

**IMPERIAL ROAD DESIGN MANUAL
REVISIONS January, 2015**

CHAPTER 2A

- Page 2A-1 – Revised the following language at the end of the paragraph under “PRELIMINARY ENGINEERING AUTHORIZATION from; “Funding Allocation/Verification/Submittal Process see the IIM-LD-68.” To; Funding Allocation/Verification/Submittal Process see the “IIM-PMO-3.4.”

CHAPTER 2B

- Page 2B-10 – Revised the following language in the first sentence under “AVAILABILITY OF PLANS” from; “The availability of plans is to be made in accordance with instructions contained in IIM LD- 68 and PM-105.” To; The availability of plans is to be made in accordance with instructions contained in “IIM-PMO-3.4” and PM-105.

CHAPTER 2C

- Page 2C-6 – Revised the following language in the fourth sentence under “CURVE DATA” from; “Remaining curve data (degree; tangent; length; radius; curve stations superelevation rate (E), superelevation runoff (Lr) and design velocity (V)) are to be shown...” To; Remaining curve data (degree; tangent; length; radius; curve stations superelevation rate (E), superelevation runoff (Lr), design velocity (V) “and widening (W)”) are to be shown...

CHAPTER 2D

- Page 2D-10 – Revised the following language in the second paragraph under “DEPICTING HORIZONTAL ALIGNMENT ON PLANS” from; “...sample plan sheet Figure 2D-1.” To; ... sample plan sheet “in Chapter 2H, Figure 2H-31”.
- Page 2D-11 – Revised the following language in the ninth paragraph from; “See IIM LD-140 for additional analysis information.” To; See “VDOT Survey Manual, Chapter 8” for additional analysis information.
- Page 2D-12 – Revised the following language in the last sentence on the page from; “...as shown in Figure 2D-3.” To; ... as shown in “Chapter 2H, Figure 2H-35.”
- Page 2D-15 – Replaced “FIGURE 2D-4” LABEL with “FIGURE 2D-1”.

- Page 2D-17 – Replaced “*FIGURE 2D-5*” LABEL with “*FIGURE 2D-2*”.

Revised the following language in the next to the last sentence on the page from; “...as shown in Figure 2D-5.” To; ... as shown in Figure “2D-2.”

- Page 2D-18 – Revised the following language in the last sentence in the third paragraph under “PLOTTING ENTRANCES AND MEDIAN CROSSOVERS” from; “...as shown in Figure 2D-3.” To; ... as shown in “Chapter 2H, Figure 2H-40.”
- Page 2D-20 – Revised the language at the end of the second paragraph under ‘SHOWING PROJECT TERMINI ON PLANS’ from; “...roadway, utilities, incidental items, pavement, signals, markings etc. and should coincide with the “Begin Construction” designation.” To; ...roadway, utilities, incidental items, pavement, signals, markings, etc. and should coincide with the “Begin and End Construction” designation.

Revised the following language in the fourth sentence in the fourth paragraph under “SHOWING PROJECT TERMINI ON PLANS ” from; Any deviation from the sketch in Figure 2D – 6... To; Any deviation from the sketch in Figure “2D – 3”...

Revised the following language in the first sentence in the last paragraph under “SHOWING PROJECT TERMINI OM PLANS” from; “The project description (From: and To:) on the Title sheet located under the County/City name shall be as set forth by the Project Sponsor in Project Pool and should, in most cases, reflect the outermost limits of the proposed work.” To: The project description (From: and To:) on the Title sheet located under the County/City name shall be as set forth by the Project Sponsor in Project Pool and should, in most cases, reflect the outermost “Preliminary Engineering (PE)” limits of the proposed work.

- Page 2D-21 – Replaced “*FIGURE 2D-6*” LABEL with “*FIGURE 2D-3*”.

Revised the following language in the first sentence in the third paragraph under “PAVEMENT TERMINATION” from; “Figure 2D - 7 is a sketch...” To; Figure “2D – 4” is a sketch...

- Page 2D-22 – Replace “*FIGURE 2D-7*” LABEL with “*FIGURE 2D-4*”.

Revised the following language in the last sentence in the first paragraph under “PLOTTING CONSTRUCTION LIMITS” from; (See Sample Plan Sheets Figures 2D-1). To; (See Sample Plan Sheets “in Chapter 2H, Figures 2H-31 thru 34).”

- Page 2D-28 – Replace the following language under “DISTRIBUTION OF PRINTS” from; “Distribution of prints is to be made in accordance with IIM LD-68 and the procedure to inform everyone where the plans are located in Falcon.” To; See Electronic Plan Submission @ http://www.extranet.vdot.state.va.us/locdes/referenceguides/ElectronicPlan_Submission.pdf

CHAPTER 2E

- Page 2E-7 – Revised the following language in the second sentence in the second paragraph under “DEPICTING DRAINAGE ON PLANS” from; “... shown by dashed lines (See Figures 2D-1).” To; “...shown by dashed lines (See Chapter 2H, Figure “2H-32”).”
- Page 2E-8 – Revised the following language at the end of the third paragraph from; “... shown in Figures 2D-2).” To; “...shown in “Chapter 2H, Figure 2H-38”.
- Page 2E-22 – Revised the following language in item number 2 from; “See Figure 2E-8.1 for details.” To; See Figure “2E-9” for details.

Revised the following language in the last paragraph under “RETAINING WALL” from; “Replacement of decorative or other walls, differing from standard walls, is to be thoroughly discussed at field inspection and, if a special design is necessary, a request is to be forwarded to the Standards/Special Design Section for design.”

To; Replacement of decorative or other walls, differing from standard walls, is to be thoroughly discussed at field inspection and, if a special design is necessary, a request is to be forwarded to the “Geotechnical Section of the Central Office Structure and Bridge Division” for design.

- Page 2E-27 – Revised Soundwall Detail to increased the spacing between the MB-7D and the Soundwall to 4 feet to meet the zone of inclusion for trucks.
- Page 2E-28 – Replaced “FIGURE 2E-8.1” LABEL with “FIGURE 2E-9”.
- Page 2E-44 – Replaced “FIGURE 2E-8.2” LABEL with “FIGURE 2E-10”.
- Page 2E-48 – Added the following language after paragraph 4 under “Background”; “24 VAC 30-401-20, Section C.3, 3a state: “Prior to review by the department, requestors shall: pay for expenses associated with the departments posting of a Willingness for Public Comments notice to allow public input to be collected concerning the request prior to CTB action. If the requestor is a locality making a request for change in limited access control for public transportation purposes, the Chief Engineer may waive the requirement to pay for the posting.”

- Page 2E-50 – Added the following language at the beginning of the page;
Items needed for Commonwealth Transportation Board (CTB) Approval

Below is a list of items necessary to complete the draft resolution and brief for the Commonwealth Transportation Board (CTB) related to Limited Access Control Changes (LACC);

- *Marked exhibit (8.5” x 11”, Provided by the District)*
 - *Vicinity Map (8.5” x 11”, Provided by the District)*
 - *Local support specific to the requested LACC (resolution, letter, etc., Provided by the District)*
 - *Email of approval from Assistant State L&D Engineer*
 - *Notification of FHWA from Assistant State L&D Engineer (when needed)*
 - *Copy of the Public Hearing Brochure (including information on design elements or improvements, location, NEPA documents, etc., Provided by the District)*
 - *Copy of the Public Hearing Transcript (Provided by the District)*
 - *List of tables of stations/offsets of limited access points (Provided by the District)*
 - *Resolutions of previous LACC for the specific Route (Provided by the District)*
- Page 2E-51 – Revised the following language in the first sentence under “DEPICTING LIMITED ACCESS RIGHT OF WAY” from; “*The method of designating Right of Way on a proposed limited access project should be as indicated in Figures 2E-9 and 2E-10.*” To; The method of designating Right of Way on a proposed limited access project should be as indicated in Figures “*2E-11 and 2E-12*”.
 - Page 2E-54 – Replaced “*FIGURE 2E-9*” LABEL with “*FIGURE 2E-11*”.
 - Page 2E-55 – Replaced “*FIGURE 2E-10*” LABEL with “*FIGURE 2E-12*”.
 - Page 2E-57 – Revised the following language under “TITLE SHEET” heading from; “*(SEE FIGURES 2E - 11, 2E - 12, & 2E - 13)*” To; (SEE “*CHAPTER 2H, FIGURES 2H-1, 2H-2 FOR SAMPLE SHEETS*”).
 - Page 2E-62 – Revised the following language in the third sentence in the first paragraph from; “*The Type Codes, as noted in Figure 2E-14...*” To; The Type Codes, as noted in Figure “*2E-13*”...
 - Page 2E-63 – Revised the following language at the end of the paragraph under “NOTES” from; “*... shown in Figures 2E-11 thru 13.*” To; “*...shown in Chapter 2H, Figures “2H-1 & 2H-2”.*”

Revised the following language at the end of the paragraph under “Project Location Map” from; “*(See Figure 2E-16).*” To; “*(See Chapter 2H, Figure “2H-3).*”

Revised the following language in the second paragraph under “PROJECT SECTION NUMBERS” from; “*Preliminary Engineering (PE-) number is to be shown only on the title sheet (for example see Figure 2E-11 thru 13) and the first and last plan and profile sheets identifying the project termini’s (for example see Figure 2D-6).*” To; Preliminary Engineering (PE-) number is to be shown only on the title sheet (for example see “*Chapter 2H, Figures 2H-1 & 2H-2*”) and the first and last plan and profile sheets identifying the project termini’s (for example see “*Chapter 2H, Figures 2H-31 & 2H-35.*”)

- Page 2E-64 – Replaced “*FIGURE 2E-14*” LABEL with “*FIGURE 2E-13*”.
- Page 2E-68 – Revised the following language in the fifth paragraph under “INDEX OF SHEETS” from; “... shown in *Figures 2E-15.*” To; “...shown in *Chapter 2H, Figures “2H-4”.*”

Revised the following language in the last paragraph under “INDEX OF SHEETS” from; “(See *Figure 2E-15.*)” To; (See “*Chapter 2H, Figure 2H-4*”).

- Page 2E-69 – Replaced the following language in the seventh paragraph from; “*The next sheet number is assigned to Utility Adjustment Plans; see IIM LD-140 where applicable, similar to above.*” To; The next sheet number is assigned to Utility Adjustment Plans; see “*VDOT Survey Manual, Chapter 8*” where applicable, similar to above.
- Page 2E-71 – Revised the following language under “PROJECT LOCATION MAP” heading from; “(SEE *FIGURES 2E - 16*)” To; (SEE “*CHAPTER 2H, FIGURES 2H-3*”).

Revised the following language under “RIGHT OF DATA SHEET” heading from; “(SEE *FIGURES 2E - 16*)” To; (SEE “*CHAPTER 2H, FIGURES 2H-3*”).

- Page 2E-73 – Revised the following language under “TYPICAL SECTION SHEET(S)” heading from; “(SEE *FIGURES 2E-18 & 2E-18.1*)” To; (SEE “*CHAPTER 2H, FIGURES 2H-16 & 2H-17*”).
- Page 2E-74 – Revised the following language under “HYDROLOGIC DATA SHEET” heading from; “(SEE *FIGURES 2E-19 & 2E-20*)” To; (SEE “*CHAPTER 2H, FIGURES 2H-7 & FIGURES 2E-14*”).
- Page 2E-75 – Replaced “*FIGURE 2E-20*” LABEL with “*FIGURE 2E-14*”.
- Page 2E-76 – Revised the following language in the last paragraph under “DESIGN FEATURES NOTE” from; “(See *Figure 2E-18 and 2E-19.*)” To; (See “*Chapter 2H, Figure 2H-31*”).
- Page 2E-86 – Replaced the following language in the first sentence in the paragraph from; “...*applicable test hole data (See IIM LD-140) prints...*” To; ...applicable test hole data (See “*VDOT Survey Manual, Chapter 8*”) prints...

CHAPTER 2F

- Page 2F-1 – Added the following language at the beginning under “CHECK FOR ACCURACY AND COMPLETENESS”; *“Right of Way Plans are to be developed in accordance with the VDOT Survey Manual, Chapter 12 and the VDOT CADD Manual Chapter 5. Also see Index of Sheets in Chapter 2H, Figure 2H-4.”*

Revised the following language at the end of the first paragraph under “RIGHT OF WAY DATA SHEET” from; “(See *Figure 2E-17*).” To; “(See *Chapter 2H*, Figure “2H-5).”

- Page 2F-2 – Revised the following language at the end of the paragraph under “WELLS” from; “(See *Figure 2G-5*).” To; “(See *Chapter 2H*, Figure “2H-26).”

Revised the following language at the end of the paragraph under “UNDERGROUND STORAGE TANKS” from; “(See *Figure 2G-5*).” To; “(See *Chapter 2H*, Figure “2H-26).”

- Page 2F-3 – Revised the following language at the end of the third sentence under “OUTDOOR AVERTISING SIGNS” from; “(See *Figure 2G-5*).” To; “(See *Chapter 2H*, Figure “2H-26).”

- Page 2F-4 – Revised the following language at the end of the paragraph under “NON-SIGNIFICANT IMPROVEMENTS/PERSONAL PROPERTY” from; “(See *Figure 2G-5*).” To; “(See *Chapter 2H*, Figure “2H-26).”

Revised the following language at the end of the paragraph under “ITEMS NOT IN CONTRACT” from; “(See *Figure 2G-4*).” To; (See “*Figure 2G-1*).”

- Page 2F-6 – Revised the signature blocks to replace the “Programming Division Director” with “*Infrastructure Investment Director*” and “Chief of Planning and Programming” with “*Chief Financial Officer*”.
- Page 2F-11 – Added the following language at the end of the first paragraph under “FORMAL REVISIONS-MAJOR CHANGES”; “*See VDOT CADD Manual, Chapter 1 for Right of Way revisions.*”
- Page 2F-12 – Added the following language at the bottom of the page; “*The revision date shown in the revision block and Revision Data Sheet is the date the revision is completed. Therefore, the electronic seal and digital signature on the sheets shall be on the same date or after the date the revision was completed.*”

CHAPTER 2G

- Page 2G-2 – Revised the following language in the last paragraph under “SPECIAL DESIGN DRAWING REQUEST PROCEDURES” from; “... to the Standards/Special Design Section.” To; ...to the “Geotechnical Section, Central Office Structure & Bridge Division”.

Deleted the following language in the last paragraph; “Reviews requiring special designs will be forwarded to the Structure and Bridge Division, with a copy of the request sent to the road designer making the original request.”

- Page 2G-3 – Added the following language to item number 1 at the top of the page; Design speed/”Posted speed for temporary M.O.T. designs.”

Added item number 3 at the top of the page; “UPC Number.”

Deleted the following language in the second paragraph; “If assistance is needed in preparing these sheets, contact Location and Design Division's Standards/Special Design Section.”

Revised the following language in the second sentence in the fourth paragraph from; “The Lead Design Engineer will request Standards/Special Design Section to...” To; The Lead Design Engineer will request “the Noise Section of Environmental Division” to...

Revised the following language in the first and second sentence in the fifth paragraph from; “When sound barrier walls are designed by a consultant, the Engineering Development and Project Management Section will advise the consultant to contact Standards/Special Design Section for input and direction prior to initiating the development of Special Provisions. When Standards/Special Design Section is made aware...”

To; When sound barrier walls are designed by a consultant, the Engineering Development and Project Management Section will advise the consultant to contact “the Noise Section of Environmental Division” for input and direction prior to initiating the development of Special Provisions. When “the Noise Section of Environmental Division” is made aware...

- Page 2G-7 – Revised the following language at the end of the last sentence in the last paragraph from; “... by the State Location and Design Engineer (see IIM-LD-152).” To; ...by the State Location and Design Engineer (see “VDOT Survey Manual, Chapter 8”).
- Page 2G-23 – Added the following language at the end of the paragraph under “DEMOLITION OF BUILDINGS AND CLEARING OF PARCELS”; (See Figure 2G-1).
- Page 2G-37 – Revised the following language in the fourth paragraph from; “For illustration, see Figure 2G-4.” To; For illustration, see Figure “2G-1”.
- Page 2G-45 – Replaced “FIGURE 2G-4” LABEL with “FIGURE 2G-1”.

- Page 2G-46 – Replaced “*FIGURE 2G-5*” LABEL with “*FIGURE 2G-2*”.
- Page 2G-47 – Replaced “*FIGURE 2G-6*” LABEL with “*FIGURE 2G-3*”.

CHAPTER 2H

- Chapter 2H – SAMPLE PLAN SHEETS was added to have one location for all sample sheets.

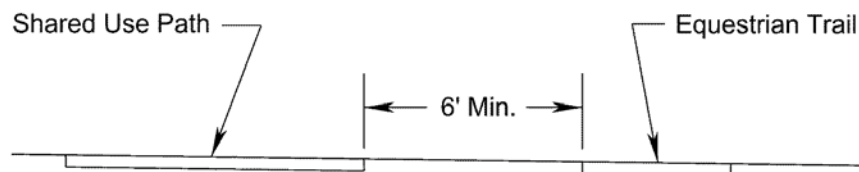
APPENDIX “A”

- Page A-1 – Revised the following language in the last sentence in the second paragraph under “INTRODUCTION” from; “... *the Geometric Design Standard tables on pages A-8 to A-17 should be used for project development.*” To; ... the Geometric Design Standard tables on pages “*A-11 to A-20*” should be used for project development.
- Page A-14 – Added the following language to the end of “General Notes”; “*For Recreational Access Road design standards, see AASHTO Green Book, Chapter 5, Section 5.4.2, page 5-24.*”
- Page A-15 – Revised language in the GS-5 Standard heading under “Minimum Width of Total Shoulders” to add “Footnote” number 1 to include both Freeways and Other Principal arterial with Shoulder Design.
- Page A-36 – Revised the following language in the last sentence in the second paragraph under “ROADWAYS WITH CURB” from; “*Breakaway designs should be used for poles and appurtenances located less than 6 feet from the face of curb. See Figure A-2-1, Case 4.*” To; Breakaway designs “*shall*” be used for poles and appurtenances located less than 6 feet from the face of curb. See Figure A-2-1, Case 4 “*and Case 5.*”
- Page A-36 – Revised the following language at the end on the page from; “*When traffic barriers must be provided because hazardous conditions cannot be eliminated, see Section A-3-Barrier Installation Criteria.*” To; When traffic barriers must be provided because hazardous conditions cannot be eliminated, see “*Appendix I*” - Barrier Installation Criteria.
- Page A-65 – Added the following language at the end of the second paragraph; “*On July 25, 2014, FHWA’s Offices of Planning, Environment, and Realty; Infrastructure; Safety; and Operations jointly issued a Memorandum announcing their official support and endorsement of NACTO Urban Street Design Guide.*”
- Page A-76 – Deleted the following language at the end of the second paragraph; “*Safe drainage grates and railroad crossings, smooth pavements, and signals responsive to bicycles will be provided where warranted. Drainage grate inlets and utility covers in particular are potential problems to bicyclists and should be located in a manner which will minimize severe*”

and/or frequent maneuvering by the bicyclist. When a new roadway is designed, all such grates and covers should be out of the bicyclists expected path.”

- Page A-79 – Deleted the following language at the end of the first paragraph under “BIKE LANES”; *“Drainage grates, railroad crossings, traffic control devices, etc must be evaluated and modified if necessary for bicycle use.”*
- Page A-83 – Added the following language;
 - *Separation between Shared Use Paths and Equestrian Trail*

Horses can be startled easily and may act unpredictably if they perceive approaching bicyclists as a danger. Measures to mitigate bicyclist-equestrian conflicts include provision of separate bridle paths, maintenance of adequate sight lines so that bicycles and equestrians are able to see each other well in advance, and signing that clarifies appropriate passing techniques and yielding responsibilities. Along paths with high to moderate use, the separate paved and unpaved trends should be divided by at least a 6 ft. wide vegetation buffer or barrier.

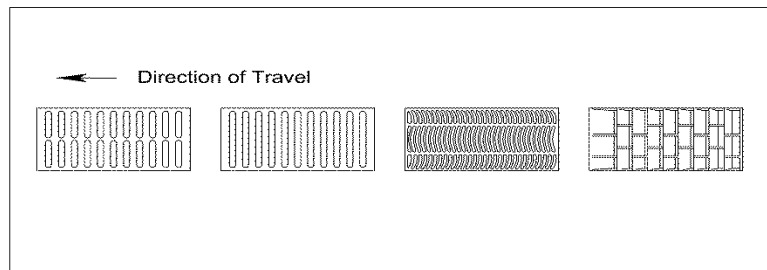


Source: AASHTO, Guide for the Development of Bicycle Facilities, 2012

- Page A-94 – Revised the following language in the first sentence under “Railroad Crossing”
from: *“Railroad-highway grade crossings should be at a right angle to the rails.”*
To: *Railroad-highway grade crossings “shall be at 60° to 90° degrees with the 90° degrees being the ideal crossing angle to the rails.”*

- Page A-95 – Added the following language; “*Drainage Grates*”

Grates shall be placed perpendicular to the direction of travel and the gaps between the drainage grate and its frame shall not be greater than 1 inch. Grates shall be within 0.25 inch of the new road surface. “



- Page A-99 – Added the following language at the beginning of the page; “*For more information see; A Summary of Accessibility Standards for Federal Outdoor Developed Areas - United States Access Board.*”

Revised the following language in the first paragraph under “Trails” from; *Trails are defined in Section F106.5 of the Final Guidelines for Outdoor Developed Areas dated September 26, 2013 can be accessed at...* To; Trails are defined in of the Final Guidelines for Outdoor Developed Areas can be accessed at...

Revised the following language in the third paragraph under “Trails” from; “*For guidance on the design of Outdoor Recreation Access Routes, see Section 1017 of the Final Guidelines for Outdoor Developed Areas, dated September 26, 2013...*” To; For guidance on the design of Outdoor Recreation Access Routes, see of the Final Guidelines for Outdoor Developed Areas,...

- Page A-126 – Replaced “*FIGURE A-5-22*” LABEL with “*FIGURE A-5-20*”.
- Page A-140 – Replaced the following language at the end of the last sentence in the third paragraph under “PLAN PREPARATION” from; “*...Section 105.10 of VDOT's (See IIM LD- 152) VDOT's Road and Bridge Specifications.*” To; ...Section 105.10 of VDOT's Road and Bridge Specifications. “(See VDOT Survey Manual, Chapter 8).”
- Page A-141 – Replaced the following language at the end of the last sentence in the third paragraph under “SPECIFICATIONS” from; “*...Section 105.10 of VDOT's (See IIM LD- 152) VDOT's Road and Bridge Specifications.*” To; ...Section 105.10 of VDOT's Road and Bridge Specifications. “(See VDOT Survey Manual, Chapter 8).”

APPENDIX “B(1)”

- Page B(1)-31 – Added the following language to the opening statement on the page; See VDOT’s “Policy for Integrating Bicycle and Pedestrian Accommodations”. This policy is available on the web: http://www.virginiadot.org/programs/resources/bike_ped_policy.pdf, “Appendix A, Section 5 and IIM-LD-55.”

APPENDIX “C”

- Page C-1 thru C-24 – Revised language to add and restructure information on Parking Spaces, Accessible Parking and Passenger Loading Zone and Rest Areas to conform to the 2010 ADA Standards for Accessible Design.

APPENDIX “F”

- Page F-4 – Added the following language to “Definitions”; “**Moderate Volume Commercial Entrance:** A commercial entrance along highways with shoulders with certain site and design criteria reduced. Site requirements are: maximum highway vehicles per day: 5,000, maximum entrance vehicles per day: 200, maximum entrance percent truck trips of vehicles per day: 10%.”
- Page F-29 – Revised the following language in the first sentence in the last paragraph under “Exceptions / Waivers to the Design Standards” from: *For both private developments and highway construction projects, if any design standard in Appendix F (everything except the spacing standards, shared use entrances, cross parcel access, and functional area of intersections) cannot be met...* To: For both private developments and highway construction projects, if any design standard in Appendix F (everything except “Tables 2-2, 2-3, 2-4” spacing standards, “corner clearance,” shared use entrances, cross parcel access, and functional area of intersections) cannot be met...
- Page F-46 – Revised the language to the second bullet under “The plan submittal shall contain and depict the following criteria” to add; Design vehicle “for Circulatory Roadway (S-BUS-36)”.

Added the following language to the third bullet under “The plan submittal shall contain and depict the following criteria”; “Design vehicle for Truck Apron (WB-67)”.

- Page F-73 – Revised the following language in the first sentence in the first paragraph under “Turn Lane Criteria for Single and Dual Lanes” from; “As a general policy, left-turn lanes are to be provided for traffic in both directions in the design of median crossovers and in one direction for directional median openings...” To; “Right and” left-turn lanes are to be provided for traffic in both directions in the design of “intersections and left turn lanes” for median crossovers and in one direction for directional median openings...

Added the following language after the second paragraph under “Turn Lane Criteria for Single and Dual Lanes”; “Intersections with low right turn volumes shall be evaluated in accordance with Figures 3-26 and 3-27.”

- Page F-75 – Revised the following language in the last sentence on this page from; “Left-turn lanes should also be established on two-lane highways where traffic volumes are high enough to warrant them.” To; Left-turn lanes “shall” also be established on two-lane highways where traffic volumes are high enough to warrant them.
- Page F-78 – Revised the following language in the second sentence on this page from; “NOTE: There are circumstances where a turn lane may be needed even if the warrants are not met.” To; NOTE: There are circumstances where a “left” turn lane may be needed even if the warrants are not met.
- Page F-92 – Revised the following language in the first paragraph under “Medians” from; “Channelization: Positive channelization should be provided for all median crossovers. Standard striping in accordance with the Manual on Uniform Traffic Control Devices (MUTCD) should be used for all median crossovers and speed change lanes in medians without raised channelization. If new curbing is required it should match the existing curb type of the median. Median crossovers on rural, high-speed highways should be signed with Do Not Enter and One-way signs.” To; Channelization: Positive channelization “shall” be provided for all median crossovers. Standard striping in accordance with the Manual on Uniform Traffic Control Devices (MUTCD) “shall” be used for all median crossovers and speed change lanes in medians without raised channelization. If new curbing is required it “shall” match the existing curb type of the median. Median crossovers on rural, high-speed highways “shall” be signed with Do Not Enter and One-way signs.

Revised the following language in the third paragraph under “Medians” from; “Pavement: Median paving should be full depth and match the pavement section design of the existing roadway.” To; Pavement: Median paving “shall” be full depth and match the pavement section design of the existing roadway.

Revised the following language in the fourth paragraph under “Medians” from; “Drainage Function: Medians frequently provide a conveyance, detention or retention function for roadways. The installation of a median crossover should not reduce the conveyance or storage capacity of the median.” To; Drainage Function: Medians frequently provide a conveyance, detention or retention function for roadways. The installation of a median crossover “shall” not reduce the conveyance or storage capacity of the median.

- Page F-95 – Revised the following language to the first sentence in the first paragraph under “Right Turn Lanes” from; “*An exclusive right-turn lane should be considered when the warrants in Figures 3-26 and 3-27 are met.*” To; An exclusive right-turn lane “*shall*” be considered when the warrants in Figures 3-26 and 3-27 are met.

Revised the following language to the first sentence in the second paragraph under “Right Turn Lanes” from; “*These guidelines are to be used as an aid in selecting appropriate treatments for right turn movements.*” To; These “warrants” are to be used as an aid in selecting appropriate treatments for right turn movements.

Revised the following language to the first sentence in item #1 under “Right Turn Lanes” from; “*Number of Lanes – Guidelines are differentiated on the basis of the number of lanes on the major roadway.*” To; Number of Lanes – “Warrants” are differentiated on the basis of the number of lanes on the major roadway.

Revised the following language to the first sentence in item #2 under “Right Turn Lanes” from; “*Radius Treatment – Refer to guidelines for right turn treatment on 2-lane roadways.*” To; Radius Treatment – Refer to “Warrants” for right turn treatment on 2-lane roadways.

- Page F-97 – Added the following language to Figure 3-26; “*When Right turn facilities are warranted, see Figure 3-1 for design criteria.*”

Revised the following language to figure 3-26 “label” from; “*FIGURE 3-26 GUIDELINES FOR RIGHT TURN TREATMENT (2-LANE HIGHWAY)*” To; FIGURE 3-26 “WARRANTS “ FOR RIGHT TURN TREATMENT (2-LANE HIGHWAY) .

- Page F-98 – Added the following language to Figure 3-27; “*When Right turn facilities are warranted, see Figure 3-1 for design criteria.*”

Revised the following language to figure 3-27 “label” from; “*FIGURE 3-27 GUIDELINES FOR RIGHT TURN TREATMENT (2-LANE HIGHWAY)*” To; FIGURE 3-27 “WARRANTS “ FOR RIGHT TURN TREATMENT (2-LANE HIGHWAY) .

- Page F-99 – Revised the following language to the first sentence in the second paragraph under “Acceleration Lanes” from; “*Acceleration lanes should consist of a full-width lane and a transition taper.*” To; Acceleration lanes “*shall*” consist of a full-width lane and a transition taper.

- Page F-112 – Added the following language under “Limits of Maintenance Responsibility for Private and Commercial Entrances”; “*See the Access Management Regulations Section 90 for details on private entrance maintenance responsibilities and Section 110 on maintenance responsibilities for commercial entrances.*”