

Florida Greenbook

Manual of Uniform Minimum Standards for Design,
Construction and Maintenance for Streets and Highways

Sub-committee Meeting

Chapter 19 – Traditional Neighborhood Development
Context Classification Task Team

Agenda

February 26, 2026
1:00 PM – 2:00 PM

Virtual on Microsoft Teams
[MS Teams Link](#)

1:00 PM	Welcome and Introductions	Derwood Sheppard
1:10 PM	Updates (17 th Edition)	Jacqui Morris, Kittelson Staff
1:30 PM	Sub-Committee Discussion	Chapter 19 Sub-Committee
1:40 PM	Action Items and Next Steps	Jacqui Morris, Kittelson Staff
1:50 PM	Closing remarks <ul style="list-style-type: none">Public Comment	Jacqui Morris

Florida Greenbook

Chapter 19 Subcommittee Meeting
Context Classification Task Team

February 26, 2026



Public Meeting

*Welcome &
Introductions*

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1:30 PM	Subcommittee Discussion	Subcommittee Members
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Online Attendees *Meeting Logistics*



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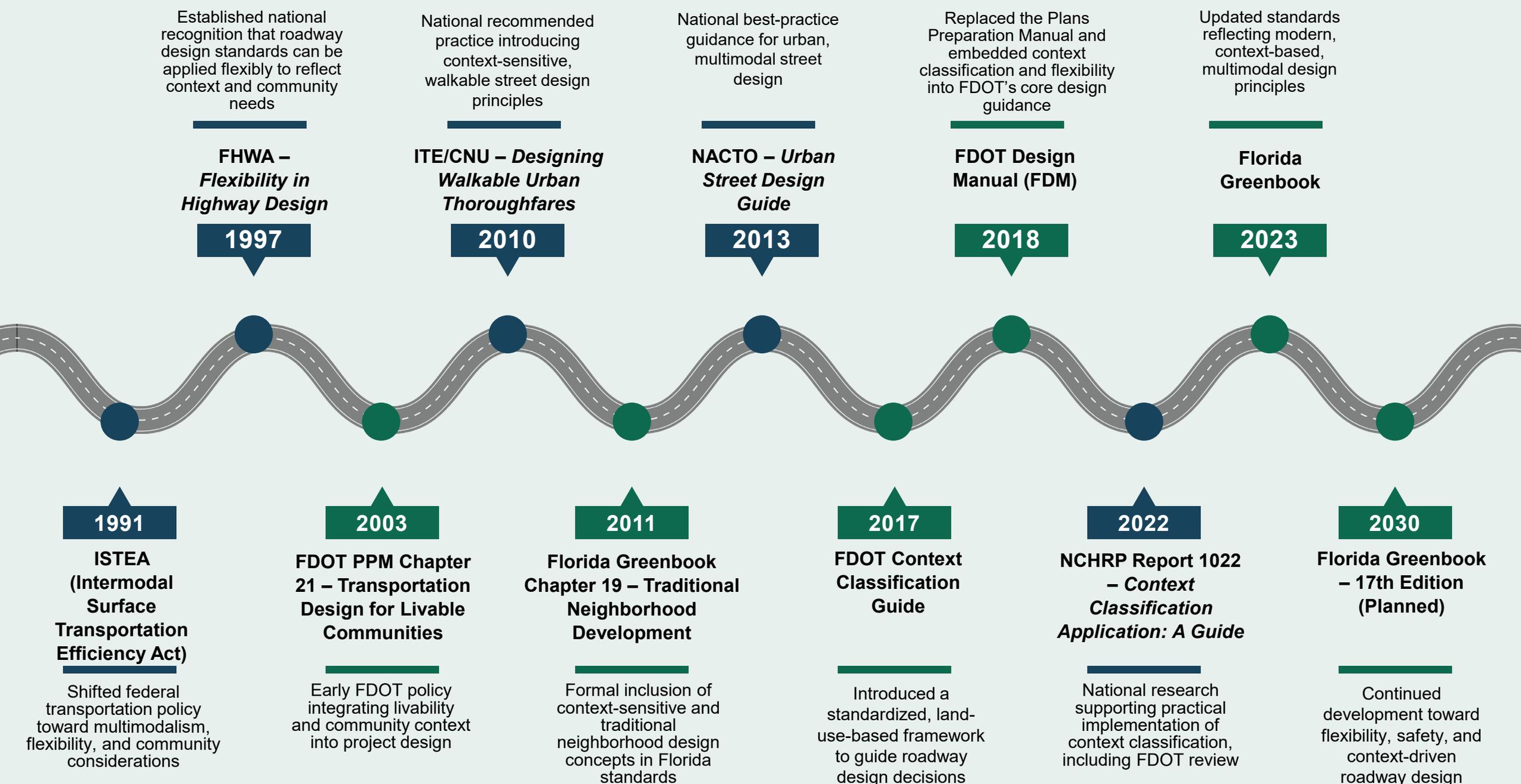
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Raise your virtual hand to ask a live question.

Updates

(17th Edition)



Established national recognition that roadway design standards can be applied flexibly to reflect context and community needs

FHWA – Flexibility in Highway Design

1997

National recommended practice introducing context-sensitive, walkable street design principles

ITE/CNU – Designing Walkable Urban Thoroughfares

2010

National best-practice guidance for urban, multimodal street design

NACTO – Urban Street Design Guide

2013

Replaced the Plans Preparation Manual and embedded context classification and flexibility into FDOT’s core design guidance

FDOT Design Manual (FDM)

2018

Updated standards reflecting modern, context-based, multimodal design principles

Florida Greenbook

2023

1991

ISTEA (Intermodal Surface Transportation Efficiency Act)

Shifted federal transportation policy toward multimodalism, flexibility, and community considerations

2003

FDOT PPM Chapter 21 – Transportation Design for Livable Communities

Early FDOT policy integrating livability and community context into project design

2011

Florida Greenbook Chapter 19 – Traditional Neighborhood Development

Formal inclusion of context-sensitive and traditional neighborhood design concepts in Florida standards

2017

FDOT Context Classification Guide

Introduced a standardized, land-use-based framework to guide roadway design decisions

2022

NCHRP Report 1022 – Context Classification Application: A Guide

National research supporting practical implementation of context classification, including FDOT review

2030

Florida Greenbook – 17th Edition (Planned)

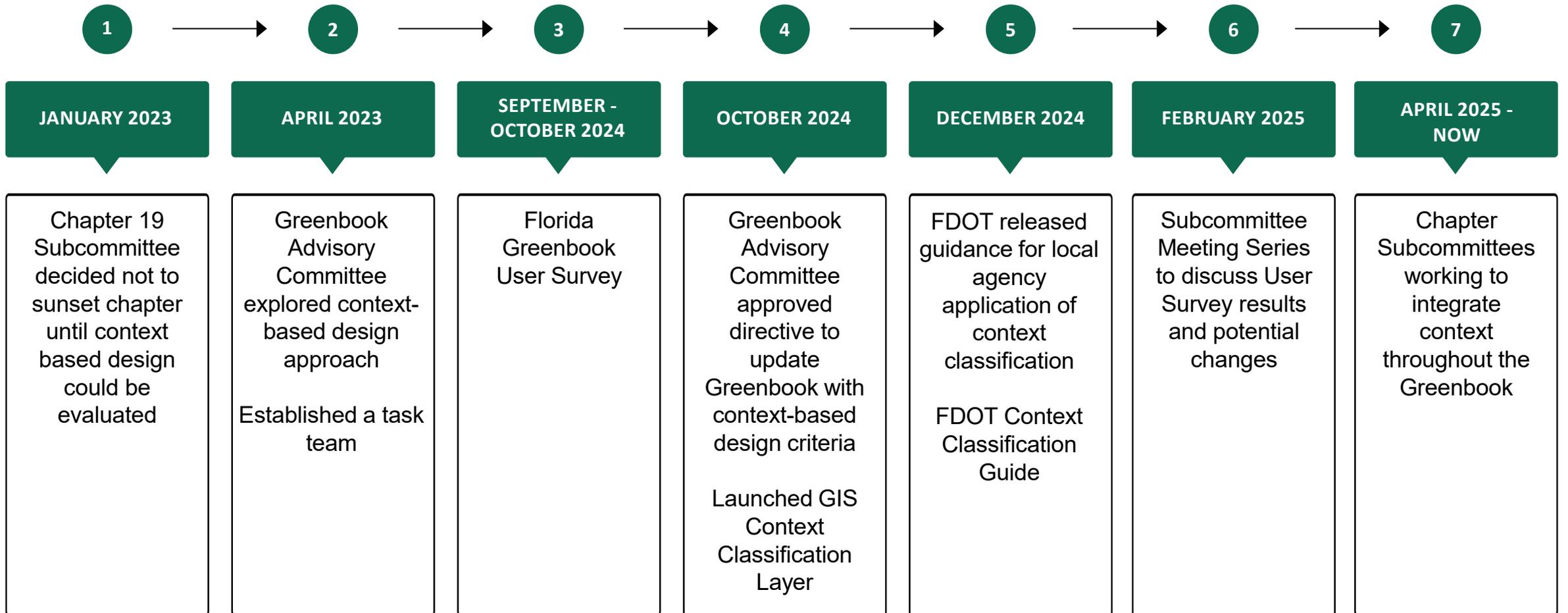
Continued development toward flexibility, safety, and context-driven roadway design

Chapter 19 Subcommittee

History

- Subcommittee formed in 2006
- Goal to incorporate traditional neighborhood development (TND) standards already being used by many cities
- Chapter 19 integrated criteria into Greenbook in 2011
- TND Handbook created for additional guidance
- With rise of context classification, desire to revisit Chapter 19

Recent Subcommittee Activities



Visioning

The Florida Department of Transportation (FDOT) is consistently at the forefront of transportation planning and infrastructure development in the state. The FDOT Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways (the Florida Greenbook) serves as a vital resource for local governments, transportation engineers, and planners, providing guidelines and standards for roadway design and construction. With the evolving landscape of Florida's communities, it is becoming increasingly important to ensure that these guidelines are sensitive to the specific needs and characteristics of our urban, suburban, and rural areas.

Committee Direction

To revise and restructure the Florida Greenbook to incorporate context-sensitive design criteria and classification divisions based on urban, suburban, and rural contexts.

Objectives

- Ensure the Florida Greenbook addresses the unique needs and characteristics of Florida's urban, suburban, and rural areas through context-sensitive guidelines.
- Develop clear and actionable criteria for classifying areas based on context to inform design standards.
- Improve the usability of the Florida Greenbook by providing more specific guidance tailored to the context of the area being developed.

Increased Public Meetings

15 years, 16 meetings

Month	Year	Meeting Title
July	2018	Florida Greenbook Advisory Committee Meeting
March	2018	Florida Greenbook Advisory Committee Meeting
February	2017	Florida Greenbook Advisory Committee Meeting
April	2016	Florida Greenbook Advisory Committee Meeting
January	2016	Florida Greenbook Advisory Committee Meeting
March	2015	Florida Greenbook Advisory Committee Meeting
March	2014	Florida Greenbook Advisory Committee Meeting
March	2013	Florida Greenbook Advisory Committee Meeting
March	2012	Florida Greenbook Advisory Committee Meeting
March	2011	Florida Greenbook Advisory Committee Meeting
April	2010	Florida Greenbook Advisory Committee Meeting
March	2010	Florida Greenbook Advisory Committee Meeting
March	2009	Florida Greenbook Advisory Committee Meeting
March	2008	Florida Greenbook Advisory Committee Meeting
March	2007	Florida Greenbook Advisory Committee Meeting
March	2006	Florida Greenbook Advisory Committee Meeting
March	2005	Florida Greenbook Advisory Committee Meeting
March	2004	Florida Greenbook Advisory Committee Meeting

4 years, 21 meetings

Month	Year	Meeting Title
February	2026	Florida Greenbook Subcommittee Meeting - Chapter 13
February	2026	Florida Greenbook Subcommittee Meeting - Chapter 8
April	2025	Florida Greenbook Advisory Committee Meeting
December	2025	Florida Greenbook Subcommittee Meeting - Chapter 3
October	2025	Florida Greenbook Subcommittee Meeting - Chapter 3
December	2025	Florida Greenbook Subcommittee Meeting - Chapter 4
June	2025	Florida Greenbook Subcommittee Meeting - Chapter 4
October	2025	Florida Greenbook Subcommittee Meeting - Chapter 4
June	2025	Florida Greenbook Subcommittee Meeting - Chapter 6
February	2025	Florida Greenbook Subcommittee Meeting 1,3,14, 15 and 19
February	2025	Florida Greenbook Sub-Committee Meeting 11 and 12
February	2025	Florida Greenbook Sub-Committee Meeting 4, 6, 17 and 20
February	2025	Florida Greenbook Sub-Committee Meeting 5, 10 and 18
February	2025	Florida Greenbook Sub-Committee Meeting 7 and 13
February	2025	Florida Greenbook Sub-Committee Meeting 8 and 9
April	2024	Florida Greenbook Advisory Committee Meeting
February	2024	Florida Greenbook Chapter 19 Subcommittee Meeting
January	2024	Florida Greenbook Chapter 19 Subcommittee Meeting
April	2023	Florida Greenbook Advisory Committee Meeting
August	2023	Florida Greenbook Context Classification Task Team Meeting
October	2023	Florida Greenbook Context Classification Task Team Meeting

Increased External Partnerships

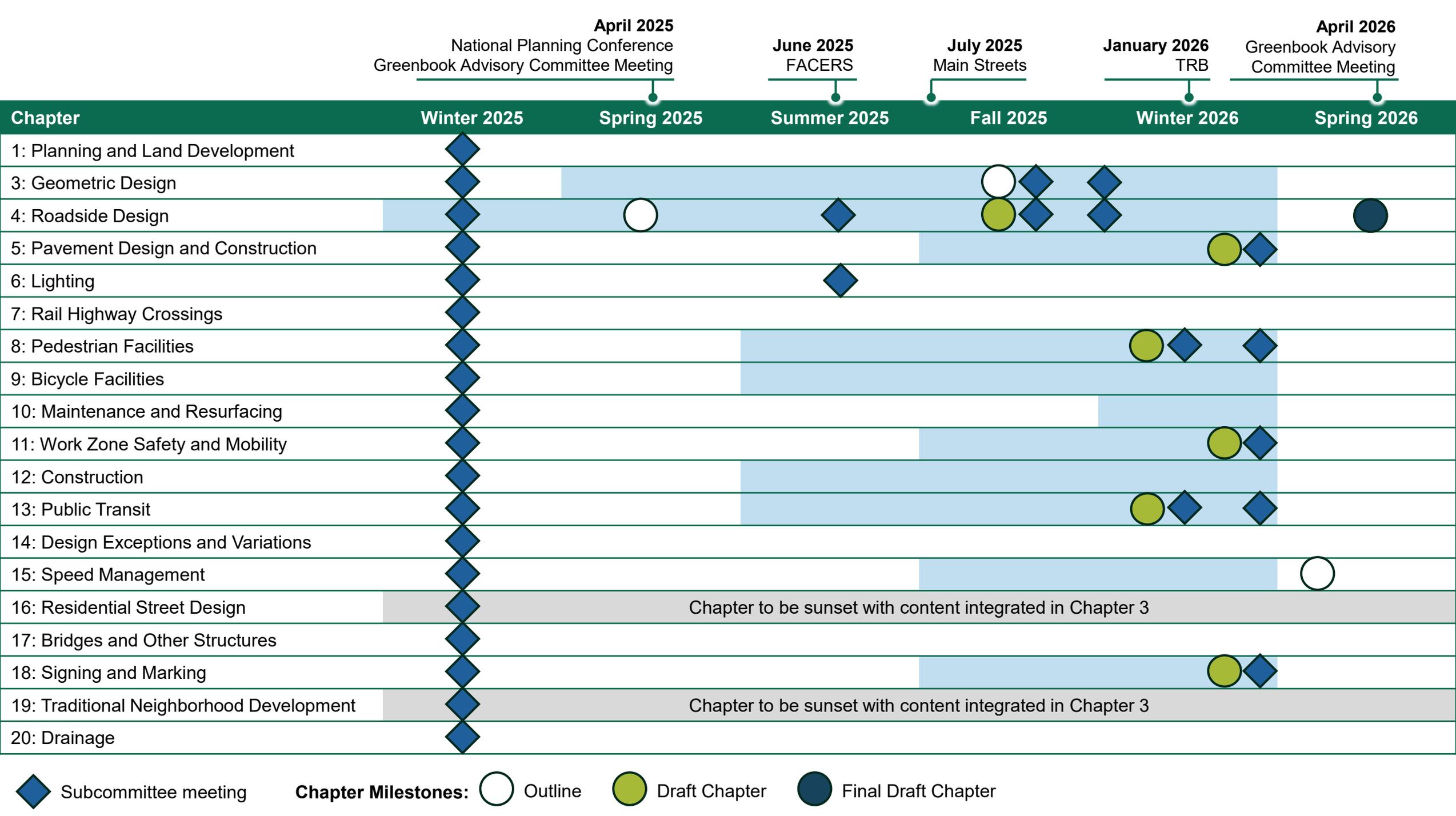


Florida's Pedestrian and
Bicycle Safety Coalition



American Planning Association





Chapter 3 Outline

This is a working document
that has not been adopted.

Chapter 3

Geometric Design

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Florida Greenbook Roadway Design Guide



- Expand TND Handbook
- Incorporate context classification
- Provide similar guidance for all chapters
- Starting with **Chapter 1 – Planning and Land Development**

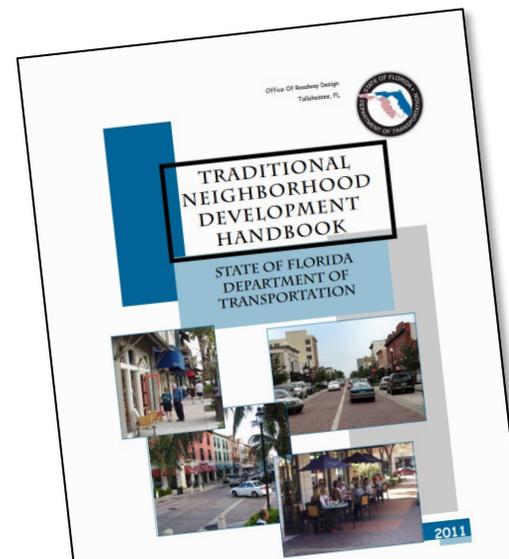


Table # 625-000-015
Manual of Uniform Minimum Standards
for Design, Construction and Maintenance
for Streets and Highways

May - 2011

CHAPTER 19 TRADITIONAL NEIGHBORHOOD DEVELOPMENT

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*Committee Discussion
& Next Steps*

General Discussion

OPEN FOR PUBLIC COMMENT



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CONTACT

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Thank you for attending!



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3 Geometric Design

Note to reviewers: Text in gray are items currently in the Geometric Design chapter of the Greenbook. Text in green is a proposed change or addition. Text in blue is being moved from Chapter 16: Residential Street Design or Chapter 19: Traditional Neighborhood Development when those chapters are sunset.

3.1 Introduction

- Definition and importance of geometric design
- Relationship to other design elements (e.g., **stormwater design**)
- Safety characteristics
- Need for engineering judgment in applying **guidance** and criteria. Reference Chapter 14: Design Exceptions and Variations when minimum standards cannot be met.
 - Caveat statement about roads out of compliance not needing immediate reconstruction but needing to meet criteria when reconstructed.
- Needs of **all** road users
 - In making decisions on the standards to be applied to a particular project, the designer must also address the needs of pedestrians, bicyclists, elder road and transit users, people with disabilities, freight movement, **micromobility**, and other users and uses. This is true for urban, **suburban**, and rural facilities.
 - Add references to Chapter 8: Pedestrian Facilities, Chapter 9: Bicycle Facilities, and Chapter 13: Public Transit
- **Update discussion on needs of urban and rural streets to discussion about context classification**
 - The design features of urban and **suburban** streets are governed by practical limitations to a greater extent than those of similar roads in rural areas. The two dominant design controls are: (1) the type and extent of development and its limitations on rights of way and (2) zoning or regulatory restrictions. **Coupled with functional classification, which describes the service a street provide in relation to the total roadway network, context classification provides additional design considerations based on development density, land uses, and building setbacks.**
- Highlight relationship to AASHTO Green Book 2018 (*monitoring status of AASHTO Green Book 8th Edition*)

- Remove right of way and pavement width requirement exceptions for new construction on low volume roads. Low volume road criteria will be integrated into Section 3.9 Cross Section Elements.
- Criteria for existing RRR projects are provided throughout this chapter where applicable. Existing projects are to meet new construction criteria where a RRR note is not provided. New features included as part of a RRR project are to meet new construction criteria.

3.2 Objectives

- Major objective is to establish a path and environment that is safer for all road users and is simple to understand.
- Objectives: Existing objectives remain but were reordered to match current priorities. Incorporated additional objectives from Chapter 19: Traditional Neighborhood Development.
 - Design streets with geometric design controls in place that self-regulate and enforce safer speeds, reducing the need to retrofit streets with speed management measures and reducing the burden on local law enforcement.
 - Safety at target speed
 - Safer at night and in bad weather
 - Minimize hazards to vehicles that deviate from the travel path
 - Build in redundancies for driver deficiencies
 - Meet traffic and transit needs
 - Intuitive geometry

3.3 Design Speed

3.3.1 Types of Speed

- Define design speed
 - Design speed is a selected speed used to determine the various geometric design features of the street or highway. Selection of an appropriate design speed must consider the anticipated operating speed, topography, existing and future adjacent land use, and functional classification. Consideration must also be given to pedestrian and bicycle usage.
 - Many critical design features such as sight distance and curvature are directly related to, and vary appreciably with, design speed. For this reason, the selected design speed

should be consistent with the speeds that drivers are likely to expect on a given street or highway facility. The design speed shall not be less than the expected posted or legal speed limit. Once the design speed is selected, all pertinent highway features should be related to it to obtain a balanced design.

- Above minimum design criteria for specific design elements such as flatter curves and longer sight distances should be used where practical, particularly on high speed facilities. On lower speed facilities, use of above minimum values may encourage travel at speeds higher than the design speed.
- The design speed utilized should be consistent over a given section of street or highway. Required changes in design speed should be effected in a gradual fashion. When isolated reductions in design speed cannot reasonably be avoided, appropriate speed signs should be posted.

Committee: *Additional guidance on selecting values within the range as well as examples/case studies could be considered as part of the Roadway Design Guide.*

- Reference Chapter 1 for target speed definition and guidance
- Emphasize the relationship between target and design
 - Select a context-appropriate design speed based on Tables 1 and 2. Design speed should be selected early in the project development process and should be influenced by target speed. Where the recommended target speed is not feasible to attain in a single project, the design speed should be as close to the target speed as can be achieved within the constraints of the project. Select design speeds in increments of 5 mph.
 - Additional guidance on selecting a target speed will be included in the Roadway Design Guide.
 - Reference Chapter 15: Speed Management for greater discussions on retrofitting streets to reach a desired target speed based on context classification.

3.3.2 Determining Design Speed

Table 1 Design Speed for Freeways

(Adapted from Table 3-1)

Facility	AADT (VPD)	Terrain	Design Speed (MPH)
Freeway - Rural	All	Level and Rolling	70
Freeway - Urban	All	Level and Rolling	50 – 70 ¹

1. A design speed of 70 MPH should be used for urban freeways when practical. Lower design speeds should only be used in highly developed areas with closely spaced interchanges. For those areas a minimum design speed of 60 MPH is recommended unless it can be shown lower speeds will be consistent with driver expectancy.

Table 2 Design Speed Ranges by Context Classification for Non-Freeways

Replace the rest of Table 3-1 with a new table for non-freeway design speed based on context classification, incorporating speeds in Chapter 16: Residential Street Design and Chapter 19: Traditional Neighborhood Development.

Context Classification	Local (MPH)	Collector (MPH)	Arterial (MPH)
Natural (C1) / Rural (C2)	Paved: 20 – 50 Unpaved: 20 – 35	30 – 55	To be discussed in subcommittee meeting
Rural Town (C2T)	20 – 25	25 – 30	
Suburban Residential (C3R)	20 – 25	25 – 35	
Suburban Commercial (C3C)	20 – 25	25 – 35	
General Urban (C4)	20 – 25	25 – 30	
Urban Center (C5)	20	20 – 25	
Urban Core (C6)	20	20 – 25	

Table Notes:

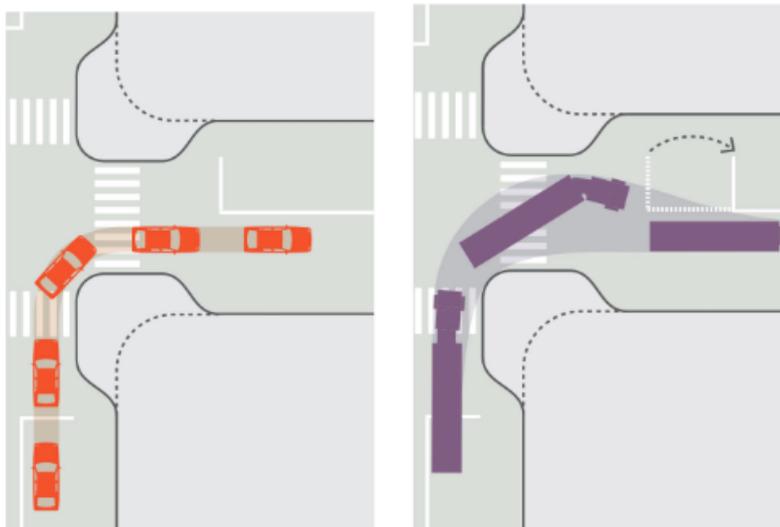
1. For state roadways, refer to the FDOT Design Manual for design speed ranges.
2. Alleys and other narrow roadways intended to function as shared spaces can be designed for speeds as low as 10 mph

3.4 Design and Control Vehicles

- Define design vehicle and control vehicle and explain how and when each is used for the design of a roadway.
 - A design vehicle is the largest vehicle that is planned for without encroachment on to curbs (when present) or into adjacent travel lanes. The type of design vehicle is influenced by the functional and context classification of a roadway, the role of the roadway in the network, and the land uses served. In urban areas where the context classification suggests a need for multimodal travel, a smaller vehicle turning template may be appropriate at intersections where cross streets will not be expected to have significant levels of heavy truck traffic.
 - A control vehicle is the largest or least maneuverable vehicle that infrequently uses a facility. The control vehicle is accommodated by allowing:
 - i) Encroachment into adjacent and opposing lanes if no raised median is present
 - ii) Minor encroachment on to curbs and areas within the curb return if no critical infrastructure such as traffic signal poles or pedestrian waiting areas are present.

Figure 1 Design and Control Vehicle Turning Maneuvers

- Recreate a figure similar to example below showing the difference between design vehicle turning radii and potential allowable encroachment for control vehicles. The new figure will include a larger design vehicle, such as an SU 30.



3.4.1 Minimum Standards for Vehicles

- Guidance for selecting a design and control vehicle by functional and context classification
 - Incorporate design vehicle guidance from Chapter 19: Traditional Neighborhood Development
 - i) In narrow streets and compact intersections, designers should pay close attention to the operational needs of transit, emergency vehicles, waste collection, and delivery trucks. Early coordination with stakeholder groups is essential.
 - ii) The designer should evaluate intersections using turning templates or turning movement analysis software to verify that adequate operation of vehicles can occur.
 - In some cases, the design and control vehicle may be the same.
 - Maintaining agencies have the final determination on design and control vehicle.
 - Option to include case studies in which contexts differ at intersections in the Roadway Design Guide.
 - Fire equipment and emergency vehicles should have reasonable access to all areas.
 - If running truck turns through a simulation software, run checks at a specific speed

Committee: Should we define “reasonable access” or lean on local codes?

Table 3 Typical Design & Control Vehicles by Context Classification

New table

Context Classification	Local	Collector	Arterial	Freeway ¹
Natural (C1) / Rural (C2)	DV = WB-40 CV = WB-62	DV = WB-40 CV = WB-62	DV = WB-40 (WB-62 or WB-67 on Designated Freight routes) CV = WB-62 or WB-67	DV = WB-40 (WB-62 or WB-67 on Designated Freight routes) CV = WB-62 or WB-67
Rural Town (C2T)	DV = DL-23 CV = SU-30	DV = SU-30 CV = WB-40	DV = WB-62, WB-67 for Designated Freight Corridors	DV = WB-62, WB-67 for Designated Freight Corridors
Suburban Residential (C3R)	DV = DL-23 CV = WB-40/BU-40	DV = DL-23 CV = WB-40/BU-40	DV = WB-40 CV = WB-62, WB-67 for Designated Freight Corridors	DV = WB-62, WB-67 for Designated Freight Corridors
Suburban Commercial (C3C)	DV = DL-23 CV = WB-40/BU-40	DV = DL-23 CV = WB-40/BU-40	DV = WB-40 CV = WB-62, WB-67 for Designated Freight Corridors	DV = WB-62, WB-67 for Designated Freight Corridors
General Urban (C4)	DV = DL-23 CV = SU-30/BU-40	DV = DL-23 CV = SU-30/BU-40	DV = SU-30 CV = WB-50	DV = WB-62, WB-67 for Designated Freight Corridors
Urban Center (C5)	DV = DL-23 CV = SU-30/BU-40	DV = DL-23 CV = SU-30/BU-40	DV = SU-30 CV = WB-50	DV = WB-62, WB-67 for Designated Freight Corridors
Urban Core (C6)	DV = DL-23 CV = BU-40	CV = BU-40	DV = WB-40	DV = WB-62, WB-67 for Designated Freight Corridors

Table Notes:

1. Use the AASHTO WB-109D as the design vehicle for tandem truck routes.

Table 4 Design Vehicle Dimensions

Previously Table 3-2

Table 5 Minimum Turning Radii of Design Vehicles

Previously Table 3-3

3.5 Sight Distance

- Definition and importance of sight distance

3.5.1 Stopping Sight Distance

- Factors that determine minimum stopping distance
- Add 10 mph design speed from Table 16-1: Minimum Stopping Sight Distance for Residential Streets

Table 6 Minimum Stopping Distance

Previously Table 3-4

Design Speed (MPH)	Stopping Sight Distance (feet)						
	Level (≤2%)	Downgrades			Upgrades		
		3%	6%	9%	3%	6%	9%
10	47	48	49	50	46	45	45
15	80	80	82	85	75	74	73
20	115	116	120	126	109	107	104
25	155	158	165	173	147	143	140
30	200	205	215	227	200	184	179
35	250	257	271	287	237	229	222
40	305	315	333	354	289	278	269
45	360	378	400	427	344	331	320
50	425	446	474	507	405	388	375
55	495	520	553	593	469	450	433
60	570	598	638	686	538	515	495
65	645	682	728	785	612	584	561
70	730	771	825	891	690	658	631

3.5.1.1 Approach to Stops

3.5.1.2 On Turning Roads

Figure 2 Sight Distances for Approach to Stop on Grades

Previously Figure 3-18

3.5.2 Decision Sight Distance

- Define decision sight distance and relationship to stopping sight distance
- Provide locations where additional decision sight distance may be needed

Table 7 Decision Sight Distance

Previously Table 3-5

3.5.3 Passing Sight Distance

- Define passing sight distance
- Discuss need for passing sight distances on two-lane, two-way highways primarily in rural contexts.

Table 8 Minimum Passing Sight Distance

Previously Table 3-6

3.5.4 Intersection Sight Distance

- Moved from Intersection Design and reorganized subsection to reduce repetition of topics.

3.5.4.1 Determining Intersection Sight Distance

- Introduction and list of criteria

3.5.4.2 Sight Distance for Intersection Maneuvers

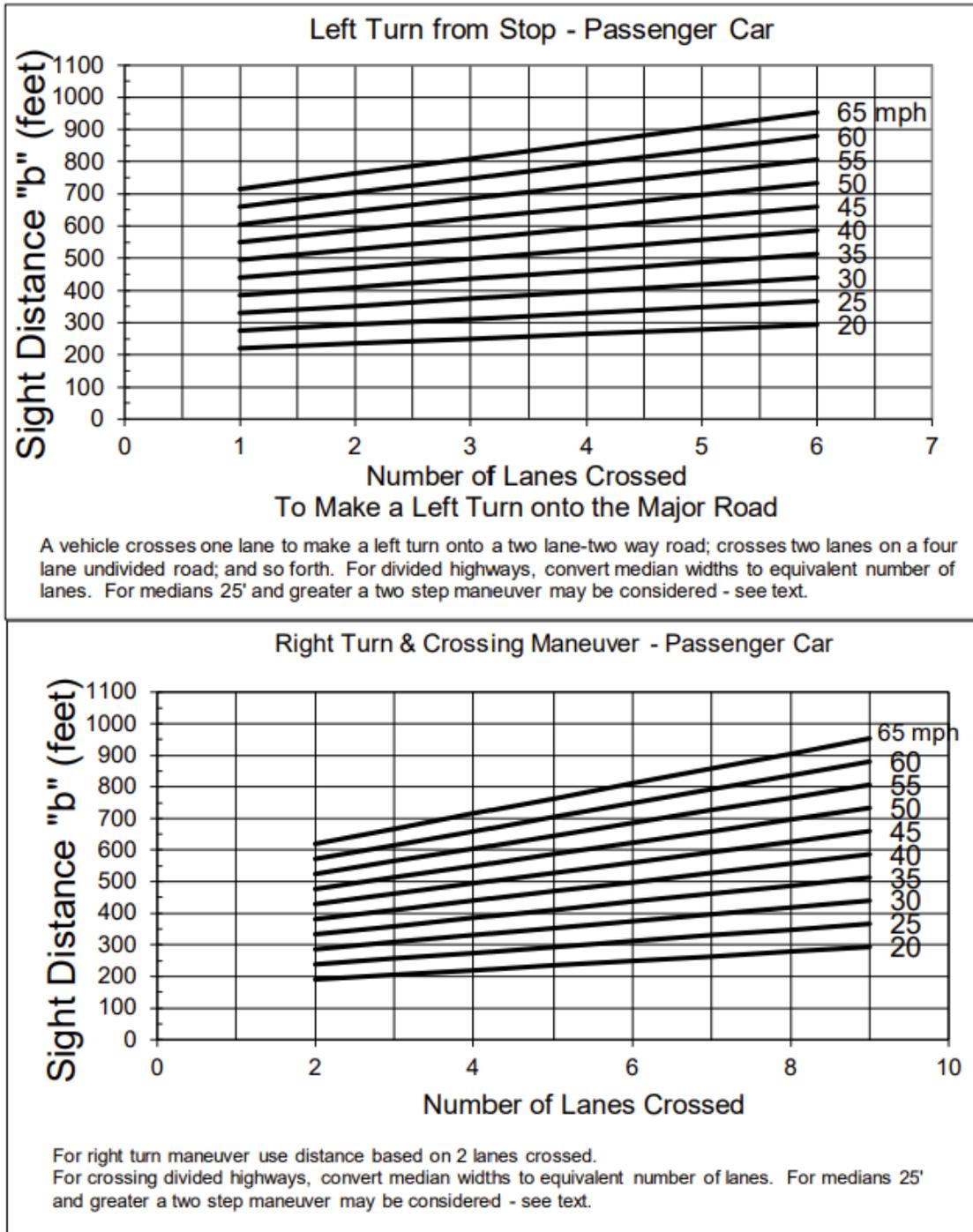
- Definition of sight triangle including formulas
- Cases to be considered when calculating ISD

Figure 3 Departure Sight Triangle (Traffic Approaching from Left or Right)

Previously Figure 3-19

Figure 4 Intersection Sight Distance

Previously Figure 3-20



Committee: Should we add options for other vehicles? Should we only include left turn movements and/or add guidance that left turn movements can govern design in many cases?

Table 9 Minimum Corner Intersection Sight Distance for Residential Streets

Previously Table 16 – 2: Minimum Corner Intersection Sight Distance for Residential Streets

Design Speed (mph)	Corner Intersection Sight Distance * (feet)
10	110
15	160
20	210
25	260
30	310

* Corner sight distance measured from a point on the minor road at least 14.5 feet from the edge of the major road pavement and measured from a height of eye at 3.5 feet on the minor road to a height of object at 3.5 feet on the major road.

Committee: Should we incorporate Table 9 criteria into Figure 4, or leave separate? Or should we remove 20-30 MPH from this table since they're included in Figure 4?

3.5.4.3 Driver's Eye Position and Vehicle Stopping Position

- Requirements for the vertex of the departure sight triangle on a minor road
- Reference to Section 316.123 Florida Statutes for requirements relating to stopping at stop signs, stop bar, or crosswalk.

3.5.4.4 Design Vehicle**3.5.4.5 Case Studies for Intersection Sight Distance by Maneuver**

- Reorganized existing case study information into table below

Table 10 Sight Distance Considerations by Intersection Maneuver

New table based on existing criteria

Committee: Would you like to see all of these case studies or are there specific ones that are more helpful? Should we reference AASHTO for latest guidance instead of including these here?

Maneuver	Time Gap (t_g) in Seconds			Additional Considerations
	Passenger Car	Single Unit Truck	Combination Truck	
B1 – Left Turns from the Minor Road	7.5	9.5	11.5	<p>If the minor road approach grade is an upgrade that exceeds 3 percent, add 0.2 seconds for each percent grade for left turns.</p> <p>For multilane streets and highways without medians wide enough to store the design vehicle with a clearance of 3 feet on both ends of the vehicle, add 0.5 seconds for passenger cars or 0.7 seconds for trucks for each additional lane from the left, in excess of one, to be crossed by the turning vehicle. The median width should be included in the width of additional lanes. This is done by converting the median width to an equivalent number of 12 foot lanes.</p> <p>For multilane streets and highways with medians wide enough to store the design vehicle with a clearance of 3 feet on both ends of the vehicle a two-step maneuver may be assumed. Use Case B2 for crossing to the median.</p>
B2 – Right Turns from the Minor Road	6.5	8.5	10.5	<p>If the approach grade is an upgrade that exceeds 3 percent, add 0.1 seconds for each percent grade.</p> <p>For crossing streets and highways with more than 2 lanes, add 0.5 seconds for passenger cars or 0.7 seconds for trucks for each additional lane to be crossed. Medians not wide enough to store the design vehicle with a clearance of 3 feet on both ends of the vehicle should be included in the width of additional lanes. This is done by converting the median width to an equivalent number of 12 foot lanes.</p> <p>For crossing divided streets and highways with medians wide enough to store the design vehicle with a clearance of 3 feet on both ends of the vehicle, a two-step maneuver may be assumed. Only the number of lanes to be crossed in each step are considered.</p>

B3 – Crossing the Major Road from the Minor Road	6.5	8.5	10.5	See Case B2 considerations above.
D – Intersections with Traffic Signal Control	The first vehicle of each approach is visible to the driver of the first vehicle from each approach.*			<p>If the traffic signal is to be placed on two-way flashing operation in off-peak or night-time conditions, then the appropriate departure sight triangles for Cases B1, B2, or B3, both to the left and to the right, should be provided.</p> <p>In addition, if right-turns-on-red are to be permitted, then the appropriate departure sight triangle to the left for Case B2 should be provided to accommodate right turns.</p>
E – Intersections with All-Way Stop Control	The first vehicle of each approach is visible to the driver of the first vehicle from each approach.*			N/A
F – Left Turns from the Major Road	5.5	6.5	7.5	<p>All locations along a major road from which vehicles are permitted to turn left across opposing traffic shall have sufficient sight distance to accommodate the left turn maneuver. In this case, the ISD is measured from the stopped position of the left turning vehicle. See Figure 3 Sight Distance for Vehicle Turning Left from Major Road</p> <p>For left turning vehicles that cross more than one opposing lane, add 0.5 seconds for passenger cars and 0.7 seconds for trucks for each additional lane to be crossed.</p>
G – Roundabouts	<p>Vehicles entering from a yield-controlled approach should see approaching vehicles along the circulatory roadway and vehicles entering the roundabout from the immediate upstream entry.</p> <p>Provide only the minimum sight distance per <i>NCHRP Report 1043: Guide for Roundabouts</i></p>			<p>It is advantageous to provide only the minimum sight distance needed at a roundabout. Additional intersection sight distance could result in higher vehicle speeds that may increase conflicts between motor vehicles, bicyclists, and pedestrians. Landscaping within the central island can be effective in restricting sight distance to the minimum needed while creating a “terminal vista” on the approach to improve visibility of the central island.</p>

3.5.5 Intersection Sight Distance References

3.5.6 Obstructions to Sight Distance

- Criteria for sight distance when the line of sight is limited by vertical curvature or obstructions.

3.6 Horizontal Alignment

- Introduction to horizontal alignment
- Locations where maximum curvature should be avoided

3.6.1 Maximum Deflections in Alignment without Curves

Table 11 Maximum Deflection Angle Through Intersection

Previously Table 3-7

Table 12 Minimum Lengths of Horizontal Curves

Previously Table 3-8

Added 20 mph design speed value

Curve Length Based on Design Speed											
Design Speed (MPH)	20	25	30	35	40	45	50	55	60	65	70
Arterials, Collectors (Length in feet = 15 x Design Speed)	300	400	450	525	600	675	750	825	900	975	1050
Freeways – Mainline (Length in Feet = 30 x Design Speed)	N/A	N/A	N/A	N/A	N/A	N/A	1500	1650	1800	1950	2100
Curve Length Based on Deflection Angle											
Deflection Angle (degrees)	5	4	3	2	1						
Curve Length (feet)	500	600	700	800	900						

Notes:

1. Horizontal curve length should be the greater of the lengths based on design speed and length based on deflection angle.
2. If the curve lengths for arterials and collectors cannot be attained, provide the greatest attainable length possible, but not less than 400 feet.
3. If the curve lengths for mainline freeways cannot be attained, provide the greatest attainable length possible, but not less than the lengths used for arterials and collectors.
4. Curve length shall provide for full superelevation within the curve of not less than 200 feet (Rural) or 100 feet (Urban).

Table 13 Minimum Centerline Radii for Urban and Suburban Local Streets

From Table 16 – 3: Minimum Centerline Radii for Residential Streets

Design Speed (mph)	Min. Centerline Radius (feet)
10	25
15	50
20	89
25	166
30	275

Table 14 Length of Compound Curves on Turning Roadways

Previously Table 3-9

- Additional guidance on the ratio between compound curves and avoiding “broken back” arrangement of curves in rural contexts, where two curves in the same direction have too short a tangent.

3.6.2 Superelevation

- Define Superelevation
- Guidance that superelevation is generally discouraged in urban contexts to encourage operation of vehicle at target speeds.
 - Superelevation is discouraged in urban contexts as it often conflicts with the operational constraints of urban environments, such as closed drainage systems (curb and gutter), adjacent development (sidewalks, driveways, building entrances). Operational constraints of urban contexts may also include higher intersection density and traffic signals.
- Reference to FDM and AASHTO superelevation sections

Table 15 Superelevation Rates for Rural Highways, Urban Freeways and High Speed Urban Highways (e max=0.10)

Previously Table 3-10

Table 16 Superelevation Rates for Low Speed Arterials and Collectors (emax=0.05)

Previously Table 3-11

Table 17 Minimum Radii (feet) for Design Superelevation Rates Low Speed Local Roads (emax=0.05)

Previously Table 3-12

e - ft/ft	Design Speed (mph)							
	10	15	20	25	30	35	40	45
0.05	16	41	83	149	240	355	508	675
0.045	16	41	85	152	245	363	520	692
0.04	16	42	86	154	250	371	533	711
0.035	16	42	87	157	255	380	547	730
0.03	16	43	89	160	261	389	561	750
0.025	16	43	90	163	267	398	577	771
0.02	17	44	92	167	273	408	593	794
0.015	17	45	94	170	279	419	610	818
0.01	17	45	95	174	286	430	627	844
0.005	17	46	97	177	293	441	646	871
0	18	47	99	181	300	454	667	900
-0.01	18	48	103	189	316	480	711	964
-0.02	19	50	107	198	333	510	762	1038
-0.03 ¹	19	52	111	208	353	544	821	1125
-0.04 ¹	20	54	116	219	375	583	889	1227
-0.05 ¹	20	56	121	231	400	628	970	1350

1. Negative superelevation values beyond -0.02 feet per foot should be used only for unpaved surfaces such as gravel, crushed stone, and earth.

Committee: Are the superelevation rates for low speed local roads being used? Do they need to stay? If so, could this information be combined with Table 13?

3.6.3 Superelevation Transition (superelevation runoffs plus tangent runoff)

- Definition
- Grade criteria

Table 18 Superelevation Transition Slope Rates

Previously Table 3-13

- Reference FDM and AASHTO

3.6.4 Maximum Curvature/Minimum Radius

- The use of the maximum degree of curvature should be avoided when possible.
- References to superelevation tables in Section 3.7.2.

3.6.5 Sight Distance on Horizontal Curves

Table 19 Horizontal Sight Line Offset Distances for Stopping Sight Distance on Horizontal Curves

Previously Figure 3-1A

Table 20 Diagram Illustrating Components for Determining Horizontal Sight Distance

Previously Figure 3-1B

Table 21 Horizontal Curvature

Previously Table 3-14

3.6.6 Lane Widening on Curves

- Add additional considerations related to minimizing lane widening in urban contexts and adding buffer if needed.

Table 22 Calculated and Design Values for Traveled Way Widening on Open Highway Curves (Two-Lane Highways, One-Way or Two-Way)

Previously Table 3-15A

Table 23 Adjustments for Traveled Way Widening Values on Open Highway Curves (Two-Lane Highways, One-Way or Two-Way)

Previously Table 3-15B

3.7 Vertical Alignment

3.7.1 Selecting Appropriate Vertical Alignment

- Criteria for selection of vertical alignment

3.7.2 Grades

Table 24 Maximum Grades (in Percent)

Previously Table 3-16

Figure 5 Critical Length Versus Upgrade

Previously Figure 3-2

3.7.3 Vertical Curves

Table 25 Maximum Change in Grade Without Using Vertical Curve

Previously Table 3-17

Table 26 Rounded K Values for Minimum Lengths Vertical Curves (Stopping Sight Distance)

Previously Table 3-18

Figure 6 Length of Crest Vertical Curve (Stopping Sight Distance)

Previously Figure 3-3

Table 27 Design Controls for Crest Vertical Curves (Passing Sight Distance)

Previously Table 3-19

Figure 7 Length of Sag Vertical Curve (Open Road Conditions)

Previously Figure 3-4

3.8 Alignment Coordination

- General controls for proper combinations of horizontal and vertical alignment
- Reference Chapter 4 for clear zone and control zone criteria

3.9 Cross Section Elements

- Introductory guidance on design of the cross section and use of context classification
 - The design of the street or highway cross section should be informed by context classification, predicated upon the design speed, terrain, adjacent land use,

classification, and the type and volume of traffic expected. Reference Section 3.3 for design speed ranges.

- The cross section selected should be uniform throughout a given length of street or highway without frequent or abrupt changes.
- See Chapter 4 – Roadside Design for design criteria for roadside design, clear zone, lateral offset, and roadside ditches located within the clear zone.
- Brief explanation of cross section elements. Reference Chapter 1 for full definitions.
- Expanded definition of border width given its relative uniqueness in Florida. Border width provides space for roadside design components such as signing, signals, lighting, drainage features, guardrail, fencing and clear zone, sidewalks with ADA provisions, pedestrian buffers, traffic control devices, fire hydrants, storm drainage features, bus and transit features, permitted public utilities and space for aesthetic features such as sod and other landscape items. Border width can help future-proof and allow for dynamic cross sections as the context of the roadway changes over time (see Section 3.9.1.5.1). Border width is measured to the right of way line as follows:
 - i) Flush shoulder roadways: from the shoulder break
 - ii) Curbed roadways: from the outside edge of pavement (lip of gutter)
 - iii) High speed curbed roadways: from the outside edge of the traveled way.
- Guidance from existing Section 3.3.8.5 on coordinating land use and zoning practices and policy, and reference to Chapter 1: Planning and Land Development
- Each agency with responsibility for street and highway design, construction, or maintenance **should** promote close **coordination** with utility, lawmaking, zoning, building, and planning agencies. Cooperation should be solicited in the formulation of laws, regulations, and master plans for land use, zoning, and road construction. Further requirements and criteria for access control and land use relationships are given in Chapter 1 – Planning and Land Development.

3.9.1 Context-Based Design Criteria

- New tables summarizing design criteria for each context and functional classification.
- Freeways are summarized separately since there is limited distinction between context classifications in freeway design.
- For non-freeways, cross section elements can be determined by two main factors: design speed and context classification. The following tables outline the minimum criteria for cross section elements that are determined primarily by speed at the beginning of each table.

Cross section elements that are more relevant to a specific context are captured in the latter half of each table.

- If an element is required, a minimum dimension will be provided. If an element is not required, it will be listed as not anticipated, optional, not applicable (n/a), or include a 0' minimum dimension.
- High-speed curbed roadways have design speeds of 50-55 mph. Refer to section 3.9.4 for additional guidance.

3.9.1.1 Freeways

Table 28 Cross Section Criteria for Freeways

New Table

Elements	Urban		Rural	
	<60	≥60	<60	≥60
Design Speed (MPH)	<60	≥60	<60	≥60
Number of Lanes	≥ 2 in each direction			
Travel Lane Width (feet)	12	12	12	12
Ramp Lane Width (feet)	One Lane: 15 Two or More Lanes: 12			
Auxiliary Lane Width (feet)	12	12	12	12
Median/Inside Shoulder Width (feet)^{1, 2}				
Two lanes in each direction	8 (Paved: 4)	8 (Paved: 4)	8 (Paved: 4)	8 (Paved: 4)
Three or more lanes in each direction	12 (Paved: 10)	12 (Paved: 10)	12 (Paved: 10)	12 (Paved: 10)
Outside Shoulder Width (feet)^{1, 2}				
Two lanes in each direction	12 (Paved: 10)	12 (Paved: 10)	12 (Paved: 10)	12 (Paved: 10)
Three or more lanes in each direction	12 (Paved: 10)	12 (Paved: 10)	12 (Paved: 10)	12 (Paved: 10)
Median Width without Barrier (feet)	40	60	40	60
Median Width with Barrier (feet)	26	26	26	26
Border Width (feet)³	94	94	94	94

Table Notes:

1. On resurfacing projects where paved or usable shoulder widths are less than 10 feet, provide shoulder modifications to allow for acceptable emergency shoulder use or identify a future project that will provide the required shoulder modifications. Dimensions provided assume without shoulder gutter. If shoulder gutter is provided, see FDOT Design Manual for widths.
2. Where DDHV for truck traffic exceeds 250 veh/h or where bus on shoulder is permitted, a shoulder of 12 ft should be considered.
3. On existing roadways when right of way is not being acquired, such as for a resurfacing only project, unmodified existing border width may remain.

3.9.1.2 Natural and Rural

Table 29 Cross Section Criteria for Natural (C1) and Rural (C2) Contexts

New Table

Design Speed-Based Elements					
Design Speed (MPH)	≤ 35	40	45	50	55
Travel Lane Width (feet) ^{2, 3}	10 ¹ – 11	10 – 11	10 – 11	11 – 12	12
Turn Lane Width (feet) ⁴	10 – 11	10 – 11 ²	10 – 11 ²	11 – 12	12
Passing Lane Width (feet)	n/a	11	11	12	12
Median Width (feet) – Flush ⁴	0 – 2	0 – 16	≥20	≥30	≥40
Median Width (feet) – Raised ⁴	4 – 16	4 – 22	4 – 22	4 – 40	4 – 40
Inside Shoulder Width (feet) – Flush Shoulder	2	2	4	8	8
Outside Shoulder Width (feet) – Flush Shoulder	2	2	4	8	8
Border Width (feet) – Flush Shoulder ⁵	33	33	33	40	40
Border Width (feet) – Curbed ⁵	12 ⁶	12	14	29	35
Shared Lane Markings	See Chapter 9	n/a	n/a	n/a	n/a
Functional Classification Based Elements					
Functional Classification	Local	Collector	Arterial		
Number of Lanes	2	Primarily 2	2 – 4		
Sidewalk Width (feet)	Not anticipated, ≥5 where provided	Not anticipated, ≥5 where provided	Not anticipated, ≥5 where provided		
Shared Use Path Width (feet)	Not anticipated, ≥10 where provided	Not anticipated, ≥10 where provided	Not anticipated, ≥10 where provided		
Pedestrian Buffer (feet)	Not anticipated, ≥3 where provided	Not anticipated, ≥3 where provided	Not anticipated, ≥5 where provided		

Buffered Bicycle Lane (feet) ⁷	Not anticipated	Not anticipated	Not anticipated
Refuge Island Width (feet) ⁸	Not anticipated	Not anticipated	Not anticipated
Parking Width (feet)	Limited and typically informal	Not anticipated	Not anticipated

Table Notes:

1. In low volume roadways, ≤400 vehicles per day, 9' travel lanes may be used.
2. In industrial areas and where truck volumes are significant (≥10% truck volumes OR ≥250 trucks per day) 12' travel lanes should be provided. If right of way is constrained, 11' travel lanes may be provided. When truck volumes are high (≥250 trucks per day) and the design speed is ≥35, 11' lanes may be used.
3. On roadways with a transit route, an 11' outside lane should be considered. On projects with right of way constraints or where the lane with transit is adjacent to a buffer area, the minimum width may be reduced to 10'.
4. The minimum width for medians with turn lanes is 14'. Turn lane width in raised or grass medians shall not exceed 14'. Two-way left turn lanes should be 11' – 14' wide and may only be used on 3- and 5-lane typical sections with design speeds ≤ 40 mph. On projects with right of way constraints, the minimum width may be reduced to 10'. Two-way left turn lanes shall include sections of raised or restrictive median for pedestrian refuge.
5. On existing roadways when right of way is not being acquired, such as for a resurfacing only project, unmodified existing border width may remain. If adding a right-turn lane, a modified existing border width must not be less than 8 feet.
6. On curbed roadways with design speeds ≤35 MPH that have an adjacent bike lane, the required border width may be reduced by 2 feet.
7. Bicycle facilities are not anticipated in natural and rural contexts. If provided, bicycle lane widths should be 4 – 5 feet with a 2 – 3 feet buffer.
8. Refuge islands are not anticipated in natural and rural contexts. If provided, widths should be 6 feet for local roadways, and 6 – 8 feet for local and collector roadways.

Table 30 Cross Section Criteria for Rural Town (C2T) Context

New Table

Committee: These questions apply to Table 29-Table 33. Would you prefer to see the speed-based elements broken out by functional classification instead? If speeds remain, would you prefer speeds with the same criteria separated (as shown) or collapsed? Would you prefer the bike/ped facilities to reference Chapters 8 and 9 rather than including the minimums in this table, similar to the parking example?

Design Speed-Based Elements				
Design Speed (MPH)	≤ 20	25	30	35
Travel Lane Width (feet) ¹	9 – 10	10 – 11	10 – 11	10 – 11
Turn Lane Width (feet) ²	9 – 10	10 – 11	10 – 11	10 – 11
Median Width (feet) – Flush ²	0 – 2	0 – 16	0 – 16	0 – 16
Median Width (feet) – Raised ²	Not anticipated	6	6	6
Inside Shoulder Width (feet) – Flush Shoulder	0 – 2	0 – 2	0 – 2	0 – 2
Outside Shoulder Width (feet) – Flush Shoulder	0 – 2	0 – 2	0 – 2	0 – 2
Border Width (feet) Flush Shoulder ³	12	33	33	33
Border Width (feet) Curbed ^{3, 4}	12	12	12	12
Shared Lane Markings	See Chapter 9	See Chapter 9	See Chapter 9	See Chapter 9
Functional Classification Based Elements				
Functional Classification	Local	Collector	Arterial	
Number of Lanes	2	Primarily 2	2 – 4	
Sidewalk Width (feet)	≥6, where provided	≥6, where provided	≥8, where provided	

Shared Use Path Width (feet)	≥10, where provided	≥10, where provided	≥12, where provided
Pedestrian Buffer (feet)	≥2, where provided	≥5, where provided	≥5, where provided
Separated Bicycle Facility (feet); Raised Separation	Not typical	One Way: 6 – 7; ≥3 Two-Way: 10 – 12; ≥3	One Way: 6 – 7; ≥3 Two-Way: 10 – 12; ≥3
Buffered Bicycle Lane (feet) ⁵	7, where provided	7, where provided	7, where provided
Non-Buffered Bicycle Lane (feet)	4 – 5, where provided	4 – 5, where provided	4 – 5, where provided
Refuge Island Width (feet)	Not typical	6, where provided	6 – 8, where provided
Parking Width (feet)	Limited and typically informal	Parallel: See Section 3.9.5.1 Angle: See Section 3.9.5.2	Parallel: See Section 3.9.5.1 Angle: See Section 3.9.5.2

Table Notes:

- On roadways with a transit route, an 11' outside lane should be considered. On projects with right of way constraints or where the lane with transit is adjacent to a buffer area, the minimum width may be reduced to 10'.
- The minimum width for medians with turn lanes is 14'. Turn lane width in raised or grass medians shall not exceed 14'. Two-way left turn lanes should be 11 – 14' wide and may only be used on 3- and 5-lane typical sections with design speeds ≤ 35 mph. On projects with right of way constraints, the minimum width may be reduced to 10'. Two-way left turn lanes shall include sections of raised or restrictive median for pedestrian refuge.
- On existing roadways when right of way is not being acquired, such as for a resurfacing only project, unmodified existing border width may remain. If adding a right-turn lane, a modified existing border width must not be less than 8 feet.
- On curbed roadways with design speeds ≤35 MPH that have an adjacent bike lane, the required border width may be reduced by 2 feet.
- For projects where a buffered bicycle lane is needed and it is not practical to move the existing curb (e.g. RRR), the width of the bicycle lane depends on the width of available pavement. See Chapter 9 – Bicycle Facilities for more information.

3.9.1.3 Suburban

Table 31 Cross Section Criteria for Suburban Residential (C3R) and Suburban Commercial (C3C) Context

New Table

Design Speed-Based Elements					
Design Speed (MPH)	≤ 20	25	30	35	40
Travel Lane Width (feet) ¹	9	10 – 11	10 – 11	10 – 11 ²	10 – 12 ²
Turn Lane Width (feet) ³	9	10 – 11	10 – 11	10 – 11	10 – 11
Median Width (feet) - Flush	0 – 2	0 – 2	0 – 2	0 – 2	0 – 2
Median Width (feet) - Raised ⁴	Not anticipated	6 – 8	6 – 16	6 – 16	6 – 16
Inside Shoulder Width (feet) – Flush/	0 – 2	0 – 2	0 – 2	0 – 2	0 – 4
Outside Shoulder Width (feet) – Flush	0 – 2	0 – 2	2 – 6	2 – 6	2 – 8
Outside Shoulder Width (feet) - Raised	0 – 2	0 – 2	0 – 2	0 – 2	0 – 4
Border Width (feet) Flush Shoulder ⁵	33	33	33	33	33
Border Width (feet) Curbed ⁶	12	12	12	12	12
Shared Lane Markings	See Chapter 9	See Chapter 9	See Chapter 9	See Chapter 9	n/a
Functional Classification Based Elements					
Functional Classification	Local	Collector		Arterial	
Number of Lanes	2	2 – 4		Primarily 2 – 4	
Sidewalk Width (feet)	≥6, where provided	C3R: ≥6 C3C: ≥8		C3R: ≥6 C3C: ≥8	
Shared Use Path Width (feet)	C3R: ≥10, where provided C3C: ≥12, where provided	≥12, where provided		≥12, where provided	

Pedestrian Buffer (feet)	3 – 4, or sufficient sidewalk width for buffering	≥5, where provided	≥5, where provided
Separated Bicycle Lane (feet); Buffer (feet)	Not typical	One Way: 5 – 7; ≥3 Two-Way: 8 – 12; ≥3	One Way: 5 – 7; ≥3 Two-Way: 8 – 12; ≥3
Non-Buffered Buffered Bicycle Lane (feet)	7, where provided	7, where provided	7, where provided
Bicycle Lane (feet) ⁷	4 – 5, where provided	4 – 5, where provided	4 – 5, where provided
Refuge Island Width (feet)	6 – 8, where provided	6 – 8, where provided	6 – 8, where provided
Parking Width	Limited and typically informal	Not Anticipated	Not Anticipated

Table Notes:

5. On roadways with a transit route, an 11' outside lane width should be considered. On projects with right of way constraints or where the lane with transit is adjacent to a buffer area, the minimum width may be reduced to 10'.
6. When truck volumes are high (≥250 trucks per day) and the design speed is ≥35, 11' lanes may be used. In industrial areas and where truck volumes are significant (≥10% truck volumes OR ≥250 trucks per day) 12' travel lanes should be provided. If right of way is constrained, 11' travel lanes can be provided.
7. Turn lane width in raised or grass medians shall not exceed 14'. Two-way left turn lanes should be 11 – 14' wide and may only be used on 3- and 5-lane typical sections with design speeds ≤ 40 mph. On projects with right of way constraints, the minimum width may be reduced to 10'. Two-way left turn lanes shall include sections of raised or restrictive median for pedestrian refuge.
8. The minimum width for medians with turn lanes is 14'.
9. On existing roadways when right of way is not being acquired, such as for a resurfacing only project, unmodified existing border width may remain. If adding a right-turn lane, a modified existing border width must not be less than 8 feet.
10. On curbed roadways with design speeds ≤35 MPH that have an adjacent bike lane, the required border width may be reduced by 2 feet.
11. For projects where a buffered bicycle lane is needed and it is not practical to move the existing curb (e.g. RRR), the width of the bicycle lane depends on the width of available pavement. See Chapter 9 – Bicycle Facilities for more information.

3.9.1.4 Urban

- In an urban context, yield streets, alleys, and other narrow roadways may be more common.
 - Yield streets are typically residential two-way streets with parking on one or both sides. When the street is parked, the remaining space (10 feet minimum) is adequate for one vehicle to pass through. Minimum width for a yield street with parking on both sides should be 24 feet curb face to curb face. Minimum width for a yield street with parking on one side should be 20 feet curb face to curb face, allowing for two 10-foot lanes when the street is not parked.
 - Alleys and narrow roadways that act as shared spaces can have design speeds as low as 10 MPH. Alleys can be designed as either one way or two way. Right of way width should be a minimum of 20 feet with no permanent structures within the right of way that would interfere with vehicle access to garages or parking spaces, access for trash collection, and other operational needs. Pavement width should be a minimum of 12 feet. Coordination with local municipalities on operational requirements is essential to support trash collection and fire protection services.

Table 32 Cross Section Criteria for Urban General (C4) and Urban Center (C5) context

New Table

Design Speed-Based Elements				
Design Speed (MPH)	≤ 20	25	30	35
Travel Lane Width (feet) ^{1, 2}	9 – 10	10 – 11	10 – 11	10 – 11
Turn Lane Width (feet) ³	9 – 10	10 – 11	10 – 11	10 – 11
Median Width (feet) - Flush	0 – 2	0 – 2	0 – 2	0 – 2
Median Width (feet) – Raised ⁴	Not anticipated	6 – 16	6 – 16	6 – 16
Inside Shoulder Width – (feet)	0 – 2	0 – 2	0 – 2	0 – 2
Outside Shoulder Width – (feet)	0	0 – 2	0 – 2	0 – 4
Border Width (feet) Flush Shoulder ⁵	n/a	n/a	33	33

Border Width (feet) Curbed ⁵	16	16	16	16
Shared Lane Markings	See Chapter 9	See Chapter 9	See Chapter 9	See Chapter 9
Functional Classification Based Elements				
Functional Classification	Local	Collector	Arterial	
Number of Lanes	1 ² - 2	2 – 4	Primarily 2 – 4	
Sidewalk Width (feet)	≥6, where provided	≥8	≥10	
Shared Use Path Width (feet) ⁶	≥12, where provided	≥12, where provided	≥12, where provided	
Pedestrian Buffer (feet)	0 – 4 feet	≥3, where provided	≥3, where provided	
Separated Bicycle Facility (feet); Buffer (feet)	Not typical	One Way: 5 – 7; ≥3 Two-Way: 8 – 12; ≥3	One Way: 5 – 7; ≥3 Two-Way: 8 – 12; ≥3	
Buffered Bicycle Lane (feet)	7, where provided	7, where provided	7, where provided	
Non-Buffered Bicycle Lane (feet) ⁷	4 – 5, where provided	4 – 5, where provided	4 – 5, where provided	
Refuge Island Width (feet)	6, where provided	6 – 8, where provided	6 – 8, where provided	
Parking Width	Parallel: See Section 3.9.5.1 Angle: See Section 3.9.5.2	Parallel: See Section 3.9.5.1 Angle: See Section 3.9.5.2	Parallel: See Section 3.9.5.1 Angle: See Section 3.9.5.2	

Table Notes:

1. On roadways with a transit route, an 11' outside lane should be considered. On projects with right of way constraints or where the lane with transit is adjacent to a buffer area, the minimum width may be reduced to 10'.
2. May be a single lane one way street or a yield street.
3. Turn lane width in raised or grass medians shall not exceed 14'. Two-way left turn lanes should be 11 – 14' wide and may only be used on 3- and 5-lane typical sections. On projects with right of way constraints, the minimum width may be reduced to 10'. Two-way left turn lanes shall include sections of raised or restrictive median for pedestrian refuge. On existing roadways when right of way is not being acquired, such as for a resurfacing only project, unmodified existing border width may remain. If adding a right-turn lane, a modified existing border width must not be less than 8 feet.
4. Minimum width for the proper growth of small caliper trees is 6' while wider medians provide room for larger caliper trees and more extensive landscape.
5. On curbed roadways with design speeds ≤35 MPH that have an adjacent bike lane, the required border width may be reduced by 2 feet.
6. For existing roadways with constrained right of way, a shared use path may be reduced to 10'.

7. For projects where a buffered bicycle lane is needed and it is not practical to move the existing curb (e.g. RRR), the width of the bicycle lane depends on the width of available pavement. See Chapter 9 – Bicycle Facilities for more information.

Table 33 Cross Section Criteria for Urban Core (C6) Context

- New Table
- Incorporate lane, median, and parking widths from Chapter 19: Traditional Neighborhood Development.

Committee: Option to break up the sidewalk and buffer area into furniture zone, pedestrian zone, and shy zone to better differentiate the demands on the space in C6 areas, similar to how Chapter 19 characterized the space.

Design Speed-Based Elements			
Design Speed (MPH)	≤ 20	25	
Travel Lane Width (feet) ^{1, 2}	9 – 10	10	
Turn Lane Width (feet) ³	9 – 10	10	
Median Width (feet) - Flush	0 – 2	0 – 2	
Median Width (feet) – Raised ⁴	Not anticipated	6 – 16	
Inside Shoulder Width – (feet)	2	2	
Outside Shoulder Width – (feet)	2	2	
Border Width (feet) Curbed ^{5, 6}	14	14	
Shared Lane Markings	See Chapter 9	See Chapter 9	
Functional Classification Based Elements			
Functional Classification	Local	Collector	Arterial
Number of Lanes	1 ² - 2	2 – 4	Primarily 2 – 4
Sidewalk Width (feet)	≥6 feet, where provided	≥8 feet	≥10 feet

Shared Use Path Width (feet) ⁷	≥12 feet, where provided	≥12 feet, where provided	≥12 feet, where provided
Pedestrian Buffer (feet)	3 – 4 feet, or sufficient sidewalk width for buffering and other sidewalk activities, e.g. restaurant seating, bike share parking	≥5 feet, or sufficient sidewalk width for buffering and other sidewalk activities, e.g. restaurant seating, bike share parking	≥5 feet, or sufficient sidewalk width for buffering and other sidewalk activities, e.g. restaurant seating, bike share parking
Separated Bicycle Facility (feet); Buffer (feet)	One Way: 5 – 7; ≥3 Two-Way: 8 – 12; ≥3	One Way: 5 – 7; ≥3 Two-Way: 8 – 12; ≥3	One Way: 5 – 7; ≥3 Two-Way: 8 – 12; ≥3
Buffered Bicycle Lane (feet)	7, where provided	7, where provided	7, where provided
Non-Buffered Bicycle Lane (feet) ⁸	4 – 5, where provided	4 – 5, where provided	4 – 5, where provided
Refuge Island Width (feet)	6 – 8, where provided	6 – 8, where provided	6 – 8, where provided
Parking Width (feet)	Parallel: See Section 3.9.5.1 Angle: See Section 3.9.5.2	Parallel: See Section 3.9.5.1 Angle: See Section 3.9.5.2	Parallel: See Section 3.9.5.1 Angle: See Section 3.9.5.2

Table Notes:

1. On roadways with a transit route, an 11' outside lane should be considered. On projects with right of way constraints or where the lane with transit is adjacent to a buffer area, the minimum width may be reduced to 10 feet.
2. May be a single lane one way street or a yield street.
3. Turn lane width in raised or grass medians shall not exceed 14 feet. Two-way left turn lanes should be 11 – 14 feet wide and may only be used on 3- and 5-lane typical sections. On projects with right of way constraints, the minimum width may be reduced to 10 feet. Two-way left turn lanes shall include sections of raised or restrictive median for pedestrian refuge.
4. Medians with trees and lighting may use 8 feet to accommodate vegetation needs.
5. On existing roadways when right of way is not being acquired, such as for a resurfacing only project, unmodified existing border width may remain. If adding a right-turn lane, a modified existing border width must not be less than 8 feet.
6. On curbed roadways that have an adjacent bike lane, the required border width may be reduced by 2 feet.
7. For existing roadways with constrained right of way, a shared use path may be reduced to 10 feet.
8. For projects where a buffered bicycle lane is needed and it is not practical to move the existing curb (e.g. RRR), the width of the bicycle lane depends on the width of available pavement. See Chapter 9 – Bicycle Facilities for more information.

3.9.1.5 Changes in Typical Section

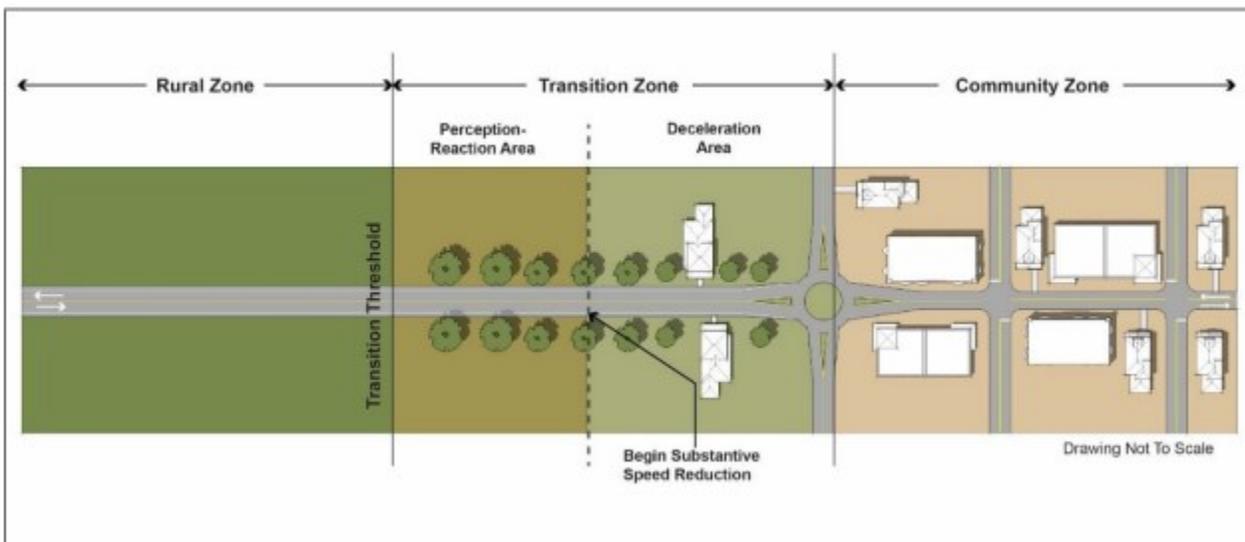
- Guidance on how to transition between different typical sections

3.9.1.5.1 Context Classification Transition

- Discussion on transition zones
- Designing for context changes in space
 - Changes between context classifications may require transition zones to evaluate the needs of all users. For example, as a roadway transitions from rural to a rural town, design speed is reduced, pedestrian and bicyclist volumes may increase, as well as the importance of on-street parking. A similar transition occurs between suburban and urban contexts, as speeds are reduced in the urban context. When designed well, transition zones can alert drivers to change expectations related to travel speed.

Figure 8 Transition Zones

- Replicate FDM 202.4 Transition Zones and Figure 202.4.2 Transition Zone from C1/C2 to C2T Context Classification



- Reference Chapter 15 Speed Management for design treatments that can be incorporated in transition zones.
- Designing for context changes in time – allowing for a “growable street design”
 - As areas grow and change over time, the context of the roadway may also change, changing the needs of the streets. For example, if the land uses in the area increases in density, additional considerations for transit and pedestrian activity could be incorporated in the design of the roadway.
 - Border width can support a growable street design and help accommodate changes in user needs. For example, a Suburban Commercial (C3C) street minimum border width is greater than or equal to 12 feet, including space for a sidewalk and utilities. Where there is an existing bicycle lane, the space beyond the travel lanes may be closer to 20

feet. If context changes to urban with lower vehicle speeds, the bicycle lane could be converted to on-street parking and the border width space could be used for a wider sidewalk or shared use path.

- When anticipating the design and context of a roadway, especially when future traffic or planned development are considered, consider how the future context will influence the future users and their needs.

3.9.1.5.2 Lane Deletions and Additions

- Reference to Intersection Design Section 3.11.2.1 Merging Maneuvers
- Guidance on avoiding lane traps where possible
- Guidance on advance warning for lane deletion when necessary
- Guidance on providing median separation for lane addition

3.9.1.5.3 Preferential Lanes

- Define preferred lanes
- Reference to MUTCD, Chapter 3D for preferential lane markings
- Reference to Chapter 9: Bicycle Facilities

3.9.1.5.4 Structures

- Guidance on continuation of cross section elements through the structure
- Minimum widths for new two-lane bridges based on average daily traffic
- Guidance on placement and minimum distances for barrier walls on bridges to adequately separate sidewalk from the travel lane
- Reference to Chapter 17: Bridges and Other Structures
- Lateral Offset
 - Reference Chapter 4: Roadside Design
 - Structure support should be placed outside of the clear zone
- Vertical Clearance

Table 34 Minimum Values for Vertical Clearance by Structure

- Reformat existing information into new table

Structure	Minimum Vertical Clearance (feet)
-----------	-----------------------------------

Freeways and Arterials	16.5 ⁽¹⁾
Collector and Local Streets	14-16 ⁽²⁾
Pedestrian or Shared Use Bridge over a Roadway	17
Bridge over a Railroad	23 ⁽³⁾

⁽¹⁾ Includes 6 inch allowance for future resurfacing

⁽²⁾ 16 feet is the standard unless provision of a reduced clearance is fully justified by a specific analysis (14 feet minimum)

⁽³⁾ Additional clearance may be required by the rail owner

- Reference Chapter 8: Pedestrian Facilities for minimum clear height of a pedestrian overpass or underpass.
- End Treatment: Reference Chapter 4: Roadside Design

3.9.2 Cross Slopes

3.9.2.1 Traveled Way Cross Slope

- Minimums and Maximums for traveled way cross slope

3.9.2.2 Shoulder Cross Slope

Committee: The existing language reads “the shoulder serves as a continuation of the drainage system; therefore, the shoulder cross slope should be somewhat greater than the adjacent traffic lane.” Where the shoulder is a bike lane, should we add language that it may have the same cross slope as the roadway?

Table 35 Shoulder Cross Slope (Percent)

Previously Table 3-22

3.9.2.3 Parking Cross Slope

- Reference 3.9.5.3 ADA Requirements
- Provide range for cross slopes
- Guidance on providing a bilevel sidewalk to mitigate the differences between the various cross section elements

3.9.2.4 Median Slopes

- Guidance for median slope and transition between median slope and the shoulder
- Recommended median cross slope and increasing median width to accommodate median depth requirements
- Longitudinal slope requirements

3.9.3 Islands

- Define island

Figure 9 General Types and Shapes of Islands and Medians

Previously Figure 3-5

- Conditions for preferred use of painted, flush, or traversable islands
- [Reference back to 3.9.1 for pedestrian refuge island criteria by context](#)
- Reference to AASHTO Green Book
- Reference to [MUTCD, Part 3](#)
- Reference to [FDM, Chapter 212 – Intersections for landscaping of islands](#)
- Reference to [AASHTO Roadside Design Guide](#) for additional landscaping of islands considering maintenance

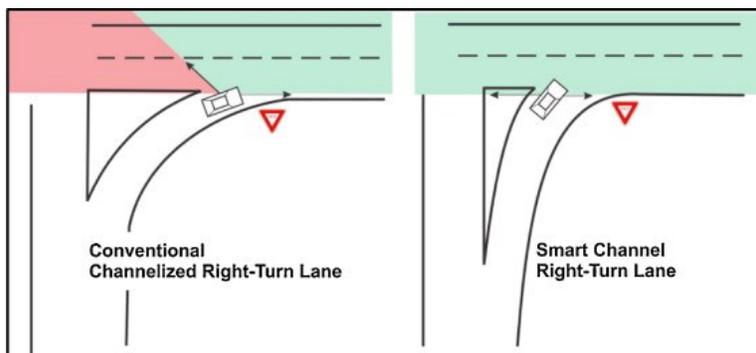
3.9.3.1 Channelizing Islands

- Define channelizing island

Figure 10 Channelization Island for Pedestrian Crossings (Curbed)

Previously Figure 3-6

- [Update geometry in figure with smart channel, shown on the right below](#)



- [Encourage use of smart channel over conventional channelized right-turn lane in urban and suburban contexts](#)

Figure 11 Details of Corner Island for Turning Roadways (Curbed)

Previously Figure 3-7

Figure 12 Details of Corner Island for Turning Roadways (Flush Shoulder)

Previously Figure 3-8

3.9.3.2 Divisional Islands

- Define divisional island
- Recommended minimum and maximum widths

Figure 13 Alignment for Divisional Islands at Intersections

Previously Figure 3-9

3.9.3.3 Refuge Islands

- Minimum width for refuge island is 6 ft
- Considerations for when to widen refuge islands (e.g., for cargo bikes)

Figure 14 Pedestrian Refuge Island

Previously Figure 3-10

Figure 15 Pedestrian Crossing with Refuge Island (Yield Condition)

Previously Figure 3-11

- Update figure to include advance warning sign distance and refuge island

Figure 16 Pedestrian Crossing with Refuge Island (Stop Condition)

Previously Figure 3-12

Table 36 Advance Placement Distances

Existing table with no table number

Figure 17 Pedestrian Crossing in Refuge Island

Previously Figure 3-13

- Reference to [FDOT Standard Plans 522-002 Detectable Warnings and Sidewalk Curb Ramps](#)

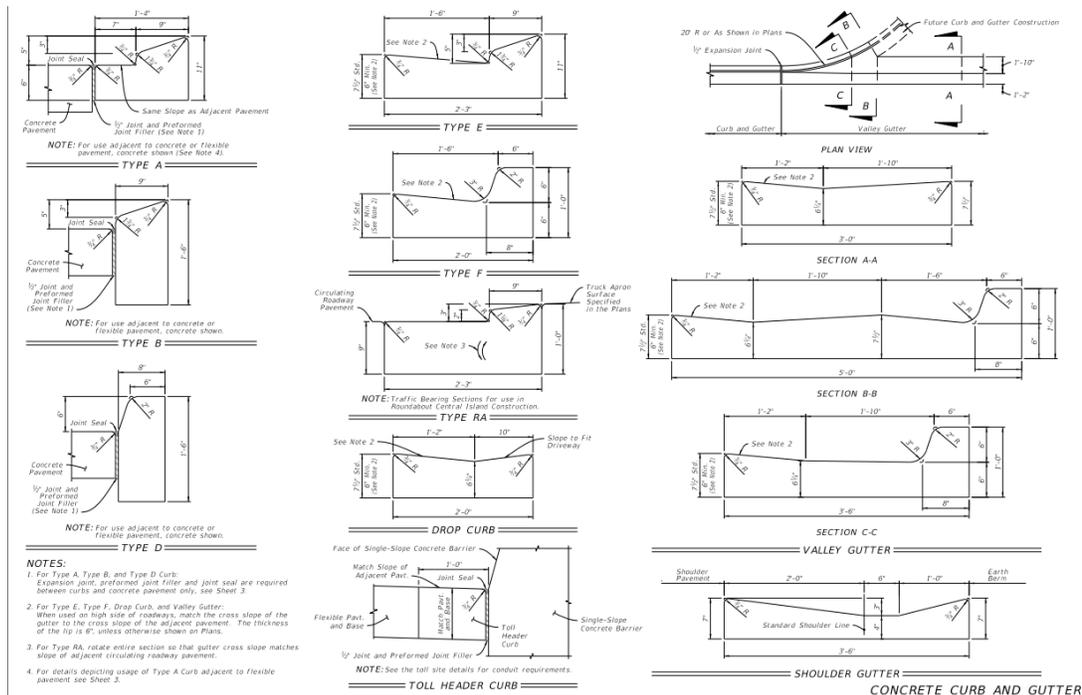
3.9.4 Curbs

- Define purpose of curbs

Figure 18 Standard Detail for Curb and Gutter

Previously Figure 3-14 Standard Detail for FDOT Type F and E Curbs

Integrate FDM drawings for all curb types, reference *Standard Plans, Index 520-001*, as in reference image below



- Type E and F curb and gutter can be used on facilities with design speeds greater than 45 mph. High-speed curbed roadways are to use Type E curb and gutter on both the median and outside.
- Reference to Chapter 4: Roadside Design

3.9.5 Parking

3.9.5.1 Parallel Parking Lanes

Figure 19 Signing and Marking of Parallel Parking Spaces

Previously Figure 3-15

- Reference to MUTCD for further details
- Reference to Chapter 9 Bicycle Facilities for door zones

3.9.5.2 Angle Parking

- Guidance for the provision of angled parking, safety conflicts, and sight distance considerations.
- Option for reverse-in angle parking
- Guidance for 30, 45, and 60 degree angle parking and sight distance considerations.

Figure 20 Signing and Marking for Forward-in and Reverse-in Angle Parking

- Consolidate existing Figure 3-17 and Figure 3-18 and update to include signing, marking, and dimension widths for 30, 45, and 60 degree parking. Example image below:

Figure 3.8-1 Preferred Dimensions for Angle Parking

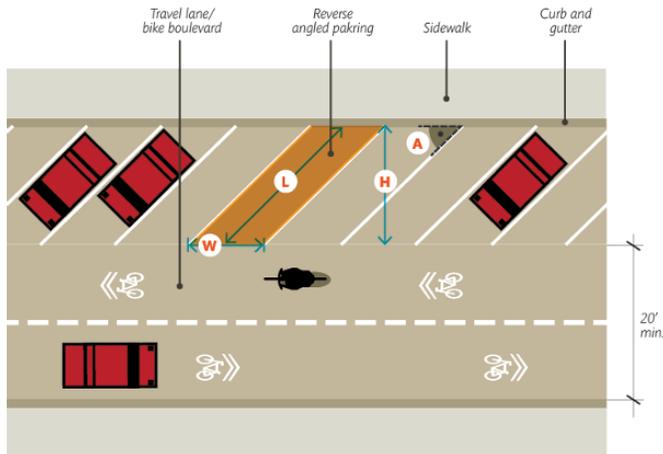


Table 3.8-1 Preferred Dimensions for Angle Parking

Angle (A)	Stall Length (L)	Stall Width (W)	Stall Depth (H)
30°	32.7'	17'	16.36'
45°	26.5'	12'	18.7'
60°	22.9'	9.8'	11.5'
75°	20.3'	8.8'	19.6'

3.9.5.3 Perpendicular Parking

- Provisional guidance for 90-degree angle parking on local streets.
- Discouraging 90-degree angle on-street parking for private property immediately adjacent to non-local roadways due to sight distance considerations when backing out into the travel lane.
- Reference to Standard Plans, Index 711-001 for Marking and Signing of 90-degree angle parking.

3.9.5.4 ADA Requirements

- Requirements for ADA Parking per:
 - 2006 Americans with Disabilities Act Standards for Transportation Facilities
 - 49 C.F.R 37.41 or 37.43
 - 2020 Florida Building Code, Accessibility (7th Edition) as required by 61G20-4.002

- Reference to U.S. Access Board’s Proposed Public Rights-of-Way Accessibility Guidelines, Section R309 On-Street Parking
- Reference to FDOT Standard Plans for Universal Symbol of Accessibility (Accessible Parking Pavement Marking) and the required signage designating accessible parking spaces.

3.10 Access Control

- Define access control
- Modification of 3.3.8.2 General Criteria to give more detail about the location of access points, spacing of access points, and restrictions of maneuvers based on different context classifications. Existing language is incorporated into the non-limited access tables in the following sections.
- Reference to access spacing standards for state roads within FAC 14-97.003 Tables 1 and 2.
- Reference to 3.9 Cross Section Elements and specific context for minimum and maximum median width standards.

3.10.1 Limited Access Highways

- Define limited access highways (Reference FAC 14-97.002).
- Reference to *FDOT Multimodal Access Management Guidebook (2023)* Section 2.5 Driveway and Median Opening Spacing Standards for guidance on Access Class 1/Limited Access Facilities.

Table 37 Access Control for All Limited Access Highways

Previously Table 3-26

- Restriction of maneuvers for limited access highways and strategies for access control.

Committee: Would you like to see design guidance on U-turn maneuvers?

- Reference to 3.11 Intersection Design for auxiliary lanes, grade separation, and other strategies.

3.10.2 Non-Limited Access Streets

- Update definition to include context classification

- The design and construction of urban, **suburban**, and rural roadways should be governed by the general criteria for access control previously outlined. In addition, the design of urban streets should be in accordance with the **considerations listed below in the following tables**.
- Reference to 3.11 Intersection Design for auxiliary lanes for non-limited access streets (specifically for at grade intersections).
- **New table to provide typical modal characteristics and general access management considerations by context classification.**
 - When to consider turn lanes
 - Cross access
 - Driveway access points/spacing
 - Restricting turning maneuvers/installing medians
 - When to consider frontage roads
 - Reconnecting streets/preserving existing network
 - Balancing freight movements
- Reference *FDOT Multimodal Access Management Guidebook (2023)* Table 12 Access Management Standards for Controlled Access Facilities for access spacing guidance

Table 38 Modal Characteristics and Access Management by Context Classification

New Table

Context Classification	Modal Characteristics	General Access Management Considerations
C1 Natural	<ul style="list-style-type: none"> • Primarily vehicle and freight traffic • Potential for recreational bicyclists and pedestrians • Wildlife activity 	<ul style="list-style-type: none"> • Provide passing lanes to accommodate slow moving vehicles. • Add medians on multi-lane roads
C2 Rural	<ul style="list-style-type: none"> • Primarily vehicle and freight traffic • Slow moving vehicles such as agriculture equipment • Potential for recreational bicyclists and pedestrians • Wildlife and livestock activity 	<ul style="list-style-type: none"> • Provide passing lanes to accommodate slow moving vehicles. • Add medians on multi-lane roads
C2T Rural Town	<ul style="list-style-type: none"> • Bicyclists and pedestrians present • Potential for high freight activity 	<ul style="list-style-type: none"> • Consider converting four-lane undivided section to three-lane section. • Provide turn lanes at median openings. • Limit unsignalized median openings. • Minimize turning radii • Consider enhanced pedestrian crossings where signal spacing is greater than 660 feet.
C3R Suburban Residential	<ul style="list-style-type: none"> • Bicyclists and pedestrians present 	<ul style="list-style-type: none"> • Install restrictive medians on all four-lane streets or consider converting the street to a three-lane section. • Provide turn lanes at median openings.

	<ul style="list-style-type: none"> • Bus transit often present on major streets • Collectors and arterials provide access to subdivisions 	<ul style="list-style-type: none"> • Limit unsignalized median openings. • Retrofit continuous two-way left-turn lanes into restrictive medians. • A frontage road or other auxiliary roadways may be used to balance access and mobility • Consider enhanced pedestrian crossings where signal spacing is greater than 660 feet
<p>C3C Suburban Commercial</p>	<ul style="list-style-type: none"> • Bicyclists and pedestrians present • Potential for high transit activity • Freight deliveries 	<ul style="list-style-type: none"> • Install restrictive medians on all four-lane streets or consider converting the street to a three-lane section. • Provide turn lanes at median openings. • Retrofit continuous two-way left-turn lanes into restrictive medians. • Limit unsignalized median openings. • Use truck aprons and control vehicles to balance larger vehicle paths with crossing distances. • Consider enhanced pedestrian crossings in commercial areas where signal spacing is greater than 660 feet. • A frontage road or other auxiliary roadways may be used • A frontage road or other auxiliary roadways may be used to balance access and mobility • Consider enhanced pedestrian crossings where signal spacing is greater than 660 feet
<p>C4 Urban General</p>	<ul style="list-style-type: none"> • Bicyclists and pedestrians present 	<ul style="list-style-type: none"> • Consider converting four-lane undivided section to three-lane section. • Provide turn lanes at median openings.

	<ul style="list-style-type: none"> • Potential for high transit activity 	<ul style="list-style-type: none"> • Limit unsignalized median openings. • Minimize turning radii • Consider enhanced pedestrian crossings where signal spacing is greater than 660 feet. • Preserve existing street network and intersection spacing, reconnecting streets with redevelopment.
C5 Urban Center	<ul style="list-style-type: none"> • High pedestrian and bicyclist volumes with potential for shared micromobility • Potential for high transit activity 	<ul style="list-style-type: none"> • Limit right-turn lanes • Preserve existing street network and intersection spacing, reconnecting streets with redevelopment.
C6 Urban Core	<ul style="list-style-type: none"> • High pedestrian, bicyclist, and transit volumes with potential for shared micromobility • Possible premium transit 	<ul style="list-style-type: none"> • Limit right-turn lanes • Preserve existing street network and intersection spacing, reconnecting streets with redevelopment.

3.11 Driveways

- Considerations for use of driveways in different contexts and traffic volumes.
- Reorganization of guidance relating to driveways into this section, including:
 - Restriction of driveway access points in certain contexts, such as areas of commercial development.
 - Exemptions from restrictions of driveway access based on traffic volume.

3.11.1 Parking Restrictions

- Parking restrictions per F.S. 316.1945, which restricts parking near driveways, intersections, crosswalks, railroad crossings, fire hydrants, and fire stations.

Table 39 Parking Restrictions for Driveways, Intersections and Mid-Block Crosswalks

Previously Table 3-25

- Discuss exemptions from parking restrictions on low-speed urban roadways. Locals can set restrictions for low volume and non-commercial driveways. See Section 3.9.5 Parking for additional guidance.
- For non-commercial urban roadways with design speeds ≤ 25 MPH and 1-2 total lanes, the upstream and downstream parking restrictions may be reduced to 30 feet (from traffic control device).

Committee: The current Greenbook refers to the FDM for up-stream and down-stream parking restrictions. There are local examples of parking exemptions that don't rely on sight distance requirements. Would you like to explore these exemptions even if they do not refer to sight distance?

- Reference to Chapter 15: Speed Management (formerly Traffic Calming) for additional parking restrictions.

3.12 Intersection Design

- Introduction to intersection design and importance of safety considerations when designing intersections for different contexts.
- General criteria of intersection design.
- Reference design and control vehicle guidance in Section 3.4

3.12.1 At Grade Intersections

- Define at grade intersections and the contexts they may exist within.

3.12.1.1 Turning and Merging Maneuvers

- Reorganized items under auxiliary lanes that were relevant to at grade intersections within this section.
- Turning maneuvers on rural, suburban, and urban roadways.

Table 40 Length of Taper for Use in Conditions with Full Width Speed Change Lanes

Previously Table 3-28

Figure 21 Termination of Merging Lanes

Previously Figure 3-22

Table 41 Turns Lanes - Curbed and Uncurbed Medians

Previously Table 3-33

Figure 22 Auxiliary Lanes for Deceleration at Intersections (Turn Lanes)

Previously Figure 3-24

- Reference to FAC 14-15.010, MUTCD.
- Reference to 3.9 Cross Section Elements for minimum criteria for turn lane widths.

3.12.1.2 Turning Radii

- Principles for determining turning radius.
- Reference to AASHTO Green Book.
- Describe actual curb radii vs. effective radii in the context of intersections with and without on street parking and create illustrations to demonstrate both (see example image below).

Figure 23 Minimum Turning Radii Examples

- Illustrations/visuals for different minimum radii, similar to example below.

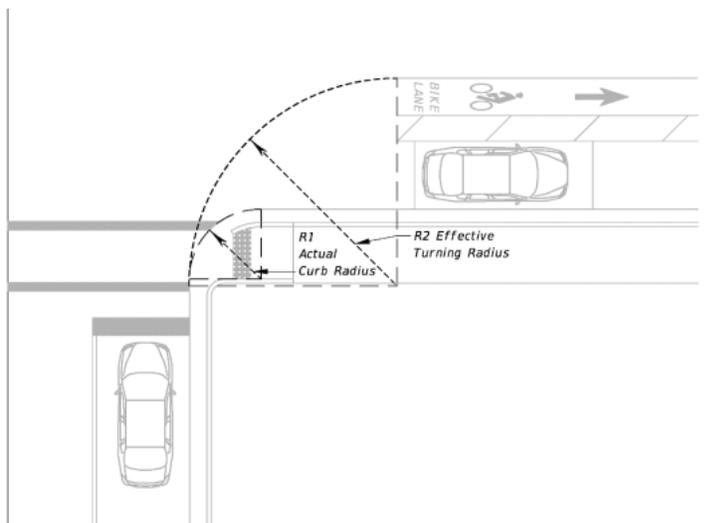


Table 42 Curb Return Radii

From Table 19-1: Curb Return Radii.

Design Speed (mph)	Curb Radius w/Parallel Parking* (feet)
<20	5-10
20-25	10-15
30-35	15-20

Notes:

* Dimensions with parking on each leg of the intersection. Both tangent sections adjacent to the curb return must provide for on-street parking or else curb radii must be evaluated using “design vehicle” and either software or turning templates.

3.12.1.3 Cross Section Correlation

- Considerations of changes in slope with prioritization for major roadway.

3.12.1.4 Median Openings

- Reference to 3.10 Access Control for spacing requirements for rural, suburban, and urban contexts.
- Reference to Chapter 4: Roadside Design for median curb termination requirements.

3.12.1.5 Channelization

- Define channelization of at grade intersections.
- Reference to 3.9 Cross Section Elements – Islands section.

3.12.1.6 Alternative Intersections

- Provide examples of alternative intersections for different contexts, including guidance about roundabouts from existing content, displaced left turn, restricted crossing U-turn, etc.

Committee: Would you like to include guidance on alternative intersections here or potentially in the Roadway Design Guide instead?

3.12.2 Turning Roadways at Intersections

- Design exceptions for turning roadways at intersections.

3.12.2.1 Design Speed

- Turning roadways with design speeds in excess of 40 mph shall be designed in accordance with the requirements for through roadways.

- Variable design speed may be used to establish cross section and alignment criteria for turning roadways.

3.12.2.2 Horizontal Alignment

- Reinforce desire to limit superelevation in urban contexts.

Table 43 Superelevation Rates for Curves at Intersections

Previously Table 3-34

Table 44 Maximum Rate of Change in Pavement Edge Elevation for Curves at Intersections

Previously Table 3-35

Table 45 Maximum Algebraic Difference in Pavement Cross Slope at Turning Roadway Terminals

Previously Table 3-36

- Reference to AASHTO Green Book for additional guidance on horizontal alignment of turning roadways.

3.12.2.3 Vertical Alignment

- The length of vertical curves shall be no less than necessary to provide minimum stopping distance.
- Reference to AASHTO Green Book for additional guidance on vertical alignment of turning roadways.

3.12.2.4 Cross Section Elements

- List of cross section design exception elements for turning roadways.

Table 46 Derived Pavements Widths for Turning Roadways for Different Design Vehicles

Previously Table 3-37

3.12.3 Interchanges

- Merging maneuvers integrated into criteria for entrance and exit ramps for limited access highways.
- Discuss grade separation in different contexts and strategies to address changes in context of the merging roadway.

3.12.3.1 Acceleration and Deceleration Lanes

- Reorganized items under auxiliary lanes that were relevant to Interchanges within this section.
- Length requirements for acceleration and deceleration lanes in the following tables (modified for Limited Access Highways):

Table 47 Design Lengths of Speed Change Lanes Flat Grades - 2 Percent or Less

Previously Table 3-29 Design Lengths of Speed Change Lanes Flat Grade – 2 Percent or Less

Table 48 Ratio of Length of Speed Change Lane on Grade to Length on Level

Previously Table 3-30

Table 49 Minimum Acceleration Lengths for Entrance Terminals

Previously Table 3-31

Table 50 Minimum Deceleration Lengths for Exit Terminals

Previously Table 3-32

Figure 24 Entrance for Deceleration Lane

Previously Table 3-23

- Reference to pavement width and cross slopes in 3.9.1.1 Cross Section Elements Freeways.

3.12.3.2 Auxiliary Lanes

- Define auxiliary lanes within context of interchanges (not a regular turn lane or merging lane).

Figure 25 Auxiliary Lanes

New figure to illustrate definition of auxiliary lanes.

- Reference to FDM 211.12.2 Interchange Connections for auxiliary lane design.
 - Successive auxiliary lanes less than 1,500 feet apart are prohibited. Auxiliary lanes may continue through an interchange to avoid this condition.

3.12.4 Clear Zones

- Define clear zones and potential need for them at intersections.
- Discuss relationship between intersection alignment and clear zone.

- The roadside clear zone of intersecting roadways should be carried throughout intersections with no discontinuities or interruptions. Poles and support structures for lights, signs, and signals should not be placed in medians or within the roadside clear zone. However, providing a full clear zone may not always be practice in low-speed, curbed environments such as intersections. In these cases, the emphasis of clear zones can be shifted to minimum lateral offsets, particularly for traffic signal supports, lighting supports, sign supports, and utility poles.
- Reference to Chapter 4: Roadside Design for minimum standards.

3.13 Other Design Factors

- The following factors will be addressed in this section:
 - Minimum Right of Way for Two-Lane Roads
 - Local Cul-de-sac and Dead End Streets with ADT < 400 and Length < 600ft, which will require the coordination with emergency responders.
- Reference to other chapters for:
 - Chapter 8: Pedestrian Facilities
 - Chapter 9: Bicycle Facilities
 - Chapter 13: Public Transit
 - Chapter 14: Design Exceptions and Variations
 - Chapter 15: Speed Management (formerly Traffic Calming)
 - Chapter 17: Bridges and Other Structures Design