

SPECIFICATIONS AND STANDARDS FOR ROADWAYS AND BRIDGES - REVISION AND UPDATE



prince
Georges
county

MARYLAND

Department of Public Works and Transportation



Urban Street Design Standards
Overview of Project and Details
November 3, 2016



- **CB-86-2015 calls for Urban Standards**
 - “The County hereby adopts an urban street design policy and principles, consistent with the Council's 2014 approval of its most current general plan for the County, Plan Prince George 's 2035.”
- **Urban Design**
 - “Design standards focused on the public streetscape within urban areas, such as streets, sidewalks, street furniture and amenities, including bicycle facilities that form a high-quality, pedestrian- friendly sense of place.”
- **Part of broader update to Specifications and Standards**
 - Comprehensive overhaul of County Standards and Specifications for Roadways & Bridges will be part of the next phase of this project.



- ◆ 9-month process of staff & stakeholder engagement, development and revision

- ◆ Steering Group
 - DPIE, DPW&T (OHM, Transit, OEPM), DOE
 - M-NCPPC

- ◆ Other agencies consulted
 - Fire/EMS, Police Department

- ◆ Organizations consulted
 - Utility companies, MBIA, ACEC, Coalition for Smarter Growth



- ◆ Draft Resolution presented to Council (CR-085-2016)

“A RESOLUTION CONCERNING ROADS AND SIDEWALKS - DESIGN AND CONSTRUCTION STANDARDS AND REQUIREMENTS for the purpose of incorporating urban street design standards and specifications as consistent with Plan Prince George's 2035 for Regional Transit Districts and Local Centers in Prince George's County, striving to balance the needs of all users that are business-friendly, walkable, bike-able and transit friendly; generally regarding design and construction standards and urban street designs.”



URBAN STREET STANDARDS



Regional Transit Districts

- 1- Prince George's Plaza Metro
- 2- New Carrollton Metro
- 3- Largo Town Center Metro
- 4- College Park/UM Metro/M Square Purple Line
- 5- Greenbelt Metro
- 6- Suitland Metro
- 7- Branch Avenue Metro
- 8- National Harbor*

*Transit expansion to National Harbor is a long-term goal.

Employment Areas

- Local Centers
- Proposed Purple Line Local Centers

Future Water and Sewer Service Areas

Established Communities

Growth Boundary

Rural and Agricultural Areas

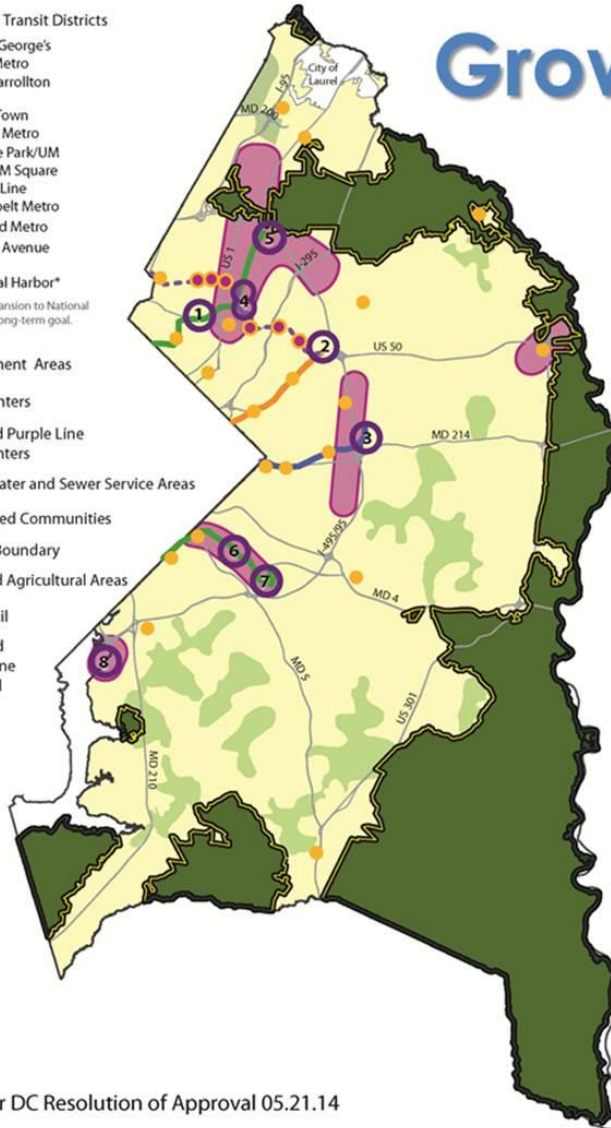
Metro Rail

Proposed Purple Line Light Rail



North

Growth Policy Map



- ◆ Meet the needs of pedestrians, bicyclists, transit users and vehicles:
 - Slower speeds
 - Shorter crossing distances
 - Reduced curb radii
 - Wider sidewalks
 - More bicycle facilities
 - Pedestrian amenities





SUMMARY OF WORK SESSIONS



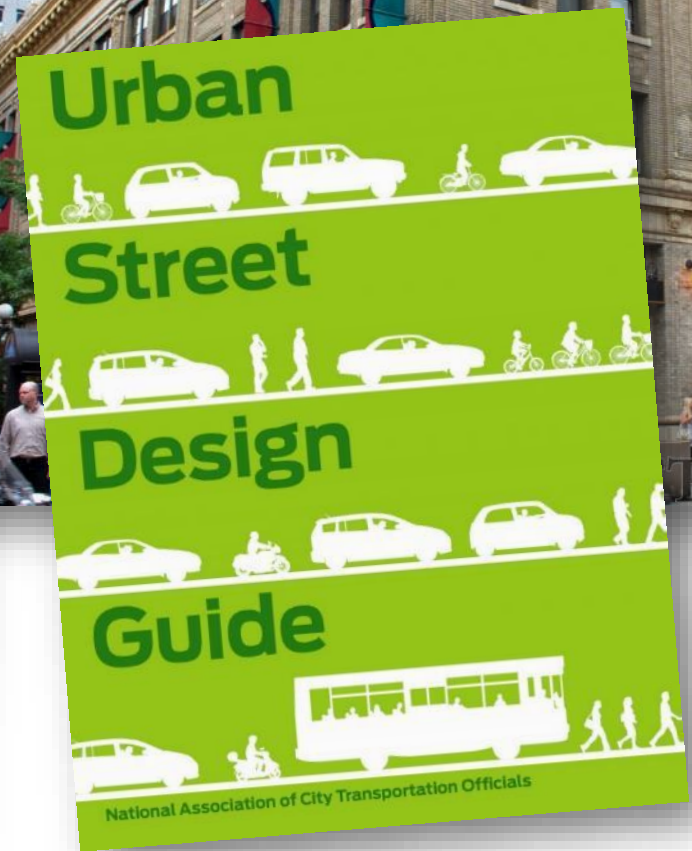
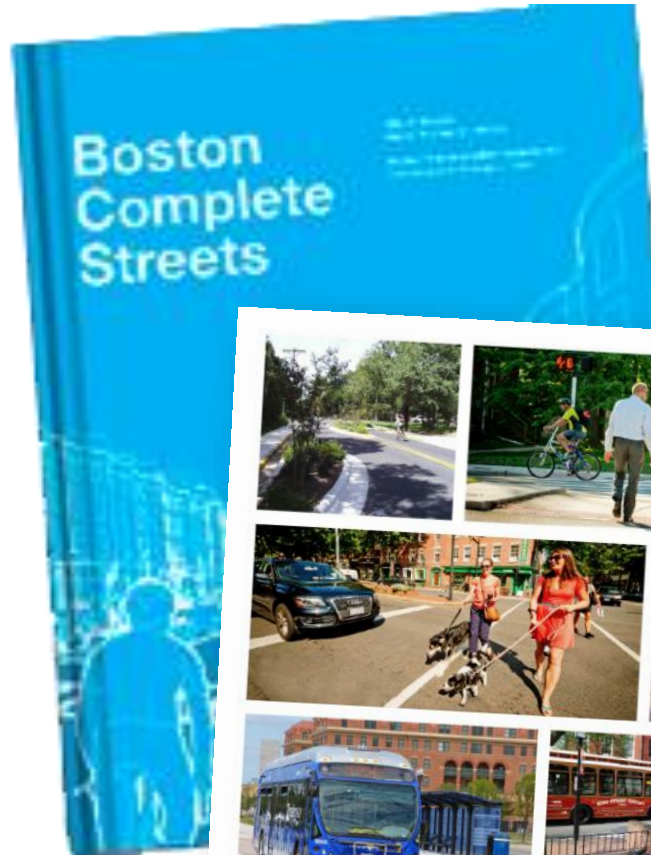
- ◆ Held series of work sessions to achieve consensus on important topics relevant to urban street design:
 - Functional Class / Street Typologies
 - Design Speed
 - Lane Widths
 - Stormwater management
 - Curb Radii
- ◆ Participants from DPIE, DPW&T (OHM, Transit, OEPM), DOE, M-NCPPC



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BASED ON BEST PRACTICES IN URBAN STREET DESIGN

Department of Public Works and Transportation





I) PREFACE

- Overview and Vision
- Background and Supporting Documents
- Use of the Urban Street Design Standards
- Development of the New Urban Street Standards
- Summary of Existing Standards and Draft Urban Street Standards
- Next Steps

II) URBAN STREET DESIGN STANDARDS

III) APPENDIX A: TECHNICAL MEMORANDUM ON ADDITIONAL DESIGN CONSIDERATIONS

- Turning Radius
- Designing Bike Lanes at Intersections
- Fire Code Compliance
- Other Design Resources

- ◆ Mixed-Use Boulevard
 - 2, 3 & 4 lanes
- ◆ Neighborhood Connector
- ◆ Neighborhood Residential
- ◆ Industrial Road
- ◆ Shared Street
- ◆ Alley





SUMMARY OF NEW URBAN STREET STANDARDS



Urban Street Type*	Minimum Right of Way	Design Speed**	Total # of Travel Lanes	Minimum Lane Width	Median	Minimum Buffer	Minimum Turning Radius	On Street Parking	Minimum Sidewalk	Bike Facility
Mixed Use Boulevard (A) - 2 Travel Lanes	99'	25 mph	2	10' (11' if bus route)	16'	6'	15'	8'	8'	6.5' separated bike lane
Mixed Use Boulevard (B) - 2 Travel Lanes	92'	25 mph	2	10' (11' if bus route)	16'	6'	15'	8'	8'	5' bike lane
Mixed Use Boulevard (A) - 4 Travel Lanes	119'	25 mph	4	10' (11' if bus route)	16'	6'	15'	8'	8'	6.5' separated bike lane
Mixed Use Boulevard (B) - 4 Travel Lanes	116'	25 mph	4	10' (11' if bus route)	16'	6'	15'	8'	8'	5' bike lane with 2' painted buffer
Mixed Use Boulevard (A) - Center Turn Lane	93'	25 mph	2	10' (11' if bus route)	none	6'	15'	8'	8'	6.5' separated bike lane
Mixed Use Boulevard (B) - Center Turn Lane	86'	25 mph	2	10' (11' if bus route)	none	6'	15'	8'	8'	5' bike lane
Neighborhood Connector (A)***	83' (75')	20-25 mph	2	10'	none	6'	15'	8'	8'	6.5' separated bike lane
Neighborhood Connector (B)***	66' (58')	20-25 mph	2	10'	none	6'	15'	8'	8'	Option to add 5' bike lane
Neighborhood Residential***	60' (53')	20 mph	2	10'	none	6'	15'	7'	6'	Option to add 5' bike lane
Industrial Street***	48' (57')	20 mph	2	11'	none	6'	15'	(9')	6'	none
Shared Street	50'	10 mph	2	10'	none	6'	15'	none	8'	none
Alley	20'	10 mph	1	10'	none	none	15'	none	none	none

* Streets in Regional Transit Districts and Local Centers

** For additional horizontal and vertical design constraints relevant to these design speeds, refer to AASHTO: A Policy on Geometric Design of Highways and Streets.

*** Figures in parenthesis indicate alternative configurations related to optional on-street parking shown in the standard details.



- Increased cost of maintenance
 - Use of MOUs and other negotiations with the developers could help mitigate
- Access for fire fighting apparatus
- Determination of street types for application of these standards
 - Revisions to plans by M-NCPPC
- Interim application of Urban Street Standards during ongoing update to Roadway & Bridge Standards
- Urban treatments generally cost more
 - Can provide greater long term economic benefits



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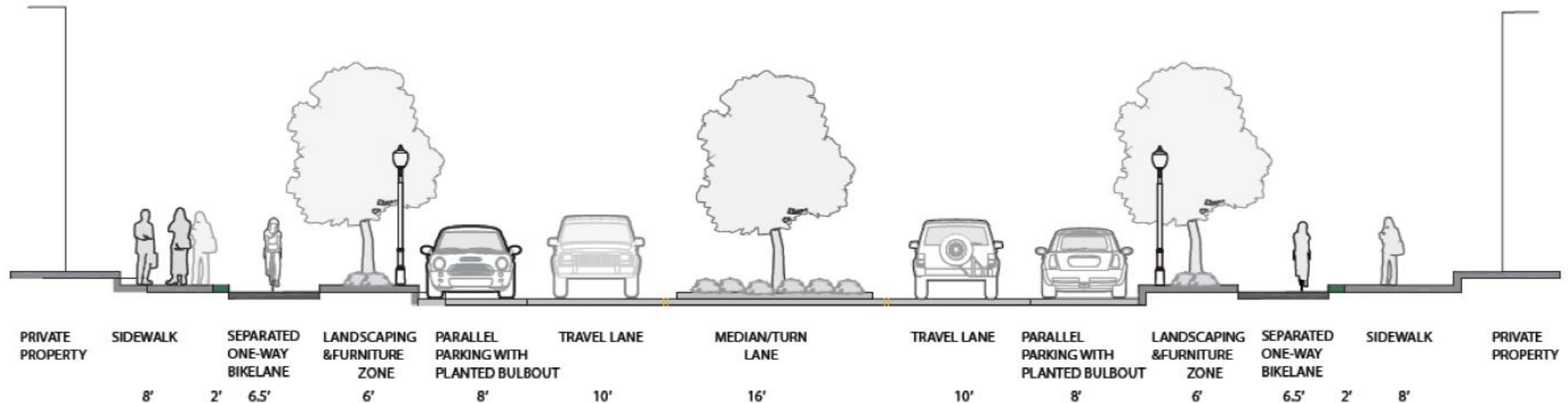
Typical sections



MIXED USE BOULEVARD – 2 & 4 LANES (A)



New Street Type	Description	Features
Mixed Use Boulevard	<ul style="list-style-type: none"> • Buildings close to street • Mix of land uses • Medium to high density land use • High volumes of vehicles and transit • Medium to heavy ped/bike activity • Reduced vehicular speeds 	<ul style="list-style-type: none"> • 2-4 travel lanes • Median • Sidewalks & bike facilities • Street furniture & enhanced lighting • On-street parking

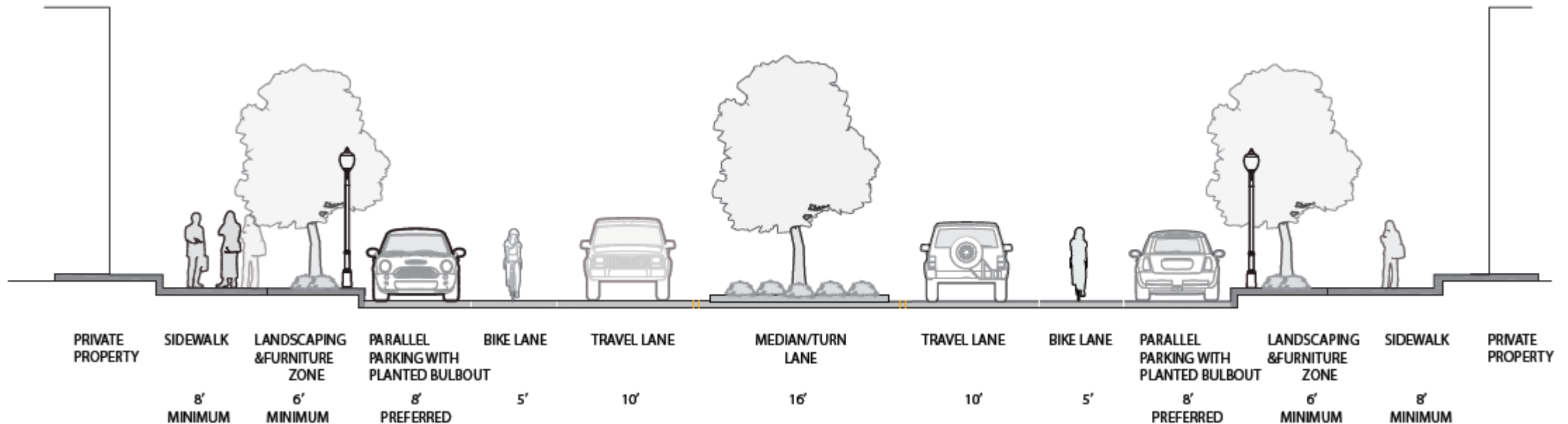




MIXED USE BOULEVARD – 2 & 4 LANES (B)



New Street Type	Description	Features
Mixed Use Boulevard	<ul style="list-style-type: none"> • Buildings close to street • Mix of land uses • Medium to high density land use • High volumes of vehicles and transit • Medium to heavy ped/bike activity • Reduced vehicular speeds 	<ul style="list-style-type: none"> • 2-4 travel lanes • Median • Sidewalks & bike facilities • Street furniture & enhanced lighting • On-street parking

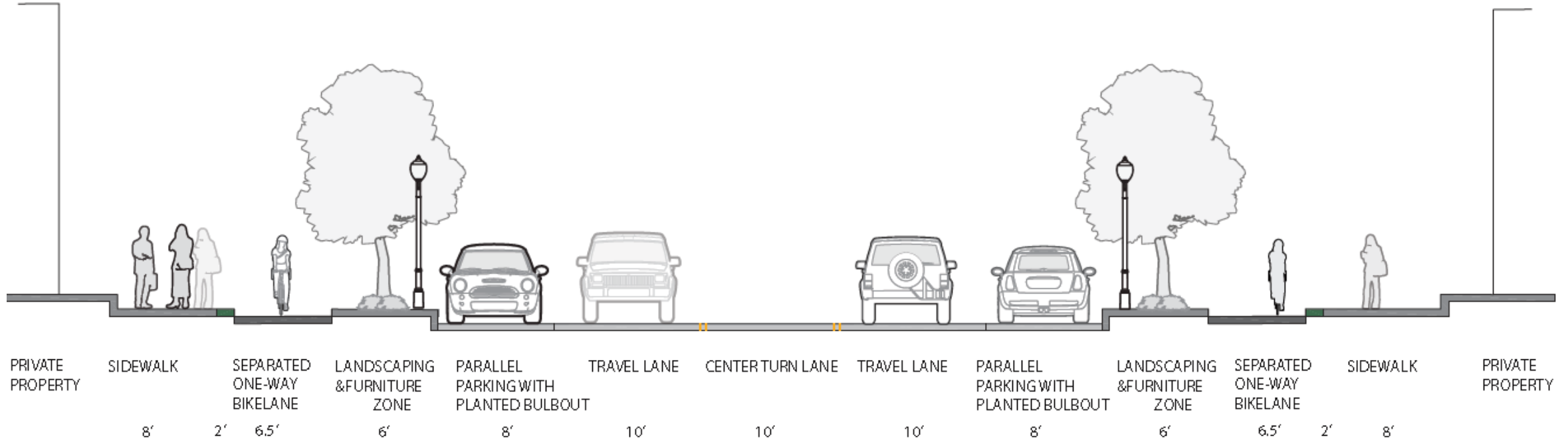




MIXED USE BOULEVARD – CENTER TURN LANE (A)



New Street Type	Description	Features
Mixed Use Boulevard	<ul style="list-style-type: none"> • Buildings close to street • Mix of land uses • Medium to high density land use • High volumes of vehicles and transit • Medium to heavy ped/bike activity • Reduced vehicular speeds 	<ul style="list-style-type: none"> • 2-4 travel lanes • Median • Sidewalks & bike facilities • Street furniture & enhanced lighting • On-street parking

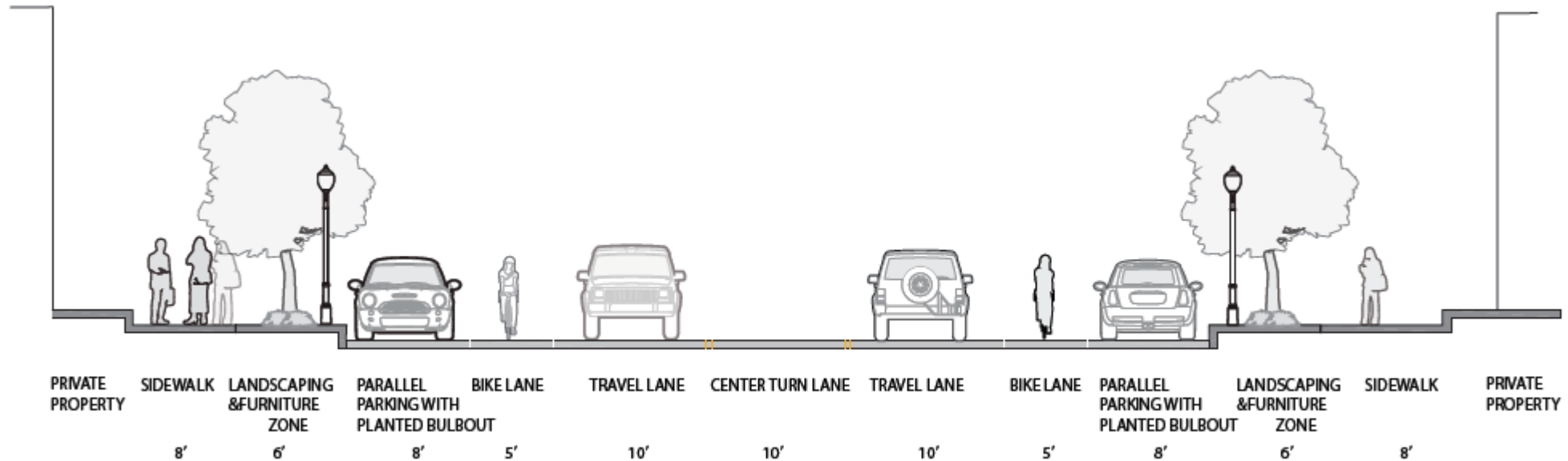




MIXED USE BOULEVARD – CENTER TURN LANE (B)



New Street Type	Description	Features
Mixed Use Boulevard	<ul style="list-style-type: none"> • Buildings close to street • Mix of land uses • Medium to high density land use • High volumes of vehicles and transit • Medium to heavy ped/bike activity • Reduced vehicular speeds 	<ul style="list-style-type: none"> • 2-4 travel lanes • Median • Sidewalks & bike facilities • Street furniture & enhanced lighting • On-street parking

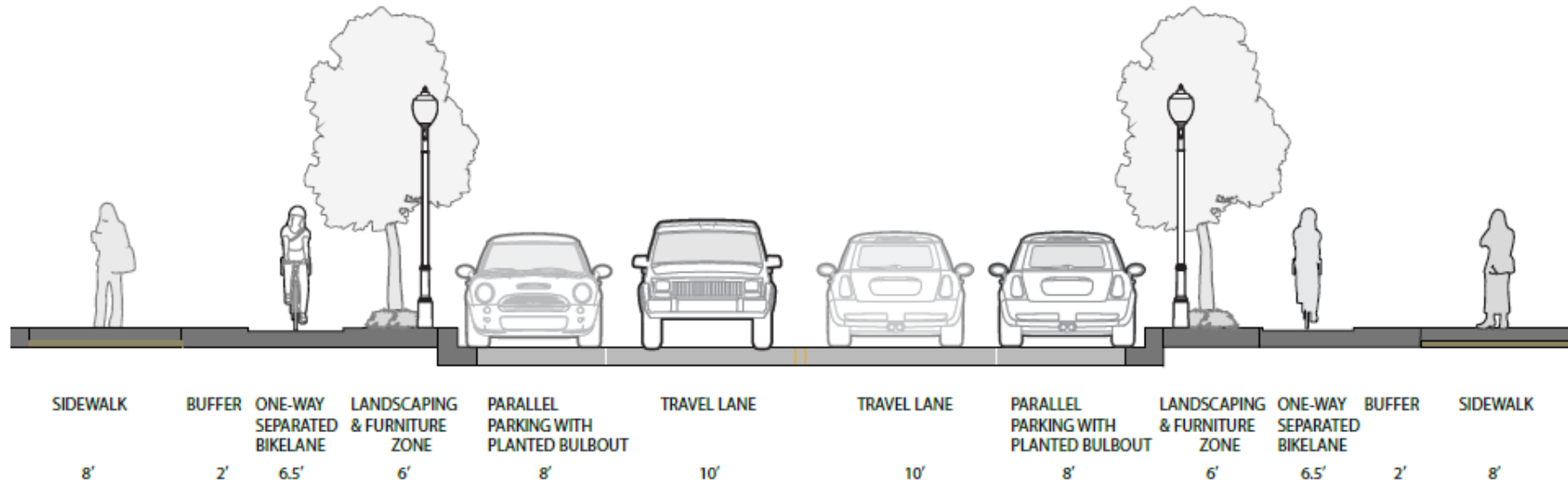




NEIGHBORHOOD CONNECTOR (A)



New Street Type	Description	Features
Neighborhood Connector	<ul style="list-style-type: none"> • Connect multiple neighborhoods • Medium density land uses, Buildings close to street • May feature mixed land uses or mostly residential w/ occasional businesses • Heavy pedestrian/bike activity; Provide continuous walking and bicycling routes • Some are major bus routes; Slow speeds (20-25 mph) 	<ul style="list-style-type: none"> • 2 travel lanes • Bike facilities, Sidewalks, Lighting • Enhanced streetscape • In mixed-use/retail areas, space for street furniture, outdoor events & dining • On-street parking

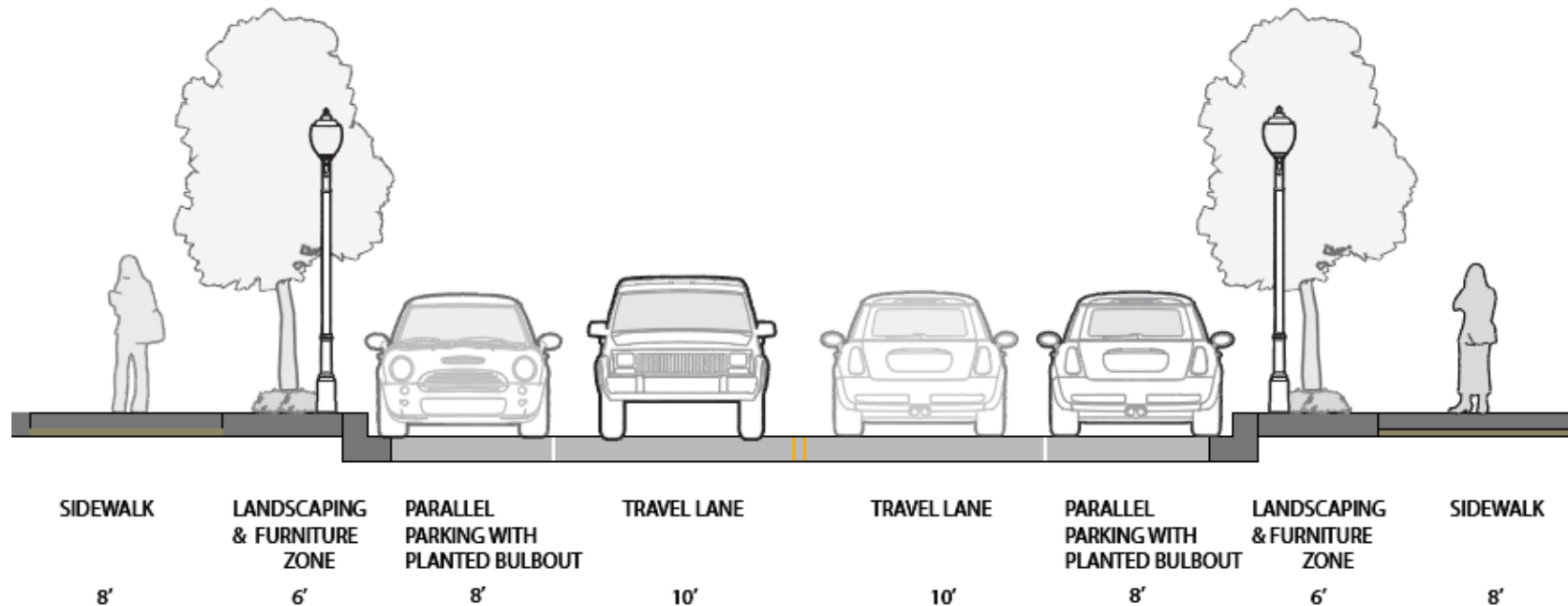




NEIGHBORHOOD CONNECTOR (B)



New Street Type	Description	Features
Neighborhood Connector	<ul style="list-style-type: none"> • Connect multiple neighborhoods • Medium density land uses, Buildings close to street • May feature mixed land uses or mostly residential w/ occasional businesses • Heavy pedestrian/bike activity; Provide continuous walking and bicycling routes • Some are major bus routes; Slow speeds (20-25 mph) 	<ul style="list-style-type: none"> • 2 travel lanes • Bike facilities, Sidewalks, Lighting • Enhanced streetscape • In mixed-use/retail areas, space for street furniture, outdoor events & dining • On-street parking

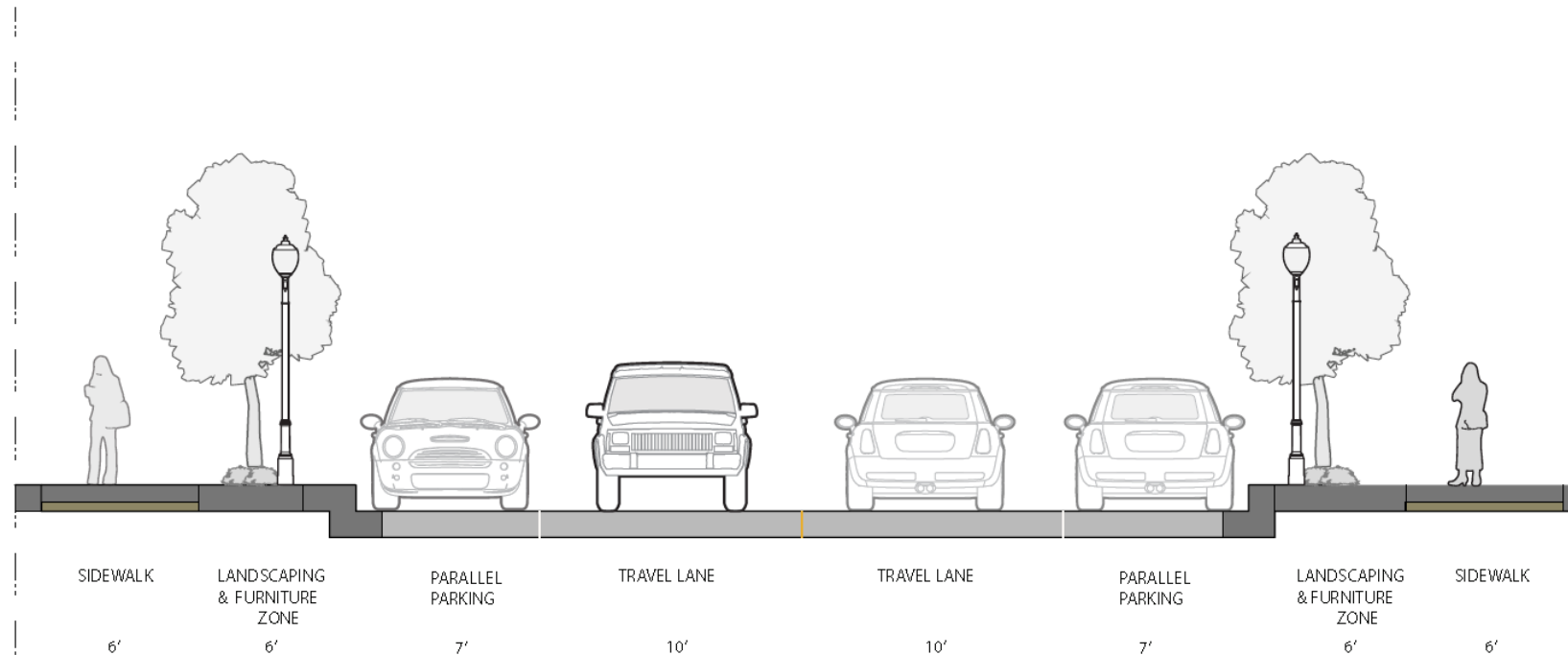




NEIGHBORHOOD RESIDENTIAL



New Street Type	Description	Features
Neighborhood Residential	<ul style="list-style-type: none"> • Provide immediate access to single-family and multi-family residences • Focus on pedestrian safety, space for children to play, and well defined bicycling and walking paths • Slow speeds 	<ul style="list-style-type: none"> • 2 travel lanes • Sidewalks • Street trees • Lighting

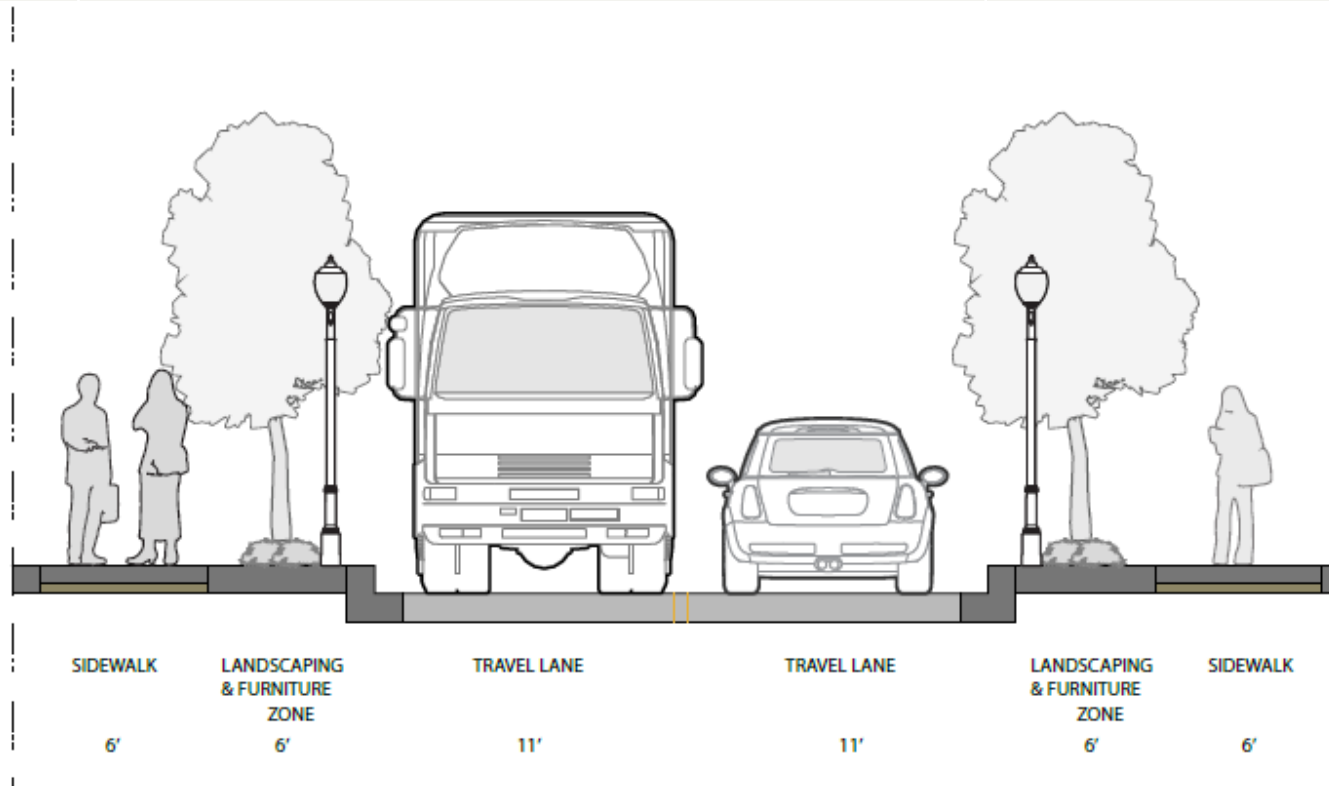




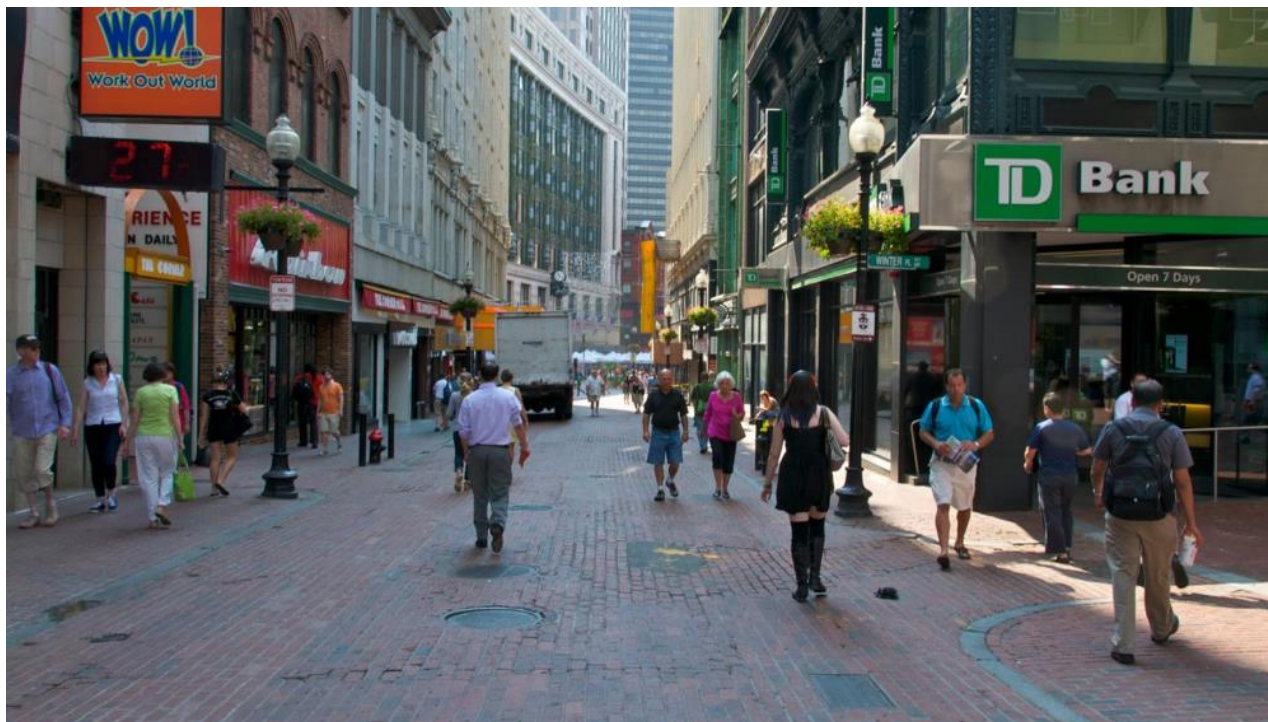
INDUSTRIAL STREET



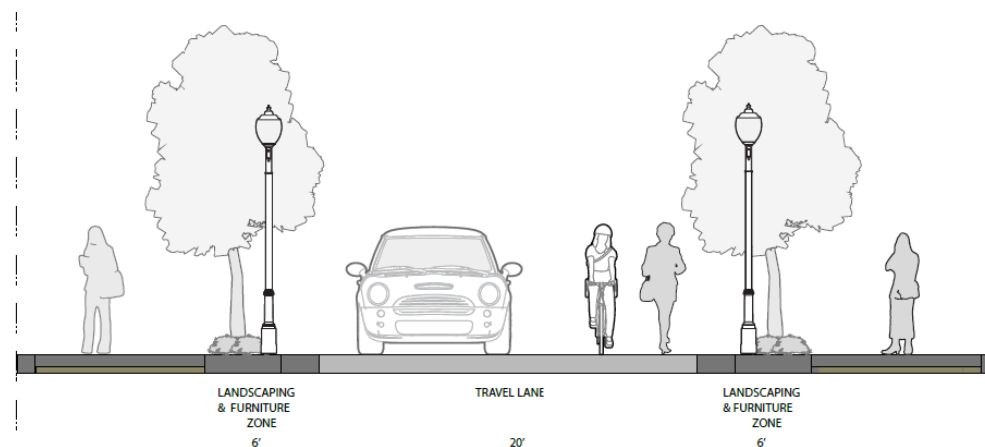
New Street Type	Description	Features
Industrial Street	<ul style="list-style-type: none"> • Serve industrial areas • Carry moderate to high volumes of trucks of all sizes • Fewer bicyclists and pedestrians, but often they must pass through 	<ul style="list-style-type: none"> • 2 Travel lanes • Adequate street width and turning radii to accommodate trucks • Lighting



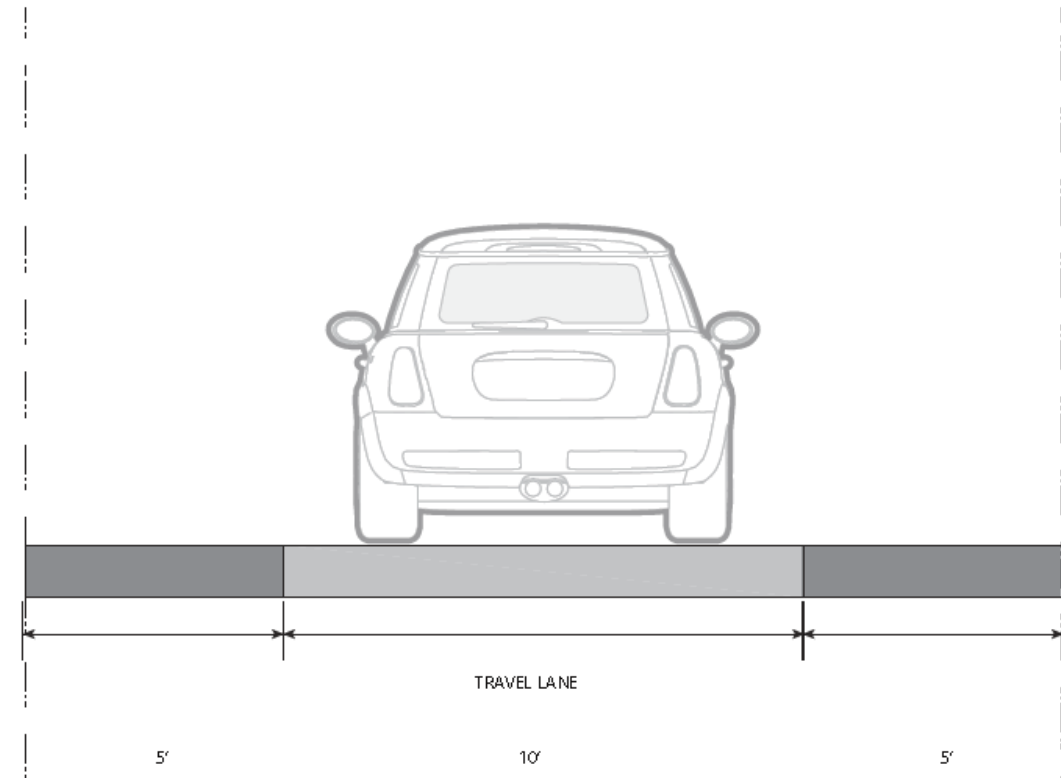
New Street Type	Description	Features
Shared Street	<ul style="list-style-type: none"> • Multiple land uses • Single grade or surface shared by all modes • Extremely low speeds 	<ul style="list-style-type: none"> • Unique paving • Street furniture • Lighting



Winter Street – Boston, MA

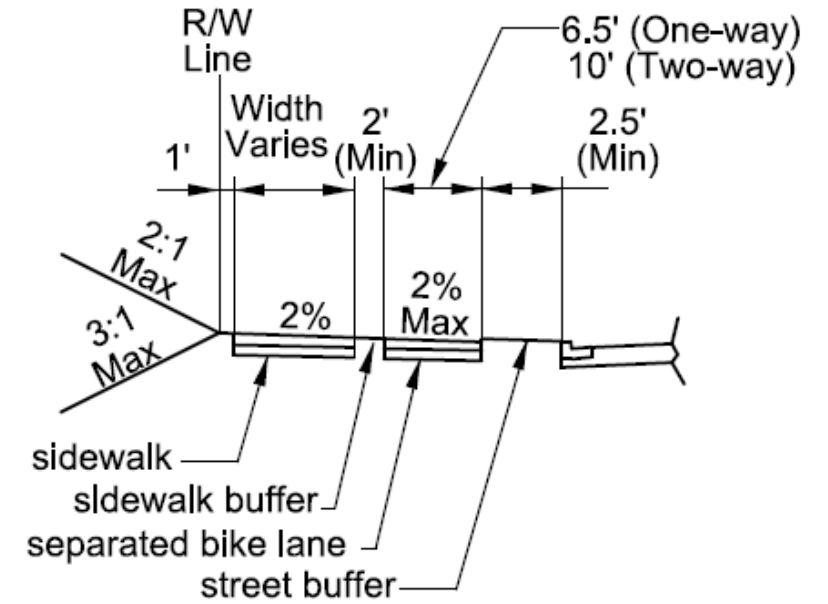
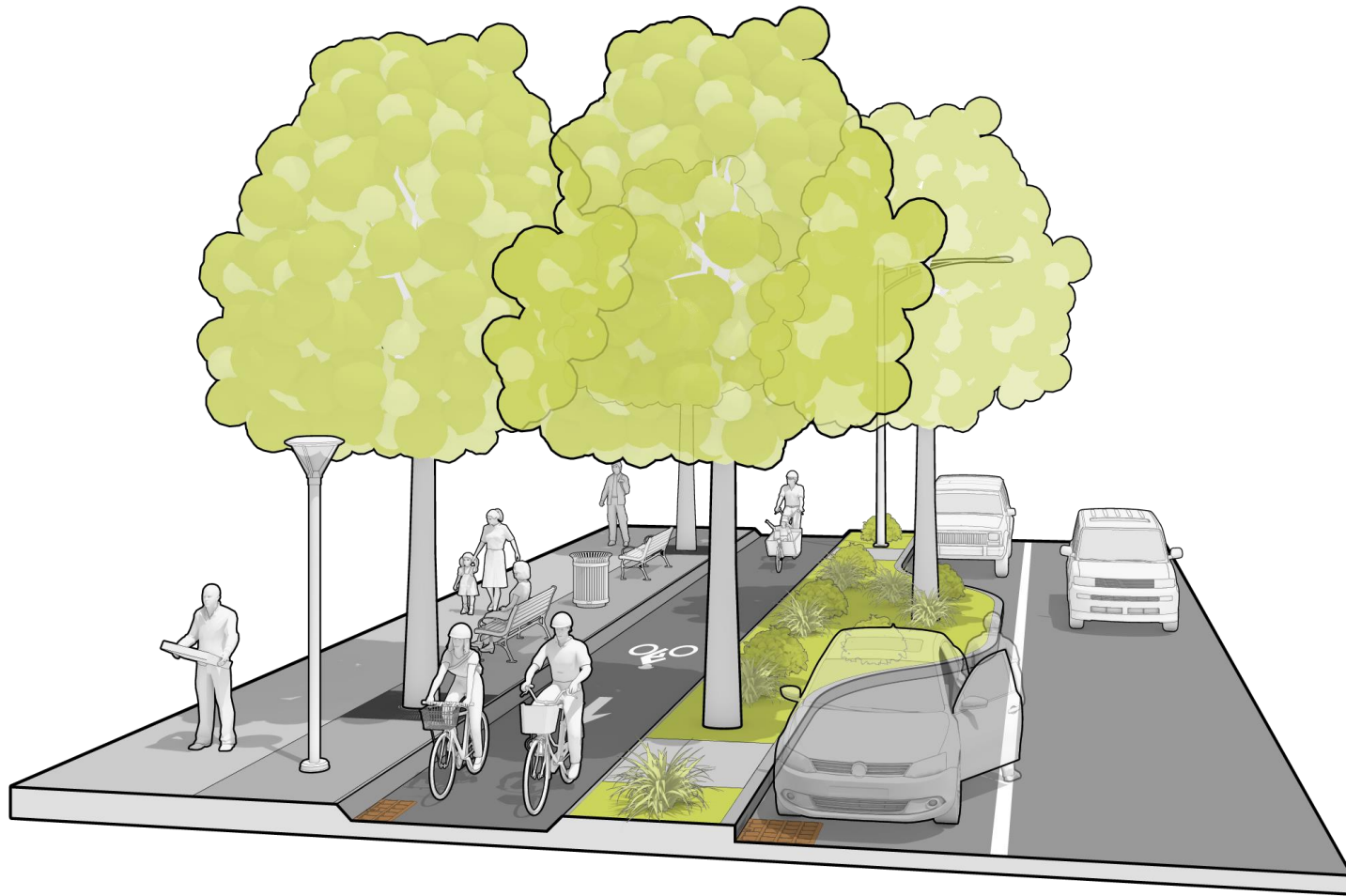


Urban Street Type*	Description	Features	Design Speed	Total # of Travel Lanes	Minimum Lane Width
Alley	Extremely low speeds	One travel lane	10 mph	1	10





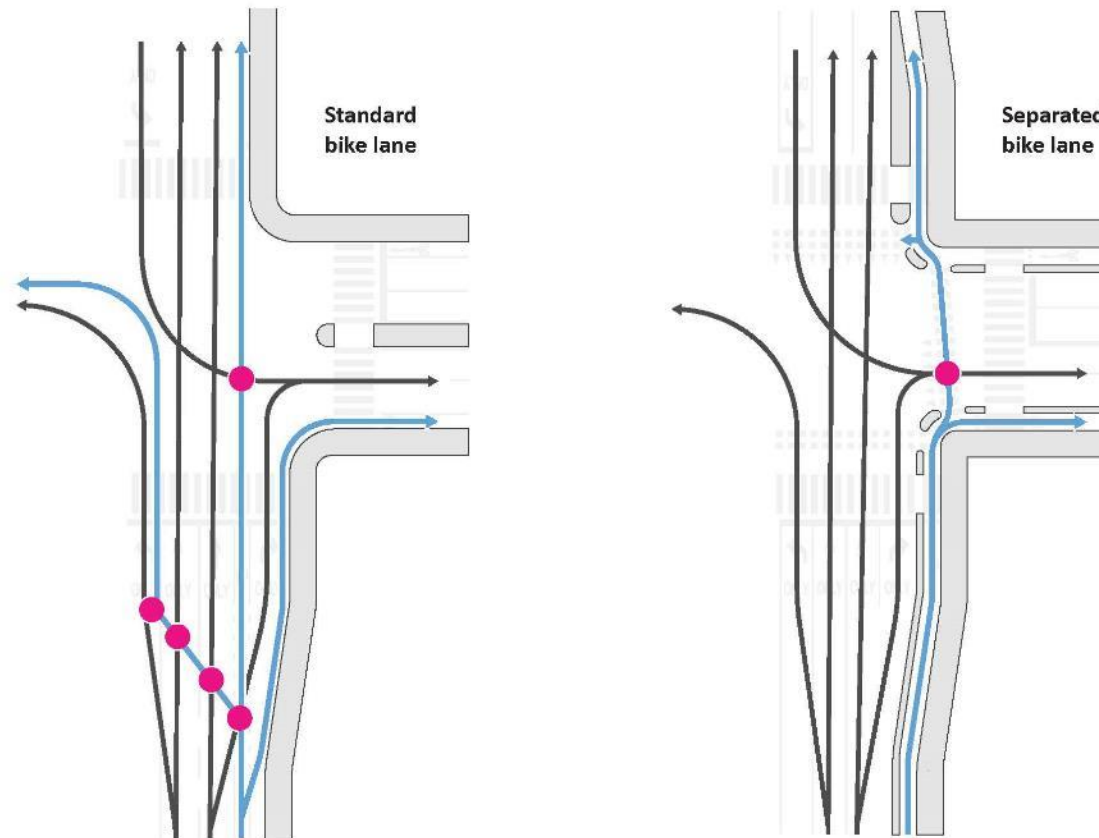
SEPARATED BIKE LANES



(B) Sidewalk Level

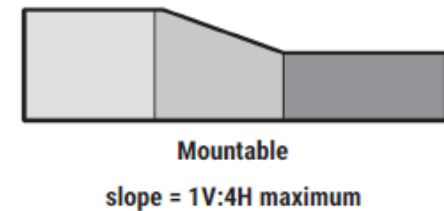
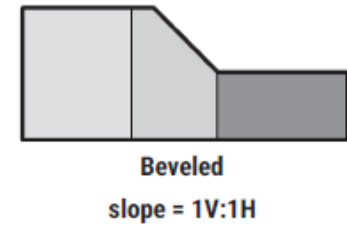
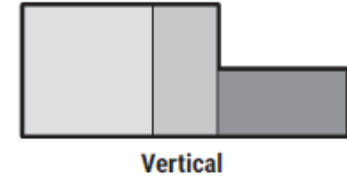
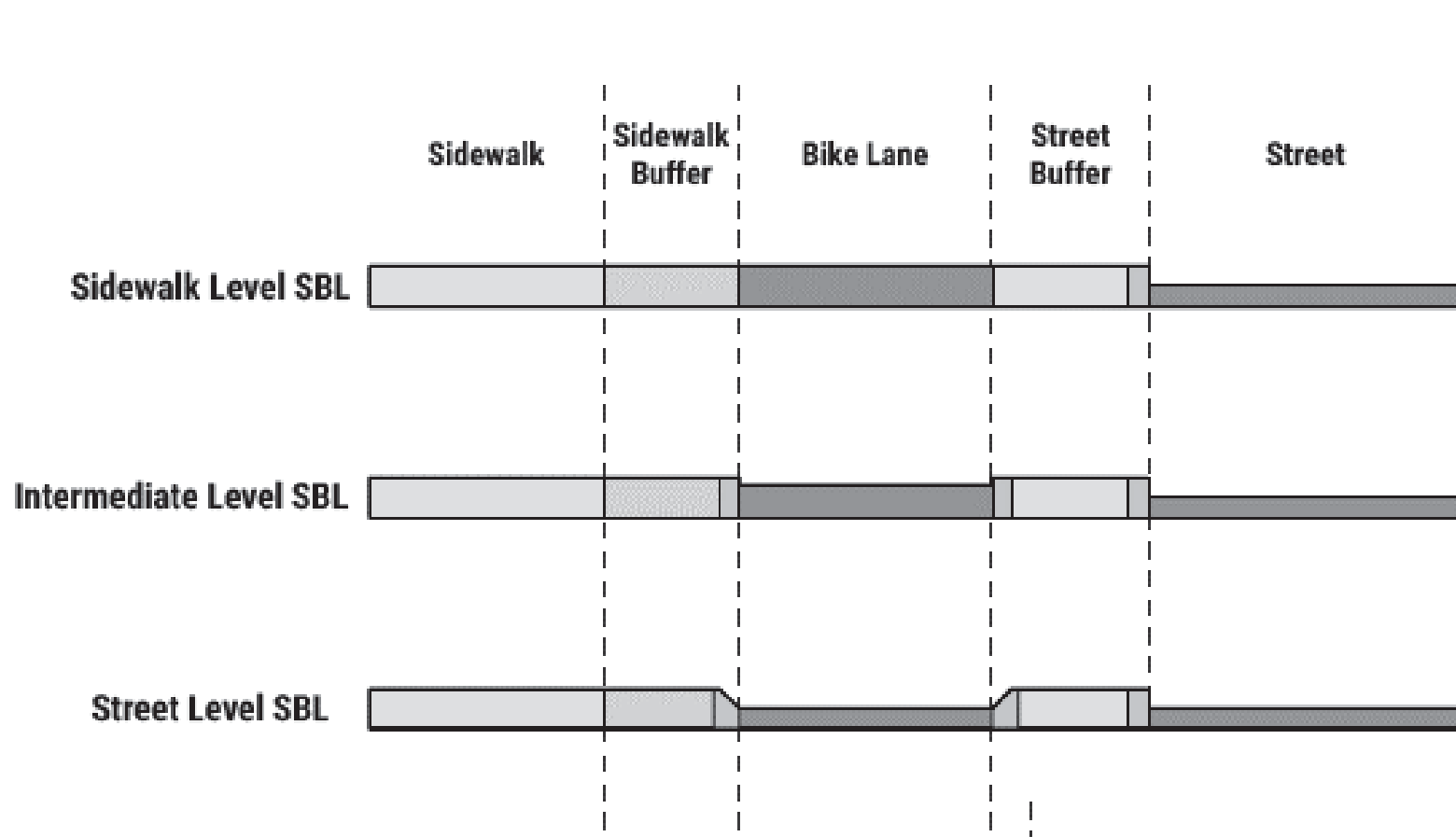
SEPARATED BIKE LANES

Exhibit 4.1: Intersection Conflict Points



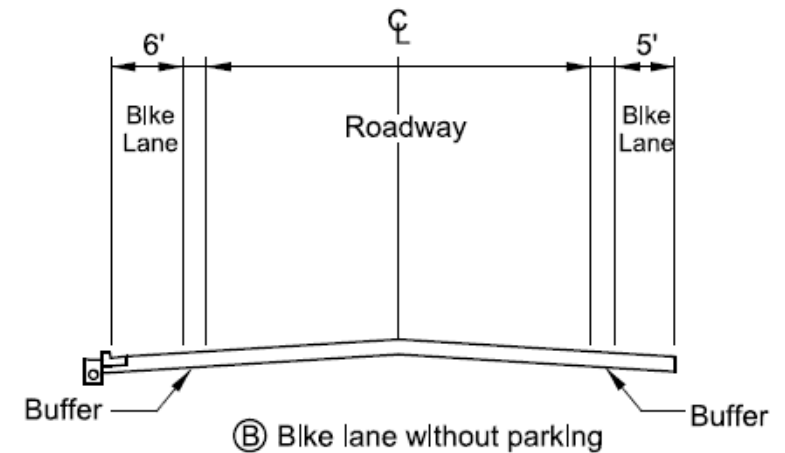
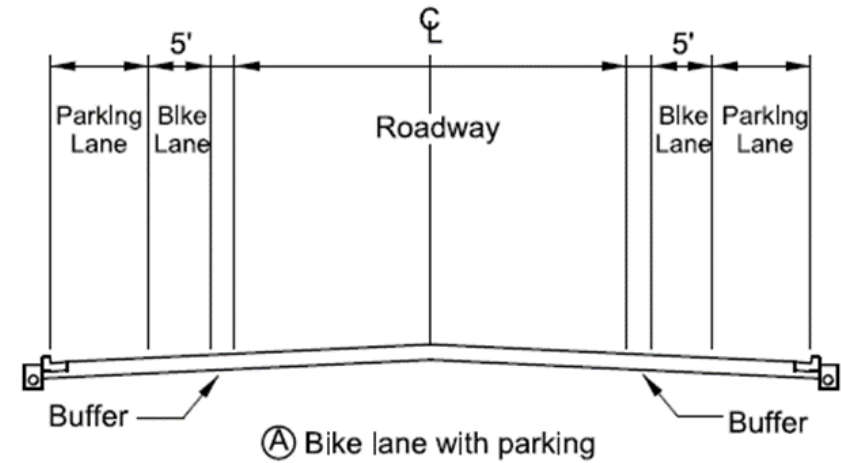


SEPARATED BIKE LANES

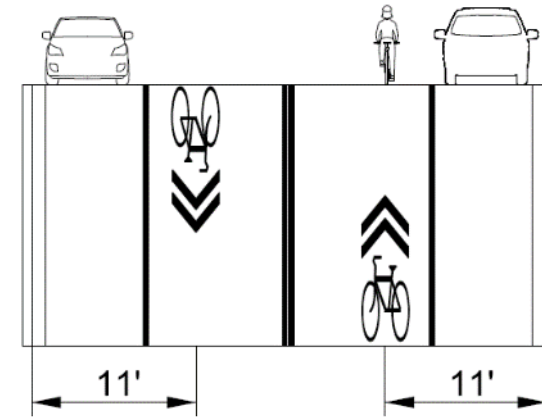




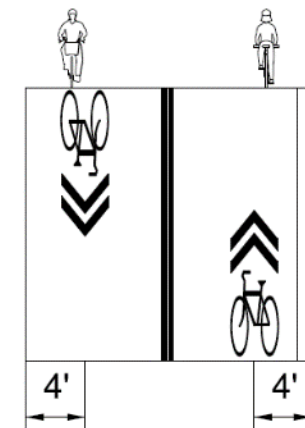
BUFFERED AND STANDARD BIKE LANES



SHARED LANE MARKING



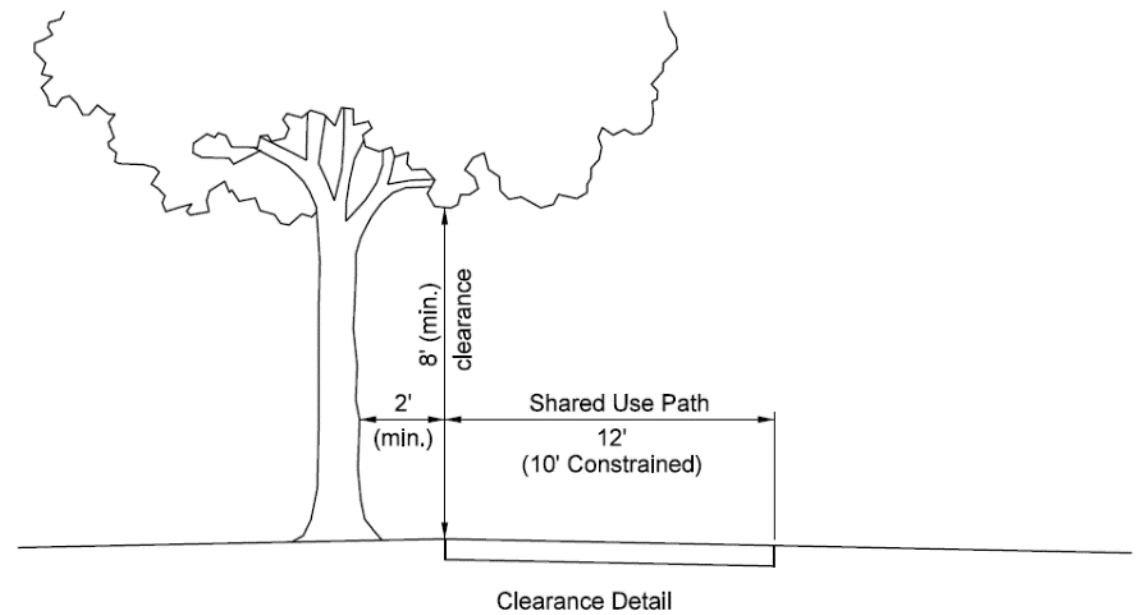
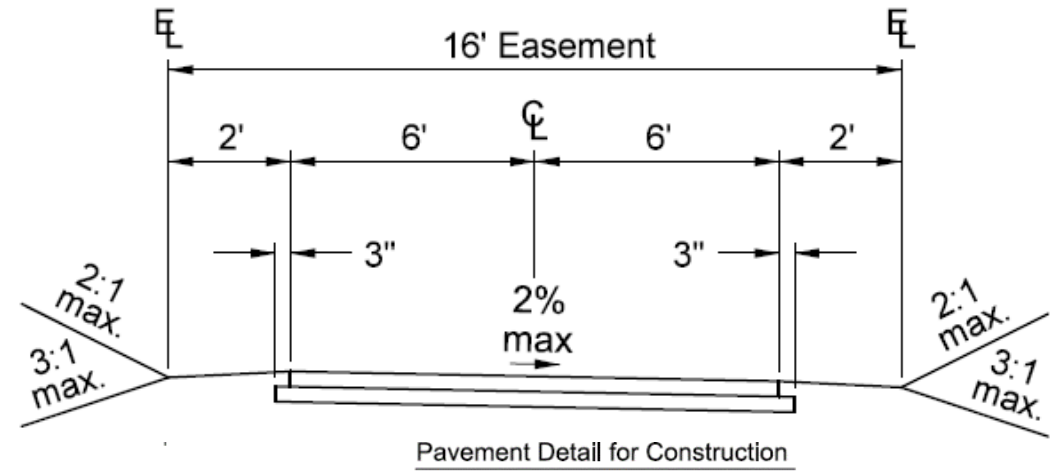
Ⓐ Shared-lane marking cross section with on street parking



Ⓑ Shared-lane marking cross section with no on street parking

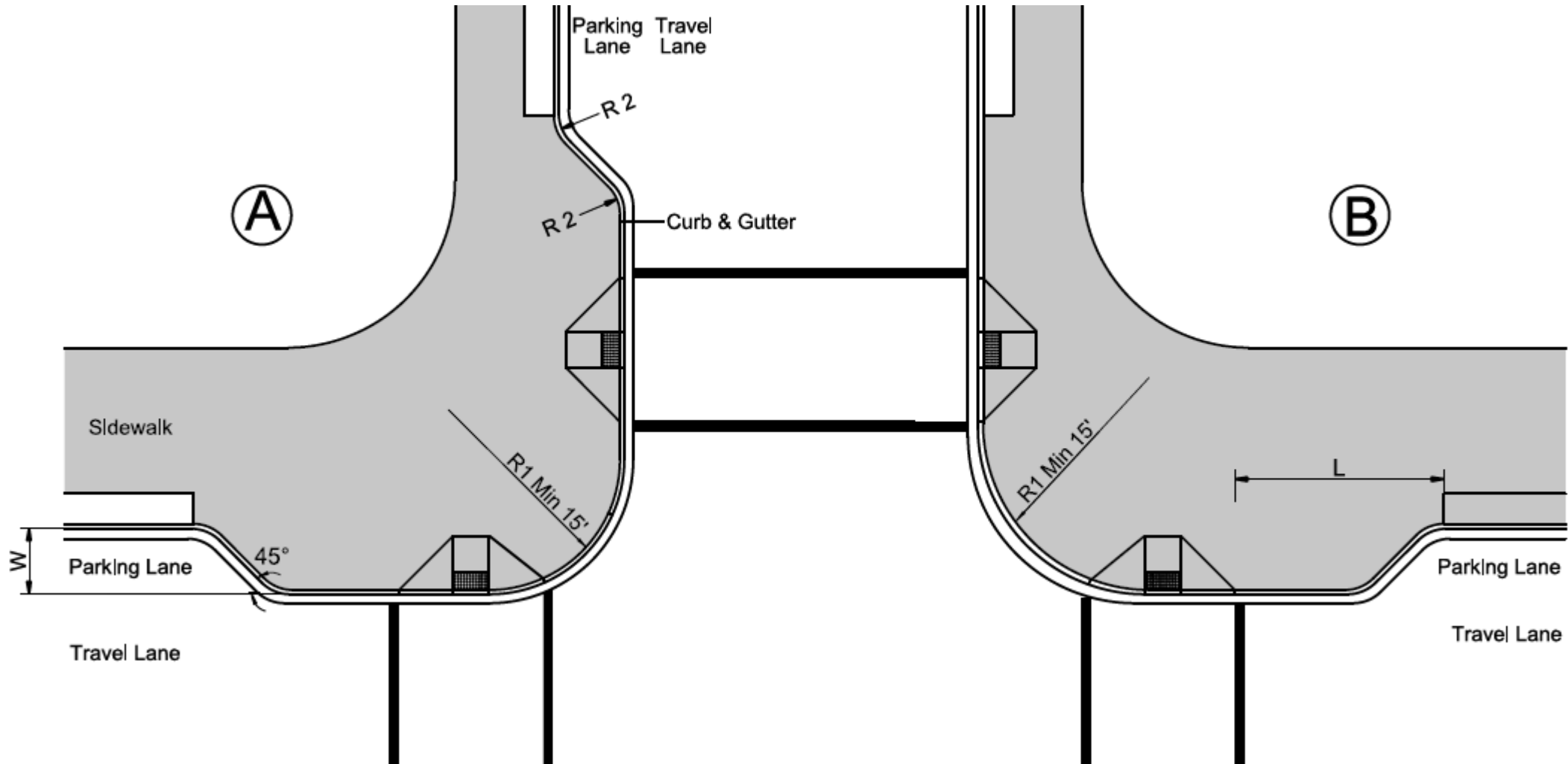


SHARED USE PATH



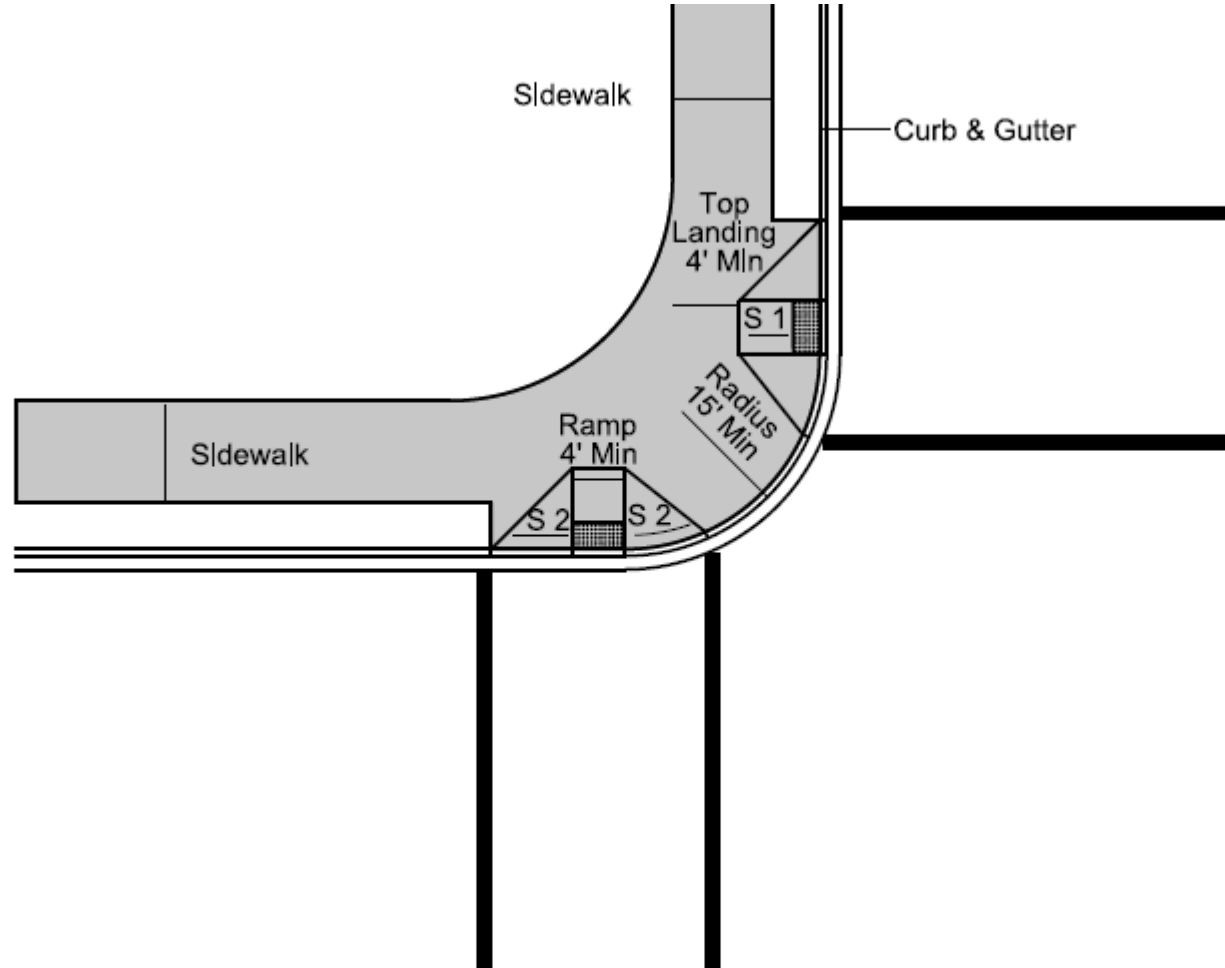


PERPENDICULAR CURB RAMP



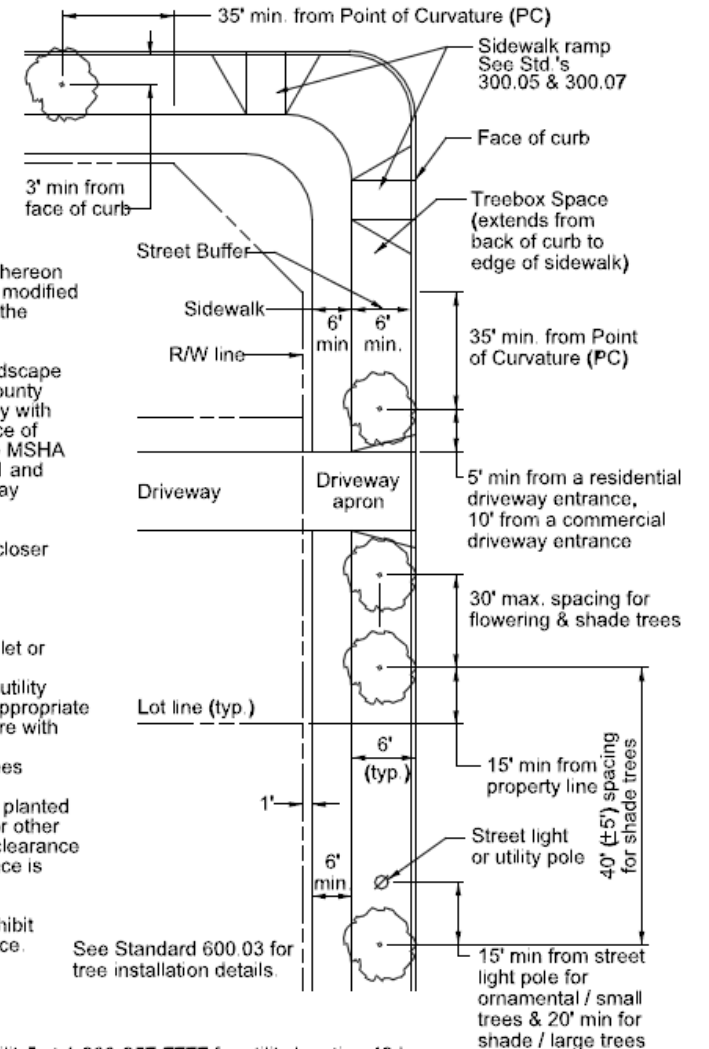


CURB RAMP CONFIGURATION





STREET TREE PLACEMENT



Notes:

- The dimensions shown hereon are typical, and may be modified in specific situations by the Department

For traffic safety, all landscape operations within the County right-of-way shall comply with the MSHA's maintenance of Traffic regulations. See MSHA standards MD104.31-01 and MD104.31-02 for two-way roadways.
- Trees to be located no closer than shown.
 - 5' from gas box
 - 5' from water meter
 - 5' from fire hydrant
 - 10' from storm drain inlet or manhole
 - 15' from street light or utility pole; and must be of appropriate height as not to interfere with overhead utility lines.
 - 20' for shade / large trees
- Street trees may not be planted over storm drain pipe (or other utilities) where vertical clearance from top of pipe to surface is less than 4'-6".
- Street trees must not inhibit intersection sight distance.

See Standard 600.03 for tree installation details.

Call "Miss Utility" at 1-800-257-7777 for utility location 48 hours prior to the planting of street trees within the County right-of-way.



Questions / Discussion