

# DCSM Section 600 Update

- June 2023: Project Kickoff
- Summer 2023 – Early 2024: Draft Section 600 Document
  - October: CDC/DORAC Presentation and General Update
- **Early Spring 2024: Pre-Final Draft Section 600 Update**
  - **80% Draft shared with CDC/DORAC Mid-March**
- Late Spring 2024: Follow-up Coordination
  - Final Draft Document to CDC and DORAC for review and input
- Summer 2024: Finalize and Adopt Section 600 Update
  - Planning Commission Public Hearing
  - Board of County Supervisors Public Hearing

- DCSM Section 600 Organization/structure
  - Transportation Systems
  - Roadway Classification
  - Planning and Design
  - Parking
  - Lighting and Landscaping
  - Submission Requirements
    - Traffic (TIA/TDM)
  - Construction Standards
  - Transportation Construction and Inspection

# Overview

## Prince William County DSCM Section 600 Outline (DRAFT)

Sections in this color blue are currently under development (Spring 2024)

### 600.00 TRANSPORTATION SYSTEMS

- 600.01. Definitions
- 600.02. Acronyms and Abbreviations
- 600.03. References
- 600.04. Purpose

### 601.00. ROADWAY CLASSIFICATION

#### 601.01. Functional Classification

- 601.01.01. Interstates
- 601.01.02. Arterials
  - A. General
  - B. Parkways
  - C. Urban Principal Arterials
  - D. Rural Principal Arterials
  - E. Urban Minor Arterials
  - F. Rural Minor Arterials
- 601.01.03. Collectors
  - 1) Urban Collectors
  - 2) Rural Collectors
- 601.01.04. Local Streets
  - A. Urban Local Streets
  - B. Rural Local Streets
  - C. Low-Volume Gravel Road
- 601.01.05. Urban County Roadways

- A. General
- B. Through Boulevard
- C. Boulevard
- D. Avenue
- E. Urban Small Street
- F. Private Side Street
- G. Private Alley

#### 601.02. Context Classification

- 601.02.01. General
- 601.02.02. Rural Context Classifications
  - A. Rural Context
  - B. Rural Town Context
- 601.02.03. Urban Context Classifications

- A. Suburban Context
- B. Urban Context
- C. Urban Core Context
- D. Town Centers, Activity Centers, and Small Area Plan Context

### 602.00. PLANNING AND DESIGN

- 602.01. General
- 602.02. Design Speed
- 602.03. Level of Service
- 602.04. Street Grade and Layout
- 602.05. Privately Maintained Travelways and Parking Lots
- 602.06. Pavement Design

- 602.07. Alternative Pavement Design
- 602.08. Privately Maintained Travelway Pavement Design
- 602.09. Driveways and Entrances

- 602.09.01. General
- 602.10.02. Street Access
- 602.09.03. Service Drives
- 602.09.04. Common Driveways for Two Lots
- 602.09.05. Pipestem Driveways
- 602.09.06. Alleyways in Planned Districts

#### 602.10. Cul-de-sac Streets

- 602.10.01. General
- 602.10.02. Residential Cul-de-sac Streets
- 602.10.03. Commercial and Industrial Cul-de-sac Streets

#### 602.11. Connectivity

#### 602.12. Intersections and Crossings

- 602.12.01. General
- 602.12.02. Design Vehicle
- 602.12.03. Turn Lanes
- 602.12.04. Curb Returns
- 602.12.05. Curb Ramps
- 602.12.06. Sight Distance
- 602.12.07. Pedestrian Access Routes at Intersections and Crossings
- 602.12.08. Bicyclist Considerations at Intersections and Crossings
- 602.12.09. Roundabouts

#### 602.13. Drainage

- 602.13.01. Curb and Gutter
- 602.13.02. Ditches
- 602.13.03. Underdrains

#### 602.14. Stormwater Harvest, Green Infrastructure (GI), Low Impact Development (LID)

#### 602.15. Guardrail

#### 602.16. Sidewalks, Trails, Shared Use Paths, and Pedestrian Access Routes

- 602.16.01. General
- 602.16.02. Sidewalk, Trail, and Shared Use Path Bridges and Steps
- 602.16.03. Sidewalk, Trail, and Shared Use Path Maintenance
- 602.16.04. Sidewalk, Trail, and Shared Use Path Easements

#### 602.17. Bicycle Facilities

- 602.17.01. General
- 602.17.02. Shared Lanes
- 602.17.03. Standard Bicycle Lanes
- 602.17.04. Buffered Bicycle Lanes
- 602.17.05. Physically Separated Bicycle Lanes
- 602.17.06. Contraflow Bicycle Lanes
- 602.17.07. Two-Way Cycle Tracks
- 602.17.08. Pedestrian and Bicyclist Counters/Trail Sensors

#### 602.18. Transit

- 602.18.01. General
- 602.18.02. Transit Stop Placement and Intersection Configuration
- 602.18.03. Transit Lanes
- 602.18.04. Transit Signal Progression

#### 602.19. Micromobility

- 602.19.01. Bikeshare and Dockless Mobility Devices

- 602.19.02. Bicycle Repair Stations
- 602.20. Wayfinding Signage
- 602.21. Traffic Calming
  - 602.22.01. Criteria
  - 602.22.02. Curb Extensions
  - 602.22.03. Chicanes
  - 602.22.04. Chokers
  - 602.22.05. Diverters
  - 602.22.06. Neighborhood Traffic Circle (Mini Roundabout)
  - 602.22.07. Splitter Islands/Pedestrian Refuge Island
  - 602.22.08. Raised Crosswalks
  - 602.22.09. Raised Intersections

#### 602.22. Rural Roadways

- 602.23.01. Unpaved Rural Road Network
- 602.23.02. Rural Roadways Drainage

#### 602.23. Existing Roadways and Retrofit Standards

### 603.00. PARKING

- 603.01. General
- 603.02. On-Street Parking
- 603.03. Off-Street Parking
- 603.04. Off-Street Stacking Spaces
- 603.05. Off-Street Loading
- 603.06. Adequate Receiving Facilities (ARF)
- 603.07. Accessible Parking
- 603.08. Parking Reductions
- 603.09. Electric Vehicle (EV) Parking
- 603.10. Bicycle Parking and Micromobility
  - 603.10.01. General
  - 603.10.02. Short-Term Bicycle and Micromobility Parking
  - 603.10.03. Long-Term Bicycle and Micromobility Parking
  - 603.10.04. Bicycle Racks
- 603.11. Shared Parking
- 603.12. Layout and Design for Motor Vehicle Fuel Sales and Convenience Stores
- 603.13. Layout and Design of Surface Parking Lots

### 604.00 LIGHTING AND LANDSCAPING

- 604.01. General
- 604.02. Street Trees
- 604.03. Parking Lot Lighting
- 604.04. Streetlights
- 604.05. Pedestrian Lighting

### 605.00 SUBMISSION REQUIREMENTS

- 605.01. Plans
- 605.02. Traffic Impact Analysis
- 605.03. Transportation Demand Management

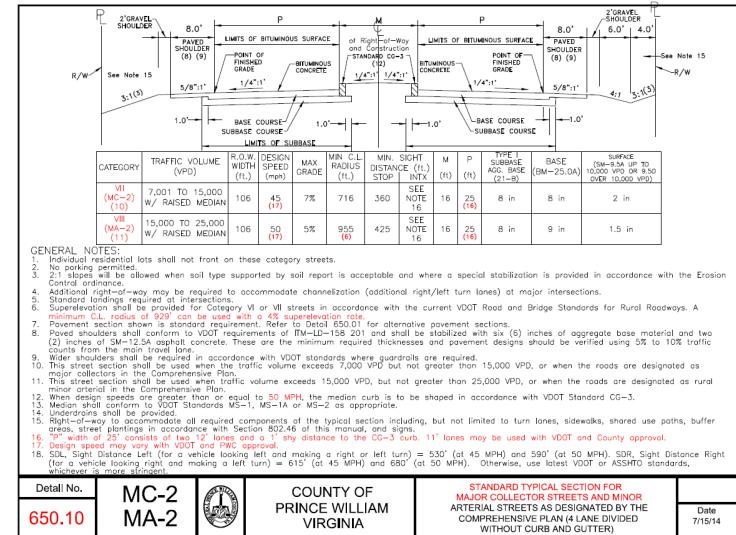
### 606.00 CONSTRUCTION STANDARDS

### 607.00 CONSTRUCTION AND INSPECTION

### 608.00 DETAILS

# Roadway Classification

- Functional Classification
  - VDOT Geometric Standards (GS)
  - Collectors
- Design Speed
  - Removed 85<sup>th</sup> percentile process per MUTCD 11<sup>th</sup> Edition
  - Aligned with VDOT (equal to posted speed for 45 mph or less)
- Level of Service
  - Reduced to LOS E in accordance with PWC Comprehensive Plan



	Posted Speed / Design Speed All speeds in miles per hour (mph)	
	Posted	Min. Design
Low-Speed Roadways	20	20
	25	25
	30	30
	35	35
	40	40
High-Speed Roadways	45	45
	50	55
	55	60
	60	65
	65	70
	70	75

# Planning and Design

- Connectivity
  - Reduce VMT
  - Reduce dependence on arterials for vehicle trips
  - Support multimodal transportation options
  - Increase pedestrian/bicycle connectivity between adjacent developments and roadways
- Cul-de-sac Streets
  - Maximum length of 600'
  - Maximum of 30% of lots within a subdivision
  - Landscaping

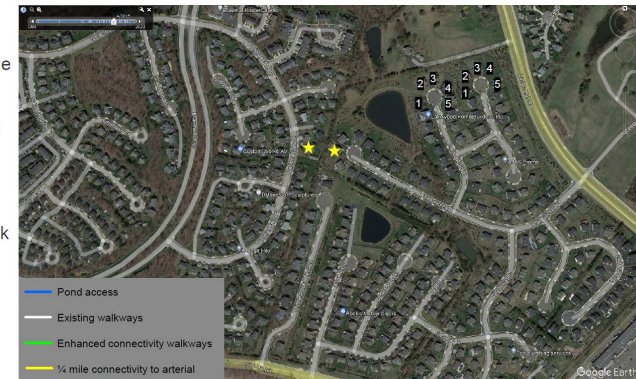
## Follow-up Item 1.3: Cul-de-sacs (Connectivity)



- 12933 Torchlight Drive is less than 100' away from the bus stop, but the shortest "accessible" path is over 2,000' long.
- 12933 Torchlight Drive can be seen from the bus stop along Hoadly Road.

## Follow-up Item 1.2: Cul-de-sacs (Connectivity)

- A few minor connections would create a more walkable neighborhood with minimal impact on development cost and parcel size.
- Nearly all parcels would be within a 20 minute accessible walk to Cedar Point Elementary School, Alive Church, and Braemar Park.

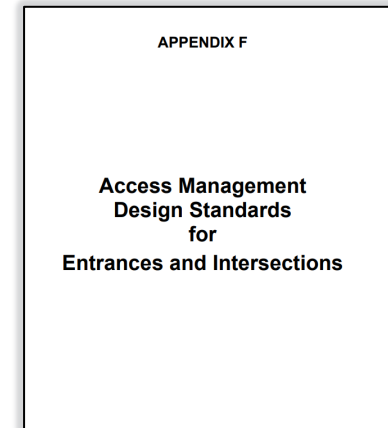


- Guard Rail
  - Updated requirements per VDOT standards
- Sidewalks, Trails, Shared Use Paths, and Pedestrian Access Routes
  - PROWAG compliance (slope, width)
  - Increased connectivity with adjacent developments and roadways
  - Handrail requirements
  - Updated bridge width and material standards



# Planning and Design

- Intersections and Crossings
  - Removed Table 6-6 (Crossover Spacing) and aligned with VDOT standards
  - Updated Table 6-7 (Turn Lane Requirements) to align with VDOT standards
  - Specified design vehicles
  - Updated slope requirements per PROWAG
  - Bicycle crossings
  - Updated roundabouts per NCHRP 1043
  - Established roundabout as preferred intersection control



LENGTH OF STORAGE (*)		TAPER - Rural (*)	
Rural - For Design Speeds 50 MPH or Higher	*L - 200' min. (For 240 or fewer vehicles during peak hour, <u>making turn</u> )	- For Design Speeds 35 MPH or Higher	**T - 200' Min.
Rural - For Design Speeds 45 MPH or Less	*L - 100' min. (For 60 or fewer vehicles during peak hour, <u>making turn</u> )	- For Design Speeds 30 MPH or Less	**T - 100' Min. (single) **T - 200' Min. (dual)
*Distance L to be adjusted upward as determined by capacity analysis for Left and Right Turn Storage.		**Tapers are to be straight-line unless local policy requires reverse curves. In congested areas the taper length may be reduced to increase storage length. However, a design waiver shall be required.	
LENGTH OF STORAGE		TAPER - Urban	
Urban - Length determined by capacity analysis for Left and Right Turn Storage (100' Minimum)		- For Design Speeds 50 MPH or Higher	**T - 200' Min.
		- For Design Speeds 45 MPH or Less	**T - 100' Min. (single) **T - 150' Min. (dual)

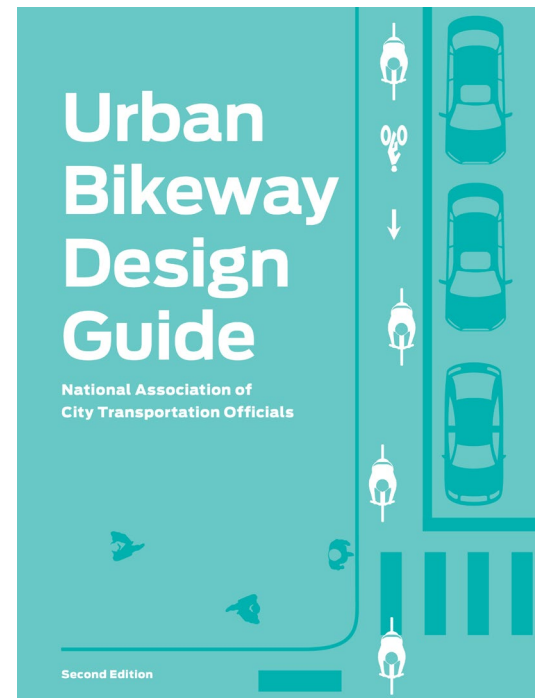
FIGURE 3-1 RIGHT AND LEFT TURN LANE CRITERIA FOR SINGLE AND DUAL LANES

(\*) For instructions on selection of design speed, see [Appendix A1](#).



# Planning and Design

- Bicycle Facilities
  - Specific standards and selection guidance for various on-street facilities
- Transit
  - Transit stop placement guidance
  - Transit lanes
  - Transit signal progression
- Micromobility
  - Bikeshare standards
  - Bicycle repair stations



# Parking

- On-Street and Accessible On-Street Parking standards
  - PROWAG compliance
- Off-Street Parking
- Bicycle Parking
  - Required for all land uses except single-family detached
  - Long-term and short-term parking for residential land uses
  - Bicycle rack standards
- Adequate Receiving Facilities (ARF)
  - Facilitates short-term parking for delivery and rideshare pickup/dropoff
- Electric Vehicle (EV) Parking standards

Table 6-8 Minimum Off-Street Parking Requirements	
Residential	
Tandem parking permitted based on driveway length or parking stall length for surface and structured parking lots	
Single Family Detached	2 (exclusive of garage)
Single Family Attached*	2.75 (2 spaces per unit, plus 0.75 for every unit toward visitor parking; garage spaces may be counted*)
Single Family Attached w/ 2+ car garage	2.4 for units with a driveway (2 spaces per unit, plus 0.4 for every unit toward visitor parking; garage spaces may be counted*) or; 2.75 for units without a driveway (2 spaces per unit, plus 0.75 for every unit toward visitor parking; garage spaces may be counted*)
Duplex	2 (exclusive of garage)
Mobile Home	2
Multifamily*	
Efficiency/studio	1
One bedroom	1.5
Two or more bedroom units	2.2
Multifamily, high-rise (buildings greater than 50' in height)	1/10 units per building, plus:
Efficiency/studio	1
One bedroom	1.25
Two or more bedroom units	2

\*Subject to restrictive covenants prohibiting conversion of garage space to living/storage area



# Parking - Tiered Parking Adjustment

- Tiered Parking for Small Area Plan, Activity Center, etc.
  - ~25% reduction for single family attached (SFA)
  - 50% reduction for multifamily
  - 30% reduction for nonresidential (commercial, office, etc.)

Table 6-8b Off-Street Parking Reductions

Development Area Classification	Use	Reduction
No Classification	All uses	No adjustment factor
Small Area Plan, Local Activity Center, MultiModal Hub, Transit District or Center, or as approved by DOT	Single Family Detached, Duplex, and Mobile Home	No adjustment factor
	Single Family Attached, Single Family Attached with 2+ car garage	2 spaces/ unit, of which 0.3 spaces/ unit towards visitor or shared parking
	Multifamily	50% of base rate
	Nonresidential (i.e. commercial, office)	70% of base rate

# Parking - Tiered Parking Adjustment

- TOD Outside of Small Area Plan, Activity Center, etc.
  - Within 1,000' walking distance of passenger rail station or high-capacity transit station
    - 20% reduction for SFA
    - 15% reduction for multifamily
    - 10% reduction for nonresidential
    - Additional 5% reduction if Walk Score is  $\geq 70\%$
  - Within 2,000' walking distance of passenger rail station or high-capacity transit station
    - 10% reduction for multifamily
    - 5% reduction for nonresidential
    - Additional 5% reduction if Walk Score is  $\geq 70\%$

Development Area Classification		Use	Reduction
No Classification		All uses	No adjustment factor
Small Area Plan, Local Activity Center, MultiModal Hub, Transit District or Center, or as approved by DOT		Single Family Detached, Duplex, and Mobile Home	No adjustment factor
		Single Family Attached, Single Family Attached with 2+ car garage	2 spaces/ unit, of which 0.3 spaces/ unit towards visitor or shared parking
		Multifamily	50% of base rate
		Nonresidential (i.e. commercial, office)	70% of base rate
Transit Oriented Development outside of Small Area Plan, Activity Center, MultiModal Hub, and Transit District or Center	Within 1,000' walking distance of passenger rail station, or high-capacity transit station	Single Family Detached, Duplex, and Mobile Home	No adjustment factor
		Single Family Attached, Single Family Attached with 2+ car garage	2.2 spaces/unit, of which 0.3 spaces/ unit towards visitor or shared parking
		Multifamily	85% of base rate*
		Nonresidential	90% of base rate*
	Within 2,000' walking distance of passenger rail station, or high-capacity transit station	Single Family Detached, Duplex, and Mobile Home	No adjustment factor
		Single Family Attached, Single Family Attached with 2+	No adjustment factor
		Multifamily	90% of base rate*
		Nonresidential	95% of base rate*
Surface Parking Lots within Small Area Plan, Local Activity Center,		All uses	TBD by PWC**

# Addition Areas Under Review

- *Design Vehicle/Turn Lanes*
- *Wayfinding Signage*
- *Traffic Calming*
- *Rural Roadways*
- *Existing Roadways and Retrofit Standards*
- *Turn Lanes*
- *Lighting and Landscaping*
- *Submission Requirements*
  - *Plans*
  - *Traffic Impact Analysis / Transportation Demand Management*
- *Construction Standards / Inspection*