

M. Controlled Major Highways

Controlled Major Highways are limited/controlled access roads that are primarily designed for vehicle safety and mobility. Transit and heavy vehicles are common and pedestrian and bicycle activity is often low (and in some cases, not permitted). However, pedestrian and bicycle access is essential, whether for the accommodation of safe bicycle and pedestrian crossings, or when transit stops are provided on the Controlled Major Highway. Some Controlled Major Highways include dedicated transit lanes - see the Master Plan of Highways and Transitways. If the Controlled Major Highway is master-planned as a critical bicycle or pedestrian connection, separated facilities are needed. Due to high vehicle speeds, significant separation from traffic is needed for pedestrians and bicyclists. On roads with wider medians, street trees in the median (outside clear zone requirements) should be provided where feasible.

Key Features:

- » **Development intensity:** None or low-intensity development set back from the road
- » **Pedestrian and bicycle activity:** Low
- » **Vehicle activity:** High volume of personal vehicles, large/heavy vehicles are common
- » **Transit service:** Moderate to frequent
- » **On-street parking:** None
- » **Other key features:** Limited/Controlled Access, prioritizes long-distance travel

- S** Shoulder
- TV** Travel Lane
- M** Median
- SB** Street Buffer
- SP** Sidepath

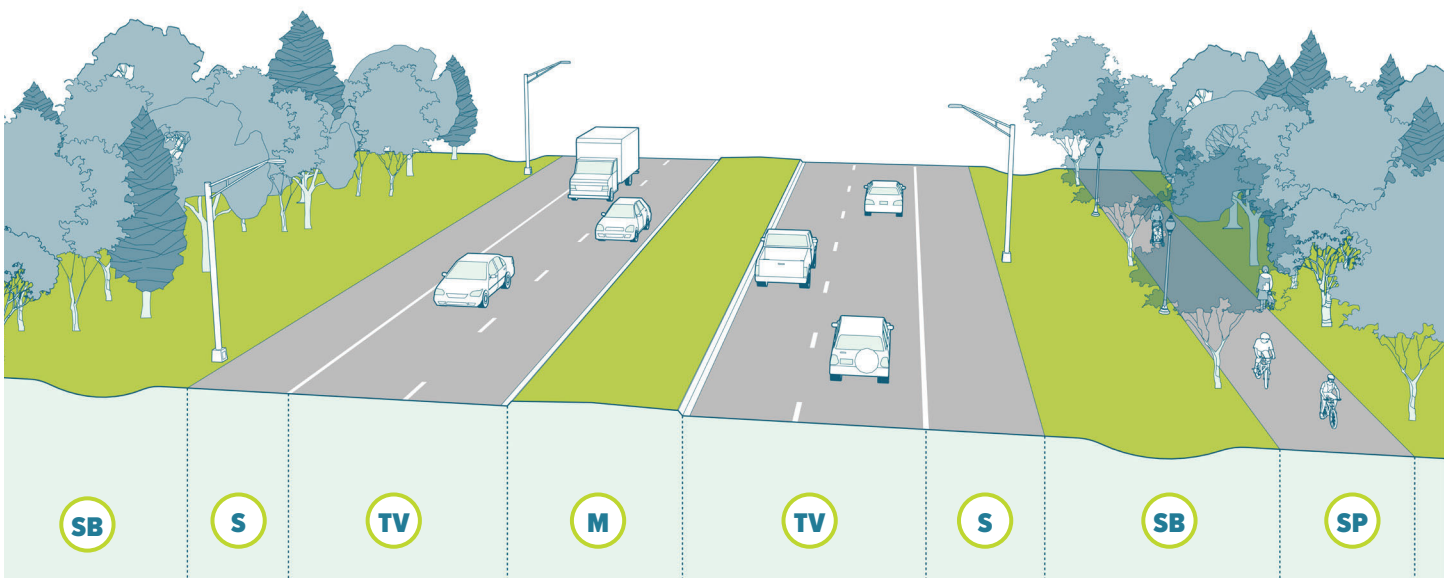


Figure 2-98. Controlled Major Highway

Controlled Major Highway Examples



Figure 2-99. Sam Eg Highway near Washingtonian Boulevard



Figure 2-100. Great Seneca Highway from Longdraft Road to Mateny Road



Figure 2-101. Columbia Pike (US Route 29) from Prelude Drive to the Howard County Line

Controlled Major Highways – Street Design Parameters and Priorities

Figure 2-102 presents a summary of Corridor Design Parameters to be used for Controlled Major Highways. Figure 2-103 presents a summary of Cross Section Design Parameters to be used for Controlled Major Highways. For ease of reference, a page reference column is provided to orient the user where each subject is covered in more detail.

Figure 2-102. Corridor Design Parameters for Controlled Major Highways

Design Parameter	Design Guidance	Notes	Page Ref
Target Speed	45-55 MPH	Presence, proximity, and volume of pedestrians, bicyclists, passenger vehicles, transit vehicles, and commercial vehicles shall be considered when determining an appropriate target speed. State law allows Montgomery County to reduce the posted speed limit to not less than 15 mph after performing an engineering and traffic investigation. Where existing posted speeds are less than the target speed: it is not the intent that these speed limits be raised.	267
Maximum # of Vehicle Through Lanes	N/A	See Master Plan of Highways and Transitways for number of travel lanes on specific streets, which supersedes this guidance. These are primarily for new roads and when considering road diets.	161
Maximum Spacing for Protected Crossings	1300'	Site-specific needs and conditions will dictate actual implementation. On streets with operating speeds of 30 mph or more, "protected" crossings include: Traffic/pedestrian signal or PHB, all-way stop control, or grade-separated crossing. Where ranges are provided, the lower end of the range is recommended in commercial areas, on BRT corridors, in BiPPAs, and near schools (or similar destinations).	236
Generally Accepted Minimum Spacing for Signalized Intersections	2700'	Refers to a full signalized intersection or roundabout. These targets are intended to maintain operations at a level that promotes safe movement by all travel modes. Site-specific needs and conditions, as determined through the regulatory approval process or capital project review, will dictate actual implementation.	236

Figure 2-103. Cross Section Design Parameters and Prioritization for Controlled Major Highways

Design Parameter	Design Guidance	Priority	Notes	Page Ref
Street Zone				
Center Median	Required 6'-17'	H	Medians may be wider than dimensions provided in some circumstances. The median may be widened to include left turn lanes at intersections. If the street is planned for a median transitway: transit lane dimensions supersede. Consult MCDOT for detailed info.	163
Dedicated Transitway	Transitway lanes: 13' default, 12' min Transitway buffer: 6' default, 2' min	M	The presence of a dedicated transitway is determined in the Master Plan of Highways and Transitways. If these dimensions vary from those provided in a specific Transitway planning process, those dimensions supersede this document. Dimensions may vary at stations, intersections & other crossing points, and along horizontal curves.	162
Left-Turn Lane	11'	N/A	Dimensions only apply if a left turn lane is provided.	159
Two-Way Left-Turn Lane	N/A	N/A	Two-Way Left-Turn Lanes are not appropriate along this street type.	159
Inside Travel Lane	11'	N/A	This includes the lane against the centerline on undivided roads. Lane width dimensions are intended for typical tangent (straight) sections. Segments with vertical or horizontal curves may require wider pavements per Section 3.3.10 of the AASHTO Green Book.	159

Figure 2-103 (continued)

Design Parameter	Design Guidance	Priority	Notes	Page Ref
Street Zone				
Outside Travel Lane	12'	N/A	Lane width dimensions are intended for typical tangent (straight) sections. Segments with vertical or horizontal curves may require wider pavements per Section 3.3.10 of the AASHTO Green Book. If the outside lane is adjacent to a striped bike lane, the total width (travel lane + bike lane) should be no less than 16'. Guidance also applies to right turn lanes, where needed. Gutter pan is included in Shoulder dimensions (below); however, if there is no Shoulder, gutter pan is included in these dimensions for the outside travel lane.	159
Shoulder	8'	H	Dimensions only apply if a shoulder is necessary. Gutter pan is included in Shoulder dimensions. If there is No Shoulder, the gutter pan is already included in the Outside Travel Lane width.	158
Active Zone				
Street Buffer	As wide as feasible (10' min) Open Section: 15' default, 10' min (see p84)	H	Where a lane within the Street Zone is converted to a street level separated bike lane, the Street Buffer may be reduced to 3' only when implemented by MCDOT as an interim bikeway. Where on-street parking is present, a minimum 3' door swing zone is required between the face of curb and any adjacent pedestrian or bicycle facility.	122
Bikeway	Sidepath on both sides of street: 11' default, 8' min	M	Default bikeway types apply to streets without master planned bikeways. The widths apply to master planned and non-master planned bikeways. If the Bicycle Master Plan recommends something different for a specific street, that supersedes this guidance. Dimensions do not include the street buffer or pedestrian/bicycle buffer (see below). If bikeway is at street level and adjacent to the curb, dimensions include the gutter pan. For corridors designated as Breezeways: the Priority is always High, see additional requirements on pages 197-198 of this Guide, or in the Bicycle Master Plan.	202
Ped / Bike Buffer	6' default, 2' min	H	Provided only if a separated bike lane is provided. These should provide edge detection at minimum on the Bikeway side, and ideally also along the Clear Zone side. Ped/Bike Buffers that are reduced to less than 5' may restrict Street Trees, less than 4' may restrict more substantive street furniture, and less than 3' may restrict most street furniture such that the area may be used as more of an extension of the sidewalk. Consider increasing the Priority to High (H) when reducing beneath a threshold will affect items of particular importance.	181
Sidepath	11' default, 8' min	M	Using the minimum dimension requires a waiver – consult MCDOT.	130
Frontage Zone	N/A	N/A	Frontage Zones are not required along this street type.	131
Maintenance Buffer	N/A	N/A	Structures not part of the roadway design shall not occur in the public ROW. If there is a structure abutting the property line: a maintenance buffer is required even if this table shows a dimension of N/A, unless there is no Sidewalk / Sidepath and the outermost zone is the Street Buffer.	119

Controlled Major Highways – Prioritizing Street Design Features

Figure 2-104 provides a summary of Controlled Major Highway design features in four different categories and identifies what features are required, recommended, optional, and not permitted.

Figure 2-104. Street Design Features for Controlled Major Highways

Legend	<ul style="list-style-type: none"> ■ Required ▲ Recommended (Context-Sensitive) ○ Optional (Context-Sensitive) ✘ Not Permitted or N/A 		* Unless determined otherwise by Planning Board	² Required at all intersections with existing or planned separated bike lanes, sidepaths, buffered bike lanes or conventional bike lanes.	Page Ref
			¹ Engineering judgement needed – see Chapter 6: Intersections for details	³ Narrowing lanes down to default dimensions for street type	
ACTIVE ZONE	Trees/Landscaping in Buffer	▲			254
	Green Infrastructure/Rain Gardens	▲			259
	Seating	✘			123
	Bicycle Parking	✘			124
	Recycling/Trash Receptacles	✘			129
	Plazas/Parklets	✘			155
	Bikeshare Stations/Dockless Parking Hubs (if in bikeshare/dockless service area)	✘			125
	Pedestrian-Scale Lighting	○			142
	Pedestrian/Bicycle Wayfinding	○			133
	Sidewalk-Level Driveways	✘			141
INTERSECTIONS	Roundabouts (Modern or Mini)	○ ¹			220
	Crossing Islands	▲			240
	Pedestrian Signals (when traffic signals are present) or Beacons	■			237
	Pedestrian Recall on Signals	✘			243
	Pedestrian Lighting (unless pedestrians are prohibited, e.g., some Controlled Major Highways)	■			143
	Protected Intersections, Bike Boxes, or Two-Stage Queue Boxes	■ ²			224
	Bicycle Markings/Facilities (when bikeways are present)	■			226
SPEED MANAGEMENT	Lane Diet	▲ ³			270
	Road Diet (if volumes meet thresholds for road diet)	○			271
	Speed Humps/Cushions	✘			272
	Speed Tables/Raised Crosswalks	✘			273
	Raised Intersections	✘			273
	Curb Extensions/Bulb Outs	○			273
	Neckdowns/Chokers	○			274
	Traffic Diverters	✘			274
	Chicanes/Roadway Curvature	✘			275
	Textured Paving Treatment	✘			276
STREET ZONE	Green Infrastructure in Median (when median is present)	▲			259
	Street Trees/Landscaping in Median (when median is present)	■			254
	Minimize/Consolidate Driveways	○			141
	Undergrounding Utilities (Master Plan recommendations supersede this guidance)	○			165
	Transit Shelters (where transit routes are present and boarding thresholds are met)	○			138
	Loading/Pick-up and Drop-off Zones	✘			157
	Accessible Parking	✘			153
	Carshare Parking	✘			154
E/V Charging Stations	✘			154	