

TSDM Revision Log 8-10-17

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Chapter 1: General				
1.3	1-5	1-5	Change	Removed Divisions of Mobility Options and Planning and Operations from list of Public Service review groups.
1.5	1-6	1-6	Change	Removed Traffic Utility Locator contact information and replaced with instructions to contact OUPS.
1.5	1-8	1-8	Change	Changed detection option on pre-design field meeting checklist from video to radar.
1.5	1-9, 1-10	1-9, 1-10	Editorial	Strengthened language to include all items in the Staged submittal checklists.
1.5	1-9	1-9	Editorial	Added existing messenger wire and vehicular signal heads to the Stage 1 submittal checklist.
1.5	1-9	1-9	Editorial	Removed duplicate item from Stage 1 submittal checklist (proposed infrastructure list) regarding existing and/or proposed pavement markings; added "Traffic Signal" to the Legend item.
1.5	N/A	1-11	Change	Added submittal requirements for backcheck and P,S,&E submittals.
Chapter 2: Plan Preparation				
2.1.1	2-3, 2-4	2-3, 2-4	Change	Fig 2.1 Traffic Signal Symbols and Legend - modified by removing red light camera symbols and adding symbols for dilemma zone radar unit and stop line radar unit.
2.1.1	2-5	2-5	Change	Fig 2.2 Traffic Signal Wiring Diagram Legend - modified by adding symbol for power meter cabinet, dilemma zone radar unit, stop line radar unit, and radar detection cable.
2.2.7	2-8	2-8	Change	Added section for plan requirements for Maintenance of Traffic Temporary Signal Plans.
2.2.8	2-8	2-8	Change	Added section for plan requirements for Maintenance of Traffic Temporary Signal Plans for head shifts alone.
2.3	2-8 - 2-11	2-8 - 2-12	Change	Updated various traffic signal quantity descriptions to match notes package and recent project descriptions.
Chapter 3: Temporary Traffic Signals				
3.1	3-2	3-2	Change	Added temporary interconnect plan to list of temporary signal plan components.
3.8	3-4	3-4	Change	Added section for temporary interconnect plan requirements.
Chapter 4: Supports and Foundations				
4.1	4-1	4-1	Change	Changed language from the City "should" use mast arm supports to "shall" use mast arm supports unless directed otherwise.
4.1.1	4-1	4-1	Change	Corrected standard mast arm supports to be designed per Columbus designs 4, 12, 13, 14, and C15 instead of ODOT using ODOT designs 4-14.
4.1.1	4-1	4-1	Editorial	Changed wording from Standard Drawings to Standard Construction Drawings.
4.1.4.1	4-3	4-3	Change	Changed standard from strain poles "may be upsized to provide for uniformity" to "shall be upsized to provide for uniformity".
4.1.4.2	4-3	4-3	Change	Added description of instances where a pole-to-pole span configuration would not work.
4.1.4.2	4-3	4-3	Change	Changed language that a diagonal span "should not be used" to "shall not be used."
4.1.5	4-3, 4-4	4-3, 4-4	Change	Added sentence that mast arm support or strain pole should be positioned to accommodate the future installation of a pedestrian push button; also added sentence that pedestals shall be provided on every ramp without an adjacent signal pole.
4.1.5.4	4-4	4-4	Change	Added clarification that 17.5 ft. pedestals should not be used for auxiliary signal heads.
4.1.5.5	4-4	4-4	Change	Added clarification that auxiliary signal heads, when needed, should be installed on 21 ft. pedestals.
4.1.6	4-4	4-5	Change	Added sentence that bracket arms can be used for radar detectors.
4.3.2	4-6	4-6	Change	Deleted pole placement guidelines in regards to clear zone, instead referencing the Location and Design Manual, Volume 1 exclusively.
4.3.3	4-6	4-6, 4-7	Change	Clarified clearance requirements for signal poles.
4.3.3	N/A	4-7	Change	Added clearance requirements for pedestrian pedestal poles.
4.3.4	4-7	4-8	Change	Added clarification on overhead clearance requirements.
4.3.7	4-8	4-9	Editorial	Changed wording of arm length/span configuration requirements from "should" to "shall."
4.3.7	4-8	4-9	Editorial	Changed wording from "should extend" a minimum of 2 ft beyond last attachment point to "shall extend."
4.3.7	4-8	4-9	Editorial	Changed requirement that mast extend 3.5 ft beyond the center of a left turn lane to extend 2 ft beyond the center of the left turn lane.
4.4.1	4-9	4-9	Editorial	Clarified that signal poles are numbered first with pedestals following sequentially.
4.4.1	4-9	4-10	Change	Changed pole callout example to include radar detection.
4.4.2	4-10	4-11	Change	Fig 4.1 - Added typical signal elevation detail with radar detection.
4.4.2	N/A	4-12	New	Fig 4.2 - Inserted new figure for typical mast arm fabrication chart including columns for radar detector mounting.
4.4.2	4-11	4-14	Change	Fig 4.3 (formerly Fig 4.2) - Added "Video Detection" to title of figure; deleted columns for video detector mounting height, video detector distance from butt plate, and pushbutton sign orientation angle.

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4.4.2	4-12	4-14	Change	<u>Fig 4.4 (formerly Fig 4.3)</u> - Revised wording of figure title from "span wire" to "strain pole" fabrication and orientation; revised title of the typical strain pole orientation detail to additionally apply to pedestals; updated typical signal elevation detail for strain poles to include radar detection; modified tether wire to be shown as horizontal (was parallel to messenger wire).
4.4.2	4-13	4-15	Change	<u>Fig 4.5 (formerly Fig 4.4)</u> - Revised wording of figure title from "span wire" to "strain pole" fabrication and orientation chart; added column for radar detector attachment height; removed column for pushbutton sign orientation angle.
Chapter 5: Vehicular Signals				
5.2.2	5-4	5-4	Editorial	Corrected reference to OMUTCD Section 4D.14. (was 4D.13)
5.2.4	5-5	5-5	Change	Added disclaimer regarding 180 ft. maximum distance between stop line and signal head.
5.2.4.1	5-5	5-5	Editorial	Update figure reference to Figure 5.33. (was 5.31)
5.2.4.2	5-6	5-6	Change	Removed requirement to mount R10-5-30 sign on the mast arm or span for single and dual left lanes; signal head alignment changed to lane centerline for 3-section over single left turn lane.
5.2.4.2	5-8 - 5-36	5-8 - 5-36	Change	<u>Figs 5.3, 5.11, 5.12, 5.15, 5.16, 5.20, 5.21, 5.22, 5.23, 5.24, 5.27, 5.28, 5.30, 5.31</u> - Removed R10-5-30 sign and adjusted left turn signal head accordingly.
5.2.4.2	N/A	5-37	New	<u>Fig 5.32</u> - Created new figure for signal head alignment for offset left turn lane where offset < 5 ft.
5.2.4.2	N/A	5-38	New	<u>Fig 5.33</u> - Created new figure for signal head alignment for offset left turn lane where offset ≥ 5 ft.
Chapter 7: Intersection Wiring				
7.3	7-2	7-2	Change	<u>Figure 7.1</u> - Modified figure to include variations for metered and non-metered installations.
7.3	7-3	7-3	Change	<u>Figure 7.2</u> - Modified figure to include variations for metered and non-metered installations and changed pull boxes to be bonded to Poles NW-1 and NE-1 (was NW-2 and NE-2)
7.4.6	N/A	7-5	Change	New section added: 7.4.6 Radar Detection to discuss cable to be used; video detection section relocated to 7.4.8.
7.4.8	7-5	7-6	Change	Eliminated Other Detection Technologies section; also see changes made to 7.4.6; subsequent sections renumbered accordingly.
7.6	7-11	7-11	Change	<u>Figure 7.5</u> - Added radar detection cable to cable grouping in conduit figure.
7.6.2	7-13	7-13	Editorial	<u>Table 7.4</u> - Corrected CCTV cable types descriptions.
7.6.2	7-13	7-13	Change	<u>Table 7.4</u> - Added radar detection cable information.
7.9	7-15	7-15	Change	Added radar detection to the list of intersection wiring plan components.
7.9	7-16	7-16	Change	<u>Figure 7.6</u> - Modified figure to include variations for metered and non-metered installations and corrected pushbutton phase labels. (were Φ2 and Φ6)
7.9	7-17	7-17	Change	<u>Figure 7.7</u> - Modified figure to include variations for metered and non-metered installations and changed detection type from video to radar.
Chapter 8: Traffic Signal Signs				
8.5	8-2	8-2	Change	Removed requirement that the left on green arrow only sign (R10-5) shall be used on all protected only left turn lanes.
Chapter 9: Vehicle Detection				
9.2.1	N/A	9-1	Change	Added radar detection type; video detection and loop detection sections renumbered accordingly.
9.2.2	9-1	9-1, 9-2	Change	(Formerly section 9.2.1) Updated guidance on when to use video detection.
9.2	9-2	N/A	Change	Deleted former section 9.2.3 - Other Detection Technologies.
9.3.1	N/A	9-2 - 9-14	Change	Added radar detector mounting section with guidance for placement of stop line and dilemma zone radar units; subsequent subsections within section 9.3 renumbered accordingly.
9.3.1	N/A	9-4 - 9-14	New	Added new figures 9.1 through 9.10 illustrating stop line and dilemma zone radar unit placement; subsequent figures renumbered accordingly.
9.3.2	9-2	9-15	Change	(Formerly section 9.3.1) Removed steel bracket arm option.
9.3.3	9-2	9-15	Change	(Formerly section 9.3.2) 3rd paragraph: Added radar detection.
9.3.4.1	9-3	9-16	Change	(Formerly section 9.3.3.1) Revised maximum inductive loop length to 39 feet.
9.3.4.2	9-4	9-17	Change	(Formerly section 9.3.3.2) In Table 9.2, changed column heading from "Presence Detection" to "Detection Area." Added paragraph regarding difference between dilemma zone detection areas for video and loops vs. radar detection.
9.3.5	9-4	9-17	Editorial	(Formerly section 9.3.4) 1st paragraph: minor grammatical changes; added radar detection.
9.3.8	9-9	9-22	Change	(Formerly section 9.3.7) First sentence: Changed "should" to "shall"; added "except as noted below."
9.3.9	9-10	9-23, 9-24	Change	Clarified that dilemma zone protection applies to both major and minor streets; added discussion of how dilemma zone detection is accomplished for radar detection vs. video and loop detection; Table 9.4 updated accordingly; Changed Figure 9.16 (formerly 9.6) detection area labels to "Dilemma Zone" and "Advance" detection areas instead of "Far" and "Near."
9.3.11	9-11	9-24	Change	2nd sentence: Changed to radar detection as the preferred bicycle detection method.
9.4	9-12	9-25	Change	Added direction regarding dilemma zone detection areas for radar detection.

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9.4.2	9-12 - 9-14	9-26 - 9-28	Change	Added new detection chart example for radar; subsequent tables and associated references renumbered accordingly; for Tables 9.6 and 9.8 (formerly 9.5 and 9.7) changed 8'x2' detection area sizes to 6'x6'.
Chapter 10: Power Service				
10.1	10-2	10-2	Change	Changed meter requirements when power is provided by AEP.
10.2	10-2	10-2	Change	Added power cable requirements for metered and non-metered locations.
10.3	10-3	10-3	Change	Added power cable requirements for metered and non-metered locations.
10.4	N/A	10-3	Change	Added guidelines for power meter cabinet placement.
10.5, 10.6	10-3, 10-4	10-4	Editorial	Updated section numbering.
10.6	10-4	10-4	Change	Table 10.1, Typical Wattage - Added radar units.
Chapter 11: Controller / Cabinet				
11.1.2.2	11-3	11-3	Editorial	Added reference to Chapter 10 for power meter cabinet placement.
Chapter 12: Interconnect				
12.7	12-21	12-21	Editorial	Removed reference to Node Cabinet standard drawing (drawing has not been created yet).
Chapter 13: Underground Facilities				
13.3.2	13-4	13-4, 13-5	Change	Added/clarified encasement requirement for power cable conduit.
13.5.2	13-9	13-9	Change	Removed reference to modified conduit riser standard drawing (drawing has not been created yet); changed conduit type for fiber optic cable modified conduit risers to 725.051 (was 725.04).
13.6.1	13-10	13-10	Editorial	Clarified that a pull box can be used for multiple poles on the same corner of an intersection.
13.6.1	13-10	13-10	Change	Added minimum distance between pull box and curb.
13.7.2, 13.7.3	13-12	13-12	Editorial	Added clarification regarding loop cables passing through 27" and 32" round pull boxes.
13.8.1	13-15	13-15	Change	Revised conduit callout Example 2 to show example with radar detection cables.
Chapter 14: Removal and Reuse of Traffic Signal Installations				
14.3	14-2	14-2	Change	Updated Table 14.1 to include ground mounted cabinet/controller, conduit, separate line items for round concrete pull box castings and lids/frames, and various interconnect items.
Chapter 15: Timing/Phasing				
15.1.1	15-1	15-1	Change	Changed yellow "clearance" interval to yellow "change" interval. Changed requirements for yellow time calculation by referring to the ODOT TEM.
15.1.1.1	15-1	N/A	Change	Deleted section regarding red light photo enforcement.
15.1.2	15-2, 15-3	15-1	Change	Changed requirements for red clearance time calculation by referring to the ODOT TEM. Deleted Table 15.1.
15.1.4	15-4	15-1, 15-2	Change	1st and 2nd paragraphs: changed pedestrian clearance time calculation to be based on travel to the far side detectable warning, not "far side of the traveled way."
15.1.5	N/A	15-2	Change	Added new section to clarify the difference between pedestrian clearance and pedestrian change intervals as illustrated in Figure 15.1.
15.1.4, 15.1.5	N/A	15-4 - 15-6	New	Added new figures 15.2 through 15.4 with pedestrian clearance and walk interval calculation examples.
15.1.6 - 15.1.8	15-6	15-7 - 15-8	Editorial	Updated section numbering.
15.1.8.2	15-6 - 15-7	15-8	Change	(Formerly section 15.1.7.2) Added clarification that passage and extension time calculations are relevant only when using video or loop detection. Updated dilemma zone calculation example #1.
15.1.8.2	N/A	15-9	New	Added Figure 15.5: diagram for dilemma zone example #1.
15.1.8.2	15-7, 15-8	15-10	Editorial	Dilemma zone example #2: Updated chapter 9 section reference; corrected extension time equation.
15.2.1	15-8	15-10	Editorial	Updated figure numbering.
15.2.4	15-9	15-11	Editorial	Added "Unless otherwise directed by the City."
15.3	15-11 - 15-38	15-13 - 15-40	Editorial	Updated figure and table references and numbering.
15.3.3	15-35 - 15-38	15-37 - 15-40	Change	Changed PED CLR to PED CHANGE in Tables 15.1 through 15.4.