



FDM 100 Introduction

Section All

No comments or changes are proposed to this chapter for 2024.

FDM 102 Glossary of Terms

Section 102.2

Revised definition of Crash Data to eliminate references to obsolete CAR system

Added a definition for "micromobility device".

FDM 103 Standard Forms

Section Form 110

Created new form Proprietary Product Certification Form 110, for Sole Source Approvals.

Section Form 121

Added new Forms 121-D and 121-E for Independent Department Review Certification Letters.

Section Form 122B

Revised form to expand identifying project information and improve usability.

FDM 104 Public Involvement

Section All

No comments or changes are proposed to this chapter for 2024.

FDM 105 Aesthetic Design

Section All

No comments or changes are proposed to this chapter for 2024.

FDM 106 Exempt Public Documents

Section All

No comments or changes are proposed to this chapter for 2024.



FDM 110 Initial Engineering Design Process

Section 110.2

Added resilience commitments from PD&E to Design phase

Section 110.3

Updated language for consistency with RDB 23-02, Revised FDM 122.1.1 Design Variations and Design Exceptions for Safety Projects.

Section 110.4.1

Provide new form for DDE approval of Sole Sourcing.

Added criteria for use of the APL for Local Agency and reference to FDM 115.4 for additional information.

Section 110.5.11

Added a resilience subsection 110.5.11 to direct documentation of resilience measures into the PSEE Resilience Tracker Module.

FDM 111 Final Engineering Design Process

Section 111.4.2

Removed prohibition on loading TSPs into ERC with phase submittal documents.

FDM 112 Update Engineering Design Process

Section All

No comments or changes are proposed to this chapter for 2024.

FDM 113 Right of Way Requirements

Section 113.3.3

Added reference to and revised Figure 113.1.

FDM 114 Resurfacing, Restoration, and Rehabilitation (RRR)

Section All

No comments or changes are proposed to this chapter for 2024.

FDM 115 Standard Plans and Standard Specifications

Section 115.4

Add new section, FDM 115.4, with criteria for APL for Local Agency.

FDM 116 Alternative Intersection and Interchange Review

Section All

No comments or changes are proposed to this chapter for 2024.

FDM 117 Monitor Existing Structures

Section All

No comments or changes are proposed to this chapter for 2024.

FDM 120 Design Submittals

Section 120.2.3.1

Revised TSP signing and Sealing to remove reference to DocuSign and make concurrence signatures "as needed".

Section 120.2.3.3

Added pavement construction to list of items not required to be shown on typical section information

Revised Exhibits 120-2, 120-3, and 120-4 to be consistent with requirements of FDM 913.

FDM 121 Bridge Project Development

Section 121.11.1

Clarified that ERC must be resolved prior to next phase submittal of project.

Section 121.12

Clarified "skewed superstructures" to say "complex or unusual geometry".

Section 121.13.2

Replaced requirement for table of contents with a requirement to use bookmark links.

Section 121.8.2

Added criteria for evaluation of fatigue limit.

Section 121.9.2

Updated language to remove legacy terminology "larger sheets or drawings folded" and "neatly written".

Section 121.all

Added reference to new Forms 121-D and 121-E

FDM 122 Design Exceptions and Design Variations

Section 122.4

Removed reference to obsolete Crash Location Verification Status Dashboard.

Clarified requirements for redaction of crash data

Section 122.6

Removed references to obsolete CAR system.

FDM 123 Engineering Design Estimate Process

Section All

No comments or changes are proposed to this chapter for 2024.

FDM 124 QA/QC Management Plan

Section All

No comments or changes are proposed to this chapter for 2024.

FDM 125 Quality Assurance

Section 125.2

Updated reference to Certificate of Compliance to FDM 124.5.

Section 125.3.2.6

Removed obsolete reference to Quality Management Dashboard.

FDM 126 Lane Repurposing Projects

Section

No comments or changes are proposed to this chapter for 2024.



FDM 127 Community Aesthetic Features

Section All

No comments or changes are proposed to this chapter for 2024.

FDM 128 Federal Aid Project Certification

Section All

No comments or changes are proposed to this chapter for 2024.

FDM 130 Signing and Sealing Documents

Section All

No comments or changes are proposed to this chapter for 2024.

FDM 131 Plans Processing

Section All

No comments or changes are proposed to this chapter for 2024.

FDM 132 PS&E Submittal Package Revisions

Section All

No comments or changes are proposed to this chapter for 2024.

FDM 133 Retention of Electronic Documents

Section All

No comments or changes are proposed to this chapter for 2024.

FDM 140 Lump Sum Projects

Section All

No comments or changes are proposed to this chapter for 2024.

FDM 150 Consultant Priority Matrices

Section All

No comments or changes are proposed to this chapter for 2024.

FDM 151 Revisions Packages

Section All

No comments or changes are proposed to this chapter for 2024.

FDM 152 Shop Drawing Submittals

Section 152.all

Replaced non-specific pronoun with "Consultant".

FDM 200 Context Based Design

Section All

No comments or changes are proposed to this chapter for 2024.

FDM 201 Design Controls

Section 201.4.2

Clarified spacing requirements for median openings within interchange ramp areas.

FDM 202 Speed Management

Section 202.2.1

Edited to provide consistency with Target Speed language found in FDM 201.5.1.

Section 202.3

Added 25 mph row to C4 to provide compatibility with minimum C4 Design Speed as shown FDM Table 201.5.1.

Updates Table 202.3.1 to include Raised Crosswalks option for 30 mph, to be consistent with text in 202.3.8.

Section 202.3.1

Updated table formatting for improved readability.

Section 202.3.8

Clarified criteria for raised crosswalks and added information about raised intersections.

Section 202.all

Revised Table 202.3.1 to reflect allowable speeds for use of RRFBs and corrected speeds associated with some techniques.

FDM 210 Arterials and Collectors

Section 210.10.3

Inserted additional reference to FDM 260.8 for bridge structures minimum clearances.

Section 210.2

Modified note 2 in Table 210.2.1 to allow more lane width flexibility for undivided 2 lane, 2 way roadways with Low-Speeds or Very Low-Speeds.

Section 210.2.5

Added notes to Exhibit 210-3 to provide information on the application of Exhibits 210-3 thru 210-6.

Section 210.3.2.2

Establishes that there are distinct width criteria (outside of this minimum) for separated bike lanes and refers to the section that defines that criteria

Section 210.3.2.3

Updated reference from FDM 228 to FDM 270.

Section 210.4.6

Added criteria to restrict edge line rumble striping to lanes of 11 feet wide or greater.

Section 210.5.1

Added a sentence to allow a reduced offset for right turn lanes with keyholes.

Section 210.7.1

Clarified how border width is addressed on existing roadways to reduce the need for Design Variations on existing roadways where the curb is not being moved.

FDM 211 Limited Access Facilities

Section 211.10

Relocated Table 211.10.2 into Section 211.10.1 but did not change any criteria.

Section 211.15

Revised criteria for establishing LA R/W to be consistent with Rule 14-97.

Section 211.18

Added new Section 211.18 to provide design guidance for bicycle and pedestrian facilities in interchange areas, based on study and request by Systems Implementation Office.

Section 211.2.1

Added criteria for lane width on ramps with 3 or more lanes.

Section 211.4

Added shoulder criteria for 3 Lane Ramps in Table 211.4.1.

Section 211.4.2.1

Updated verbiage for "shoulder rocking" used in conjunction with new concrete barriers.

Section 211.all

Edited to ensure consistency with revised Managed Lanes Guide.

FDM 212 Intersections

Section 212.11.6.1

Updated obsolete reference to FDM 228 with new reference to new FDM 270

Section 212.12.3

Added criteria for mountable truck aprons at non-roundabout intersections.

Section 212.6

Replaced the table of lane transition lengths with equations and notes.

Section 212-1

Updated Median Turn Lane Table in Exhibit 212-1 with additional design speeds and a modified format.

FDM 213 Modern Roundabouts (Fastest Path Tools)

Section 213.10

Provides guidance on carrying a separated bicycle lane through a roundabout with new Exhibit 213-6.



Section 213.3.6

Changed section title for clarity.

Section 213.4

Provided additional guidance to designers when developing entry and exit geometry for multi-lane roundabouts.

Section 213.5

Modified figure to clarify guidance for spiral transitions on multi-lane roundabouts.

Section 213.6

Add title to existing figure and renumber existing titles.

Section 213.7.2

Revised criteria for multilane truck entry.

Section 213.8.2

Moved Bicycle Ramp Criteria to FDM223.

Section 213.8.3

Provided refuge island options to be used at roundabouts.

FDM 214 Driveways

Section 214.1.2

Clarifies that the Access Management Review Committee (AMCR) resolves deviations from criteria for driveways and medians.

Section 214.3.6.2

Added reference to FDM 211.15 for R/W requirements.

Updated spacing requirements around interchanges to be consistent with Rule 14-97 and clarified application of posted speeds.

FDM 215 Roadside Safety

Section 215.2.2

Added row to Table 215.2.2 with reference to FDM 223.5 for offset criteria to on-street bicycle/micromobility parking.

Section 215.3.2

Added requirements to address the case where a canal hazard's resulting barrier is closer to the roadway and within the clear zone.

Section 215.4.5.4

Replaced Figure 215.4.5 with updated graphic to provide consistency with SDG 2.6 (Vehicular Collision).

FDM 216 Earthwork**Section All**

No comments or changes are proposed to this chapter for 2024

FDM 220 Railroads**Section 220.3.2**

Updated SDG reference for crash wall requirements.

Section 220.3.5

Revised criteria to direct designer to SDG 2.6 for evaluation of need for crash wall protection.

FDM 222 Pedestrian Facilities**Section 222.2.1**

Modifying sidewalk requirement based on research showing heightened pedestrian safety concerns in C3C.

Section 222.2.3.2

Added reference to FDM 230 to assist in finding midblock crossing marking criteria.

FDM 223 Bicycle Facilities**Section 223.1**

Added reference to additional sources for bicycle facility criteria.

Section 223.2

Added Bicycle Ramp as a bicycle facility

Updated Figure numbers to reflect the addition of two new Figures; 223.2.1 & 223.2.

Section 223.2.1

Provided clarification on when to mark paved shoulders as bicycle lanes, when other facilities should be considered in lieu of bicycle lanes, and added reference to additional guidance

Section 223.2.1.1

Provided clarification on the width needed to accommodate a bicyclist next to a 10-ft travel lane.

Section 223.2.1.3

Clarified that keyhole lanes are not required if separating the bicycle lane prior to the right turn lane, bus bay, merge lane, or parking lane.

Added language clarifying that there are separate design criteria for keyhole lanes adjacent to on-street parking

Section 223.2.2, 223.2.2.1, 223.2.1

Revised “marked shoulder” criteria to be consistent with national practices and moved requirement from FDM 223.2.2.1 to 223.2.1.

Section 223.2.4

Clarified how to use separated bicycle lanes when approaching interchanges and referenced criteria for transitioning between elevations.

Section 223.2.4.1

Added reference to appropriate curb types to use for separated bicycle lanes

Section 223.2.4.2

Introduces new criteria for optional Sidewalk Level Separated Bicycle Lanes

Section 223.2.4.4

Updated minimum separated bicycle lane widths based on research and new guidance

Section 223.2.5

Moved Bike Ramp criteria from 213.8.2 to Bicycle Chapter

Introduced new criteria for curb types to be used with separated bicycle lanes

Section 223.2.6

Moved bicycle ramp criteria from FDM 213 into new section 223.2.6 due to use of bike ramps outside of a roundabout

Section 223.5

Added criteria and figure for optional bicycle and micromobility device parking.

FDM 224 Shared Use Paths

Section 224.18

Updated reference from FDM 228 to FDM 270 and FDM 944.

Section 224.4.1

Provided guidance on shared-use path widths on vehicular bridges.

Section 224.7

Clarified that horizontal clearance includes required clear widths of shared-use paths on vehicular bridges as well as ped/bike bridges.

FDM 225 Public Transit Facilities

Section All

No comments or changes are proposed to this chapter for 2024.

FDM 226 Patterned Pavement and Architectural Pavers

Section All

No comments or changes are proposed to this chapter for 2024.

FDM 227 Freight - Under Development

Section All

No comments or changes are proposed to this chapter for 2024.

FDM 228 Landscape Design

Section All

No comments or changes are proposed to this chapter for 2024.

FDM 229 Selective Clearing and Grubbing Design

Section All

No comments or changes are proposed to this chapter for 2024.



FDM 230 Signing and Pavement Marking

Section 230.3.1

Revised Section text and Table to provide consistency with Standard Specifications.

Section 230.3.1.3

Removed references to Hot Applied High Friction Thermoplastic from FDM 230.3.1 Table 230.3.1 as this product is no longer available.

Section 230.6.9

Provided new criteria for signing and pavement marking of bicycle and pedestrian facilities through interchange areas.

Section 230.all

Modify figures from black and white drawings into full color to better show signing and pavement marking details.

FDM 231 Lighting

Section 231.1

Added general requirement for the design and installation of lighting systems to comply with the National Electrical Code (NEC).

Section 231.2

Revised the maximum lighting value requirement to simplify the design process and make it practical for larger signalized intersections

Section 231.3.2.1.2 (New)

Added new section 231.3.2.1.2 for Isolated Lighting Intersections to address cases where lighted intersections have no lighting on the approach corridors. Made related modifications to FDM 231.3.3.

Section 231.3.7 (New)

Added new section for Arterial Lighting Retrofit process as cost-saving option to upgrading existing lighting in certain conditions.

FDM 232 Signalization

Section 232.1

Added reference to the National Electric Code to support use of code requirements when performing Voltage Drop calculations.

Section 232.7

Broken link was repaired.

FDM 233 Intelligent Transportation Systems (ITS)

Section 233.4.2

Revised criteria for pull, splice, and junction boxes to ensure adequate placement above drainage features.

FDM 240 Transportation Management Plan

Section 240.2.1.9

Removed superfluous wording.

Added language to address shuttle systems and phasing in bike/ped TTC Plans.

Section 240.2.2.15

Revised windspeed to 100 mph to align the Probability of Exceedance of the design wind speed for all overhead sign, lighting, and signal supports, including temporary supports.

Added screw anchor option along with zinc and galvanized options per industry feedback regarding mounting temporary light poles to temporary barriers.

Added screw anchor option along with zinc and galvanized options per industry feedback regarding mounting temporary light poles to temporary barriers.

Section 240.2.2.8

Revised windspeed to 100 mph to align the Probability of Exceedance of the design wind speed for all overhead sign, lighting and signal supports, including temporary supports.

FDM 241 Lane Closure Analysis

Section All

No comments or changes are proposed to this chapter for 2024.

FDM 242 Traffic Pacing Design

Section All

No comments or changes are proposed to this chapter for 2024.

FDM 243 Portable Changeable Message Signs

Section All

No comments or changes are proposed to this chapter for 2024.

FDM 250 Hydraulic Data and Agency Permits

Section All

No comments or changes are proposed to this chapter for 2024.

FDM 251 Stormwater Runoff Control Concept (SRCC) Development

Section All

No comments or changes are proposed to this chapter for 2024.

FDM 260 Bridge Structures

Section 260.6

Revised criteria to require a Design Variation when existing bridge vertical clearance is less than 14.5 feet.

FDM 261 Structural Supports for Signs, Signals, Lighting, ITS, and Tolling

Section 261.1

Updated sign and structures list of limitations to use correct terminology for span length and truss depth.

FDM 262 Retaining Walls

Section All

No comments or changes are proposed to this chapter for 2024.



FDM 263 Geosynthetic Design

Section All

No comments or changes are proposed to this chapter for 2024.

FDM 264 Noise Walls and Perimeter Walls

Section 264.3

Edited Blue Box to provide correct reference to FDM 264.3.

FDM 265 Reinforced Concrete Box and Three-Sided Culverts

Section All

No comments or changes are proposed to this chapter for 2024.

FDM 266 Bicycle and Pedestrian Bridges

Section 266.2

Corrected title of column to remove erroneous reference to "Design Firm"

FDM 270 Planting Designs

Section All

No comments or changes are proposed to this chapter for 2024.

No comments or changes are proposed to this chapter for 2024.

FDM 272 Hardscape Designs

Section All

No comments or changes are proposed to this chapter for 2024.

FDM 273 Landscape Maintenance Guide

Section All

No comments or changes are proposed to this chapter for 2024.

FDM 274 Selective Clearing and Grubbing

Section All

No comments or changes are proposed to this chapter for 2024.

FDM 275 Tree and Palm Relocation

Section All

No comments or changes are proposed to this chapter for 2024.

FDM 276 Outdoor Advertising Signs

Section All

No comments or changes are proposed to this chapter for 2024.

FDM 901 Sequence of Plans Preparation

Section 901.4.1

Removed Project Layout Sheet from list of required items. Sheet no longer needed with use of Large Format plan sheets.

Section all

Edited to ensure titles of items are consistent with latest CADD standards.

FDM 902 Estimated Quantities Report

Section All

No comments or changes are proposed to this chapter for 2024.

FDM 904 Landscape Opportunity Plan

Section All

No comments or changes are proposed to this chapter for 2024.

FDM 905 RoadwayCross Sections

Section All

No comments or changes are proposed to this chapter for 2024.



FDM 906 Bridge Hydraulic Recommendations Sheet

Section All

No comments or changes are proposed to this chapter for 2024.

FDM 910 Key Sheet and Signature Sheet

Section 910.2.6

Updated names of Roadway Plans to be consistent with CADD naming conventions.

Section all

Revised sheet names in Exhibits to match latest CADD Standards sheet names.

FDM 911 Model Management Sheet

Section All

No comments or changes are proposed to this chapter for 2024.

FDM 912 Project Control

Section All

No comments or changes are proposed to this chapter for 2024.

FDM 913 Typical Sections

Section All

No comments or changes are proposed to this chapter for 2024.

FDM 914 General Notes

Section 914.2

Added new section 914.2.3 Bridge Clearance, which had been left out when transitioning from 300 series.

FDM 915 Roadway Plan-Profile Sheet

Section 915.1

Profile portion on Exhibit 915-1 was updated to annotate correctly. Existing line work will now show grey instead of black. Partial station callouts for curb returns were added to convey the design intent.

Section 915.2

Clarified requirement to display but not label existing features as necessary to convey design intent.

Section 915.2.1

Clarified that the proposed, rather than existing, drainage structure is required to have specified level of labeling.

FDM 916 Drainage Structures Sheet

Section 916.3

Corrects values in Exhibit 916-1.

FDM 917 Stormwater Facilities

Section All

No comments or changes are proposed to this chapter for 2024.

FDM 918 Drainage Map

Section All

No comments or changes are proposed to this chapter for 2024.

FDM 919 Lateral Ditches Sheets

Section All

No comments or changes are proposed to this chapter for 2024.

FDM 920 Soil Survey and Core Boring Data

Section All

Updated an exhibit to be consistent with naming convention.

FDM 921 Temporary Traffic Control Plan

Section All

No comments or changes are proposed to this chapter for 2024.

FDM 922 Miscellaneous Structures

Section All

No comments or changes are proposed to this chapter for 2024.

FDM 923 Utility Adjustments

Section All

No comments or changes are proposed to this chapter for 2024.

FDM 924 Selective Clearing and Grubbing

Section all

Updated exhibits to be consistent with naming convention.

FDM 940 Signing and Pavement Marking Plans

Section 940.4.1

Change rumble strip labeling requirement to remove labeling of begin and end limits.

FDM 941 Signalization Plans

Section All

No comments or changes are proposed to this chapter for 2024.

FDM 942 Intelligent Transportation Systems (ITS) Plans

Section All

No comments or changes are proposed to this chapter for 2024.

FDM 943 Lighting Plans

Section All

No comments or changes are proposed to this chapter for 2024.



FDM 944 Landscape Plans

Section All

No comments or changes are proposed to this chapter for 2024.

FDM 948 Utility Work by Highway Contractor (UWHC) Plans

Section All

No comments or changes are proposed to this chapter for 2024.

FDM D217 Developmental Design Criteria: Diverging Diamond Interchanges

Section All

No comments or changes are proposed to this chapter for 2024.