

# TABLE OF CONTENTS

---

<b>100</b>	<b>INTRODUCTION.....</b>	<b>100-1</b>
100.1	Purpose of the Design Manual.....	100-1
100.2	Intended Users.....	100-1
100.3	Description of Chapters.....	100-2
100.4	Updates.....	100-2
<b>110</b>	<b>PROJECT DEVELOPMENT OVERVIEW.....</b>	<b>110-1</b>
110.1	General.....	110-1
110.2	References.....	110-1
110.2.1	Long-Range Planning References.....	110-1
110.2.2	Near-Term Planning References.....	110-1
110.2.3	Project-Specific References.....	110-2
110.3	Project Development Sequence.....	110-3
110.3.1	Planning.....	110-12
110.3.2	Phase I, Project Scoping and Preliminary Design.....	110-13
110.3.3	Phase II, Final Design.....	110-16
110.3.4	Phase III, Construction.....	110-16
<b>120</b>	<b>PLANNING AND PROGRAMMING.....</b>	<b>120-1</b>
120.1	General.....	120-1
120.2	References.....	120-2
120.2.1	Specific NMDOT Planning Resources.....	120-2
120.3	Definitions.....	120-4
120.4	Major Planning Efforts.....	120-5
120.4.1	Long-Range Planning.....	120-5
120.4.2	Near-Term Programming.....	120-6
120.4.3	Project Definition.....	120-7
120.5	Documentation.....	120-10
<b>130</b>	<b>CONCEPTUAL DESIGN AND ENVIRONMENTAL REVIEW.....</b>	<b>130-1</b>
130.1	General.....	130-1
130.2	References.....	130-2
130.2.1	NMDOT-Specific References.....	130-2
130.3	Definitions.....	130-3
130.4	Scoping Report and Preliminary Field Review.....	130-5
130.5	Location Study Procedures.....	130-7
130.5.1	Phase IA, Initial Evaluation of Alternatives.....	130-7
130.5.2	Phase IB, Detailed Evaluation of Alternatives.....	130-7
130.5.3	Combined Phase IA/IB Study.....	130-8
130.6	Phase IC, Environmental Documentation and Processing.....	130-8

130.7	Documentation.....	130-9
<b>140</b>	<b>DESIGN SUBMITTALS.....</b>	<b>140-1</b>
140.1	General.....	140-1
140.2	Design Process Overview.....	140-1
140.3	Plan Distribution and Inspection Invitation Lists .....	140-2
140.4	Preliminary Design.....	140-2
140.5	Grade and Drain .....	140-3
140.6	Plan-in-Hand.....	140-4
140.7	Plans, Specifications and Estimates (PS&E) .....	140-5
	<b>140.7.1</b> PS&E Production Submittal Requirements .....	140-5
	<b>140.7.2</b> PS&E Reviews.....	140-7
140.8	Production Plans.....	140-13
140.9	Formatting Guidelines .....	140-14
	<b>140.9.1</b> Turnout Build Notes Examples.....	140-14
	<b>140.9.2</b> Structure Build Notes Examples.....	140-15
140.10	Preparing Contract Documents.....	140-16
140.11	Documentation.....	140-18
<b>150</b>	<b>PUBLIC INVOLVEMENT AND HEARINGS .....</b>	<b>150-1</b>
150.1	General.....	150-1
150.2	References for Public Involvement Requirements and Processes .....	150-2
	<b>150.2.1</b> NMDOT-Specific References.....	150-2
150.3	Definitions.....	150-3
150.4	General Procedures and Concepts .....	150-4
	<b>150.4.1</b> Long-Range Planning and Programming.....	150-5
	<b>150.4.2</b> Phases IA and IB of the Location Study Procedures .....	150-6
	<b>150.4.3</b> Phase IC Environmental Documentation .....	150-7
	<b>150.4.4</b> Phase ID Preliminary Design, Phase II Final Design, and Phase III Construction.....	150-8
150.5	Documentation.....	150-9
<b>200</b>	<b>DOCUMENTATION.....</b>	<b>200-1</b>
200.1	General.....	200-1
200.2	Purpose.....	200-1
200.3	Certification of Documents.....	200-1
200.4	Project Decisions Summary.....	200-1
200.5	Design Criteria .....	200-2
200.6	Design Documents.....	200-3
200.7	Alternative Project Delivery Methods.....	200-5
<b>210</b>	<b>SPECIAL DOCUMENTATION PROCEDURES.....</b>	<b>210-1</b>
210.1	General.....	210-1
210.2	Design Exceptions, Design Variances, and ADA Design Variances.....	210-1

210.2.1	Design Criteria Authority.....	210-1
210.2.2	Design Exception Criteria.....	210-2
210.2.3	Design Variance Criteria.....	210-4
210.2.4	Evaluating and Analyzing Project Criteria.....	210-4
210.2.5	Documentation of Design Exceptions, Variances, and ADA Design Variances.....	210-6
210.2.6	Review and Approval.....	210-7
210.2.7	Repository and Follow-up Requirements.....	210-11
210.2.8	Documentation.....	210-12
<b>210.3</b>	<b>Interchange Access Change Request (IACR) Procedures .....</b>	<b>210-12</b>
210.3.1	Legislation and Regulations.....	210-13
210.3.2	Applicability of FHWA Policy.....	210-15
210.3.3	Compliance with Federal Regulations .....	210-15
210.3.4	Determination of When an IACR is Required.....	210-16
210.3.5	FHWA Internal Delegation of Authority for Approving an Access Request .....	210-18
210.3.6	Timing of an IACR Submittal.....	210-19
210.3.7	New Mexico IACR Process.....	210-19
210.3.8	Methods and Assumptions Document.....	210-22
210.3.9	FHWA Eight Policy Point Requirements .....	210-25
210.3.10	General Information Required in an IACR .....	210-40
210.3.11	Locked Gate Access .....	210-42
210.3.12	Role of the NMDOT Access Control Committee.....	210-43
<b>220</b>	<b>VALUE ENGINEERING .....</b>	<b>220-1</b>
220.1	General.....	220-1
220.2	References .....	220-2
220.2.1	Federal Laws and Codes.....	220-2
220.2.2	Design Guidance.....	220-2
220.3	Definitions.....	220-3
220.4	NMDOT VE Program.....	220-4
220.4.1	Selecting Projects for VE Analysis .....	220-4
220.4.2	VE Study Team Members.....	220-9
220.4.3	Scheduling VE Studies .....	220-10
220.4.4	NMDOT Statewide VE Program Reporting.....	220-11
220.5	NMDOT VE Procedure .....	220-12
220.5.1	VE Procedure Overview .....	220-12
220.5.2	Pre-Study Preparation .....	220-12
220.5.3	VE Study Reporting Requirements.....	220-13
220.5.4	Implementing VE Recommendations .....	220-14
220.6	VE Cost Proposal.....	220-15
220.7	Documentation.....	220-15

<b>300</b>	<b>CADD STANDARDS .....</b>	<b>300-1</b>
300.1	General.....	300-1
300.2	References .....	300-1
300.2.1	NMDOT CADD Drafting Standards .....	300-1
300.2.2	NMDOT CADD Resource Files .....	300-2
300.2.3	Other Drawing Resources.....	300-2
<b>400</b>	<b>SURVEYING .....</b>	<b>400-1</b>
400.1	General.....	400-1
400.2	References .....	400-1
400.3	New Heading .....	400-2
<b>500</b>	<b>RIGHT-OF-WAY.....</b>	<b>500-1</b>
500.1	General.....	500-1
500.2	References .....	500-1
<b>510</b>	<b>ACCESS CONTROL .....</b>	<b>510-1</b>
510.1	General.....	510-1
510.2	References .....	510-2
510.3	Definitions.....	510-3
510.4	Requests for Access to a Controlled-Access Highway .....	510-4
510.4.1	Requests for Access Changes .....	510-5
510.4.2	Minor Modifications .....	510-5
510.4.3	New Access or Major Modifications.....	510-5
510.5	Clarifications of SAMM Content .....	510-8
510.5.1	Deceleration and Acceleration Lane Lengths.....	510-8
510.6	Considerations in Implementing Access Management .....	510-9
510.6.1	Legal Access .....	510-10
510.6.2	Functional Classification.....	510-10
510.6.3	Location and Area Type.....	510-11
510.6.4	Shared Access.....	510-12
510.6.5	Variances and Exceptions .....	510-14
<b>600</b>	<b>INVESTIGATION OF SOILS, ROCK, AND SURFACING MATERIALS.....</b>	<b>600-1</b>
600.1	General.....	600-1
600.2	References .....	600-1
600.3	Geotechnical Investigation Procedure .....	600-2
600.4	Permits and Traffic Control.....	600-2
600.5	Foundation Exploration Program.....	600-3
600.6	Subsurface Exploration Methods .....	600-3
600.7	Subsurface Exploration Requirements .....	600-3
600.8	Laboratory Testing .....	600-3
600.9	Structure Foundation Recommendations .....	600-3

<b>600.10</b>	Documentation.....	600-4
<b>610</b>	<b>GEOTECHNICAL ANALYSIS .....</b>	<b>610-1</b>
<b>610.1</b>	General.....	610-1
<b>610.2</b>	References .....	610-2
<b>610.3</b>	Geotechnical Scoping Report (Scoping Phase or Phase IA/IB) .....	610-3
<b>610.4</b>	Preliminary Geotechnical Report (Phase ID, Preliminary Design).....	610-3
<b>610.5</b>	Preliminary Foundation Report (Phase ID, Preliminary Design).....	610-5
<b>610.6</b>	Final Geotechnical Report (Phase II, Final Design).....	610-6
<b>610.7</b>	Final Foundation Report (Phase II, Final Design).....	610-7
<b>610.8</b>	Documentation.....	610-8
<b>620</b>	<b>SURFACING MATERIALS AND PAVEMENT DESIGN .....</b>	<b>620-1</b>
<b>620.1</b>	General.....	620-1
<b>620.2</b>	References .....	620-3
<b>620.3</b>	Pavement Designer Approval Procedure.....	620-3
<b>620.4</b>	Field Investigation .....	620-4
	620.4.1 Safety and Utility Coordination.....	620-5
	620.4.2 Minimum Requirements.....	620-6
	620.4.3 Additional Requirements for Existing Roadways.....	620-7
	<b>620.1.1</b> Additional Requirements for New or Reconstruction Projects.....	620-7
<b>620.2</b>	Falling Weight Deflectometer Testing.....	620-8
	<b>620.2.1</b> Minimum Equipment Requirements .....	620-8
	620.4.4 Testing Procedures .....	620-9
	<b>620.2.2</b> Final Report .....	620-9
<b>620.3</b>	Laboratory Testing .....	620-10
<b>620.4</b>	Flexible Pavement Design Procedure Policy .....	620-10
	620.4.5 Minimum Pavement Design Life.....	620-10
	620.4.6 Probabilistic Design Reliability .....	620-11
	<b>620.4.1</b> Serviceability Index .....	620-12
	<b>620.4.2</b> Regional Design Factors and Performance Graded (PG) Binder Grade.....	620-12
	620.4.7 R-Value .....	620-18
	620.4.8 NMDOT Structural Layer Coefficients .....	620-22
	<b>620.4.3</b> Minimum Flexible Pavement Total Layer Thickness for New and Rehabilitation Projects ...	620-23
	<b>620.4.4</b> Open Graded Friction Course.....	620-23
	<b>620.4.5</b> HMA Type Selection Recommendations .....	620-23
	620.4.9 Asphalt Binder.....	620-24
	<b>620.4.6</b> Rehabilitation Project Considerations.....	620-26
	620.4.10 Temporary Detour Design.....	620-27
	<b>620.4.7</b> Bridge Replacement Approach and Departure Design.....	620-27
<b>620.5</b>	Rigid Pavement Design Procedure Policy .....	620-28

<b>620.5.1</b>	Field Investigation .....	620-28
<b>620.5.2</b>	Laboratory Testing .....	620-28
<b>620.5.3</b>	Portland Cement Concrete .....	620-28
<b>620.5.4</b>	Compressive Strength .....	620-28
<b>620.5.5</b>	Serviceability.....	620-28
620.4.11	Loss of Support (LS) for Base Materials .....	620-28
<b>620.5.6</b>	Load Transfer Coefficient (J).....	620-29
<b>620.5.7</b>	Overall Drainage Coefficient ( $C_d$ ).....	620-29
<b>620.5.8</b>	Other Design Considerations .....	620-30
<b>620.5.9</b>	Shoulders and Shoulder Widening .....	620-31
<b>620.5.10</b>	Rehabilitation Project Considerations.....	620-31
<b>620.5.11</b>	Bridge Replacement Approach and Departure Pavement Design.....	620-32
<b>620.5</b>	District-Developed Projects.....	620-32
620.5.1	Non-Federally Funded Project Pavement Designs.....	620-32
620.5.2	Federally Funded Project Pavement Designs .....	620-32
<b>620.6</b>	Life Cycle Cost Analysis .....	620-33
<b>620.5.12</b>	Alternative Bidding for Pavement Type Selection.....	620-34
620.6.1	Life Cycle Cost Analysis Determination .....	620-35
<b>620.5.13</b>	Pavement Rehabilitation Treatments and Year Intervals .....	620-35
<b>620.5.14</b>	Asphalt Cement Pavement Rehabilitation Average Unit Bid .....	620-36
620.6.2	Portland Cement Concrete Rehabilitation Average Unit Bid .....	620-36
<b>630</b>	<b>GEOSYNTHETICS.....</b>	<b>630-1</b>
<b>630.1</b>	General.....	630-1
<b>630.1.1</b>	Design Approach.....	630-1
<b>630.2</b>	References .....	630-2
<b>630.3</b>	Definitions.....	630-4
<b>630.4</b>	Separation, Filtration, and Stabilization .....	630-4
<b>630.5</b>	Pavement Subgrade.....	630-6
<b>630.6</b>	Subsurface Drainage.....	630-6
<b>630.7</b>	Erosion .....	630-7
<b>630.8</b>	MSE Retaining Walls.....	630-8
<b>630.9</b>	Reinforced Soil Slopes .....	630-9
<b>700</b>	<b>BRIDGES.....</b>	<b>700-1</b>
<b>700.1</b>	General.....	700-1
<b>700.2</b>	References .....	700-3
<b>710</b>	<b>RETAINING WALLS .....</b>	<b>710-1</b>
<b>710.1</b>	General.....	710-1
<b>710.2</b>	References .....	710-2
<b>710.3</b>	Wall Types.....	710-2

<b>710.3.1</b>	Cantilever Retaining Walls.....	710-5
<b>710.3.2</b>	MSE Walls.....	710-5
<b>710.3.3</b>	Gabion and Wire-Enclosed Tire Bale Retaining Walls.....	710-6
<b>710.4</b>	Design Process.....	710-6
<b>710.4.1</b>	Preliminary Wall Layout.....	710-6
<b>710.4.2</b>	Geotechnical Investigation and Analysis.....	710-7
<b>710.4.3</b>	Detailed Design and Plan Development.....	710-7
<b>720</b>	<b>NOISE BARRIERS.....</b>	<b>720-1</b>
<b>720.1</b>	General.....	720-1
<b>720.2</b>	References.....	720-1
<b>800</b>	<b>DRAINAGE.....</b>	<b>800-1</b>
<b>800.1</b>	General.....	800-1
<b>800.2</b>	References.....	800-1
<b>900</b>	<b>WORK ZONE SAFETY.....</b>	<b>900-1</b>
<b>900.1</b>	General.....	900-1
<b>900.1.1</b>	Policy Statement.....	900-1
<b>900.2</b>	References.....	900-2
<b>900.2.1</b>	Federal/State Laws and Codes.....	900-2
<b>900.2.2</b>	Design Guidance.....	900-2
<b>900.2.3</b>	Reference List.....	900-3
<b>900.2.4</b>	Web Resources.....	900-3
<b>900.3</b>	Definitions.....	900-4
<b>900.4</b>	Work Zone Safety and Mobility Rule (Subpart J).....	900-5
<b>900.4.1</b>	Transportation Management Plans.....	900-6
<b>900.4.2</b>	Project Classification.....	900-8
<b>900.4.3</b>	Determining the Project Classification.....	900-9
<b>900.4.4</b>	Exemption Process.....	900-10
<b>900.5</b>	Temporary Traffic Control Devices Rule (Subpart K).....	900-11
<b>900.5.1</b>	Providing Added Emphasis on Safety in Work Zone Policy.....	900-12
<b>900.5.2</b>	Use of Positive Protection Devices.....	900-13
<b>900.5.3</b>	Use of Exposure Control Measures.....	900-16
<b>900.5.4</b>	Use of Uniformed Law Enforcement.....	900-17
<b>900.5.5</b>	Safe Entry and Exit for Work Vehicles and Equipment.....	900-19
<b>900.5.6</b>	Payment for Traffic Control Features and Operations.....	900-20
<b>900.5.7</b>	Quality Guidelines.....	900-22
<b>900.6</b>	Temporary Traffic Control Strategies.....	900-26
<b>900.6.1</b>	Two-Lane, Two-Way Operation (TLTWO) on One Roadway of a Normally Divided Highway.....	900-26
<b>900.7</b>	Temporary Traffic Control Devices.....	900-28

<b>900.7.1</b>	Concrete Wall Barriers (CWB) .....	900-28
<b>900.7.2</b>	Other Devices .....	900-31
<b>900.8</b>	Procedures .....	900-33
<b>900.8.1</b>	Project Planning Stage .....	900-33
<b>900.8.2</b>	Project Design Stage.....	900-34
<b>900.8.3</b>	Project Construction Stage .....	900-34
<b>900.8.4</b>	Performance Assessment Stage.....	900-35
<b>900.9</b>	Work Zone Design Standards.....	900-36
<b>900.9.1</b>	Lane Widths.....	900-36
<b>900.9.2</b>	Buffer Space and Shy Distance .....	900-36
<b>900.9.3</b>	Construction Clear Zone.....	900-36
<b>900.9.4</b>	Drop-Offs.....	900-36
<b>900.9.5</b>	Reduced Speeds in Work Zones.....	900-39
<b>900.10</b>	Accommodation for Pedestrians, Bicyclists and Other Vehicle Types.....	900-47
<b>900.10.1</b>	Work Zone Policy for Pedestrians and Bicycles .....	900-47
<b>900.10.2</b>	Pedestrians.....	900-47
<b>900.10.3</b>	Bicycles .....	900-50
<b>900.10.4</b>	Motorcycles and Oversized Vehicles.....	900-51
<b>900.11</b>	Traffic Control Plan .....	900-52
<b>900.11.1</b>	Development.....	900-52
<b>900.11.2</b>	Traffic Control Plan Requirements .....	900-55
<b>900.12</b>	Training .....	900-56
<b>900.12.1</b>	Training for Design Personnel.....	900-57
<b>900.12.2</b>	Training for Personnel Involved with Implementation, Operation, Inspection, or Enforcement .....	900-59
<b>900.12.3</b>	Maintenance Personnel.....	900-60
<b>900.13</b>	Documentation.....	900-62
<b>900.13.1</b>	Work Zone Safety and Mobility Rule (Subpart J).....	900-62
<b>900.13.2</b>	Temporary Traffic Control Devices Rule (Subpart K) .....	900-62
<b>910</b>	<b>SIGNING AND PAVEMENT MARKINGS .....</b>	<b>910-1</b>
<b>910.1</b>	General.....	910-1
<b>910.2</b>	References .....	910-1
<b>910.2.1</b>	Federal/State Laws and Codes.....	910-1
<b>910.2.2</b>	Design Guidance.....	910-2
<b>910.3</b>	Definitions.....	910-3
<b>910.4</b>	Development of Signing Plans .....	910-3
<b>910.4.1</b>	General.....	910-3
<b>910.4.2</b>	Regulatory Signs.....	910-10
<b>910.4.3</b>	Warning Signs.....	910-16



<b>910.4.4</b>	Guide Signs for Conventional Roads.....	910-20
<b>910.4.5</b>	Guide Signs for Freeways and Expressways.....	910-25
<b>910.4.6</b>	Other Signs.....	910-33
<b>910.4.7</b>	School Area Signing.....	910-39
<b>910.4.8</b>	Railroad Signing.....	910-39
<b>910.4.9</b>	Bicycle and Multi-use Facility Signing.....	910-40
<b>910.4.10</b>	Sign Structure Design.....	910-42
<b>910.5</b>	Development of Pavement Marking Plans.....	910-43
<b>910.5.1</b>	General.....	910-43
<b>910.5.2</b>	Eradication.....	910-44
<b>910.5.3</b>	Pavement Markings.....	910-44
<b>910.5.4</b>	Raised Pavement Markers.....	910-54
<b>910.5.5</b>	Delineators .....	910-54
<b>910.6</b>	Documentation.....	910-55
<b>920</b>	<b>ILLUMINATION .....</b>	<b>920-1</b>
<b>920.1</b>	General.....	920-1
<b>920.2</b>	References .....	920-1
<b>920.2.1</b>	Federal/State Laws and Codes.....	920-2
<b>920.2.2</b>	Design Guidance.....	920-2
<b>920.3</b>	Definitions.....	920-3
<b>920.4</b>	Procedures .....	920-6
<b>920.4.1</b>	Warranting.....	920-7
<b>920.4.2</b>	Design Analysis .....	920-12
<b>920.4.3</b>	Lighting System Design.....	920-26
<b>920.4.4</b>	Agreements .....	920-36
<b>920.5</b>	Documentation.....	920-37
<b>930</b>	<b>INTELLIGENT TRANSPORTATION SYSTEMS.....</b>	<b>930-1</b>
<b>930.1</b>	General.....	930-1
<b>930.2</b>	References .....	930-2
<b>930.3</b>	Design Coordination.....	930-3
<b>930.4</b>	Systems Engineering .....	930-3
<b>930.5</b>	ITS Continuity Plan .....	930-4
<b>930.6</b>	Fiber Design .....	930-6
<b>930.7</b>	Closed Circuit Television (CCTV).....	930-6
<b>930.8</b>	Dynamic Message Signs (DMSs).....	930-7
<b>930.9</b>	Vehicle Detection Stations (VDS).....	930-7
<b>930.10</b>	Road Weather Information Stations .....	930-8
<b>930.11</b>	Geographical Information Systems Data .....	930-8
<b>930.12</b>	Smart Work Zones .....	930-9

<b>930.13</b>	Documentation.....	930-9
<b>1000</b>	<b>GEOMETRICS.....</b>	<b>1000-1</b>
<b>1000.1</b>	General.....	1000-1
<b>1000.2</b>	References.....	1000-2
<b>1000.2.1</b>	Federal/State Laws and Codes.....	1000-2
<b>1000.2.2</b>	Design Guidance.....	1000-2
<b>1000.3</b>	Definitions.....	1000-3
<b>1000.4</b>	Design Controls and Elements.....	1000-3
<b>1000.4.1</b>	Functional Class.....	1000-3
<b>1000.4.2</b>	Design Vehicle.....	1000-3
<b>1000.4.3</b>	Traffic Characteristics.....	1000-4
<b>1000.4.4</b>	Design Speed.....	1000-4
<b>1000.4.5</b>	Capacity.....	1000-4
<b>1000.4.6</b>	Access Control and Access Management.....	1000-4
<b>1000.4.7</b>	Pedestrian and Bicycle Facilities.....	1000-5
<b>1000.4.8</b>	Safety.....	1000-5
<b>1000.4.9</b>	Sight Distance.....	1000-5
<b>1000.4.10</b>	Drainage, Utilities and the Environment.....	1000-6
<b>1000.5</b>	Horizontal and Vertical Alignment.....	1000-6
<b>1000.5.1</b>	Horizontal Curves.....	1000-6
<b>1000.5.2</b>	Maximum Deflection Angle without a Horizontal Curve.....	1000-6
<b>1000.5.3</b>	Minimum Curve Length.....	1000-6
<b>1000.5.4</b>	Superelevation.....	1000-7
<b>1000.5.5</b>	Vertical Alignment.....	1000-8
<b>1000.6</b>	Cross Section Elements.....	1000-8
<b>1000.6.1</b>	Lane Width.....	1000-8
<b>1000.6.2</b>	Auxiliary Lanes.....	1000-8
<b>1000.6.3</b>	Shoulder Width.....	1000-8
<b>1000.6.4</b>	Minimum Cross Slope.....	1000-8
<b>1000.6.5</b>	Edge Treatments.....	1000-9
<b>1000.6.6</b>	Side Slopes.....	1000-10
<b>1000.6.7</b>	Roadside Elements.....	1000-11
<b>1000.7</b>	Intersection Geometrics.....	1000-11
<b>1000.8</b>	Documentation.....	1000-11
<b>1100</b>	<b>TRAFFIC SIGNALS.....</b>	<b>1100-1</b>
<b>1100.1</b>	General.....	1100-1
<b>1100.2</b>	References.....	1100-2
<b>1100.2.1</b>	Federal/State Laws and Codes.....	1100-2
<b>1100.2.2</b>	Design Guidance.....	1100-3

<b>1100.3</b>	Definitions.....	1100-4
<b>1100.4</b>	Procedures – Traffic Signals.....	1100-10
<b>1100.4.1</b>	Pre-Design.....	1100-11
<b>1100.4.2</b>	Design .....	1100-20
<b>1100.4.3</b>	Preparation of Plans.....	1100-51
<b>1100.4.4</b>	Signal Timing .....	1100-53
<b>1100.4.5</b>	Removing Existing Signals .....	1100-62
<b>1100.5</b>	Procedures – School Zone Flashing Beacons .....	1100-62
<b>1100.5.1</b>	Establish Need for Beacons and Obtain Approvals.....	1100-62
<b>1100.5.2</b>	School Zone Flashing Beacon Design.....	1100-63
<b>1100.6</b>	Documentation.....	1100-64
<b>1110</b>	<b>RAILROAD GRADE CROSSINGS AND RIGHT-OF-WAY .....</b>	<b>1110-1</b>
<b>1110.1</b>	General.....	1110-1
<b>1110.1.1</b>	Will Your Project Impact a Railroad?.....	1110-2
<b>1110.1.2</b>	Highway-Railroad Grade Crossings .....	1110-2
<b>1110.1.3</b>	General Occupation of Railroad Right-of-Way .....	1110-3
<b>1110.1.4</b>	The NMDOT Rail Bureau's Role .....	1110-4
<b>1110.2</b>	References .....	1110-4
<b>1110.2.1</b>	Federal/State Laws and Codes.....	1110-4
<b>1110.2.2</b>	National References.....	1110-4
<b>1110.2.3</b>	NMDOT References.....	1110-5
<b>1110.2.4</b>	Additional References .....	1110-5
<b>1110.3</b>	Procedure Guidance .....	1110-6
<b>1110.3.1</b>	New Mexico State Rail Plan.....	1110-6
<b>1110.3.2</b>	Railroad Right-of-Way Access or Construction .....	1110-6
<b>1110.3.3</b>	Section 130 Guidelines.....	1110-6
<b>1110.4</b>	Design Coordination.....	1110-7
<b>1110.5</b>	At-Grade Crossing Evaluation Guidance.....	1110-8
<b>1110.6</b>	Roadway Design Guidance .....	1110-8
<b>1110.7</b>	Documentation.....	1110-9
<b>1150</b>	<b>PEDESTRIAN AND BICYCLE SAFETY GUIDE AND COUNTERMEASURE SELECTION SYSTEM.....</b>	<b>1150-1</b>
<b>1150.1</b>	General.....	1150-1
<b>1150.2</b>	Methods.....	1150-1
<b>1150.2.1</b>	Interactive Selection.....	1150-2
<b>1150.2.2</b>	Location Specific.....	1150-2
<b>1150.3</b>	References .....	1150-3
<b>1150.3.1</b>	NMDOT-Specific References.....	1150-3
<b>1200</b>	<b>PEDESTRIAN FACILITIES .....</b>	<b>1200-1</b>
<b>1200.1</b>	General.....	1200-1

<b>1200.2</b>	References .....	1200-2
<b>1200.2.1</b>	Federal/State Laws and Codes .....	1200-2
<b>1200.2.2</b>	NMDOT References .....	1200-3
<b>1200.2.3</b>	Design Guidance .....	1200-3
<b>1200.2.4</b>	Supporting Information .....	1200-4
<b>1200.3</b>	Definitions .....	1200-4
<b>1200.4</b>	Policy .....	1200-6
<b>1200.4.1</b>	General .....	1200-6
<b>1200.4.2</b>	Jurisdiction .....	1200-6
<b>1200.4.3</b>	Transition Planning .....	1200-6
<b>1200.4.4</b>	Maintenance .....	1200-7
<b>1200.5</b>	ADA Requirements by Project Type .....	1200-7
<b>1200.5.1</b>	New Construction Projects .....	1200-7
<b>1200.5.2</b>	Alteration Projects .....	1200-8
<b>1200.5.3</b>	NMDOT ADA Design Exception and Design Variance Justification .....	1200-11
<b>1200.6</b>	Pedestrian Circulation Paths (PCPs) .....	1200-11
<b>1200.6.1</b>	Accessibility Criteria for Pedestrian Circulation Paths (PCPs) .....	1200-13
<b>1200.7</b>	Pedestrian Access Routes (PARs) .....	1200-14
<b>1200.7.1</b>	Accessibility Criteria for Pedestrian Access Routes (PARs) .....	1200-16
<b>1200.8</b>	Sidewalks .....	1200-19
<b>1200.8.1</b>	Sidewalk and Buffer Widths .....	1200-19
<b>1200.8.2</b>	Sidewalks at Driveways .....	1200-22
<b>1200.9</b>	Curb Ramps .....	1200-23
<b>1200.9.1</b>	Types of Curb Ramps .....	1200-23
<b>1200.9.2</b>	Blended Transitions .....	1200-28
<b>1200.9.3</b>	Design Considerations for Curb Ramps .....	1200-28
<b>1200.9.4</b>	Accessibility Criteria for Curb Ramps .....	1200-37
<b>1200.9.5</b>	Curb Ramp Drainage .....	1200-40
<b>1200.10</b>	Crosswalks .....	1200-41
<b>1200.10.1</b>	Designing Pedestrian Crossing Facilities .....	1200-41
<b>1200.10.2</b>	Crosswalks at Intersections .....	1200-42
<b>1200.10.3</b>	Midblock Pedestrian Crossings .....	1200-44
<b>1200.10.4</b>	Sight Distance at Crosswalks .....	1200-50
<b>1200.10.5</b>	Curb Extensions .....	1200-51
<b>1200.10.6</b>	Pedestrian Hybrid Beacon (PHB) .....	1200-53
<b>1200.10.7</b>	Leading Pedestrian Intervals .....	1200-56
<b>1200.11</b>	Raised Medians/ Pedestrian Refuge Islands .....	1200-57
<b>1200.11.1</b>	Accessibility Criteria for Raised Medians and Pedestrian Refuge Islands .....	1200-61
<b>1200.12</b>	Pedestrian Pushbuttons at Signals and Accessible Pedestrian Signals (APSS) .....	1200-62

<b>1200.12.1</b>	Accessibility Criteria for Pedestrian Signal Pushbuttons (including APSs).....	1200-63
<b>1200.12.2</b>	Accessible Pedestrian Signals (APSs) .....	1200-65
<b>1200.12.3</b>	On-Street Parking and Passenger Loading Zones .....	1200-65
<b>1200.13</b>	Pedestrian At-Grade Rail Crossings.....	1200-66
<b>1200.14</b>	Pedestrian Grade Separations (Structures).....	1200-67
<b>1200.14.1</b>	Pedestrian Bridges.....	1200-69
<b>1200.14.2</b>	Pedestrian Tunnels .....	1200-69
<b>1200.15</b>	Other Pedestrian Facilities.....	1200-70
<b>1200.15.1</b>	Transit Stops and School Bus Stops .....	1200-70
<b>1200.15.2</b>	Ramps Serving Transit Stops, Park & Ride Lots, Buildings, and Other Facilities .....	1200-73
<b>1200.15.3</b>	Railings and Handrails for Pedestrian Facilities .....	1200-74
<b>1200.15.4</b>	Shared Use Path (SUP).....	1200-76
<b>1200.15.5</b>	Other Pedestrian Facilities, Features, and Elements.....	1200-76
<b>1200.16</b>	Illumination and Signing .....	1200-77
<b>1200.17</b>	Work Zone Pedestrian Accommodation .....	1200-77
<b>1200.18</b>	Documentation.....	1200-77
<b>1210</b>	<b>BICYCLE FACILITIES .....</b>	<b>1210-1</b>
<b>1210.1</b>	General.....	1210-1
<b>1210.2</b>	References .....	1210-2
<b>1210.2.1</b>	Federal/State Laws and Codes.....	1210-2
<b>1210.2.2</b>	Design Guidance.....	1210-2
<b>1210.2.3</b>	Reference Documents.....	1210-3
<b>1210.3</b>	Procedures .....	1210-3
<b>1250</b>	<b>ROAD DIET GUIDE.....</b>	<b>1250-1</b>
<b>1250.1</b>	General.....	1250-1
<b>1250.2</b>	References .....	1250-3
<b>1250.3</b>	Scoping Report and Preliminary Field Review .....	1250-3
<b>1250.4</b>	Evaluation of Road Diet Candidates.....	1250-8
<b>1250.4.1</b>	Operational Performance.....	1250-10
<b>1250.4.2</b>	Safety Performance.....	1250-12
<b>1250.4.3</b>	Livability Performance .....	1250-14
<b>1250.5</b>	Implementation of Road Diets.....	1250-16
<b>1250.5.1</b>	Public Involvement .....	1250-16
<b>1250.5.2</b>	Road Diet Design Considerations .....	1250-17
<b>1250.5.3</b>	Trial and Temporary Installation of Road Diets .....	1250-19
<b>1250.6</b>	Evaluation of Road Diets .....	1250-20



# Acronyms and Key Terms

---

3R	resurfacing, restoration, and rehabilitation	DHV	design hourly volume
5DPM •	5-dimensional project management	DMSs	dynamic message signs
		DOJ	United States Department of Justice
		DWS	detectable warning surface
	<b>A</b>		<b>E</b>
AADT	average annual daily traffic	EA	Environmental Assessment
AASHTO	American Association of State Highway Transportation Officials	EF	equipment factor
ADA	Americans with Disabilities Act	EIS	Environmental Impact Statement
ADAAG	ADA Accessibility Guidelines	ELRS	edge line rumble strips
ADT	average daily traffic	EOP	end of project
ANSI	American National Standards Institute	ESALs	equivalent single-axle loads
AOS	apparent opening size	ETA	estimated time of arrival
APS	accessible pedestrian signal		<b>F</b>
AREMA	American Railway Engineering and Maintenance-of-Way Association	FAST	Fixing America's Surface Transportation Act
ASTM	American Society for Testing and Materials	FHWA	Federal Highway Administration
ATCS	adaptive traffic control system	FHWA HQ	FHWA Headquarters
ATSSA	American Traffic Safety Services Association	FHWA-NM	New Mexico Division of the Federal Highway Administration
AWG	american wire gauge	FONSI	Finding of No Significant Impact
	<b>B</b>	FRA	Federal Railroad Administration
BBS	battery backup system	FT	feet
BMPs	best management practices		<b>G</b>
BNSF	BNSF Railway	GDI	Grade and Drain Inspection
BOP	beginning of project	GIS	geographic information system
BPE	bicycle, pedestrian and equestrian	GPS	global positioning system
BUG	backlight, upright, and glare		<b>H</b>
	<b>C</b>		highway advisory radio
CAC	citizens advisory committee	HAR	Highway Capacity Manual
CADD	computer-aided drafting and design	HCM	Highway Capacity Software
CCTV	closed circuit television system	HCS	hot mix asphalt
CE	Categorical Exclusion	HMA	high-pressure sodium
CFR	Code of Federal Regulations	HPS	Highway Safety Improvement Program
CIR	cold in-situ recycled	HSIP	
CLE	Construction Liaison Engineer		<b>I</b>
CLRS	centerline rumble strips	IACR	interchange access change request
CSS	context sensitive solutions	IDD	Infrastructure Design Directive
CTADs	continuous tracking advance detectors	IESNA	Illuminating Engineering Society of North America
CVS	Certified Value Specialist	IMSA	International Municipal Signal Association
CWA	Clean Water Act	ISA	International Symbol of Accessibility
CWB	concrete wall barrier	ITE	Institute of Transportation Engineers
		ITS	Intelligent Transportation System

	<b>L</b>				<b>P</b>
LCCA	life cycle cost analysis		P.E.	professional engineer	
LDD	luminaire dirt depreciation		PAR	pedestrian access route	
LEDs	light emitting diodes		PCCP	Portland cement concrete pavement	
LLD	lamp lumen depreciation factor		PCP	pedestrian circulation path	
LOS	level of service		PDE	Project Development Engineer	
LRFD	Load and Resistance Factor Design		PDI	Preliminary Design Inspection	
			PG	performance graded	
	<b>M</b>		PIP	public involvement plan	
MAP-21	Moving Ahead for Progress in the 21st Century Act		PMTM	Program Management Team Meeting	
MF	maintenance factor		PRIIA	Passenger Rail Investment and Improvement Act of 2008	
MH	mounting height				
MMA	methyl methacrylate		PROWAG	Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way	
MOEs	measures of effectiveness		PS&E	Plans, Specifications, and Estimates	
MOU	memorandum of understanding		psi	pounds per square inch	
mph	miles per hour		PTOE	Professional Traffic Operations Engineer	
MPOs	Metropolitan Planning Organizations				
MSE	mechanically-stabilized earth				<b>R</b>
MTPs	Metropolitan Transportation Plans		RF	reduction factor	
MUTCD	Manual on Uniform Traffic Control Devices for Streets and Highways		RFP	request for proposal	
			ROD	Record of Decision	
	<b>N</b>		RPM	raised pavement marker	
NACTO	National Association of City Transportation Officials		RRFB	rectangular rapid flashing beacon	
NCHRP	National Cooperative Highway Research Program		RTIPs	Regional Transportation Improvement Programs	
NEC	National Electrical Code		RTPOs	Regional Transportation Planning Organizations	
NEMA	National Electrical Manufacturer's Association		RTPs	Regional Transportation Plans	
NEPA	National Environmental Policy Act		RWIS	Road Weather Information Stations	
NFPA	National Fire Protection Association				<b>S</b>
NHI	National Highway Institute		SAFETEA-LU	Safe Accountable Flexible Efficient Transportation Equity Act: A Legacy for Users	
NHS	National Highway System		SAMM	State Access Management Manual	
NMAC	New Mexico Administrative Code		SAVE	Society of American Value Engineers	
NMDCA	New Mexico Department of Cultural Affairs		SDDCTEA	Surface Distribution and Deployment Command Transportation Engineering Agency	
NMDOT	New Mexico Department of Transportation				
NM Bike Plan	Prioritized Statewide Bicycle Network Plan		SHRP	Strategic Highway Research Program	
NMPRC	New Mexico Public Regulation Commission		SHRP 2	Second Strategic Highway Research Program	
NMSA	New Mexico Statutes Annotated		SMA	stone matrix asphalt	
NPDES	National Pollutant Discharge Elimination System		SNPRM	Supplemental Notice of Proposed Rulemaking	
NPS	National Park Service		SRS	shoulder rumble strips	
			SSD	stopping sight distance	
OGFC	open graded friction course		STIP	Statewide Transportation Improvement Program	
OSHA	Occupational Safety and Health Administration		SUP	shared use paths	
			SWPPPs	Storm Water Pollution Prevention Plans	



**T**

TAC	Technical Advisory Committee
TCP	Traffic Control Plan
TIP	Transportation Improvement Program
TMA	Transportation Management Area
TMP	Transportation Management Plan
TODS	tourist-oriented directional signs
TRB	Transportation Research Board
TSE	Technical Support Engineer
TTC	temporary traffic control
TTCP	Technician Training and Certification Program
TWG	Technical Working Group

**U**

U.S.C.	United States Code
UFAS	Uniform Federal Accessibility Standards
UP	Union Pacific Railroad
UPS	uninterrupted power supply
USDOT	United States Department of Transportation
UTBC	untreated aggregate base course
UVC	Uniform Vehicle Code

**V**

VDS	vehicle detection systems
VE	value engineering

**W**

WGS84	World Geodetic System 1984
WMA	warm mix asphalt

**Z**

ZOI	zone of intrusion
-----	-------------------