC-JPCP	PC	3	1.25	0.28	I	565	0.34	Dolomite	50	35	Membrane
55_3010	Gravel (uncrushed)	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_3010	Gravelly Silt with Sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_3015	PCC-JPCP	PC	3	1.25	0.28	I	508	0.53	Dolomite	50	35	Membrane

Table FF.47. PCC material characterization data for new JPCP model development and calibration, continued.

SHRP ID	Material Description	Layer Type	Layer No.	Thermal conductivity	Heat capacity	CementType	Cement Content, lbs/in3	Water-to-Cement Ratio	PCC Coarse Aggregate Type	Reversible Shrinkage	Time to Develop 50% Shringake, days	Curing Method
55_3015	Gravel (uncrushed)	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_3015	Poorly Graded Sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_3016	PCC-JPCP	PC	3	1.25	0.28	I	508	0.33	Granite	50	35	Membrane
55_3016	Gravel (uncrushed)	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_3016	Poorly Graded Sand/Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_6351	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_6351	PCC-JPCP	PC	4	1.25	0.28	I (L3)	546 (L3)	0.45 (L3)	Dolomite (L3)	50	35	Membrane (L3)
55_6351	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_6351	clayey gravel with sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_6352	PCC-JPCP	PC	4	1.25	0.28	I (L3)	546 (L3)	0.45 (L3)	Dolomite (L3)	50	35	Membrane (L3)
55_6352	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_6352	Crushed Stone	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_6352	Rock	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_6353	PCC-JPCP	PC	5	1.25	0.28	I (L3)	546 (L3)	0.45 (L3)	Dolomite (L3)	50	35	Membrane (L3)
55_6353	CAM	TB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_6353	Crushed Stone	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_6353	Crushed Stone	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_6353	Rock	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_6354	PCC-JPCP	PC	5	1.25	0.28	I (L3)	546 (L3)	0.45 (L3)	Dolomite (L3)	50	35	Membrane (L3)
55_6354	O-Graded (Hot-Central-Plant-Mix)	TB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_6354	Crushed Stone	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_6354	Crushed Stone	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_6354	Rock	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_6355	PCC-JPCP	PC	5	1.25	0.28	I (L3)	546 (L3)	0.45 (L3)	Dolomite (L3)	50	35	Membrane (L3)
55_6355	O-Graded (Hot-Central-Plant-Mix)	TB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table FF.47. PCC material characterization data for new JPCP model development and calibration, continued.

SHRP ID	Material Description	Layer Type	Layer No.	Thermal conductivity	Heat capacity	CementType	Cement Content, lbs/in3	Water-to-Cement Ratio	PCC Coarse Aggregate Type	Reversible Shrinkage	Time to Develop 50% Shringake, days	Curing Method
55_6355	Rock	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6_3005	PCC-JPCP	PC	3	1.25	0.28	II	564	0.48	Granite (L3)	50	35	Membrane
6_3005	CAM	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6_3005	Silty gravel with sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6_3021	PCC-JPCP	PC	4	1.25	0.28	II	564	0.56	Granite	50	35	Membrane
6_3021	CAM	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6_3021	Soil-Aggregate Mixture (FG)	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6_3021	silty sand with gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6_3030	PCC-JPCP	PC	5	1.25	0.28	II	517	0.54	Granite (L3)	50	35	Membrane
6_3030	Hot-Mix (Dense-G)	AC	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6_3030	CAM	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6_3030	Soil-Aggregate Mixture (CG)	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6_3030	Clayey gravel with sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6_3042	PCC-JPCP	PC	4	1.25	0.28	IP	470	0.61	Granite (L3)	50	35	Membrane
6_3042	CAM	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6_3042	Soil-Aggregate Mixture (CG)	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6_3042	Sandy Lean Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0213	PCC-JPCP	PC	3	1.25	0.28	I/II*	399	0.59	Granite (L3)	50	35	Membrane
8_0213	Crushed Gravel	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0213	Poorly Graded Sand/Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0214	PCC-JPCP	PC	3	1.25	0.28	I/II*	749	0.34	Granite (L3)	50	35	Membrane
8_0214	Crushed Gravel	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0214	Clayey sand with gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0215	PCC-JPCP	PC	3	1.25	0.28	I/II*	399	0.59	Granite (L3)	50	35	Membrane
8_0215	Crushed Gravel	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0215	Sandy Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table FF.47. PCC material characterization data for new JPCP model development and calibration, continued.

SHRP ID	Material Description	Layer Type	Layer No.	Thermal conductivity	Heat capacity	CementType	Cement Content, lbs/in3	Water-to-Cement Ratio	PCC Coarse Aggregate Type	Reversible Shrinkage	Time to Develop 50% Shringake, days	Curing Method
8_0216	PCC-JPCP	PC	3	1.25	0.28	I/II*	749	0.34	Granite (L3)	50	35	Membrane
8_0216	Crushed Gravel	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0216	Poorly Graded Sand/Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0217	PCC-JPCP	PC	3	1.25	0.28	I/II*	399	0.59	Granite (L3)	50	35	Membrane
8_0217	Lean Concrete	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0217	Sandy Lean Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0218	PCC-JPCP	PC	3	1.25	0.28	I/II*	749	0.34	Granite (L3)	50	35	Membrane
8_0218	Lean Concrete	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0218	Clayey sand with gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0219	PCC-JPCP	PC	3	1.25	0.28	I/II*	399	0.59	Granite (L3)	50	35	Membrane
8_0219	Lean Concrete	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0219	Clayey sand with gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0220	PCC-JPCP	PC	3	1.25	0.28	I/II*	749	0.34	Granite (L3)	50	35	Membrane
8_0220	Lean Concrete	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0220	Sandy Lean Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0221	PCC-JPCP	PC	4	1.25	0.28	I/II*	399	0.59	Granite (L3)	50	35	Membrane
8_0221	O-Graded (Hot-Central-Plant-Mix)	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0221	Crushed Gravel	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0221	Sandy Lean Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0222	PCC-JPCP	PC	4	1.25	0.28	I/II*	749	0.34	Granite (L3)	50	35	Membrane
8_0222	O-Graded (Hot-Central-Plant-Mix)	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0222	Crushed Gravel	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0222	Well Graded Sand with Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0223	PCC-JPCP	PC	4	1.25	0.28	I/II*	399	0.59	Granite (L3)	50	35	Membrane
8_0223	O-Graded (Hot-Central-Plant-Mix)	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table FF.47. PCC material characterization data for new JPCP model development and calibration, continued.

SHRP ID	Material Description	Layer Type	Layer No.	Thermal conductivity	Heat capacity	CementType	Cement Content, lbs/in3	Water-to-Cement Ratio	PCC Coarse Aggregate Type	Reversible Shrinkage	Time to Develop 50% Shringake, days	Curing Method
8_0223	Crushed Gravel	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0223	Well Graded Sand with Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0224	PCC-JPCP	PC	4	1.25	0.28	I/II*	749	0.34	Granite (L3)	50	35	Membrane
8_0224	O-Graded (Hot-Central-Plant-Mix)	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0224	Crushed Gravel	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0224	Clayey sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_3032	PCC-JPCP	PC	4	1.25	0.28	II	565	0.47	Granite	50	35	Membrane
8_3032	Lean Concrete	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_3032	Soil-Aggregate Mixture (CG)	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_3032	Poorly graded gravel/silt&sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
83_3802	PCC-JPCP	PC	4	1.25	0.28	I	550	0.40	Limestone	50	35	Membrane
83_3802	N/A	N/A	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
83_3802	N/A	N/A	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
83_3802	Fat Inorganic Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
89_3015	PCC-JPCP	PC	3	1.25	0.28	I (L3)	607	0.40	Granite (L3)	50	35	Curing Compound (L3)
89_3015	Crushed Stone	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
89_3015	Poorly Graded Sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table FF.47. PCC material characterization data for new JPCP model development and calibration, continued.

SHRP ID	Material Description	Layer Type	Layer No.	Thermal conductivity	Heat capacity	CementType	Cement Content, lbs/in3	Water-to-Cement Ratio	PCC Coarse Aggregate Type	Reversible Shrinkage	Time to Develop 50% Shringake, days	Curing Method
AZ1_1	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
AZ1_1	Cement stabilized	Stabilized base	2									
AZ1_1	Crushed stone	Granular base	3									
AZ1_1	A-4	Subgrade	4									
AZ1_2	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
AZ1_2	A-6	Subgrade	2									
AZ1_4	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
AZ1_4	A-6	Subgrade	2									
AZ1_5	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
AZ1_5	A-6	Subgrade	2									
AZ1_6	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
AZ1_6	Cement stabilized	Stabilized base	2									
AZ1_6	A-6	Subgrade	3									
AZ1_7	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
AZ1_7	Cement stabilized	Stabilized base	2									
AZ1_7	A-6	Subgrade	3									
AZ2	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
AZ2	Cement stabilized	Stabilized base	2									
AZ2	A-6	Subgrade	3									

Table FF.47. PCC material characterization data for new JPCP model development and calibration, continued.

SHRP ID	Material Description	Layer Type	Layer No.	Thermal conductivity	Heat capacity	CementType	Cement Content, lbs/in3	Water-to-Cement Ratio	PCC Coarse Aggregate Type	Reversible Shrinkage	Time to Develop 50% Shringake, days	Curing Method
CA1_10	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
CA1_10	Cement stabilized	Stabilized base	2									
CA1_10	Crushed stone	Granular base	3									
CA1_10	A-1-a	Subgrade	4									
CA1_3	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
CA1_3	Cement stabilized	Stabilized base	2									
CA1_3	Crushed stone	Granular base	3									
CA1_3	A-2-4	Subgrade	4									
CA1_4	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
CA1_4	Cement stabilized	Stabilized base	2									
CA1_4	Crushed stone	Granular base	3									
CA1_4	A-2-4	Subgrade	4									
CA1_5	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
CA1_5	Cement stabilized	Stabilized base	2									
CA1_5	Crushed stone	Granular base	3									
CA1_5	A-1-a	Subgrade	4									
CA1_6	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
CA1_6	Cement stabilized	Stabilized base	2									
CA1_6	Crushed stone	Granular	3									

Table FF.47. PCC material characterization data for new JPCP model development and calibration, continued.

SHRP ID	Material Description	Layer Type	Layer No.	Thermal conductivity	Heat capacity	CementType	Cement Content, lbs/in3	Water-to-Cement Ratio	PCC Coarse Aggregate Type	Reversible Shrinkage	Time to Develop 50% Shringake, days	Curing Method
		base										
CA1_6	A-1-a	Subgrade	4									
CA1_7	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
CA1_7	Cement stabilized	Stabilized base	2									
CA1_7	Crushed stone	Granular base	3									
CA1_7	A-1-a	Subgrade	4									
CA1_8	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
CA1_8	Cement stabilized	Stabilized base	2									
CA1_8	Crushed stone	Granular base	3									
CA1_8	A-1-a	Subgrade	4									
CA1_9	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
CA1_9	Cement stabilized	Stabilized base	2									
CA1_9	Crushed stone	Granular base	3									
CA1_9	A-1-a	Subgrade	4									
CA10	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
CA10	Asphalt permeable base	Asphalt	2									
CA10	A-6	Subgrade	3									
CA11	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
CA11	Cement	Stabilized	2									

Table FF.47. PCC material characterization data for new JPCP model development and calibration, continued.

SHRP ID	Material Description	Layer Type	Layer No.	Thermal conductivity	Heat capacity	CementType	Cement Content, lbs/in3	Water-to-Cement Ratio	PCC Coarse Aggregate Type	Reversible Shrinkage	Time to Develop 50% Shringake, days	Curing Method
	stabilized	base										
CA11	Lime stabilized modified	Stabilized base	3									
CA11	A-7-6	Subgrade	4									
CA2_2	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
CA2_2	Asphalt concrete	Asphalt	2									
CA2_2	Crushed stone	Granular base	3									
CA2_2	A-4	Subgrade	4									
CA2_3	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
CA2_3	Cement stabilized	Stabilized base	2									
CA2_3	Crushed stone	Granular base	3									
CA2_3	A-4	Subgrade	4									
CA3_1	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
CA3_1	Cement stabilized	Stabilized base	2									
CA3_1	Crushed stone	Granular base	3									
CA3_1	A-4	Subgrade	4									
CA3_10	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
CA3_10	Cement stabilized	Stabilized base	2									
CA3_10	Crushed stone	Granular base	3									
CA3_10	A-4	Subgrade	4									

Table FF.47. PCC material characterization data for new JPCP model development and calibration, continued.

SHRP ID	Material Description	Layer Type	Layer No.	Thermal conductivity	Heat capacity	CementType	Cement Content, lbs/in3	Water-to-Cement Ratio	PCC Coarse Aggregate Type	Reversible Shrinkage	Time to Develop 50% Shringake, days	Curing Method
CA3_2	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
CA3_2	Cement stabilized	Stabilized base	2									
CA3_2	Crushed stone	Granular base	3									
CA3_2	A-4	Subgrade	4									
CA3_3	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
CA3_3	Cement stabilized	Stabilized base	2									
CA3_3	Crushed stone	Granular base	3									
CA3_3	A-4	Subgrade	4									
CA3_4	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
CA3_4	Cement stabilized	Stabilized base	2									
CA3_4	Crushed stone	Granular base	3									
CA3_4	A-4	Subgrade	4									
CA3_5	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
CA3_5	Cement stabilized	Stabilized base	2									
CA3_5	Crushed stone	Granular base	3									
CA3_5	A-4	Subgrade	4									
CA3_6	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
CA3_6	Cement stabilized	Stabilized base	2									
CA3_6	Crushed stone	Granular	3									

Table FF.47. PCC material characterization data for new JPCP model development and calibration, continued.

SHRP ID	Material Description	Layer Type	Layer No.	Thermal conductivity	Heat capacity	CementType	Cement Content, lbs/in3	Water-to-Cement Ratio	PCC Coarse Aggregate Type	Reversible Shrinkage	Time to Develop 50% Shringake, days	Curing Method
		base										
CA3_6	A-4	Subgrade	4									
CA3_7	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
CA3_7	Cement stabilized	Stabilized base	2									
CA3_7	Crushed stone	Granular base	3									
CA3_7	A-4	Subgrade	4									
CA3_8	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
CA3_8	Cement stabilized	Stabilized base	2									
CA3_8	Crushed stone	Granular base	3									
CA3_8	A-4	Subgrade	4									
CA3_9	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
CA3_9	Cement stabilized	Stabilized base	2									
CA3_9	Crushed stone	Granular base	3									
CA3_9	A-4	Subgrade	4									
CA6_1	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
CA6_1	Cement stabilized	Stabilized base	2									
CA6_1	Crushed stone	Granular base	3									
CA6_1	A-2-4	Subgrade	4									
CA6_2	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound

Table FF.47. PCC material characterization data for new JPCP model development and calibration, continued.

SHRP ID	Material Description	Layer Type	Layer No.	Thermal conductivity	Heat capacity	CementType	Cement Content, lbs/in3	Water-to-Cement Ratio	PCC Coarse Aggregate Type	Reversible Shrinkage	Time to Develop 50% Shringake, days	Curing Method
CA6_2	Asphalt permeable base	Asphalt	2									
CA6_2	Asphalt concrete	Asphalt	3									
CA6_2	A-2-4	Subgrade	4									
CA7	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
CA7	Cement stabilized	Stabilized base	2									
CA7	Lime stabilized modified	Stabilized base	3									
CA7	A-2-4	Subgrade	4									
CA8	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
CA8	Asphalt concrete	Asphalt	2									
CA8	Crushed stone	Granular base	3									
CA8	A-7-6	Subgrade	4									
CA9_10	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
CA9_10	Cement stabilized	Stabilized base	2									
CA9_10	Crushed stone	Granular base	3									
CA9_10	A-6	Subgrade	4									
CA9_2	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
CA9_2	Cement stabilized	Stabilized base	2									
CA9_2	Crushed stone	Granular	3									

Table FF.47. PCC material characterization data for new JPCP model development and calibration, continued.

SHRP ID	Material Description	Layer Type	Layer No.	Thermal conductivity	Heat capacity	CementType	Cement Content, lbs/in3	Water-to-Cement Ratio	PCC Coarse Aggregate Type	Reversible Shrinkage	Time to Develop 50% Shringake, days	Curing Method
		base										
CA9_2	A-6	Subgrade	4									
CA9_3	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
CA9_3	Cement stabilized	Stabilized base	2									
CA9_3	Crushed stone	Granular base	3									
CA9_3	A-6	Subgrade	4									
CA9_4	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
CA9_4	Cement stabilized	Stabilized base	2									
CA9_4	Crushed stone	Granular base	3									
CA9_4	A-6	Subgrade	4									
CA9_5	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
CA9_5	Cement stabilized	Stabilized base	2									
CA9_5	Crushed stone	Granular base	3									
CA9_5	A-6	Subgrade	4									
CA9_8	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
CA9_8	Cement stabilized	Stabilized base	2									
CA9_8	Crushed stone	Granular base	3									
CA9_8	A-6	Subgrade	4									
FL2	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound

Table FF.47. PCC material characterization data for new JPCP model development and calibration, continued.

SHRP ID	Material Description	Layer Type	Layer No.	Thermal conductivity	Heat capacity	CementType	Cement Content, lbs/in3	Water-to-Cement Ratio	PCC Coarse Aggregate Type	Reversible Shrinkage	Time to Develop 50% Shringake, days	Curing Method
FL2	Crushed stone	Granular base	2									
FL2	A-3	Subgrade	3									
FL3	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
FL3	Cement stabilized	Stabilized base	2									
FL3	A-3	Subgrade	3									
FL4_1	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
FL4_1	Cement stabilized	Stabilized base	2									
FL4_1	A-3	Subgrade	3									
GA1_1	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
GA1_1	Asphalt concrete	Asphalt	2									
GA1_1	Cement stabilized	Stabilized base	3									
GA1_1	A-4	Subgrade	4									
GA1_10	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
GA1_10	Cement stabilized	Stabilized base	2									
GA1_10	A-4	Subgrade	3									
GA1_2	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
GA1_2	Asphalt concrete	Asphalt	2									
GA1_2	Cement stabilized	Stabilized base	3									
GA1_2	A-4	Subgrade	4									

Table FF.47. PCC material characterization data for new JPCP model development and calibration, continued.

SHRP ID	Material Description	Layer Type	Layer No.	Thermal conductivity	Heat capacity	CementType	Cement Content, lbs/in3	Water-to-Cement Ratio	PCC Coarse Aggregate Type	Reversible Shrinkage	Time to Develop 50% Shringake, days	Curing Method
GA1_3	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
GA1_3	Asphalt concrete	Asphalt	2									
GA1_3	Cement stabilized	Stabilized base	3									
GA1_3	A-4	Subgrade	4									
GA1_4	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
GA1_4	Asphalt concrete	Asphalt	2									
GA1_4	Cement stabilized	Stabilized base	3									
GA1_4	A-4	Subgrade	4									
GA1_5	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
GA1_5	Cement stabilized	Stabilized base	2									
GA1_5	A-4	Subgrade	3									
GA1_6	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
GA1_6	Asphalt concrete	Asphalt	2									
GA1_6	A-4	Subgrade	3									
GA1_7	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
GA1_7	Asphalt concrete	Asphalt	2									
GA1_7	A-4	Subgrade	3									
GA1_8	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
GA1_8	Asphalt concrete	Asphalt	2									

Table FF.47. PCC material characterization data for new JPCP model development and calibration, continued.

SHRP ID	Material Description	Layer Type	Layer No.	Thermal conductivity	Heat capacity	CementType	Cement Content, lbs/in3	Water-to-Cement Ratio	PCC Coarse Aggregate Type	Reversible Shrinkage	Time to Develop 50% Shringake, days	Curing Method
GA1_8	A-4	Subgrade	3									
GA1_9	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
GA1_9	Asphalt concrete	Asphalt	2									
GA1_9	A-4	Subgrade	3									
GA2	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
GA2	Cement stabilized	Stabilized base	2									
GA2	A-2-6	Subgrade	3									
MI1_10a	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
MI1_10a	Asphalt concrete	Asphalt	2									
MI1_10a	Crushed stone	Granular base	3									
MI1_10a	A-2-4	Subgrade	4									
MI1_10a3	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
MI1_10a3	Asphalt concrete	Asphalt	2									
MI1_10a3	Crushed stone	Granular base	3									
MI1_10a3	A-2-4	Subgrade	4									
MI1_10b	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
MI1_10b	Asphalt concrete	Asphalt	2									
MI1_10b	Crushed stone	Granular base	3									
MI1_10b	A-2-4	Subgrade	4									

Table FF.47. PCC material characterization data for new JPCP model development and calibration, continued.

SHRP ID	Material Description	Layer Type	Layer No.	Thermal conductivity	Heat capacity	CementType	Cement Content, lbs/in3	Water-to-Cement Ratio	PCC Coarse Aggregate Type	Reversible Shrinkage	Time to Develop 50% Shringake, days	Curing Method
MI1_25	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
MI1_25	Asphalt concrete	Asphalt	2									
MI1_25	Crushed stone	Granular base	3									
MI1_25	A-2-4	Subgrade	4									
MI1_4a	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
MI1_4a	Asphalt permeable base	Asphalt	2									
MI1_4a	Crushed stone	Granular base	3									
MI1_4a	A-2-4	Subgrade	4									
MI1_4a10	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
MI1_4a10	Asphalt permeable base	Asphalt	2									
MI1_4a10	Crushed stone	Granular base	3									
MI1_4a10	A-2-4	Subgrade	4									
MI1_4a12	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
MI1_4a12	Asphalt permeable base	Asphalt	2									
MI1_4a12	Crushed stone	Granular base	3									
MI1_4a12	A-2-4	Subgrade	4									
MI1_7a	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound

Table FF.47. PCC material characterization data for new JPCP model development and calibration, continued.

SHRP ID	Material Description	Layer Type	Layer No.	Thermal conductivity	Heat capacity	CementType	Cement Content, lbs/in3	Water-to-Cement Ratio	PCC Coarse Aggregate Type	Reversible Shrinkage	Time to Develop 50% Shringake, days	Curing Method
MI1_7a	Crushed stone	Granular base	2									
MI1_7a	Crushed stone	Granular base	3									
MI1_7a	A-2-4	Subgrade	4									
MI1_7a5	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
MI1_7a5	Crushed stone	Granular base	2									
MI1_7a5	Crushed stone	Granular base	3									
MI1_7a5	A-2-4	Subgrade	4									
MI1_7b	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
MI1_7b	Crushed stone	Granular base	2									
MI1_7b	Crushed stone	Granular base	3									
MI1_7b	A-2-4	Subgrade	4									
MI1_7b5	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
MI1_7b5	Crushed stone	Granular base	2									
MI1_7b5	Crushed stone	Granular base	3									
MI1_7b5	A-2-4	Subgrade	4									
MI6	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
MI6	Crushed stone	Granular base	2									
MI6	A-6	Subgrade	3									
MN2_1	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound

Table FF.47. PCC material characterization data for new JPCP model development and calibration, continued.

SHRP ID	Material Description	Layer Type	Layer No.	Thermal conductivity	Heat capacity	CementType	Cement Content, lbs/in3	Water-to-Cement Ratio	PCC Coarse Aggregate Type	Reversible Shrinkage	Time to Develop 50% Shringake, days	Curing Method
MN2_1	Crushed stone	Granular base	2									
MN2_1	A-6	Subgrade	3									
MN2_2	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
MN2_2	Crushed stone	Granular base	2									
MN2_2	A-6	Subgrade	3									
MN4	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
MN4	Crushed stone	Granular base	2									
MN4	A-2-6	Subgrade	3									
MN7_10	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
MN7_10	Crushed stone	Granular base	2									
MN7_10	Crushed stone	Granular base	3									
MN7_10	A-4	Subgrade	4									
MN7_15	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
MN7_15	Crushed stone	Granular base	2									
MN7_15	Crushed stone	Granular base	3									
MN7_15	A-4	Subgrade	4									
MN7_16	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
MN7_16	Crushed stone	Granular base	2									
MN7_16	Crushed stone	Granular base	3									

Table FF.47. PCC material characterization data for new JPCP model development and calibration, continued.

SHRP ID	Material Description	Layer Type	Layer No.	Thermal conductivity	Heat capacity	CementType	Cement Content, lbs/in3	Water-to-Cement Ratio	PCC Coarse Aggregate Type	Reversible Shrinkage	Time to Develop 50% Shringake, days	Curing Method
MN7_16	A-4	Subgrade	4									
MN7_17	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
MN7_17	Crushed stone	Granular base	2									
MN7_17	Crushed stone	Granular base	3									
MN7_17	A-4	Subgrade	4									
MN7_18	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
MN7_18	Crushed stone	Granular base	2									
MN7_18	Crushed stone	Granular base	3									
MN7_18	A-4	Subgrade	4									
MN7_23	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
MN7_23	Crushed stone	Granular base	2									
MN7_23	Crushed stone	Granular base	3									
MN7_23	A-4	Subgrade	4									
MN7_24	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
MN7_24	Crushed stone	Granular base	2									
MN7_24	Crushed stone	Granular base	3									
MN7_24	A-4	Subgrade	4									
MN7_9	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
MN7_9	Crushed stone	Granular base	2									

Table FF.47. PCC material characterization data for new JPCP model development and calibration, continued.

SHRP ID	Material Description	Layer Type	Layer No.	Thermal conductivity	Heat capacity	CementType	Cement Content, lbs/in3	Water-to-Cement Ratio	PCC Coarse Aggregate Type	Reversible Shrinkage	Time to Develop 50% Shringake, days	Curing Method
MN7_9	Crushed stone	Granular base	3									
MN7_9	A-4	Subgrade	4									
NC1_1	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
NC1_1	Crushed stone	Granular base	2									
NC1_1	A-6	Subgrade	3									
NC1_2	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
NC1_2	Cement stabilized	Stabilized base	2									
NC1_2	A-6	Subgrade	3									
NC1_3	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
NC1_3	Cement stabilized	Stabilized base	2									
NC1_3	A-6	Subgrade	3									
NC1_4	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
NC1_4	Crushed stone	Granular base	2									
NC1_4	A-7-6	Subgrade	3									
NC1_5	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
NC1_5	Cement stabilized	Stabilized base	2									
NC1_5	A-6	Subgrade	3									
NC1_6	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
NC1_6	Asphalt concrete	Asphalt	2									

Table FF.47. PCC material characterization data for new JPCP model development and calibration, continued.

SHRP ID	Material Description	Layer Type	Layer No.	Thermal conductivity	Heat capacity	CementType	Cement Content, lbs/in3	Water-to-Cement Ratio	PCC Coarse Aggregate Type	Reversible Shrinkage	Time to Develop 50% Shringake, days	Curing Method
NC1_6	A-6	Subgrade	3									
NC1_8	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
NC1_8	Crushed stone	Granular base	2									
NC1_8	A-6	Subgrade	3									
NC2	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
NC2	Cement stabilized	Stabilized base	2									
NC2	A-4	Subgrade	3									
NY1_1	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
NY1_1	Asphalt concrete	Asphalt	2									
NY1_1	Crushed stone	Granular base	3									
NY1_1	A-2-4	Subgrade	4									
NY1_5a	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
NY1_5a	Cement stabilized	Stabilized base	2									
NY1_5a	A-1-a	Subgrade	3									
NY1_5b	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
NY1_5b	Cement stabilized	Stabilized base	2									
NY1_5b	A-1-a	Subgrade	3									
NY1_6	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
NY1_6	Crushed stone	Granular base	2									

Table FF.47. PCC material characterization data for new JPCP model development and calibration, continued.

SHRP ID	Material Description	Layer Type	Layer No.	Thermal conductivity	Heat capacity	CementType	Cement Content, lbs/in3	Water-to-Cement Ratio	PCC Coarse Aggregate Type	Reversible Shrinkage	Time to Develop 50% Shringake, days	Curing Method
NY1_6	Crushed stone	Granular base	3									
NY1_6	A-1-a	Subgrade	4									
NY1_8a	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
NY1_8a	Asphalt concrete	Asphalt	2									
NY1_8a	Crushed stone	Granular base	3									
NY1_8a	A-2-4	Subgrade	4									
NY1_8b	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
NY1_8b	Asphalt concrete	Asphalt	2									
NY1_8b	Crushed stone	Granular base	3									
NY1_8b	A-2-4	Subgrade	4									
NY2_11	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
NY2_11	Crushed stone	Granular base	2									
NY2_11	A-1-a	Subgrade	3									
NY2_3	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
NY2_3	Crushed stone	Granular base	2									
NY2_3	Crushed stone	Granular base	3									
NY2_3	A-1-a	Subgrade	4									
NY2_9	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
NY2_9	Crushed stone	Granular base	2									

Table FF.47. PCC material characterization data for new JPCP model development and calibration, continued.

SHRP ID	Material Description	Layer Type	Layer No.	Thermal conductivity	Heat capacity	CementType	Cement Content, lbs/in3	Water-to-Cement Ratio	PCC Coarse Aggregate Type	Reversible Shrinkage	Time to Develop 50% Shringake, days	Curing Method
NY2_9	A-1-a	Subgrade	3									
OH2_1	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
OH2_1	A-6	Subgrade	2									
OH2_2	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
OH2_2	A-4	Subgrade	2									
OH2_3	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
OH2_3	A-4	Subgrade	2									
OH2_4	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
OH2_4	A-6	Subgrade	2									
ONT1_1	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
ONT1_1	A-7-6	Subgrade	2									
ONT1_2	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
ONT1_2	Asphalt permeable base	Asphalt	2									
ONT1_2	A-7-6	Subgrade	3									
ONT1_3	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
ONT1_3	Cement stabilized	Stabilized base	2									
ONT1_3	A-7-6	Subgrade	3									
ONT1_4	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
ONT1_4	Cement stabilized	Stabilized base	2									
ONT1_4	A-7-6	Subgrade	3									

Table FF.47. PCC material characterization data for new JPCP model development and calibration, continued.

SHRP ID	Material Description	Layer Type	Layer No.	Thermal conductivity	Heat capacity	CementType	Cement Content, lbs/in3	Water-to-Cement Ratio	PCC Coarse Aggregate Type	Reversible Shrinkage	Time to Develop 50% Shringake, days	Curing Method
ONT2_1	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
ONT2_1	Cement stabilized	Stabilized base	2									
ONT2_1	A-4	Subgrade	3									
ONT2_1a	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
ONT2_1a	Cement stabilized	Stabilized base	2									
ONT2_1a	A-4	Subgrade	3									
WI1_1	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
WI1_1	Cement stabilized	Stabilized base	2									
WI1_1	Crushed stone	Granular base	3									
WI1_1	A-4	Subgrade	4									
WI1_2	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
WI1_2	Cement stabilized	Stabilized base	2									
WI1_2	Crushed stone	Granular base	3									
WI1_2	A-4	Subgrade	4									
WI1_3	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
WI1_3	Cement stabilized	Stabilized base	2									
WI1_3	Crushed stone	Granular base	3									
WI1_3	A-4	Subgrade	4									
WI2_1	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound

Table FF.47. PCC material characterization data for new JPCP model development and calibration, continued.

SHRP ID	Material Description	Layer Type	Layer No.	Thermal conductivity	Heat capacity	CementType	Cement Content, lbs/in3	Water-to-Cement Ratio	PCC Coarse Aggregate Type	Reversible Shrinkage	Time to Develop 50% Shringake, days	Curing Method
WI2_1	Cement stabilized	Stabilized base	2									
WI2_1	Crushed stone	Granular base	3									
WI2_1	A-6	Subgrade	4									
WI2_2	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
WI2_2	Asphalt permeable base	Asphalt	2									
WI2_2	Crushed stone	Granular base	3									
WI2_2	A-6	Subgrade	4									
WI2_3	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
WI2_3	Crushed stone	Granular base	2									
WI2_3	Crushed stone	Granular base	3									
WI2_3	A-6	Subgrade	4									
WI2_4	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
WI2_4	Crushed stone	Granular base	2									
WI2_4	Crushed stone	Granular base	3									
WI2_4	A-6	Subgrade	4									
WI2_5	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
WI2_5	Crushed stone	Granular base	2									
WI2_5	Crushed stone	Granular base	3									

Table FF.47. PCC material characterization data for new JPCP model development and calibration, continued.

SHRP ID	Material Description	Layer Type	Layer No.	Thermal conductivity	Heat capacity	CementType	Cement Content, lbs/in3	Water-to-Cement Ratio	PCC Coarse Aggregate Type	Reversible Shrinkage	Time to Develop 50% Shringake, days	Curing Method
WI2_5	A-6	Subgrade	4									
WI3_1	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
WI3_1	Asphalt permeable base	Asphalt	2									
WI3_1	Crushed stone	Granular base	3									
WI3_1	A-3	Subgrade	4									
WI3_2	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
WI3_2	Crushed stone	Granular base	2									
WI3_2	A-3	Subgrade	3									
WI3_3	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
WI3_3	Crushed stone	Granular base	2									
WI3_3	A-3	Subgrade	3									
WI4_1	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
WI4_1	Crushed stone	Granular base	2									
WI4_1	A-4	Subgrade	3									
WI4_2	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
WI4_2	Crushed stone	Granular base	2									
WI4_2	A-4	Subgrade	3									
WI4_3	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
WI4_3	Crushed stone	Granular base	2									

Table FF.47. PCC material characterization data for new JPCP model development and calibration, continued.

SHRP ID	Material Description	Layer Type	Layer No.	Thermal conductivity	Heat capacity	CementType	Cement Content, lbs/in3	Water-to-Cement Ratio	PCC Coarse Aggregate Type	Reversible Shrinkage	Time to Develop 50% Shringake, days	Curing Method
WI4_3	A-4	Subgrade	3									
WI4_4	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
WI4_4	Crushed stone	Granular base	2									
WI4_4	A-4	Subgrade	3									
WI4_5	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
WI4_5	Crushed stone	Granular base	2									
WI4_5	A-4	Subgrade	3									
WI4_6	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
WI4_6	Crushed stone	Granular base	2									
WI4_6	A-4	Subgrade	3									
WI5_1	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
WI5_1	Crushed stone	Granular base	2									
WI5_1	A-6	Subgrade	3									
WI5_2	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
WI5_2	Crushed stone	Granular base	2									
WI5_2	A-6	Subgrade	3									
WI5_3	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
WI5_3	Crushed stone	Granular base	2									
WI5_3	A-2-4	Subgrade	3									
WI5_4	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing

Table FF.47. PCC material characterization data for new JPCP model development and calibration, continued.

SHRP ID	Material Description	Layer Type	Layer No.	Thermal conductivity	Heat capacity	CementType	Cement Content, lbs/in3	Water-to-Cement Ratio	PCC Coarse Aggregate Type	Reversible Shrinkage	Time to Develop 50% Shringake, days	Curing Method
												compound
WI5_4	Crushed stone	Granular base	2									
WI5_4	A-4	Subgrade	3									
WI5_5	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
WI5_5	Crushed stone	Granular base	2									
WI5_5	A-4	Subgrade	3									
WI5_6	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
WI5_6	Crushed stone	Granular base	2									
WI5_6	A-4	Subgrade	3									
WI6_1	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
WI6_1	Crushed stone	Granular base	2									
WI6_1	Crushed stone	Granular base	3									
WI6_1	A-6	Subgrade	4									
WI6_2	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
WI6_2	Crushed stone	Granular base	2									
WI6_2	Crushed stone	Granular base	3									
WI6_2	A-6	Subgrade	4									
WI6_3	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
WI6_3	Crushed stone	Granular base	2									

Table FF.47. PCC material characterization data for new JPCP model development and calibration, continued.

SHRP ID	Material Description	Layer Type	Layer No.	Thermal conductivity	Heat capacity	CementType	Cement Content, lbs/in3	Water-to-Cement Ratio	PCC Coarse Aggregate Type	Reversible Shrinkage	Time to Develop 50% Shringake, days	Curing Method
WI6_3	Crushed stone	Granular base	3									
WI6_3	A-6	Subgrade	4									
WI6_4	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
WI6_4	Crushed stone	Granular base	2									
WI6_4	Crushed stone	Granular base	3									
WI6_4	A-6	Subgrade	4									
WI7_1	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
WI7_1	Crushed stone	Granular base	2									
WI7_1	Crushed stone	Granular base	3									
WI7_1	A-7-6	Subgrade	4									
WI7_10	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
WI7_10	Crushed stone	Granular base	2									
WI7_10	Crushed stone	Granular base	3									
WI7_10	A-7-6	Subgrade	4									
WI7_2	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
WI7_2	Crushed stone	Granular base	2									
WI7_2	Crushed stone	Granular base	3									
WI7_2	A-7-6	Subgrade	4									
WI7_3	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound

Table FF.47. PCC material characterization data for new JPCP model development and calibration, continued.

SHRP ID	Material Description	Layer Type	Layer No.	Thermal conductivity	Heat capacity	CementType	Cement Content, lbs/in3	Water-to-Cement Ratio	PCC Coarse Aggregate Type	Reversible Shrinkage	Time to Develop 50% Shringake, days	Curing Method
WI7_3	Cement stabilized	Stabilized base	2									
WI7_3	Crushed stone	Granular base	3									
WI7_3	A-7-6	Subgrade	4									
WI7_4	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
WI7_4	Cement stabilized	Stabilized base	2									
WI7_4	Crushed stone	Granular base	3									
WI7_4	A-7-6	Subgrade	4									
WI7_5	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
WI7_5	Asphalt permeable base	Asphalt	2									
WI7_5	Crushed stone	Granular base	3									
WI7_5	A-7-6	Subgrade	4									
WI7_6	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
WI7_6	Asphalt permeable base	Asphalt	2									
WI7_6	Crushed stone	Granular base	3									
WI7_6	A-7-6	Subgrade	4									
WI7_7	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
WI7_7	Crushed stone	Granular base	2									
WI7_7	Crushed stone	Granular	3									

Table FF.47. PCC material characterization data for new JPCP model development and calibration, continued.

SHRP ID	Material Description	Layer Type	Layer No.	Thermal conductivity	Heat capacity	CementType	Cement Content, lbs/in3	Water-to-Cement Ratio	PCC Coarse Aggregate Type	Reversible Shrinkage	Time to Develop 50% Shringake, days	Curing Method
		base										
WI7_7	A-7-6	Subgrade	4									
WI7_8	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
WI7_8	Crushed stone	Granular base	2									
WI7_8	Crushed stone	Granular base	3									
WI7_8	A-7-6	Subgrade	4									
WI7_9	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
WI7_9	Crushed stone	Granular base	2									
WI7_9	Crushed stone	Granular base	3									
WI7_9	A-7-6	Subgrade	4									
WV1_3	JPCP	PCC	1	1.25	0.28	I	565	0.45	Limestone	50	35	Curing compound
WV1_3	Crushed stone	Granular base	2									
WV1_3	A-4	Subgrade	3									

Table FF.48. Asphalt treated material data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Percent Retained on 3/8" Sieve	Percent Retained on No. 4 Sieve	Percent Passing No. 200 Sieve	Asphalt Grade (Base)	Reference Temperature, oF	AC Binder Content (Base)	AC Binder Content (Subbase)	Percent Air Voids (Base)	Percent Air Voids (Subbase)	Unit Weight	Thermal conductivity	Heat Capacity	Poissons ratio
1_3028	PCC-JPCP	PC	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1_3028	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1_3028	Soil-Aggregate Mixture (CG)	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1_3028	Clayey sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12_3804	PCC-JPCP	PC	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12_3804	Soil Cement	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12_3804	Poorly Graded Sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12_3811	PCC-JPCP	PC	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12_3811	Soil Cement	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12_3811	Fine-grained Soils	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12_3811	Clayey sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12_4000	PCC-JPCP	PC	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12_4000	Soil Cement	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12_4000	Silty sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12_4057	PCC-JPCP	PC	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12_4057	Fine-grained Soils	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12_4057	Poorly Graded Sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12_4059	PCC-JPCP	PC	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12_4059	Hot-Mix (Dense-G)	AC	4	2	30	5.5	AC-20	70	6.5	5.42 (L3)	3.9	5.35 (L3)	148	0.67	0.23	0.35
12_4059	Hot-Mix (Dense-G)	AC	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12_4059	Limerock, Caliche	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12_4059	Poorly Graded Sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12_4109	PCC-JPCP	PC	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12_4109	Limerock, Caliche	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12_4109	Poorly Graded Sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12_4138	PCC-JPCP	PC	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table FF.48. Asphalt treated material data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Percent Retained on 3/8" Sieve	Percent Retained on No. 4 Sieve	Percent Passing No. 200 Sieve	Asphalt Grade (Base)	Reference Temperature, oF	AC Binder Content (Base)	AC Binder Content (Subbase)	Percent Air Voids (Base)	Percent Air Voids (Subbase)	Unit Weight	Thermal conductivity	Heat Capacity	Poissons ratio
12_4138	CAM	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12_4138	Silty sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
16_3017	PCC-JPCP	PC	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
16_3017	ATM	TB	3	4.5	26	6.7	AC-10	70	5.6	N/A	6.1	N/A	148	0.67	0.23	0.35
16_3017	Crushed Gravel	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
16_3017	Silt with Sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
16_3023	PCC-JPCP	PC	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
16_3023	Crushed Gravel	GB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
16_3023	Soil-Aggregate Mixture (CG)	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
16_3023	Soil-Aggregate Mixture (FG)	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
16_3023	Silty sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
18_3002	PCC-JPCP	PC	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
18_3002	Crushed Stone	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
18_3002	Sandy Lean Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
18_3003	PCC-JPCP	PC	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
18_3003	Dense-G Cold-Central-Plant-Mix	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
18_3003	Clayey sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
18_3031	PCC-JPCP	PC	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
18_3031	ATM	TB	2	4.5	26	6.7	AC-20	70	4.5 (L3)	N/A	6.5 (L3)	N/A	148	0.67	0.23	0.35
18_3031	Lean Inorganic Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19_3006	PCC-JPCP	PC	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19_3006	CAM	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19_3006	Sandy Lean Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0201	PCC-JPCP	PC	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0201	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0201	Pozzolanic-Agg-Mix	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0201	Silty Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table FF.48. Asphalt treated material data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Percent Retained on 3/8" Sieve	Percent Retained on No. 4 Sieve	Percent Passing No. 200 Sieve	Asphalt Grade (Base)	Reference Temperature, oF	AC Binder Content (Base)	AC Binder Content (Subbase)	Percent Air Voids (Base)	Percent Air Voids (Subbase)	Unit Weight	Thermal conductivity	Heat Capacity	Poissons ratio
20_0202	PCC-JPCP	PC	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0202	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0202	Pozzolanic-Agg-Mix	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0202	Silty Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0203	PCC-JPCP	PC	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0203	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0203	Pozzolanic-Agg-Mix	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0203	Silty Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0204	PCC-JPCP	PC	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0204	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0204	Pozzolanic-Agg-Mix	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0204	Silty Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0205	PCC-JPCP	PC	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0205	Lean Concrete	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0205	Pozzolanic-Agg-Mix	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0205	Silty Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0206	PCC-JPCP	PC	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0206	Lean Concrete	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0206	Pozzolanic-Agg-Mix	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0206	Silty Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0207	PCC-JPCP	PC	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0207	Lean Concrete	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0207	Pozzolanic-Agg-Mix	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0207	Silty Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0208	PCC-JPCP	PC	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0208	Lean Concrete	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0208	Pozzolanic-Agg-Mix	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table FF.48. Asphalt treated material data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Percent Retained on 3/8" Sieve	Percent Retained on No. 4 Sieve	Percent Passing No. 200 Sieve	Asphalt Grade (Base)	Reference Temperature, oF	AC Binder Content (Base)	AC Binder Content (Subbase)	Percent Air Voids (Base)	Percent Air Voids (Subbase)	Unit Weight	Thermal conductivity	Heat Capacity	Poissons ratio
20_0208	Silty Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0209	PCC-JPCP	PC	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0209	O-Graded (Hot-Central-Plant-Mix)	TB	4	70	95	1	AC-20	70	2.5	N/A	29.8	N/A	148	0.67	0.23	0.35
20_0209	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0209	Pozzolanic-Agg-Mix	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0209	Silty Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0210	PCC-JPCP	PC	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0210	O-Graded (Hot-Central-Plant-Mix)	TB	4	70	95	1	AC-20	70	2.5	N/A	29.8	N/A	148	0.67	0.23	0.35
20_0210	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0210	Pozzolanic-Agg-Mix	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0210	Silty Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0211	PCC-JPCP	PC	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0211	O-Graded (Hot-Central-Plant-Mix)	TB	4	70	95	1	AC-20	70	2	N/A	34.5	N/A	148	0.67	0.23	0.35
20_0211	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0211	Pozzolanic-Agg-Mix	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0211	Silty Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0212	PCC-JPCP	PC	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0212	O-Graded (Hot-Central-Plant-Mix)	TB	4	70	95	1	AC-20	70	2	N/A	31	N/A	148	0.67	0.23	0.35
20_0212	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0212	Pozzolanic-Agg-Mix	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0212	Silty Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_3015	PCC-JPCP	PC	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_3015	HMAC	TB	2	4.5	26	6.7	AC-5	70	6.6	N/A	3.6	N/A	148	0.67	0.23	0.35
20_3015	Lean Inorganic Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
21_3016	PCC-JPCP	PC	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
21_3016	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
21_3016	CAM	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table FF.48. Asphalt treated material data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Percent Retained on 3/8" Sieve	Percent Retained on No. 4 Sieve	Percent Passing No. 200 Sieve	Asphalt Grade (Base)	Reference Temperature, oF	AC Binder Content (Base)	AC Binder Content (Subbase)	Percent Air Voids (Base)	Percent Air Voids (Subbase)	Unit Weight	Thermal conductivity	Heat Capacity	Poissons ratio
21_3016	Gravelly Lean Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0213	PCC-JPCP	PC	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0213	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0213	Silty Clay	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0213	Silty Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0214	PCC-JPCP	PC	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0214	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0214	Silty Clay	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0214	Silty Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0215	PCC-JPCP	PC	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0215	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0215	Silty Clay	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0215	Silty Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0216	PCC-JPCP	PC	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0216	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0216	Silty Clay	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0216	Silty Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0217	PCC-JPCP	PC	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0217	Lean Concrete	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0217	Silty Clay	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0217	Silty Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0218	PCC-JPCP	PC	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0218	Lean Concrete	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0218	Silty Clay	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0218	Silty Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0219	PCC-JPCP	PC	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0219	Lean Concrete	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table FF.48. Asphalt treated material data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Percent Retained on 3/8" Sieve	Percent Retained on No. 4 Sieve	Percent Passing No. 200 Sieve	Asphalt Grade (Base)	Reference Temperature, oF	AC Binder Content (Base)	AC Binder Content (Subbase)	Percent Air Voids (Base)	Percent Air Voids (Subbase)	Unit Weight	Thermal conductivity	Heat Capacity	Poissons ratio
26_0219	Silty Clay	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0219	Sandy Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0220	PCC-JPCP	PC	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0220	Lean Concrete	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0220	Silty Clay	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0220	Silty Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0221	PCC-JPCP	PC	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0221	O-Graded (Hot-Central-Plant-Mix)	TB	4	70	95	1	AC 85-100 pen	70	1.9	N/A	31.3 (L3)	N/A	148	0.67	0.23	0.35
26_0221	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0221	Silty Clay	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0221	Silty Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0222	PCC-JPCP	PC	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0222	O-Graded (Hot-Central-Plant-Mix)	TB	4	70	95	1	AC 85-100 pen	70	2.4	N/A	31.3 (L3)	N/A	148	0.67	0.23	0.35
26_0222	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0222	Silty Clay	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0222	Silty Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0223	PCC-JPCP	PC	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0223	O-Graded (Hot-Central-Plant-Mix)	TB	4	70	95	1	AC 85-100 pen	70	2.4 (L3)	N/A	31.3 (L3)	N/A	148	0.67	0.23	0.35
26_0223	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0223	Silty Clay	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0223	Sandy Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0224	PCC-JPCP	PC	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0224	O-Graded (Hot-Central-Plant-Mix)	TB	4	70	95	1	AC 85-100 pen	70	1.8	N/A	31.3 (L3)	N/A	148	0.67	0.23	0.35
26_0224	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0224	Silty Clay	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0224	Sandy Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table FF.48. Asphalt treated material data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Percent Retained on 3/8" Sieve	Percent Retained on No. 4 Sieve	Percent Passing No. 200 Sieve	Asphalt Grade (Base)	Reference Temperature, oF	AC Binder Content (Base)	AC Binder Content (Subbase)	Percent Air Voids (Base)	Percent Air Voids (Subbase)	Unit Weight	Thermal conductivity	Heat Capacity	Poissons ratio
26_3068	PCC-JPCP	PC	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_3068	HMAC	TB	3	4.5	26	6.7	AC 120-150 pen	70	6.5	N/A	2.6	N/A	148	0.67	0.23	0.35
26_3068	Sand	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_3068	Poorly Graded Sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_3069	PCC-JPCP	PC	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_3069	Poorly Graded Sand/Gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
27_3003	PCC-JPCP	PC	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
27_3003	Gravel (uncrushed)	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
27_3003	Sandy Lean Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
27_3013	PCC-JPCP	PC	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
27_3013	Gravel (uncrushed)	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
27_3013	Poorly Graded Sand/Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
28_3018	PCC-JPCP	PC	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
28_3018	Soil Cement	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
28_3018	Silty sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
28_3019	PCC-JPCP	PC	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
28_3019	Soil Cement	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
28_3019	Silty gravel with sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
31_3018	PCC-JPCP	PC	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
31_3018	Soil Cement	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
31_3018	Poorly Graded Sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
31_3024	PCC-JPCP	PC	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
31_3024	N/A	N/A	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
31_3024	Lean Inorganic Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0201	PCC-JPCP	PC	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0201	Crushed Gravel	GB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0201	Soil-Aggregate Mixture (CG)	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table FF.48. Asphalt treated material data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Percent Retained on 3/8" Sieve	Percent Retained on No. 4 Sieve	Percent Passing No. 200 Sieve	Asphalt Grade (Base)	Reference Temperature, oF	AC Binder Content (Base)	AC Binder Content (Subbase)	Percent Air Voids (Base)	Percent Air Voids (Subbase)	Unit Weight	Thermal conductivity	Heat Capacity	Poissons ratio
32_0201	Lime-Treated Soil	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0201	Silty sand with gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0202	PCC-JPCP	PC	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0202	Crushed Gravel	GB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0202	Soil-Aggregate Mixture (CG)	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0202	Lime-Treated Soil	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0202	Sandy Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0203	PCC-JPCP	PC	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0203	Crushed Gravel	GB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0203	Soil-Aggregate Mixture (CG)	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0203	Lime-Treated Soil	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0203	Sandy Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0204	PCC-JPCP	PC	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0204	Crushed Gravel	GB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0204	Soil-Aggregate Mixture (CG)	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0204	Lime-Treated Soil	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0204	Sandy Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0205	PCC-JPCP	PC	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0205	Lean Concrete	TB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0205	Soil-Aggregate Mixture (CG)	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0205	Lime-Treated Soil	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0205	Well-graded sand/clay&gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0206	PCC-JPCP	PC	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0206	Lean Concrete	TB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0206	Soil-Aggregate Mixture (CG)	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0206	Lime-Treated Soil	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0206	Sandy Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table FF.48. Asphalt treated material data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Percent Retained on 3/8" Sieve	Percent Retained on No. 4 Sieve	Percent Passing No. 200 Sieve	Asphalt Grade (Base)	Reference Temperature, oF	AC Binder Content (Base)	AC Binder Content (Subbase)	Percent Air Voids (Base)	Percent Air Voids (Subbase)	Unit Weight	Thermal conductivity	Heat Capacity	Poissons ratio
32_0207	PCC-JPCP	PC	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0207	Lean Concrete	TB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0207	Soil-Aggregate Mixture (CG)	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0207	Lime-Treated Soil	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0207	Sandy Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0208	PCC-JPCP	PC	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0208	Lean Concrete	TB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0208	Soil-Aggregate Mixture (CG)	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0208	Lime-Treated Soil	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0208	Sandy Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0209	PCC-JPCP	PC	6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0209	HMAC	TB	5	70	95	1	AC-20 (L3)	70	2.4 (L3)	N/A	31.3 (L3)	N/A	148	0.67	0.23	0.35
32_0209	Crushed Gravel	GB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0209	Soil-Aggregate Mixture (CG)	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0209	Lime-Treated Soil	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0209	Sandy Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0210	PCC-JPCP	PC	6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0210	HMAC	TB	5	70	95	1	AC-20 (L3)	70	2.4 (L3)	N/A	31.3 (L3)	N/A	148	0.67	0.23	0.35
32_0210	Crushed Gravel	GB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0210	Soil-Aggregate Mixture (CG)	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0210	Lime-Treated Soil	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0210	Sandy Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0211	PCC-JPCP	PC	6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0211	HMAC	TB	5	70	95	1	AC-20 (L3)	70	2.4 (L3)	N/A	31.3 (L3)	N/A	148	0.67	0.23	0.35
32_0211	Crushed Gravel	GB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0211	Soil-Aggregate Mixture (CG)	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table FF.48. Asphalt treated material data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Percent Retained on 3/8" Sieve	Percent Retained on No. 4 Sieve	Percent Passing No. 200 Sieve	Asphalt Grade (Base)	Reference Temperature, oF	AC Binder Content (Base)	AC Binder Content (Subbase)	Percent Air Voids (Base)	Percent Air Voids (Subbase)	Unit Weight	Thermal conductivity	Heat Capacity	Poissons ratio
32_0211	Lime-Treated Soil	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0211	Sandy Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_3010	PCC-JPCP	PC	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_3010	CAM	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_3010	Gravel (uncrushed)	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_3010	Silty gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_3013	PCC-JPCP	PC	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_3013	CAM	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_3013	Crushed Gravel	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_3013	Poorly graded gravel/silt&sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_7084	PCC-JPCP	PC	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_7084	Dense-G Cold-Central-Plant-Mix	TB	4	4.5	26	6.7	AR-8000 (AR-80)	70	6	N/A	6.8	N/A	148	0.67	0.23	0.35
32_7084	Soil-Aggregate Mixture (CG)	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_7084	Soil-Aggregate Mixture (CG)	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_7084	Rock	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0201	PCC-JPCP	PC	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0201	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0201	Lime-Treated Soil	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0201	Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0202	PCC-JPCP	PC	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0202	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0202	Lime-Treated Soil	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0202	Clayey Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0203	PCC-JPCP	PC	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0203	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0203	Sand	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0203	Sandy Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table FF.48. Asphalt treated material data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Percent Retained on 3/8" Sieve	Percent Retained on No. 4 Sieve	Percent Passing No. 200 Sieve	Asphalt Grade (Base)	Reference Temperature, oF	AC Binder Content (Base)	AC Binder Content (Subbase)	Percent Air Voids (Base)	Percent Air Voids (Subbase)	Unit Weight	Thermal conductivity	Heat Capacity	Poissons ratio
37_0204	PCC-JPCP	PC	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0204	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0204	Lime-Treated Soil	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0204	Sandy Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0205	PCC-JPCP	PC	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0205	Lean Concrete	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0205	Lime-Treated Soil	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0205	Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0206	PCC-JPCP	PC	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0206	Lean Concrete	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0206	Lime-Treated Soil	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0206	Sandy Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0207	PCC-JPCP	PC	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0207	Lean Concrete	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0207	Sand	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0207	Sandy Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0208	PCC-JPCP	PC	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0208	Lean Concrete	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0208	Lime-Treated Soil	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0208	Sandy Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0209	PCC-JPCP	PC	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0209	O-Graded (Hot-Central-Plant-Mix)	TB	4	70	95	1	AC-20	70	2.4 (L3)	N/A	31.3 (L3)	N/A	148	0.67	0.23	0.35
37_0209	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0209	Lime-Treated Soil	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0209	Sandy Silty Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0210	PCC-JPCP	PC	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0210	O-Graded (Hot-Central-Plant-Mix)	TB	4	70	95	1	AC-20	70	2.4 (L3)	N/A	31.3 (L3)	N/A	148	0.67	0.23	0.35

Table FF.48. Asphalt treated material data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Percent Retained on 3/8" Sieve	Percent Retained on No. 4 Sieve	Percent Passing No. 200 Sieve	Asphalt Grade (Base)	Reference Temperature, oF	AC Binder Content (Base)	AC Binder Content (Subbase)	Percent Air Voids (Base)	Percent Air Voids (Subbase)	Unit Weight	Thermal conductivity	Heat Capacity	Poissons ratio
37_0210	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0210	Lime-Treated Soil	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0210	Clayey Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0211	PCC-JPCP	PC	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0211	O-Graded (Hot-Central-Plant-Mix)	TB	4	70	95	1	AC-20	70	2.4 (L3)	N/A	31.3 (L3)	N/A	148	0.67	0.23	0.35
37_0211	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0211	Lime-Treated Soil	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0211	Sandy Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0212	PCC-JPCP	PC	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0212	O-Graded (Hot-Central-Plant-Mix)	TB	4	70	95	1	AC-20	70	2.4 (L3)	N/A	31.3 (L3)	N/A	148	0.67	0.23	0.35
37_0212	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0212	Lime-Treated Soil	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0212	Sandy Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_3008	PCC-JPCP	PC	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_3008	Econocrete	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_3008	Silty sand with gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_3011	PCC-JPCP	PC	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_3011	ATM	TB	2	4.5	26	6.7	AC-20	70	4.7	N/A	7.3	N/A	148	0.67	0.23	0.35
37_3011	Clayey sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_3044	PCC-JPCP	PC	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_3044	Soil-Aggregate Mixture (FG)	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_3044	Silt with Sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_3807	PCC-JPCP	PC	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_3807	Soil Cement	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_3807	Silty sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_3816	PCC-JPCP	PC	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_3816	CAM	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table FF.48. Asphalt treated material data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Percent Retained on 3/8" Sieve	Percent Retained on No. 4 Sieve	Percent Passing No. 200 Sieve	Asphalt Grade (Base)	Reference Temperature, oF	AC Binder Content (Base)	AC Binder Content (Subbase)	Percent Air Voids (Base)	Percent Air Voids (Subbase)	Unit Weight	Thermal conductivity	Heat Capacity	Poissons ratio
37_3816	Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
39_3013	PCC-JPCP	PC	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
39_3013	Soil Cement	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
39_3013	Lean Clay with Sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
39_3801	PCC-JPCP	PC	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
39_3801	CAM	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
39_3801	Clayey gravel with sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0213	PCC-JPCP	PC	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0213	Crushed Gravel	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0213	Silty sand with gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0214	PCC-JPCP	PC	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0214	Crushed Gravel	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0214	Silty sand with gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0215	PCC-JPCP	PC	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0215	Crushed Gravel	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0215	Silty sand with gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0216	PCC-JPCP	PC	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0216	Crushed Gravel	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0216	Silty sand with gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0217	PCC-JPCP	PC	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0217	Lean Concrete	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0217	Silty sand with gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0218	PCC-JPCP	PC	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0218	Lean Concrete	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0218	Clayey sand with gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0219	PCC-JPCP	PC	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0219	Lean Concrete	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table FF.48. Asphalt treated material data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Percent Retained on 3/8" Sieve	Percent Retained on No. 4 Sieve	Percent Passing No. 200 Sieve	Asphalt Grade (Base)	Reference Temperature, oF	AC Binder Content (Base)	AC Binder Content (Subbase)	Percent Air Voids (Base)	Percent Air Voids (Subbase)	Unit Weight	Thermal conductivity	Heat Capacity	Poissons ratio
4_0219	Silty sand with gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0220	PCC-JPCP	PC	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0220	Lean Concrete	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0220	Clayey sand with gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0221	PCC-JPCP	PC	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0221	O-Graded (Hot-Central-Plant-Mix)	TB	3	70	95	1	AC-20	70	2.4 (L3)	N/A	31.3 (L3)	N/A	148	0.67	0.23	0.35
4_0221	Crushed Gravel	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0221	Silty sand with gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0222	PCC-JPCP	PC	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0222	O-Graded (Hot-Central-Plant-Mix)	TB	3	70	95	1	AC-20 (L3)	70	2.4 (L3)	N/A	31.3 (L3)	N/A	148	0.67	0.23	0.35
4_0222	Crushed Gravel	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0222	Clayey sand with gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0223	PCC-JPCP	PC	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0223	O-Graded (Hot-Central-Plant-Mix)	TB	3	70	95	1	AC-20	70	2.4	N/A	31.3 (L3)	N/A	148	0.67	0.23	0.35
4_0223	Crushed Gravel	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0223	Silty sand with gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0224	PCC-JPCP	PC	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0224	O-Graded (Hot-Central-Plant-Mix)	TB	3	70	95	1	AC-20	70	2.4 (L3)	N/A	31.3 (L3)	N/A	148	0.67	0.23	0.35
4_0224	Crushed Gravel	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0224	Clayey sand with gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_7613	PCC-JPCP	PC	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_7613	Clayey gravel with sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_7614	PCC-JPCP	PC	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_7614	CAM	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_7614	Silty sand with gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
40_3018	PCC-JPCP	PC	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table FF.48. Asphalt treated material data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Percent Retained on 3/8" Sieve	Percent Retained on No. 4 Sieve	Percent Passing No. 200 Sieve	Asphalt Grade (Base)	Reference Temperature, oF	AC Binder Content (Base)	AC Binder Content (Subbase)	Percent Air Voids (Base)	Percent Air Voids (Subbase)	Unit Weight	Thermal conductivity	Heat Capacity	Poissons ratio
40_3018	Sand Asphalt	TB	3	2.5	5	5	AC 85-100 pen	70	5.5	N/A	16.9	N/A	148	0.67	0.23	0.35
40_3018	Lime-Treated Soil	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
40_3018	Lean Inorganic Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
40_4160	PCC-JPCP	PC	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
40_4160	Sand Asphalt	TB	3	2.5	5	5	AC 85-100 pen	70	5.3	N/A	17.5	N/A	148	0.67	0.23	0.35
40_4160	Fine-grained Soils	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
40_4160	Lean Clay with Sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
40_4162	PCC-JPCP	PC	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
40_4162	HMAC	TB	2	4.5	26	6.7	AC-20	70	4.5	N/A	4.2	N/A	148	0.67	0.23	0.35
40_4162	Silty sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
46_3012	PCC-JPCP	PC	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
46_3012	Crushed Gravel	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
46_3012	Sandy Lean Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5_3011	PCC-JPCP	PC	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5_3011	Hot-Mix (Dense-G)	AC	3	7	30	7.8	AC-30	70	4.6	N/A	3.5	N/A	148	0.67	0.23	0.35
5_3011	CAM	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5_3011	Silty Clay with Sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0201	PCC-JPCP	PC	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0201	Crushed Stone	GB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0201	Silt with Sand	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0201	Rock	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0201	Poorly graded gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0202	PCC-JPCP	PC	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0202	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0202	Silt with Sand	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0202	Poorly graded gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0203	PCC-JPCP	PC	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table FF.48. Asphalt treated material data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Percent Retained on 3/8" Sieve	Percent Retained on No. 4 Sieve	Percent Passing No. 200 Sieve	Asphalt Grade (Base)	Reference Temperature, oF	AC Binder Content (Base)	AC Binder Content (Subbase)	Percent Air Voids (Base)	Percent Air Voids (Subbase)	Unit Weight	Thermal conductivity	Heat Capacity	Poissons ratio
53_0203	Crushed Stone	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0203	Poorly graded gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0204	PCC-JPCP	PC	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0204	Crushed Stone	GB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0204	Silt with Sand	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0204	Rock	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0204	Poorly graded gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0205	PCC-JPCP	PC	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0205	Lean Concrete	TB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0205	Silt with Sand	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0205	Rock	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0205	Poorly graded gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0206	PCC-JPCP	PC	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0206	Lean Concrete	TB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0206	Silt with Sand	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0206	Rock	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0206	Poorly graded gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0207	PCC-JPCP	PC	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0207	Lean Concrete	TB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0207	Silt with Sand	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0207	Rock	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0207	Poorly graded gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0208	PCC-JPCP	PC	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0208	Lean Concrete	TB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0208	Silt with Sand	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0208	Rock	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0208	Poorly graded gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table FF.48. Asphalt treated material data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Percent Retained on 3/8" Sieve	Percent Retained on No. 4 Sieve	Percent Passing No. 200 Sieve	Asphalt Grade (Base)	Reference Temperature, oF	AC Binder Content (Base)	AC Binder Content (Subbase)	Percent Air Voids (Base)	Percent Air Voids (Subbase)	Unit Weight	Thermal conductivity	Heat Capacity	Poissons ratio
53_0209	PCC-JPCP	PC	6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0209	O-Graded (Hot-Central-Plant-Mix)	TB	5	70	95	1	AR-4000 (AR-40)	70	2.4 (L3)	N/A	31.3 (L3)	N/A	148	0.67	0.23	0.35
53_0209	Crushed Stone	GB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0209	Silt with Sand	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0209	Rock	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0209	Poorly graded gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0210	PCC-JPCP	PC	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0210	O-Graded (Hot-Central-Plant-Mix)	TB	4	70	95	1	AR-4000 (AR-40)	70	2.4 (L3)	N/A	31.3 (L3)	N/A	148	0.67	0.23	0.35
53_0210	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0210	Silt with Sand	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0210	Poorly graded gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0211	PCC-JPCP	PC	6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0211	O-Graded (Hot-Central-Plant-Mix)	TB	5	70	95	1	AR-4000 (AR-40)	70	2.4 (L3)	N/A	31.3 (L3)	N/A	148	0.67	0.23	0.35
53_0211	Crushed Stone	GB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0211	Silt with Sand	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0211	Rock	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0211	Poorly graded gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0212	PCC-JPCP	PC	6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0212	O-Graded (Hot-Central-Plant-Mix)	TB	5	70	95	1	AR-4000 (AR-40)	70	2.4 (L3)	N/A	31.3 (L3)	N/A	148	0.67	0.23	0.35
53_0212	Crushed Stone	GB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0212	Silt with Sand	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0212	Rock	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0212	Poorly graded gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_3011	PCC-JPCP	PC	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_3011	Soil-Aggregate Mixture (FG)	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_3011	Silty sand with gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table FF.48. Asphalt treated material data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Percent Retained on 3/8" Sieve	Percent Retained on No. 4 Sieve	Percent Passing No. 200 Sieve	Asphalt Grade (Base)	Reference Temperature, oF	AC Binder Content (Base)	AC Binder Content (Subbase)	Percent Air Voids (Base)	Percent Air Voids (Subbase)	Unit Weight	Thermal conductivity	Heat Capacity	Poissons ratio
53_3013	PCC-JPCP	PC	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_3013	Crushed Gravel	GB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_3013	Soil-Aggregate Mixture (CG)	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_3013	Soil-Aggregate Mixture (CG)	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_3013	silty sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_3014	PCC-JPCP	PC	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_3014	Soil-Aggregate Mixture (CG)	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_3014	Silty sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_3019	PCC-JPCP	PC	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_3019	Crushed Gravel	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_3019	Crushed Gravel	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_3019	Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_3813	PCC-JPCP	PC	6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_3813	Soil-Aggregate Mixture (CG)	GB	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_3813	Crushed Gravel	GS	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_3813	Soil-Aggregate Mixture (FG)	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_3813	Soil-Aggregate Mixture (FG)	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_3813	Silty sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_7409	PCC-JPCP	PC	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_7409	Crushed Gravel	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_7409	poorly graded gravel/silt&sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_3008	PCC-JPCP	PC	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_3008	N/A	N/A	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_3008	Sandy Lean Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_3009	PCC-JPCP	PC	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_3009	Crushed Gravel	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_3009	Lean Clay with Sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table FF.48. Asphalt treated material data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Percent Retained on 3/8" Sieve	Percent Retained on No. 4 Sieve	Percent Passing No. 200 Sieve	Asphalt Grade (Base)	Reference Temperature, oF	AC Binder Content (Base)	AC Binder Content (Subbase)	Percent Air Voids (Base)	Percent Air Voids (Subbase)	Unit Weight	Thermal conductivity	Heat Capacity	Poissons ratio
55_3010	PCC-JPCP	PC	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_3010	Gravel (uncrushed)	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_3010	Gravelly Silt with Sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_3015	PCC-JPCP	PC	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_3015	Gravel (uncrushed)	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_3015	Poorly Graded Sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_3016	PCC-JPCP	PC	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_3016	Gravel (uncrushed)	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_3016	Poorly Graded Sand/Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_6351	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_6351	PCC-JPCP	PC	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_6351	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_6351	clayey gravel with sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_6352	PCC-JPCP	PC	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_6352	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_6352	Crushed Stone	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_6352	Rock	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_6353	PCC-JPCP	PC	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_6353	CAM	TB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_6353	Crushed Stone	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_6353	Crushed Stone	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_6353	Rock	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_6354	PCC-JPCP	PC	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_6354	O-Graded (Hot-Central-Plant-Mix)	TB	4	70	95	1	AC-20 (L3)	70	4.5 (L3)	N/A	6.5 (L3)	N/A	148	0.67	0.23	0.35
55_6354	Crushed Stone	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_6354	Crushed Stone	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_6354	Rock	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table FF.48. Asphalt treated material data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Percent Retained on 3/8" Sieve	Percent Retained on No. 4 Sieve	Percent Passing No. 200 Sieve	Asphalt Grade (Base)	Reference Temperature, oF	AC Binder Content (Base)	AC Binder Content (Subbase)	Percent Air Voids (Base)	Percent Air Voids (Subbase)	Unit Weight	Thermal conductivity	Heat Capacity	Poissons ratio
55_6355	PCC-JPCP	PC	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_6355	O-Graded (Hot-Central-Plant-Mix)	TB	4	70	95	1	AC-20 (L3)	70	4.5 (L3)	N/A	6.5 (L3)	N/A	148	0.67	0.23	0.35
55_6355	Rock	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6_3005	PCC-JPCP	PC	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6_3005	CAM	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6_3005	Silty gravel with sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6_3021	PCC-JPCP	PC	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6_3021	CAM	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6_3021	Soil-Aggregate Mixture (FG)	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6_3021	silty sand with gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6_3030	PCC-JPCP	PC	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6_3030	Hot-Mix (Dense-G)	AC	4	7	30	7.8	AC-20 (L3)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6_3030	CAM	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6_3030	Soil-Aggregate Mixture (CG)	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6_3030	Clayey gravel with sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6_3042	PCC-JPCP	PC	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6_3042	CAM	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6_3042	Soil-Aggregate Mixture (CG)	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6_3042	Sandy Lean Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0213	PCC-JPCP	PC	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0213	Crushed Gravel	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0213	Poorly Graded Sand/Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0214	PCC-JPCP	PC	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0214	Crushed Gravel	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0214	Clayey sand with gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0215	PCC-JPCP	PC	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0215	Crushed Gravel	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table FF.48. Asphalt treated material data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Percent Retained on 3/8" Sieve	Percent Retained on No. 4 Sieve	Percent Passing No. 200 Sieve	Asphalt Grade (Base)	Reference Temperature, oF	AC Binder Content (Base)	AC Binder Content (Subbase)	Percent Air Voids (Base)	Percent Air Voids (Subbase)	Unit Weight	Thermal conductivity	Heat Capacity	Poissons ratio
8_0215	Sandy Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0216	PCC-JPCP	PC	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0216	Crushed Gravel	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0216	Poorly Graded Sand/Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0217	PCC-JPCP	PC	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0217	Lean Concrete	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0217	Sandy Lean Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0218	PCC-JPCP	PC	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0218	Lean Concrete	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0218	Clayey sand with gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0219	PCC-JPCP	PC	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0219	Lean Concrete	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0219	Clayey sand with gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0220	PCC-JPCP	PC	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0220	Lean Concrete	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0220	Sandy Lean Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0221	PCC-JPCP	PC	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0221	O-Graded (Hot-Central-Plant-Mix)	TB	3	70	95	1	AC-10	70	2.9	N/A	31.3 (L3)	N/A	148	0.67	0.23	0.35
8_0221	Crushed Gravel	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0221	Sandy Lean Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0222	PCC-JPCP	PC	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0222	O-Graded (Hot-Central-Plant-Mix)	TB	3	70	95	1	AC-10	70	2.4 (L3)	N/A	31.3 (L3)	N/A	148	0.67	0.23	0.35
8_0222	Crushed Gravel	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0222	Well Graded Sand with Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0223	PCC-JPCP	PC	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0223	O-Graded (Hot-Central-Plant-Mix)	TB	3	70	95	1	AC-20 (L3)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0223	Crushed Gravel	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table FF.48. Asphalt treated material data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Percent Retained on 3/8" Sieve	Percent Retained on No. 4 Sieve	Percent Passing No. 200 Sieve	Asphalt Grade (Base)	Reference Temperature, oF	AC Binder Content (Base)	AC Binder Content (Subbase)	Percent Air Voids (Base)	Percent Air Voids (Subbase)	Unit Weight	Thermal conductivity	Heat Capacity	Poissons ratio
8_0223	Well Graded Sand with Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0224	PCC-JPCP	PC	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0224	O-Graded (Hot-Central-Plant-Mix)	TB	3	70	95	1	AC-10	70	3.3	N/A	31.3 (L3)	N/A	148	0.67	0.23	0.35
8_0224	Crushed Gravel	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0224	Clayey sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_3032	PCC-JPCP	PC	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_3032	Lean Concrete	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_3032	Soil-Aggregate Mixture (CG)	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_3032	Poorly graded gravel/silt&sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
83_3802	PCC-JPCP	PC	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
83_3802	N/A	N/A	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
83_3802	N/A	N/A	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
83_3802	Fat Inorganic Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
89_3015	PCC-JPCP	PC	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
89_3015	Crushed Stone	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
89_3015	Poorly Graded Sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table FF.48. Asphalt treated material data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Percent Retained on 3/4" Sieve	Percent Retained on 3/8" Sieve	Percent Retained on No. 4 Sieve	Percent Passing No. 200 Sieve	Asphalt Grade (Base)	Reference Temperature, oF	AC Binder Content (Base)	AC Binder Content (Subbase)	Percent Air Voids (Base)	Percent Air Voids (Subbase)	Unit Weight	Thermal conductivity	Heat Capacity	Poissons ratio
AZ1_1	JPCP	PCC	1														
AZ1_1	Cement stabilized	Stabilized base	2														
AZ1_1	Crushed stone	Granular base	3														
AZ1_1	A-4	Subgrade	4														
AZ1_2	JPCP	PCC	1														
AZ1_2	A-6	Subgrade	2														
AZ1_4	JPCP	PCC	1														
AZ1_4	A-6	Subgrade	2														
AZ1_5	JPCP	PCC	1														
AZ1_5	A-6	Subgrade	2														
AZ1_6	JPCP	PCC	1														
AZ1_6	Cement stabilized	Stabilized base	2														
AZ1_6	A-6	Subgrade	3														
AZ1_7	JPCP	PCC	1														
AZ1_7	Cement stabilized	Stabilized base	2														
AZ1_7	A-6	Subgrade	3														
AZ2	JPCP	PCC	1														
AZ2	Cement stabilized	Stabilized base	2														
AZ2	A-6	Subgrade	3														
CA1_10	JPCP	PCC	1														
CA1_10	Cement stabilized	Stabilized base	2														
CA1_10	Crushed stone	Granular base	3														
CA1_10	A-1-a	Subgrade	4														
CA1_3	JPCP	PCC	1														
CA1_3	Cement stabilized	Stabilized base	2														
CA1_3	Crushed stone	Granular base	3														

Table FF.48. Asphalt treated material data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Percent Retained on 3/4" Sieve	Percent Retained on 3/8" Sieve	Percent Retained on No. 4 Sieve	Percent Passing No. 200 Sieve	Asphalt Grade (Base)	Reference Temperature, oF	AC Binder Content (Base)	AC Binder Content (Subbase)	Percent Air Voids (Base)	Percent Air Voids (Subbase)	Unit Weight	Thermal conductivity	Heat Capacity	Poissons ratio
CA1_3	A-2-4	Subgrade	4														
CA1_4	JPCP	PCC	1														
CA1_4	Cement stabilized	Stabilized base	2														
CA1_4	Crushed stone	Granular base	3														
CA1_4	A-2-4	Subgrade	4														
CA1_5	JPCP	PCC	1														
CA1_5	Cement stabilized	Stabilized base	2														
CA1_5	Crushed stone	Granular base	3														
CA1_5	A-1-a	Subgrade	4														
CA1_6	JPCP	PCC	1														
CA1_6	Cement stabilized	Stabilized base	2														
CA1_6	Crushed stone	Granular base	3														
CA1_6	A-1-a	Subgrade	4														
CA1_7	JPCP	PCC	1														
CA1_7	Cement stabilized	Stabilized base	2														
CA1_7	Crushed stone	Granular base	3														
CA1_7	A-1-a	Subgrade	4														
CA1_8	JPCP	PCC	1														
CA1_8	Cement stabilized	Stabilized base	2														
CA1_8	Crushed stone	Granular base	3														
CA1_8	A-1-a	Subgrade	4														
CA1_9	JPCP	PCC	1														
CA1_9	Cement stabilized	Stabilized base	2														
CA1_9	Crushed stone	Granular base	3														
CA1_9	A-1-a	Subgrade	4														
CA10	JPCP	PCC	1														
CA10	Asphalt permeable base	Asphalt	2	5	67	95	1	AC-20	70	8		12.5		148	0.67	0.23	0.35

Table FF.48. Asphalt treated material data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Percent Retained on 3/4" Sieve	Percent Retained on 3/8" Sieve	Percent Retained on No. 4 Sieve	Percent Passing No. 200 Sieve	Asphalt Grade (Base)	Reference Temperature, oF	AC Binder Content (Base)	AC Binder Content (Subbase)	Percent Air Voids (Base)	Percent Air Voids (Subbase)	Unit Weight	Thermal conductivity	Heat Capacity	Poissons ratio
CA10	A-6	Subgrade	3														
CA11	JPCP	PCC	1														
CA11	Cement stabilized	Stabilized base	2														
CA11	Lime stabilized modified	Stabilized base	3														
CA11	A-7-6	Subgrade	4														
CA2_2	JPCP	PCC	1														
CA2_2	Asphalt concrete	Asphalt	2	3	35	55	5	AC-20	70	10		8.5		148	0.67	0.23	0.35
CA2_2	Crushed stone	Granular base	3														
CA2_2	A-4	Subgrade	4														
CA2_3	JPCP	PCC	1														
CA2_3	Cement stabilized	Stabilized base	2														
CA2_3	Crushed stone	Granular base	3														
CA2_3	A-4	Subgrade	4														
CA3_1	JPCP	PCC	1														
CA3_1	Cement stabilized	Stabilized base	2														
CA3_1	Crushed stone	Granular base	3														
CA3_1	A-4	Subgrade	4														
CA3_10	JPCP	PCC	1														
CA3_10	Cement stabilized	Stabilized base	2														
CA3_10	Crushed stone	Granular base	3														
CA3_10	A-4	Subgrade	4														
CA3_2	JPCP	PCC	1														
CA3_2	Cement stabilized	Stabilized base	2														
CA3_2	Crushed stone	Granular base	3														
CA3_2	A-4	Subgrade	4														
CA3_3	JPCP	PCC	1														
CA3_3	Cement stabilized	Stabilized base	2														

Table FF.48. Asphalt treated material data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Percent Retained on 3/4" Sieve	Percent Retained on 3/8" Sieve	Percent Retained on No. 4 Sieve	Percent Passing No. 200 Sieve	Asphalt Grade (Base)	Reference Temperature, oF	AC Binder Content (Base)	AC Binder Content (Subbase)	Percent Air Voids (Base)	Percent Air Voids (Subbase)	Unit Weight	Thermal conductivity	Heat Capacity	Poissons ratio
CA3_3	Crushed stone	Granular base	3														
CA3_3	A-4	Subgrade	4														
CA3_4	JPCP	PCC	1														
CA3_4	Cement stabilized	Stabilized base	2														
CA3_4	Crushed stone	Granular base	3														
CA3_4	A-4	Subgrade	4														
CA3_5	JPCP	PCC	1														
CA3_5	Cement stabilized	Stabilized base	2														
CA3_5	Crushed stone	Granular base	3														
CA3_5	A-4	Subgrade	4														
CA3_6	JPCP	PCC	1														
CA3_6	Cement stabilized	Stabilized base	2														
CA3_6	Crushed stone	Granular base	3														
CA3_6	A-4	Subgrade	4														
CA3_7	JPCP	PCC	1														
CA3_7	Cement stabilized	Stabilized base	2														
CA3_7	Crushed stone	Granular base	3														
CA3_7	A-4	Subgrade	4														
CA3_8	JPCP	PCC	1														
CA3_8	Cement stabilized	Stabilized base	2														
CA3_8	Crushed stone	Granular base	3														
CA3_8	A-4	Subgrade	4														
CA3_9	JPCP	PCC	1														
CA3_9	Cement stabilized	Stabilized base	2														
CA3_9	Crushed stone	Granular base	3														
CA3_9	A-4	Subgrade	4														
CA6_1	JPCP	PCC	1														

Table FF.48. Asphalt treated material data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Percent Retained on 3/4" Sieve	Percent Retained on 3/8" Sieve	Percent Retained on No. 4 Sieve	Percent Passing No. 200 Sieve	Asphalt Grade (Base)	Reference Temperature, oF	AC Binder Content (Base)	AC Binder Content (Subbase)	Percent Air Voids (Base)	Percent Air Voids (Subbase)	Unit Weight	Thermal conductivity	Heat Capacity	Poissons ratio
CA6_1	Cement stabilized	Stabilized base	2														
CA6_1	Crushed stone	Granular base	3														
CA6_1	A-2-4	Subgrade	4														
CA6_2	JPCP	PCC	1														
CA6_2	Asphalt permeable base	Asphalt	2	5	67	95	1	AC-20	70	8		12.5		148	0.67	0.23	0.35
CA6_2	Asphalt concrete	Asphalt	3	3	35	55	5	AC-20	70	10		8.5		148	0.67	0.23	0.35
CA6_2	A-2-4	Subgrade	4														
CA7	JPCP	PCC	1														
CA7	Cement stabilized	Stabilized base	2														
CA7	Lime stabilized modified	Stabilized base	3														
CA7	A-2-4	Subgrade	4														
CA8	JPCP	PCC	1														
CA8	Asphalt concrete	Asphalt	2	3	35	55	5	AC-20	70	10		8.5		148	0.67	0.23	0.35
CA8	Crushed stone	Granular base	3														
CA8	A-7-6	Subgrade	4														
CA9_10	JPCP	PCC	1														
CA9_10	Cement stabilized	Stabilized base	2														
CA9_10	Crushed stone	Granular base	3														
CA9_10	A-6	Subgrade	4														
CA9_2	JPCP	PCC	1														
CA9_2	Cement stabilized	Stabilized base	2														
CA9_2	Crushed stone	Granular base	3														
CA9_2	A-6	Subgrade	4														
CA9_3	JPCP	PCC	1														
CA9_3	Cement stabilized	Stabilized base	2														
CA9_3	Crushed stone	Granular base	3														
CA9_3	A-6	Subgrade	4														

Table FF.48. Asphalt treated material data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Percent Retained on 3/4" Sieve	Percent Retained on 3/8" Sieve	Percent Retained on No. 4 Sieve	Percent Passing No. 200 Sieve	Asphalt Grade (Base)	Reference Temperature, oF	AC Binder Content (Base)	AC Binder Content (Subbase)	Percent Air Voids (Base)	Percent Air Voids (Subbase)	Unit Weight	Thermal conductivity	Heat Capacity	Poissons ratio
CA9_4	JPCP	PCC	1														
CA9_4	Cement stabilized	Stabilized base	2														
CA9_4	Crushed stone	Granular base	3														
CA9_4	A-6	Subgrade	4														
CA9_5	JPCP	PCC	1														
CA9_5	Cement stabilized	Stabilized base	2														
CA9_5	Crushed stone	Granular base	3														
CA9_5	A-6	Subgrade	4														
CA9_8	JPCP	PCC	1														
CA9_8	Cement stabilized	Stabilized base	2														
CA9_8	Crushed stone	Granular base	3														
CA9_8	A-6	Subgrade	4														
FL2	JPCP	PCC	1														
FL2	Crushed stone	Granular base	2														
FL2	A-3	Subgrade	3														
FL3	JPCP	PCC	1														
FL3	Cement stabilized	Stabilized base	2														
FL3	A-3	Subgrade	3														
FL4_1	JPCP	PCC	1														
FL4_1	Cement stabilized	Stabilized base	2														
FL4_1	A-3	Subgrade	3														
GA1_1	JPCP	PCC	1														
GA1_1	Asphalt concrete	Asphalt	2	3	35	55	5	AC-20	70	10		8.5		148	0.67	0.23	0.35
GA1_1	Cement stabilized	Stabilized base	3														
GA1_1	A-4	Subgrade	4														
GA1_10	JPCP	PCC	1														
GA1_10	Cement stabilized	Stabilized base	2														

Table FF.48. Asphalt treated material data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Percent Retained on 3/4" Sieve	Percent Retained on 3/8" Sieve	Percent Retained on No. 4 Sieve	Percent Passing No. 200 Sieve	Asphalt Grade (Base)	Reference Temperature, oF	AC Binder Content (Base)	AC Binder Content (Subbase)	Percent Air Voids (Base)	Percent Air Voids (Subbase)	Unit Weight	Thermal conductivity	Heat Capacity	Poissons ratio
GA1_10	A-4	Subgrade	3														
GA1_2	JPCP	PCC	1														
GA1_2	Asphalt concrete	Asphalt	2	3	35	55	5	AC-20	70	10		8.5		148	0.67	0.23	0.35
GA1_2	Cement stabilized	Stabilized base	3														
GA1_2	A-4	Subgrade	4														
GA1_3	JPCP	PCC	1														
GA1_3	Asphalt concrete	Asphalt	2	3	35	55	5	AC-20	70	10		8.5		148	0.67	0.23	0.35
GA1_3	Cement stabilized	Stabilized base	3														
GA1_3	A-4	Subgrade	4														
GA1_4	JPCP	PCC	1														
GA1_4	Asphalt concrete	Asphalt	2	3	35	55	5	AC-20	70	10		8.5		148	0.67	0.23	0.35
GA1_4	Cement stabilized	Stabilized base	3														
GA1_4	A-4	Subgrade	4														
GA1_5	JPCP	PCC	1														
GA1_5	Cement stabilized	Stabilized base	2														
GA1_5	A-4	Subgrade	3														
GA1_6	JPCP	PCC	1														
GA1_6	Asphalt concrete	Asphalt	2	3	35	55	5	AC-20	70	10		8.5		148	0.67	0.23	0.35
GA1_6	A-4	Subgrade	3														
GA1_7	JPCP	PCC	1														
GA1_7	Asphalt concrete	Asphalt	2	3	35	55	5	AC-20	70	10		8.5		148	0.67	0.23	0.35
GA1_7	A-4	Subgrade	3														
GA1_8	JPCP	PCC	1														
GA1_8	Asphalt concrete	Asphalt	2	3	35	55	5	AC-20	70	10		8.5		148	0.67	0.23	0.35
GA1_8	A-4	Subgrade	3														
GA1_9	JPCP	PCC	1														
GA1_9	Asphalt concrete	Asphalt	2	3	35	55	5	AC-20	70	10		8.5		148	0.67	0.23	0.35

Table FF.48. Asphalt treated material data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Percent Retained on 3/4" Sieve	Percent Retained on 3/8" Sieve	Percent Retained on No. 4 Sieve	Percent Passing No. 200 Sieve	Asphalt Grade (Base)	Reference Temperature, oF	AC Binder Content (Base)	AC Binder Content (Subbase)	Percent Air Voids (Base)	Percent Air Voids (Subbase)	Unit Weight	Thermal conductivity	Heat Capacity	Poissons ratio
GA1_9	A-4	Subgrade	3														
GA2	JPCP	PCC	1														
GA2	Cement stabilized	Stabilized base	2														
GA2	A-2-6	Subgrade	3														
MI1_10a	JPCP	PCC	1														
MI1_10a	Asphalt concrete	Asphalt	2	3	35	55	5	AC-20	70	10		8.5		148	0.67	0.23	0.35
MI1_10a	Crushed stone	Granular base	3														
MI1_10a	A-2-4	Subgrade	4														
MI1_10a3	JPCP	PCC	1														
MI1_10a3	Asphalt concrete	Asphalt	2	3	35	55	5	AC-20	70	10		8.5		148	0.67	0.23	0.35
MI1_10a3	Crushed stone	Granular base	3														
MI1_10a3	A-2-4	Subgrade	4														
MI1_10b	JPCP	PCC	1														
MI1_10b	Asphalt concrete	Asphalt	2	3	35	55	5	AC-20	70	10		8.5		148	0.67	0.23	0.35
MI1_10b	Crushed stone	Granular base	3														
MI1_10b	A-2-4	Subgrade	4														
MI1_25	JPCP	PCC	1														
MI1_25	Asphalt concrete	Asphalt	2	3	35	55	5	AC-20	70	10		8.5		148	0.67	0.23	0.35
MI1_25	Crushed stone	Granular base	3														
MI1_25	A-2-4	Subgrade	4														
MI1_4a	JPCP	PCC	1														
MI1_4a	Asphalt permeable base	Asphalt	2	5	67	95	1	AC-20	70	8		12.5		148	0.67	0.23	0.35
MI1_4a	Crushed stone	Granular base	3														
MI1_4a	A-2-4	Subgrade	4														
MI1_4a10	JPCP	PCC	1														
MI1_4a10	Asphalt permeable base	Asphalt	2	5	67	95	1	AC-20	70	8		12.5		148	0.67	0.23	0.35
MI1_4a10	Crushed stone	Granular base	3														

Table FF.48. Asphalt treated material data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Percent Retained on 3/4" Sieve	Percent Retained on 3/8" Sieve	Percent Retained on No. 4 Sieve	Percent Passing No. 200 Sieve	Asphalt Grade (Base)	Reference Temperature, oF	AC Binder Content (Base)	AC Binder Content (Subbase)	Percent Air Voids (Base)	Percent Air Voids (Subbase)	Unit Weight	Thermal conductivity	Heat Capacity	Poissons ratio
MI1_4a10	A-2-4	Subgrade	4														
MI1_4a12	JPCP	PCC	1														
MI1_4a12	Asphalt permeable base	Asphalt	2	5	67	95	1	AC-20	70	8		12.5		148	0.67	0.23	0.35
MI1_4a12	Crushed stone	Granular base	3														
MI1_4a12	A-2-4	Subgrade	4														
MI1_7a	JPCP	PCC	1														
MI1_7a	Crushed stone	Granular base	2														
MI1_7a	Crushed stone	Granular base	3														
MI1_7a	A-2-4	Subgrade	4														
MI1_7a5	JPCP	PCC	1														
MI1_7a5	Crushed stone	Granular base	2														
MI1_7a5	Crushed stone	Granular base	3														
MI1_7a5	A-2-4	Subgrade	4														
MI1_7b	JPCP	PCC	1														
MI1_7b	Crushed stone	Granular base	2														
MI1_7b	Crushed stone	Granular base	3														
MI1_7b	A-2-4	Subgrade	4														
MI1_7b5	JPCP	PCC	1														
MI1_7b5	Crushed stone	Granular base	2														
MI1_7b5	Crushed stone	Granular base	3														
MI1_7b5	A-2-4	Subgrade	4														
MI6	JPCP	PCC	1														
MI6	Crushed stone	Granular base	2														
MI6	A-6	Subgrade	3														
MN2_1	JPCP	PCC	1														
MN2_1	Crushed stone	Granular base	2														
MN2_1	A-6	Subgrade	3														

Table FF.48. Asphalt treated material data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Percent Retained on 3/4" Sieve	Percent Retained on 3/8" Sieve	Percent Retained on No. 4 Sieve	Percent Passing No. 200 Sieve	Asphalt Grade (Base)	Reference Temperature, oF	AC Binder Content (Base)	AC Binder Content (Subbase)	Percent Air Voids (Base)	Percent Air Voids (Subbase)	Unit Weight	Thermal conductivity	Heat Capacity	Poissons ratio
MN2_2	JPCP	PCC	1														
MN2_2	Crushed stone	Granular base	2														
MN2_2	A-6	Subgrade	3														
MN4	JPCP	PCC	1														
MN4	Crushed stone	Granular base	2														
MN4	A-2-6	Subgrade	3														
MN7_10	JPCP	PCC	1														
MN7_10	Crushed stone	Granular base	2														
MN7_10	Crushed stone	Granular base	3														
MN7_10	A-4	Subgrade	4														
MN7_15	JPCP	PCC	1														
MN7_15	Crushed stone	Granular base	2														
MN7_15	Crushed stone	Granular base	3														
MN7_15	A-4	Subgrade	4														
MN7_16	JPCP	PCC	1														
MN7_16	Crushed stone	Granular base	2														
MN7_16	Crushed stone	Granular base	3														
MN7_16	A-4	Subgrade	4														
MN7_17	JPCP	PCC	1														
MN7_17	Crushed stone	Granular base	2														
MN7_17	Crushed stone	Granular base	3														
MN7_17	A-4	Subgrade	4														
MN7_18	JPCP	PCC	1														
MN7_18	Crushed stone	Granular base	2														
MN7_18	Crushed stone	Granular base	3														
MN7_18	A-4	Subgrade	4														
MN7_23	JPCP	PCC	1														

Table FF.48. Asphalt treated material data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Percent Retained on 3/4" Sieve	Percent Retained on 3/8" Sieve	Percent Retained on No. 4 Sieve	Percent Passing No. 200 Sieve	Asphalt Grade (Base)	Reference Temperature, oF	AC Binder Content (Base)	AC Binder Content (Subbase)	Percent Air Voids (Base)	Percent Air Voids (Subbase)	Unit Weight	Thermal conductivity	Heat Capacity	Poissons ratio
MN7_23	Crushed stone	Granular base	2														
MN7_23	Crushed stone	Granular base	3														
MN7_23	A-4	Subgrade	4														
MN7_24	JPCP	PCC	1														
MN7_24	Crushed stone	Granular base	2														
MN7_24	Crushed stone	Granular base	3														
MN7_24	A-4	Subgrade	4														
MN7_9	JPCP	PCC	1														
MN7_9	Crushed stone	Granular base	2														
MN7_9	Crushed stone	Granular base	3														
MN7_9	A-4	Subgrade	4														
NC1_1	JPCP	PCC	1														
NC1_1	Crushed stone	Granular base	2														
NC1_1	A-6	Subgrade	3														
NC1_2	JPCP	PCC	1														
NC1_2	Cement stabilized	Stabilized base	2														
NC1_2	A-6	Subgrade	3														
NC1_3	JPCP	PCC	1														
NC1_3	Cement stabilized	Stabilized base	2														
NC1_3	A-6	Subgrade	3														
NC1_4	JPCP	PCC	1														
NC1_4	Crushed stone	Granular base	2														
NC1_4	A-7-6	Subgrade	3														
NC1_5	JPCP	PCC	1														
NC1_5	Cement stabilized	Stabilized base	2														
NC1_5	A-6	Subgrade	3														
NC1_6	JPCP	PCC	1														

Table FF.48. Asphalt treated material data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Percent Retained on 3/4" Sieve	Percent Retained on 3/8" Sieve	Percent Retained on No. 4 Sieve	Percent Passing No. 200 Sieve	Asphalt Grade (Base)	Reference Temperature, oF	AC Binder Content (Base)	AC Binder Content (Subbase)	Percent Air Voids (Base)	Percent Air Voids (Subbase)	Unit Weight	Thermal conductivity	Heat Capacity	Poissons ratio
NC1_6	Asphalt concrete	Asphalt	2	3	35	55	5	AC-20	70	10		8.5		148	0.67	0.23	0.35
NC1_6	A-6	Subgrade	3														
NC1_8	JPCP	PCC	1														
NC1_8	Crushed stone	Granular base	2														
NC1_8	A-6	Subgrade	3														
NC2	JPCP	PCC	1														
NC2	Cement stabilized	Stabilized base	2														
NC2	A-4	Subgrade	3														
NY1_1	JPCP	PCC	1														
NY1_1	Asphalt concrete	Asphalt	2	3	35	55	5	AC-20	70	10		8.5		148	0.67	0.23	0.35
NY1_1	Crushed stone	Granular base	3														
NY1_1	A-2-4	Subgrade	4														
NY1_5a	JPCP	PCC	1														
NY1_5a	Cement stabilized	Stabilized base	2														
NY1_5a	A-1-a	Subgrade	3														
NY1_5b	JPCP	PCC	1														
NY1_5b	Cement stabilized	Stabilized base	2														
NY1_5b	A-1-a	Subgrade	3														
NY1_6	JPCP	PCC	1														
NY1_6	Crushed stone	Granular base	2														
NY1_6	Crushed stone	Granular base	3														
NY1_6	A-1-a	Subgrade	4														
NY1_8a	JPCP	PCC	1														
NY1_8a	Asphalt concrete	Asphalt	2	3	35	55	5	AC-20	70	10		8.5		148	0.67	0.23	0.35
NY1_8a	Crushed stone	Granular base	3														
NY1_8a	A-2-4	Subgrade	4														
NY1_8b	JPCP	PCC	1														

Table FF.48. Asphalt treated material data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Percent Retained on 3/4" Sieve	Percent Retained on 3/8" Sieve	Percent Retained on No. 4 Sieve	Percent Passing No. 200 Sieve	Asphalt Grade (Base)	Reference Temperature, oF	AC Binder Content (Base)	AC Binder Content (Subbase)	Percent Air Voids (Base)	Percent Air Voids (Subbase)	Unit Weight	Thermal conductivity	Heat Capacity	Poissons ratio
NY1_8b	Asphalt concrete	Asphalt	2	5	67	95	1	AC-20	70	8		12.5		148	0.67	0.23	0.35
NY1_8b	Crushed stone	Granular base	3														
NY1_8b	A-2-4	Subgrade	4														
NY2_11	JPCP	PCC	1														
NY2_11	Crushed stone	Granular base	2														
NY2_11	A-1-a	Subgrade	3														
NY2_3	JPCP	PCC	1														
NY2_3	Crushed stone	Granular base	2														
NY2_3	Crushed stone	Granular base	3														
NY2_3	A-1-a	Subgrade	4														
NY2_9	JPCP	PCC	1														
NY2_9	Crushed stone	Granular base	2														
NY2_9	A-1-a	Subgrade	3														
OH2_1	JPCP	PCC	1														
OH2_1	A-6	Subgrade	2														
OH2_2	JPCP	PCC	1														
OH2_2	A-4	Subgrade	2														
OH2_3	JPCP	PCC	1														
OH2_3	A-4	Subgrade	2														
OH2_4	JPCP	PCC	1														
OH2_4	A-6	Subgrade	2														
ONT1_1	JPCP	PCC	1														
ONT1_1	A-7-6	Subgrade	2														
ONT1_2	JPCP	PCC	1														
ONT1_2	Asphalt permeable base	Asphalt	2	5	67	95	1	AC-20	70	8		12.5		148	0.67	0.23	0.35
ONT1_2	A-7-6	Subgrade	3														
ONT1_3	JPCP	PCC	1														

Table FF.48. Asphalt treated material data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Percent Retained on 3/4" Sieve	Percent Retained on 3/8" Sieve	Percent Retained on No. 4 Sieve	Percent Passing No. 200 Sieve	Asphalt Grade (Base)	Reference Temperature, oF	AC Binder Content (Base)	AC Binder Content (Subbase)	Percent Air Voids (Base)	Percent Air Voids (Subbase)	Unit Weight	Thermal conductivity	Heat Capacity	Poissons ratio
ONT1_3	Cement stabilized	Stabilized base	2														
ONT1_3	A-7-6	Subgrade	3														
ONT1_4	JPCP	PCC	1														
ONT1_4	Cement stabilized	Stabilized base	2														
ONT1_4	A-7-6	Subgrade	3														
ONT2_1	JPCP	PCC	1														
ONT2_1	Cement stabilized	Stabilized base	2														
ONT2_1	A-4	Subgrade	3														
ONT2_1a	JPCP	PCC	1														
ONT2_1a	Cement stabilized	Stabilized base	2														
ONT2_1a	A-4	Subgrade	3														
WI1_1	JPCP	PCC	1														
WI1_1	Cement stabilized	Stabilized base	2														
WI1_1	Crushed stone	Granular base	3														
WI1_1	A-4	Subgrade	4														
WI1_2	JPCP	PCC	1														
WI1_2	Cement stabilized	Stabilized base	2														
WI1_2	Crushed stone	Granular base	3														
WI1_2	A-4	Subgrade	4														
WI1_3	JPCP	PCC	1														
WI1_3	Cement stabilized	Stabilized base	2														
WI1_3	Crushed stone	Granular base	3														
WI1_3	A-4	Subgrade	4														
WI2_1	JPCP	PCC	1														
WI2_1	Cement stabilized	Stabilized base	2														
WI2_1	Crushed stone	Granular base	3														
WI2_1	A-6	Subgrade	4														

Table FF.48. Asphalt treated material data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Percent Retained on 3/4" Sieve	Percent Retained on 3/8" Sieve	Percent Retained on No. 4 Sieve	Percent Passing No. 200 Sieve	Asphalt Grade (Base)	Reference Temperature, oF	AC Binder Content (Base)	AC Binder Content (Subbase)	Percent Air Voids (Base)	Percent Air Voids (Subbase)	Unit Weight	Thermal conductivity	Heat Capacity	Poissons ratio
WI2_2	JPCP	PCC	1														
WI2_2	Asphalt permeable base	Asphalt	2	5	67	95	1	AC-20	70	8		12.5		148	0.67	0.23	0.35
WI2_2	Crushed stone	Granular base	3														
WI2_2	A-6	Subgrade	4														
WI2_3	JPCP	PCC	1														
WI2_3	Crushed stone	Granular base	2														
WI2_3	Crushed stone	Granular base	3														
WI2_3	A-6	Subgrade	4														
WI2_4	JPCP	PCC	1														
WI2_4	Crushed stone	Granular base	2														
WI2_4	Crushed stone	Granular base	3														
WI2_4	A-6	Subgrade	4														
WI2_5	JPCP	PCC	1														
WI2_5	Crushed stone	Granular base	2														
WI2_5	Crushed stone	Granular base	3														
WI2_5	A-6	Subgrade	4														
WI3_1	JPCP	PCC	1														
WI3_1	Asphalt permeable base	Asphalt	2	5	67	95	1	AC-20	70	8		12.5		148	0.67	0.23	0.35
WI3_1	Crushed stone	Granular base	3														
WI3_1	A-3	Subgrade	4														
WI3_2	JPCP	PCC	1														
WI3_2	Crushed stone	Granular base	2														
WI3_2	A-3	Subgrade	3														
WI3_3	JPCP	PCC	1														
WI3_3	Crushed stone	Granular base	2														
WI3_3	A-3	Subgrade	3														
WI4_1	JPCP	PCC	1														

Table FF.48. Asphalt treated material data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Percent Retained on 3/4" Sieve	Percent Retained on 3/8" Sieve	Percent Retained on No. 4 Sieve	Percent Passing No. 200 Sieve	Asphalt Grade (Base)	Reference Temperature, oF	AC Binder Content (Base)	AC Binder Content (Subbase)	Percent Air Voids (Base)	Percent Air Voids (Subbase)	Unit Weight	Thermal conductivity	Heat Capacity	Poissons ratio
WI4_1	Crushed stone	Granular base	2														
WI4_1	A-4	Subgrade	3														
WI4_2	JPCP	PCC	1														
WI4_2	Crushed stone	Granular base	2														
WI4_2	A-4	Subgrade	3														
WI4_3	JPCP	PCC	1														
WI4_3	Crushed stone	Granular base	2														
WI4_3	A-4	Subgrade	3														
WI4_4	JPCP	PCC	1														
WI4_4	Crushed stone	Granular base	2														
WI4_4	A-4	Subgrade	3														
WI4_5	JPCP	PCC	1														
WI4_5	Crushed stone	Granular base	2														
WI4_5	A-4	Subgrade	3														
WI4_6	JPCP	PCC	1														
WI4_6	Crushed stone	Granular base	2														
WI4_6	A-4	Subgrade	3														
WI5_1	JPCP	PCC	1														
WI5_1	Crushed stone	Granular base	2														
WI5_1	A-6	Subgrade	3														
WI5_2	JPCP	PCC	1														
WI5_2	Crushed stone	Granular base	2														
WI5_2	A-6	Subgrade	3														
WI5_3	JPCP	PCC	1														
WI5_3	Crushed stone	Granular base	2														
WI5_3	A-2-4	Subgrade	3														
WI5_4	JPCP	PCC	1														

Table FF.48. Asphalt treated material data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Percent Retained on 3/4" Sieve	Percent Retained on 3/8" Sieve	Percent Retained on No. 4 Sieve	Percent Passing No. 200 Sieve	Asphalt Grade (Base)	Reference Temperature, oF	AC Binder Content (Base)	AC Binder Content (Subbase)	Percent Air Voids (Base)	Percent Air Voids (Subbase)	Unit Weight	Thermal conductivity	Heat Capacity	Poissons ratio
WI5_4	Crushed stone	Granular base	2														
WI5_4	A-4	Subgrade	3														
WI5_5	JPCP	PCC	1														
WI5_5	Crushed stone	Granular base	2														
WI5_5	A-4	Subgrade	3														
WI5_6	JPCP	PCC	1														
WI5_6	Crushed stone	Granular base	2														
WI5_6	A-4	Subgrade	3														
WI6_1	JPCP	PCC	1														
WI6_1	Crushed stone	Granular base	2														
WI6_1	Crushed stone	Granular base	3														
WI6_1	A-6	Subgrade	4														
WI6_2	JPCP	PCC	1														
WI6_2	Crushed stone	Granular base	2														
WI6_2	Crushed stone	Granular base	3														
WI6_2	A-6	Subgrade	4														
WI6_3	JPCP	PCC	1														
WI6_3	Crushed stone	Granular base	2														
WI6_3	Crushed stone	Granular base	3														
WI6_3	A-6	Subgrade	4														
WI6_4	JPCP	PCC	1														
WI6_4	Crushed stone	Granular base	2														
WI6_4	Crushed stone	Granular base	3														
WI6_4	A-6	Subgrade	4														
WI7_1	JPCP	PCC	1														
WI7_1	Crushed stone	Granular base	2														
WI7_1	Crushed stone	Granular base	3														

Table FF.48. Asphalt treated material data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Percent Retained on 3/4" Sieve	Percent Retained on 3/8" Sieve	Percent Retained on No. 4 Sieve	Percent Passing No. 200 Sieve	Asphalt Grade (Base)	Reference Temperature, oF	AC Binder Content (Base)	AC Binder Content (Subbase)	Percent Air Voids (Base)	Percent Air Voids (Subbase)	Unit Weight	Thermal conductivity	Heat Capacity	Poissons ratio
WI7_1	A-7-6	Subgrade	4														
WI7_10	JPCP	PCC	1														
WI7_10	Crushed stone	Granular base	2														
WI7_10	Crushed stone	Granular base	3														
WI7_10	A-7-6	Subgrade	4														
WI7_2	JPCP	PCC	1														
WI7_2	Crushed stone	Granular base	2														
WI7_2	Crushed stone	Granular base	3														
WI7_2	A-7-6	Subgrade	4														
WI7_3	JPCP	PCC	1														
WI7_3	Cement stabilized	Stabilized base	2														
WI7_3	Crushed stone	Granular base	3														
WI7_3	A-7-6	Subgrade	4														
WI7_4	JPCP	PCC	1														
WI7_4	Cement stabilized	Stabilized base	2														
WI7_4	Crushed stone	Granular base	3														
WI7_4	A-7-6	Subgrade	4														
WI7_5	JPCP	PCC	1														
WI7_5	Asphalt permeable base	Asphalt	2	5	67	95	1	AC-20	70	8		12.5		148	0.67	0.23	0.35
WI7_5	Crushed stone	Granular base	3														
WI7_5	A-7-6	Subgrade	4														
WI7_6	JPCP	PCC	1														
WI7_6	Asphalt permeable base	Asphalt	2	5	67	95	1	AC-20	70	8		12.5		148	0.67	0.23	0.35
WI7_6	Crushed stone	Granular base	3														
WI7_6	A-7-6	Subgrade	4														
WI7_7	JPCP	PCC	1														
WI7_7	Crushed stone	Granular base	2														

Table FF.48. Asphalt treated material data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Percent Retained on 3/4" Sieve	Percent Retained on 3/8" Sieve	Percent Retained on No. 4 Sieve	Percent Passing No. 200 Sieve	Asphalt Grade (Base)	Reference Temperature, oF	AC Binder Content (Base)	AC Binder Content (Subbase)	Percent Air Voids (Base)	Percent Air Voids (Subbase)	Unit Weight	Thermal conductivity	Heat Capacity	Poissons ratio
WI7_7	Crushed stone	Granular base	3														
WI7_7	A-7-6	Subgrade	4														
WI7_8	JPCP	PCC	1														
WI7_8	Crushed stone	Granular base	2														
WI7_8	Crushed stone	Granular base	3														
WI7_8	A-7-6	Subgrade	4														
WI7_9	JPCP	PCC	1														
WI7_9	Crushed stone	Granular base	2														
WI7_9	Crushed stone	Granular base	3														
WI7_9	A-7-6	Subgrade	4														
WV1_3	JPCP	PCC	1														
WV1_3	Crushed stone	Granular base	2														
WV1_3	A-4	Subgrade	3														

Table FF.49. Strength data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Compressive Strength, psi				Elastic Modulus, psi				Flexural Strength, psi				Tensile Strength, psi			
				7-day	14-day	28-day	90-day	7-day	14-day	28-day	90-day	7-day	14-day	28-day	90-day	7-day	14-day	28-day	90-day
1_3028	PCC-JPCP	PC	4	3780	4098	4446	4966	3092455	3227884	3353795	3551669	584	608	633	669	409	426	443	469
1_3028	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1_3028	Soil-Aggregate Mixture (CG)	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1_3028	Clayey sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12_3804	PCC-JPCP	PC	3	3505	3799	4122	4604	2336225	2438536	2533656	2683142	562	586	610	645	394	410	427	451
12_3804	Soil Cement	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12_3804	Poorly Graded Sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12_3811	PCC-JPCP	PC	4	3472	3763	4084	4561	2734672	2854433	2965776	3140757	560	583	607	642	392	408	425	449
12_3811	Soil Cement	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12_3811	Fine-grained Soils	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12_3811	Clayey sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12_4000	PCC-JPCP	PC	3	4423	4794	5202	5810	2978872	3109327	3230613	3421220	632	658	685	724	442	460	480	507
12_4000	Soil Cement	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12_4000	Silty sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12_4057	PCC-JPCP	PC	3	4725	5122	5558	6207	3085420	3220541	3346165	3543589	653	680	708	748	457	476	496	524
12_4057	Fine-grained Soils	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12_4057	Poorly Graded Sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12_4059	PCC-JPCP	PC	5	5789	6275	6809	7605	3406354	3555530	3694221	3912180	723	753	784	828	506	527	549	580
12_4059	Hot-Mix (Dense-G)	AC	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12_4059	Hot-Mix (Dense-G)	AC	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12_4059	Limerock, Caliche	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12_4059	Poorly Graded Sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12_4109	PCC-JPCP	PC	3	3383	3667	3979	4444	2542848	2654208	2757741	2920447	553	575	599	633	387	403	419	443
12_4109	Limerock, Caliche	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12_4109	Poorly Graded Sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12_4138	PCC-JPCP	PC	3	3955	4287	4652	5195	3584588	3741569	3887517	4116881	597	622	648	685	418	435	454	479

Table FF.49. Strength data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Compressive Strength, psi				Elastic Modulus, psi				Flexural Strength, psi				Tensile Strength, psi			
				7-day	14-day	28-day	90-day	7-day	14-day	28-day	90-day	7-day	14-day	28-day	90-day	7-day	14-day	28-day	90-day
12_4138	CAM	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12_4138	Silty sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
16_3017	PCC-JPCP	PC	4	5109	5538	6009	6712	3093645	3229126	3355085	3553035	679	707	736	778	475	495	516	545
16_3017	ATM	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
16_3017	Crushed Gravel	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
16_3017	Silt with Sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
16_3023	PCC-JPCP	PC	5	5400	5854	6352	7094	4350132	4540639	4717756	4996104	698	727	757	800	489	509	530	560
16_3023	Crushed Gravel	GB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
16_3023	Soil-Aggregate Mixture (CG)	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
16_3023	Soil-Aggregate Mixture (FG)	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
16_3023	Silty sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
18_3002	PCC-JPCP	PC	3	5006	5427	5888	6576	3669709	3830418	3979832	4214642	672	700	729	770	471	490	510	539
18_3002	Crushed Stone	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
18_3002	Sandy Lean Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
18_3003	PCC-JPCP	PC	3	4749	5148	5586	6239	3738592	3902318	4054536	4293753	655	682	710	750	458	477	497	525
18_3003	Dense-G Cold-Central-Plant-Mix	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
18_3003	Clayey sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
18_3031	PCC-JPCP	PC	3	4964	5381	5839	6521	3500323	3653614	3796131	4020102	669	697	726	767	469	488	508	537
18_3031	ATM	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
18_3031	Lean Inorganic Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19_3006	PCC-JPCP	PC	3	3960	4171	4657	5202	3759473	3924113	4077181	3964720	598	614	648	685	418	429	454	480
19_3006	CAM	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19_3006	Sandy Lean Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0201	PCC-JPCP	PC	4	7692	7895	9047	10104	4536121	4734774	4919464	5209712	833	844	904	955	583	591	633	668
20_0201	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0201	Pozzolanic-Agg-Mix	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0201	Silty Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table FF.49. Strength data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Compressive Strength, psi				Elastic Modulus, psi				Flexural Strength, psi				Tensile Strength, psi			
				7-day	14-day	28-day	90-day	7-day	14-day	28-day	90-day	7-day	14-day	28-day	90-day	7-day	14-day	28-day	90-day
20_0202	PCC-JPCP	PC	4	3960	4171	4657	5202	3759473	3924113	4077181	3964720	598	614	648	685	418	429	454	480
20_0202	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0202	Pozzolanic-Agg-Mix	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0202	Silty Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0203	PCC-JPCP	PC	4	7692	7895	9047	10104	4536121	4734774	4919464	5209712	833	844	904	955	583	591	633	668
20_0203	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0203	Pozzolanic-Agg-Mix	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0203	Silty Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0204	PCC-JPCP	PC	4	3960	4171	4657	5202	3759473	3924113	4077181	3964720	598	614	648	685	418	429	454	480
20_0204	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0204	Pozzolanic-Agg-Mix	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0204	Silty Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0205	PCC-JPCP	PC	4	7692	7895	9047	10104	4536121	4734774	4919464	5209712	833	844	904	955	583	591	633	668
20_0205	Lean Concrete	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0205	Pozzolanic-Agg-Mix	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0205	Silty Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0206	PCC-JPCP	PC	4	3960	4171	4657	5202	3759473	3924113	4077181	3964720	598	614	648	685	418	429	454	480
20_0206	Lean Concrete	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0206	Pozzolanic-Agg-Mix	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0206	Silty Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0207	PCC-JPCP	PC	4	7692	7895	9047	10104	4536121	4734774	4919464	5209712	833	844	904	955	583	591	633	668
20_0207	Lean Concrete	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0207	Pozzolanic-Agg-Mix	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0207	Silty Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0208	PCC-JPCP	PC	4	3960	4171	4657	5202	3759473	3924113	4077181	3964720	598	614	648	685	418	429	454	480
20_0208	Lean Concrete	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0208	Pozzolanic-Agg-Mix	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0208	Silty Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table FF.49. Strength data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Compressive Strength, psi				Elastic Modulus, psi				Flexural Strength, psi				Tensile Strength, psi			
				7-day	14-day	28-day	90-day	7-day	14-day	28-day	90-day	7-day	14-day	28-day	90-day	7-day	14-day	28-day	90-day
20_0209	PCC-JPCP	PC	5	7692	7895	9047	10104	4536121	4734774	4919464	5209712	833	844	904	955	583	591	633	668
20_0209	O-Graded (Hot-Central-Plant-Mix)	TB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0209	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0209	Pozzolanic-Agg-Mix	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0209	Silty Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0210	PCC-JPCP	PC	5	3960	4171	4657	5202	3759473	3924113	4077181	3964720	598	614	648	685	418	429	454	480
20_0210	O-Graded (Hot-Central-Plant-Mix)	TB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0210	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0210	Pozzolanic-Agg-Mix	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0210	Silty Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0211	PCC-JPCP	PC	5	7692	7895	9047	10104	4536121	4734774	4919464	5209712	833	844	904	955	583	591	633	668
20_0211	O-Graded (Hot-Central-Plant-Mix)	TB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0211	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0211	Pozzolanic-Agg-Mix	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0211	Silty Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0212	PCC-JPCP	PC	5	3320	3599	3905	4362	3288018	3432012	3565885	3776272	547	570	594	627	383	399	416	439
20_0212	O-Graded (Hot-Central-Plant-Mix)	TB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0212	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0212	Pozzolanic-Agg-Mix	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_0212	Silty Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_3015	PCC-JPCP	PC	3	5505	5967	6474	7231	3981471	4155834	4317941	4572699	705	734	764	808	493	514	535	565
20_3015	HMAC	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20_3015	Lean Inorganic Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
21_3016	PCC-JPCP	PC	4	4691	4569	5517	6162	4195448	4379181	4550000	4818450	651	642	706	746	455	449	494	522
21_3016	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
21_3016	CAM	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table FF.49. Strength data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Compressive Strength, psi				Elastic Modulus, psi				Flexural Strength, psi				Tensile Strength, psi			
				7-day	14-day	28-day	90-day	7-day	14-day	28-day	90-day	7-day	14-day	28-day	90-day	7-day	14-day	28-day	90-day
21_3016	Gravelly Lean Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0213	PCC-JPCP	PC	4	5323	5184	6260	6992	4086357	4265313	4431691	4723833	693	684	752	794	485	479	526	556
26_0213	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0213	Silty Clay	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0213	Silty Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0214	PCC-JPCP	PC	4	4691	4569	5517	6162	3642202	3801706	3950000	4183050	651	642	706	746	455	449	494	522
26_0214	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0214	Silty Clay	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0214	Silty Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0215	PCC-JPCP	PC	4	5323	5184	6260	6992	4086357	4265313	4431691	4723833	693	684	752	794	485	479	526	556
26_0215	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0215	Silty Clay	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0215	Silty Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0216	PCC-JPCP	PC	4	4691	4569	5517	6162	3459264	3610757	3751603	3972947	651	642	706	746	455	449	494	522
26_0216	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0216	Silty Clay	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0216	Silty Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0217	PCC-JPCP	PC	4	5323	5184	6260	6992	4086357	4265313	4431691	4723833	693	684	752	794	485	479	526	556
26_0217	Lean Concrete	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0217	Silty Clay	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0217	Silty Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0218	PCC-JPCP	PC	4	3345	3625	3934	4393	3296423	3440785	3575000	3575000	549	572	596	630	385	400	417	441
26_0218	Lean Concrete	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0218	Silty Clay	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0218	Silty Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0219	PCC-JPCP	PC	4	5323	5184	6260	6992	4086357	4265313	4431691	4723833	693	684	752	794	485	479	526	556
26_0219	Lean Concrete	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0219	Silty Clay	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table FF.49. Strength data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Compressive Strength, psi				Elastic Modulus, psi				Flexural Strength, psi				Tensile Strength, psi			
				7-day	14-day	28-day	90-day	7-day	14-day	28-day	90-day	7-day	14-day	28-day	90-day	7-day	14-day	28-day	90-day
26_0219	Sandy Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0220	PCC-JPCP	PC	4	4691	4569	5517	6162	3459264	3610757	3751603	3972947	651	642	706	746	455	449	494	522
26_0220	Lean Concrete	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0220	Silty Clay	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0220	Silty Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0221	PCC-JPCP	PC	5	5323	5184	6260	6992	4086357	4265313	4431691	4723833	693	684	752	794	485	479	526	556
26_0221	O-Graded (Hot-Central-Plant-Mix)	TB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0221	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0221	Silty Clay	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0221	Silty Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0222	PCC-JPCP	PC	5	4691	4569	5517	6162	3459264	3610757	3751603	3972947	651	642	706	746	455	449	494	522
26_0222	O-Graded (Hot-Central-Plant-Mix)	TB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0222	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0222	Silty Clay	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0222	Silty Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0223	PCC-JPCP	PC	5	5323	5184	6260	6992	4086357	4265313	4431691	4723833	693	684	752	794	485	479	526	556
26_0223	O-Graded (Hot-Central-Plant-Mix)	TB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0223	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0223	Silty Clay	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0223	Sandy Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0224	PCC-JPCP	PC	5	3540	3837	4163	4650	2674930	2792075	2900985	3072144	565	588	613	648	396	412	429	453
26_0224	O-Graded (Hot-Central-Plant-Mix)	TB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0224	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0224	Silty Clay	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_0224	Sandy Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_3068	PCC-JPCP	PC	4	4369	4736	5139	5739	3630152	3789129	3936932	4169211	628	654	681	720	440	458	477	504

Table FF.49. Strength data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Compressive Strength, psi				Elastic Modulus, psi				Flexural Strength, psi				Tensile Strength, psi			
				7-day	14-day	28-day	90-day	7-day	14-day	28-day	90-day	7-day	14-day	28-day	90-day	7-day	14-day	28-day	90-day
26_3068	HMAC	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_3068	Sand	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_3068	Poorly Graded Sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26_3069	PCC-JPCP	PC	2	4963	5380	5837	6520	3931820	4104008	4264093	4515675	669	697	726	767	468	488	508	537
26_3069	Poorly Graded Sand/Gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
27_3003	PCC-JPCP	PC	3	5084	5511	5980	6678	4273592	4460748	4634749	4908199	677	705	735	776	474	494	514	543
27_3003	Gravel (uncrushed)	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
27_3003	Sandy Lean Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
27_3013	PCC-JPCP	PC	3	5152	5585	6060	6768	3318126	3463438	3598537	3810850	682	710	740	782	477	497	518	547
27_3013	Gravel (uncrushed)	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
27_3013	Poorly Graded Sand/Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
28_3018	PCC-JPCP	PC	3	4573	4957	5379	6007	3259746	3402501	3535223	3743801	642	669	697	736	450	468	488	515
28_3018	Soil Cement	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
28_3018	Silty sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
28_3019	PCC-JPCP	PC	3	5084	5511	5980	6679	4064362	4242354	4407836	4667899	677	705	735	776	474	494	514	543
28_3019	Soil Cement	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
28_3019	Silty gravel with sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
31_3018	PCC-JPCP	PC	3	4218	4573	4962	5541	3361247	3508447	3645302	3860375	617	642	669	707	432	450	468	495
31_3018	Soil Cement	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
31_3018	Poorly Graded Sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
31_3024	PCC-JPCP	PC	3	2983	3021	3509	3919	2305191	2406143	2500000	2712244	519	522	563	595	363	365	394	416
31_3024	N/A	N/A	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
31_3024	Lean Inorganic Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0201	PCC-JPCP	PC	5	6621	6847	7787	8697	3776969	3942375	4096156	4337829	773	786	838	886	541	550	587	620
32_0201	Crushed Gravel	GB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0201	Soil-Aggregate Mixture (CG)	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0201	Lime-Treated Soil	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table FF.49. Strength data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Compressive Strength, psi				Elastic Modulus, psi				Flexural Strength, psi				Tensile Strength, psi			
				7-day	14-day	28-day	90-day	7-day	14-day	28-day	90-day	7-day	14-day	28-day	90-day	7-day	14-day	28-day	90-day
32_0201	Silty sand with gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0202	PCC-JPCP	PC	5	2983	3021	3509	3919	3138102	3275530	3403299	3604094	519	522	563	595	363	365	394	416
32_0202	Crushed Gravel	GB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0202	Soil-Aggregate Mixture (CG)	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0202	Lime-Treated Soil	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0202	Sandy Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0203	PCC-JPCP	PC	5	6621	6847	7787	8697	2766229	2887372	3000000	2974719	773	786	838	886	541	550	587	620
32_0203	Crushed Gravel	GB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0203	Soil-Aggregate Mixture (CG)	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0203	Lime-Treated Soil	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0203	Sandy Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0204	PCC-JPCP	PC	5	2983	3021	3509	3919	2166880	2261775	2350000	2843481	519	522	563	595	363	365	394	416
32_0204	Crushed Gravel	GB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0204	Soil-Aggregate Mixture (CG)	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0204	Lime-Treated Soil	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0204	Sandy Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0205	PCC-JPCP	PC	5	6621	6847	7787	8697	3088956	3224232	3350000	3350000	773	786	838	886	541	550	587	620
32_0205	Lean Concrete	TB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0205	Soil-Aggregate Mixture (CG)	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0205	Lime-Treated Soil	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0205	Well-graded sand/clay&gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0206	PCC-JPCP	PC	5	2983	3021	3509	3919	2766229	2887372	3000000	2668498	519	522	563	595	363	365	394	416
32_0206	Lean Concrete	TB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0206	Soil-Aggregate Mixture (CG)	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0206	Lime-Treated Soil	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table FF.49. Strength data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Compressive Strength, psi				Elastic Modulus, psi				Flexural Strength, psi				Tensile Strength, psi			
				7-day	14-day	28-day	90-day	7-day	14-day	28-day	90-day	7-day	14-day	28-day	90-day	7-day	14-day	28-day	90-day
32_0206	Sandy Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0207	PCC-JPCP	PC	5	6621	6847	7787	8697	2904541	3031741	3150000	3543415	773	786	838	886	541	550	587	620
32_0207	Lean Concrete	TB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0207	Soil-Aggregate Mixture (CG)	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0207	Lime-Treated Soil	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0207	Sandy Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0208	PCC-JPCP	PC	5	2983	3021	3509	3919	3138102	3275530	3403299	3604094	519	522	563	595	363	365	394	416
32_0208	Lean Concrete	TB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0208	Soil-Aggregate Mixture (CG)	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0208	Lime-Treated Soil	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0208	Sandy Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0209	PCC-JPCP	PC	6	6621	6847	7787	8697	3088956	3224232	3350000	2887227	773	786	838	886	541	550	587	620
32_0209	HMAC	TB	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0209	Crushed Gravel	GB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0209	Soil-Aggregate Mixture (CG)	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0209	Lime-Treated Soil	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0209	Sandy Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0210	PCC-JPCP	PC	6	2983	3021	3509	3919	2259087	2358020	2450000	2493515	519	522	563	595	363	365	394	416
32_0210	HMAC	TB	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0210	Crushed Gravel	GB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0210	Soil-Aggregate Mixture (CG)	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0210	Lime-Treated Soil	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0210	Sandy Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0211	PCC-JPCP	PC	6	2147	2327	2525	2820	2640942	2756598	2864125	3033108	440	458	477	504	308	321	334	353
32_0211	HMAC	TB	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0211	Crushed Gravel	GB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table FF.49. Strength data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Compressive Strength, psi				Elastic Modulus, psi				Flexural Strength, psi				Tensile Strength, psi			
				7-day	14-day	28-day	90-day	7-day	14-day	28-day	90-day	7-day	14-day	28-day	90-day	7-day	14-day	28-day	90-day
32_0211	Soil-Aggregate Mixture (CG)	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0211	Lime-Treated Soil	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_0211	Sandy Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_3010	PCC-JPCP	PC	4	5171	5606	6082	6793	4195475	4379210	4550030	4818482	683	711	741	783	478	498	519	548
32_3010	CAM	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_3010	Gravel (uncrushed)	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_3010	Silty gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_3013	PCC-JPCP	PC	4	4631	5020	5447	6084	3122399	3259140	3386270	3586060	646	673	701	741	453	471	491	519
32_3013	CAM	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_3013	Crushed Gravel	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_3013	Poorly graded gravel/silt&sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_7084	PCC-JPCP	PC	5	4798	4673	5644	6303	4334681	4524512	4701000	4076240	658	649	714	754	461	455	500	528
32_7084	Dense-G Cold-Central-Plant-Mix	TB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_7084	Soil-Aggregate Mixture (CG)	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_7084	Soil-Aggregate Mixture (CG)	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32_7084	Rock	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0201	PCC-JPCP	PC	4	8280	8975	9739	10877	5186680	5413822	5625000	5956875	864	900	938	991	605	630	656	694
37_0201	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0201	Lime-Treated Soil	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0201	Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0202	PCC-JPCP	PC	4	4798	4673	5644	6303	4033158	4209784	4373995	4632061	658	649	714	754	461	455	500	528
37_0202	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0202	Lime-Treated Soil	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0202	Clayey Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0203	PCC-JPCP	PC	4	5455	5913	6416	7166	4209832	4394195	4565600	4834971	702	730	761	804	491	511	533	563
37_0203	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table FF.49. Strength data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Compressive Strength, psi				Elastic Modulus, psi				Flexural Strength, psi				Tensile Strength, psi			
				7-day	14-day	28-day	90-day	7-day	14-day	28-day	90-day	7-day	14-day	28-day	90-day	7-day	14-day	28-day	90-day
37_0203	Sand	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0203	Sandy Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0204	PCC-JPCP	PC	4	4798	4673	5644	6303	4033158	4209784	4373995	4632061	658	649	714	754	461	455	500	528
37_0204	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0204	Lime-Treated Soil	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0204	Sandy Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0205	PCC-JPCP	PC	4	11056	11984	13004	14524	5993497	6255973	6500000	3751646	999	1040	1083	1145	699	728	758	801
37_0205	Lean Concrete	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0205	Lime-Treated Soil	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0205	Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0206	PCC-JPCP	PC	4	4798	4673	5644	6303	3952942	4126054	4287000	3734147	658	649	714	754	461	455	500	528
37_0206	Lean Concrete	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0206	Lime-Treated Soil	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0206	Sandy Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0207	PCC-JPCP	PC	4	9418	10208	11077	12371	5531536	5773781	5999000	4146233	922	960	1000	1057	645	672	700	740
37_0207	Lean Concrete	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0207	Sand	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0207	Sandy Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0208	PCC-JPCP	PC	4	4798	4673	5644	6303	4033158	4209784	4373995	4632061	658	649	714	754	461	455	500	528
37_0208	Lean Concrete	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0208	Lime-Treated Soil	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0208	Sandy Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0209	PCC-JPCP	PC	5	8280	8975	9739	10877	5186680	5413822	5625000	5956875	864	900	938	991	605	630	656	694
37_0209	O-Graded (Hot-Central-Plant-Mix)	TB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0209	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0209	Lime-Treated Soil	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0209	Sandy Silty Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table FF.49. Strength data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Compressive Strength, psi				Elastic Modulus, psi				Flexural Strength, psi				Tensile Strength, psi			
				7-day	14-day	28-day	90-day	7-day	14-day	28-day	90-day	7-day	14-day	28-day	90-day	7-day	14-day	28-day	90-day
37_0210	PCC-JPCP	PC	5	4798	4673	5644	6303	4033158	4209784	4373995	4632061	658	649	714	754	461	455	500	528
37_0210	O-Graded (Hot-Central-Plant-Mix)	TB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0210	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0210	Lime-Treated Soil	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0210	Clayey Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0211	PCC-JPCP	PC	5	8189	8876	9632	10757	5158095	5383986	5594000	4259098	860	895	932	985	602	627	653	690
37_0211	O-Graded (Hot-Central-Plant-Mix)	TB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0211	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0211	Lime-Treated Soil	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0211	Sandy Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0212	PCC-JPCP	PC	5	5450	5907	6410	7159	3136443	3273799	3401501	3602189	701	730	761	804	491	511	532	563
37_0212	O-Graded (Hot-Central-Plant-Mix)	TB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0212	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0212	Lime-Treated Soil	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_0212	Sandy Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_3008	PCC-JPCP	PC	3	3977	4311	4678	5224	2903309	3030455	3148664	3334435	599	624	650	687	419	437	455	481
37_3008	Econocrete	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_3008	Silty sand with gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_3011	PCC-JPCP	PC	3	3343	3623	3932	4391	2828320	2952181	3067337	3248310	549	572	596	630	384	400	417	441
37_3011	ATM	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_3011	Clayey sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_3044	PCC-JPCP	PC	3	4394	4763	5168	5772	3050690	3184290	3308500	3503702	630	656	683	722	441	459	478	505
37_3044	Soil-Aggregate Mixture (FG)	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_3044	Silt with Sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_3807	PCC-JPCP	PC	3	3970	4304	4670	5216	3073576	3208178	3333320	3529986	599	623	649	686	419	436	454	480
37_3807	Soil Cement	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table FF.49. Strength data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Compressive Strength, psi				Elastic Modulus, psi				Flexural Strength, psi				Tensile Strength, psi			
				7-day	14-day	28-day	90-day	7-day	14-day	28-day	90-day	7-day	14-day	28-day	90-day	7-day	14-day	28-day	90-day
37_3807	Silty sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_3816	PCC-JPCP	PC	3	6417	6956	7548	8430	4566083	4766047	4951957	5244123	761	792	825	872	533	555	578	611
37_3816	CAM	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37_3816	Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
39_3013	PCC-JPCP	PC	3	5168	5602	6079	6789	2909370	3036782	3155238	3341397	683	711	741	783	478	498	518	548
39_3013	Soil Cement	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
39_3013	Lean Clay with Sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
39_3801	PCC-JPCP	PC	3	4175	3618	4911	5485	4199491	4383401	4554385	4823093	614	571	666	704	430	400	466	492
39_3801	CAM	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
39_3801	Clayey gravel with sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0213	PCC-JPCP	PC	3	7111	7760	8363	9341	4224388	4409388	4581386	3587161	801	837	869	918	561	586	608	643
4_0213	Crushed Gravel	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0213	Silty sand with gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0214	PCC-JPCP	PC	3	4175	3618	4911	5485	4193071	4376700	4547422	4243349	614	571	666	704	430	400	466	492
4_0214	Crushed Gravel	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0214	Silty sand with gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0215	PCC-JPCP	PC	3	7111	7760	8363	9341	4491891	4688606	4871495	3762145	801	837	869	918	561	586	608	643
4_0215	Crushed Gravel	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0215	Silty sand with gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0216	PCC-JPCP	PC	3	4175	3618	4911	5485	4587250	4788141	4974913	4418333	614	571	666	704	430	400	466	492
4_0216	Crushed Gravel	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0216	Silty sand with gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0217	PCC-JPCP	PC	3	7111	7760	8363	9341	4303486	4491950	4667168	4667168	801	837	869	918	561	586	608	643
4_0217	Lean Concrete	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0217	Silty sand with gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0218	PCC-JPCP	PC	3	4175	3618	4911	5485	4920861	5136362	5336717	4287095	614	571	666	704	430	400	466	492
4_0218	Lean Concrete	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0218	Clayey sand with gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table FF.49. Strength data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Compressive Strength, psi				Elastic Modulus, psi				Flexural Strength, psi				Tensile Strength, psi			
				7-day	14-day	28-day	90-day	7-day	14-day	28-day	90-day	7-day	14-day	28-day	90-day	7-day	14-day	28-day	90-day
4_0219	PCC-JPCP	PC	3	7111	7760	8363	9341	4440462	4634925	4815720	3630907	801	837	869	918	561	586	608	643
4_0219	Lean Concrete	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0219	Silty sand with gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0220	PCC-JPCP	PC	3	4175	3618	4911	5485	3486780	3639478	3781444	3914259	614	571	666	704	430	400	466	492
4_0220	Lean Concrete	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0220	Clayey sand with gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0221	PCC-JPCP	PC	4	7111	7760	8363	9341	4303850	4492330	4667563	4402486	801	837	869	918	561	586	608	643
4_0221	O-Graded (Hot-Central-Plant-Mix)	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0221	Crushed Gravel	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0221	Silty sand with gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0222	PCC-JPCP	PC	4	4175	3618	4911	5485	3486780	3639478	3781444	3914259	614	571	666	704	430	400	466	492
4_0222	O-Graded (Hot-Central-Plant-Mix)	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0222	Crushed Gravel	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0222	Clayey sand with gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0223	PCC-JPCP	PC	4	7111	7760	8363	9341	4392466	4584827	4763668	4505825	801	837	869	918	561	586	608	643
4_0223	O-Graded (Hot-Central-Plant-Mix)	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0223	Crushed Gravel	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0223	Silty sand with gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0224	PCC-JPCP	PC	4	3101	3362	3648	4074	3174242	3313253	3442493	3645600	529	551	574	606	370	386	402	424
4_0224	O-Graded (Hot-Central-Plant-Mix)	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0224	Crushed Gravel	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_0224	Clayey sand with gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_7613	PCC-JPCP	PC	2	3398	3683	3996	4463	3470510	3622496	3763799	3985863	554	577	601	635	388	404	420	444
4_7613	Clayey gravel with sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4_7614	PCC-JPCP	PC	3	3976	4310	4677	5224	3505875	3659409	3802152	4026479	599	624	650	687	419	437	455	481
4_7614	CAM	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table FF.49. Strength data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Compressive Strength, psi				Elastic Modulus, psi				Flexural Strength, psi				Tensile Strength, psi			
				7-day	14-day	28-day	90-day	7-day	14-day	28-day	90-day	7-day	14-day	28-day	90-day	7-day	14-day	28-day	90-day
4_7614	Silty sand with gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
40_3018	PCC-JPCP	PC	4	3619	3923	4257	4754	3041225	3174410	3298235	3492831	572	595	620	655	400	417	434	459
40_3018	Sand Asphalt	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
40_3018	Lime-Treated Soil	TS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
40_3018	Lean Inorganic Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
40_4160	PCC-JPCP	PC	4	4860	5268	5716	6385	4602476	4804034	4991426	5285920	662	690	718	759	464	483	503	531
40_4160	Sand Asphalt	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
40_4160	Fine-grained Soils	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
40_4160	Lean Clay with Sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
40_4162	PCC-JPCP	PC	3	3393	3678	3990	4457	3752621	3916961	4069750	4309865	553	576	600	634	387	403	420	444
40_4162	HMAC	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
40_4162	Silty sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
46_3012	PCC-JPCP	PC	3	4811	5215	5658	6320	3124106	3260921	3388120	3588019	659	686	715	755	461	480	500	529
46_3012	Crushed Gravel	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
46_3012	Sandy Lean Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5_3011	PCC-JPCP	PC	4	3580	2616	4210	4702	3236247	3377973	3509738	3716813	568	486	616	651	398	340	431	456
5_3011	Hot-Mix (Dense-G)	AC	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5_3011	CAM	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5_3011	Silty Clay with Sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0201	PCC-JPCP	PC	5	8424	7680	9909	11067	4199491	4383401	4554385	4900000	872	833	946	999	610	583	662	700
53_0201	Crushed Stone	GB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0201	Silt with Sand	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0201	Rock	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0201	Poorly graded gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0202	PCC-JPCP	PC	4	3580	2616	4210	4702	3334890	3480936	3616717	4000000	568	486	616	651	398	340	431	456
53_0202	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0202	Silt with Sand	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0202	Poorly graded gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table FF.49. Strength data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Compressive Strength, psi				Elastic Modulus, psi				Flexural Strength, psi				Tensile Strength, psi			
				7-day	14-day	28-day	90-day	7-day	14-day	28-day	90-day	7-day	14-day	28-day	90-day	7-day	14-day	28-day	90-day
53_0203	PCC-JPCP	PC	3	8424	7680	9909	11067	4405348	4598273	4777639	4500000	872	833	946	999	610	583	662	700
53_0203	Crushed Stone	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0203	Poorly graded gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0204	PCC-JPCP	PC	5	3580	2616	4210	4702	3211375	3352012	3482765	3800000	568	486	616	651	398	340	431	456
53_0204	Crushed Stone	GB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0204	Silt with Sand	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0204	Rock	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0204	Poorly graded gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0205	PCC-JPCP	PC	5	3580	2616	4210	4702	4570034	4770172	4956242	4600000	568	486	616	651	398	340	431	456
53_0205	Lean Concrete	TB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0205	Silt with Sand	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0205	Rock	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0205	Poorly graded gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0206	PCC-JPCP	PC	5	3580	2616	4210	4702	3540747	3695809	3839971	4250000	568	486	616	651	398	340	431	456
53_0206	Lean Concrete	TB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0206	Silt with Sand	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0206	Rock	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0206	Poorly graded gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0207	PCC-JPCP	PC	5	8424	7680	9909	11067	4158319	4340426	4509734	4450000	872	833	946	999	610	583	662	700
53_0207	Lean Concrete	TB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0207	Silt with Sand	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0207	Rock	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0207	Poorly graded gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0208	PCC-JPCP	PC	5	3580	2616	4210	4702	3236247	3377973	3509738	3716813	568	486	616	651	398	340	431	456
53_0208	Lean Concrete	TB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0208	Silt with Sand	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0208	Rock	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0208	Poorly graded gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table FF.49. Strength data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Compressive Strength, psi				Elastic Modulus, psi				Flexural Strength, psi				Tensile Strength, psi			
				7-day	14-day	28-day	90-day	7-day	14-day	28-day	90-day	7-day	14-day	28-day	90-day	7-day	14-day	28-day	90-day
53_0209	PCC-JPCP	PC	6	8424	7680	9909	11067	4478427	4674553	4856894	5143451	872	833	946	999	610	583	662	700
53_0209	O-Graded (Hot-Central-Plant-Mix)	TB	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0209	Crushed Stone	GB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0209	Silt with Sand	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0209	Rock	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0209	Poorly graded gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0210	PCC-JPCP	PC	5	3580	2616	4210	4702	3581919	3738783	3884622	4250000	568	486	616	651	398	340	431	456
53_0210	O-Graded (Hot-Central-Plant-Mix)	TB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0210	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0210	Silt with Sand	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0210	Poorly graded gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0211	PCC-JPCP	PC	6	8424	7680	9909	11067	4478427	4674553	4856894	5143451	872	833	946	999	610	583	662	700
53_0211	O-Graded (Hot-Central-Plant-Mix)	TB	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0211	Crushed Stone	GB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0211	Silt with Sand	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0211	Rock	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0211	Poorly graded gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0212	PCC-JPCP	PC	6	5053	5477	5943	6637	4051680	4229117	4394082	4653333	675	703	732	774	473	492	513	542
53_0212	O-Graded (Hot-Central-Plant-Mix)	TB	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0212	Crushed Stone	GB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0212	Silt with Sand	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0212	Rock	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_0212	Poorly graded gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_3011	PCC-JPCP	PC	3	4850	5258	5705	6372	3562872	3718902	3863966	4091940	662	689	718	758	463	482	502	531
53_3011	Soil-Aggregate Mixture (FG)	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_3011	Silty sand with gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table FF.49. Strength data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Compressive Strength, psi				Elastic Modulus, psi				Flexural Strength, psi				Tensile Strength, psi			
				7-day	14-day	28-day	90-day	7-day	14-day	28-day	90-day	7-day	14-day	28-day	90-day	7-day	14-day	28-day	90-day
53_3013	PCC-JPCP	PC	5	5887	6381	6924	7733	3704006	3866217	4017027	4254032	729	759	791	835	510	531	553	585
53_3013	Crushed Gravel	GB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_3013	Soil-Aggregate Mixture (CG)	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_3013	Soil-Aggregate Mixture (CG)	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_3013	silty sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_3014	PCC-JPCP	PC	3	5801	6288	6823	7620	3906212	4077278	4236321	4486264	724	753	785	829	506	527	549	581
53_3014	Soil-Aggregate Mixture (CG)	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_3014	Silty sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_3019	PCC-JPCP	PC	4	4826	5231	5676	6339	4005106	4180503	4343573	4599844	660	687	716	756	462	481	501	529
53_3019	Crushed Gravel	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_3019	Crushed Gravel	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_3019	Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_3813	PCC-JPCP	PC	6	4666	5058	5488	6129	2651052	2767151	2875089	3044720	649	676	704	744	454	473	493	521
53_3813	Soil-Aggregate Mixture (CG)	GB	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_3813	Crushed Gravel	GS	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_3813	Soil-Aggregate Mixture (FG)	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_3813	Soil-Aggregate Mixture (FG)	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_3813	Silty sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_7409	PCC-JPCP	PC	3	8348	9049	9819	10966	5207952	5436026	5648069	5981305	868	904	941	995	608	633	659	696
53_7409	Crushed Gravel	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
53_7409	poorly graded gravel/silt&sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_3008	PCC-JPCP	PC	3	4844	5251	5697	6363	4899431	5113994	5313476	5626971	661	688	717	758	463	482	502	530
55_3008	N/A	N/A	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_3008	Sandy Lean Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_3009	PCC-JPCP	PC	3	6075	6585	7145	7980	5114133	5338099	5546323	5873556	740	771	803	849	518	540	562	594

Table FF.49. Strength data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Compressive Strength, psi				Elastic Modulus, psi				Flexural Strength, psi				Tensile Strength, psi			
				7-day	14-day	28-day	90-day	7-day	14-day	28-day	90-day	7-day	14-day	28-day	90-day	7-day	14-day	28-day	90-day
55_3009	Crushed Gravel	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_3009	Lean Clay with Sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_3010	PCC-JPCP	PC	3	5439	5895	6397	7145	4819810	5030886	5227126	5535527	701	729	760	803	490	511	532	562
55_3010	Gravel (uncrushed)	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_3010	Gravelly Silt with Sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_3015	PCC-JPCP	PC	3	5396	5849	6346	7088	4190317	4373825	4544436	4812557	698	727	757	800	488	509	530	560
55_3015	Gravel (uncrushed)	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_3015	Poorly Graded Sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_3016	PCC-JPCP	PC	3	5036	5458	5923	6615	3997940	4173023	4335801	4591613	674	702	731	773	472	491	512	541
55_3016	Gravel (uncrushed)	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_3016	Poorly Graded Sand/Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_6351	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_6351	PCC-JPCP	PC	4	5258	5700	6184	6907	4085918	4264854	4431214	4692656	689	717	747	790	482	502	523	553
55_6351	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_6351	clayey gravel with sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_6352	PCC-JPCP	PC	4	4272	4631	5025	5612	3598047	3755618	3902114	4132339	621	646	673	712	435	453	471	498
55_6352	Crushed Stone	GB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_6352	Crushed Stone	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_6352	Rock	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_6353	PCC-JPCP	PC	5	4512	4890	5306	5927	3884052	4054148	4212288	4460813	638	664	692	731	447	465	484	512
55_6353	CAM	TB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_6353	Crushed Stone	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_6353	Crushed Stone	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_6353	Rock	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_6354	PCC-JPCP	PC	5	4851	5258	5705	6372	4561058	4760802	4946507	5238351	662	689	718	758	463	482	502	531
55_6354	O-Graded (Hot-Central-Plant-Mix)	TB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_6354	Crushed Stone	GS	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table FF.49. Strength data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Compressive Strength, psi				Elastic Modulus, psi				Flexural Strength, psi				Tensile Strength, psi			
				7-day	14-day	28-day	90-day	7-day	14-day	28-day	90-day	7-day	14-day	28-day	90-day	7-day	14-day	28-day	90-day
55_6354	Crushed Stone	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_6354	Rock	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_6355	PCC-JPCP	PC	5	1436	1556	1689	1886	2159878	2254466	2342407	2480609	360	375	390	413	252	262	273	289
55_6355	O-Graded (Hot-Central-Plant-Mix)	TB	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55_6355	Rock	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6_3005	PCC-JPCP	PC	3	3772	4089	4437	4955	2332448	2434594	2529560	2678804	583	607	633	669	408	425	443	468
6_3005	CAM	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6_3005	Silty gravel with sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6_3021	PCC-JPCP	PC	4	4172	4522	4907	5481	2996615	3127847	3249855	3441597	614	639	665	703	430	447	466	492
6_3021	CAM	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6_3021	Soil-Aggregate Mixture (FG)	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6_3021	silty sand with gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6_3030	PCC-JPCP	PC	5	4401	4770	5176	5781	2673855	2790952	2899819	3070909	630	656	683	722	441	459	478	506
6_3030	Hot-Mix (Dense-G)	AC	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6_3030	CAM	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6_3030	Soil-Aggregate Mixture (CG)	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6_3030	Clayey gravel with sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6_3042	PCC-JPCP	PC	4	3155	3071	3711	4144	3319475	3464846	3600000	3105957	534	526	579	612	374	369	405	428
6_3042	CAM	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6_3042	Soil-Aggregate Mixture (CG)	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6_3042	Sandy Lean Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0213	PCC-JPCP	PC	3	8143	9105	9577	10696	3952462	4125554	4286480	4539382	857	906	930	983	600	635	651	688
8_0213	Crushed Gravel	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0213	Poorly Graded Sand/Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0214	PCC-JPCP	PC	3	3155	3071	3711	4144	2858437	2983618	3100000	3718399	534	526	579	612	374	369	405	428
8_0214	Crushed Gravel	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table FF.49. Strength data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Compressive Strength, psi				Elastic Modulus, psi				Flexural Strength, psi				Tensile Strength, psi			
				7-day	14-day	28-day	90-day	7-day	14-day	28-day	90-day	7-day	14-day	28-day	90-day	7-day	14-day	28-day	90-day
8_0214	Clayey sand with gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0215	PCC-JPCP	PC	3	8143	9105	9577	10696	4057136	4234812	4400000	3849636	857	906	930	983	600	635	651	688
8_0215	Crushed Gravel	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0215	Sandy Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0216	PCC-JPCP	PC	3	3155	3071	3711	4144	3012116	3144027	3266667	2974719	534	526	579	612	374	369	405	428
8_0216	Crushed Gravel	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0216	Poorly Graded Sand/Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0217	PCC-JPCP	PC	3	8143	9105	9577	10696	5071420	5293515	5500000	3718399	857	906	930	983	600	635	651	688
8_0217	Lean Concrete	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0217	Sandy Lean Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0218	PCC-JPCP	PC	3	3155	3071	3711	4144	3135060	3272355	3400000	3674653	534	526	579	612	374	369	405	428
8_0218	Lean Concrete	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0218	Clayey sand with gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0219	PCC-JPCP	PC	3	8143	9105	9577	10696	3019800	3152048	3275000	3455924	857	906	930	983	600	635	651	688
8_0219	Lean Concrete	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0219	Clayey sand with gravel	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0220	PCC-JPCP	PC	3	3155	3071	3711	4144	3355475	3502423	3639043	3853746	534	526	579	612	374	369	405	428
8_0220	Lean Concrete	TB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0220	Sandy Lean Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0221	PCC-JPCP	PC	4	8143	9105	9577	10696	4218500	4403242	4575000	4068366	857	906	930	983	600	635	651	688
8_0221	O-Graded (Hot-Central-Plant-Mix)	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0221	Crushed Gravel	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0221	Sandy Lean Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0222	PCC-JPCP	PC	4	3155	3071	3711	4144	2212983	2309898	2400000	2541600	534	526	579	612	374	369	405	428
8_0222	O-Graded (Hot-Central-Plant-Mix)	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0222	Crushed Gravel	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0222	Well Graded Sand with Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table FF.49. Strength data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Compressive Strength, psi				Elastic Modulus, psi				Flexural Strength, psi				Tensile Strength, psi			
				7-day	14-day	28-day	90-day	7-day	14-day	28-day	90-day	7-day	14-day	28-day	90-day	7-day	14-day	28-day	90-day
8_0223	PCC-JPCP	PC	4	8143	9105	9577	10696	3503890	3657338	3800000	4199603	857	906	930	983	600	635	651	688
8_0223	O-Graded (Hot-Central-Plant-Mix)	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0223	Crushed Gravel	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0223	Well Graded Sand with Silt	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0224	PCC-JPCP	PC	4	3921	4250	4612	5151	3569310	3725622	3870948	4099334	595	619	645	682	416	434	452	477
8_0224	O-Graded (Hot-Central-Plant-Mix)	TB	3	4194	4546	4933	5510	4210877	4395286	4566733	4836171	615	641	667	705	431	448	467	494
8_0224	Crushed Gravel	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_0224	Clayey sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_3032	PCC-JPCP	PC	4	4925	5339	5793	6470	3693211	3854949	4005320	4241633	667	694	723	764	467	486	506	535
8_3032	Lean Concrete	TB	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_3032	Soil-Aggregate Mixture (CG)	GS	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8_3032	Poorly graded gravel/silt&sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
83_3802	PCC-JPCP	PC	4	3720	4033	4376	4887	3356199	3503178	3639827	3854577	579	603	628	664	406	422	440	465
83_3802	N/A	N/A	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
83_3802	N/A	N/A	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
83_3802	Fat Inorganic Clay	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
89_3015	PCC-JPCP	PC	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
89_3015	Crushed Stone	GB	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
89_3015	Poorly Graded Sand	SS	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table FF.49. Strength data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Elastic Modulus, psi				Flexural Strength, psi			
				7-day	**14-day**	**28-day**	**90-day**	**7-day**	**14-day**	**28-day**	**90-day**
AZ1_1	JPCP	PCC	1	2897080	3023040	3149000	3337940	616.4	643.2	670	710.2
AZ1_1	Cement stabilized	Stabilized base	2								
AZ1_1	Crushed stone	Granular base	3								
AZ1_1	A-4	Subgrade	4								
AZ1_2	JPCP	PCC	1	3177680	3315840	3454000	3661240	577.76	602.88	628	665.68
AZ1_2	A-6	Subgrade	2								
AZ1_4	JPCP	PCC	1	3238400	3379200	3520000	3731200	588.8	614.4	640	678.4
AZ1_4	A-6	Subgrade	2								
AZ1_5	JPCP	PCC	1	3238400	3379200	3520000	3731200	588.8	614.4	640	678.4
AZ1_5	A-6	Subgrade	2								
AZ1_6	JPCP	PCC	1	3152196	3289248	3426300	3631878	670.68	699.84	729	772.74
AZ1_6	Cement stabilized	Stabilized base	2								
AZ1_6	A-6	Subgrade	3								
AZ1_7	JPCP	PCC	1	3152196	3289248	3426300	3631878	670.68	699.84	729	772.74
AZ1_7	Cement stabilized	Stabilized base	2								
AZ1_7	A-6	Subgrade	3								
AZ2	JPCP	PCC	1	2776008	2896704	3017400	3198444	590.64	616.32	642	680.52
AZ2	Cement stabilized	Stabilized base	2								
AZ2	A-6	Subgrade	3								
CA1_10	JPCP	PCC	1	3082000	3216000	3350000	3551000	616.4	643.2	670	710.2
CA1_10	Cement stabilized	Stabilized base	2								
CA1_10	Crushed stone	Granular base	3								
CA1_10	A-1-a	Subgrade	4								
CA1_3	JPCP	PCC	1	3082000	3216000	3350000	3551000	616.4	643.2	670	710.2
CA1_3	Cement stabilized	Stabilized base	2								
CA1_3	Crushed stone	Granular base	3								

Table FF.49. Strength data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Elastic Modulus, psi				Flexural Strength, psi			
				7-day	**14-day**	**28-day**	**90-day**	**7-day**	**14-day**	**28-day**	**90-day**
CA1_3	A-2-4	Subgrade	4								
CA1_4	JPCP	PCC	1	3082000	3216000	3350000	3551000	616.4	643.2	670	710.2
CA1_4	Cement stabilized	Stabilized base	2								
CA1_4	Crushed stone	Granular base	3								
CA1_4	A-2-4	Subgrade	4								
CA1_5	JPCP	PCC	1	3082000	3216000	3350000	3551000	616.4	643.2	670	710.2
CA1_5	Cement stabilized	Stabilized base	2								
CA1_5	Crushed stone	Granular base	3								
CA1_5	A-1-a	Subgrade	4								
CA1_6	JPCP	PCC	1	3082000	3216000	3350000	3551000	616.4	643.2	670	710.2
CA1_6	Cement stabilized	Stabilized base	2								
CA1_6	Crushed stone	Granular base	3								
CA1_6	A-1-a	Subgrade	4								
CA1_7	JPCP	PCC	1	3082000	3216000	3350000	3551000	616.4	643.2	670	710.2
CA1_7	Cement stabilized	Stabilized base	2								
CA1_7	Crushed stone	Granular base	3								
CA1_7	A-1-a	Subgrade	4								
CA1_8	JPCP	PCC	1	3082000	3216000	3350000	3551000	616.4	643.2	670	710.2
CA1_8	Cement stabilized	Stabilized base	2								
CA1_8	Crushed stone	Granular base	3								
CA1_8	A-1-a	Subgrade	4								
CA1_9	JPCP	PCC	1	3220000	3360000	3500000	3710000	644	672	700	742
CA1_9	Cement stabilized	Stabilized base	2								
CA1_9	Crushed stone	Granular base	3								
CA1_9	A-1-a	Subgrade	4								
CA10	JPCP	PCC	1	3279800	3422400	3565000	3778900	655.96	684.48	713	755.78
CA10	Asphalt permeable base	Asphalt	2								

Table FF.49. Strength data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Elastic Modulus, psi				Flexural Strength, psi			
				7-day	**14-day**	**28-day**	**90-day**	**7-day**	**14-day**	**28-day**	**90-day**
CA10	A-6	Subgrade	3								
CA11	JPCP	PCC	1	2773800	2894400	3015000	3195900	616.4	643.2	670	710.2
CA11	Cement stabilized	Stabilized base	2								
CA11	Lime stabilized modified	Stabilized base	3								
CA11	A-7-6	Subgrade	4								
CA2_2	JPCP	PCC	1	2833600	2956800	3080000	3264800	566.72	591.36	616	652.96
CA2_2	Asphalt concrete	Asphalt	2								
CA2_2	Crushed stone	Granular base	3								
CA2_2	A-4	Subgrade	4								
CA2_3	JPCP	PCC	1	2640400	2755200	2870000	3042200	528.08	551.04	574	608.44
CA2_3	Cement stabilized	Stabilized base	2								
CA2_3	Crushed stone	Granular base	3								
CA2_3	A-4	Subgrade	4								
CA3_1	JPCP	PCC	1	3164800	3302400	3440000	3646400	632.96	660.48	688	729.28
CA3_1	Cement stabilized	Stabilized base	2								
CA3_1	Crushed stone	Granular base	3								
CA3_1	A-4	Subgrade	4								
CA3_10	JPCP	PCC	1	2990000	3120000	3250000	3445000	598	624	650	689
CA3_10	Cement stabilized	Stabilized base	2								
CA3_10	Crushed stone	Granular base	3								
CA3_10	A-4	Subgrade	4								
CA3_2	JPCP	PCC	1	3164800	3302400	3440000	3646400	632.96	660.48	688	729.28
CA3_2	Cement stabilized	Stabilized base	2								
CA3_2	Crushed stone	Granular base	3								
CA3_2	A-4	Subgrade	4								
CA3_3	JPCP	PCC	1	2990000	3120000	3250000	3445000	598	624	650	689
CA3_3	Cement stabilized	Stabilized base	2								

Table FF.49. Strength data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Elastic Modulus, psi				Flexural Strength, psi			
				7-day	**14-day**	**28-day**	**90-day**	**7-day**	**14-day**	**28-day**	**90-day**
CA3_3	Crushed stone	Granular base	3								
CA3_3	A-4	Subgrade	4								
CA3_4	JPCP	PCC	1	3312000	3456000	3600000	3816000	662.4	691.2	720	763.2
CA3_4	Cement stabilized	Stabilized base	2								
CA3_4	Crushed stone	Granular base	3								
CA3_4	A-4	Subgrade	4								
CA3_5	JPCP	PCC	1	3164800	3302400	3440000	3646400	632.96	660.48	688	729.28
CA3_5	Cement stabilized	Stabilized base	2								
CA3_5	Crushed stone	Granular base	3								
CA3_5	A-4	Subgrade	4								
CA3_6	JPCP	PCC	1	3164800	3302400	3440000	3646400	632.96	660.48	688	729.28
CA3_6	Cement stabilized	Stabilized base	2								
CA3_6	Crushed stone	Granular base	3								
CA3_6	A-4	Subgrade	4								
CA3_7	JPCP	PCC	1	3164800	3302400	3440000	3646400	632.96	660.48	688	729.28
CA3_7	Cement stabilized	Stabilized base	2								
CA3_7	Crushed stone	Granular base	3								
CA3_7	A-4	Subgrade	4								
CA3_8	JPCP	PCC	1	3164800	3302400	3440000	3646400	632.96	660.48	688	729.28
CA3_8	Cement stabilized	Stabilized base	2								
CA3_8	Crushed stone	Granular base	3								
CA3_8	A-4	Subgrade	4								
CA3_9	JPCP	PCC	1	3164800	3302400	3440000	3646400	632.96	660.48	688	729.28
CA3_9	Cement stabilized	Stabilized base	2								
CA3_9	Crushed stone	Granular base	3								
CA3_9	A-4	Subgrade	4								
CA6_1	JPCP	PCC	1	3744400	3907200	4070000	4314200	680.8	710.4	740	784.4

Table FF.49. Strength data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Elastic Modulus, psi				Flexural Strength, psi			
				7-day	**14-day**	**28-day**	**90-day**	**7-day**	**14-day**	**28-day**	**90-day**
CA6_1	Cement stabilized	Stabilized base	2								
CA6_1	Crushed stone	Granular base	3								
CA6_1	A-2-4	Subgrade	4								
CA6_2	JPCP	PCC	1	3744400	3907200	4070000	4314200	680.8	710.4	740	784.4
CA6_2	Asphalt permeable base	Asphalt	2								
CA6_2	Asphalt concrete	Asphalt	3								
CA6_2	A-2-4	Subgrade	4								
CA7	JPCP	PCC	1	3643200	3801600	3960000	4197600	662.4	691.2	720	763.2
CA7	Cement stabilized	Stabilized base	2								
CA7	Lime stabilized modified	Stabilized base	3								
CA7	A-2-4	Subgrade	4								
CA8	JPCP	PCC	1	3445860	3595680	3745500	3970230	626.52	653.76	681	721.86
CA8	Asphalt concrete	Asphalt	2								
CA8	Crushed stone	Granular base	3								
CA8	A-7-6	Subgrade	4								
CA9_10	JPCP	PCC	1	3277040	3419520	3562000	3775720	630.2	657.6	685	726.1
CA9_10	Cement stabilized	Stabilized base	2								
CA9_10	Crushed stone	Granular base	3								
CA9_10	A-6	Subgrade	4								
CA9_2	JPCP	PCC	1	3463616	3614208	3764800	3990688	666.08	695.04	724	767.44
CA9_2	Cement stabilized	Stabilized base	2								
CA9_2	Crushed stone	Granular base	3								
CA9_2	A-6	Subgrade	4								
CA9_3	JPCP	PCC	1	3463616	3614208	3764800	3990688	666.08	695.04	724	767.44
CA9_3	Cement stabilized	Stabilized base	2								
CA9_3	Crushed stone	Granular base	3								
CA9_3	A-6	Subgrade	4								

Table FF.49. Strength data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Elastic Modulus, psi				Flexural Strength, psi			
				7-day	**14-day**	**28-day**	**90-day**	**7-day**	**14-day**	**28-day**	**90-day**
CA9_4	JPCP	PCC	1	3463616	3614208	3764800	3990688	666.08	695.04	724	767.44
CA9_4	Cement stabilized	Stabilized base	2								
CA9_4	Crushed stone	Granular base	3								
CA9_4	A-6	Subgrade	4								
CA9_5	JPCP	PCC	1	3463616	3614208	3764800	3990688	666.08	695.04	724	767.44
CA9_5	Cement stabilized	Stabilized base	2								
CA9_5	Crushed stone	Granular base	3								
CA9_5	A-6	Subgrade	4								
CA9_8	JPCP	PCC	1	3463616	3614208	3764800	3990688	666.08	695.04	724	767.44
CA9_8	Cement stabilized	Stabilized base	2								
CA9_8	Crushed stone	Granular base	3								
CA9_8	A-6	Subgrade	4								
FL2	JPCP	PCC	1	3617900	3775200	3932500	4168450	657.8	686.4	715	757.9
FL2	Crushed stone	Granular base	2								
FL2	A-3	Subgrade	3								
FL3	JPCP	PCC	1	3036000	3168000	3300000	3498000	552	576	600	636
FL3	Cement stabilized	Stabilized base	2								
FL3	A-3	Subgrade	3								
FL4_1	JPCP	PCC	1	2870400	2995200	3120000	3307200	574.08	599.04	624	661.44
FL4_1	Cement stabilized	Stabilized base	2								
FL4_1	A-3	Subgrade	3								
GA1_1	JPCP	PCC	1	3617900	3775200	3932500	4168450	657.8	686.4	715	757.9
GA1_1	Asphalt concrete	Asphalt	2								
GA1_1	Cement stabilized	Stabilized base	3								
GA1_1	A-4	Subgrade	4								
GA1_10	JPCP	PCC	1	3617900	3775200	3932500	4168450	657.8	686.4	715	757.9
GA1_10	Cement stabilized	Stabilized base	2								

Table FF.49. Strength data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Elastic Modulus, psi				Flexural Strength, psi			
				7-day	**14-day**	**28-day**	**90-day**	**7-day**	**14-day**	**28-day**	**90-day**
GA1_10	A-4	Subgrade	3								
GA1_2	JPCP	PCC	1	3617900	3775200	3932500	4168450	657.8	686.4	715	757.9
GA1_2	Asphalt concrete	Asphalt	2								
GA1_2	Cement stabilized	Stabilized base	3								
GA1_2	A-4	Subgrade	4								
GA1_3	JPCP	PCC	1	3617900	3775200	3932500	4168450	657.8	686.4	715	757.9
GA1_3	Asphalt concrete	Asphalt	2								
GA1_3	Cement stabilized	Stabilized base	3								
GA1_3	A-4	Subgrade	4								
GA1_4	JPCP	PCC	1	3617900	3775200	3932500	4168450	657.8	686.4	715	757.9
GA1_4	Asphalt concrete	Asphalt	2								
GA1_4	Cement stabilized	Stabilized base	3								
GA1_4	A-4	Subgrade	4								
GA1_5	JPCP	PCC	1	3617900	3775200	3932500	4168450	657.8	686.4	715	757.9
GA1_5	Cement stabilized	Stabilized base	2								
GA1_5	A-4	Subgrade	3								
GA1_6	JPCP	PCC	1	3617900	3775200	3932500	4168450	657.8	686.4	715	757.9
GA1_6	Asphalt concrete	Asphalt	2								
GA1_6	A-4	Subgrade	3								
GA1_7	JPCP	PCC	1	3617900	3775200	3932500	4168450	657.8	686.4	715	757.9
GA1_7	Asphalt concrete	Asphalt	2								
GA1_7	A-4	Subgrade	3								
GA1_8	JPCP	PCC	1	3617900	3775200	3932500	4168450	657.8	686.4	715	757.9
GA1_8	Asphalt concrete	Asphalt	2								
GA1_8	A-4	Subgrade	3								
GA1_9	JPCP	PCC	1	3617900	3775200	3932500	4168450	657.8	686.4	715	757.9
GA1_9	Asphalt concrete	Asphalt	2								

Table FF.49. Strength data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Elastic Modulus, psi				Flexural Strength, psi			
				7-day	**14-day**	**28-day**	**90-day**	**7-day**	**14-day**	**28-day**	**90-day**
GA1_9	A-4	Subgrade	3								
GA2	JPCP	PCC	1	2640768	2755584	2870400	3042624	574.08	599.04	624	661.44
GA2	Cement stabilized	Stabilized base	2								
GA2	A-2-6	Subgrade	3								
MI1_10a	JPCP	PCC	1	3928860	4099680	4270500	4526730	604.44	630.72	657	696.42
MI1_10a	Asphalt concrete	Asphalt	2								
MI1_10a	Crushed stone	Granular base	3								
MI1_10a	A-2-4	Subgrade	4								
MI1_10a3	JPCP	PCC	1	3928860	4099680	4270500	4526730	604.44	630.72	657	696.42
MI1_10a3	Asphalt concrete	Asphalt	2								
MI1_10a3	Crushed stone	Granular base	3								
MI1_10a3	A-2-4	Subgrade	4								
MI1_10b	JPCP	PCC	1	3928860	4099680	4270500	4526730	604.44	630.72	657	696.42
MI1_10b	Asphalt concrete	Asphalt	2								
MI1_10b	Crushed stone	Granular base	3								
MI1_10b	A-2-4	Subgrade	4								
MI1_25	JPCP	PCC	1	3737500	3900000	4062500	4306250	575	600	625	662.5
MI1_25	Asphalt concrete	Asphalt	2								
MI1_25	Crushed stone	Granular base	3								
MI1_25	A-2-4	Subgrade	4								
MI1_4a	JPCP	PCC	1	4126200	4305600	4485000	4754100	634.8	662.4	690	731.4
MI1_4a	Asphalt permeable base	Asphalt	2								
MI1_4a	Crushed stone	Granular base	3								
MI1_4a	A-2-4	Subgrade	4								
MI1_4a10	JPCP	PCC	1	4126200	4305600	4485000	4754100	634.8	662.4	690	731.4
MI1_4a10	Asphalt permeable base	Asphalt	2								
MI1_4a10	Crushed stone	Granular base	3								

Table FF.49. Strength data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Elastic Modulus, psi				Flexural Strength, psi			
				7-day	**14-day**	**28-day**	**90-day**	**7-day**	**14-day**	**28-day**	**90-day**
MI1_4a10	A-2-4	Subgrade	4								
MI1_4a12	JPCP	PCC	1	4126200	4305600	4485000	4754100	634.8	662.4	690	731.4
MI1_4a12	Asphalt permeable base	Asphalt	2								
MI1_4a12	Crushed stone	Granular base	3								
MI1_4a12	A-2-4	Subgrade	4								
MI1_7a	JPCP	PCC	1	3928860	4099680	4270500	4526730	604.44	630.72	657	696.42
MI1_7a	Crushed stone	Granular base	2								
MI1_7a	Crushed stone	Granular base	3								
MI1_7a	A-2-4	Subgrade	4								
MI1_7a5	JPCP	PCC	1	3928860	4099680	4270500	4526730	604.44	630.72	657	696.42
MI1_7a5	Crushed stone	Granular base	2								
MI1_7a5	Crushed stone	Granular base	3								
MI1_7a5	A-2-4	Subgrade	4								
MI1_7b	JPCP	PCC	1	3928860	4099680	4270500	4526730	604.44	630.72	657	696.42
MI1_7b	Crushed stone	Granular base	2								
MI1_7b	Crushed stone	Granular base	3								
MI1_7b	A-2-4	Subgrade	4								
MI1_7b5	JPCP	PCC	1	3928860	4099680	4270500	4526730	604.44	630.72	657	696.42
MI1_7b5	Crushed stone	Granular base	2								
MI1_7b5	Crushed stone	Granular base	3								
MI1_7b5	A-2-4	Subgrade	4								
MI6	JPCP	PCC	1	3626640	3784320	3942000	4178520	604.44	630.72	657	696.42
MI6	Crushed stone	Granular base	2								
MI6	A-6	Subgrade	3								
MN2_1	JPCP	PCC	1	3668500	3828000	3987500	4226750	667	696	725	768.5
MN2_1	Crushed stone	Granular base	2								
MN2_1	A-6	Subgrade	3								

Table FF.49. Strength data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Elastic Modulus, psi				Flexural Strength, psi			
				7-day	**14-day**	**28-day**	**90-day**	**7-day**	**14-day**	**28-day**	**90-day**
MN2_2	JPCP	PCC	1	3668500	3828000	3987500	4226750	667	696	725	768.5
MN2_2	Crushed stone	Granular base	2								
MN2_2	A-6	Subgrade	3								
MN4	JPCP	PCC	1	3491400	3643200	3795000	4022700	634.8	662.4	690	731.4
MN4	Crushed stone	Granular base	2								
MN4	A-2-6	Subgrade	3								
MN7_10	JPCP	PCC	1	3491400	3643200	3795000	4022700	634.8	662.4	690	731.4
MN7_10	Crushed stone	Granular base	2								
MN7_10	Crushed stone	Granular base	3								
MN7_10	A-4	Subgrade	4								
MN7_15	JPCP	PCC	1	3491400	3643200	3795000	4022700	634.8	662.4	690	731.4
MN7_15	Crushed stone	Granular base	2								
MN7_15	Crushed stone	Granular base	3								
MN7_15	A-4	Subgrade	4								
MN7_16	JPCP	PCC	1	3491400	3643200	3795000	4022700	634.8	662.4	690	731.4
MN7_16	Crushed stone	Granular base	2								
MN7_16	Crushed stone	Granular base	3								
MN7_16	A-4	Subgrade	4								
MN7_17	JPCP	PCC	1	3491400	3643200	3795000	4022700	634.8	662.4	690	731.4
MN7_17	Crushed stone	Granular base	2								
MN7_17	Crushed stone	Granular base	3								
MN7_17	A-4	Subgrade	4								
MN7_18	JPCP	PCC	1	3491400	3643200	3795000	4022700	634.8	662.4	690	731.4
MN7_18	Crushed stone	Granular base	2								
MN7_18	Crushed stone	Granular base	3								
MN7_18	A-4	Subgrade	4								
MN7_23	JPCP	PCC	1	3491400	3643200	3795000	4022700	634.8	662.4	690	731.4

Table FF.49. Strength data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Elastic Modulus, psi				Flexural Strength, psi			
				7-day	**14-day**	**28-day**	**90-day**	**7-day**	**14-day**	**28-day**	**90-day**
MN7_23	Crushed stone	Granular base	2								
MN7_23	Crushed stone	Granular base	3								
MN7_23	A-4	Subgrade	4								
MN7_24	JPCP	PCC	1	3491400	3643200	3795000	4022700	634.8	662.4	690	731.4
MN7_24	Crushed stone	Granular base	2								
MN7_24	Crushed stone	Granular base	3								
MN7_24	A-4	Subgrade	4								
MN7_9	JPCP	PCC	1	3491400	3643200	3795000	4022700	634.8	662.4	690	731.4
MN7_9	Crushed stone	Granular base	2								
MN7_9	Crushed stone	Granular base	3								
MN7_9	A-4	Subgrade	4								
NC1_1	JPCP	PCC	1	3151000	3288000	3425000	3630500	630.2	657.6	685	726.1
NC1_1	Crushed stone	Granular base	2								
NC1_1	A-6	Subgrade	3								
NC1_2	JPCP	PCC	1	3151000	3288000	3425000	3630500	630.2	657.6	685	726.1
NC1_2	Cement stabilized	Stabilized base	2								
NC1_2	A-6	Subgrade	3								
NC1_3	JPCP	PCC	1	3151000	3288000	3425000	3630500	630.2	657.6	685	726.1
NC1_3	Cement stabilized	Stabilized base	2								
NC1_3	A-6	Subgrade	3								
NC1_4	JPCP	PCC	1	3151000	3288000	3425000	3630500	630.2	657.6	685	726.1
NC1_4	Crushed stone	Granular base	2								
NC1_4	A-7-6	Subgrade	3								
NC1_5	JPCP	PCC	1	3151000	3288000	3425000	3630500	630.2	657.6	685	726.1
NC1_5	Cement stabilized	Stabilized base	2								
NC1_5	A-6	Subgrade	3								
NC1_6	JPCP	PCC	1	3151000	3288000	3425000	3630500	630.2	657.6	685	726.1

Table FF.49. Strength data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Elastic Modulus, psi				Flexural Strength, psi			
				7-day	**14-day**	**28-day**	**90-day**	**7-day**	**14-day**	**28-day**	**90-day**
NC1_6	Asphalt concrete	Asphalt	2								
NC1_6	A-6	Subgrade	3								
NC1_8	JPCP	PCC	1	3151000	3288000	3425000	3630500	630.2	657.6	685	726.1
NC1_8	Crushed stone	Granular base	2								
NC1_8	A-6	Subgrade	3								
NC2	JPCP	PCC	1	3569968	3725184	3880400	4113224	655.04	683.52	712	754.72
NC2	Cement stabilized	Stabilized base	2								
NC2	A-4	Subgrade	3								
NY1_1	JPCP	PCC	1	3575120	3730560	3886000	4119160	616.4	643.2	670	710.2
NY1_1	Asphalt concrete	Asphalt	2								
NY1_1	Crushed stone	Granular base	3								
NY1_1	A-2-4	Subgrade	4								
NY1_5a	JPCP	PCC	1	3559112	3713856	3868600	4100716	613.64	640.32	667	707.02
NY1_5a	Cement stabilized	Stabilized base	2								
NY1_5a	A-1-a	Subgrade	3								
NY1_5b	JPCP	PCC	1	3559112	3713856	3868600	4100716	613.64	640.32	667	707.02
NY1_5b	Cement stabilized	Stabilized base	2								
NY1_5b	A-1-a	Subgrade	3								
NY1_6	JPCP	PCC	1	3575120	3730560	3886000	4119160	616.4	643.2	670	710.2
NY1_6	Crushed stone	Granular base	2								
NY1_6	Crushed stone	Granular base	3								
NY1_6	A-1-a	Subgrade	4								
NY1_8a	JPCP	PCC	1	3575120	3730560	3886000	4119160	616.4	643.2	670	710.2
NY1_8a	Asphalt concrete	Asphalt	2								
NY1_8a	Crushed stone	Granular base	3								
NY1_8a	A-2-4	Subgrade	4								
NY1_8b	JPCP	PCC	1	3575120	3730560	3886000	4119160	616.4	643.2	670	710.2

Table FF.49. Strength data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Elastic Modulus, psi				Flexural Strength, psi			
				7-day	**14-day**	**28-day**	**90-day**	**7-day**	**14-day**	**28-day**	**90-day**
NY1_8b	Asphalt concrete	Asphalt	2								
NY1_8b	Crushed stone	Granular base	3								
NY1_8b	A-2-4	Subgrade	4								
NY2_11	JPCP	PCC	1	3836584	4003392	4170200	4420412	661.48	690.24	719	762.14
NY2_11	Crushed stone	Granular base	2								
NY2_11	A-1-a	Subgrade	3								
NY2_3	JPCP	PCC	1	3836584	4003392	4170200	4420412	661.48	690.24	719	762.14
NY2_3	Crushed stone	Granular base	2								
NY2_3	Crushed stone	Granular base	3								
NY2_3	A-1-a	Subgrade	4								
NY2_9	JPCP	PCC	1	3836584	4003392	4170200	4420412	661.48	690.24	719	762.14
NY2_9	Crushed stone	Granular base	2								
NY2_9	A-1-a	Subgrade	3								
OH2_1	JPCP	PCC	1	3793160	3958080	4123000	4370380	611.8	638.4	665	704.9
OH2_1	A-6	Subgrade	2								
OH2_2	JPCP	PCC	1	3793160	3958080	4123000	4370380	611.8	638.4	665	704.9
OH2_2	A-4	Subgrade	2								
OH2_3	JPCP	PCC	1	3793160	3958080	4123000	4370380	611.8	638.4	665	704.9
OH2_3	A-4	Subgrade	2								
OH2_4	JPCP	PCC	1	3793160	3958080	4123000	4370380	611.8	638.4	665	704.9
OH2_4	A-6	Subgrade	2								
ONT1_1	JPCP	PCC	1	3848130	4015440	4182750	4433715	657.8	686.4	715	757.9
ONT1_1	A-7-6	Subgrade	2								
ONT1_2	JPCP	PCC	1	3848130	4015440	4182750	4433715	657.8	686.4	715	757.9
ONT1_2	Asphalt permeable base	Asphalt	2								
ONT1_2	A-7-6	Subgrade	3								
ONT1_3	JPCP	PCC	1	3659760	3818880	3978000	4216680	625.6	652.8	680	720.8

Table FF.49. Strength data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Elastic Modulus, psi				Flexural Strength, psi			
				7-day	**14-day**	**28-day**	**90-day**	**7-day**	**14-day**	**28-day**	**90-day**
ONT1_3	Cement stabilized	Stabilized base	2								
ONT1_3	A-7-6	Subgrade	3								
ONT1_4	JPCP	PCC	1	3659760	3818880	3978000	4216680	625.6	652.8	680	720.8
ONT1_4	Cement stabilized	Stabilized base	2								
ONT1_4	A-7-6	Subgrade	3								
ONT2_1	JPCP	PCC	1	3378240	3525120	3672000	3892320	625.6	652.8	680	720.8
ONT2_1	Cement stabilized	Stabilized base	2								
ONT2_1	A-4	Subgrade	3								
ONT2_1a	JPCP	PCC	1	3378240	3525120	3672000	3892320	625.6	652.8	680	720.8
ONT2_1a	Cement stabilized	Stabilized base	2								
ONT2_1a	A-4	Subgrade	3								
WI1_1	JPCP	PCC	1	3935760	4106880	4278000	4534680	634.8	662.4	690	731.4
WI1_1	Cement stabilized	Stabilized base	2								
WI1_1	Crushed stone	Granular base	3								
WI1_1	A-4	Subgrade	4								
WI1_2	JPCP	PCC	1	3935760	4106880	4278000	4534680	634.8	662.4	690	731.4
WI1_2	Cement stabilized	Stabilized base	2								
WI1_2	Crushed stone	Granular base	3								
WI1_2	A-4	Subgrade	4								
WI1_3	JPCP	PCC	1	3935760	4106880	4278000	4534680	634.8	662.4	690	731.4
WI1_3	Cement stabilized	Stabilized base	2								
WI1_3	Crushed stone	Granular base	3								
WI1_3	A-4	Subgrade	4								
WI2_1	JPCP	PCC	1	3935760	4106880	4278000	4534680	634.8	662.4	690	731.4
WI2_1	Cement stabilized	Stabilized base	2								
WI2_1	Crushed stone	Granular base	3								
WI2_1	A-6	Subgrade	4								

Table FF.49. Strength data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Elastic Modulus, psi				Flexural Strength, psi			
				7-day	**14-day**	**28-day**	**90-day**	**7-day**	**14-day**	**28-day**	**90-day**
WI2_2	JPCP	PCC	1	3935760	4106880	4278000	4534680	634.8	662.4	690	731.4
WI2_2	Asphalt permeable base	Asphalt	2								
WI2_2	Crushed stone	Granular base	3								
WI2_2	A-6	Subgrade	4								
WI2_3	JPCP	PCC	1	3935760	4106880	4278000	4534680	634.8	662.4	690	731.4
WI2_3	Crushed stone	Granular base	2								
WI2_3	Crushed stone	Granular base	3								
WI2_3	A-6	Subgrade	4								
WI2_4	JPCP	PCC	1	3935760	4106880	4278000	4534680	634.8	662.4	690	731.4
WI2_4	Crushed stone	Granular base	2								
WI2_4	Crushed stone	Granular base	3								
WI2_4	A-6	Subgrade	4								
WI2_5	JPCP	PCC	1	3935760	4106880	4278000	4534680	634.8	662.4	690	731.4
WI2_5	Crushed stone	Granular base	2								
WI2_5	Crushed stone	Granular base	3								
WI2_5	A-6	Subgrade	4								
WI3_1	JPCP	PCC	1	3935760	4106880	4278000	4534680	634.8	662.4	690	731.4
WI3_1	Asphalt permeable base	Asphalt	2								
WI3_1	Crushed stone	Granular base	3								
WI3_1	A-3	Subgrade	4								
WI3_2	JPCP	PCC	1	3935760	4106880	4278000	4534680	634.8	662.4	690	731.4
WI3_2	Crushed stone	Granular base	2								
WI3_2	A-3	Subgrade	3								
WI3_3	JPCP	PCC	1	3935760	4106880	4278000	4534680	634.8	662.4	690	731.4
WI3_3	Crushed stone	Granular base	2								
WI3_3	A-3	Subgrade	3								
WI4_1	JPCP	PCC	1	3935760	4106880	4278000	4534680	634.8	662.4	690	731.4

Table FF.49. Strength data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Elastic Modulus, psi				Flexural Strength, psi			
				7-day	**14-day**	**28-day**	**90-day**	**7-day**	**14-day**	**28-day**	**90-day**
WI4_1	Crushed stone	Granular base	2								
WI4_1	A-4	Subgrade	3								
WI4_2	JPCP	PCC	1	3935760	4106880	4278000	4534680	634.8	662.4	690	731.4
WI4_2	Crushed stone	Granular base	2								
WI4_2	A-4	Subgrade	3								
WI4_3	JPCP	PCC	1	3935760	4106880	4278000	4534680	634.8	662.4	690	731.4
WI4_3	Crushed stone	Granular base	2								
WI4_3	A-4	Subgrade	3								
WI4_4	JPCP	PCC	1	3935760	4106880	4278000	4534680	634.8	662.4	690	731.4
WI4_4	Crushed stone	Granular base	2								
WI4_4	A-4	Subgrade	3								
WI4_5	JPCP	PCC	1	3935760	4106880	4278000	4534680	634.8	662.4	690	731.4
WI4_5	Crushed stone	Granular base	2								
WI4_5	A-4	Subgrade	3								
WI4_6	JPCP	PCC	1	3935760	4106880	4278000	4534680	634.8	662.4	690	731.4
WI4_6	Crushed stone	Granular base	2								
WI4_6	A-4	Subgrade	3								
WI5_1	JPCP	PCC	1	3935760	4106880	4278000	4534680	634.8	662.4	690	731.4
WI5_1	Crushed stone	Granular base	2								
WI5_1	A-6	Subgrade	3								
WI5_2	JPCP	PCC	1	3935760	4106880	4278000	4534680	634.8	662.4	690	731.4
WI5_2	Crushed stone	Granular base	2								
WI5_2	A-6	Subgrade	3								
WI5_3	JPCP	PCC	1	3935760	4106880	4278000	4534680	634.8	662.4	690	731.4
WI5_3	Crushed stone	Granular base	2								
WI5_3	A-2-4	Subgrade	3								
WI5_4	JPCP	PCC	1	3935760	4106880	4278000	4534680	634.8	662.4	690	731.4

Table FF.49. Strength data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Elastic Modulus, psi				Flexural Strength, psi			
				7-day	**14-day**	**28-day**	**90-day**	**7-day**	**14-day**	**28-day**	**90-day**
WI5_4	Crushed stone	Granular base	2								
WI5_4	A-4	Subgrade	3								
WI5_5	JPCP	PCC	1	3935760	4106880	4278000	4534680	634.8	662.4	690	731.4
WI5_5	Crushed stone	Granular base	2								
WI5_5	A-4	Subgrade	3								
WI5_6	JPCP	PCC	1	3935760	4106880	4278000	4534680	634.8	662.4	690	731.4
WI5_6	Crushed stone	Granular base	2								
WI5_6	A-4	Subgrade	3								
WI6_1	JPCP	PCC	1	3935760	4106880	4278000	4534680	634.8	662.4	690	731.4
WI6_1	Crushed stone	Granular base	2								
WI6_1	Crushed stone	Granular base	3								
WI6_1	A-6	Subgrade	4								
WI6_2	JPCP	PCC	1	3935760	4106880	4278000	4534680	634.8	662.4	690	731.4
WI6_2	Crushed stone	Granular base	2								
WI6_2	Crushed stone	Granular base	3								
WI6_2	A-6	Subgrade	4								
WI6_3	JPCP	PCC	1	3935760	4106880	4278000	4534680	634.8	662.4	690	731.4
WI6_3	Crushed stone	Granular base	2								
WI6_3	Crushed stone	Granular base	3								
WI6_3	A-6	Subgrade	4								
WI6_4	JPCP	PCC	1	3935760	4106880	4278000	4534680	634.8	662.4	690	731.4
WI6_4	Crushed stone	Granular base	2								
WI6_4	Crushed stone	Granular base	3								
WI6_4	A-6	Subgrade	4								
WI7_1	JPCP	PCC	1	3935760	4106880	4278000	4534680	634.8	662.4	690	731.4
WI7_1	Crushed stone	Granular base	2								
WI7_1	Crushed stone	Granular base	3								

Table FF.49. Strength data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Elastic Modulus, psi				Flexural Strength, psi			
				7-day	**14-day**	**28-day**	**90-day**	**7-day**	**14-day**	**28-day**	**90-day**
WI7_1	A-7-6	Subgrade	4								
WI7_10	JPCP	PCC	1	3935760	4106880	4278000	4534680	634.8	662.4	690	731.4
WI7_10	Crushed stone	Granular base	2								
WI7_10	Crushed stone	Granular base	3								
WI7_10	A-7-6	Subgrade	4								
WI7_2	JPCP	PCC	1	3935760	4106880	4278000	4534680	634.8	662.4	690	731.4
WI7_2	Crushed stone	Granular base	2								
WI7_2	Crushed stone	Granular base	3								
WI7_2	A-7-6	Subgrade	4								
WI7_3	JPCP	PCC	1	3935760	4106880	4278000	4534680	634.8	662.4	690	731.4
WI7_3	Cement stabilized	Stabilized base	2								
WI7_3	Crushed stone	Granular base	3								
WI7_3	A-7-6	Subgrade	4								
WI7_4	JPCP	PCC	1	3935760	4106880	4278000	4534680	634.8	662.4	690	731.4
WI7_4	Cement stabilized	Stabilized base	2								
WI7_4	Crushed stone	Granular base	3								
WI7_4	A-7-6	Subgrade	4								
WI7_5	JPCP	PCC	1	3935760	4106880	4278000	4534680	634.8	662.4	690	731.4
WI7_5	Asphalt permeable base	Asphalt	2								
WI7_5	Crushed stone	Granular base	3								
WI7_5	A-7-6	Subgrade	4								
WI7_6	JPCP	PCC	1	3935760	4106880	4278000	4534680	634.8	662.4	690	731.4
WI7_6	Asphalt permeable base	Asphalt	2								
WI7_6	Crushed stone	Granular base	3								
WI7_6	A-7-6	Subgrade	4								
WI7_7	JPCP	PCC	1	3935760	4106880	4278000	4534680	634.8	662.4	690	731.4
WI7_7	Crushed stone	Granular base	2								

Table FF.49. Strength data for new JPCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Elastic Modulus, psi				Flexural Strength, psi			
				7-day	**14-day**	**28-day**	**90-day**	**7-day**	**14-day**	**28-day**	**90-day**
WI7_7	Crushed stone	Granular base	3								
WI7_7	A-7-6	Subgrade	4								
WI7_8	JPCP	PCC	1	3935760	4106880	4278000	4534680	634.8	662.4	690	731.4
WI7_8	Crushed stone	Granular base	2								
WI7_8	Crushed stone	Granular base	3								
WI7_8	A-7-6	Subgrade	4								
WI7_9	JPCP	PCC	1	3935760	4106880	4278000	4534680	634.8	662.4	690	731.4
WI7_9	Crushed stone	Granular base	2								
WI7_9	Crushed stone	Granular base	3								
WI7_9	A-7-6	Subgrade	4								
WV1_3	JPCP	PCC	1	2842800	2966400	3090000	3275400	568.56	593.28	618	655.08
WV1_3	Crushed stone	Granular base	2								
WV1_3	A-4	Subgrade	3								

Table FF.50. Layer definition, description, and material characterization data for new CRCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Layer Thickness, in	Plasticity Index, pct	Percent Passing # 4 Sieve	Percent Passing # 200 Sieve	D60	AASHTO Class	Elastic/Resilient Modulus, psi	Unit weight, pcf	Poisson's Ratio	Coef. of Thermal Expansion, in/in/oF	Thermal Conductivity	Heat Capacity	PCC Cement Type	PCC Mix Cement Content, lb/yd3	PCC Water-Cement Ratio	PCC Aggregate Type
1_5008	PCC--CRCP	PC	4	9.2								0.19	0.0000071					0.51	2
1_5008	HMAC	AC	3	6.1							143	0.35 (user)		0.67	0.23				
1_5008	Crushed Stone	GB	2	7.8	NP	9.5	4.5	21.830											
1_5008	silty sand	SS	1	Infinite	NP	89	47.9	0.176											
16_5025	PCC--CRCP	PC	4	8.3								0.15	0.0000062					0.40	2
16_5025	Cement Aggregate Mixture	TB	3	4.0						636852	150	0.20		1.00	0.23				
16_5025	Crushed Gravel	GB	2	6.6	NP	49.5	12.5	2.394											
17_5020	PCC--CRCP	PC	3	8.6								0.17	0.0000052					0.54	2
17_5020	Lean Concrete	TB	2	4.3						2547981	150	0.20		1.00	0.23				
17_5020	Lean Clay with Sand	SS	1	Infinite	20	99	86.9	0.075											
17_5843	PCC--CRCP	PC	3	10.4								0.19	0.0000063					0.40	3
17_5843	Lean Concrete	TB	2	4.5						1789845	150	0.20		1.00	0.23				
17_5843	Sandy Lean Clay	SS	1	Infinite	15	97	68.55	0.075											
17_5849	PCC--CRCP	PC	3	7.2								0.17	0.0000056					0.54	3
17_5849	HMAC	AC	2	4.3							143	0.35 (user)		0.67	0.23				
17_5849	Lean Clay with Sand	SS	1	Infinite	9	98.5	80.7	0.075											
17_5854	PCC--CRCP	PC	3	10.0								0.19	0.0000059					0.40	2
17_5854	Lean Concrete	TB	2	4.4						3310199	150	0.20		1.00	0.23				
17_5854	Lean Clay with Sand	SS	1	Infinite	12.5	96.5	79.75	0.075											
17_5869	PCC--CRCP	PC	3	8.9								0.23	0.0000061					0.40	3
17_5869	Lean Concrete	TB	2	4.0						1799160	150	0.20		1.00	0.23				
17_5869	Sandy Silty Clay	SS	1	Infinite	7.5	94.5	66	0.075											
17_5908	PCC--CRCP	PC	3	8.8								0.14	0.0000053					0.44	2
17_5908	HMAC	AC	2	3.8							143	0.35 (user)		0.67	0.23				
17_5908	Lean Inorganic	SS	1	Infinite	11	99.5	91.35	0.075											

Table FF.50. Layer definition, description, and material characterization data for new CRCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Layer Thickness, in	Plasticity Index, pct	Percent Passing # 4 Sieve	Percent Passing # 200 Sieve	D60	AASHTO Class	Elastic/Resilient Modulus, psi	Unit weight, pcf	Poisson's Ratio	Coef. of Thermal Expansion, in/in/oF	Thermal Conductivity	Heat Capacity	PCC Cement Type	PCC Mix Cement Content, lb/yd3	PCC Water-Cement Ratio	PCC Aggregate Type
	Clay																		
17_9267	PCC--CRCP	PC	3	8.5								0.20	0.0000057					0.42	2
17_9267	HMAC	AC	2	4.2							143	0.35 (user)		0.67	0.23				
17_9267	Well-Graded Sand with Silt	SS	1	Infinite	NP	91	9.9	1.080											
18_5022	PCC--CRCP	PC	4	9.8								0.16	0.0000056					0.31	2
18_5022	HMAC	AC	3	4.0							143	0.35 (user)		0.67	0.23				
18_5022	Gravel (uncrushed)	GB	2	4.6															
18_5022	Sandy Silty Clay	SS	1	Infinite	5.5	90	50.95	0.154											
18_5043	PCC--CRCP	PC	3	7.5								0.22	0.0000055					0.32	2
18_5043	Gravel (uncrushed)	GB	2	5.5	NP	51.5	6.95	3.510											
18_5043	Lean Inorganic Clay	SS	1	Infinite	14.5	94.5	86.7	0.075											
18_5518	PCC--CRCP	PC	3	9.3								0.20	0.0000057					0.33	2
18_5518	Gravel (uncrushed)	GB	2	6.6															
18_5518	silty sand	SS	1	Infinite															
19_5042	PCC--CRCP	PC	3	8.0								0.22	0.0000048					0.43	2
19_5042	Asphalt Treated Mixture	AC	2	3.7							143	0.35 (user)		0.67	0.23				
19_5042	clayey sand	SS	1	Infinite	7	94.5	45.7	0.173											
19_9116	PCC--CRCP	PC	3	7.8								0.27	0.0000051					0.44	2
19_9116	HMAC	AC	2	4.8							143	0.35 (user)		0.67	0.23				
19_9116	silty sand	SS	1	Infinite															
28_3099	PCC--CRCP	PC	5	8.0								0.17	0.0000071					0.52	9
28_3099	Soil Cement	TB	4	5.8						450045	150	0.20		1.00	0.23				
28_3099	Sand	GB	3	2.3															
28_3099	Lime-Treated Soil	TB	2	8.4						48000	150	0.20		1.00	0.23				
28_3099	Fat Inorganic Clay	SS	1	Infinite															
28_5006	PCC--CRCP	PC	4	8.2								0.16	0.0000055					0.64	9

Table FF.50. Layer definition, description, and material characterization data for new CRCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Layer Thickness, in	Plasticity Index, pct	Percent Passing # 4 Sieve	Percent Passing # 200 Sieve	D60	AASHTO Class	Elastic/Resilient Modulus, psi	Unit weight, pcf	Poisson's Ratio	Coef. of Thermal Expansion, in/in/oF	Thermal Conductivity	Heat Capacity	PCC Cement Type	PCC Mix Cement Content, lb/yd3	PCC Water-Cement Ratio	PCC Aggregate Type
28_5006	Soil Cement	TB	3	8.6						158288	150	0.20		1.00	0.23				
28_5006	Lime-Treated Soil	TB	2	5.7						48000	150	0.20		1.00	0.23				
28_5006	Lean Clay with Sand	SS	1	Infinite															
28_5025	PCC--CRCP	PC	4	8.3								0.10	0.0000071					0.67	9
28_5025	HMAC	AC	3	4.0							143	0.35 (user)		0.67	0.23				
28_5025	Soil-Aggregate Mixture	GB	2	6.8	NP	56.5	8.2	3.219											
28_5025	silty sand	SS	1	Infinite	NP	88	19.15	0.392											
28_5803	PCC--CRCP	PC	3	7.9								0.14	0.0000069					0.67	9
28_5803	Soil Cement	TB	2	6.3						407172	150	0.20		1.00	0.23				
28_5803	Poorly Graded Sand with Silt	SS	1	Infinite	NP	100	12	0.265											
28_5805	PCC--CRCP	PC	4	8.2								0.11	0.0000068					0.68	9
28_5805	HMAC	AC	3	4.1							143	0.35 (user)		0.67	0.23				
28_5805	Fine-grained Soils	GB	2	6.9	NP	84.5	12.05	0.655											
28_5805	Poorly Graded Sand	SS	1	Infinite	NP	99.5	2.8	0.367											
29_5047	PCC--CRCP	PC	3	8.3								0.20	0.0000049					0.42	2
29_5047	Crushed Stone	GB	2	3.5	1.5	53.5	17.45	3.363											
29_5047	Lean Inorganic Clay	SS	1	Infinite	12.5	98.5	96.15	0.075											
31_5052	PCC--CRCP	PC	3	7.6								0.17	0.0000049					0.46	2
31_5052	Cement Aggregate Mixture	TB	2	2.8						1433969	150	0.20		1.00	0.23				
31_5052	Lean Inorganic Clay	SS	1	Infinite	18	100	96.85	0.075											
37_5037	PCC--CRCP	PC	3	7.8								0.12	0.0000055					0.48	4
37_5037	Soil-Aggregate Mixture	GB	2	15.1	NP	58.5	14.75	3.930											
37_5037	silty sand with	SS	1	Infinite	3	77.5	36.4	0.414											

Table FF.50. Layer definition, description, and material characterization data for new CRCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Layer Thickness, in	Plasticity Index, pct	Percent Passing # 4 Sieve	Percent Passing # 200 Sieve	D60	AASHTO Class	Elastic/Resilient Modulus, psi	Unit weight, pcf	Poisson's Ratio	Coef. of Thermal Expansion, in/in/oF	Thermal Conductivity	Heat Capacity	PCC Cement Type	PCC Mix Cement Content, lb/yd3	PCC Water-Cement Ratio	PCC Aggregate Type
	gravel																		
37_5827	PCC--CRCP	PC	3	8.1								0.09	0.0000055					0.46	2
37_5827	Crushed Gravel	GB	2	4.4	NP	51.5	10.75	1.995											
37_5827	Poorly Graded Sand with Silt	SS	1	Infinite	NP	98.5	39.45	0.186											
38_5002	PCC--CRCP	PC	4	8.0								0.15	0.0000055					0.48	4
38_5002	HMAC	AC	3	2.3							143	0.35 (user)		0.67	0.23				
38_5002	Lime-Treated Soil	TB	2	6.0						48000	150	0.20		1.00	0.23				
38_5002	Fat Inorganic Clay	SS	1	Infinite	47.5	100	98.05	0.075											
39_5003	PCC--CRCP	PC	4	9.7								0.19	0.0000054					0.49	2
39_5003	HMAC	AC	3	4.6							143	0.35 (user)		0.67	0.23				
39_5003	Crushed Stone	GB	2	5.2	NP	64	20.45	3.964											
39_5003	Silty Clay with Sand	SS	1	Infinite	6.5	96	75.6	0.075											
39_5010	HMAC	AC	4	2.8															
39_5010	PCC--CRCP	PC	3	8.8								0.17	0.0000054					0.50	2
39_5010	Cement Aggregate Mixture	TB	2	5.0						974976	150	0.20		1.00	0.23				
39_5010	clayey sand with gravel	SS	1	Infinite	6.5	87	48.55	0.270											
4_7079	PCC--CRCP	PC	3	9.0								0.16	0.0000055					0.40	2
4_7079	Asphalt Treated Mixture	AC	2	4.0							143	0.35 (user)		0.67	0.23				
4_7079	clayey sand with gravel	SS	1	Infinite	19.5	94.5	51	0.180											
40_4158	PCC--CRCP	PC	3	10.3								0.18	0.0000049					0.42	2
40_4158	HMAC	AC	2	4.4							143	0.35 (user)		0.67	0.23				
40_4158	silty sand	SS	1	Infinite	NP	100	46.65	0.109											
40_4166	PCC--CRCP	PC	4	10.1								0.20	0.0000054					0.43	2
40_4166	Cement Aggregate	TB	3	3.9						1224705	150	0.20		1.00	0.23				

Table FF.50. Layer definition, description, and material characterization data for new CRCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Layer Thickness, in	Plasticity Index, pct	Percent Passing # 4 Sieve	Percent Passing # 200 Sieve	D60	AASHTO Class	Elastic/Resilient Modulus, psi	Unit weight, pcf	Poisson's Ratio	Coef. of Thermal Expansion, in/in/oF	Thermal Conductivity	Heat Capacity	PCC Cement Type	PCC Mix Cement Content, lb/yd3	PCC Water-Cement Ratio	PCC Aggregate Type
	Mixture																		
40_4166	Crushed Stone	GB	2	10.4	NP	38	12.35	6.667											
40_4166	Sandy Lean Clay	SS	1	Infinite	15	80	55.95	0.180											
40_5021	PCC--CRCP	PC	3	9.5								0.22	0.0000051					0.48	2
40_5021	Asphalt Treated Mixture	AC	2	3.5							143	0.35 (user)		0.67	0.23				
40_5021	silty gravel with sand	SS	1	Infinite	NP	57.5	20.35	3.708											
41_5005	PCC--CRCP	PC	4	11.5								0.25	0.0000055					0.62	6
41_5005	Lean Concrete	TB	3	6.2						2491964	150	0.20		1.00	0.23				
41_5005	Soil-Aggregate Mixture	GB	2	26.7	12.5	31.5	11	5.433											
41_5005	clayey gravel	SS	1	Infinite	16.5	44	35.35	1.160											
41_5006	PCC--CRCP	PC	5	8.0								0.19	0.0000055					0.49	6
41_5006	Cement Aggregate Mixture	TB	4	3.5						1641446	150	0.20		1.00	0.23				
41_5006	Crushed Gravel	GB	3	5.0	7	37.5	7	0.417											
41_5006	Soil-Aggregate Mixture	GB	2	21.2	15.5	40.5	17.45	0.500											
41_5006	Gravelly Lean Clay	SS	1	Infinite	14.5	63.5	41	3.269											
41_5008	PCC--CRCP	PC	4	8.1								0.19	0.0000055					0.53	6
41_5008	Cement Aggregate Mixture	TB	3	4.4						957766	150	0.20		1.00	0.23				
41_5008	Crushed Gravel	GB	2	6.0	4.5	33.5	8.4	0.477											
41_5008	poorly graded gravel with clay	SS	1	Infinite	12	36	10.55	0.414											
41_5021	PCC--CRCP	PC	4	10.8								0.18	0.0000045					0.55	6
41_5021	Cement Aggregate Mixture	TB	3	7.7						1099402	150	0.20		1.00	0.23				
41_5021	Gravel (uncrushed)	GB	2	6.4	10	32.5	6.8	19.375											

Table FF.50. Layer definition, description, and material characterization data for new CRCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Layer Thickness, in	Plasticity Index, pct	Percent Passing # 4 Sieve	Percent Passing # 200 Sieve	D60	AASHTO Class	Elastic/Resilient Modulus, psi	Unit weight, pcf	Poisson's Ratio	Coef. of Thermal Expansion, in/in/oF	Thermal Conductivity	Heat Capacity	PCC Cement Type	PCC Mix Cement Content, lb/yd3	PCC Water-Cement Ratio	PCC Aggregate Type
41_5021	silty sand	SS	1	36.0															
41_5022	PCC--CRCP	PC	4	12.8								0.22	0.0000055					0.62	6
41_5022	Soil-Aggregate Mixture	GB	2	14.4	13	52.3	15.7	3.014											
41_5022	Sandy Lean Clay	SS	1	Infinite	16	88	50.7	0.285											
41_7081	PCC--CRCP	PC	3	10.4								0.17	0.0000055					0.52	6
41_7081	Lean Concrete	TB	2	7.8						3068397	150	0.20		1.00	0.23				
41_7081	poorly graded gravel/silt/sand	SS	1	36.0	NP	39.5	13.55	0.440											
42_5020	PCC--CRCP	PC	3	9.3								0.20	0.0000055					0.46	2
42_5020	Crushed Gravel	GB	2	12.0	NP	67.5	5.5	3.768											
42_5020	Sandy Silt with Gravel	SS	1	Infinite	6	89	54.4	0.148											
45_5017	PCC--CRCP	PC	3	8.9								0.15	0.0000057					0.51	4
45_5017	Cement Aggregate Mixture	TB	2	5.6						874634	150	0.20		1.00	0.23				
45_5017	Poorly Graded Sand with Silt	SS	1	Infinite	NP	100	12.75	0.419											
45_5034	PCC--CRCP	PC	3	8.3								0.14	0.0000057					0.44	4
45_5034	Soil Cement	TB	2	4.9						424270	150	0.20		1.00	0.23				
45_5034	silty sand	SS	1	Infinite	NP	100	24.05	0.613											
45_5035	PCC--CRCP	PC	3	7.7								0.16	0.0000061					0.44	4
45_5035	Soil Cement	TB	2	5.1						359789	150	0.20		1.00	0.23				
45_5035	silty sand	SS	1	Infinite	6	100	29.8	0.356											
46_5020	PCC--CRCP	PC	3	7.9								0.18	0.0000053					0.43	3
46_5020	HMAC	AC	2	2.6							143	0.35 (user)		0.67	0.23				
46_5020	clayey gravel with sand	SS	1	Infinite	5.5	51.5	20.95	1.516											
46_5025	PCC--CRCP	PC	3	8.1								0.18	0.0000062					0.45	2
46_5025	Gravel (uncrushed)	GB	2	4.0	2	61.5	14.75	4.000											

Table FF.50. Layer definition, description, and material characterization data for new CRCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Layer Thickness, in	Plasticity Index, pct	Percent Passing # 4 Sieve	Percent Passing # 200 Sieve	D60	AASHTO Class	Elastic/Resilient Modulus, psi	Unit weight, pcf	Poisson's Ratio	Coef. of Thermal Expansion, in/in/oF	Thermal Conductivity	Heat Capacity	PCC Cement Type	PCC Mix Cement Content, lb/yd3	PCC Water-Cement Ratio	PCC Aggregate Type
46_5025	Fat Clay with Sand	SS	1	Infinite	31	99.5	76.55	0.075											
48_3779	PCC--CRCP	PC	4	8.4								0.26	0.0000055					0.37	2
48_3779	HMAC	AC	3	2.0							143	0.35 (user)		0.67	0.23				
48_3779	Crushed Stone	GB	2	3.9	5.5	32	9.05	0.451											
48_3779	Fat Clay with Sand	SS	1	Infinite	NP	94.5	61.45	0.075											
48_5024	PCC--CRCP	PC	4	11.1								0.14	0.0000067					0.46	1
48_5024	HMAC	AC	3	5.2							143	0.35 (user)		0.67	0.23				
48_5024	Lime-Treated Soil	TB	2	5.7						48000	150	0.20		1.00	0.23				
48_5024	silty sand with gravel	SS	1	Infinite	NP	84.5	24.25	0.186											
48_5026	PCC--CRCP	PC	5	10.2								0.16	0.0000055					0.42	2
48_5026	HMAC	AC	4	1.3							143	0.35 (user)		0.67	0.23				
48_5026	Cement Aggregate Mixture	TB	3	5.1						40000	150	0.20		1.00	0.23				
48_5026	Lime-Treated Soil	TB	2	5.9						48000	150	0.20		1.00	0.23				
48_5026	Fat Inorganic Clay	SS	1	Infinite	31	100	96.05	0.075											
48_5154	PCC--CRCP	PC	4	8.2								0.25	0.0000043					0.49	1
48_5154	HMAC	AC	3	4.4							143	0.35 (user)		0.67	0.23				
48_5154	Lime-Treated Soil	TB	2	6.0						48000	150	0.20		1.00	0.23				
48_5154	clayey sand	SS	1	Infinite	25.5	100	45.15	0.133											
48_5278	PCC--CRCP	PC	3	6.2								0.22	0.0000055					0.52	7
48_5278	HMAC	AC	2	4.1							143	0.35 (user)		0.67	0.23				
48_5278	clayey sand with gravel	SS	1	14.0	7	68.5	26.85	1.939											
48_5328	PCC--CRCP	PC	4	8.0								0.19	0.0000046					0.52	2
48_5328	HMAC	AC	3	4.0							143	0.35 (user)		0.67	0.23				
48_5328	Soil-Aggregate Mixture	GB	2	3.6	7	50.5	23.55	2.861											

Table FF.50. Layer definition, description, and material characterization data for new CRCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Layer Thickness, in	Plasticity Index, pct	Percent Passing # 4 Sieve	Percent Passing # 200 Sieve	D60	AASHTO Class	Elastic/Resilient Modulus, psi	Unit weight, pcf	Poisson's Ratio	Coef. of Thermal Expansion, in/in/oF	Thermal Conductivity	Heat Capacity	PCC Cement Type	PCC Mix Cement Content, lb/yd3	PCC Water-Cement Ratio	PCC Aggregate Type
48_5328	Sandy Clay	SS	1	Infinite	14.5	96.5	68.75	0.075											
48_5334	PCC--CRCP	PC	4	8.0								0.16	0.0000055					0.56	2
48_5334	Asphalt Treated Mixture	AC	3	5.8							143	0.35 (user)		0.67	0.23				
48_5334	Soil-Aggregate Mixture	GB	2	3.6	NP	69.5	28	1.874											
48_5334	Sandy Lean Clay	SS	1	Infinite	6.5	95.5	69.75	0.075											
48_5336	PCC--CRCP	PC	5	9.0								0.11	0.0000055					0.49	2
48_5336	HMAC	AC	4	1.6							143	0.35 (user)		0.67	0.23				
48_5336	HMAC	AC	3	4.0							143	0.35 (user)		0.67	0.23				
48_5336	Lime-Treated Soil	TB	2	6.0						48000	150	0.20		1.00	0.23				
48_5336	Lean Clay with Sand	SS	1	Infinite	20	100	75.3	0.075											
5_5803	PCC--CRCP	PC	4	8.0								0.22	0.0000057					0.37	2
5_5803	HMAC	AC	3	5.5							143	0.35 (user)		0.67	0.23				
5_5803	Soil-Aggregate Mixture	GB	2	6.7	10	75	43.1	1.081											
5_5803	clayey sand with gravel	SS	1	Infinite	9.5	77.5	44.95	0.376											
5_5805	PCC--CRCP	PC	4	8.0								0.21	0.0000056					0.49	2
5_5805	Asphalt Treated Mixture	AC	3	6.4							143	0.35 (user)		0.67	0.23				
5_5805	Soil-Aggregate Mixture	GB	2	120.0	4.5	77	45.4	0.931											
5_5805	Rock	SS	1	Infinite															
51_2564	PCC--CRCP	PC	3	7.9								0.11	0.0000067					0.46	1
51_2564	Soil Cement	TB	2	6.0						366595	150	0.20		1.00	0.23				
51_2564	Silt	SS	1	Infinite	NP	100	99	0.075											
51_5010	PCC--CRCP	PC	3	9.1								0.17	0.0000055					0.46	4
51_5010	Cement Aggregate Mixture	TB	2	6.9															

Table FF.50. Layer definition, description, and material characterization data for new CRCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Layer Thickness, in	Plasticity Index, pct	Percent Passing # 4 Sieve	Percent Passing # 200 Sieve	D60	AASHTO Class	Elastic/Resilient Modulus, psi	Unit weight, pcf	Poisson's Ratio	Coef. of Thermal Expansion, in/in/oF	Thermal Conductivity	Heat Capacity	PCC Cement Type	PCC Mix Cement Content, lb/yd3	PCC Water-Cement Ratio	PCC Aggregate Type
51_5010	Lean Inorganic Clay	SS	1	Infinite	21	98.5	97.25	0.075											
55_5037	PCC--CRCP	PC	4	8.2								0.16	0.0000056					0.42	8
55_5037	Gravel (uncrushed)	GB	3	5.5	NP	58.5	4.7	4.264											
55_5037	Sand	TB	2	12.0	NP	90.5	4.05	1.179											
55_5037	Poorly Graded Sand/Gravel	SS	1	Infinite	NP	87.5	1.85	1.304											
55_5040	PCC--CRCP	PC	3	8.4								0.19	0.0000055					0.34	3
55_5040	Lean Clay with Sand	SS	1	Infinite	28.5	96	83.25	0.075											
6_7455	PCC--CRCP	PC	4	8.9								0.14	0.0000067					0.47	2
6_7455	Lean Concrete	TB	3	4.6						3418787	150	0.20		1.00	0.23				
6_7455	Soil-Aggregate Mixture	GB	2	35.0	8	48	14.6	1.912											
6_7455	Gravelly Lean Clay with Sand	SS	1	Infinite	23	80	53.7	0.139											

Table FF.51. Material characterization data for new CRCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Reversible Shrinkage	Time to Develop 50% Shrinkage, days	Curing Method	Percent Retained 3/4-in Sieve	Percent Retained 3/8-in Sieve	Percent Retained # 4 Sieve	Percent Passing # 200 Sieve	Asphalt Viscosity Grade	Reference temperature, °F	Effective Binder Content, pct	Pct Air voids	PCC Modulus of Rupture, 28 day (psi)	PCC Elastic Modulus, 28 day (psi)	PCC Compressive Stength, 28 day (psi)	PCC Tensile Stength, 28 day (psi)
1_5008	PCC--CRCP	PC	4												745	4,550,000	6,147	447
1_5008	HMAC	AC	3									70	10	8				
1_5008	Crushed Stone	GB	2				52.5	85.5	90.5									
1_5008	silty sand	SS	1				1.0	5.0	11.0									
16_5025	PCC--CRCP	PC	4												733	3,560,000	5,948	513
16_5025	Cement Aggregate Mixture	TB	3															
16_5025	Crushed Gravel	GB	2				9.5	31.0	50.5									
17_5020	PCC--CRCP	PC	3												734	2,930,000	5,962	440
17_5020	Lean Concrete	TB	2															
17_5020	Lean Clay with Sand	SS	1				0.0	0.0	1.0									
17_5843	PCC--CRCP	PC	3												846	4,950,000	7,927	630
17_5843	Lean Concrete	TB	2															
17_5843	Sandy Lean Clay	SS	1				1.0	2.0	3.0									
17_5849	PCC--CRCP	PC	3												777	3,310,000	6,698	466
17_5849	HMAC	AC	2									70	10	8				
17_5849	Lean Clay with Sand	SS	1				0.0	0.5	1.5									
17_5854	PCC--CRCP	PC	3												784	4,180,000	6,814	520
17_5854	Lean Concrete	TB	2															
17_5854	Lean Clay with Sand	SS	1				0.5	2.0	3.5									
17_5869	PCC--CRCP	PC	3												840			588

Table FF.51. Material characterization data for new CRCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Reversible Shrinkage	Time to Develop 50% Shrinkage, days	Curing Method	Percent Retained 3/4-in Sieve	Percent Retained 3/8-in Sieve	Percent Retained # 4 Sieve	Percent Passing # 200 Sieve	Asphalt Viscosity Grade	Reference temperature, °F	Effective Binder Content, pct	Pct Air voids	PCC Modulus of Rupture, 28 day (psi)	PCC Elastic Modulus, 28 day (psi)	PCC Compressive Stength, 28 day (psi)	PCC Tensile Stength, 28 day (psi)
																4,880,000	7,819	
17_5869	Lean Concrete	TB	2															
17_5869	Sandy Silty Clay	SS	1				0.0	2.5	5.5									
17_5908	PCC--CRCP	PC	3												840	4,880,000	6,292	588
17_5908	HMAC	AC	2									70	10	8				
17_5908	Lean Inorganic Clay	SS	1				0.0	0.0	0.5									
17_9267	PCC--CRCP	PC	3												809	5,120,000	7,244	485
17_9267	HMAC	AC	2									70	10	8				
17_9267	Well-Graded Sand with Silt	SS	1				4.0	6.5	9.0									
18_5022	PCC--CRCP	PC	4												742	4,860,000	6,105	520
18_5022	HMAC	AC	3									70	10	8				
18_5022	Gravel (uncrushed)	GB	2															
18_5022	Sandy Silty Clay	SS	1				2.0	6.0	10.0									
18_5043	PCC--CRCP	PC	3												770	4,290,000	6,566	462
18_5043	Gravel (uncrushed)	GB	2				0.5	18.5	48.5									
18_5043	Lean Inorganic Clay	SS	1				1.0	4.0	5.5									
18_5518	PCC--CRCP	PC	3												697	3,990,000	5,377	385
18_5518	Gravel (uncrushed)	GB	2															
18_5518	silty sand	SS	1															
19_5042	PCC--CRCP	PC	3												781	3,610,000	6,759	469
19_5042	Asphalt Treated Mixture	AC	2									70	10	8				

Table FF.51. Material characterization data for new CRCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Reversible Shrinkage	Time to Develop 50% Shrinkage, days	Curing Method	Percent Retained 3/4-in Sieve	Percent Retained 3/8-in Sieve	Percent Retained # 4 Sieve	Percent Passing # 200 Sieve	Asphalt Viscosity Grade	Reference temperature, °F	Effective Binder Content, pct	Pct Air voids	PCC Modulus of Rupture, 28 day (psi)	PCC Elastic Modulus, 28 day (psi)	PCC Compressive Stength, 28 day (psi)	PCC Tensile Stength, 28 day (psi)
19_5042	clayey sand	SS	1				2.0	3.5	5.5									
19_9116	PCC--CRCP	PC	3												722	4,060,000	5,782	433
19_9116	HMAC	AC	2									70	10	8				
19_9116	silty sand	SS	1															
28_3099	PCC--CRCP	PC	5												861	4,690,000	8,217	517
28_3099	Soil Cement	TB	4															
28_3099	Sand	GB	3															
28_3099	Lime-Treated Soil	TB	2															
28_3099	Fat Inorganic Clay	SS	1															
28_5006	PCC--CRCP	PC	4												841	4,200,000	7,845	550
28_5006	Soil Cement	TB	3															
28_5006	Lime-Treated Soil	TB	2															
28_5006	Lean Clay with Sand	SS	1															
28_5025	PCC--CRCP	PC	4												803	2,920,000	7,151	510
28_5025	HMAC	AC	3									70	10	8				
28_5025	Soil-Aggregate Mixture	GB	2				13.0	33.5	43.5									
28_5025	silty sand	SS	1				2.0	8.0	12.0									
28_5803	PCC--CRCP	PC	3												766	3,820,000	6,507	536
28_5803	Soil Cement	TB	2															
28_5803	Poorly Graded Sand with Silt	SS	1				0.0	0.0	0.0									
28_5805	PCC--CRCP	PC	4												921	5,050,000	9,393	640

Table FF.51. Material characterization data for new CRCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Reversible Shrinkage	Time to Develop 50% Shrinkage, days	Curing Method	Percent Retained 3/4-in Sieve	Percent Retained 3/8-in Sieve	Percent Retained # 4 Sieve	Percent Passing # 200 Sieve	Asphalt Viscosity Grade	Reference temperature, °F	Effective Binder Content, pct	Pct Air voids	PCC Modulus of Rupture, 28 day (psi)	PCC Elastic Modulus, 28 day (psi)	PCC Compressive Stength, 28 day (psi)	PCC Tensile Stength, 28 day (psi)
28_5805	HMAC	AC	3									70	10	8				
28_5805	Fine-grained Soils	GB	2				0.0	5.0	15.5									
28_5805	Poorly Graded Sand	SS	1				0.0	0.0	0.5									
29_5047	PCC--CRCP	PC	3												642	4,180,000	4,565	385
29_5047	Crushed Stone	GB	2				2.0	26.0	46.5									
29_5047	Lean Inorganic Clay	SS	1				0.0	0.5	1.5									
31_5052	PCC--CRCP	PC	3												658	3,070,000	4,797	475
31_5052	Cement Aggregate Mixture	TB	2															
31_5052	Lean Inorganic Clay	SS	1				0.0	0.0	0.0									
37_5037	PCC--CRCP	PC	3												776	2,570,000	6,676	500
37_5037	Soil-Aggregate Mixture	GB	2				18.0	33.5	41.5									
37_5037	silty sand with gravel	SS	1				9.5	17.5	22.5									
37_5827	PCC--CRCP	PC	3												698	2,670,000	5,396	440
37_5827	Crushed Gravel	GB	2				16.0	35.0	48.5									
37_5827	Poorly Graded Sand with Silt	SS	1				0.0	0.5	1.5									
38_5002	PCC--CRCP	PC	4												635	3,810,000	6,275	370
38_5002	HMAC	AC	3									70	10	8				
38_5002	Lime-Treated Soil	TB	2															
38_5002	Fat Inorganic Clay	SS	1				0.0	0.0	0.0									
39_5003	PCC--CRCP	PC	4												764	3,280,000	6,473	459
39_5003	HMAC	AC	3									70	10	8				

Table FF.51. Material characterization data for new CRCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Reversible Shrinkage	Time to Develop 50% Shrinkage, days	Curing Method	Percent Retained 3/4-in Sieve	Percent Retained 3/8-in Sieve	Percent Retained # 4 Sieve	Percent Passing # 200 Sieve	Asphalt Viscosity Grade	Reference temperature, °F	Effective Binder Content, pct	Pct Air voids	PCC Modulus of Rupture, 28 day (psi)	PCC Elastic Modulus, 28 day (psi)	PCC Compressive Stength, 28 day (psi)	PCC Tensile Stength, 28 day (psi)
39_5003	Crushed Stone	GB	2				12.5	26.5	36.0									
39_5003	Silty Clay with Sand	SS	1				0.0	3.0	4.0									
39_5010	HMAC	AC	4															
39_5010	PCC--CRCP	PC	3												784	3,130,000	6,802	548
39_5010	Cement Aggregate Mixture	TB	2															
39_5010	clayey sand with gravel	SS	1				3.0	7.0	13.0									
4_7079	PCC--CRCP	PC	3												741	3,470,000	6,082	445
4_7079	Asphalt Treated Mixture	AC	2									70	10	8				
4_7079	clayey sand with gravel	SS	1				2.0	3.5	5.5									
40_4158	PCC--CRCP	PC	3												702	3,980,000	5,467	421
40_4158	HMAC	AC	2									70	10	8				
40_4158	silty sand	SS	1				0.0	0.0	0.0									
40_4166	PCC--CRCP	PC	4												779	3,990,000	6,718	467
40_4166	Cement Aggregate Mixture	TB	3															
40_4166	Crushed Stone	GB	2				31.0	50.5	62.0									
40_4166	Sandy Lean Clay	SS	1				8.0	14.0	20.0									
40_5021	PCC--CRCP	PC	3												728	4,300,000	5,879	437
40_5021	Asphalt Treated Mixture	AC	2									70	10	8				
40_5021	silty gravel with sand	SS	1				17.5	32.0	42.5									
41_5005	PCC--CRCP	PC	4												819	3,890,000	7,425	550
41_5005	Lean Concrete	TB	3															

Table FF.51. Material characterization data for new CRCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Reversible Shrinkage	Time to Develop 50% Shrinkage, days	Curing Method	Percent Retained 3/4-in Sieve	Percent Retained 3/8-in Sieve	Percent Retained # 4 Sieve	Percent Passing # 200 Sieve	Asphalt Viscosity Grade	Reference temperature, °F	Effective Binder Content, pct	Pct Air voids	PCC Modulus of Rupture, 28 day (psi)	PCC Elastic Modulus, 28 day (psi)	PCC Compressive Stength, 28 day (psi)	PCC Tensile Stength, 28 day (psi)
41_5005	Soil-Aggregate Mixture	GB	2				29.0	52.0	68.5									
41_5005	clayey gravel	SS	1				13.0	36.5	56.0									
41_5006	PCC--CRCP	PC	5												698	3,420,000	5,402	489
41_5006	Cement Aggregate Mixture	TB	4															
41_5006	Crushed Gravel	GB	3				12.0	43.5	62.5									
41_5006	Soil-Aggregate Mixture	GB	2				28.5	45.5	59.5									
41_5006	Gravelly Lean Clay	SS	1				4.0	15.5	36.5									
41_5008	PCC--CRCP	PC	4												713	3,760,000	5,637	428
41_5008	Cement Aggregate Mixture	TB	3															
41_5008	Crushed Gravel	GB	2				21.5	46.5	66.5									
41_5008	poorly graded gravel with clay	SS	1				20.0	42.5	64.0									
41_5021	PCC--CRCP	PC	4												710	2,850,000	5,582	426
41_5021	Cement Aggregate Mixture	TB	3															
41_5021	Gravel (uncrushed)	GB	2				40.5	56.0	67.5									
41_5021	silty sand	SS	1															
41_5022	PCC--CRCP	PC	4												770	2,980,000	6,565	450
41_5022	Soil-Aggregate Mixture	GB	2				8.3	28.3	47.7									
41_5022	Sandy Lean Clay	SS	1				1.0	5.0	12.0									
41_7081	PCC--CRCP	PC	3												743	3,310,000	6,121	435
41_7081	Lean Concrete	TB	2															
41_7081	poorly graded gravel/silt/sand	SS	1				17.5	45.5	60.5									
42_5020	PCC--CRCP	PC	3												729			425

Table FF.51. Material characterization data for new CRCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Reversible Shrinkage	Time to Develop 50% Shrinkage, days	Curing Method	Percent Retained 3/4-in Sieve	Percent Retained 3/8-in Sieve	Percent Retained # 4 Sieve	Percent Passing # 200 Sieve	Asphalt Viscosity Grade	Reference temperature, °F	Effective Binder Content, pct	Pct Air voids	PCC Modulus of Rupture, 28 day (psi)	PCC Elastic Modulus, 28 day (psi)	PCC Compressive Stength, 28 day (psi)	PCC Tensile Stength, 28 day (psi)
																5,290,000	5,882	
42_5020	Crushed Gravel	GB	2				6.0	17.5	32.5									
42_5020	Sandy Silt with Gravel	SS	1				1.5	5.5	11.0									
45_5017	PCC--CRCP	PC	3												700	2,530,000	5,430	490
45_5017	Cement Aggregate Mixture	TB	2															
45_5017	Poorly Graded Sand with Silt	SS	1				0.0	0.0	0.0									
45_5034	PCC--CRCP	PC	3												718	2,600,000	5,713	520
45_5034	Soil Cement	TB	2															
45_5034	silty sand	SS	1				0.0	0.0	0.0									
45_5035	PCC--CRCP	PC	3												743	2,930,000	6,116	446
45_5035	Soil Cement	TB	2															
45_5035	silty sand	SS	1				0.0	0.0	0.0									
46_5020	PCC--CRCP	PC	3												765	3,310,000	6,491	536
46_5020	HMAC	AC	2									70	10	8				
46_5020	clayey gravel with sand	SS	1				21.5	37.0	48.5									
46_5025	PCC--CRCP	PC	3												786	3,590,000	6,841	440
46_5025	Gravel (uncrushed)	GB	2				1.0	22.0	38.5									
46_5025	Fat Clay with Sand	SS	1				0.0	0.5	0.5									
48_3779	PCC--CRCP	PC	4												666	3,710,000	2,431	281
48_3779	HMAC	AC	3									70	10	8				
48_3779	Crushed Stone	GB	2				18.0	50.0	68.0									

Table FF.51. Material characterization data for new CRCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Reversible Shrinkage	Time to Develop 50% Shrinkage, days	Curing Method	Percent Retained 3/4-in Sieve	Percent Retained 3/8-in Sieve	Percent Retained # 4 Sieve	Percent Passing # 200 Sieve	Asphalt Viscosity Grade	Reference temperature, °F	Effective Binder Content, pct	Pct Air voids	PCC Modulus of Rupture, 28 day (psi)	PCC Elastic Modulus, 28 day (psi)	PCC Compressive Stength, 28 day (psi)	PCC Tensile Stength, 28 day (psi)
48_3779	Fat Clay with Sand	SS	1				2.5	4.5	5.5									
48_5024	PCC--CRCP	PC	4												759	4,510,000	6,391	456
48_5024	HMAC	AC	3									70	10	8				
48_5024	Lime-Treated Soil	TB	2															
48_5024	silty sand with gravel	SS	1				4.5	10.5	15.5									
48_5026	PCC--CRCP	PC	5												837	4,700,000	7,772	502
48_5026	HMAC	AC	4									70	10	8				
48_5026	Cement Aggregate Mixture	TB	3															
48_5026	Lime-Treated Soil	TB	2															
48_5026	Fat Inorganic Clay	SS	1				0.0	0.0	0.0									
48_5154	PCC--CRCP	PC	4												707	3,760,000	5,535	424
48_5154	HMAC	AC	3									70	10	8				
48_5154	Lime-Treated Soil	TB	2															
48_5154	clayey sand	SS	1				0.0	0.0	0.0									
48_5278	PCC--CRCP	PC	3												769	4,030,000	6,547	461
48_5278	HMAC	AC	2									70	10	8				
48_5278	clayey sand with gravel	SS	1				6.0	19.0	31.5									
48_5328	PCC--CRCP	PC	4												741	3,630,000	6,089	445
48_5328	HMAC	AC	3									70	10	8				
48_5328	Soil-Aggregate Mixture	GB	2				8.5	27.5	49.5									
48_5328	Sandy Clay	SS	1				0.5	2.0	3.5									
48_5334	PCC--CRCP	PC	4												716			415

Table FF.51. Material characterization data for new CRCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Reversible Shrinkage	Time to Develop 50% Shrinkage, days	Curing Method	Percent Retained 3/4-in Sieve	Percent Retained 3/8-in Sieve	Percent Retained # 4 Sieve	Percent Passing # 200 Sieve	Asphalt Viscosity Grade	Reference temperature, °F	Effective Binder Content, pct	Pct Air voids	PCC Modulus of Rupture, 28 day (psi)	PCC Elastic Modulus, 28 day (psi)	PCC Compressive Stength, 28 day (psi)	PCC Tensile Stength, 28 day (psi)
																4,190,000	5,677	
48_5334	Asphalt Treated Mixture	AC	3									70	10	8				
48_5334	Soil-Aggregate Mixture	GB	2				10.0	23.5	30.5									
48_5334	Sandy Lean Clay	SS	1				1.0	3.5	4.5									
48_5336	PCC--CRCP	PC	5												713	3,730,000	5,632	428
48_5336	HMAC	AC	4									70	10	8				
48_5336	HMAC	AC	3									70	10	8				
48_5336	Lime-Treated Soil	TB	2															
48_5336	Lean Clay with Sand	SS	1				0.0	0.0	0.0									
5_5803	PCC--CRCP	PC	4												735	3,640,000	5,985	441
5_5803	HMAC	AC	3									70	10	8				
5_5803	Soil-Aggregate Mixture	GB	2				8.0	18.0	25.0									
5_5803	clayey sand with gravel	SS	1				6.0	15.5	22.5									
5_5805	PCC--CRCP	PC	4												655	3,130,000	4,755	393
5_5805	Asphalt Treated Mixture	AC	3									70	10	8				
5_5805	Soil-Aggregate Mixture	GB	2				4.0	13.5	23.0									
5_5805	Rock	SS	1															
51_2564	PCC--CRCP	PC	3												747	2,970,000	6,182	435
51_2564	Soil Cement	TB	2															
51_2564	Silt	SS	1				0.0	0.0	0.0									
51_5010	PCC--CRCP	PC	3												671	3,900,000	4,989	470
51_5010	Cement Aggregate Mixture	TB	2															

Table FF.51. Material characterization data for new CRCP model development and calibration.

SHRP ID	Material Description	Layer Type	Layer No.	Reversible Shrinkage	Time to Develop 50% Shrinkage, days	Curing Method	Percent Retained 3/4-in Sieve	Percent Retained 3/8-in Sieve	Percent Retained # 4 Sieve	Percent Passing # 200 Sieve	Asphalt Viscosity Grade	Reference temperature, °F	Effective Binder Content, pct	Pct Air voids	PCC Modulus of Rupture, 28 day (psi)	PCC Elastic Modulus, 28 day (psi)	PCC Compressive Stength, 28 day (psi)	PCC Tensile Stength, 28 day (psi)
51_5010	Lean Inorganic Clay	SS	1				0.0	1.5	1.5									
55_5037	PCC--CRCP	PC	4												802	4,160,000	7,133	525
55_5037	Gravel (uncrushed)	GB	3				6.5	28.0	41.5									
55_5037	Sand	TB	2				2.5	6.0	9.5									
55_5037	Poorly Graded Sand/Gravel	SS	1				5.0	8.5	12.5									
55_5040	PCC--CRCP	PC	3												776	5,190,000	6,666	450
55_5040	Lean Clay with Sand	SS	1				2.0	3.5	4.0									
6_7455	PCC--CRCP	PC	4												756	3,840,000	6,325	453
6_7455	Lean Concrete	TB	3															
6_7455	Soil-Aggregate Mixture	GB	2				13.5	33.5	52.0									
6_7455	Gravelly Lean Clay with Sand	SS	1				0.0	4.0	20.0									

Table FF.52. Layer definition and material characterization for rehabilitation with JPCP or CRCP model development and calibration.

SHRP ID	Layer Description	Layer Type	Layer No.	Thickness, in	Plasticity Index, pct	Pct. Passing No. 4 Sieve	Pct. Passing No. 200 Sieve	D60, mm	Erodibility Index	AASHTO Soil Class	Elastic Modulus, psi	Elastic Modulus (Test), psi	Pavement Condition Factor (Good = 1, Moderate = 0.42, Poor = 0.042)	Elastic Modulus (Design), psi
1_0601	JPCP	PC	3	10										
1_0601	Crushed Stone, Gravel or Slag	GB	2	6	2	56.00	11.30	4.75	4	A-1-a	40000			
1_0601	Sandy Clay	SS	1		12	84.00	60.70	0.08		A-6	17000			
1_0602	JPCP	PC	3	10										
1_0602	Crushed Stone, Gravel or Slag	GB	2	6	2	56.00	11.30	4.75	4	A-1-a	40000			
1_0602	Sandy Clay	SS	1		12	84.00	60.70	0.08		A-6	17000			
1_0605	JPCP	PC	3	10										
1_0605	Crushed Stone, Gravel or Slag	GB	2	6	2	56.00	11.30	4.75	4	A-1-a	40000			
1_0605	Sandy Clay	SS	1		12	84.00	60.70	0.08		A-6	17000			
13_4118	PCC-CRCP	PC	3	8.4										
13_4118	PCC-JPCP	PC	2	7.8					1			3475000	1.00	3475000
13_4118	Clayey sand	SS	1		11	98.5	44.95	0.18	***	A-6	17000			
18_9020	PCC-JPCP	PC	6	10.2										
18_9020	Sand Asphalt	AC	5	1.7		100	3.5		1		100000			
18_9020	Dense Graded HMAC	AC	4	3.2		38	3.3				323000**			
18_9020	PCC-JRCP	PC	3	10.2								4227233	0.42	1770000
18_9020	Gravel (uncrushed)	GB	2	6	NP	78	6.8	2.00		A-1-b	38000			
18_9020	Lean Clay with Sand	SS	1		9	95.5	71.45	0.08	***	A-4	24000			
19_0702	PCC-CRCP	PC	5	4.15										
19_0702	PCC-JPCP	PC	4	7.8										
19_0702	A-1-a	GB	3	7.8	1	73.00	11.80	2.00	3	A-1-a	38000			

Table FF.52. Layer definition and material characterization for rehabilitation with JPCP or CRCP model development and calibration.

SHRP ID	Layer Description	Layer Type	Layer No.	Thickness, in	Plasticity Index, pct	Pct. Passing No. 4 Sieve	Pct. Passing No. 200 Sieve	D60, mm	Erodibility Index	AASHTO Soil Class	Elastic Modulus, psi	Elastic Modulus (Test), psi	Pavement Condition Factor (Good = 1, Moderate = 0.42, Poor = 0.042)	Elastic Modulus (Design), psi
19_0702	A-6	GS	2	24	13.5	98.00	44.40	0.18		A-6	17000			
19_0702	A-6	SS	1		13.5	97.00	46.90	2.00		A-6	17000			
19_0709	PCC-CRCP	PC	5	5.9										
19_0709	PCC-JPCP	PC	4	7.8										
19_0709	A-1-a	GB	3	7.8	1	73.00	11.80	2.00	3	A-1-a	38000			
19_0709	A-6	GS	2	24	13.5	98.00	44.40	0.18		A-6	17000			
19_0709	A-6	SS	1		13.5	97.00	46.90	2.00		A-6	17000			
20_9037	PCC-JPCP	PC	5	5.8										
20_9037	Dense Graded HMAC	AC	4	2		78	8.9		1		323000**			
20_9037	PCC-JPCP	PC	3	8.8								4875000	0.04	204750
20_9037	Sand	GB	2	4	8	93	17.25	1.21		A-2-4	32000			
20_9037	Lean Clay with Sand	SS	1		13	99.5	80.8	0.08	***	A-6	17000			
22_0702	Lime-Treated Soil	TB	2	5.75							50000			
22_0702	PCC-CRCP	PC	5	3.625										
22_0702	PCC-JPCP	PC	4	7.925										
22_0702	AC Treated Material	AC	3	3.32					1					
22_0702	A-6	SS	1		34.3	100.00	98.70	0.08		A-6	8000			
22_0709	Lime-Treated Soil	TB	2	5.75							50000			
22_0709	PCC-CRCP	PC	5	5.725										
22_0709	PCC-CRCP	PC	4	7.925										
22_0709	AC Treated Material	AC	3	3.35					1					
22_0709	A-6	SS	1		34.3	100.00	98.70	0.08		A-6	8000			
27_0702	PCC-CRCP	PC	5	3.375										
27_0702	PCC-CRCP	PC	4	8.025										

Table FF.52. Layer definition and material characterization for rehabilitation with JPCP or CRCP model development and calibration.

SHRP ID	Layer Description	Layer Type	Layer No.	Thickness, in	Plasticity Index, pct	Pct. Passing No. 4 Sieve	Pct. Passing No. 200 Sieve	D60, mm	Erodibility Index	AASHTO Soil Class	Elastic Modulus, psi	Elastic Modulus (Test), psi	Pavement Condition Factor (Good = 1, Moderate = 0.42, Poor = 0.042)	Elastic Modulus (Design), psi
27_0702	A-3	GB	3	5	1	89.00	4.70	0.30	3	A-3	29000			
27_0702	A-3	GS	2	17	1	100.00	4.40	0.30		A-3	29000			
27_0702	A-6	SS	1		12	98.50	44.95	0.08		A-6	17000			
27_0709	PCC-CRCP	PC	5	5.05										
27_0709	PCC-CRCP	PC	4	8.025										
27_0709	A-3	GB	3	5	1	89.00	4.70	0.30	3	A-3	29000			
27_0709	A-3	GS	2	17	1	100.00	4.40	0.30		A-3	29000			
27_0709	A-6	SS	1		12	98.50	44.95	0.08		A-6	17000			
27_9075	PCC-JPCP	PC	4	5.9										
27_9075	Dense Graded HMAC	AC	3	0.8		70.89	6.31		1		323000**			
27_9075	PCC-JPCP	PC	2	7.8								3700000	0.42	1554000
27_9075	Sandy Fat Clay	SS	1		27	96.5	66	0.08	***	A-7-6	8000			
28_7012	PCC-JPCP	PC	8											
28_7012	HMAC	AC	7			70.89	6.31		1		303000**			
28_7012	Dense Graded HMAC	AC	6	2.4		74	6.5				323000**			
28_7012	Dense Graded HMAC	AC	5	1.2		49.5	6				323000**			
28_7012	PCC-JRCP	PC	4	9.4								4995555	1.00	5000000
28_7012	Soil-Aggregate Mixture (CG)	GB	3	7.1	NP	72	21.05	0.43		A-2-4	32000			
28_7012	Fine-grained Soils	GS	2	4.8	NP	85.5	26.95	0.30		A-2-4	32000			
28_7012	Lean Inorganic Clay	SS	1		4	98.5	86	0.08	***	A-4	24000			
29_A601	JPCP	PC	3	7										
29_A601	Crushed Stone, Gravel or Slag	GB	2	4	NP	56.00	11.30	4.75	4	A-1-a	40000			
29_A601	Silt	SS	1		NP	92	31.9	0.30		A-2-4	32000			

Table FF.52. Layer definition and material characterization for rehabilitation with JPCP or CRCP model development and calibration.

SHRP ID	Layer Description	Layer Type	Layer No.	Thickness, in	Plasticity Index, pct	Pct. Passing No. 4 Sieve	Pct. Passing No. 200 Sieve	D60, mm	Erodibility Index	AASHTO Soil Class	Elastic Modulus, psi	Elastic Modulus (Test), psi	Pavement Condition Factor (Good = 1, Moderate = 0.42, Poor = 0.042)	Elastic Modulus (Design), psi
29_A602	JPCP	PC	3	7										
29_A602	Crushed Stone, Gravel or Slag	GB	2	4	NP	56.00	11.30	4.75	4	A-1-a	40000			
29_A602	Silt	SS	1		NP	92	31.9	0.30		A-2-4	32000			
29_A605	JPCP	PC	3	7										
29_A605	Crushed Stone, Gravel or Slag	GB	2	4	NP	56.00	11.30	4.75	4	A-1-a	40000			
29_A605	Silt	SS	1		NP	92	31.9	0.30		A-2-4	32000			
31_6701	PCC-JPCP	PC	4	8										
31_6701	PCC-JRCP	PC	3	7.5								3750000	0.42	1575000
31_6701	Sand	GB	2	4.1	NP	100	7.7	0.30	1	A-3	29000			
31_6701	Sandy Silt	SS	1		2	99.5	55.9	0.08	***	A-4	24000			
4_0601	PCC-JPCP	PC	4	7.9										
4_0601	Cement Aggregate Mixture	TB	3	3.1					2		300000*			
4_0601	Gravel (uncrushed)	GS	2	9.7	NP	71.28	18.45	2.00		A-1-b	38000			
4_0601	Sandstone	SS	1		16.75	79.00	30.22	0.43	***	A-2-6	26000			
4_0602	PCC-JPCP	PC	5	8										
4_0602	Cement Aggregate Mixture	TB	4	3.6					2		300000*			
4_0602	Gravel (uncrushed)	GS	3	8.4	NP	71.28	18.45	2.00		A-1-b	38000			
4_0602	Soil-Aggregate Mixture (FG)	GS	2	21.6	NP	89	4.7	0.30		A-3	29000			
4_0602	Sandstone	SS	1		16.75	79.00	30.22	0.43	***	A-2-6	26000			
4_0605	PCC-JPCP	PC	5	8.3										
4_0605	Cement Aggregate	TB	4	3.9					2		300000*			

Table FF.52. Layer definition and material characterization for rehabilitation with JPCP or CRCP model development and calibration.

SHRP ID	Layer Description	Layer Type	Layer No.	Thickness, in	Plasticity Index, pct	Pct. Passing No. 4 Sieve	Pct. Passing No. 200 Sieve	D60, mm	Erodibility Index	AASHTO Soil Class	Elastic Modulus, psi	Elastic Modulus (Test), psi	Pavement Condition Factor (Good = 1, Moderate = 0.42, Poor = 0.042)	Elastic Modulus (Design), psi
	Mixture													
4_0605	Gravel (uncrushed)	GS	3	8	NP	71.28	18.45	2.00		A-1-b	38000			
4_0605	Soil-Aggregate Mixture (FG)	GS	2	21.6	NP	89	4.7	0.30		A-3	29000			
4_0605	silty sand with gravel	SS	1		NP	85.00	25.90	1.21	***	A-2-4	32000			
40_4155	PCC-CRCP	PC	5	9.7										
40_4155	Dense Graded HMAC	AC	4	0.9		70.89	6.31				323000**			
40_4155	Dense Graded HMAC	AC	3	2.8		70.89	6.31				323000**			
40_4155	PCC-JPCP	PC	2	6.7								4000000	1.00	4000000
40_4155	Sandy Silt	SS	1		3	87.5	49.65	0.13	***	A-4	24000			
42_1627	PCC-JPCP	PC	5	10.3										
42_1627	Dense Graded HMAC	AC	4	3.3		67.5	6.05				323000**			
42_1627	PCC-JRCP	PC	3	9.7								4250000	0.42	1785000
42_1627	Gravel (uncrushed)	GB	2	24	3	53.5	18.8	7.14		A-1-b	38000			
42_1627	silty sand with gravel	SS	1		3	76	34.05	2.00	***	A-2-4	32000			
46_0601	PCC-JPCP	PC	3	7										
46_0601	Cement Aggregate Mixture	TB	2	4					2		300000*			
46_0601	Silty Clay	SS	1		23	100	98.6	0.08	***	A-7-6	8000			
46_0602	PCC-JPCP	PC	3	7										
46_0602	Cement Aggregate Mixture	TB	2	4.4					2		300000*			
46_0602	Silty Clay	SS	1		23	100	98.6	0.08	***	A-7-6	8000			
46_0605	PCC-JPCP	PC	3	7										
46_0605	Cement Aggregate Mixture	TB	2	4					2		300000*			

Table FF.52. Layer definition and material characterization for rehabilitation with JPCP or CRCP model development and calibration.

SHRP ID	Layer Description	Layer Type	Layer No.	Thickness, in	Plasticity Index, pct	Pct. Passing No. 4 Sieve	Pct. Passing No. 200 Sieve	D60, mm	Erodibility Index	AASHTO Soil Class	Elastic Modulus, psi	Elastic Modulus (Test), psi	Pavement Condition Factor (Good = 1, Moderate = 0.42, Poor = 0.042)	Elastic Modulus (Design), psi
46_0605	Silty Clay	SS	1		23	100	98.6	0.08	***	A-7-6	8000			
47_0601	PCC-JPCP	PC	3	9										
47_0601	Soil Cement	TB	2	6					3		200000			
47_0601	Poorly Graded Sand/Silt	SS	1		NP	100	12	0.43	***	A-2-4	32000			
47_0602	PCC-JPCP	PC	3	8.9										
47_0602	Soil Cement	TB	2	6					3		200000			
47_0602	Poorly Graded Sand/Silt	SS	1		NP	100	12	0.43	***	A-2-4	32000			
47_0605	PCC-JPCP	PC	3	9										
47_0605	Soil Cement	TB	2	7.5					3		200000			
47_0605	Lean Inorganic Clay	SS	1		12.33333333	100	12	0.43	***	A-2-6	26000			
48_3569	PCC-CRCP	PC	5	10.5										
48_3569	Dense Graded HMAC	AC	4	1.9		70.89	6.31		1		323000**			
48_3569	PCC-JPCP	PC	3	10								5075000	0.99	5000000
48_3569	Soil Cement	TB	2	7.8							200000			
48_3569	Lean Clay with Sand	SS	1		32	100	83.4	0.08	***	A-6	17000			
48_3845	PCC-CRCP	PC	5	10.6										
48_3845	Dense Graded HMAC	AC	4	1		70.89	6.31		1		323000**			
48_3845	Dense Graded HMAC	AC	3	2.1		70.89	6.31				323000**			
48_3845	PCC-JPCP	PC	2	9.8								3700000	1.00	3700000
48_3845	Fat Inorganic Clay	SS	1	174	45	100	91.05	0.08	***	A-7-6	8000			
48_9167	PCC-JPCP	PC	6	10.2										
48_9167	Dense Graded HMAC	AC	5			70.89	6.31		1		323000**			
48_9167	PCC-CRCP	PC	4	8.4								4850000	0.42	2037000

Table FF.52. Layer definition and material characterization for rehabilitation with JPCP or CRCP model development and calibration.

SHRP ID	Layer Description	Layer Type	Layer No.	Thickness, in	Plasticity Index, pct	Pct. Passing No. 4 Sieve	Pct. Passing No. 200 Sieve	D60, mm	Erodibility Index	AASHTO Soil Class	Elastic Modulus, psi	Elastic Modulus (Test), psi	Pavement Condition Factor (Good = 1, Moderate = 0.42, Poor = 0.042)	Elastic Modulus (Design), psi
48_9167	Soil-Aggregate Mixture (CG)	GB	3	6.2	1	64	15.05	4.75		A-1-b	38000			
48_9167	Lime-Treated Soil	TS	2	6							50000			
48_9167	Fat Inorganic Clay	SS	1		34	98	85	0.08	***	A-7-6	8000			
48_9355	PCC-JPCP	PC	5	10.3										
48_9355	Dense Graded HMAC	AC	4	1.4		70.89	6.31		1					
48_9355	PCC-JPCP	PC	3	9.9								4975000	1.00	4975000
48_9355	Fine-grained Soils	GB	2	7.8	6	86	40.6	0.18		A-4	24000			
48_9355	Lean Clay with Sand	SS	1	96	15	100	80.05	0.08	***	A-6	17000			
6_0602	PCC-JPCP	PC	3	8.6										
6_0602	Cement Aggregate Mixture	TB	2	4.1					3		300000*			
6_0602	Poorly graded gravel/sand	SS	1		NP	79.00	30.22	0.43	***	A-2-4	32000			
6_0605	PCC-JPCP	PC	3	8.9										
6_0605	Cement Aggregate Mixture	TB	2	4.5					3		300000*			
6_0605	Poorly graded gravel/sand	SS	1		NP	79.00	30.22	0.43	***	A-2-4	32000			
6_9048	PCC-JPCP	PC	4	6.4										
6_9048	Chip Seal	AC	3	0.2		70.89	6.31		2					
6_9048	PCC-JPCP	PC	2	8.1								3900000	0.04	164000
6_9048	silty sand with gravel	SS	1		NP	87	11.75	1.21	***	A-1-b	38000			
6_9049	PCC-JPCP	PC	6	7.5										
6_9049	Dense Graded HMAC	AC	5	0.1		70.89	6.31		1		323000**			
6_9049	PCC-JPCP	PC	4	7.7								4800000	0.04	201600

Table FF.52. Layer definition and material characterization for rehabilitation with JPCP or CRCP model development and calibration.

SHRP ID	Layer Description	Layer Type	Layer No.	Thickness, in	Plasticity Index, pct	Pct. Passing No. 4 Sieve	Pct. Passing No. 200 Sieve	D60, mm	Erodibility Index	AASHTO Soil Class	Elastic Modulus, psi	Elastic Modulus (Test), psi	Pavement Condition Factor (Good = 1, Moderate = 0.42, Poor = 0.042)	Elastic Modulus (Design), psi
6_9049	Cement Aggregate Mixture	TB	3	3.4							300000*			
6_9049	Soil-Aggregate Mixture (FG)	GS	2	13.9	NP	89	4.7	0.30		A-3	29000			
6_9049	Sandy Lean Clay	SS	1		21	75.5	52.9	0.18	***	A-6	17000			
6_9107	PCC-JPCP	PC	6	8.8										
6_9107	Dense Graded HMAC	AC	5	1		70.89	6.31		1		323000**			
6_9107	PCC-JPCP	PC	4	7.6								4750000	0.42	2000000
6_9107	Cement Aggregate Mixture	TB	3	3.2							300000*			
6_9107	Soil-Aggregate Mixture (CG)	GS	2	11.6	NP	59	8.1	4.75		A-1-a	40000			
6_9107	silty gravel with sand	SS	1		NP	53	12.2	7.14	***	A-1-a	40000			
8_9019	PCC-JPCP	PC	5	9										
8_9019	Chip Seal	AC	4	0.2		70.89	6.31		2					
8_9019	PCC-JPCP	PC	3	7.9								3500000	0.42	1470000
8_9019	Crushed Gravel	GB	2	7.2	NP	57.5	6.9	4.75		A-1-a	40000			
8_9019	Clayey sand with gravel	SS	1		6	59.5	27.3	2.00	***	A-2-4	32000			
8_9020	PCC-JPCP	PC	5	8										
8_9020	Chip Seal	AC	4	0.1		70.89	6.31		2					
8_9020	PCC-JPCP	PC	3	7.7								3675000	1.00	3675000
8_9020	Soil-Aggregate Mixture (CG)	GB	2	15.6	NP	51	11.15	7.14		A-1-a	40000			
8_9020	Clayey sand	SS	1		8	92	53.7	0.13	***	A-4	24000			
89_9018	PCC-JPCP	PC	6	6.4										

Table FF.52. Layer definition and material characterization for rehabilitation with JPCP or CRCP model development and calibration.

SHRP ID	Layer Description	Layer Type	Layer No.	Thickness, in	Plasticity Index, pct	Pct. Passing No. 4 Sieve	Pct. Passing No. 200 Sieve	D60, mm	Erodibility Index	AASHTO Soil Class	Elastic Modulus, psi	Elastic Modulus (Test), psi	Pavement Condition Factor (Good = 1, Moderate = 0.42, Poor = 0.042)	Elastic Modulus (Design), psi
89_9018	Chip Seal	AC	5	0.5		70.89	6.31		2					
89_9018	PCC-JPCP	PC	4	8.9								2800000	1.00	2800000
89_9018	Cement Aggregate Mixture	TB	3	5.9							300000*			
89_9018	Sand	GS	2	13.2	NP	86.5	5.45	1.21		A-1-b	38000			
89_9018	silty sand with gravel	SS	1		NP	92	31.9	0.30	***	A-2-4	32000			
GA-1	PCC-CRCP	PC	4	6										
GA-1	PCC-JPCP	PC	3	9					1			3122019	1.00	3122088
GA-1	AC Treated Material	AC	2	8										
GA-1	Fine-grained Soils	SS	1		1	80.00	10.00	2.00		A-7-6	5161			
GA-4	PCC-CRCP	PC	4	7										
GA-4	PCC-JPCP	PC	3	8					1			3122019	1.00	3122088
GA-4	AC Treated Material	AC	2	4										
GA-4	Fine-grained Soils	SS	1		1	80.00	10.00	2.00		A-1-a	10000			
GA-5	PCC-CRCP	PC	4	4.5										
GA-5	PCC-JPCP	PC	3	9					1			3122019	1.00	3122088
GA-5	AC Treated Material	AC	2	8										
GA-5	Fine-grained Soils	SS	1		1	80.00	10.00	2.00		A-7-6	5161			
IL-3_6_07	PCC-CRCP	PC	5	6										
IL-3_6_07	AC Treated Material	AC	4	4					1					
IL-3_6_07	PCC-JPCP	PC	3	10								3900000	1	3900000
IL-3_6_07	A-2-5	GB	2	6	1	80	10	2		A-2-5	28000			
IL-3_6_07	A-7-6	SS	1		1	80	10	2		A-7-6	5161			
IL-3_6_10	PCC-CRCP	PC	6	6										

Table FF.52. Layer definition and material characterization for rehabilitation with JPCP or CRCP model development and calibration.

SHRP ID	Layer Description	Layer Type	Layer No.	Thickness, in	Plasticity Index, pct	Pct. Passing No. 4 Sieve	Pct. Passing No. 200 Sieve	D60, mm	Erodibility Index	AASHTO Soil Class	Elastic Modulus, psi	Elastic Modulus (Test), psi	Pavement Condition Factor (Good = 1, Moderate = 0.42, Poor = 0.042)	Elastic Modulus (Design), psi
IL-3_6_10	AC Treated Material	AC	4	4					1					
IL-3_6_10	PCC-JPCP	PC	3	10								3900000	1	3900000
IL-3_6_10	A-2-5	GB	2	6	1	80	10	2		A-2-5	28000			
IL-3_6_10	A-7-6	SS	1		1	80	10	2		A-7-6	5161			
IL-3_7_07	PCC-CRCP	PC	5	7										
IL-3_7_07	PCC-CRCP	PC	5	7										
IL-3_7_07	AC Treated Material	AC	4	4					1					
IL-3_7_07	AC Treated Material	AC	4	4					1					
IL-3_7_07	PCC-JPCP	PC	3	10								3900000	1	3900000
IL-3_7_07	PCC-JPCP	PC	3	10								3900000	1	3900000
IL-3_7_07	A-2-5	GB	2	6	1	80	10	2		A-2-5	28000			
IL-3_7_07	A-2-5	GB	2	6	1	80	10	2		A-2-5	28000			
IL-3_7_07	A-7-6	SS	1		1	80	10	2		A-7-6	5161			
IL-3_7_07	A-7-6	SS	1		1	80	10	2		A-7-6	5161			
IL-3_7_10	PCC-CRCP	PC	5	7										
IL-3_7_10	AC Treated Material	AC	4	4					1					
IL-3_7_10	PCC-JPCP	PC	3	10								3900000	1	3900000
IL-3_7_10	A-2-5	GB	2	6	1	80	10	2		A-2-5	28000			
IL-3_7_10	A-7-6	SS	1		1	80	10	2		A-7-6	5161			
IL-3_8_06	PCC-CRCP	PC	5	8										
IL-3_8_06	AC Treated Material	AC	4	4					1					
IL-3_8_06	PCC-JPCP	PC	3	10								3900000	1	3900000
IL-3_8_06	A-2-5	GB	2	6	1	80	10	2		A-2-5	28000			
IL-3_8_06	A-7-6	SS	1		1	80	10	2		A-7-6	5161			

Table FF.52. Layer definition and material characterization for rehabilitation with JPCP or CRCP model development and calibration.

SHRP ID	Layer Description	Layer Type	Layer No.	Thickness, in	Plasticity Index, pct	Pct. Passing No. 4 Sieve	Pct. Passing No. 200 Sieve	D60, mm	Erodibility Index	AASHTO Soil Class	Elastic Modulus, psi	Elastic Modulus (Test), psi	Pavement Condition Factor (Good = 1, Moderate = 0.42, Poor = 0.042)	Elastic Modulus (Design), psi
PA-5	PCC-CRCP	PC	5	7										
PA-5	AC Treated Material	AC	4	1					3					
PA-5	PCC-JPCP	PC	3	10										
PA-5	A-2-5	GB	2	8	1	80	10	2		A-2-5	28000	3122000	0.04	131124
PA-5	A-4	SS	1		1	80	10	2		A-4	24000			
WI-1	PCC-CRCP	PC	6	8										
WI-1	AC Treated Material	AC	5	1.75					3					
WI-1	PCC-JPCP	PC	4	9								3122000	0.04	131124
WI-1	AC Treated Material	AC	3	4										
WI-1	A-2-7	GB	2	8	1	80	10	2		A-2-7	24000			
WI-1	A-7-6	SS	1		1	80	10	2		A-7-6	10000			
AL_IH_20E_183.0	PCC-JPCP	PC	4	10										
AL_IH_20E_183.0	Crushed stone	GB	3	6	1	80	10	2	4	A-1-b	38000			
AL_IH_20E_183.0	A-2-5	GS	2	12	2	80	20	0.1	***	A-2-5	28000			
AL_IH_20E_183.0	A-6	SS	1	Infiite	25	95	80	0.01	***	A-6	17000			
AL_IH_59N_235.5	PCC-JPCP	PC	4	10										
AL_IH_59N_235.5	A-1-a	GB	3	6	1	47	8.6	7	4	A-1-a	40000			
AL_IH_59N_235.5	A-6	GS	2	6	17	79	32	2	***	A-6	17000			
AL_IH_59N_235.5	A-6	SS	1	Infiite	19	85	44	0.4	***	A-6	17000			
CA_IH_8E_43.4	PCC-JPCP	PC	4	8.4										
CA_IH_8E_43.4	AC Treated Material	AC	3	4					2					
CA_IH_8E_43.4	A-1-a	GS	2	12	1	97	12	1.2	***	A-1-a	40000			
CA_IH_8E_43.4	A-1-b	SS	1	Infiite	1	97	12	1.2	***	A-1-b	38000			
FL_IH_10E_214.7	PCC-JPCP	PC	4	9										
FL_IH_10E_214.7	Cement Treated	TB	3	6					2		40000			

Table FF.52. Layer definition and material characterization for rehabilitation with JPCP or CRCP model development and calibration.

SHRP ID	Layer Description	Layer Type	Layer No.	Thickness, in	Plasticity Index, pct	Pct. Passing No. 4 Sieve	Pct. Passing No. 200 Sieve	D60, mm	Erodibility Index	AASHTO Soil Class	Elastic Modulus, psi	Elastic Modulus (Test), psi	Pavement Condition Factor (Good = 1, Moderate = 0.42, Poor = 0.042)	Elastic Modulus (Design), psi
	Material													
FL_IH_10E_214.7	A-2-4	GS	2	12	5	100	20	0.3	***	A-2-4	32000			
FL_IH_10E_214.7	A-2-4	SS	1	Infiite	5	100	20	0.3	***	A-2-4	32000			
GA_IH_16W_59.9	PCC-JPCP	PC	4	10										
GA_IH_16W_59.9	AC Treated Material	AC	3	3					2					
GA_IH_16W_59.9	River-run gravel	GS	2	5	1	80	1	10	***	A-1-a	40000			
GA_IH_16W_59.9	A-1-b	SS	1	Infiite	3	97	27	0.425	***	A-1-b	38000			
IA_IH_80W_87.7	PCC-JPCP	PC	4	10										
IA_IH_80W_87.7	AC Treated Material	AC	3	3					2					
IA_IH_80W_87.7	Crushed stone	GS	2	12	1	80	10	2	***	A-1-a	40000			
IA_IH_80W_87.7	A-2-4	SS	1	Infiite	2	80	20	0.1	***	A-2-4	15000			
NE_IH_80W_420.1	PCC-JPCP	PC	4	10										
NE_IH_80W_420.1	Cement Treated Material	TB	3	4					3		400000			
NE_IH_80W_420.1	A-1-b	GS	2	12	1	40	3	2	***	A-2-4	38000			
NE_IH_80W_420.1	A-1-b	SS	1	Infiite	1	40	3	2	***	A-2-4	38000			
SD_IH_29S_174	PCC-JPCP	PC	4	9.5										
SD_IH_29S_174	Lime Treated Material	TB	3	3.5					3		40000			
SD_IH_29S_174	A-6	GS	2	12	25	95	80	0.01	***	A-6	17000			
SD_IH_29S_174	A-6	SS	1	Infiite	25	95	80	0.01	***	A-6	17000			
WI_IH_43N	PCC-JPCP	PC	4	10										
WI_IH_43N	A-6	GB	2	12	25	95	80	0.01	***	A-6	17000			
WI_IH_43N	A-6	SS	1	Infiite	25	95	80	0.01	***	A-6	17000			

Table FF.53. Unbound and AC material characterization for rehabilitation with JPCP or CRCP model development and calibration.

SHRP ID	Layer Description	Layer Type	Layer No.	Unit Weight, pcf	Poisson's Ratio	Thermal Conductivity (BTU/hr-ft-deg F)	Heat Capacity (BTU/lb-deg F)	Coefficient of Lateral Pressure, ko	Pct. Retained on 3/4-in Sieve	Pct. Retained on 3/8-in Sieve	Pct. Retained on #4-in Sieve	Pct. Passing #200-in Sieve	AC Binder Type	AC Reference Temperature, deg F	AC Effective Binder Content, pct	AC Pct. Air Voids
1_0601	JPCP	PC	3	150*	0.15*	1.25*	0.28*									
1_0601	Crushed Stone, Gravel or Slag	GB	2		0.35*			0.5*								
1_0601	Sandy Clay	SS	1		0.35*			0.5*								
1_0602	JPCP	PC	3	150*	0.15*	1.25*	0.28*									
1_0602	Crushed Stone, Gravel or Slag	GB	2		0.35*			0.5*								
1_0602	Sandy Clay	SS	1		0.35*			0.5*								
1_0605	JPCP	PC	3	150*	0.15*	1.25*	0.28*									
1_0605	Crushed Stone, Gravel or Slag	GB	2		0.35*			0.5*								
1_0605	Sandy Clay	SS	1		0.35*			0.5*								
13_4118	PCC-CRCP	PC	3	150*	0.15*	1.25*	0.28*									
13_4118	PCC-JPCP	PC	2	149	0.185	1.25*	0.28*									
13_4118	Clayey sand	SS	1		0.35*			0.5*								
18_9020	PCC-JPCP	PC	6	150*	0.15*	1.25*	0.28*									
18_9020	Sand Asphalt	AC	5	148*	0.35*	0.67*	0.23*		12*	38*	50*	4*	AC-20*	70*	11*	8.5*
18_9020	Dense Graded HMAC	AC	4	148*	0.35*	0.67*	0.23*		12*	38*	50*	4*	AC-20*	70*	11*	8.5*
18_9020	PCC-JRCP	PC	3	150*	0.15*	1.25*	0.28*									
18_9020	Gravel (uncrushed)	GB	2		0.35*			0.5*								
18_9020	Lean Clay with Sand	SS	1		0.35*			0.5*								
19_0702	PCC-CRCP	PC	5	150	0.15*	1.25*	0.28*									
19_0702	PCC-JPCP	PC	4	150	0.15*	1.25*	0.28*									
19_0702	A-1-a	GB	3	125	0.35*			0.5*								

Table FF.53. Unbound and AC material characterization for rehabilitation with JPCP or CRCP model development and calibration.

SHRP ID	Layer Description	Layer Type	Layer No.	Unit Weight, pcf	Poisson's Ratio	Thermal Conductivity (BTU/hr-ft-deg F)	Heat Capacity (BTU/lb-deg F)	Coefficient of Lateral Pressure, ko	Pct. Retained on 3/4-in Sieve	Pct. Retained on 3/8-in Sieve	Pct. Retained on #4-in Sieve	Pct. Passing #200-in Sieve	AC Binder Type	AC Reference Temperature, deg F	AC Effective Binder Content, pct	AC Pct. Air Voids
19_0702	A-6	GS	2	125	0.35*			0.5*								
19_0702	A-6	SS	1	125	0.35*			0.5*								
19_0709	PCC-CRCP	PC	5	150	0.15*	1.25*	0.28*									
19_0709	PCC-JPCP	PC	4	150	0.15*	1.25*	0.28*									
19_0709	A-1-a	GB	3	125	0.35*			0.5*								
19_0709	A-6	GS	2	125	0.35*			0.5*								
19_0709	A-6	SS	1	125	0.35*			0.5*								
20_9037	PCC-JPCP	PC	5	150*	0.15*	1.25*	0.28*									
20_9037	Dense Graded HMAC	AC	4	148*	0.35*	0.67*	0.23*		0	1	11	9	AC-20*	70*	11*	8.5*
20_9037	PCC-JPCP	PC	3	149	0.2	1.25*	0.28*									
20_9037	Sand	GB	2		0.35*			0.5*								
20_9037	Lean Clay with Sand	SS	1		0.35*			0.5*								
22_0702	Lime-Treated Soil	TB	2	135*	0.25*	1.25*	0.28*									
22_0702	PCC-CRCP	PC	5	150	0.15*	1.25*	0.28*									
22_0702	PCC-JPCP	PC	4	150	0.15*	1.25*	0.28*									
22_0702	AC Treated Material	AC	3	148	0.25*	1.25*	0.28*		18	35	50	12	AC-20*	70	11	8.5
22_0702	A-6	SS	1	125	0.35*			0.5*								
22_0709	Lime-Treated Soil	TB	2	135*	0.25*	1.25*	0.28*									
22_0709	PCC-CRCP	PC	5	150	0.2*	1.25*	0.28*									
22_0709	PCC-CRCP	PC	4	150	0.2*	1.25*	0.28*									
22_0709	AC Treated Material	AC	3	148	0.25*	1.25*	0.28*		18	35	50	12	AC-20*	70	11	8.5
22_0709	A-6	SS	1	125	0.35*			0.5*								

Table FF.53. Unbound and AC material characterization for rehabilitation with JPCP or CRCP model development and calibration.

SHRP ID	Layer Description	Layer Type	Layer No.	Unit Weight, pcf	Poisson's Ratio	Thermal Conductivity (BTU/hr-ft-deg F)	Heat Capacity (BTU/lb-deg F)	Coefficient of Lateral Pressure, ko	Pct. Retained on 3/4-in Sieve	Pct. Retained on 3/8-in Sieve	Pct. Retained on #4-in Sieve	Pct. Passing #200-in Sieve	AC Binder Type	AC Reference Temperature, deg F	AC Effective Binder Content, pct	AC Pct. Air Voids
27_0702	PCC-CRCP	PC	5	150	0.2*	1.25*	0.28*									
27_0702	PCC-CRCP	PC	4	150	0.2*	1.25*	0.28*									
27_0702	A-3	GB	3	125	0.35*			0.5*								
27_0702	A-3	GS	2	125	0.35*			0.5*								
27_0702	A-6	SS	1	125	0.35*			0.5*								
27_0709	PCC-CRCP	PC	5	150	0.2*	1.25*	0.28*									
27_0709	PCC-CRCP	PC	4	150	0.2*	1.25*	0.28*									
27_0709	A-3	GB	3	125	0.35*			0.5*								
27_0709	A-3	GS	2	125	0.35*			0.5*								
27_0709	A-6	SS	1	125	0.35*			0.5*								
27_9075	PCC-JPCP	PC	4	150*	0.15*	1.25*	0.28*									
27_9075	Dense Graded HMAC	AC	3	148*	0.35*	0.67*	0.23*		12*	38*	50*	4*	AC-20*	70*	11*	8.5*
27_9075	PCC-JPCP	PC	2	152	0.305	1.25*	0.28*									
27_9075	Sandy Fat Clay	SS	1		0.35*			0.5*								
28_7012	PCC-JPCP	PC	8	150*	0.15*	1.25*	0.28*									
28_7012	HMAC	AC	7	148*	0.35*	0.67*	0.23*		0	1	15	6.5	AC-20*	70*	11*	8.5*
28_7012	Dense Graded HMAC	AC	6	148*	0.35*	0.67*	0.23*		0	12	38	6	AC-20*	70*	11*	8.5*
28_7012	Dense Graded HMAC	AC	5	148*	0.35*	0.67*	0.23*		12*	38*	50*	4*	AC-20*	70*	11*	8.5*
28_7012	PCC-JRCP	PC	4	150*	0.15*	1.25*	0.28*									
28_7012	Soil-Aggregate Mixture (CG)	GB	3		0.35*			0.5*								
28_7012	Fine-grained Soils	GS	2		0.35*			0.5*								

Table FF.53. Unbound and AC material characterization for rehabilitation with JPCP or CRCP model development and calibration.

SHRP ID	Layer Description	Layer Type	Layer No.	Unit Weight, pcf	Poisson's Ratio	Thermal Conductivity (BTU/hr-ft-deg F)	Heat Capacity (BTU/lb-deg F)	Coefficient of Lateral Pressure, ko	Pct. Retained on 3/4-in Sieve	Pct. Retained on 3/8-in Sieve	Pct. Retained on #4-in Sieve	Pct. Passing #200-in Sieve	AC Binder Type	AC Reference Temperature, deg F	AC Effective Binder Content, pct	AC Pct. Air Voids
28_7012	Lean Inorganic Clay	SS	1		0.35*			0.5*								
29_A601	JPCP	PC	3	150*	0.15*	1.25*	0.28*									
29_A601	Crushed Stone, Gravel or Slag	GB	2		0.35*			0.5*								
29_A601	Silt	SS	1		0.35*			0.5*								
29_A602	JPCP	PC	3	150*	0.15*	1.25*	0.28*									
29_A602	Crushed Stone, Gravel or Slag	GB	2		0.35*			0.5*								
29_A602	Silt	SS	1		0.35*			0.5*								
29_A605	JPCP	PC	3	150*	0.15*	1.25*	0.28*									
29_A605	Crushed Stone, Gravel or Slag	GB	2		0.35*			0.5*								
29_A605	Silt	SS	1		0.35*			0.5*								
31_6701	PCC-JPCP	PC	4	150*	0.15*	1.25*	0.28*									
31_6701	PCC-JRCP	PC	3	139	0.21	1.25*	0.28*									
31_6701	Sand	GB	2		0.35*			0.5*								
31_6701	Sandy Silt	SS	1		0.35*			0.5*								
4_0601	PCC-JPCP	PC	4	150*	0.15*	1.25*	0.28*									
4_0601	Cement Aggregate Mixture	TB	3	135*	0.25*	1.25*	0.28*									
4_0601	Gravel (uncrushed)	GS	2		0.35*			0.5*								
4_0601	Sandstone	SS	1		0.35*			0.5*								
4_0602	PCC-JPCP	PC	5	150*	0.15*	1.25*	0.28*									
4_0602	Cement Aggregate Mixture	TB	4	135*	0.25*	1.25*	0.28*									
4_0602	Gravel (uncrushed)	GS	3		0.35*			0.5*								
4_0602	Soil-Aggregate Mixture (FG)	GS	2		0.35*			0.5*								
4_0602	Sandstone	SS	1		0.35*			0.5*								

Table FF.53. Unbound and AC material characterization for rehabilitation with JPCP or CRCP model development and calibration.

SHRP ID	Layer Description	Layer Type	Layer No.	Unit Weight, pcf	Poisson's Ratio	Thermal Conductivity (BTU/hr-ft-deg F)	Heat Capacity (BTU/lb-deg F)	Coefficient of Lateral Pressure, ko	Pct. Retained on 3/4-in Sieve	Pct. Retained on 3/8-in Sieve	Pct. Retained on #4-in Sieve	Pct. Passing #200-in Sieve	AC Binder Type	AC Reference Temperature, deg F	AC Effective Binder Content, pct	AC Pct. Air Voids
4_0605	PCC-JPCP	PC	5	150*	0.15*	1.25*	0.28*									
4_0605	Cement Aggregate Mixture	TB	4	135*	0.25*	1.25*	0.28*									
4_0605	Gravel (uncrushed)	GS	3		0.35*			0.5*								
4_0605	Soil-Aggregate Mixture (FG)	GS	2		0.35*			0.5*								
4_0605	silty sand with gravel	SS	1		0.35*			0.5*								
40_4155	PCC-CRCP	PC	5	150*	0.15*	1.25*	0.28*									
40_4155	Dense Graded HMAC	AC	4	148*	0.35*	0.67*	0.23*		12*	38*	50*	4*	AC-20*	70*	11*	8.5*
40_4155	Dense Graded HMAC	AC	3	148*	0.35*	0.67*	0.23*		12*	38*	50*	4*	AC-20*	70*	11*	8.5*
40_4155	PCC-JPCP	PC	2	151.5	0.175	1.25*	0.28*									
40_4155	Sandy Silt	SS	1		0.35*			0.5*								
42_1627	PCC-JPCP	PC	5	150*	0.15*	1.25*	0.28*									
42_1627	Dense Graded HMAC	AC	4	148*	0.35*	0.67*	0.23*		0	1	31	6	AC-20*	70*	11*	8.5*
42_1627	PCC-JRCP	PC	3	147	0.175	1.25*	0.28*									
42_1627	Gravel (uncrushed)	GB	2		0.35*			0.5*								
42_1627	silty sand with gravel	SS	1		0.35*			0.5*								
46_0601	PCC-JPCP	PC	3	150*	0.15*	1.25*	0.28*									
46_0601	Cement Aggregate Mixture	TB	2	135*	0.25*	1.25*	0.28*									
46_0601	Silty Clay	SS	1		0.35*			0.5*								
46_0602	PCC-JPCP	PC	3	150*	0.15*	1.25*	0.28*									
46_0602	Cement Aggregate Mixture	TB	2	135*	0.25*	1.25*	0.28*									
46_0602	Silty Clay	SS	1		0.35*			0.5*								
46_0605	PCC-JPCP	PC	3	150*	0.15*	1.25*	0.28*									

Table FF.53. Unbound and AC material characterization for rehabilitation with JPCP or CRCP model development and calibration.

SHRP ID	Layer Description	Layer Type	Layer No.	Unit Weight, pcf	Poisson's Ratio	Thermal Conductivity (BTU/hr-ft-deg F)	Heat Capacity (BTU/lb-deg F)	Coefficient of Lateral Pressure, ko	Pct. Retained on 3/4-in Sieve	Pct. Retained on 3/8-in Sieve	Pct. Retained on #4-in Sieve	Pct. Passing #200-in Sieve	AC Binder Type	AC Reference Temperature, deg F	AC Effective Binder Content, pct	AC Pct. Air Voids
46_0605	Cement Aggregate Mixture	TB	2	135*	0.25*	1.25*	0.28*									
46_0605	Silty Clay	SS	1		0.35*			0.5*								
47_0601	PCC-JPCP	PC	3	150*	0.15*	1.25*	0.28*									
47_0601	Soil Cement	TB	2	135*	0.25*	1.25*	0.28*									
47_0601	Poorly Graded Sand/Silt	SS	1		0.35*			0.5*								
47_0602	PCC-JPCP	PC	3	150*	0.15*	1.25*	0.28*									
47_0602	Soil Cement	TB	2	135*	0.25*	1.25*	0.28*									
47_0602	Poorly Graded Sand/Silt	SS	1		0.35*			0.5*								
47_0605	PCC-JPCP	PC	3	150*	0.15*	1.25*	0.28*									
47_0605	Soil Cement	TB	2	135*	0.25*	1.25*	0.28*									
47_0605	Lean Inorganic Clay	SS	1		0.35*			0.5*								
48_3569	PCC-CRCP	PC	5	150*	0.15*	1.25*	0.28*									
48_3569	Dense Graded HMAC	AC	4	148*	0.35*	0.67*	0.23*		12*	38*	50*	4*	AC-20*	70*	11*	8.5*
48_3569	PCC-JPCP	PC	3	148.5	0.225	1.25*	0.28*									
48_3569	Soil Cement	TB	2	135*	0.25*	1.25*	0.28*									
48_3569	Lean Clay with Sand	SS	1		0.35*			0.5*								
48_3845	PCC-CRCP	PC	5	150*	0.15*	1.25*	0.28*									
48_3845	Dense Graded HMAC	AC	4	148*	0.35*	0.67*	0.23*		12*	38*	50*	4*	AC-20*	70*	11*	8.5*
48_3845	Dense Graded HMAC	AC	3	148*	0.35*	0.67*	0.23*		12*	38*	50*	4*	AC-20*	70*	11*	8.5*
48_3845	PCC-JPCP	PC	2	146	0.21	1.25*	0.28*									
48_3845	Fat Inorganic Clay	SS	1		0.35*			0.5*								
48_9167	PCC-JPCP	PC	6	150*	0.15*	1.25*	0.28*									

Table FF.53. Unbound and AC material characterization for rehabilitation with JPCP or CRCP model development and calibration.

SHRP ID	Layer Description	Layer Type	Layer No.	Unit Weight, pcf	Poisson's Ratio	Thermal Conductivity (BTU/hr-ft-deg F)	Heat Capacity (BTU/lb-deg F)	Coefficient of Lateral Pressure, ko	Pct. Retained on 3/4-in Sieve	Pct. Retained on 3/8-in Sieve	Pct. Retained on #4-in Sieve	Pct. Passing #200-in Sieve	AC Binder Type	AC Reference Temperature, deg F	AC Effective Binder Content, pct	AC Pct. Air Voids
48_9167	Dense Graded HMAC	AC	5	148*	0.35*	0.67*	0.23*		12*	38*	50*	4*	AC-20*	70*	11*	8.5*
48_9167	PCC-CRCP	PC	4	151.5	0.185	1.25*	0.28*									
48_9167	Soil-Aggregate Mixture (CG)	GB	3		0.35*			0.5*								
48_9167	Lime-Treated Soil	TS	2	135*	0.25*	1.25*	0.28*									
48_9167	Fat Inorganic Clay	SS	1		0.35*			0.5*								
48_9355	PCC-JPCP	PC	5	150*	0.15*	1.25*	0.28*									
48_9355	Dense Graded HMAC	AC	4	148*	0.35*	0.67*	0.23*		12*	38*	50*	4*	AC-20*	70*	11*	8.5*
48_9355	PCC-JPCP	PC	3	149.5	0.165	1.25*	0.28*									
48_9355	Fine-grained Soils	GB	2		0.35*			0.5*								
48_9355	Lean Clay with Sand	SS	1		0.35*			0.5*								
6_0602	PCC-JPCP	PC	3	150*	0.15*	1.25*	0.28*									
6_0602	Cement Aggregate Mixture	TB	2	135*	0.25*	1.25*	0.28*									
6_0602	Poorly graded gravel/sand	SS	1		0.35*			0.5*								
6_0605	PCC-JPCP	PC	3	150*	0.15*	1.25*	0.28*									
6_0605	Cement Aggregate Mixture	TB	2	135*	0.25*	1.25*	0.28*									
6_0605	Poorly graded gravel/sand	SS	1		0.35*			0.5*								
6_9048	PCC-JPCP	PC	4	150*	0.15*	1.25*	0.28*									
6_9048	Chip Seal	AC	3	148*	0.35*	0.67*	0.23*		12*	38*	50*	4*	AC-20*	70*	11*	8.5*
6_9048	PCC-JPCP	PC	2	148	0.155	1.25*	0.28*									
6_9048	silty sand with gravel	SS	1		0.35*			0.5*								
6_9049	PCC-JPCP	PC	6	150*	0.15*	1.25*	0.28*									
6_9049	Dense Graded HMAC	AC	5	148*	0.35*	0.67*	0.23*		12*	38*	50*	4*	AC-	70*	11*	8.5*

Table FF.53. Unbound and AC material characterization for rehabilitation with JPCP or CRCP model development and calibration.

SHRP ID	Layer Description	Layer Type	Layer No.	Unit Weight, pcf	Poisson's Ratio	Thermal Conductivity (BTU/hr-ft-deg F)	Heat Capacity (BTU/lb-deg F)	Coefficient of Lateral Pressure, ko	Pct. Retained on 3/4-in Sieve	Pct. Retained on 3/8-in Sieve	Pct. Retained on #4-in Sieve	Pct. Passing #200-in Sieve	AC Binder Type	AC Reference Temperature, deg F	AC Effective Binder Content, pct	AC Pct. Air Voids
													20*			
6_9049	PCC-JPCP	PC	4	151.5	0.195	1.25*	0.28*									
6_9049	Cement Aggregate Mixture	TB	3	135*	0.25*	1.25*	0.28*									
6_9049	Soil-Aggregate Mixture (FG)	GS	2		0.35*			0.5*								
6_9049	Sandy Lean Clay	SS	1		0.35*			0.5*								
6_9107	PCC-JPCP	PC	6	150*	0.15*	1.25*	0.28*									
6_9107	Dense Graded HMAC	AC	5	148*	0.35*	0.67*	0.23*		12*	38*	50*	4*	AC-20*	70*	11*	8.5*
6_9107	PCC-JPCP	PC	4	149	0.22	1.25*	0.28*									
6_9107	Cement Aggregate Mixture	TB	3	135*	0.25*	1.25*	0.28*									
6_9107	Soil-Aggregate Mixture (CG)	GS	2		0.35*			0.5*								
6_9107	silty gravel with sand	SS	1		0.35*			0.5*								
8_9019	PCC-JPCP	PC	5	150*	0.15*	1.25*	0.28*									
8_9019	Chip Seal	AC	4	148*	0.35*	0.67*	0.23*		12*	38*	50*	4*	AC-20*	70*	11*	8.5*
8_9019	PCC-JPCP	PC	3	147	0.145	1.25*	0.28*									
8_9019	Crushed Gravel	GB	2		0.35*			0.5*								
8_9019	Clayey sand with gravel	SS	1		0.35*			0.5*								
8_9020	PCC-JPCP	PC	5	150*	0.15*	1.25*	0.28*									
8_9020	Chip Seal	AC	4	148*	0.35*	0.67*	0.23*		12*	38*	50*	4*	AC-20*	70*	11*	8.5*
8_9020	PCC-JPCP	PC	3	148	0.17	1.25*	0.28*									
8_9020	Soil-Aggregate Mixture (CG)	GB	2		0.35*			0.5*								
8_9020	Clayey sand	SS	1		0.35*			0.5*								
89_9018	PCC-JPCP	PC	6	145*	0.15*	1.25*	0.28*									

Table FF.53. Unbound and AC material characterization for rehabilitation with JPCP or CRCP model development and calibration.

SHRP ID	Layer Description	Layer Type	Layer No.	Unit Weight, pcf	Poisson's Ratio	Thermal Conductivity (BTU/hr-ft-deg F)	Heat Capacity (BTU/lb-deg F)	Coefficient of Lateral Pressure, ko	Pct. Retained on 3/4-in Sieve	Pct. Retained on 3/8-in Sieve	Pct. Retained on #4-in Sieve	Pct. Passing #200-in Sieve	AC Binder Type	AC Reference Temperature, deg F	AC Effective Binder Content, pct	AC Pct. Air Voids
89_9018	Chip Seal	AC	5	148*	0.35*	0.67*	0.23*		12*	38*	50*	4*	AC-20*	70*	11*	8.5*
89_9018	PCC-JPCP	PC	4	148	0.155	1.25*	0.28*									
89_9018	Cement Aggregate Mixture	TB	3	135*	0.25*	1.25*	0.28*									
89_9018	Sand	GS	2		0.35*			0.5*								
89_9018	silty sand with gravel	SS	1		0.35*			0.5*								
GA-1	PCC-CRCP	PC	4	150	0.15*	1.25*	0.28*									
GA-1	PCC-JPCP	PC	3	150	0.15*	1.25*	0.28*									
GA-1	AC Treated Material	AC	2	148	0.25*	0.67*	0.23*		12	38	50	4	AC-20*	70	4.5	8.5
GA-1	Fine-grained Soils	SS	1	125	0.35*			0.5*								
GA-4	PCC-CRCP	PC	4	150	0.15*	1.25*	0.28*									
GA-4	PCC-JPCP	PC	3	150	0.15*	1.25*	0.28*									
GA-4	AC Treated Material	AC	2	148	0.25*	0.67*	0.23*		12	38	50	4	AC-20*	70	4.5	8.5
GA-4	Fine-grained Soils	SS	1	125	0.35*			0.5*								
GA-5	PCC-CRCP	PC	4	150	0.15*	1.25*	0.28*									
GA-5	PCC-JPCP	PC	3	150	0.15*	1.25*	0.28*									
GA-5	AC Treated Material	AC	2	148	0.25*	0.67*	0.23*		12	38	50	4	AC-20*	70	4.5	8.5
GA-5	Fine-grained Soils	SS	1	125	0.35*			0.5*								
IL-3_6_07	PCC-CRCP	PC	5	150	0.15*	1.25*	0.28*									
IL-3_6_07	AC Treated Material	AC	4	148	0.25*	0.67*	0.23*		12	38	50	5	AC-20*	70	4.5	8.5
IL-3_6_07	PCC-JPCP	PC	3	150	0.15*	1.25*	0.28*									

Table FF.53. Unbound and AC material characterization for rehabilitation with JPCP or CRCP model development and calibration.

SHRP ID	Layer Description	Layer Type	Layer No.	Unit Weight, pcf	Poisson's Ratio	Thermal Conductivity (BTU/hr-ft-deg F)	Heat Capacity (BTU/lb-deg F)	Coefficient of Lateral Pressure, ko	Pct. Retained on 3/4-in Sieve	Pct. Retained on 3/8-in Sieve	Pct. Retained on #4-in Sieve	Pct. Passing #200-in Sieve	AC Binder Type	AC Reference Temperature, deg F	AC Effective Binder Content, pct	AC Pct. Air Voids
IL-3_6_07	A-2-5	GB	2	125	0.35*			0.5*								
IL-3_6_07	A-7-6	SS	1	125	0.35*			0.5*								
IL-3_6_10	PCC-CRCP	PC	6	150	0.15*	1.25*	0.28*									
IL-3_6_10	AC Treated Material	AC	4	148	0.25*	0.67*	0.23*		12	38	50	5	AC-20*	70	4.5	8.5
IL-3_6_10	PCC-JPCP	PC	3	150	0.15*	1.25*	0.28*									
IL-3_6_10	A-2-5	GB	2	125	0.35*			0.5*								
IL-3_6_10	A-7-6	SS	1	125	0.35*			0.5*								
IL-3_7_07	PCC-CRCP	PC	5	150	0.15*	1.25*	0.28*									
IL-3_7_07	PCC-CRCP	PC	5	150	0.15*	1.25*	0.28*									
IL-3_7_07	AC Treated Material	AC	4	148	0.25*	0.67*	0.23*		12	38	50	5	AC-20*	70	4.5	8.5
IL-3_7_07	AC Treated Material	AC	4	148	0.25*	0.67*	0.23*		12	38	50	5	AC-20*	70	4.5	8.5
IL-3_7_07	PCC-JPCP	PC	3	150	0.15*	1.25*	0.28*									
IL-3_7_07	PCC-JPCP	PC	3	150	0.15*	1.25*	0.28*									
IL-3_7_07	A-2-5	GB	2	125	0.35*			0.5*								
IL-3_7_07	A-2-5	GB	2	125	0.35*			0.5*								
IL-3_7_07	A-7-6	SS	1	125	0.35*			0.5*								
IL-3_7_07	A-7-6	SS	1	125	0.35*			0.5*								
IL-3_7_10	PCC-CRCP	PC	5	150	0.15*	1.25*	0.28*									
IL-3_7_10	AC Treated Material	AC	4	148	0.25*	0.67*	0.23*		12	38	50	5	AC-20*	70	4.5	8.5
IL-3_7_10	PCC-JPCP	PC	3	150	0.15*	1.25*	0.28*									
IL-3_7_10	A-2-5	GB	2	125	0.35*			0.5*								

Table FF.53. Unbound and AC material characterization for rehabilitation with JPCP or CRCP model development and calibration.

SHRP ID	Layer Description	Layer Type	Layer No.	Unit Weight, pcf	Poisson's Ratio	Thermal Conductivity (BTU/hr-ft-deg F)	Heat Capacity (BTU/lb-deg F)	Coefficient of Lateral Pressure, ko	Pct. Retained on 3/4-in Sieve	Pct. Retained on 3/8-in Sieve	Pct. Retained on #4-in Sieve	Pct. Passing #200-in Sieve	AC Binder Type	AC Reference Temperature, deg F	AC Effective Binder Content, pct	AC Pct. Air Voids
IL-3_7_10	A-7-6	SS	1	125	0.35*			0.5*								
IL-3_8_06	PCC-CRCP	PC	5	150	0.15*	1.25*	0.28*									
IL-3_8_06	AC Treated Material	AC	4	148	0.25*	0.67*	0.23*		12	38	50	5	AC-20*	70	4.5	8.5
IL-3_8_06	PCC-JPCP	PC	3	150	0.15*	1.25*	0.28*									
IL-3_8_06	A-2-5	GB	2	125	0.35*			0.5*								
IL-3_8_06	A-7-6	SS	1	125	0.35*			0.5*								
PA-5	PCC-CRCP	PC	5	150	0.15*	1.25*	0.28*									
PA-5	AC Treated Material	AC	4	148	0.25*	0.67*	0.23*		12	38	50	5	AC-20*	70	4.5	8.5
PA-5	PCC-JPCP	PC	3	150	0.15*	1.25*	0.28*									
PA-5	A-2-5	GB	2	125	0.35*			0.5*								
PA-5	A-4	SS	1	125	0.35*			0.5*								
WI-1	PCC-CRCP	PC	6	150	0.15*	1.25*	0.28*									
WI-1	AC Treated Material	AC	5	148	0.25*	0.67*	0.23*		0	15	100	0	AC-20*	70	4.5	8.5
WI-1	PCC-JPCP	PC	4	150	0.15*	1.25*	0.28*									
WI-1	AC Treated Material	AC	3	148	0.25*	0.67*	0.23*		1.75	18.25	37.75	2.675	AC-20*	70	4.5	8.5
WI-1	A-2-7	GB	2	125	0.35*			0.5*								
WI-1	A-7-6	SS	1	125	0.35*			0.5*								
AL_IH_20E_183.0	PCC-JPCP	PC	4	150	0.15*	1.25*	0.28*									
AL_IH_20E_183.0	Crushed stone	GB	3	125	0.35*											
AL_IH_20E_183.0	A-2-5	GS	2	125	0.35*			0.5								
AL_IH_20E_183.0	A-6	SS	1	125	0.35*			0.5								

Table FF.53. Unbound and AC material characterization for rehabilitation with JPCP or CRCP model development and calibration.

SHRP ID	Layer Description	Layer Type	Layer No.	Unit Weight, pcf	Poisson's Ratio	Thermal Conductivity (BTU/hr-ft-deg F)	Heat Capacity (BTU/lb-deg F)	Coefficient of Lateral Pressure, ko	Pct. Retained on 3/4-in Sieve	Pct. Retained on 3/8-in Sieve	Pct. Retained on #4-in Sieve	Pct. Passing #200-in Sieve	AC Binder Type	AC Reference Temperature, deg F	AC Effective Binder Content, pct	AC Pct. Air Voids
AL_IH_59N_235.5	PCC-JPCP	PC	4	150	0.15*	1.25*	0.28*									
AL_IH_59N_235.5	A-1-a	GB	3	125	0.35*			0.5								
AL_IH_59N_235.5	A-6	GS	2	125	0.35*			0.5								
AL_IH_59N_235.5	A-6	SS	1	125	0.35*			0.5								
CA_IH_8E_43.4	PCC-JPCP	PC	4	150	0.15*	1.25*	0.28*									
CA_IH_8E_43.4	AC Treated Material	AC	3	148	0.25*	0.67*	0.23*		0	7	30	7.8	AC-20	70	4.5	8.5
CA_IH_8E_43.4	A-1-a	GS	2	125	0.35*			0.5								
CA_IH_8E_43.4	A-1-b	SS	1	125	0.35*			0.5								
FL_IH_10E_214.7	PCC-JPCP	PC	4	150	0.15*	1.25*	0.28*									
FL_IH_10E_214.7	Cement Treated Material	TB	3	150	0.2	1.25*	0.28*									
FL_IH_10E_214.7	A-2-4	GS	2	125	0.35*			0.5								
FL_IH_10E_214.7	A-2-4	SS	1	125	0.35*			0.5								
GA_IH_16W_59.9	PCC-JPCP	PC	4	150	0.15*	1.25*	0.28*									
GA_IH_16W_59.9	AC Treated Material	AC	3	148	0.25*	0.67*	0.23*		0	15	35	6	AC-20	70	4.5	8.5
GA_IH_16W_59.9	River-run gravel	GS	2	125	0.35*			0.5								
GA_IH_16W_59.9	A-1-b	SS	1	125	0.35*			0.5								
IA_IH_80W_87.7	PCC-JPCP	PC	4	150	0.15*	1.25*	0.28*									
IA_IH_80W_87.7	AC Treated Material	AC	3	148	0.25*	0.67*	0.23*		0	15	35	6	AC-20	70	4.5	8.5
IA_IH_80W_87.7	Crushed stone	GS	2	125	0.35*			0.5								
IA_IH_80W_87.7	A-2-4	SS	1	125	0.35*			0.5								
NE_IH_80W_420.1	PCC-JPCP	PC	4	150	0.15*	1.25*	0.28*									
NE_IH_80W_420.1	Cement Treated Material	TB	3	150	0.2	1.25*	0.28*									
NE_IH_80W_420.1	A-1-b	GS	2	125	0.35*			0.5								
NE_IH_80W_420.1	A-1-b	SS	1	125	0.35*			0.5								

Table FF.53. Unbound and AC material characterization for rehabilitation with JPCP or CRCP model development and calibration.

SHRP ID	Layer Description	Layer Type	Layer No.	Unit Weight, pcf	Poisson's Ratio	Thermal Conductivity (BTU/hr-ft-deg F)	Heat Capacity (BTU/lb-deg F)	Coefficient of Lateral Pressure, ko	Pct. Retained on 3/4-in Sieve	Pct. Retained on 3/8-in Sieve	Pct. Retained on #4-in Sieve	Pct. Passing #200-in Sieve	AC Binder Type	AC Reference Temperature, deg F	AC Effective Binder Content, pct	AC Pct. Air Voids
SD_IH_29S_174	PCC-JPCP	PC	4	150	0.15*	1.25*	0.28*									
SD_IH_29S_174	Lime Treated Material	TB	3	125	0.2	1.25*	0.28*									
SD_IH_29S_174	A-6	GS	2	125	0.35*			0.5								
SD_IH_29S_174	A-6	SS	1	125	0.35*			0.5								
WI_IH_43N	PCC-JPCP	PC	4	150	0.15*	1.25*	0.28*									
WI_IH_43N	A-6	GB	2	125	0.35*			0.5								
WI_IH_43N	A-6	SS	1	125	0.35*			0.5								

Table FF.54. PCC material characterization for rehabilitation with JPCP or CRCP model development and calibration.

SHRP ID	Layer Description	Layer Type	Layer No.	Cement Type	Cement Content, lbs/yd3	Water-to-Cement Ratio	Coarse Aggregate Type	Curing Method	Coef. of Thermal Expansion, in/in/oF
1_0601	JPCP	PC	3	Type I (L3)	552 (L3)	0.48 (L3)	Limestone (L3)	Curing Compound	
1_0601	Crushed Stone, Gravel or Slag	GB	2						
1_0601	Sandy Clay	SS	1						

Table FF.54. PCC material characterization for rehabilitation with JPCP or CRCP model development and calibration.

SHRP ID	Layer Description	Layer Type	Layer No.	Cement Type	Cement Content, lbs/yd3	Water-to-Cement Ratio	Coarse Aggregate Type	Curing Method	Coef. of Thermal Expansion, in/in/oF
1_0602	JPCP	PC	3	Type I (L3)	552 (L3)	0.48 (L3)	Limestone (L3)	Curing Compound	
1_0602	Crushed Stone, Gravel or Slag	GB	2						
1_0602	Sandy Clay	SS	1						
1_0605	JPCP	PC	3	Type I (L3)	552 (L3)	0.48 (L3)	Limestone (L3)	Curing Compound	
1_0605	Crushed Stone, Gravel or Slag	GB	2						
1_0605	Sandy Clay	SS	1						
13_4118	PCC-CRCP	PC	3	Type I (L3)	553 (L3)	0.48 (L3)	Limestone (L3)	Curing Compound	0.0000055
13_4118	PCC-JPCP	PC	2						
13_4118	Clayey sand	SS	1						
18_9020	PCC-JPCP	PC	6	Type I (L3)	558 (L3)	0.48 (L3)	Limestone (L3)	Curing Compound	0.0000055
18_9020	Sand Asphalt	AC	5						
18_9020	Dense Graded HMAC	AC	4						
18_9020	PCC-JRCP	PC	3						
18_9020	Gravel (uncrushed)	GB	2						
18_9020	Lean Clay with Sand	SS	1						
19_0702	PCC-CRCP	PC	5	Type I	604	0.42	Limestone	Curing Compound	6
19_0702	PCC-JPCP	PC	4	Type I	600	0.42	Limestone	Curing Compound	6
19_0702	A-1-a	GB	3						
19_0702	A-6	GS	2						
19_0702	A-6	SS	1						
19_0709	PCC-CRCP	PC	5	Type I	604	0.42	Limestone	Curing Compound	6
19_0709	PCC-JPCP	PC	4	Type I	600	0.42	Limestone	Curing Compound	6
19_0709	A-1-a	GB	3						
19_0709	A-6	GS	2						
19_0709	A-6	SS	1						

Table FF.54. PCC material characterization for rehabilitation with JPCP or CRCP model development and calibration.

SHRP ID	Layer Description	Layer Type	Layer No.	Cement Type	Cement Content, lbs/yd3	Water-to-Cement Ratio	Coarse Aggregate Type	Curing Method	Coef. of Thermal Expansion, in/in/oF
20_9037	PCC-JPCP	PC	5	Type II	540 (L3)	0.48 (L3)	Limestone	Curing Compound	0.0000055
20_9037	Dense Graded HMAC	AC	4						
20_9037	PCC-JPCP	PC	3						
20_9037	Sand	GB	2						
20_9037	Lean Clay with Sand	SS	1						
22_0702	Lime-Treated Soil	TB	2						
22_0702	PCC-CRCP	PC	5	Type I	564	0.44	Limestone	Curing Compound	5.5
22_0702	PCC-JPCP	PC	4	Type I	564	0.44	Limestone	Curing Compound	6
22_0702	AC Treated Material	AC	3						
22_0702	A-6	SS	1						
22_0709	Lime-Treated Soil	TB	2						
22_0709	PCC-CRCP	PC	5	Type I	564	0.44	Limestone	Curing Compound	5.5
22_0709	PCC-CRCP	PC	4	Type I	564	0.44	Limestone	Curing Compound	6
22_0709	AC Treated Material	AC	3						
22_0709	A-6	SS	1						
27_0702	PCC-CRCP	PC	5	Type I	593	0.48	Limestone	Curing Compound	5.5
27_0702	PCC-CRCP	PC	4	Type I	593	0.48	Limestone	Curing Compound	6
27_0702	A-3	GB	3						
27_0702	A-3	GS	2						
27_0702	A-6	SS	1						
27_0709	PCC-CRCP	PC	5	Type I	593	0.48	Limestone	Curing Compound	5.5
27_0709	PCC-CRCP	PC	4	Type I	593	0.48	Limestone	Curing Compound	6
27_0709	A-3	GB	3						
27_0709	A-3	GS	2						
27_0709	A-6	SS	1						
27_9075	PCC-JPCP	PC	4	Type I (L3)	555 (L3)	0.48 (L3)	Limestone (L3)	Curing Compound	0.0000055

Table FF.54. PCC material characterization for rehabilitation with JPCP or CRCP model development and calibration.

SHRP ID	Layer Description	Layer Type	Layer No.	Cement Type	Cement Content, lbs/yd3	Water-to-Cement Ratio	Coarse Aggregate Type	Curing Method	Coef. of Thermal Expansion, in/in/oF
27_9075	Dense Graded HMAC	AC	3						
27_9075	PCC-JPCP	PC	2						
27_9075	Sandy Fat Clay	SS	1						
28_7012	PCC-JPCP	PC	8	Type I (L3)	549 (L3)	0.48 (L3)	Limestone (L3)	Burlap Blankets	0.0000055
28_7012	HMAC	AC	7						
28_7012	Dense Graded HMAC	AC	6						
28_7012	Dense Graded HMAC	AC	5						
28_7012	PCC-JRCP	PC	4						
28_7012	Soil-Aggregate Mixture (CG)	GB	3						
28_7012	Fine-grained Soils	GS	2						
28_7012	Lean Inorganic Clay	SS	1						
29_A601	JPCP	PC	3	Type I	552 (L3)	0.48 (L3)	Limestone (L3)	Curing Compound	
29_A601	Crushed Stone, Gravel or Slag	GB	2						
29_A601	Silt	SS	1						
29_A602	JPCP	PC	3	Type I	552 (L3)	0.48 (L3)	Limestone (L3)	Curing Compound	
29_A602	Crushed Stone, Gravel or Slag	GB	2						
29_A602	Silt	SS	1						
29_A605	JPCP	PC	3	Type I	552 (L3)	0.48 (L3)	Limestone (L3)	Curing Compound	
29_A605	Crushed Stone, Gravel or Slag	GB	2						
29_A605	Silt	SS	1						
31_6701	PCC-JPCP	PC	4	Type I	581	0.41	Limestone	Burlap Blankets	0.0000055
31_6701	PCC-JRCP	PC	3						
31_6701	Sand	GB	2						
31_6701	Sandy Silt	SS	1						

Table FF.54. PCC material characterization for rehabilitation with JPCP or CRCP model development and calibration.

SHRP ID	Layer Description	Layer Type	Layer No.	Cement Type	Cement Content, lbs/yd3	Water-to-Cement Ratio	Coarse Aggregate Type	Curing Method	Coef. of Thermal Expansion, in/in/oF
4_0601	PCC-JPCP	PC	4	Type II	542 (L3)	0.48 (L3)	Limestone (L3)	Curing Compound	0.0000055
4_0601	Cement Aggregate Mixture	TB	3						
4_0601	Gravel (uncrushed)	GS	2						
4_0601	Sandstone	SS	1						
4_0602	PCC-JPCP	PC	5	Type II	543 (L3)	0.48 (L3)	Limestone (L3)	Curing Compound	0.0000055
4_0602	Cement Aggregate Mixture	TB	4						
4_0602	Gravel (uncrushed)	GS	3						
4_0602	Soil-Aggregate Mixture (FG)	GS	2						
4_0602	Sandstone	SS	1						
4_0605	PCC-JPCP	PC	5	Type II	544 (L3)	0.48 (L3)	Limestone (L3)	Curing Compound	0.0000055
4_0605	Cement Aggregate Mixture	TB	4						
4_0605	Gravel (uncrushed)	GS	3						
4_0605	Soil-Aggregate Mixture (FG)	GS	2						
4_0605	silty sand with gravel	SS	1						
40_4155	PCC-CRCP	PC	5	Type I	479	***	Limestone	Curing Compound	0.0000055
40_4155	Dense Graded HMAC	AC	4						
40_4155	Dense Graded HMAC	AC	3						
40_4155	PCC-JPCP	PC	2						
40_4155	Sandy Silt	SS	1						
42_1627	PCC-JPCP	PC	5	Type II	541 (L3)	0.48 (L3)	Limestone	Curing Compound	0.0000055
42_1627	Dense Graded HMAC	AC	4						
42_1627	PCC-JRCP	PC	3						
42_1627	Gravel (uncrushed)	GB	2						

Table FF.54. PCC material characterization for rehabilitation with JPCP or CRCP model development and calibration.

SHRP ID	Layer Description	Layer Type	Layer No.	Cement Type	Cement Content, lbs/yd3	Water-to-Cement Ratio	Coarse Aggregate Type	Curing Method	Coef. of Thermal Expansion, in/in/oF
42_1627	silty sand with gravel	SS	1						
46_0601	PCC-JPCP	PC	3	Type I (L3)	565 (L3)	0.48 (L3)	Limestone (L3)	Curing Compound	0.0000055
46_0601	Cement Aggregate Mixture	TB	2						
46_0601	Silty Clay	SS	1						
46_0602	PCC-JPCP	PC	3	Type I (L3)	566 (L3)	0.48 (L3)	Limestone (L3)	Curing Compound	0.0000055
46_0602	Cement Aggregate Mixture	TB	2						
46_0602	Silty Clay	SS	1						
46_0605	PCC-JPCP	PC	3	Type I (L3)	567 (L3)	0.48 (L3)	Limestone (L3)	Curing Compound	0.0000055
46_0605	Cement Aggregate Mixture	TB	2						
46_0605	Silty Clay	SS	1						
47_0601	PCC-JPCP	PC	3	Type I (L3)	550 (L3)	0.48 (L3)	Limestone (L3)	Curing Compound	0.0000055
47_0601	Soil Cement	TB	2						
47_0601	Poorly Graded Sand/Silt	SS	1						
47_0602	PCC-JPCP	PC	3	Type I (L3)	551 (L3)	0.48 (L3)	Limestone (L3)	Curing Compound	0.0000055
47_0602	Soil Cement	TB	2						
47_0602	Poorly Graded Sand/Silt	SS	1						
47_0605	PCC-JPCP	PC	3	Type I (L3)	552 (L3)	0.48 (L3)	Limestone (L3)	Curing Compound	0.0000055
47_0605	Soil Cement	TB	2						
47_0605	Lean Inorganic Clay	SS	1						
48_3569	PCC-CRCP	PC	5	Type I	420	0.57	Sandstone	Curing Compound	0.0000055
48_3569	Dense Graded HMAC	AC	4						
48_3569	PCC-JPCP	PC	3						
48_3569	Soil Cement	TB	2						
48_3569	Lean Clay with Sand	SS	1						

Table FF.54. PCC material characterization for rehabilitation with JPCP or CRCP model development and calibration.

SHRP ID	Layer Description	Layer Type	Layer No.	Cement Type	Cement Content, Ibs/yd3	Water-to-Cement Ratio	Coarse Aggregate Type	Curing Method	Coef. of Thermal Expansion, in/in/oF
48_3845	PCC-CRCP	PC	5	Type I	564	0.55	Limestone (L3)	Curing Compound	0.0000055
48_3845	Dense Graded HMAC	AC	4						
48_3845	Dense Graded HMAC	AC	3						
48_3845	PCC-JPCP	PC	2						
48_3845	Fat Inorganic Clay	SS	1						
48_9167	PCC-JPCP	PC	6	Type I	414	0.47	Dolomite	Curing Compound	0.0000055
48_9167	Dense Graded HMAC	AC	5						
48_9167	PCC-CRCP	PC	4						
48_9167	Soil-Aggregate Mixture (CG)	GB	3						
48_9167	Lime-Treated Soil	TS	2						
48_9167	Fat Inorganic Clay	SS	1						
48_9355	PCC-JPCP	PC	5	Type I	354	0.64	Limestone	Curing Compound	0.0000055
48_9355	Dense Graded HMAC	AC	4						
48_9355	PCC-JPCP	PC	3						
48_9355	Fine-grained Soils	GB	2						
48_9355	Lean Clay with Sand	SS	1						
6_0602	PCC-JPCP	PC	3	Type II	564	0.48	Limestone (L3)	Curing Compound	0.0000055
6_0602	Cement Aggregate Mixture	TB	2						
6_0602	Poorly graded gravel/sand	SS	1						
6_0605	PCC-JPCP	PC	3	Type II	564	0.48	Limestone (L3)	Curing Compound	0.0000055
6_0605	Cement Aggregate Mixture	TB	2						
6_0605	Poorly graded gravel/sand	SS	1						
6_9048	PCC-JPCP	PC	4	Type II	564	0.53	Conglomerate	Curing Compound	0.0000055
6_9048	Chip Seal	AC	3						

Table FF.54. PCC material characterization for rehabilitation with JPCP or CRCP model development and calibration.

SHRP ID	Layer Description	Layer Type	Layer No.	Cement Type	Cement Content, lbs/yd3	Water-to-Cement Ratio	Coarse Aggregate Type	Curing Method	Coef. of Thermal Expansion, in/in/oF
6_9048	PCC-JPCP	PC	2						
6_9048	silty sand with gravel	SS	1						
6_9049	PCC-JPCP	PC	6	Type II	470	0.53	Limestone (L3)	Curing Compound	0.0000055
6_9049	Dense Graded HMAC	AC	5						
6_9049	PCC-JPCP	PC	4						
6_9049	Cement Aggregate Mixture	TB	3						
6_9049	Soil-Aggregate Mixture (FG)	GS	2						
6_9049	Sandy Lean Clay	SS	1						
6_9107	PCC-JPCP	PC	6	Type II	594.5	0.45	Granite	Curing Compound	0.0000055
6_9107	Dense Graded HMAC	AC	5						
6_9107	PCC-JPCP	PC	4						
6_9107	Cement Aggregate Mixture	TB	3						
6_9107	Soil-Aggregate Mixture (CG)	GS	2						
6_9107	silty gravel with sand	SS	1						
8_9019	PCC-JPCP	PC	5	Type II	565	0.44	Granite	Curing Compound	0.0000055
8_9019	Chip Seal	AC	4						
8_9019	PCC-JPCP	PC	3						
8_9019	Crushed Gravel	GB	2						
8_9019	Clayey sand with gravel	SS	1						
8_9020	PCC-JPCP	PC	5	Type II	565	0.5	Granite	Curing Compound	0.0000055
8_9020	Chip Seal	AC	4						
8_9020	PCC-JPCP	PC	3						
8_9020	Soil-Aggregate Mixture (CG)	GB	2						

Table FF.54. PCC material characterization for rehabilitation with JPCP or CRCP model development and calibration.

SHRP ID	Layer Description	Layer Type	Layer No.	Cement Type	Cement Content, lbs/yd3	Water-to-Cement Ratio	Coarse Aggregate Type	Curing Method	Coef. of Thermal Expansion, in/in/oF
8_9020	Clayey sand	SS	1						
89_9018	PCC-JPCP	PC	6	Type I	573	0.44	Granite	Curing Compound	0.0000055
89_9018	Chip Seal	AC	5						
89_9018	PCC-JPCP	PC	4						
89_9018	Cement Aggregate Mixture	TB	3						
89_9018	Sand	GS	2						
89_9018	silty sand with gravel	SS	1						
GA-1	PCC-CRCP	PC	4	Type I	550	0.45	Limestone	Curing Compound	0.0000055
GA-1	PCC-JPCP	PC	3						
GA-1	AC Treated Material	AC	2						
GA-1	Fine-grained Soils	SS	1						
GA-4	PCC-CRCP	PC	4	Type I	550	0.45	Limestone	Curing Compound	0.0000055
GA-4	PCC-JPCP	PC	3						
GA-4	AC Treated Material	AC	2						
GA-4	Fine-grained Soils	SS	1						
GA-5	PCC-CRCP	PC	4	Type I	550	0.45	Limestone	Curing Compound	0.0000055
GA-5	PCC-JPCP	PC	3						
GA-5	AC Treated Material	AC	2						
GA-5	Fine-grained Soils	SS	1						
IL-3_6_07	AC Treated Material	AC	4						
IL-3_6_07	PCC-JPCP	PC	3						
IL-3_6_07	A-2-5	GB	2						
IL-3_6_07	A-7-6	SS	1						
IL-3_6_07	PCC-CRCP	PC	5	Type I	550	0.45	Limestone	Curing Compound	0.0000055
IL-3_6_10	AC Treated Material	AC	4						
IL-3_6_10	PCC-JPCP	PC	3						

Table FF.54. PCC material characterization for rehabilitation with JPCP or CRCP model development and calibration.

SHRP ID	Layer Description	Layer Type	Layer No.	Cement Type	Cement Content, lbs/yd3	Water-to-Cement Ratio	Coarse Aggregate Type	Curing Method	Coef. of Thermal Expansion, in/in/oF
IL-3_6_10	A-2-5	GB	2						
IL-3_6_10	A-7-6	SS	1						
IL-3_6_10	PCC-CRCP	PC	6	Type I	550	0.45	Limestone	Curing Compound	0.0000055
IL-3_7_07	AC Treated Material	AC	4						
IL-3_7_07	AC Treated Material	AC	4						
IL-3_7_07	PCC-JPCP	PC	3						
IL-3_7_07	PCC-JPCP	PC	3						
IL-3_7_07	A-2-5	GB	2						
IL-3_7_07	A-2-5	GB	2						
IL-3_7_07	A-7-6	SS	1						
IL-3_7_07	A-7-6	SS	1						
IL-3_7_07	PCC-CRCP	PC	5	Type I	550	0.45	Limestone	Curing Compound	0.0000055
IL-3_7_07	PCC-CRCP	PC	5	Type I	550	0.45	Limestone	Curing Compound	0.0000055
IL-3_7_10	AC Treated Material	AC	4						
IL-3_7_10	PCC-JPCP	PC	3						
IL-3_7_10	A-2-5	GB	2						
IL-3_7_10	A-7-6	SS	1						
IL-3_7_10	PCC-CRCP	PC	5	Type I	550	0.45	Limestone	Curing Compound	0.0000055
IL-3_8_06	AC Treated Material	AC	4						
IL-3_8_06	PCC-JPCP	PC	3						
IL-3_8_06	A-2-5	GB	2						
IL-3_8_06	A-7-6	SS	1						
IL-3_8_06	PCC-CRCP	PC	5	Type I	550	0.45	Limestone	Curing Compound	0.0000055
PA-5	AC Treated Material	AC	4						
PA-5	PCC-JPCP	PC	3						
PA-5	A-2-5	GB	2						

Table FF.54. PCC material characterization for rehabilitation with JPCP or CRCP model development and calibration.

SHRP ID	Layer Description	Layer Type	Layer No.	Cement Type	Cement Content, lbs/yd3	Water-to-Cement Ratio	Coarse Aggregate Type	Curing Method	Coef. of Thermal Expansion, in/in/oF
PA-5	A-4	SS	1						
PA-5	PCC-CRCP	PC	5	Type I	550	0.45	Limestone	Curing Compound	0.0000055
WI-1	PCC-CRCP	PC	6	Type I	550	0.45	Limestone	Curing Compound	0.0000055
WI-1	AC Treated Material	AC	5						
WI-1	PCC-JPCP	PC	4						
WI-1	AC Treated Material	AC	3						
WI-1	A-2-7	GB	2						
WI-1	A-7-6	SS	1						
AL_IH_20E_183.0	PCC-JPCP	PC	4	Type I	568.5	0.476	Limestone	Curing Compound	0.00000667
AL_IH_20E_183.0	Crushed stone	GB	3						
AL_IH_20E_183.0	A-2-5	GS	2						
AL_IH_20E_183.0	A-6	SS	1						
AL_IH_59N_235.5	PCC-JPCP	PC	4	Type I	500	0.5	Limestone	Curing Compound	0.0000050
AL_IH_59N_235.5	A-1-a	GB	3						
AL_IH_59N_235.5	A-6	GS	2						
AL_IH_59N_235.5	A-6	SS	1						
CA_IH_8E_43.4	PCC-JPCP	PC	4	Type I	565	0.55	Rhyolite	Curing Compound	0.0000061
CA_IH_8E_43.4	AC Treated Material	AC	3						
CA_IH_8E_43.4	A-1-a	GS	2						
CA_IH_8E_43.4	A-1-b	SS	1						
FL_IH_10E_214.7	PCC-JPCP	PC	4	Type I	407	0.55	Rhyplite	Curing Compound	0.0000058
FL_IH_10E_214.7	Cement Treated Material	TB	3						
FL_IH_10E_214.7	A-2-4	GS	2						
FL_IH_10E_214.7	A-2-4	SS	1						
GA_IH_16W_59.9	PCC-JPCP	PC	4	Type I	520	0.5	Granite	Curing Compound	0.0000060
GA_IH_16W_59.9	AC Treated Material	AC	3						
GA_IH_16W_59.9	River-run gravel	GS	2						

Table FF.54. PCC material characterization for rehabilitation with JPCP or CRCP model development and calibration.

SHRP ID	Layer Description	Layer Type	Layer No.	Cement Type	Cement Content, lbs/yd3	Water-to-Cement Ratio	Coarse Aggregate Type	Curing Method	Coef. of Thermal Expansion, in/in/oF
GA_IH_16W_59.9	A-1-b	SS	1						
IA_IH_80W_87.7	PCC-JPCP	PC	4	Type I	556	0.46	Dolomite	Curing Compound	0.00000564
IA_IH_80W_87.7	AC Treated Material	AC	3						
IA_IH_80W_87.7	Crushed stone	GS	2						
IA_IH_80W_87.7	A-2-4	SS	1						
NE_IH_80W_420.1	PCC-JPCP	PC	4	Type I	576	0.41	Dolomite	Curing Compound	0.00000633
NE_IH_80W_420.1	Cement Treated Material	TB	3						
NE_IH_80W_420.1	A-1-b	GS	2						
NE_IH_80W_420.1	A-1-b	SS	1						
SD_IH_29S_174	PCC-JPCP	PC	4	Type I	541	0.43	Quartzite	Curing Compound	0.0000056
SD_IH_29S_174	Lime Treated Material	TB	3						
SD_IH_29S_174	A-6	GS	2						
SD_IH_29S_174	A-6	SS	1						
WI_IH_43N	PCC-JPCP	PC	4	Type I	540	0.42	Dolomite	Curing Compound	0.0000065
WI_IH_43N	A-6	GB	2						
WI_IH_43N	A-6	SS	1						

Table FF.54. PCC strength characterization for rehabilitation with JPCP or CRCP model development and calibration.

SHRP ID	Layer Type	Layer No.	Existing PCC Comp. Str., psi	Existing PCC Elastic Mod., psi	Existing PCC Flexural Str., psi	Existing PCC Tensile Str., psi	7-day PCC Comp. Str., psi	14-day PCC Comp. Str., psi	28-day PCC Comp. Str., psi	90-day PCC Comp. Str., psi	7-day PCC Elastic Modulus, psi	14-day PCC Elastic Modulus, psi	28-day PCC Elastic Modulus, psi	90-day PCC Elastic Modulus, psi	7-day PCC Flex. Str., psi	14-day PCC Flex. Str., psi	28-day PCC Flex. Str., psi	90-day PCC Flex. Str., psi	7-day PCC Ten. Str., psi	14-day PCC Ten. Str., psi	28-day PCC Ten. Str., psi	90-day PCC Ten. Str., psi
1_0601	PC	3	5900	3698726	760	732																
1_0601	GB	2																				
1_0601	SS	1																				
1_0602	PC	3	5900	3698726	760	732																
1_0602	GB	2																				
1_0602	SS	1																				
1_0605	PC	3	5900	3698726	760	732																
1_0605	GB	2																				
1_0605	SS	1																				
13_4118	PC	3					4851	5035	5218	5528	2971734	3084191	3196626	3386090	716	743	770	816	501	520	539	571
13_4118	PC	2																				
13_4118	SS	1																				
18_9020	PC	6					5733	5950	6167	6532	3763919	3906354	4048762	4288732	596	618	641	679	417	433	448	475
18_9020	AC	5																				
18_9020	AC	4																				
18_9020	PC	3																				
18_9020	GB	2																				
18_9020	SS	1																				
19_0702	PC	5							4813													
19_0702	PC	4							5451													
19_0702	GB	3																				
19_0702	GS	2																				
19_0702	SS	1																				
19_0709	PC	5							4813													

Table FF.54. PCC strength characterization for rehabilitation with JPCP or CRCP model development and calibration.

SHRP ID	Layer Type	Layer No.	Existing PCC Comp. Str., psi	Existing PCC Elastic Mod., psi	Existing PCC Flexural Str., psi	Existing PCC Tensile Str., psi	7-day PCC Comp. Str., psi	14-day PCC Comp. Str., psi	28-day PCC Comp. Str., psi	90-day PCC Comp. Str., psi	7-day PCC Elastic Modulus, psi	14-day PCC Elastic Modulus, psi	28-day PCC Elastic Modulus, psi	90-day PCC Elastic Modulus, psi	7-day PCC Flex. Str., psi	14-day PCC Flex. Str., psi	28-day PCC Flex. Str., psi	90-day PCC Flex. Str., psi	7-day PCC Ten. Str., psi	14-day PCC Ten. Str., psi	28-day PCC Ten. Str., psi	90-day PCC Ten. Str., psi
19_0709	PC	4							5451													
19_0709	GB	3																				
19_0709	GS	2																				
19_0709	SS	1																				
20_9037	PC	5					6720	6974	7229	7657	3079062	3195580	3312076	3508383	894	928	962	1019	626	650	673	713
20_9037	AC	4																				
20_9037	PC	3																				
20_9037	GB	2																				
20_9037	SS	1																				
22_0702	TB	2																				
22_0702	PC	5							6797													
22_0702	PC	4							7778													
22_0702	AC	3																				
22_0702	SS	1																				
22_0709	TB	2																				
22_0709	PC	5							6797													
22_0709	PC	4							7778													
22_0709	AC	3																				
22_0709	SS	1																				
27_0702	PC	5							3310													
27_0702	PC	4							4916													
27_0702	GB	3																				
27_0702	GS	2																				
27_0702	SS	1																				
27_0709	PC	5							3310													

Table FF.54. PCC strength characterization for rehabilitation with JPCP or CRCP model development and calibration.

SHRP ID	Layer Type	Layer No.	Existing PCC Comp. Str., psi	Existing PCC Elastic Mod., psi	Existing PCC Flexural Str., psi	Existing PCC Tensile Str., psi	7-day PCC Comp. Str., psi	14-day PCC Comp. Str., psi	28-day PCC Comp. Str., psi	90-day PCC Comp. Str., psi	7-day PCC Elastic Modulus, psi	14-day PCC Elastic Modulus, psi	28-day PCC Elastic Modulus, psi	90-day PCC Elastic Modulus, psi	7-day PCC Flex. Str., psi	14-day PCC Flex. Str., psi	28-day PCC Flex. Str., psi	90-day PCC Flex. Str., psi	7-day PCC Ten. Str., psi	14-day PCC Ten. Str., psi	28-day PCC Ten. Str., psi	90-day PCC Ten. Str., psi
27_0709	PC	4							4916													
27_0709	GB	3																				
27_0709	GS	2																				
27_0709	SS	1																				
27_9075	PC	4					5538	5747	5957	6310	3950094	4099575	4249026	4500866	664	689	714	757	465	482	500	530
27_9075	AC	3																				
27_9075	PC	2																				
27_9075	SS	1																				
28_7012	PC	8					6741	6996	7251	7681	3929229	4077920	4226582	4477091	950	986	1022	1082	665	690	715	758
28_7012	AC	7																				
28_7012	AC	6																				
28_7012	AC	5																				
28_7012	PC	4																				
28_7012	GB	3																				
28_7012	GS	2																				
28_7012	SS	1																				
29_A601	PC	3	5900	3698726	760	732																
29_A601	GB	2																				
29_A601	SS	1																				
29_A602	PC	3	5900	3698726	760	732																
29_A602	GB	2																				
29_A602	SS	1																				
29_A605	PC	3	5900	3698726	760	732																
29_A605	GB	2																				
29_A605	SS	1																				

Table FF.54. PCC strength characterization for rehabilitation with JPCP or CRCP model development and calibration.

SHRP ID	Layer Type	Layer No.	Existing PCC Comp. Str., psi	Existing PCC Elastic Mod., psi	Existing PCC Flexural Str., psi	Existing PCC Tensile Str., psi	7-day PCC Comp. Str., psi	14-day PCC Comp. Str., psi	28-day PCC Comp. Str., psi	90-day PCC Comp. Str., psi	7-day PCC Elastic Modulus, psi	14-day PCC Elastic Modulus, psi	28-day PCC Elastic Modulus, psi	90-day PCC Elastic Modulus, psi	7-day PCC Flex. Str., psi	14-day PCC Flex. Str., psi	28-day PCC Flex. Str., psi	90-day PCC Flex. Str., psi	7-day PCC Ten. Str., psi	14-day PCC Ten. Str., psi	28-day PCC Ten. Str., psi	90-day PCC Ten. Str., psi
31_6701	PC	4																				
31_6701	PC	3					5597	5809	6021	6378	3090388	3207335	3324259	3521288	553	574	595	630	387	402	416	441
31_6701	GB	2																				
31_6701	SS	1																				
4_0601	PC	4	5900	3698726	760	732																
4_0601	TB	3																				
4_0601	GS	2																				
4_0601	SS	1																				
4_0602	PC	5	5900	3698726	760	732																
4_0602	TB	4																				
4_0602	GS	3																				
4_0602	GS	2																				
4_0602	SS	1																				
4_0605	PC	5	5900	3698726	760	732																
4_0605	TB	4																				
4_0605	GS	3																				
4_0605	GS	2																				
4_0605	SS	1																				
40_4155	PC	5																				
40_4155	AC	4																				
40_4155	AC	3																				
40_4155	PC	2					4954	5142	5329	5645	3585898	3721596	3857268	4085888	728	756	783	830	510	529	548	581
40_4155	SS	1																				
42_1627	PC	5																				
42_1627	AC	4																				

Table FF.54. PCC strength characterization for rehabilitation with JPCP or CRCP model development and calibration.

SHRP ID	Layer Type	Layer No.	Existing PCC Comp. Str., psi	Existing PCC Elastic Mod., psi	Existing PCC Flexural Str., psi	Existing PCC Tensile Str., psi	7-day PCC Comp. Str., psi	14-day PCC Comp. Str., psi	28-day PCC Comp. Str., psi	90-day PCC Comp. Str., psi	7-day PCC Elastic Modulus, psi	14-day PCC Elastic Modulus, psi	28-day PCC Elastic Modulus, psi	90-day PCC Elastic Modulus, psi	7-day PCC Flex. Str., psi	14-day PCC Flex. Str., psi	28-day PCC Flex. Str., psi	90-day PCC Flex. Str., psi	7-day PCC Ten. Str., psi	14-day PCC Ten. Str., psi	28-day PCC Ten. Str., psi	90-day PCC Ten. Str., psi
42_1627	PC	3					4630	4806	4981	5276	3075378	3191757	3308114	3504185	647	671	696	737	453	470	487	516
42_1627	GB	2																				
42_1627	SS	1																				
46_0601	PC	3	5900	3698726	760	732																
46_0601	TB	2																				
46_0601	SS	1																				
46_0602	PC	3	5900	3698726	760	732																
46_0602	TB	2																				
46_0602	SS	1																				
46_0605	PC	3	5900	3698726	760	732																
46_0605	TB	2																				
46_0605	SS	1																				
47_0601	PC	3	5487	2727264	831	582																
47_0601	TB	2																				
47_0601	SS	1																				
47_0602	PC	3	5487	2727264	831	582																
47_0602	TB	2																				
47_0602	SS	1																				
47_0605	PC	3	5487	2727264	831	582																
47_0605	TB	2																				
47_0605	SS	1																				
48_3569	PC	5																				
48_3569	AC	4																				
48_3569	PC	3					5530	5740	5949	6301	4374196	4539726	4705223	4984102	856	889	921	975	599	622	645	683
48_3569	TB	2																				

Table FF.54. PCC strength characterization for rehabilitation with JPCP or CRCP model development and calibration.

SHRP ID	Layer Type	Layer No.	Existing PCC Comp. Str., psi	Existing PCC Elastic Mod., psi	Existing PCC Flexural Str., psi	Existing PCC Tensile Str., psi	7-day PCC Comp. Str., psi	14-day PCC Comp. Str., psi	28-day PCC Comp. Str., psi	90-day PCC Comp. Str., psi	7-day PCC Elastic Modulus, psi	14-day PCC Elastic Modulus, psi	28-day PCC Elastic Modulus, psi	90-day PCC Elastic Modulus, psi	7-day PCC Flex. Str., psi	14-day PCC Flex. Str., psi	28-day PCC Flex. Str., psi	90-day PCC Flex. Str., psi	7-day PCC Ten. Str., psi	14-day PCC Ten. Str., psi	28-day PCC Ten. Str., psi	90-day PCC Ten. Str., psi
48_3569	SS	1																				
48_3845	PC	5																				
48_3845	AC	4																				
48_3845	AC	3																				
48_3845	PC	2					6024	6252	6480	6864	3777033	3919965	4062868	4303674	761	790	819	868	533	553	573	607
48_3845	SS	1																				
48_9167	PC	6																				
48_9167	AC	5																				
48_9167	PC	4					6414	6657	6900	7309	4023522	4175781	4328011	4584532	798	828	858	909	558	579	601	636
48_9167	GB	3																				
48_9167	TS	2																				
48_9167	SS	1																				
48_9355	PC	5																				
48_9355	AC	4																				
48_9355	PC	3					6210	6445	6680	7076	4509959	4680627	4851260	5138794	816	846	877	929	571	592	614	650
48_9355	GB	2																				
48_9355	SS	1																				
6_0602	PC	3	5900	3698726	760	732																
6_0602	TB	2																				
6_0602	SS	1																				
6_0605	PC	3	5900	3698726	760	732																
6_0605	TB	2																				
6_0605	SS	1																				
6_9048	PC	4					4962	5150	5338	5654	2614637	2713580	2812505	2979202	751	780	808	856	526	546	566	599
6_9048	AC	3																				

Table FF.54. PCC strength characterization for rehabilitation with JPCP or CRCP model development and calibration.

SHRP ID	Layer Type	Layer No.	Existing PCC Comp. Str., psi	Existing PCC Elastic Mod., psi	Existing PCC Flexural Str., psi	Existing PCC Tensile Str., psi	7-day PCC Comp. Str., psi	14-day PCC Comp. Str., psi	28-day PCC Comp. Str., psi	90-day PCC Comp. Str., psi	7-day PCC Elastic Modulus, psi	14-day PCC Elastic Modulus, psi	28-day PCC Elastic Modulus, psi	90-day PCC Elastic Modulus, psi	7-day PCC Flex. Str., psi	14-day PCC Flex. Str., psi	28-day PCC Flex. Str., psi	90-day PCC Flex. Str., psi	7-day PCC Ten. Str., psi	14-day PCC Ten. Str., psi	28-day PCC Ten. Str., psi	90-day PCC Ten. Str., psi
6_9048	PC	2																				
6_9048	SS	1																				
6_9049	PC	6					5935	6160	6384	6763	3267475	3391123	3514748	3723067	770	800	829	878	539	560	580	615
6_9049	AC	5																				
6_9049	PC	4																				
6_9049	TB	3																				
6_9049	GS	2																				
6_9049	SS	1																				
6_9107	PC	6					3333	3459	3585	3797	2876885	2985753	3094600	3278017	493	511	530	561	345	358	371	393
6_9107	AC	5																				
6_9107	PC	4																				
6_9107	TB	3																				
6_9107	GS	2																				
6_9107	SS	1																				
8_9019	PC	5					4752	4932	5111	5414	3131707	3250218	3368706	3568369	531	551	572	605	372	386	400	424
8_9019	AC	4																				
8_9019	PC	3																				
8_9019	GB	2																				
8_9019	SS	1																				
8_9020	PC	5					5740	5957	6174	6540	3201742	3322903	3444041	3648169	503	522	541	573	352	366	379	401
8_9020	AC	4																				
8_9020	PC	3																				
8_9020	GB	2																				
8_9020	SS	1																				
89_9018	PC	6					7373	7652	7931	8401	3931824	4080614	4229374	4480049	753	781	810	858	527	547	567	601

Table FF.54. PCC strength characterization for rehabilitation with JPCP or CRCP model development and calibration.

SHRP ID	Layer Type	Layer No.	Existing PCC Comp. Str., psi	Existing PCC Elastic Mod., psi	Existing PCC Flexural Str., psi	Existing PCC Tensile Str., psi	7-day PCC Comp. Str., psi	14-day PCC Comp. Str., psi	28-day PCC Comp. Str., psi	90-day PCC Comp. Str., psi	7-day PCC Elastic Modulus, psi	14-day PCC Elastic Modulus, psi	28-day PCC Elastic Modulus, psi	90-day PCC Elastic Modulus, psi	7-day PCC Flex. Str., psi	14-day PCC Flex. Str., psi	28-day PCC Flex. Str., psi	90-day PCC Flex. Str., psi	7-day PCC Ten. Str., psi	14-day PCC Ten. Str., psi	28-day PCC Ten. Str., psi	90-day PCC Ten. Str., psi
89_9018	AC	5																				
89_9018	PC	4																				
89_9018	TB	3																				
89_9018	GS	2																				
89_9018	SS	1																				
GA-1	PC	4							3000													
GA-1	PC	3																				
GA-1	AC	2																				
GA-1	SS	1																				
GA-4	PC	4							3000													
GA-4	PC	3																				
GA-4	AC	2																				
GA-4	SS	1																				
GA-5	PC	4							3000													
GA-5	PC	3																				
GA-5	AC	2																				
GA-5	SS	1																				
IL-3_6_07	PC	5							3500								650					
IL-3_6_07	AC	4																				
IL-3_6_07	PC	3																				
IL-3_6_07	GB	2																				
IL-3_6_07	SS	1																				
IL-3_6_10	PC	6							3500								650					
IL-3_6_10	AC	4																				
IL-3_6_10	PC	3																				

Table FF.54. PCC strength characterization for rehabilitation with JPCP or CRCP model development and calibration.

SHRP ID	Layer Type	Layer No.	Existing PCC Comp. Str., psi	Existing PCC Elastic Mod., psi	Existing PCC Flexural Str., psi	Existing PCC Tensile Str., psi	7-day PCC Comp. Str., psi	14-day PCC Comp. Str., psi	28-day PCC Comp. Str., psi	90-day PCC Comp. Str., psi	7-day PCC Elastic Modulus, psi	14-day PCC Elastic Modulus, psi	28-day PCC Elastic Modulus, psi	90-day PCC Elastic Modulus, psi	7-day PCC Flex. Str., psi	14-day PCC Flex. Str., psi	28-day PCC Flex. Str., psi	90-day PCC Flex. Str., psi	7-day PCC Ten. Str., psi	14-day PCC Ten. Str., psi	28-day PCC Ten. Str., psi	90-day PCC Ten. Str., psi
IL-3_6_10	GB	2																				
IL-3_6_10	SS	1																				
IL-3_7_07	PC	5							3500								650					
IL-3_7_07	PC	5							3500								650					
IL-3_7_07	AC	4																				
IL-3_7_07	AC	4																				
IL-3_7_07	PC	3																				
IL-3_7_07	PC	3																				
IL-3_7_07	GB	2																				
IL-3_7_07	GB	2																				
IL-3_7_07	SS	1																				
IL-3_7_07	SS	1																				
IL-3_7_10	PC	5							3500								650					
IL-3_7_10	AC	4																				
IL-3_7_10	PC	3																				
IL-3_7_10	GB	2																				
IL-3_7_10	SS	1																				
IL-3_8_06	PC	5							3500								650					
IL-3_8_06	AC	4																				
IL-3_8_06	PC	3																				
IL-3_8_06	GB	2																				
IL-3_8_06	SS	1																				
PA-5	PC	5							3500													
PA-5	AC	4																				
PA-5	PC	3																				

Table FF.54. PCC strength characterization for rehabilitation with JPCP or CRCP model development and calibration.

SHRP ID	Layer Type	Layer No.	Existing PCC Comp. Str., psi	Existing PCC Elastic Mod., psi	Existing PCC Flexural Str., psi	Existing PCC Tensile Str., psi	7-day PCC Comp. Str., psi	14-day PCC Comp. Str., psi	28-day PCC Comp. Str., psi	90-day PCC Comp. Str., psi	7-day PCC Elastic Modulus, psi	14-day PCC Elastic Modulus, psi	28-day PCC Elastic Modulus, psi	90-day PCC Elastic Modulus, psi	7-day PCC Flex. Str., psi	14-day PCC Flex. Str., psi	28-day PCC Flex. Str., psi	90-day PCC Flex. Str., psi	7-day PCC Ten. Str., psi	14-day PCC Ten. Str., psi	28-day PCC Ten. Str., psi	90-day PCC Ten. Str., psi
PA-5	GB	2																				
PA-5	SS	1																				
WI-1	PC	6							3500													
WI-1	AC	5																				
WI-1	PC	4																				
WI-1	AC	3																				
WI-1	GB	2																				
WI-1	SS	1																				

Table FF.54. PCC strength characterization for rehabilitation with JPCP or CRCP model development and calibration, continued.

SHRP ID	Layer Description	Layer Type	Layer No.	Existing PCC Comp. Str., psi	Existing PCC Elastic Mod., psi	Existing PCC Flexural Str., psi	Existing PCC Tensile Str., psi
AL_IH_20E_183.0	PCC-JPCP	PC	4	7874	6100000	843	590
AL_IH_20E_183.0	Crushed stone	GB	3				
AL_IH_20E_183.0	A-2-5	GS	2				
AL_IH_20E_183.0	A-6	SS	1				
AL_IH_59N_235.5	PCC-JPCP	PC	4	7818	4800000	840	588
AL_IH_59N_235.5	A-1-a	GB	3				
AL_IH_59N_235.5	A-6	GS	2				
AL_IH_59N_235.5	A-6	SS	1				

Table FF.54. PCC strength characterization for rehabilitation with JPCP or CRCP model development and calibration, continued.

SHRP ID	Layer Description	Layer Type	Layer No.	Existing PCC Comp. Str., psi	Existing PCC Elastic Mod., psi	Existing PCC Flexural Str., psi	Existing PCC Tensile Str., psi
CA_IH_8E_43.4	PCC-JPCP	PC	4	7091	3030000	800	560
CA_IH_8E_43.4	AC Treated Material	AC	3				
CA_IH_8E_43.4	A-1-a	GS	2				
CA_IH_8E_43.4	A-1-b	SS	1				
FL_IH_10E_214.7	PCC-JPCP	PC	4	5904	3720000	730	511
FL_IH_10E_214.7	Cement Treated Material	TB	3				
FL_IH_10E_214.7	A-2-4	GS	2				
FL_IH_10E_214.7	A-2-4	SS	1				
GA_IH_16W_59.9	PCC-JPCP	PC	4	5969	3750000	734	513
GA_IH_16W_59.9	AC Treated Material	AC	3				
GA_IH_16W_59.9	River-run gravel	GS	2				
GA_IH_16W_59.9	A-1-b	SS	1				
IA_IH_80W_87.7	PCC-JPCP	PC	4	6915	4600000	790	553
IA_IH_80W_87.7	AC Treated Material	AC	3				
IA_IH_80W_87.7	Crushed stone	GS	2				
IA_IH_80W_87.7	A-2-4	SS	1				
NE_IH_80W_420.1	PCC-JPCP	PC	4	8233	4477000	862	603
NE_IH_80W_420.1	Cement Treated Material	TB	3				
NE_IH_80W_420.1	A-1-b	GS	2				
NE_IH_80W_420.1	A-1-b	SS	1				
SD_IH_29S_174	PCC-JPCP	PC	4	7850 (28-day)			
SD_IH_29S_174	Lime Treated Material	TB	3				
SD_IH_29S_174	A-6	GS	2				
SD_IH_29S_174	A-6	SS	1				
WI_IH_43N	PCC-JPCP	PC	4	9290 (28-day)			
WI_IH_43N	A-6	GB	2				
WI_IH_43N	A-6	SS	1				