

CHAPTER 2: TOOLBOX



2

**DESIGNING A
COMPLETE STREET**

BUILDING STREETS FROM THE OUTSIDE IN



Getting Started

Much like watersheds, street typologies and context zones exist as products of the natural and/or built environments, crossing boundaries of agencies and jurisdictions. Complete Streets design works best with an “outside-in” approach, looking first at the network context as a whole instead of starting at a roadway’s center line and allotting space outward from there.



Key Factors

This section introduces planning concepts that inform the application of context zones and street typologies to roadway systems – tools that lead to better planning of Complete Streets networks. It will walk City of Memphis roadway designers through the phases to develop a Complete Street cross section based on three key factors:

LAND USE CONTEXT

ROADWAY TYPOLOGY

THE ORDER OF CONSIDERATION FOR TRAVEL MODES

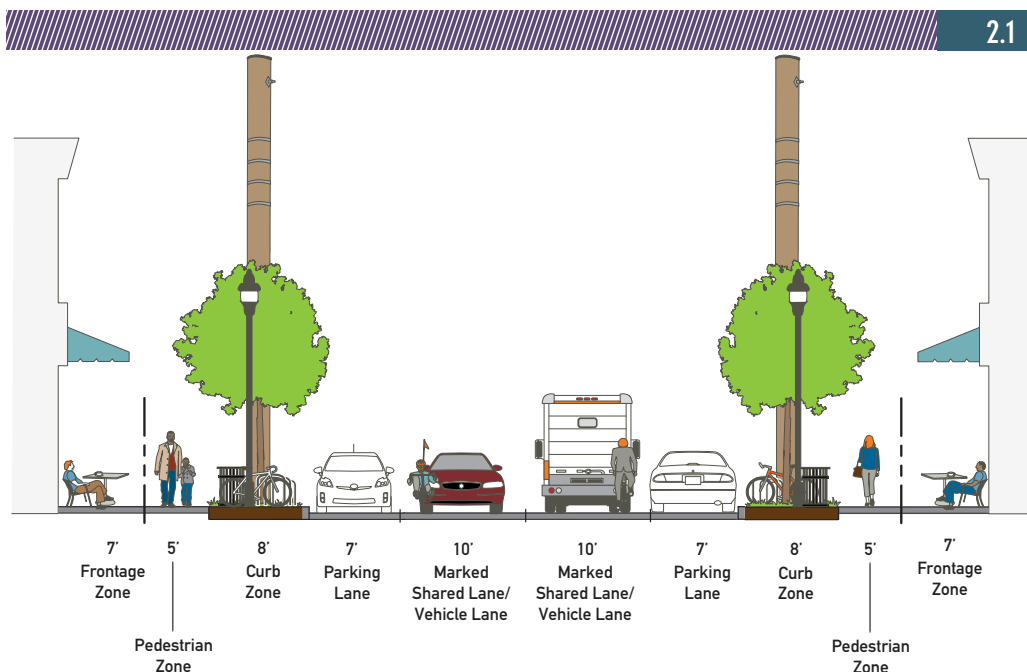
Quick Summary Note

This chapter provides a detailed overview of the cross section creation process to be used by Memphis planners and engineers to inform roadway project design decisions. We recommend that users of this manual read this chapter at least once and then utilize it as a reference guide in the future. There is a two-page summary in section 2c of this chapter to use in conjunction with the Project Delivery Workbook in Chapter 5 and quickly walk you through the phases for future iterations and projects.

CROSS SECTION DEFINED

A cross section is a two-dimensional illustration of the dimensions allocated to each element of the roadway, such as sidewalks, vehicles lanes, bicycle lanes and curbs. It includes all the elements of the public right-of-way, which in Memphis encompasses the property line on one side of the street to the property line on the other side. Other elements such as the building setback and frontage zone may also be depicted on the cross-section, even though these elements are not part of the public right-of-way, to illustrate the full experience of a user on the roadway. If the roadway segment was a loaf of bread the cross section would be one slice from the middle of the loaf that represents the average conditions found along the corridor.

FIGURE 2.1
CROSS SECTION
EXAMPLE



PHASES TO DEVELOPING A CROSS SECTION



Getting Started

Follow the phases listed on the following pages to build a cross section using the design principles outlined in this manual. Right-of-way tables of roadway dimensions and sample cross sections are included in this chapter to illustrate ideal conditions for building Complete Streets in Memphis, and design elements for each street typology (boulevards, avenues, streets and alleys), as described in Section 2.3.



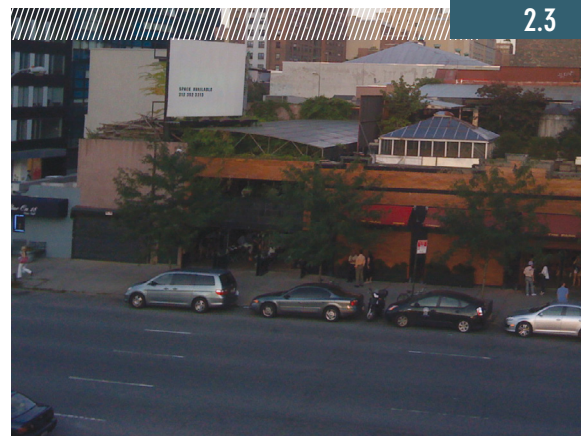
FIGURE 2.2
SUBURBAN AREAS
Memphis, TN

FIGURE 2.3
URBAN AREAS
New York, NY

PHASE 1A: IDENTIFY A LAND USE CONTEXT

Start by conducting site visits, observing types and uses of buildings, reading zoning maps and long range plans to determine the land use context along the roadway segment. After that the roadway designer should match the land use context to the most appropriate district description in the Unified Development Code for the project area.

Land use context enables roadway designers to answer the two key questions that guide Complete Streets design: who will use the roadway and in what way they will be using it? The answers will lead to the development of safe and convenient solutions for all users in the immediate area rather than designing the roadway purely as a conduit for cars.



LAND USE DEFINED

Land use refers to both existing conditions and historical uses of the roadway context. Land use can be observed by the types, sizes and spacing of buildings.

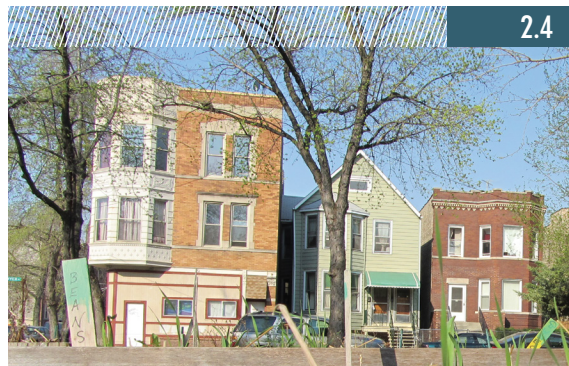
The most common land uses include:

RESIDENTIAL Residential uses are homogenous, with varying densities. Single-family lot sizes can range from one-tenth of an acre to more than an acre. Multifamily units may be mixed into single-family areas or placed in homogenous zoning areas. Residential character can vary dramatically between urban, suburban and rural environments.

COMMERCIAL Separated commercial uses typically exist in suburban environments but can be found in urban and rural environments as well. Many urban commercial corridors consist of single-story storefronts that resemble mixed-use areas but lack intermixed housing units. New commercial development in urban areas often mimics suburban-style commercial development, reflecting the increasing prevalence of national retailers and zoning requirements that favor motor vehicle access. Commercial character also varies dramatically between urban, suburban and rural environments.

MIXED USE Mixed-use, often referred to as traditional urbanism or Main Street-style development, is typically thought of as a street-level storefront with housing units on the upper stories. However, there are many types of mixed-use applications, including work/live uses in primarily residential areas and intermixed retail and office space. Diversity and intensity of uses, along with flexibility in zoning regulations, are required to support mixed-use environments.

SINGLE-USE Single-use areas can vary widely, but are grouped together for the purposes of defining roadway context. This category describes areas that have limited access and are largely separated from the corridor. Single-use areas can include agricultural and open-space uses in rural areas, industrial and office parks, large residential developments in suburban areas and industrial uses, such as shipping yards, in urban areas. Although these land uses are dramatically different, they may be treated similarly from a transportation design perspective.



2.4

FIGURE 2.4
RESIDENTIAL
Chicago, IL



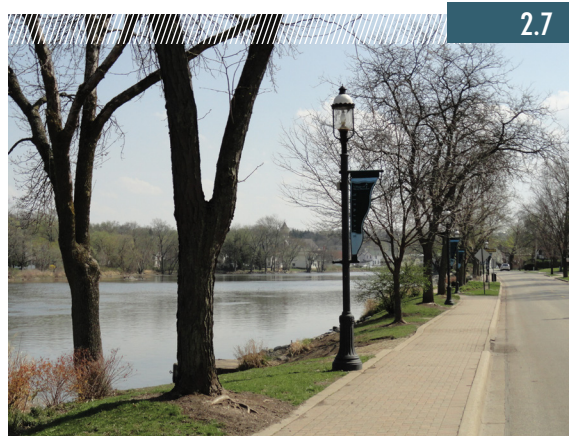
2.5

FIGURE 2.5
COMMERCIAL
Oak Park, IL



2.6

FIGURE 2.6
MIXED-USE
Oak Park, IL



2.7

FIGURE 2.7
SINGLE-USE
Elgin, IL

PHASE 1B: CONNECT THE LAND USE TO THE UNIFIED DEVELOPMENT CODE

Based on observations, maps, plans and/or the Unified the Development Code, the roadway designer can connect the land use context of the roadway segment to a district in the Memphis and Shelby County Unified Development Code. The below districts are listed and defined in the Memphis and Shelby County Unified Development Code in Article 2. Note that some of the below Overlay Districts may comprise a variety of land uses, including commercial, mixed-use, single-use and residential. Each district may have a specified geography and zoning requirements. For a description of each district, permitted uses and other requirements see the Unified Development Code.

OPEN DISTRICTS

P	Parks
OS	Open Space
FW	Floodway
CA	Conservation Agriculture
CIV	Civic

RESIDENTIAL DISTRICTS

R-MP	Manufactured Home Park
R-E	Residential – Estate
R-15	Residential Single-Family – 15
R-10	Residential Single-Family – 10
R-8	Residential Single-Family – 8
R-6	Residential Single-Family – 6
R-3	Residential Single-Family – 3
RU-1	Residential Urban – 1
RU-2	Residential Urban – 2
RU-3	Residential Urban – 3
RU-4	Residential Urban – 4
RU-5	Residential Urban – 5

MIXED USE DISTRICTS

RW	Residential Work
OG	Office General
CMU-1	Commercial Mixed Use – 1
CMU-2	Commercial Mixed Use – 2
CMU-3	Commercial Mixed Use – 3
CBD	Central Business
CMP-1	Campus Master Plan – 1
CMP-2	Campus Master Plan – 2

THE MEMPHIS AND SHELBY COUNTY UNIFIED DEVELOPMENT CODE

The Zoning Code and Subdivision Regulations
for the City of Memphis and Unincorporated Shelby County



INDUSTRIAL DISTRICTS

EMP	Employment
WD	Warehouse & Distribution
IH	Heavy Industrial

SPECIAL PURPOSE DISTRICTS

SCBID	South Central Business Improvement
U	Uptown

OVERLAY DISTRICTS

-MO	Medical Overlay
-UDO	University Overlay
-TO	Transitional Office Overlay
-RC	Residential Corridor Overlay
-H	Historic Overlay
-AP	Airport Overlay
-FP	Floodplain Overlay
-FC	Fletcher Creek Overlay
-NC	Neighborhood Conservation Overlay
-MD	Midtown District Overlay

PHASE 1C: CONSIDER FUTURE DEVELOPMENT

Transportation infrastructure has a long life cycle and should be designed to meet both current and future needs of users in a way that aligns with the goals set out by community planning agencies. In defining a roadway context, planning documents, zoning regulations and other ordinances can be used as primary references to understand and anticipate future land use and transportation needs. Common sources for information on context zone planning in Memphis include:

CITY OF MEMPHIS PLANS

PUBLIC WORKS 5 YEAR RESURFACING MANAGEMENT PLAN

Includes the selection and evaluation of roadways that will be resurfaced within the next five years. Resurfacing is an easy and affordable opportunity for implementing Complete Street designs, especially for alterations that require only restriping, such as bike lanes.

GREEN INFRASTRUCTURE PLAN AND CITY OF MEMPHIS/ SHELBY COUNTY STORM WATER MANAGEMENT MANUAL

Helps roadway designers stay abreast of ecological issues, such as erosion, flooding hazards and storm water management, which can affect roadway design.

DIVISION OF ENGINEERING DESIGN AND REVIEW POLICY MANUAL

Enables roadway designers to adhere to regulations involving pavement markings, signage, medians, sidewalks, curb cuts and Americans with Disabilities Act compliance.

SIDEWALK ORDINANCE HANDBOOK

Guides sidewalk conditions and construction. Memphis Area Transit Authority Transit Short Range Transportation Plan: Depicts existing and planned public transportation routes. The presence of public transit in a corridor can affect design (e.g. including bus-only lanes on a roadway with a planned high-volume bus route).

REGIONAL PLANS

THE MEMPHIS AND SHELBY COUNTY UNIFIED DEVELOPMENT CODE

Contains the official zoning code, land use districts and subdivision regulations for Memphis and Shelby County. It's a starting point to determine permitted land uses and general development standards.

DIRECTION 2040 LONG RANGE TRANSPORTATION PLAN – MEMPHIS URBAN AREA METROPOLITAN PLANNING ORGANIZATION

Assesses needs and deficiencies and offers strategies for transit, roadway network, bicycle and pedestrian facilities and freight. Aligning with metropolitan area strategies can help foster buy-in for the roadway design, especially because the public was engaged in the planning process.

MEMPHIS URBAN AREA METROPOLITAN PLANNING ORGANIZATION REGIONAL BICYCLE AND PEDESTRIAN PLAN

Prioritizes bicycle and pedestrian facility on specific roads within municipalities in the Memphis metropolitan area.

MID-SOUTH REGIONAL GREEN PRINT

Sets a region-wide vision for the network of parks, greenways, bike trails and walking paths, byways, blueways, conservation lands, natural areas, wildlife management areas, open space areas, community gardens, stormwater management areas and other similar spaces in the Memphis metropolitan area.

OTHER APPLICABLE PLANS TO CONSIDER IN SPECIFIC PROJECT AREAS:

DOWNTOWN MEMPHIS STREETScape PLAN

MEMPHIS RIVERFRONT ANALYSIS AND RECOMMENDATIONS

MEMPHIS MAIN STREET DEVELOPMENT PLAN

MEMPHIS MEDICAL DISTRICT MASTER PLAN

Land Use Context and the Urban Transect

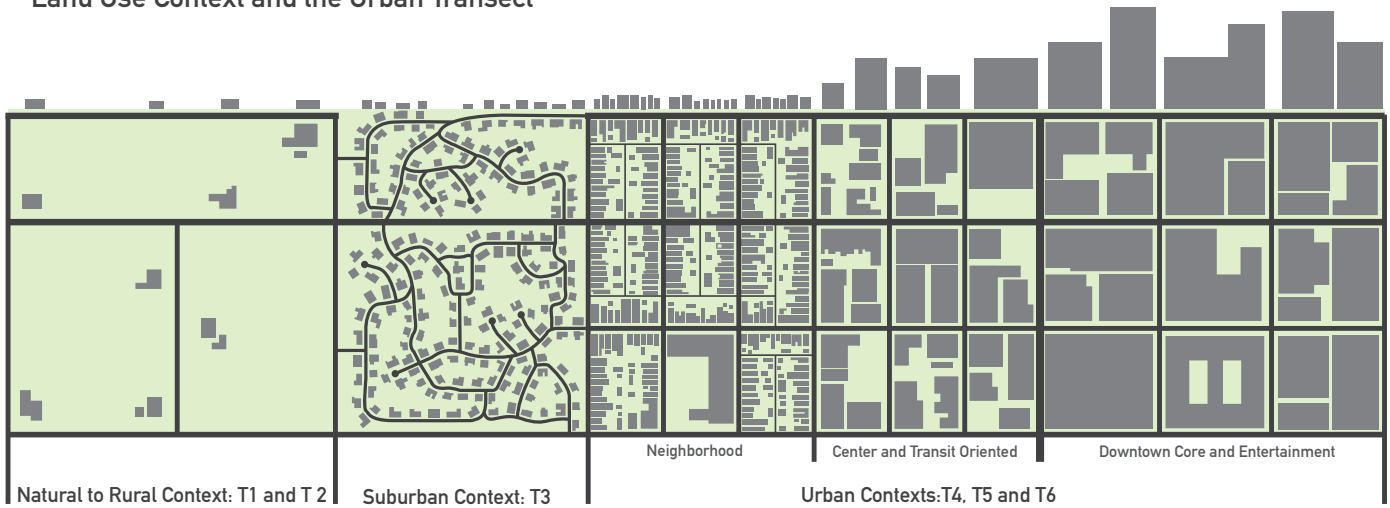


FIGURE 2.9
TRANSECT DIAGRAM

The diagram illustrates the natural transition and progression of building spacing from rural to urban environments. Similar illustrations can be obtained from Center of Applied Transect Studies.

PHASE 2: IDENTIFY DEVELOPMENT PATTERN INTENSITY

The roadway designer should next observe and determine the development pattern intensity. A transect diagram illustrates the transition of the built environment from rural to urban settings. A roadway corridor in a metropolitan area is likely to go through varying degrees of development intensity. Applying Complete Streets principles to roadway design will allow decisions based on the changing contexts.

Some factors to observe in determining the development pattern include population density, housing density, parcel density, building setbacks, building types, roadway grid characteristics, land-use diversity and transit service. Although there are many kinds and scales of densities, for the purpose of Complete Streets design it is sufficient to define the development pattern as urban, suburban or rural.

URBAN — Urban areas are more intense, uses are compact and transportation demand by all modes is high. Mass transit and mixed-use development are commonplace. The transportation network is highly connected.

SUBURBAN — Suburban areas are less intense but still highly active. Suburban areas typically are designed to support separated land uses and promote residential character. Suburban regions provide some transit service and include areas of mixed use, often coinciding with historic development along thoroughfares. The transportation network is less connected; traffic is frequently routed to large arterials and freeways.

RURAL — Rural areas are characterized by open space and large tracts of land that are not subdivided or penetrated by the roadway network. Transit is rare, population is sparse and land uses are homogenous.

Communities frequently self-select into these categories; for example, suburban communities may describe themselves as rural or urban, depending on the preferences of residents and officials. A community self-definition that does not fit the observed development pattern can be a consideration in determining the roadway context. Data gathered through public meetings, surveys and existing plans can help to inform roadway designers of a community's preferred identity.

Many of the land use districts within the Memphis and Shelby County Unified Development Code fit into a few different development pattern intensities, such as urban and suburban, depending on the location. It's important to note the intensity of land use because this can guide the roadway designer in choosing which facilities to include or strengthen. For example, sidewalks in a dense urban commercial area with outside cafes and abundant street furniture may be wider than sidewalks in a low density suburban commercial area with wide building spacing and few pedestrians present. Or bicycle lanes may be needed in a high-density neighborhood street within an urban central business district, whereas the street may be safely shared by bicycles and cars on low density residential neighborhood streets.

The roadway designer can use an aerial map, observations, and research of existing and planned conditions within the study area to select a development pattern intensity.

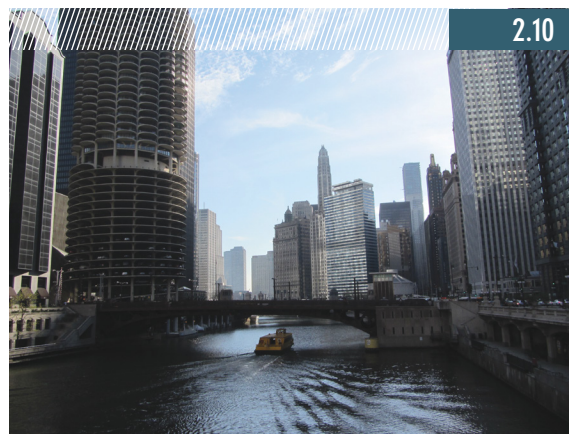


FIGURE 2.10
URBAN
Chicago, IL



FIGURE 2.11
SUBURBAN
Oak Park, IL



FIGURE 2.12
RURAL
Elgin, IL

PHASE 3: SELECT A ROADWAY TYPOLOGY

The roadway typology will help determine appropriate modal facilities and allocation of the right-of-way. To select a roadway typology, review the existing conditions: functional classification, modal accommodations and context zones. Complete Streets design works best with an “outside-in” approach, looking first at the network context instead of starting at a roadway center line and allotting space outward from there. Traditional roadway design focuses on the average daily traffic, vehicle speed and moving cars as efficiently as possible through the roadway.

The roadway typologies described here provide mobility for all modes of transportation, with a greater focus on the most vulnerable users; pedestrians and cyclists. They are meant to broaden the design process by going beyond traditional design considerations, such as traffic volume and vehicle speed, in order to ensure the creation of Complete Streets. Roadway designers should recognize the need for greater flexibility in applying design criteria, based on context and the need to create a safe environment for all roadway users.

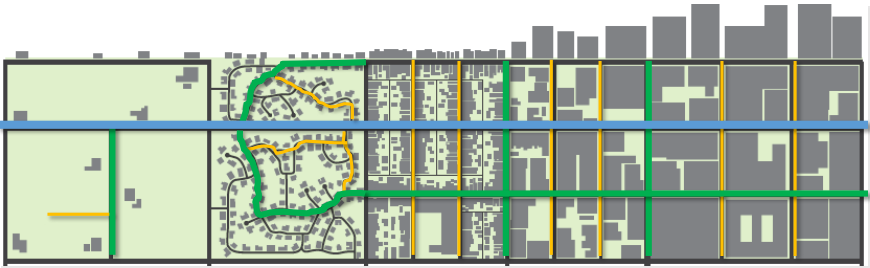
Traditional roadway typologies include arterial, collector, local and rural roadways. The Complete Street roadway typologies in Memphis are thoroughfare, connector and neighborhood street.

TABLE 2A FUNCTIONAL CLASS	Street Typology		
	Thoroughfare	Connector	Neighborhood Street
Arterial			
Collector			
Local			

TABLE 2A
This table shows the relationship between Functional Class and Roadway Typology

2.13

Roadway Typology



- Thoroughfare
- Connector
- Neighborhood Street

FIGURE 2.13
ROADWAY TYPOLOGIES IN MEMPHIS

FIGURE 2.14
THOROUGHFARE
Memphis, TN
Image Credit:
Memphistn.gov

FIGURE 2.15
CONNECTOR
Memphis, TN

THOROUGHFARE

Higher vehicle capacity and vehicle speed

Provides connectivity across the city

Physical separation for each mode

Primary transit routes

CONNECTOR

Moderate to high vehicle capacity and speed

Provides connectivity between neighborhoods

Designated space for each mode

Links in transit systems

ONE-WAY CONNECTOR

One-Way Connector:

Similar to connectors

Single-direction traffic

Often in dense grids with short blocks



2.14



2.15

NEIGHBORHOOD STREET

Low to moderate vehicle capacity and speed

Provides connectivity within a neighborhood

Some modes are able to share space

Transit routes less common

ONE-WAY NEIGHBORHOOD STREET

Similar to neighborhood streets

Single-direction traffic



FIGURE 2.16
NEIGHBORHOOD
STREET
Memphis, TN

PHASE 4A: ORDER OF CONSIDERATIONS FOR TRAVEL MODE

Modal prioritization provides an alternative to traditional methods of roadway design optimization measures, such as vehicular capacity and Level of Service (LOS). Modal priority guidelines can assist the application of engineering judgment to design decisions.

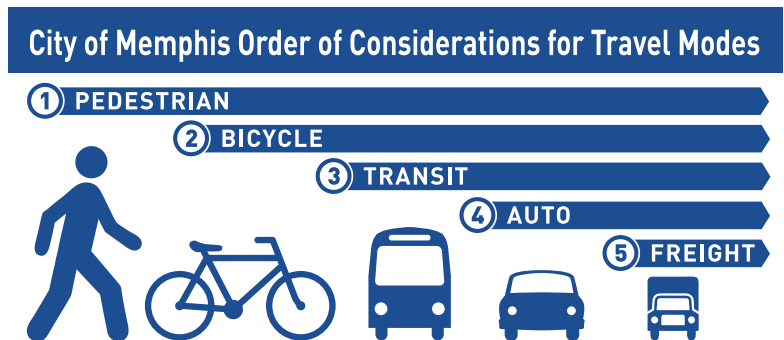
All modes should be considered in a Complete Street. However, many Complete Streets will require retrofitting the existing roadway network and force designers to address trade-offs between competing priorities. Each mode can be assigned a different priority on each corridor, based on the context zone, street typology and desired outcomes.

This guide recommends prioritizing the most vulnerable roadway users when designing roads to support safety, public health, mode shift and to increase trip capacity. In Memphis the default order of considerations for travel modes is:

1. Pedestrian
2. Bicycle
3. Transit
4. Auto
5. Freight.*

*In Warehouse & Distribution (WD), Heavy Industrial (IH) and on designated truck routes the default order of considerations for travel modes is:

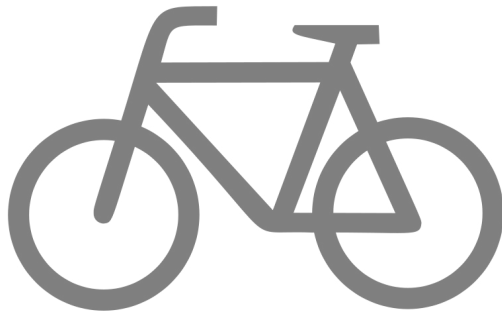
1. Pedestrian
2. Auto
3. Freight
4. Bicycle
5. Transit



WALKING

Pedestrians are the most vulnerable roadway users and require the most separation from motorized traffic. Sidewalks within the right-of-way should be at least 5 feet wide, paved and separated from the travel way by a buffer of at least 4.5 feet. This sidewalk width meets national standards for accessibility and will reasonably accommodate two people walking side by side or passing one another. Pedestrians may also be accommodated on multi-use paths shared with bicyclists if the path is at least 10 feet wide, or on paved shoulders in areas with few pedestrian trips.

Sidewalks intended for pedestrian transportation should always be designed parallel to the roadway to allow for the most direct pedestrian trip.



BICYCLING

Bicycling Bicycling and designing for bicycle travel has evolved significantly since bikeways were first included in modern transportation design in the 1970s. Some cyclists feel safe and comfortable sharing the road with cars and others prefer separation. The roadway typologies listed in Step 3 should be used as a guide for designers to select appropriate bicycle facilities for the roadway:

Neighborhood Street: On low speed, low volume roadways, bicyclists can share the road with cars without requiring physical separation from motorized traffic, such as the neighborhood street typology. These streets can also be designated as bike boulevards, which means that roads are designed to calm traffic and prioritize bicycle travel so that bicyclists can take the whole travel lane.

Connectors: On moderate speed, moderate volume roads, bicyclists prefer a painted separation such as a 6 foot wide bike lane or 8 foot wide buffered bike lane with 4-5 feet marked for through bicycle travel and a painted buffer separating the cyclists from traffic and/or on-street parking.

Thoroughfares: On higher speed, higher volume roadways, such as thoroughfares, safe cycling requires physically separated bikeways, designed either as barrier-protected cycle tracks using on-street parking and/or curbs to separate motorized and bicycle traffic or 8-10 foot wide multi-use paths shared with pedestrians. In areas with low intensity development patterns, a 4 foot paved shoulder (without rumble strips) can accommodate bicycle travel. Although these areas may include faster vehicle speeds, lower traffic volume will make it possible for motorists to pass cyclists safely.



TRANSIT

All transit trips begin and end with walking and many bus riders will need to cross the street to reach their destination. On the return trip, bus routes are likely to have a higher number of pedestrians present. Design considerations at bus stops include shelters, benches and signage placement that does not interfere with pedestrian travel. In denser areas, space for a bus bump out in the parking lane or pull off into the curb zone or parking lane may be appropriate.



AUTO

Motor vehicles are an essential part of the Complete Streets network, but they should not be the only mode considered in network optimization. Car travel lanes can be 10 feet wide and as narrow as 8 feet in low volume, low speed context zones. On designated truck routes and in industrial areas with a high share of freight traffic, travel lanes should be 12 feet.



OTHER MODES

FREIGHT

Freight traffic, especially large trucks require additional travel lane width. On designated truck routes, at least one travel lane should be 12 feet wide.

FARM EQUIPMENT

Farm equipment travels slowly and may be wider than a typical automobile. On roadways where farm equipment is expected frequently, consider including 8 feet wide shoulders, or include pull offs to allow faster moving traffic to pass the farm equipment.

PHASE 4B: OTHER DESIGN CONSIDERATIONS

The below design considerations are discussed in Step 3 of the Project Delivery Workbook.

FUNCTIONAL CLASSIFICATION

A system of grouping roadways based on desired attributes for automobiles; vehicle speed, traffic volume, length of roadway and accessibility of adjacent land uses. The three most common functional classifications in order from highest motorized vehicle capacity to lowest are arterial, collector and local.

DESIGN VEHICLE

The vehicle-type for which an engineer selects geometrics for lane widths and turning radii for a given project. Larger vehicles require wider turning radii than smaller vehicles. However, a wider turning radius can encourage all traffic to speed around corners, creating unsafe crossing conditions for pedestrians. While the conventional approach would be to promote maximum vehicular throughput by selecting a large design vehicle, the Complete Streets approach is to use a smaller design vehicle, such as a delivery truck, whenever possible based on the land use context.

TARGET SPEED

The speed at which vehicles should operate on a roadway in a specific context, consistent with the level of multimodal activity generated by adjacent land uses to provide both mobility for motor vehicles and a safe environment for pedestrians and bicyclists.

DESIGN SPEED

The speed at which the roadway is designed to be driven upon. It is usually derived from policy or standards set by the roadway jurisdiction. Roadway geometrics --such as lane widths and turning radius-- can inadvertently encourage people to drive faster than the posted speed limit by permitting wider lanes and wider turning radii than necessary. Design speed should be selected so drivers naturally drive at the posted speed limit.

Design Controls

Design controls are the parameters around which engineers select geometrics for roadways. These parameters may be different for each project, but should generally reflect community-wide goals and standards.

PHASE 5: SELECT A CROSS SECTION

The roadway designer is now ready to select and/or assemble a cross section that is consistent with the roadway typology and land use context established in the phases above.

USING THE TOOLS IN THIS PHASE

This phase consists of a right-of-way allocation table for each roadway typology and a series of illustrated cross sections for each table. The geometrics specified in these tables are based on the City of Memphis' established community standards for transportation facilities based on the default order of considerations for travel modes (see Chapter 1) and on the requirements of the Memphis and Shelby County Unified Development Code.

It is understood that these tables represent ideal conditions, and that project constraints may merit deviation from these recommendations. Any tradeoffs in right-of-way allocation must be made in accordance with the established order of considerations for travel modes—that is, prioritizing pedestrian access and safety in all projects.

Applying typology concepts to projects

Land Use Context
+ Roadway Typology
= Cross Section

INSTRUCTIONS FOR ASSEMBLING A CROSS-SECTION IN CONJUNCTION WITH THE PROJECT DELIVERY WORKBOOK

1. After completing the phases 1-4 on the previous pages in this chapter and Steps 1 and 2 of the Project Delivery Workbook in Chapter 5, find the right-of-way table in section 2d of this chapter that is consistent with the roadway typology established during Scoping Step 2.3.4 and Phase 3 above.
2. Find the appropriate row in the table based on the land use context and Unified Development Code district determined during Scoping Step 2.3.3 and phase 1 above. This row will include all of the roadway allocations to meet the minimums for an ideal Complete Streets design.
3. Review the corresponding cross section illustration for your row to get a visual impression of ideal Complete Streets conditions.

PHASE 6: ADJUST CROSS-SECTION FOR ON-THE-GROUND CONDITIONS

The pedestrian realm on the right-of-way tables includes the pedestrian zone and curb zone. The pedestrian zone is typically where the sidewalk is located. The curb zone includes the buffer between the sidewalk and the travel way. The curb zone is where furniture, bus shelters, landscaping, trees and other streetscape elements may be located.

The travel way realm on the right-of-way tables is the space in the public right-of-way between curbs. This includes gutter pans, parking lanes, bikeways, vehicle lanes and medians.

Note: for further definitions of the realms, see Chapter 1.

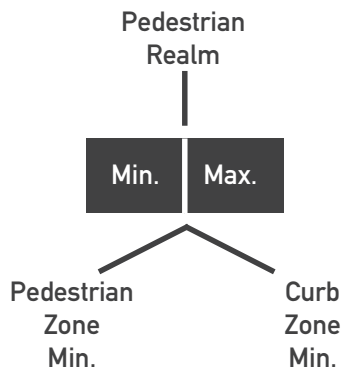
Right-of-Way Totals						
Curb to Curb Standard	Pedestrian Realm Total		Travel Way Realm Total		Total Public	
(feet)	Min. (feet)	Max. (feet)	Min. (feet)	Max. (feet)	Min. (feet)	Max. (feet)

UNDERSTANDING THE RIGHT-OF-WAY TABLES

The right-of-way tables in this chapter include columns for the minimum and maximum totals for the various realms of the cross sections. These columns represent the minimum and maximum dimensions suggested to build ideal roadway segments that incorporate Complete Streets design principles.

Note that the minimum dimensions for the roadway elements (e.g. pedestrian zone, curb zone) combined may be less than the realm total (e.g. pedestrian realm total) for a cross section. There may be extra footage in the realm total so that the roadway designer has flexibility to account for on-the-ground conditions.

For example, if there is additional footage in the pedestrian realm total a roadway designer can allocate this space to promote the order of considerations for travel modes and the land use context. For example, additional space in the pedestrian realm in an urban central business district could be allocated to wider 10 foot sidewalks to account for heavy pedestrian traffic during peak travel hours.



Ped Realm Max.

≥

Pedestrian Zone

+

Curb Zone

+

Additional Footage

≥

Ped Realm Min.

Use the worksheet in Design Step 3.1.3 of the Project Delivery Workbook in Chapter 5 to assign the appropriate allocations to each realm, based on the ideal geometrics put forth in the tables. If right-of-way constraints require adjustments to allocations, these must be made in accordance with the default order of considerations for travel modes – prioritizing pedestrian access and safety in all projects. The order of considerations for travel modes is the guide by which roadway designers make tradeoffs.

PHASE 7: OTHER CONSIDERATIONS FOR POPULATING THE CROSS SECTION

In addition to the sample cross sections provided in this chapter, details about how each travel mode can be accommodated through facilities and amenities can be found in Chapters 3, Geometrics: Components for Assembling Complete Streets and Chapter 4, Amenities: Components for Assembling Complete Streets.

Every project is an opportunity to improve safety and access for people on foot, bicycle or using transit. Even though not all project types allow for the construction of ideal conditions for Complete Streets, small-scale improvements can make a big difference for people using the roadway.

QUICK GUIDE TO THE CROSS SECTION DEVELOPMENT PROCESS

Getting Started

This section is a summarized overview of the cross section creation phases described on the previous pages. It is intended for those who are already familiar with the content presented earlier in this chapter.

2C

Quick Guide: Creating a Cross Section

1| Identify a Land Use

Corresponds with Complete Streets Project Delivery Workbook (Chapter 5), Stage 2: Scoping

Through site visits, observing types and uses of buildings, referencing zoning and land use maps and reading long range plans determine the land use context along the roadway segment.

Match the land use context of the project area to the most appropriate district in Article 2 of the Unified Development Code.

Consider future developments: research and reference planning documents and zoning regulations to assess current and future needs of roadway users and planned developments in the project area. Applicable sources listed in phase 1c in section 2b of this chapter.

2| Identify Development Pattern Intensity

Corresponds with Complete Streets Project Delivery Workbook (Chapter 5), Stage 2: Scoping

Observe and determine development pattern intensity: urban, suburban or rural.

3| Select a Roadway Typology

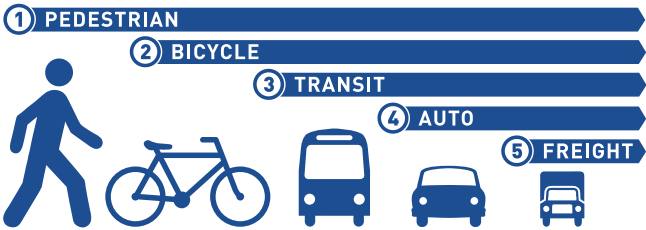
Corresponds with Complete Streets Project Delivery Workbook (Chapter 5), Stage 2: Scoping

Connector | One-Way Connector | Neighborhood Street | One-Way Neighborhood Street

4| Order of Consideration for Travel Modes & Other Design Controls

Corresponds with Complete Streets Project Delivery Workbook (Chapter 5), Stage 3: Design

Consider the default order of consideration for travel modes in Memphis and other design considerations: design speed, target speed, and design vehicle.



Note: In Warehouse & Distribution (WD), Heavy Industrial (IH) and on designated truck routes the default order of considerations for travel modes is Pedestrian > Auto > Freight > Bicycle > Transit

5| Select a Cross Section

Corresponds with Complete Streets Project Delivery Workbook (Chapter 5), Stage 3.1.3 Cross Section Development Worksheet.

[Land Use Context + Roadway Typology = Cross Section]

1. Find the right-of-way table that is consistent with the roadway typology established during Scoping Step 2.3.4 in the Project Delivery Workbook (Chapter 5) and Phase 3 above. The right-of-way tables are in section 2d of this chapter.
2. Find the appropriate row in the table based on the land use context and Unified Development Code district determined during Scoping Step 2.3.3 in the Project Delivery Workbook (Chapter 5) and Phase 1 above.
3. Review the corresponding cross section illustration for your row to get a visual impression of ideal Complete Streets conditions.

6| Adjust cross-section for on-the-ground conditions

Corresponds with Complete Streets Project Delivery Workbook (Chapter 5), Stage 3.1.3 Cross Section Development Worksheet.

Tailor dimensions for each roadway element to the land use context and development pattern intensity of the roadway segment.

7| Other considerations for populating the cross sections

More details on facilities and amenities for the varying travel modes can be found in Chapters 3, Geometrics: Components for Assembling Complete Streets and Chapter 4, Amenities: Components for Assembling Complete Streets of this manual.

Note: For more details on any of these phases, see section 2b of this chapter.

CROSS SECTIONS & RIGHT-OF-WAY TABLES



Getting Started

This section contains right-of-way tables and cross section illustrations that demonstrate ideal roadway dimensions for Complete Streets in Memphis. For details about these tables and illustrations and instructions on how to use them, see section 2b of this chapter.

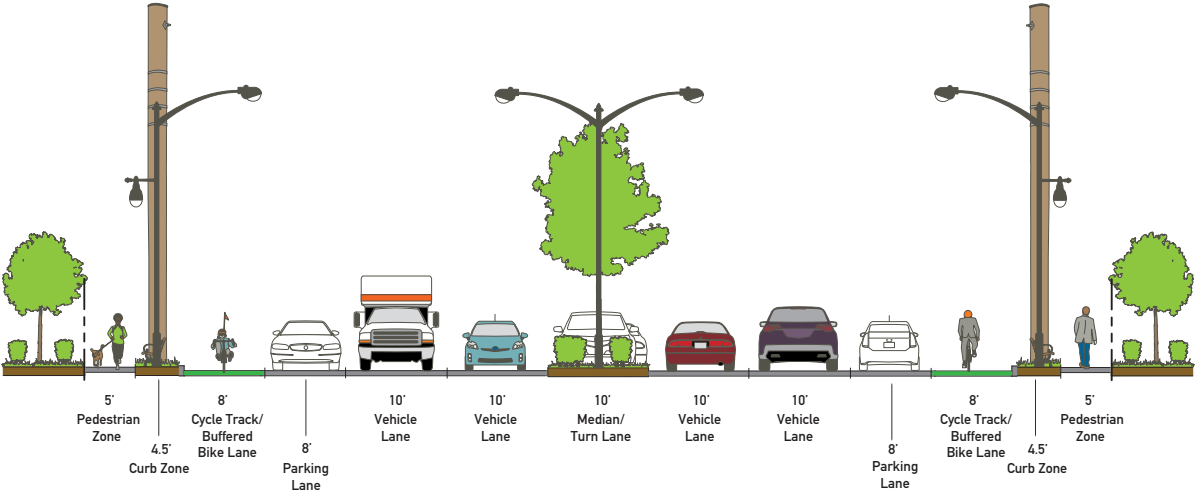
2d

THOROUGHFARE		Order of Considerations for Travel Modes	Target Design Speed	UDC Streetscape Standards	Right-of-Way Totals							Frontage & Setback		Pedestrian Realm		Travel Way										
	Land Use Context Zones				Curb to Curb Standard	Pedestrian Realm Total		Travel Way Realm Total		Total Public		Building Setback	Frontage	Pedestrian Zone	Curb Zone	Gutter Pan	Parking Lane Requirement	Parking Lane Width	Parking Lane Count	Bikeway	Bikeway Type	Vehicle Lane Width		Vehicle Lane Count	Median / Turn Lane Width	Median Count
Density Intensity	Residential Districts	Order of Considerations	MPH	UDC Streetscape Plates	(feet)	Min. (feet)	Max. (feet)	Min. (feet)	Max. (feet)	Min. (feet)	Max. (feet)	Min. (feet)	Min. (feet)	Min. (feet)	Min. (feet)	(feet)	Requirement?	Min. (feet)	Count	Min. (feet)	Type	Min. (feet)	Max. (feet)	Count	Min. (feet)	Count
	Residential – Estate (RE)	Walk, Bike, Transit, Auto, Freight	40	Plates S13-S15	37-96	24	36	66	88	90	124	50	0	5	4.5	2	(optional)	8	2	8	Cycle Tracks or Buffered Bike Lanes	10	11	4	10	1
	Residential Single-Family – 15 (R-15) Residential Single-Family – 10 (R-10) Residential Single-Family – 8 (R-8)	Walk, Bike, Transit, Auto, Freight	40	Plates S13-S15	37-96	24	36	66	88	90	124	15-30	0	5	4.5	2	(optional)	8	2	8	Cycle Tracks or Buffered Bike Lanes	10	11	4	10	1
	Residential Single-Family – 6 (R-6) Residential Single-Family – 3 (R-3)	Walk, Bike, Transit, Auto, Freight	40	Plates S13-S15	37-96	24	36	66	88	90	124	15-20	0	5	4.5	2	(optional)	8	2	8	Cycle Tracks or Buffered Bike Lanes	10	11	4	10	1
	Residential Urban – 1 (RU-1) Residential Urban – 2 (RU-2) Residential Urban – 3 (RU-3)	Walk, Bike, Transit, Auto, Freight	35	Plates S13-S15	37-96	24	36	66	88	90	124	15-20	6	5	4.5	2	(optional)	8	2	8	Cycle Tracks or Buffered Bike Lanes	10	11	4	10	1
	Residential Urban – 4 (RU-4) Residential Urban – 5 (RU-5)	Walk, Bike, Transit, Auto, Freight	35	Plates S13-S15	37-96	24	36	66	88	90	124	2-20	6	5	4.5	2	(optional)	8	2	8	Cycle Tracks or Buffered Bike Lanes	10	11	4	10	1
Density Intensity	Mixed Use Districts	Order of Considerations	MPH	UDC Streetscape Plates	(feet)	Min. (feet)	Max. (feet)	Min. (feet)	Max. (feet)	Min. (feet)	Max. (feet)	Min. (feet)	Min. (feet)	Min. (feet)	Min. (feet)	(feet)	Requirement?	Min. (feet)	Count	Min. (feet)	Type	Min. (feet)	Max. (feet)	Count	Min. (feet)	Count
	Office General (OG)	Walk, Bike, Transit, Auto, Freight	40	Plates S1-S15	37-96	24	40	66	88	90	128	20	8	5	4.5	2	(optional)	8	2	8	Cycle Tracks or Buffered Bike Lanes	10	11	4	10	1
	Commercial Mixed Use – 3 (CMU-3)	Walk, Bike, Transit, Auto, Freight	40	Plates S1-S15	37-96	24	40	66	88	90	128	20	2	5	4.5	2	(optional)	8	2	8	Cycle Tracks or Buffered Bike Lanes	10	11	4	10	1
	Campus Master Plan (CMP-2)	Walk, Bike, Transit, Auto, Freight	35	Plates S1-S15	37-96	24	40	66	88	90	128	20	8	5	4.5	2	(optional)	8	2	8	Cycle Tracks or Buffered Bike Lanes	10	11	4	10	1
	Commercial Mixed Use – 2 (CMU-2)	Walk, Bike, Transit, Auto, Freight	40	Plates S1-S15	68-96	24	40	66	88	90	128	20	8	5	4.5	2	(optional)	8	2	8	Cycle Tracks or Buffered Bike Lanes	10	11	4	10	1
	Residential Work (RW) Commercial Mixed Use – 1 (CMU-1)	Walk, Bike, Transit, Auto, Freight	40	Plates S1-S4	68-96	26	36	82	88	108	124	20	7	5	8	2	(required)	8	2	8	Cycle Tracks or Buffered Bike Lanes	10	11	4	10	1
	Campus Master Plan (CMP-1)	Walk, Bike, Transit, Auto, Freight	35	Plates S1-S4	37-96	26	36	82	88	108	124	20	2	5	8	2	(required)	8	2	8	Cycle Tracks or Buffered Bike Lanes	10	11	4	10	1
	Central Business District (CBD)	Walk, Bike, Transit, Auto, Freight	35	Plates S1-S4	68-96	26	36	82	88	108	124	0	7	5	8	2	(required)	8	2	8	Cycle Tracks or Buffered Bike Lanes	10	11	4	10	1
Density Intensity	Industrial Districts	Order of Considerations	MPH	UDC Streetscape Plates	(feet)	Min. (feet)	Max. (feet)	Min. (feet)	Max. (feet)	Min. (feet)	Max. (feet)	Min. (feet)	Min. (feet)	Min. (feet)	Min. (feet)	(feet)	Requirement?	Min. (feet)	Count	Min. (feet)	Type	Min. (feet)	Max. (feet)	Count	Min. (feet)	Count
	Employment (EMP) (office parks)	Walk, Bike, Transit, Auto, Freight	45	Plates S1-S15	68-96	24	40	66	76	90	116	30	8	5	4.5	2	(none)	0	0	8	Cycle Tracks or Buffered Bike Lanes	10	12	4	10	1
	Warehouse & Distribution (WD) Heavy Industrial (IH) Designated Truck Routes	Walk, Auto, Freight, Bike, Transit	45	Plates S1-S15	68-96	24	40	76	78	100	118	30	8	5	4.5	2	(none)	0	0	8	Cycle Tracks or Buffered Bike Lanes	12	12	4	12	1
Density Intensity	Overlay Districts	Order of Considerations	MPH	UDC Streetscape Plates	(feet)	Min. (feet)	Max. (feet)	Min. (feet)	Max. (feet)	Min. (feet)	Max. (feet)	Min. (feet)	Min. (feet)	Min. (feet)	Min. (feet)	(feet)	Requirement?	Min. (feet)	Count	Min. (feet)	Type	Min. (feet)	Max. (feet)	Count	Min. (feet)	Count
	Medical Overlay District (MO)	Walk, Bike, Transit, Auto, Freight	35	Article 8.2.7	37-96	24	40	66	88	90	128	7	7	5	5	2	(optional)	8	2	8	Cycle Tracks or Buffered Bike Lanes	10	11	4	10	1
	University District Overlay (UDO)	Walk, Bike, Transit, Auto, Freight	35	Plates S1-S4	37-96	26	36	66	88	92	124	2	2	5	8	2	(optional)	8	2	8	Cycle Tracks or Buffered Bike Lanes	10	11	4	10	1

Thoroughfare Residential Single-Family, UDC Zoning Districts: RE, R-3, R-6, R-8, R-10 and R-15

Pedestrian Realm Total		Travel Way Realm Total		Public ROW Total	
min	max	min	max	min	max
24'	36'	66'	88'	90'	124'

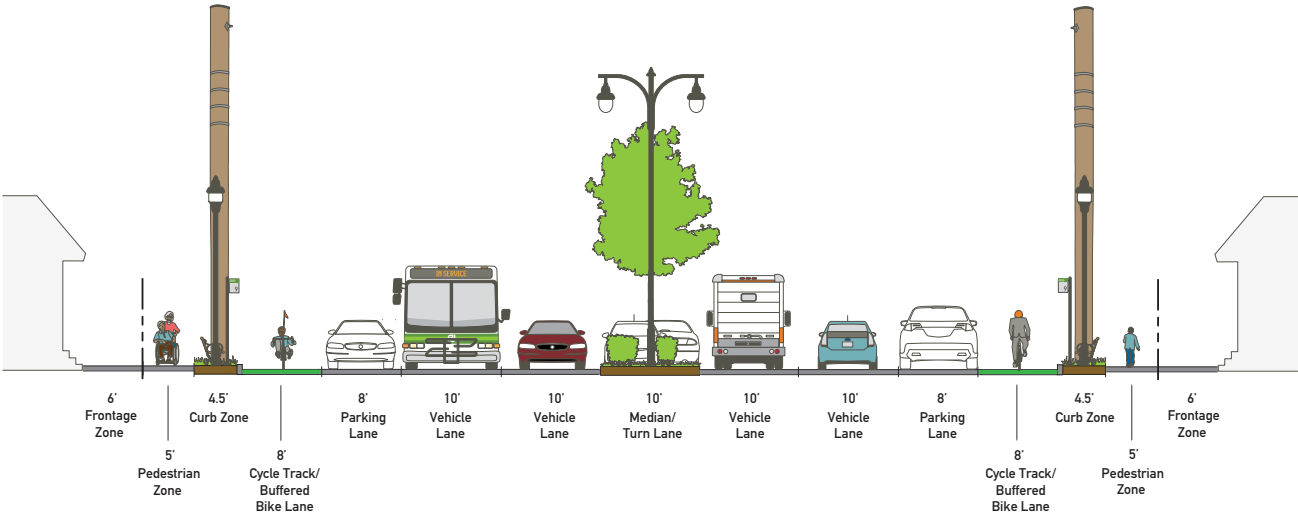
Note: Minimum widths for each element are illustrated below.
Minimums for each element illustrated below may not equal the total minimum width for each realm in the above chart.



Thoroughfare Residential Urban, UDC Zoning Districts: RU-1, RU-2, RU-3, RU-4, RU-5

Pedestrian Realm Total		Travel Way Realm Total		Public ROW Total	
min	max	min	max	min	max
24'	36'	66'	88'	90'	124'

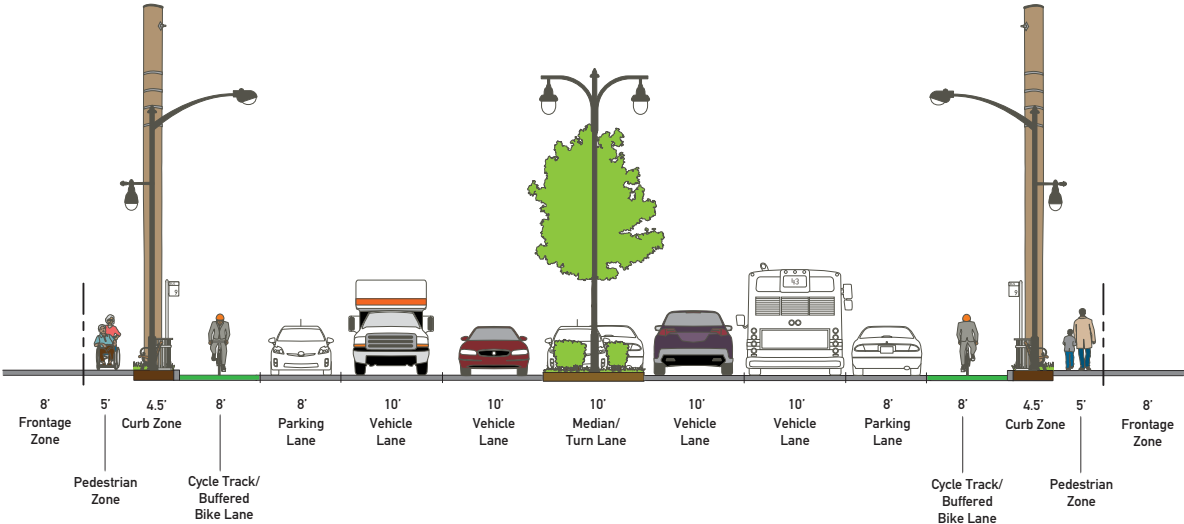
Note: Minimum widths for each element are illustrated below.
Minimums for each element illustrated below may not equal the total minimum width for each realm in the above chart.



Thoroughfare Mixed Use, UDC Zoning Districts: OG, CMP-2, and CMU-2

Pedestrian Realm Total		Travel Way Realm Total		Public ROW Total	
min	max	min	max	min	max
24'	40'	66'	88'	90'	128'

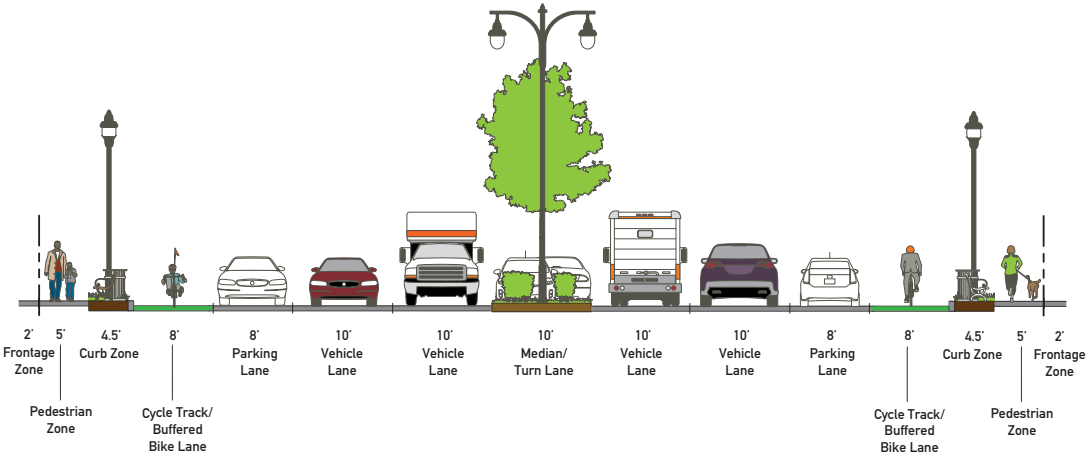
Note: Minimum widths for each element are illustrated below.
Minimums for each element illustrated below may not equal the total minimum width for each realm in the above chart.



Thoroughfare Mixed Use, UDC Zoning District: CMU-3

Pedestrian Realm Total		Travel Way Realm Total		Public ROW Total	
min	max	min	max	min	max
24'	40'	66'	88'	90'	128'

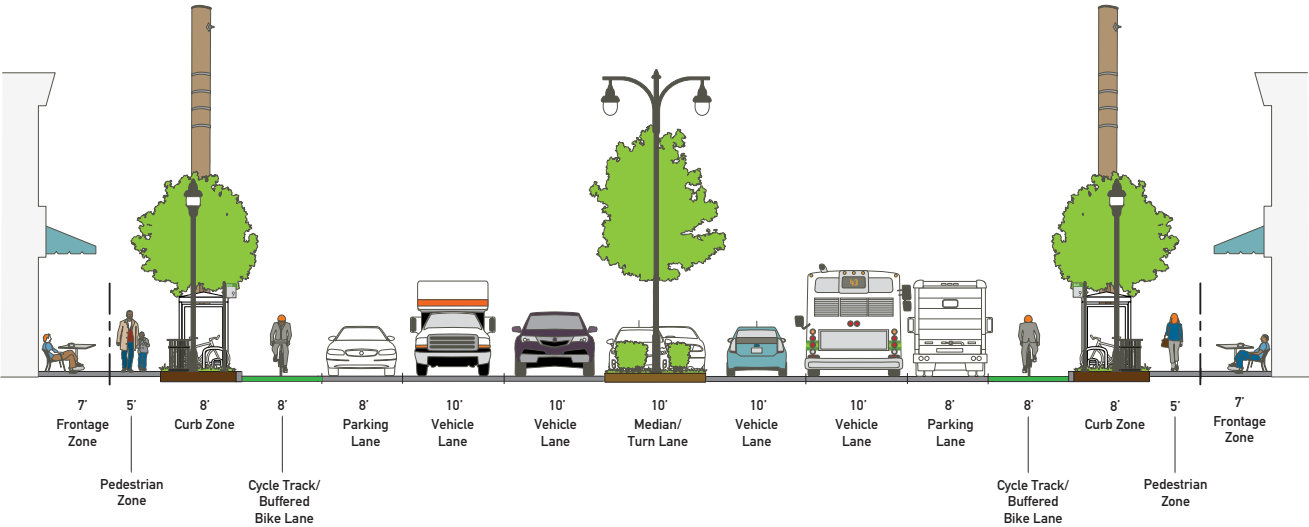
Note: Minimum widths for each element are illustrated below.
Minimums for each element illustrated below may not equal the total minimum width for each realm in the above chart.



Thoroughfare Mixed Use, UDC Zoning Districts: RW, CMU-1 and CBD

Pedestrian Realm Total		Travel Way Realm Total		Public ROW Total	
min	max	min	max	min	max
26'	36'	82'	88'	108'	124'

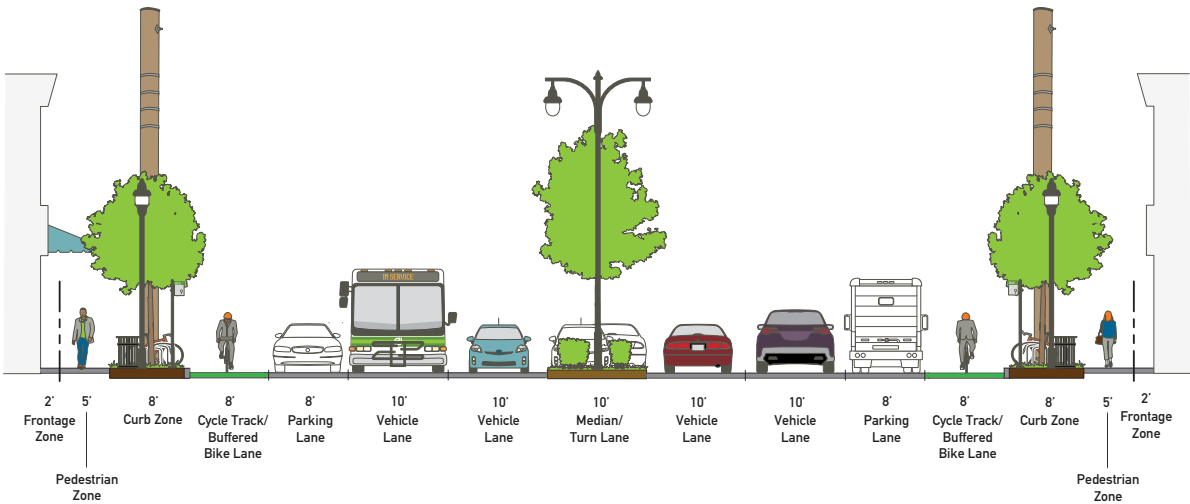
Note: Minimum widths for each element are illustrated below.
Minimums for each element illustrated below may not equal the total minimum width for each realm in the above chart.



Thoroughfare Campus and University, UDC Zoning Districts: CMP-1 and UDO

UDC Zoning District	Pedestrian Realm Total		Travel Way Realm Total		Public ROW Total	
	min	max	min	max	min	max
CMP-1	26'	36'	82'	88'	108'	124'
UDO	26'	36'	66'	88'	92'	124'

Note: Minimum widths for each element are illustrated below.
Minimums for each element illustrated below may not equal the total minimum width for each realm in the above chart.

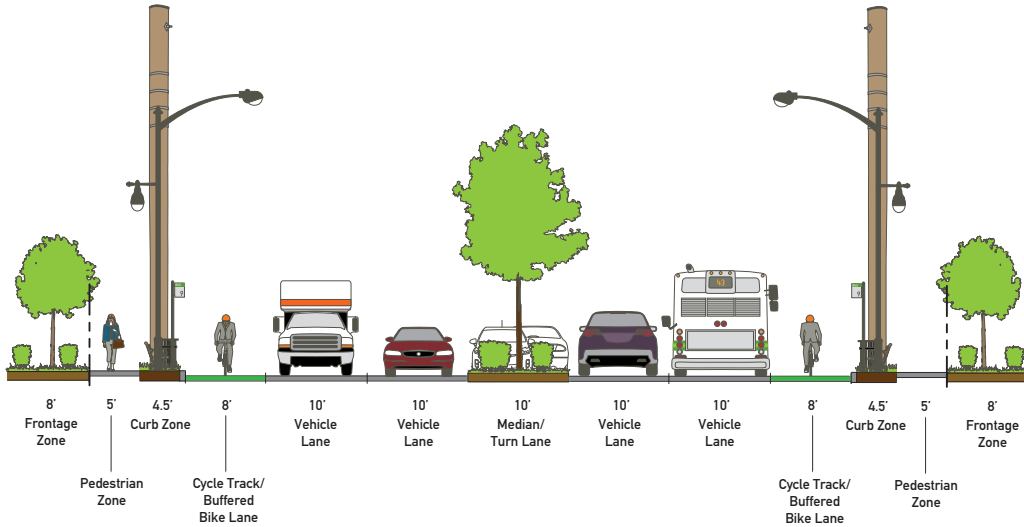


Thoroughfare Employment, UDC Zoning District: EMP

Pedestrian Realm Total		Travel Way Realm Total		Public ROW Total	
min	max	min	max	min	max
24'	40'	66'	76'	90'	116'

Note: Minimum widths for each element are illustrated below.

Minimums for each element illustrated below may not equal the total minimum width for each realm in the above chart.

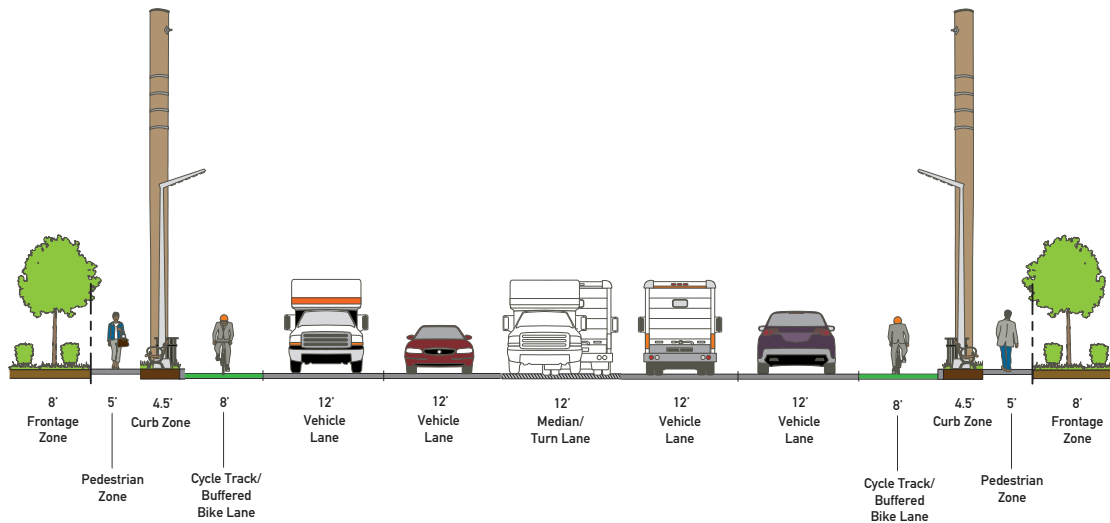


Thoroughfare Warehouse, Distribution and Industrial, UDC Zoning Districts: WD and IH

Pedestrian Realm Total		Travel Way Realm Total		Public ROW Total	
min	max	min	max	min	max
24'	40'	76'	78'	100'	118'

Note: Minimum widths for each element are illustrated below.

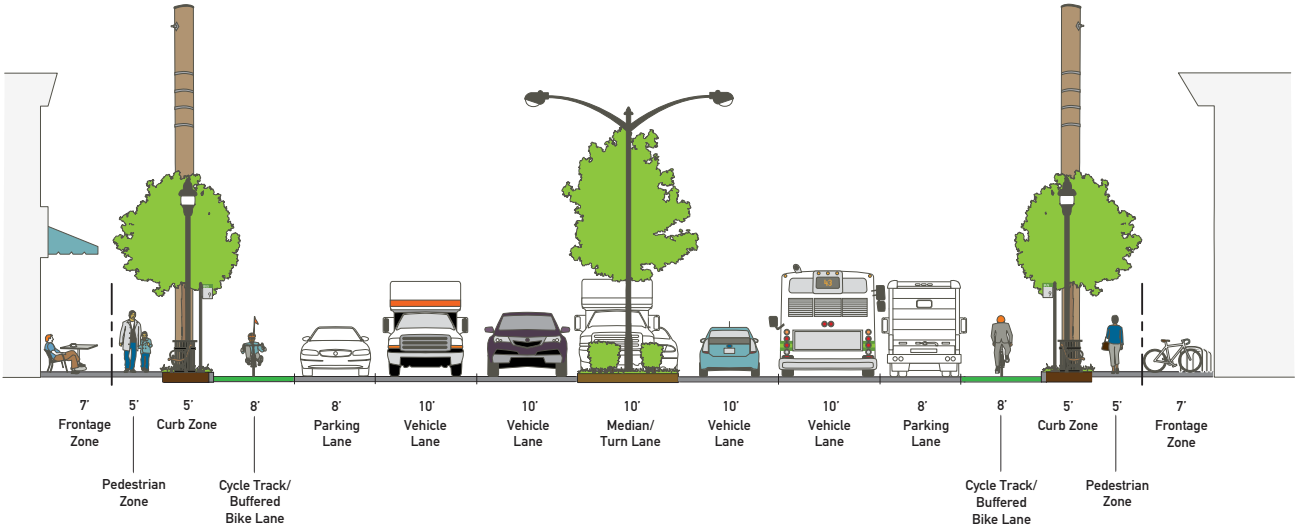
Minimums for each element illustrated below may not equal the total minimum width for each realm in the above chart.



Thoroughfare Medical Overlay, UDC Zoning District: M0

Pedestrian Realm Total		Travel Way Realm Total		Public ROW Total	
min	max	min	max	min	max
24'	40'	66'	88'	90'	128'

Note: Minimum widths for each element are illustrated below.
Minimuns for each element illustrated below may not equal the total minimum width for each realm in the above chart.

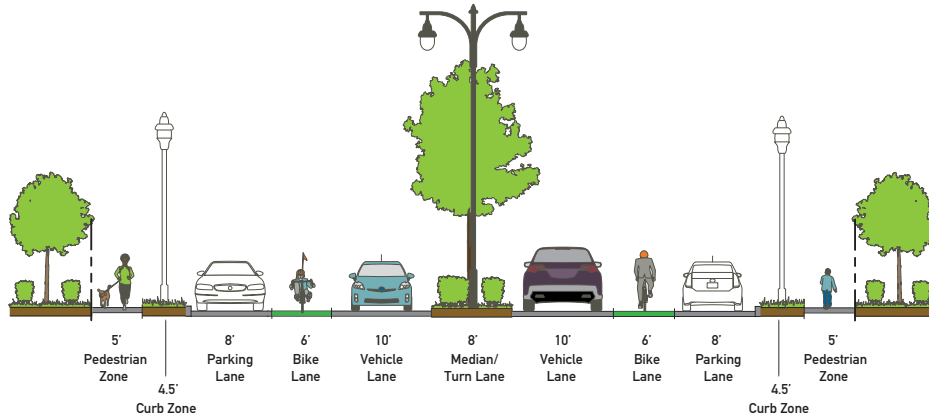


CONNECTOR		Order of Considerations for Travel Modes	Target Design Speed	UDC Streetscape Standards	Right-of-Way Totals							Frontage & Setback		Pedestrian Realm		Travel Way										
	Land Use Context Zones				Curb to Curb Standard	Pedestrian Realm Total		Travel Way Realm Total		Total Public		Building Setback	Frontage	Pedestrian Zone	Curb Zone	Gutter Pan	Parking Lane Requirement	Parking Lane Width	Parking Lane Count	Bikeway	Bikeway Type	Vehicle Lane Width		Vehicle Lane Count	Median / Turn Lane Width	Median Count
Density Intensity	Residential Districts	Order of Considerations	MPH	UDC Streetscape Plates	(feet)	Min. (feet)	Max. (feet)	Min. (feet)	Max. (feet)	Min. (feet)	Max. (feet)	Min. (feet)	Min. (feet)	Min. (feet)	Min. (feet)	(feet)	Requirement?	Min. (feet)	Count	Min. (feet)	Type	Min. (feet)	Max. (feet)	Count	Min. (feet)	Count
	Residential – Estate (RE)	Walk, Bike, Transit, Auto, Freight	30	Plates S13-S15	36-48	24	36	36	60	60	96	50	0	5	4.5	2	(optional)	8	2	6	Bike Lanes	10	11	2	8 (optional)	1
	Residential Single-Family – 15 (R-15) Residential Single-Family – 10 (R-10) Residential Single-Family – 8 (R-8)	Walk, Bike, Transit, Auto, Freight	30	Plates S13-S15	36-48	24	36	36	60	60	96	15-30	0	5	4.5	2	(optional)	8	2	6	Bike Lanes	10	11	2	8 (optional)	1
	Residential Single-Family – 6 (R-6) Residential Single-Family – 3 (R-3)	Walk, Bike, Transit, Auto, Freight	30	Plates S13-S15	36-48	24	36	36	60	60	96	15-20	0	5	4.5	2	(optional)	8	2	6	Bike Lanes	10	11	2	8 (optional)	1
	Residential Urban – 1 (RU-1) Residential Urban – 2 (RU-2) Residential Urban – 3 (RU-3)	Walk, Bike, Transit, Auto, Freight	25	Plates S13-S15	36-48	24	36	36	60	60	96	15-20	0	5	4.5	2	(optional)	8	2	6	Bike Lanes	10	11	2	8 (optional)	1
	Residential Urban – 4 (RU-4) Residential Urban – 5 (RU-5)	Walk, Bike, Transit, Auto, Freight	25	Plates S13-S15	36-48	24	36	36	60	60	96	2-20	0	5	4.5	2	(optional)	8	2	6	Bike Lanes	10	11	2	8 (optional)	1
Density Intensity	Mixed Use Districts	Order of Considerations	MPH	UDC Streetscape Plates	(feet)	Min. (feet)	Max. (feet)	Min. (feet)	Max. (feet)	Min. (feet)	Max. (feet)	Min. (feet)	Min. (feet)	Min. (feet)	Min. (feet)	(feet)	Requirement?	Min. (feet)	Count	Min. (feet)	Type	Min. (feet)	Max. (feet)	Count	Min. (feet)	Count
	Office General (OG)	Walk, Bike, Transit, Auto, Freight	30	Plates S1-S15	36-48	24	40	46	51	70	91	20	8	5	4.5	2	(none)	0	0	Bike Lane: 6 Cycle Track: 8	Bike Lanes or Cycle Tracks	10	11	2	10	1
	Commercial Mixed Use – 3 (CMU-3)	Walk, Bike, Transit, Auto, Freight	30	Plates S1-S15	36-48	24	40	36	67	60	107	20	2	5	4.5	2	(optional)	8	2	Bike Lane: 6 Cycle Track: 8	Bike Lanes or Cycle Tracks	10	11	2	8 (optional)	1
	Campus Master Plan (CMP-2)	Walk, Bike, Transit, Auto, Freight	25	Plates S1-S15	36-48	24	40	36	67	60	107	20	8	5	4.5	2	(optional)	8	2	Bike Lane: 6 Cycle Track: 8	Bike Lanes or Cycle Tracks	10	11	2	8 (optional)	1
	Commercial Mixed Use – 2 (CMU-2)	Walk, Bike, Transit, Auto, Freight	30	Plates S1-S15	36-48	24	40	36	67	60	107	20	8	5	4.5	2	(optional)	8	2	Bike Lane: 6 Cycle Track: 8	Bike Lanes or Cycle Tracks	10	11	2	8 (optional)	1
	Residential Work (RW) Commercial Mixed Use – 1 (CMU-1)	Walk, Bike, Transit, Auto, Freight	30	Plates S1-S4	36-48	26	36	48	67	74	103	20	2	5	8	2	(required)	8	2	Bike Lane: 6 Cycle Track: 8	Bike Lanes or Cycle Tracks	10	11	2	8 (optional)	1
	Campus Master Plan (CMP-1)	Walk, Bike, Transit, Auto, Freight	25	Plates S1-S4	36-48	26	36	48	67	74	103	20	2	5	8	2	(required)	8	2	Bike Lane: 6 Cycle Track: 8	Bike Lanes or Cycle Tracks	10	11	2	8 (optional)	1
	Central Business District (CBD)	Walk, Bike, Transit, Auto, Freight	25	Plates S1-S4	36-48	26	36	48	67	74	103	0	2	5	8	2	(required)	8	2	Bike Lane: 6 Cycle Track: 8	Bike Lanes or Cycle Tracks	10	11	2	10 (optional)	1
Density Intensity	Industrial Districts	Order of Considerations	MPH	UDC Streetscape Plates	(feet)	Min. (feet)	Max. (feet)	Min. (feet)	Max. (feet)	Min. (feet)	Max. (feet)	Min. (feet)	Min. (feet)	Min. (feet)	Min. (feet)	(feet)	Requirement?	Min. (feet)	Count	Min. (feet)	Type	Min. (feet)	Max. (feet)	Count	Min. (feet)	Count
	Employment (EMP) (office parks)	Walk, Bike, Transit, Auto, Freight	35	Plates S1-S15	36-48	24	40	46	50	70	90	30	8	5	4.5	2	(none)	0	0	8	Cycle Tracks or Buffered Bike Lanes	10	11	2	10	1
	Warehouse & Distribution (WD) Heavy Industrial (IH) Designated Truck Routes	Walk, Auto, Freight, Bike, Transit	35	Plates S1-S15	36-48	24	40	50	52	74	92	30	8	5	4.5	2	(none)	0	0	8	Cycle Tracks or Buffered Bike Lanes	12	12	2	10	1
Density Intensity	Overlay Districts	Order of Considerations	MPH	UDC Streetscape Plates	(feet)	Min. (feet)	Max. (feet)	Min. (feet)	Max. (feet)	Min. (feet)	Max. (feet)	Min. (feet)	Min. (feet)	Min. (feet)	Min. (feet)	(feet)	Requirement?	Min. (feet)	Count	Min. (feet)	Type	Min. (feet)	Max. (feet)	Count	Min. (feet)	Count
	Medical Overlay District (MO)	Walk, Bike, Transit, Auto, Freight	25	Article 8.2.7	36-48	24	40	36	67	60	107	7	7	5	5	2	(optional)	8	2	Bike Lane: 6 Cycle Track: 8	Bike Lanes or Cycle Tracks	10	11	2	10 (optional)	1
	University District Overlay (UDO)	Walk, Bike, Transit, Auto, Freight	25	Plates S1-S4	36-48	26	36	36	67	62	103	2	2	5	8	2	(optional)	8	2	Bike Lane: 6 Cycle Track: 8	Bike Lanes or Cycle Tracks	10	11	2	10 (optional)	1

Connector Residential, UDC Zoning Districts: RE, R-3, R-6, R-8, R-10, R-15, RU-1, RU-2, RU-3, RU-4, RU-5

Pedestrian Realm Total		Travel Way Realm Total		Public ROW Total	
min	max	min	max	min	max
24'	36'	36'	60'	60'	96'

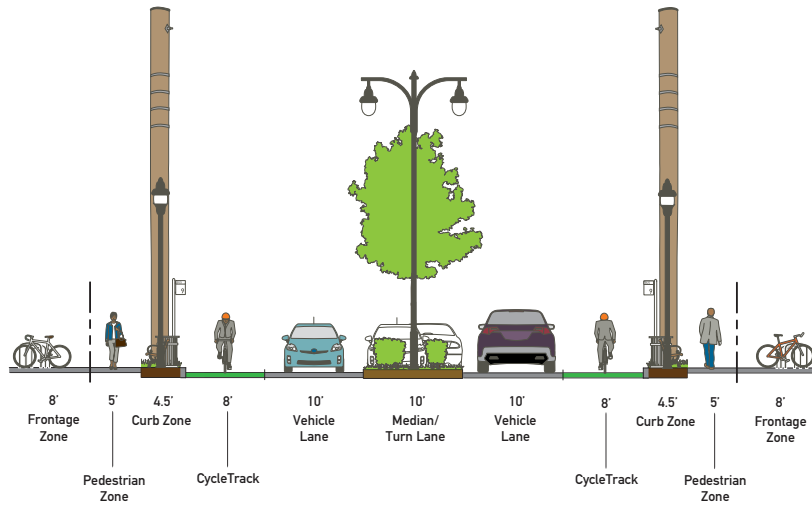
Note: Minimum widths for each element are illustrated below.
 Minimums for each element illustrated below may not equal the total minimum width for each realm in the above chart.



Connector Office General, UDC Zoning District: OG

Pedestrian Realm Total		Travel Way Realm Total		Public ROW Total	
min	max	min	max	min	max
24'	40'	46'	51'	70'	91'

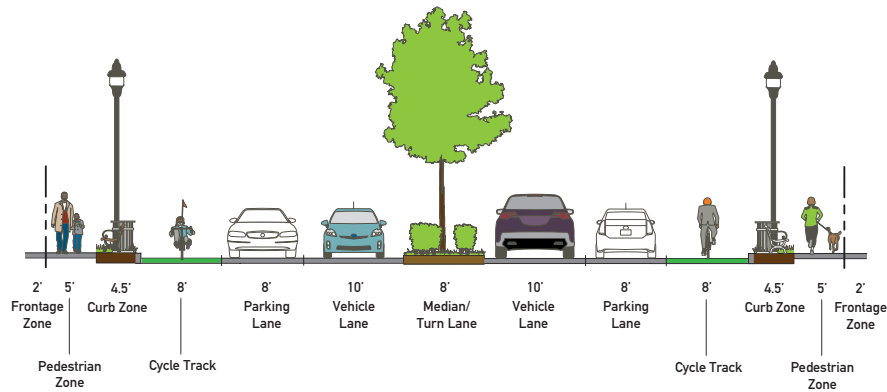
Note: Minimum widths for each element are illustrated below.
 Minimums for each element illustrated below may not equal the total minimum width for each realm in the above chart.



Connector Mixed Use, UDC Zoning District: CMU-3

Pedestrian Realm Total		Travel Way Realm Total		Public ROW Total	
min	max	min	max	min	max
24'	40'	36'	67'	60'	107'

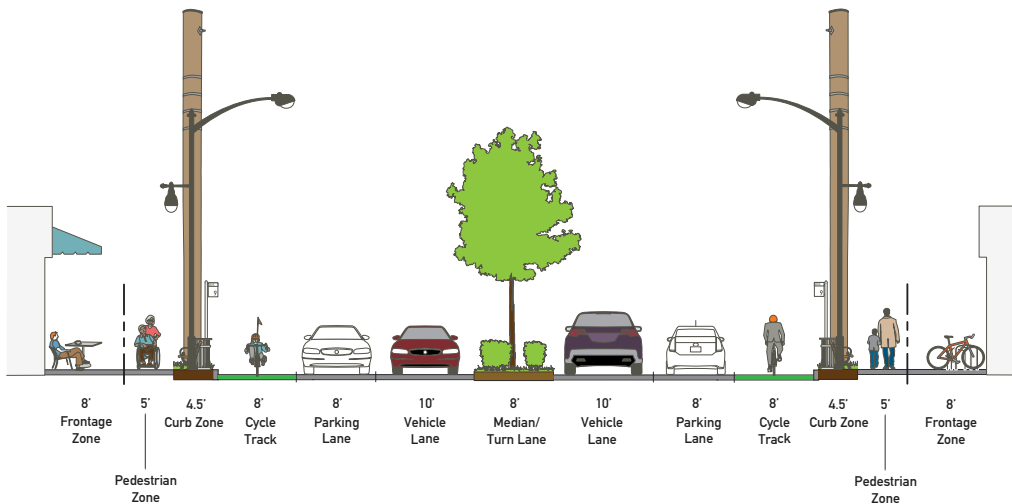
Note: Minimums for each element, except bikeways, are illustrated below.
Minimums for each element illustrated below may not equal the total minimum width for each realm in the above chart.



Connector Mixed Use, UDC Zoning Districts: CMP-2 and CMU-2

Pedestrian Realm Total		Travel Way Realm Total		Public ROW Total	
min	max	min	max	min	max
24'	40'	36'	67'	60'	107'

Note: Minimums for each element, except bikeways, are illustrated below.
Minimums for each element illustrated below may not equal the total minimum width for each realm in the above chart.

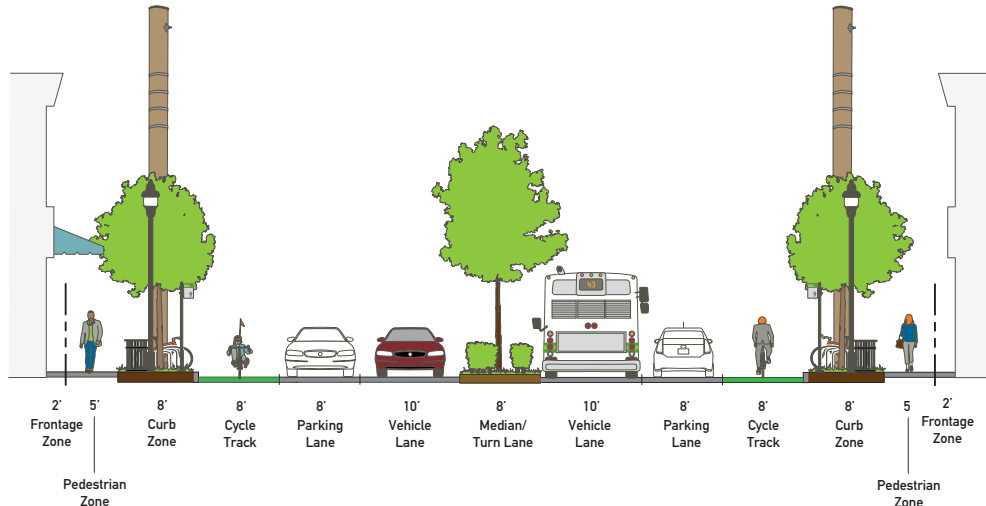


Connector Mixed Use, UDC Zoning Districts: RW, CMU-1 and CMP-1

Pedestrian Realm Total		Travel Way Realm Total		Public ROW Total	
min	max	min	max	min	max
26'	36'	48'	67'	74'	103'

Note: Minimums for each element, except bikeways, are illustrated below.

Minimums for each element illustrated below may not equal the total minimum width for each realm in the above chart.

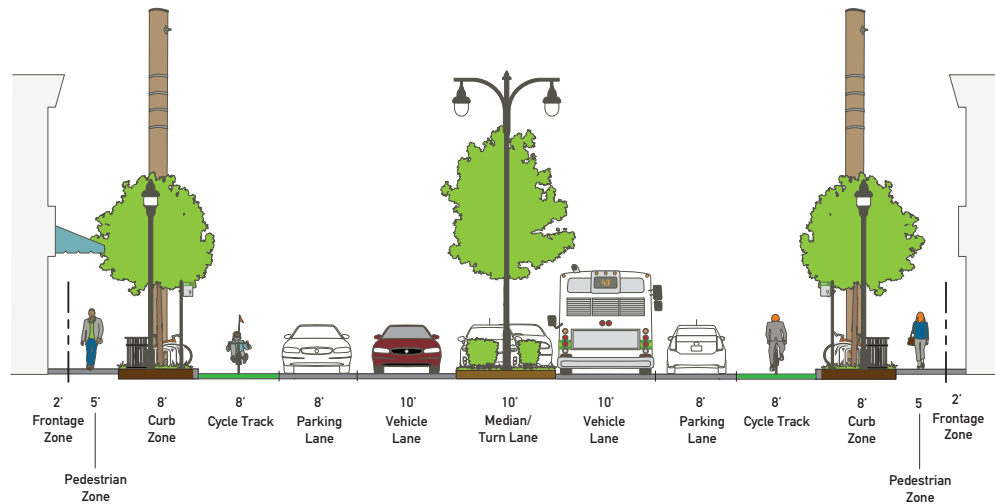


Connector Central Business District, UDC Zoning Districts: CBD and UDO

UDC Zoning District	Pedestrian Realm Total		Travel Way Realm Total		Public ROW Total	
	min	max	min	max	min	max
CBD	26'	36'	48'	67'	74'	103'
UDO	26'	36'	36'	67'	62'	103'

Note: Minimums for each element, except bikeways, are illustrated below.

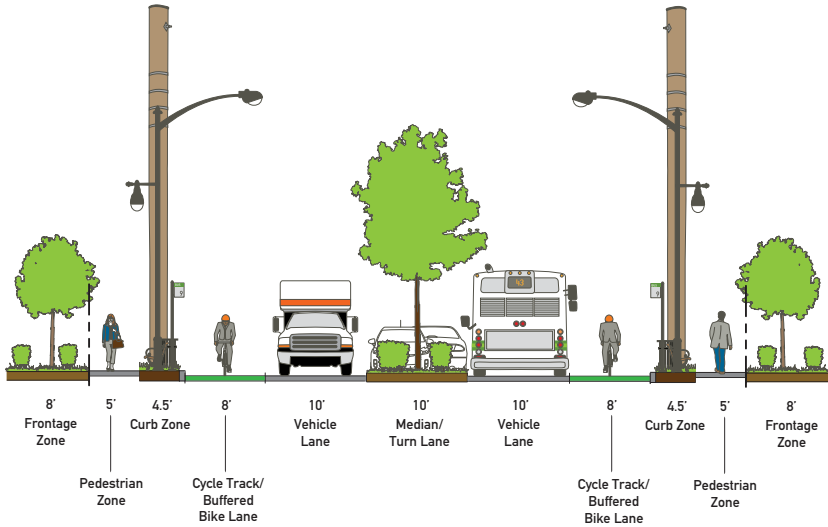
Minimums for each element illustrated below may not equal the total minimum width for each realm in the above chart.



Connector Employment, UDC Zoning District: EMP

Pedestrian Realm Total		Travel Way Realm Total		Public ROW Total	
min	max	min	max	min	max
24'	40'	46'	50'	70'	90'

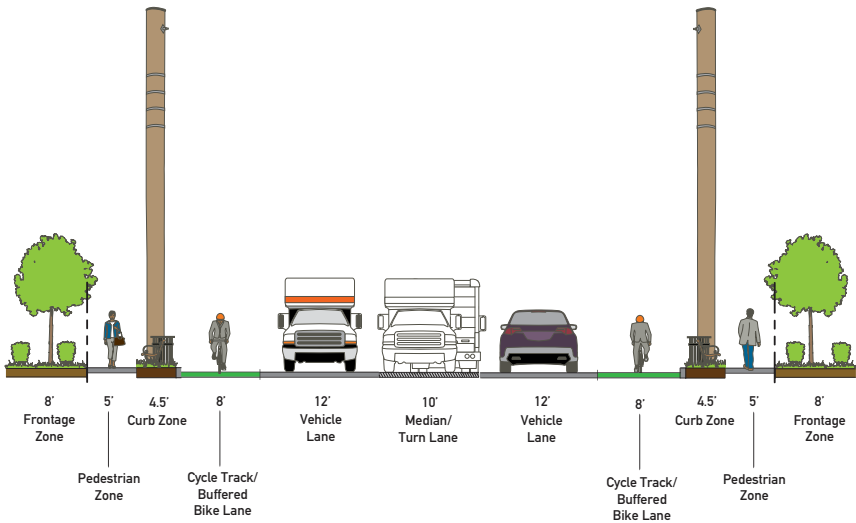
Note: Minimum widths for each element are illustrated below.
Minimums for each element illustrated below may not equal the total minimum width for each realm in the above chart.



Connector Industrial and Distribution, UDC Zoning Districts: WD and IH

Pedestrian Realm Total		Travel Way Realm Total		Public ROW Total	
min	max	min	max	min	max
24'	40'	50'	52'	74'	92'

Note: Minimum widths for each element are illustrated below.
Minimums for each element illustrated below may not equal the total minimum width for each realm in the above chart.

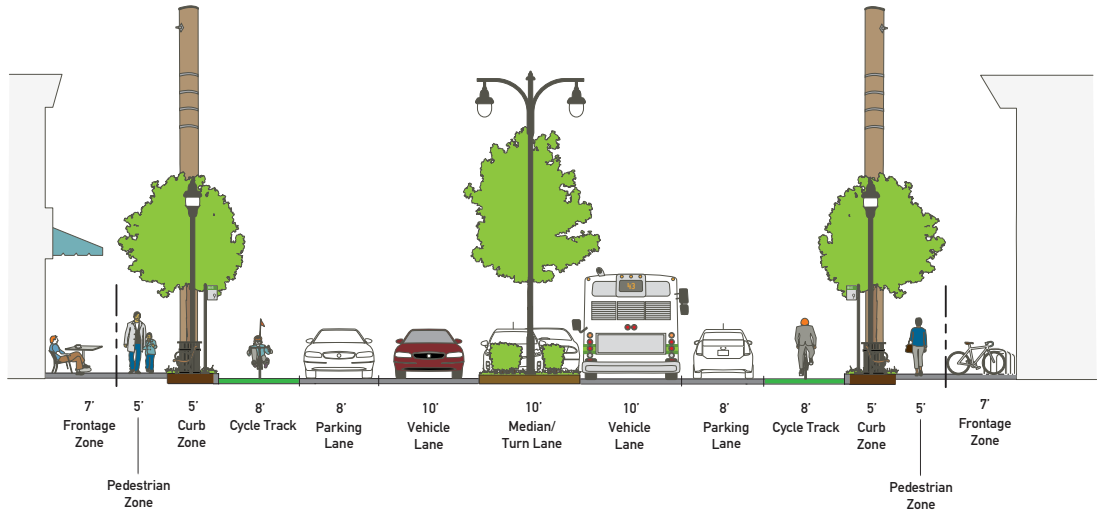


Connector Medical Overlay, UDC Zoning District: MO

Pedestrian Realm Total		Travel Way Realm Total		Public ROW Total	
min	max	min	max	min	max
24'	40'	36'	67'	60'	107'

Note: Minimums for each element, except bikeways, are illustrated below.

Minimums for each element illustrated below may not equal the total minimum width for each realm in the above chart.

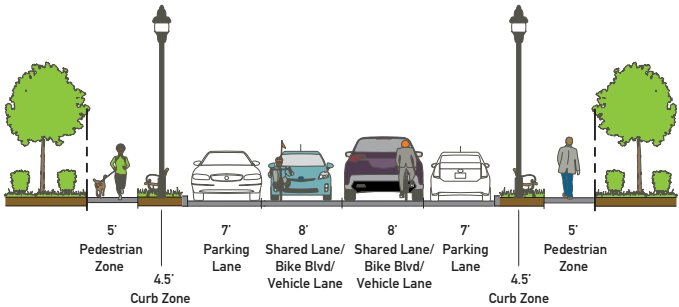


NEIGHBOURHOOD STREET		Order of Considerations for Travel Modes	Target Design Speed	UDC Streetscape Standards	Right-of-Way Totals							Frontage & Setback		Pedestrian Realm		Travel Way										
	Land Use Context Zones				Curb to Curb Standard	Pedestrian Realm Total		Travel Way Realm Total		Total Public		Building Setback	Frontage	Pedestrian Zone	Curb Zone	Gutter Pan	Parking Lane Requirement	Parking Lane Width	Parking Lane Count	Bikeway	Bikeway Type	Vehicle Lane Width		Vehicle Lane Count	Median / Turn Lane Width	Median Count
Density Intensity	Residential Districts	Order of Considerations	MPH	UDC Streetscape Plates	Max. (feet)	Min. (feet)	Max. (feet)	Min. (feet)	Max. (feet)	Min. (feet)	Max. (feet)	Min. (feet)	Min. (feet)	Min. (feet)	Min. (feet)	(feet)	Requirement?	Min. (feet)	Count	Min. (feet)	Type	Min. (feet)	Max. (feet)	Count	Min. (feet)	Count
	Residential – Estate (RE)	Walk, Bike, Transit, Auto, Freight	25	Plates S13-S15	36	24	36	23	36	47	72	50	0	5	4.5	2	(optional)	7	2	0	Shared Lanes/Bike Boulevards	8	10	2	0	0
	Residential Single-Family – 15 (R-15) Residential Single-Family – 10 (R-10) Residential Single-Family – 8 (R-8)	Walk, Bike, Transit, Auto, Freight	25	Plates S13-S15	36	24	36	23	36	47	72	15-30	0	5	4.5	2	(optional)	7	2	0	Shared Lanes/Bike Boulevards	8	10	2	0	0
	Residential Single-Family – 6 (R-6) Residential Single-Family – 3 (R-3)	Walk, Bike, Transit, Auto, Freight	25	Plates S13-S15	36	24	36	23	36	47	72	15-20	0	5	4.5	2	(optional)	7	2	0	Shared Lanes/Bike Boulevards	8	10	2	0	0
	Residential Urban – 1 (RU-1) Residential Urban – 2 (RU-2) Residential Urban – 3 (RU-3)	Walk, Bike, Transit, Auto, Freight	20	Plates S13-S15	36	24	36	23	36	47	72	15-20	6	5	4.5	2	(optional)	7	2	0	Shared Lanes/Bike Boulevards	8	10	2	0	0
	Residential Urban – 4 (RU-4) Residential Urban – 5 (RU-5)	Walk, Bike, Transit, Auto, Freight	20	Plates S13-S15	36	24	36	23	36	47	72	2-20	6	5	4.5	2	(optional)	7	2	0	Shared Lanes/Bike Boulevards	8	10	2	0	0
Density Intensity	Mixed Use Districts	Order of Considerations	MPH	UDC Streetscape Plates	Max. (feet)	Min. (feet)	Max. (feet)	Min. (feet)	Max. (feet)	Min. (feet)	Max. (feet)	Min. (feet)	Min. (feet)	Min. (feet)	Min. (feet)	(feet)	Requirement?	Min. (feet)	Count	Min. (feet)	Type	Min. (feet)	Max. (feet)	Count	Min. (feet)	Count
	Office General (OG)	Walk, Bike, Transit, Auto, Freight	25	Plates S1-S15	36	24	40	20	36	44	76	20	8	5	4.5	2	(optional)	7	2	0	Marked shared lanes	10	11	2	0	0
	Commercial Mixed Use – 3 (CMU-3)	Walk, Bike, Transit, Auto, Freight	25	Plates S1-S15	36	24	40	20	36	44	76	20	2	5	4.5	2	(optional)	7	2	0	Marked shared lanes	10	11	2	0	0
	Campus Master Plan (CMP-2)	Walk, Bike, Transit, Auto, Freight	20	Plates S1-S15	36	24	40	20	36	44	76	20	8	5	4.5	2	(optional)	7	2	0	Marked shared lanes	10	11	2	0	0
	Commercial Mixed Use – 2 (CMU-2)	Walk, Bike, Transit, Auto, Freight	25	Plates S1-S15	36	24	40	20	36	44	76	20	8	5	4.5	2	(optional)	7	2	0	Marked shared lanes	10	11	2	0	0
	Residential Work (RW) Commercial Mixed Use – 1 (CMU-1)	Walk, Bike, Transit, Auto, Freight	25	Plates S1-S4	36	26	36	20	36	46	72	20	7	5	8	2	(optional)	7	2	0	Marked shared lanes	10	11	2	0	0
	Campus Master Plan (CMP-1)	Walk, Bike, Transit, Auto, Freight	20	Plates S1-S4	36	26	36	20	36	46	72	20	2	5	8	2	(optional)	7	2	0	Marked shared lanes	10	11	2	0	0
	Central Business District (CBD)	Walk, Bike, Transit, Auto, Freight	20	Plates S1-S4	36	26	36	20	36	46	72	0	7	5	8	2	(optional)	7	2	0	Marked shared lanes	10	11	2	0	0
Density Intensity	Industrial Districts	Order of Considerations	MPH	UDC Streetscape Plates	Max. (feet)	Min. (feet)	Max. (feet)	Min. (feet)	Max. (feet)	Min. (feet)	Max. (feet)	Min. (feet)	Min. (feet)	Min. (feet)	Min. (feet)	(feet)	Requirement?	Min. (feet)	Count	Min. (feet)	Type	Min. (feet)	Max. (feet)	Count	Min. (feet)	Count
	Employment (EMP) (office parks)	Walk, Bike, Transit, Auto, Freight	30	Plates S1-S15	36	24	40	36	38	60	78	30	8	5	4.5	2	(none)	0	0	8	Buffered Bike Lanes	10	11	2	0	0
	Warehouse & Distribution (WD) Heavy Industrial (IH) Designated Truck Routes	Walk, Auto, Freight, Bike, Transit	30	Plates S1-S15	36	24	40	40	40	64	80	30	8	5	4.5	2	(none)	0	0	8	Buffered Bike Lanes	12	12	2	0	0
Density Intensity	Overlay Districts	Order of Considerations	MPH	UDC Streetscape Plates	Max. (feet)	Min. (feet)	Max. (feet)	Min. (feet)	Max. (feet)	Min. (feet)	Max. (feet)	Min. (feet)	Min. (feet)	Min. (feet)	Min. (feet)	(feet)	Requirement?	Min. (feet)	Count	Min. (feet)	Type	Min. (feet)	Max. (feet)	Count	Min. (feet)	Count
	Medical Overlay District (MO)	Walk, Bike, Transit, Auto, Freight	20	Article 8.2.7	36	24	40	20	36	44	76	7	7	5	5	2	(optional)	7	2	0	Marked shared lanes	10	11	2	0	0
	University District Overlay (UDO)	Walk, Bike, Transit, Auto, Freight	20	Plates S1-S4	36	26	36	20	36	46	72	2	2	5	8	2	(optional)	7	2	0	Marked shared lanes	10	11	2	0	0

Neighborhood Street Residential Single-Family
UDC Zoning Districts: RE, R-3, R-6, R-8, R-10 and R-15

Pedestrian Realm Total		Travel Way Realm Total		Public ROW Total	
min	max	min	max	min	max
24'	36'	23'	36'	47'	72'

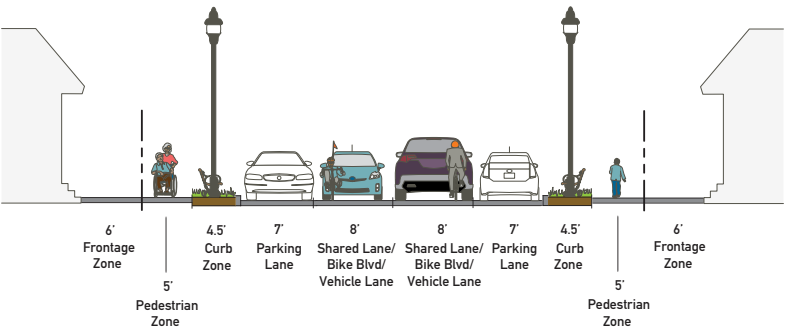
Note: Minimums for each element illustrated below.
Minimums below may not equal the total minimum for each realm.



Neighborhood Street Residential Urban, UDC Zoning Districts: RU-1, RU-2, RU-3, RU-4, RU-5

Pedestrian Realm Total		Travel Way Realm Total		Public ROW Total	
min	max	min	max	min	max
24'	36'	23'	36'	47'	72'

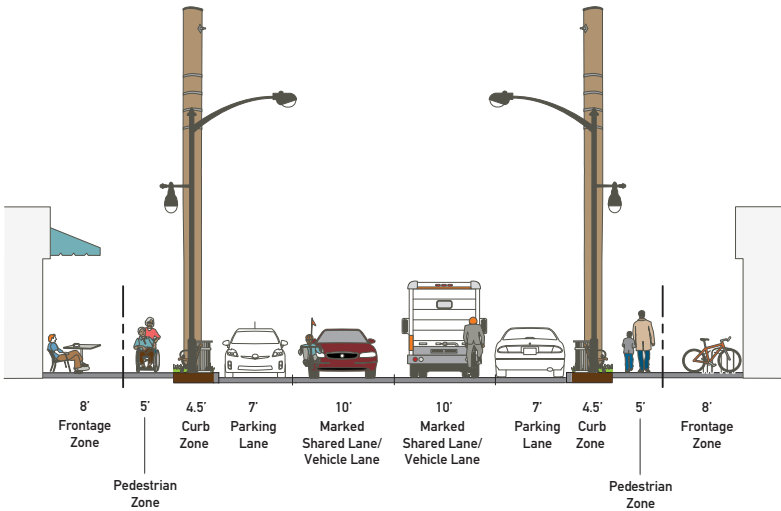
Note: Minimums for each element illustrated below.
Minimums below may not equal the total minimum for each realm.



Neighborhood Street Mixed Use, UDC Zoning Districts: OG, CMP-2, and CMU-2

Pedestrian Realm Total		Travel Way Realm Total		Public ROW Total	
min	max	min	max	min	max
24'	40'	20'	36'	44'	76'

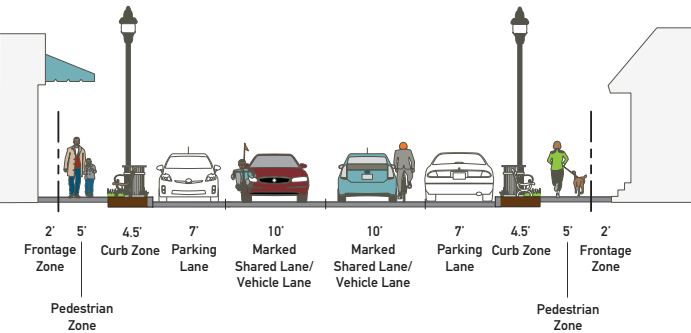
Note: Minimums for each element illustrated below.
Minimums below may not equal the total minimum for each realm.



Neighborhood Street Suburban Mixed Use, UDC Zoning District: CMU-3

Pedestrian Realm Total		Travel Way Realm Total		Public ROW Total	
min	max	min	max	min	max
24'	40'	20'	36'	44'	76'

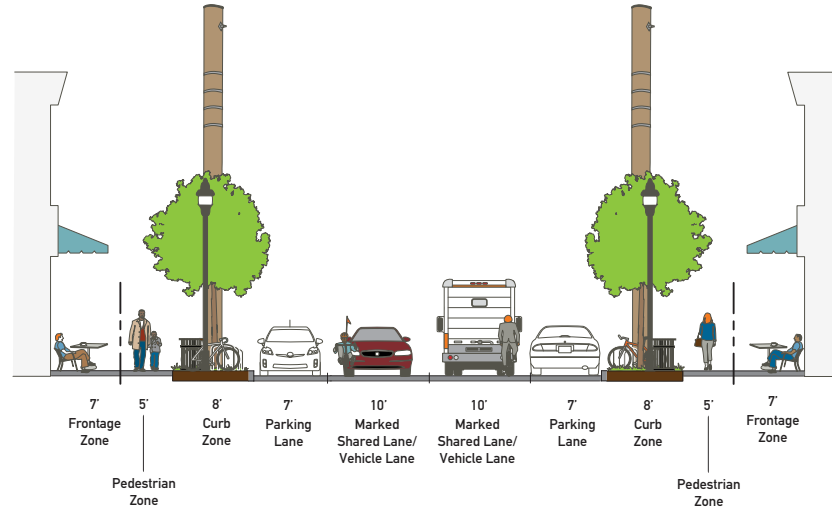
Note: Minimums for each element illustrated below.
Minimums below may not equal the total minimum for each realm.



Neighborhood Street Mixed Use, UDC Zoning Districts: RW, CMU-1 and CBD

Pedestrian Realm Total		Travel Way Realm Total		Public ROW Total	
min	max	min	max	min	max
26'	36'	20'	36'	46'	72'

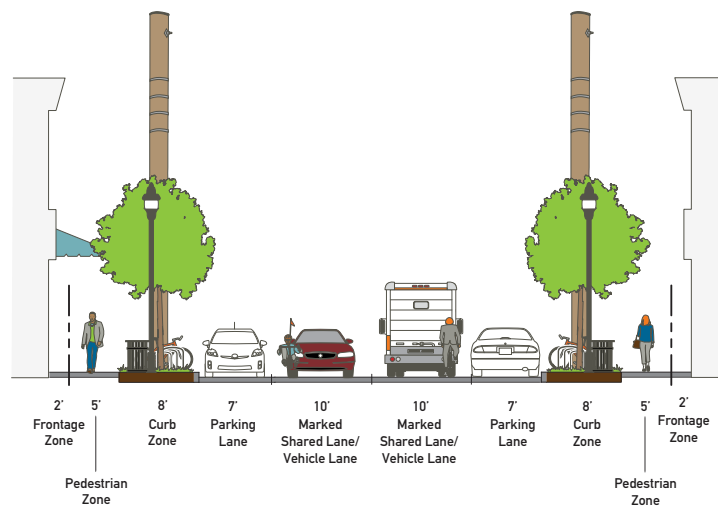
Note: Minimums for each element illustrated below.
Minimums below may not equal the total minimum for each realm.



Neighborhood Street Campus and University, UDC Zoning Districts: CMP-1 and UDO

Pedestrian Realm Total		Travel Way Realm Total		Public ROW Total	
min	max	min	max	min	max
26'	36'	20'	36'	46'	72'

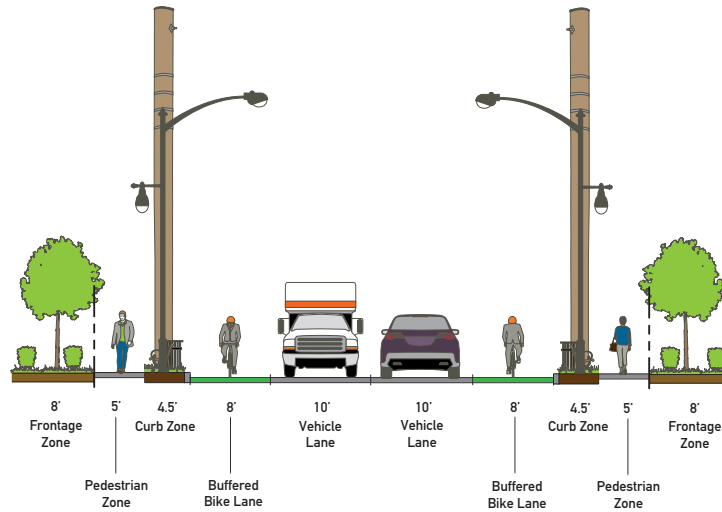
Note: Minimums for each element illustrated below.
Minimums below may not equal the total minimum for each realm.



Neighborhood Street Employment, UDC Zoning District: EMP

Pedestrian Realm Total		Travel Way Realm Total		Public ROW Total	
min	max	min	max	min	max
24'	40'	36'	38'	60'	78'

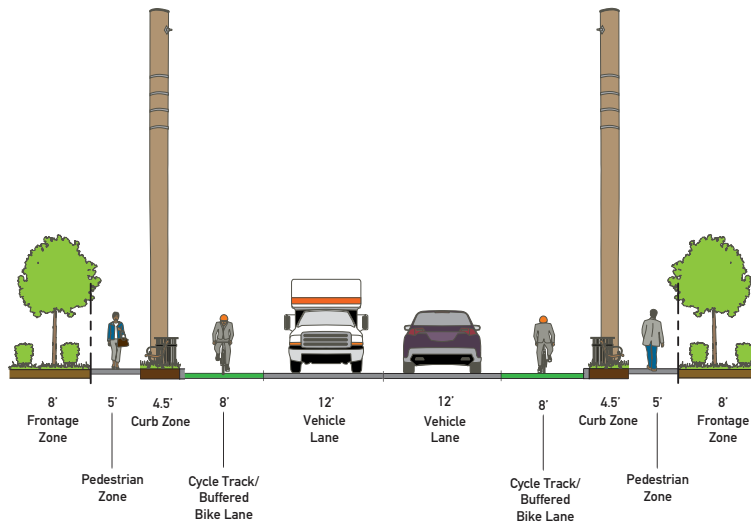
Note: Minimums for each element illustrated below.
Minimums below may not equal the total minimum for each realm.



Neighborhood Street Industrial and Distribution, UDC Zoning District: WD and IH

Pedestrian Realm Total		Travel Way Realm Total		Public ROW Total	
min	max	min	max	min	max
24'	40'	40'	40'	64'	80'

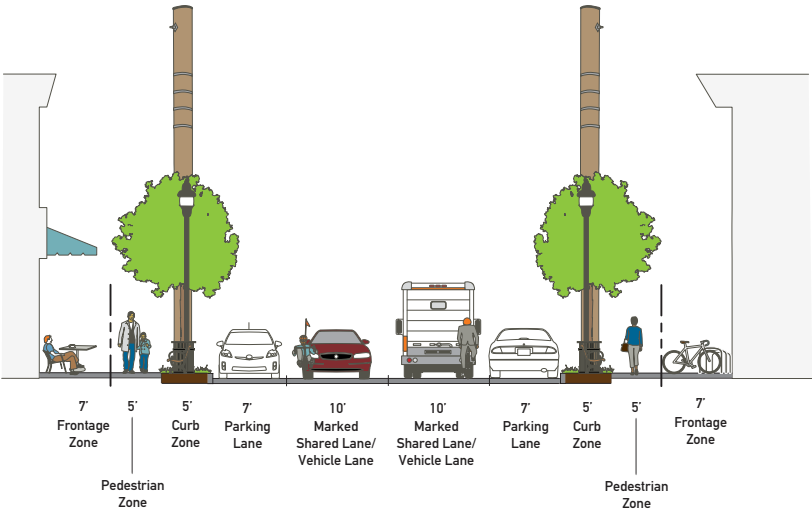
Note: Minimums for each element illustrated below.
Minimums below may not equal the total minimum for each realm.



Neighborhood Street Medical Overlay, UDC Zoning District: MO

Pedestrian Realm Total		Travel Way Realm Total		Public ROW Total	
min	max	min	max	min	max
24'	40'	20'	36'	44'	76'

Note: Minimums for each element illustrated below.
Minimums below may not equal the total minimum for each realm.



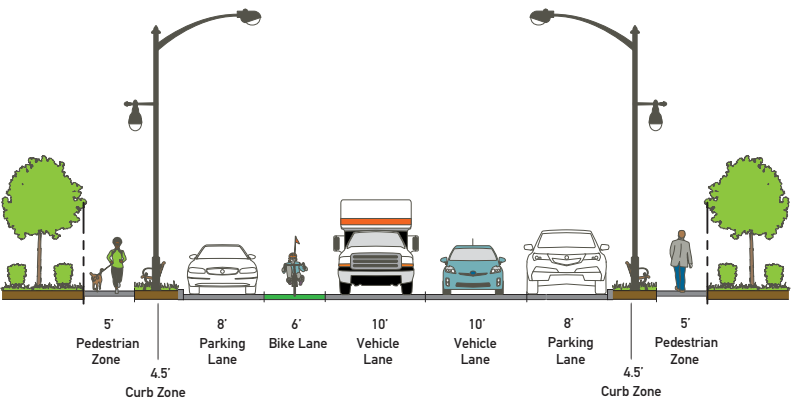
Scale: 1 inch = 10 feet

ONE WAY CONNECTOR		Order of Considerations for Travel Modes	Target Design Speed	UDC Streetscape Standards	Right-of-Way Totals							Frontage & Setback		Pedestrian Realm		Travel Way								
	Land Use Context Zones				Curb to Curb Standard	Pedestrian Realm Total		Travel Way Realm Total		Total Public		Building Setback	Frontage	Pedestrian Zone	Curb Zone	Gutter Pan	Parking Lane Requirement	Parking Lane Width	Parking Lane Count	Bikeway	Bikeway Type	Vehicle Lane Width		Vehicle Lane Count
Density Intensity	Residential Districts	Order of Considerations	MPH	UDC Streetscape Plates	(feet)	Min. (feet)	Max. (feet)	Min. (feet)	Max. (feet)	Min. (feet)	Max. (feet)	Min. (feet)	Min. (feet)	Min. (feet)	Min. (feet)	(feet)	Requirement?	Min. (feet)	Count	Min. (feet)	Type	Min. (feet)	Max. (feet)	Count
	Residential – Estate (RE)	Walk, Bike, Transit, Auto, Freight	30	Plates S13-S15	36-48	24	36	36	52	60	88	50	0	5	4.5	2	(optional)	8	2	6	Bike Lanes	10	11	2
	Residential Single-Family – 15 (R-15) Residential Single-Family – 10 (R-10) Residential Single-Family – 8 (R-8)	Walk, Bike, Transit, Auto, Freight	30	Plates S13-S15	36-48	24	36	36	52	60	88	15-30	0	5	4.5	2	(optional)	8	2	6	Bike Lanes	10	11	2
	Residential Single-Family – 6 (R-6) Residential Single-Family – 3 (R-3)	Walk, Bike, Transit, Auto, Freight	30	Plates S13-S15	36-48	24	36	36	52	60	88	15-20	0	5	4.5	2	(optional)	8	2	6	Bike Lanes	10	11	2
	Residential Urban – 1 (RU-1) Residential Urban – 2 (RU-2) Residential Urban – 3 (RU-3)	Walk, Bike, Transit, Auto, Freight	25	Plates S13-S15	36-48	24	36	36	52	60	88	15-20	6	5	4.5	2	(optional)	8	2	6	Bike Lanes	10	11	2
	Residential Urban – 4 (RU-4) Residential Urban – 5 (RU-5)	Walk, Bike, Transit, Auto, Freight	25	Plates S13-S15	36-48	24	36	36	52	60	88	2-20	6	5	4.5	2	(optional)	8	2	6	Bike Lanes	10	11	2
Density Intensity	Mixed Use Districts	Order of Considerations	MPH	UDC Streetscape Plates	(feet)	Min. (feet)	Max. (feet)	Min. (feet)	Max. (feet)	Min. (feet)	Max. (feet)	Min. (feet)	Min. (feet)	Min. (feet)	Min. (feet)	(feet)	Requirement?	Min. (feet)	Count	Min. (feet)	Type	Min. (feet)	Max. (feet)	Count
	Office General (OG)	Walk, Bike, Transit, Auto, Freight	30	Plates S1-S15	36-48	24	40	26	36	50	76	20	8	5	4.5	2	(none)	0	0	Bike Lane: 6 Cycle Track: 8	Bike Lanes or Cycle Tracks	10	11	2
	Commercial Mixed Use – 3 (CMU-3)	Walk, Bike, Transit, Auto, Freight	30	Plates S1-S15	36-48	24	40	36	52	60	92	20	2	5	4.5	2	(optional)	8	2	Bike Lane: 6 Cycle Track: 8	Bike Lanes or Cycle Tracks	10	11	2
	Campus Master Plan (CMP-2)	Walk, Bike, Transit, Auto, Freight	25	Plates S1-S15	36-48	24	40	36	52	60	92	20	8	5	4.5	2	(optional)	8	2	Bike Lane: 6 Cycle Track: 8	Bike Lanes or Cycle Tracks	10	11	2
	Commercial Mixed Use – 2 (CMU-2)	Walk, Bike, Transit, Auto, Freight	30	Plates S1-S15	36-48	24	40	36	52	60	92	20	8	5	4.5	2	(optional)	8	2	Bike Lane: 6 Cycle Track: 8	Bike Lanes or Cycle Tracks	10	11	2
	Residential Work (RW) Commercial Mixed Use – 1 (CMU-1)	Walk, Bike, Transit, Auto, Freight	30	Plates S1-S4	36-48	26	36	36	52	62	88	20	7	5	8	2	(optional)	8	2	Bike Lane: 6 Cycle Track: 8	Bike Lanes or Cycle Tracks	10	11	2
	Campus Master Plan (CMP-1)	Walk, Bike, Transit, Auto, Freight	25	Plates S1-S4	36-48	26	36	36	52	62	88	20	2	5	8	2	(optional)	8	2	Bike Lane: 6 Cycle Track: 8	Bike Lanes or Cycle Tracks	10	11	2
	Central Business District (CBD)	Walk, Bike, Transit, Auto, Freight	25	Plates S1-S4	36-48	26	36	36	52	62	88	0	7	5	8	2	(optional)	8	2	Bike Lane: 6 Cycle Track: 8	Bike Lanes or Cycle Tracks	10	11	2
Density Intensity	Industrial Districts	Order of Considerations	MPH	UDC Streetscape Plates	(feet)	Min. (feet)	Max. (feet)	Min. (feet)	Max. (feet)	Min. (feet)	Max. (feet)	Min. (feet)	Min. (feet)	Min. (feet)	Min. (feet)	(feet)	Requirement?	Min. (feet)	Count	Min. (feet)	Type	Min. (feet)	Max. (feet)	Count
	Employment (EMP) (office parks)	Walk, Bike, Transit, Auto, Freight	35	Plates S1-S15	36-48	24	40	28	38	52	78	30	8	5	4.5	2	(none)	0	0	8	Cycle Tracks or Buffered Bike Lanes	10	11	2
	Warehouse & Distribution (WD) Heavy Industrial (IH) Designated Truck Routes	Walk, Auto, Freight, Bike, Transit	35	Plates S1-S15	36-48	24	40	30	40	54	80	30	8	5	4.5	2	(none)	0	0	8	Cycle Tracks or Buffered Bike Lanes	11	12	2
Density Intensity	Overlay Districts	Order of Considerations	MPH	UDC Streetscape Plates	(feet)	Min. (feet)	Max. (feet)	Min. (feet)	Max. (feet)	Min. (feet)	Max. (feet)	Min. (feet)	Min. (feet)	Min. (feet)	Min. (feet)	(feet)	Requirement?	Min. (feet)	Count	Min. (feet)	Type	Min. (feet)	Max. (feet)	Count
	Medical Overlay District (MO)	Walk, Bike, Transit, Auto, Freight	25	Article 8.2.7	36-48	24	40	36	52	60	92	7	7	5	5	2	(optional)	8	2	Bike Lane: 6 Cycle Track: 8	Bike Lanes or Cycle Tracks	10	11	2
	University District Overlay (UDO)	Walk, Bike, Transit, Auto, Freight	25	Plates S1-S4	36-48	26	36	36	52	62	88	2	2	5	8	2	(optional)	8	2	Bike Lane: 6 Cycle Track: 8	Bike Lanes or Cycle Tracks	10	11	2

One-Way Connector Residential Single-Family
UDC Zoning Districts: RE, R-3, R-6, R-8, R-10 and R-15

Pedestrian Realm Total		Travel Way Realm Total		Public ROW Total	
min	max	min	max	min	max
24'	36'	36'	52'	60'	88'

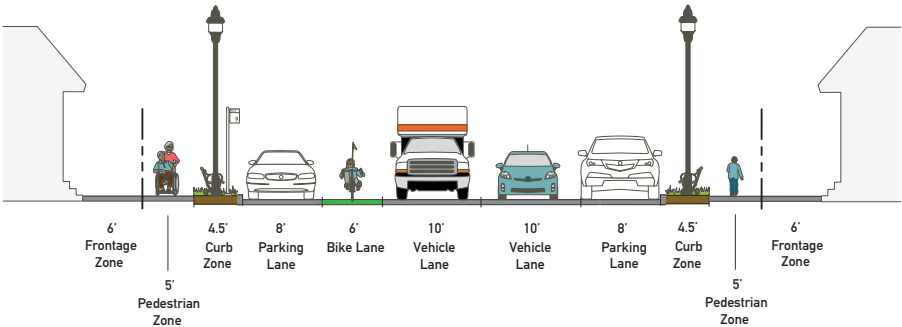
Note: Minimum widths for each element are illustrated below.
Minimums for each element illustrated below may not equal the total minimum width for each realm in the above chart.



One-Way Connector Residential Urban
UDC Zoning Districts: RU-1, RU-2, RU-3, RU-4, RU-5

Pedestrian Realm Total		Travel Way Realm Total		Public ROW Total	
min	max	min	max	min	max
24'	36'	36'	52'	60'	88'

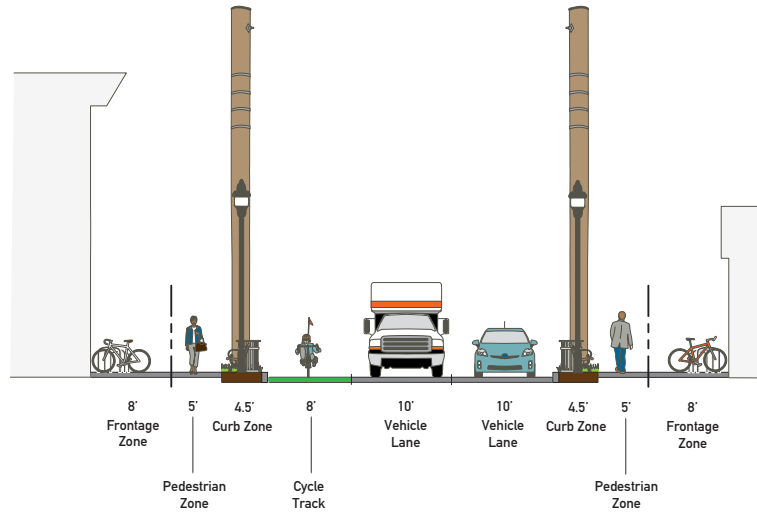
Note: Minimum widths for each element are illustrated below.
Minimums for each element illustrated below may not equal the total minimum width for each realm in the above chart.



One-Way Connector Office General, UDC Zoning Districts: OG

Pedestrian Realm Total		Travel Way Realm Total		Public ROW Total	
min	max	min	max	min	max
24'	40'	26'	36'	50'	76'

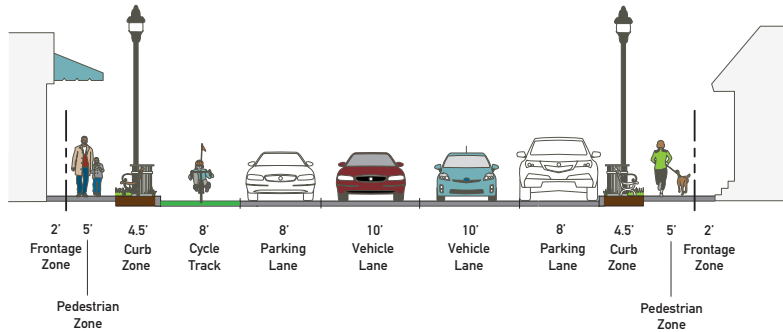
Note: Minimums for each element, except bikeways, are illustrated below.
Minimums for each element illustrated below may not equal the total minimum width for each realm in the above chart.



One-Way Connector Mixed Use, UDC Zoning District: CMU-3

Pedestrian Realm Total		Travel Way Realm Total		Public ROW Total	
min	max	min	max	min	max
24'	40'	36'	52'	60'	92'

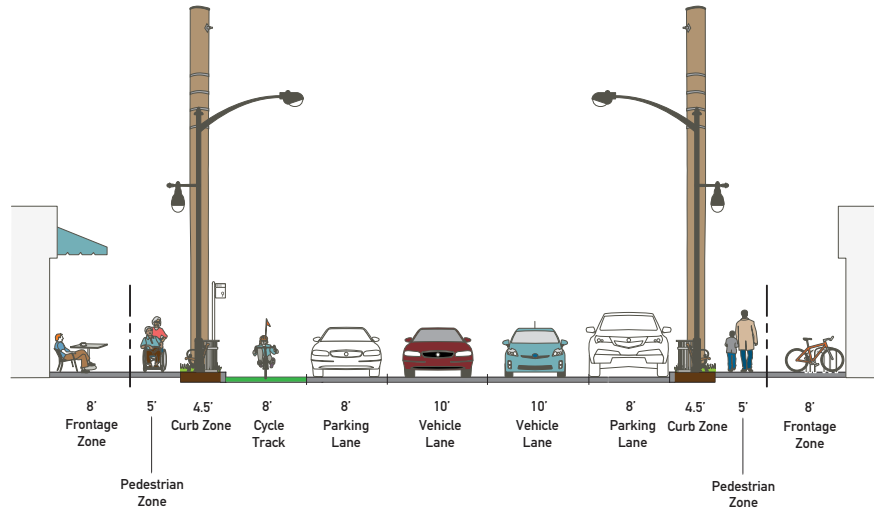
Note: Minimums for each element, except bikeways, are illustrated below.
Minimums for each element illustrated below may not equal the total minimum width for each realm in the above chart.



One-Way Connector Mixed Use, UDC Zoning Districts: CMP-2 and CMU-2

Pedestrian Realm Total		Travel Way Realm Total		Public ROW Total	
min	max	min	max	min	max
24'	40'	36'	52'	60'	92'

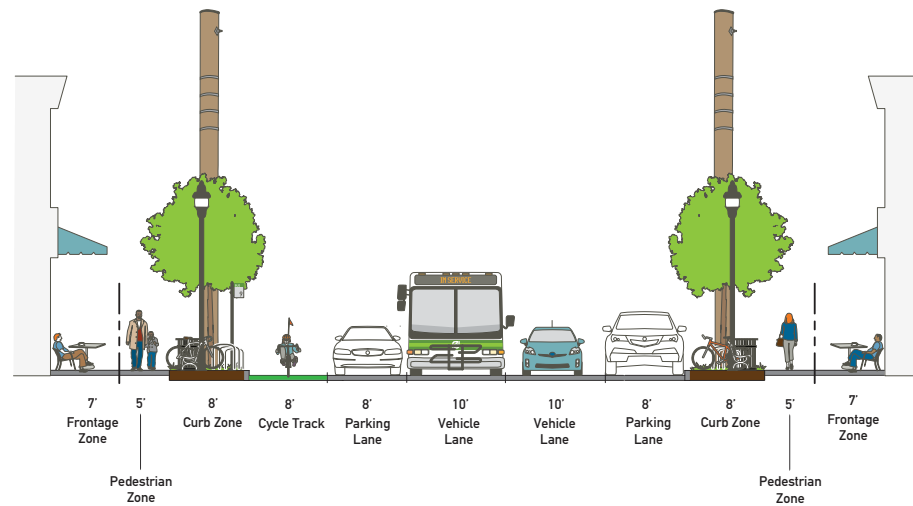
Note: Minimums for each element, except bikeways, are illustrated below.
Minimums for each element illustrated below may not equal the total minimum width for each realm in the above chart.



One-Way Connector Mixed Use, UDC Zoning Districts: RW, CMU-1 and CBD

Pedestrian Realm Total		Travel Way Realm Total		Public ROW Total	
min	max	min	max	min	max
26'	36'	36'	52'	62'	88'

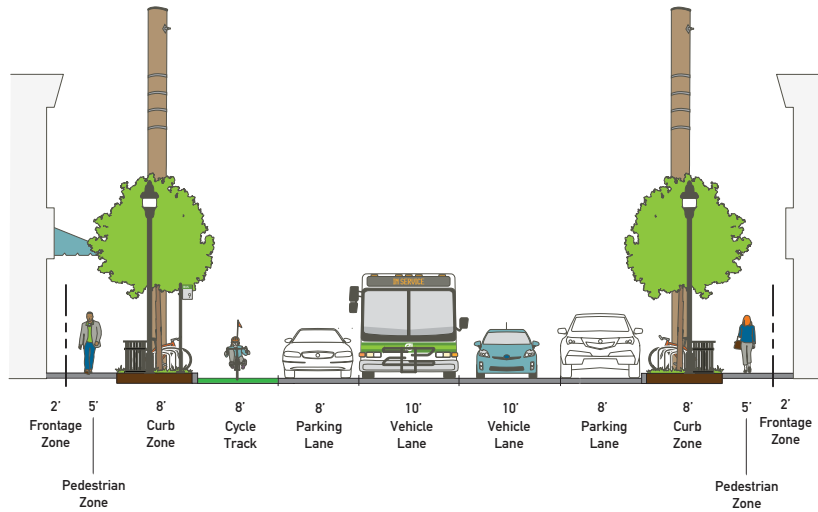
Note: Minimums for each element, except bikeways, are illustrated below.
Minimums for each element illustrated below may not equal the total minimum width for each realm in the above chart.



One-Way Connector Campus and University, UDC Zoning Districts: CMP-1 and UDO

Pedestrian Realm Total		Travel Way Realm Total		Public ROW Total	
min	max	min	max	min	max
26'	36'	36'	52'	62'	88'

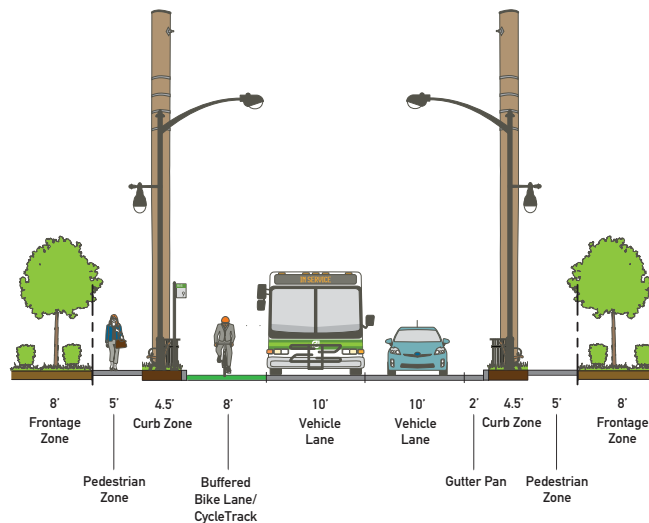
Note: Minimums for each element, except bikeways, are illustrated below.
Minimums for each element illustrated below may not equal the total minimum width for each realm in the above chart.



One-Way Connector Employment, UDC Zoning District: EMP

Pedestrian Realm Total		Travel Way Realm Total		Public ROW Total	
min	max	min	max	min	max
24'	40'	28'	38'	52'	78'

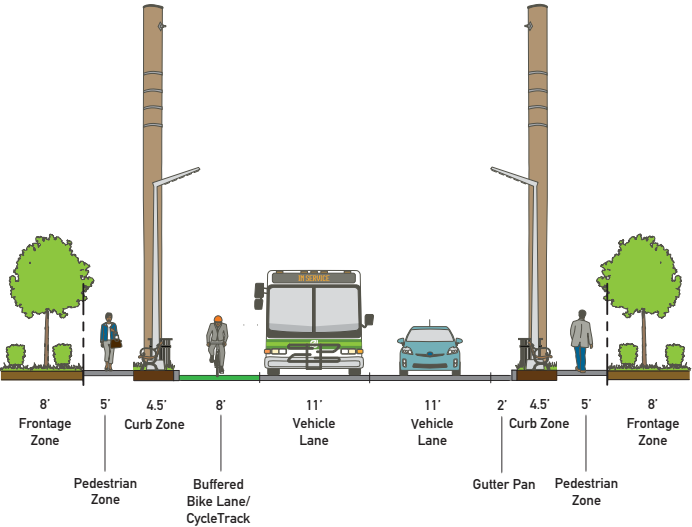
Note: Minimum widths for each element are illustrated below.
Minimums for each element illustrated below may not equal the total minimum width for each realm in the above chart.



One-Way Connector Industrial and Distribution, UDC Zoning Districts: WD and IH

Pedestrian Realm Total		Travel Way Realm Total		Public ROW Total	
min	max	min	max	min	max
24'	40'	30'	40'	54'	80'

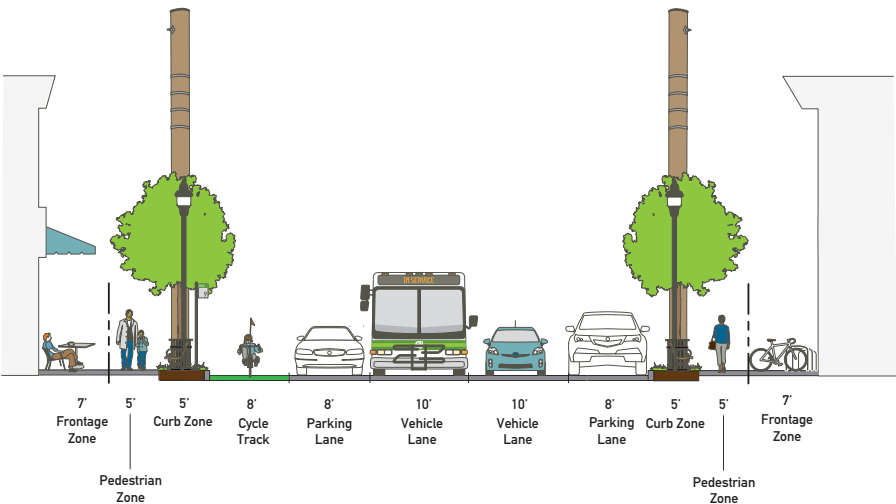
Note: Minimum widths for each element are illustrated below.
Minimums for each element illustrated below may not equal the total minimum width for each realm in the above chart.



One-Way Connector Medical Overlay, UDC Zoning District: MO

Pedestrian Realm Total		Travel Way Realm Total		Public ROW Total	
min	max	min	max	min	max
24'	40'	36'	52'	60'	92'

Note: Minimums for each element, except bikeways, are illustrated below.
Minimums for each element illustrated below may not equal the total minimum width for each realm in the above chart.

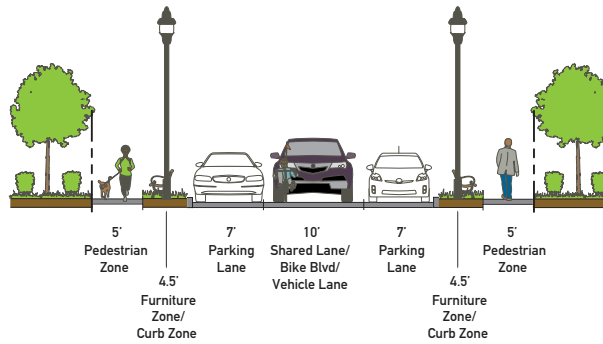


ONE WAY NEIGHBORHOOD STREET		Order of Considerations for Travel Modes	Target Design Speed	UDC Streetscape Standards	Right-of-Way Totals							Frontage & Setback		Pedestrian Realm		Travel Way								
	Land Use Context Zones				Curb to Curb Standard	Pedestrian Realm Total		Travel Way Realm Total		Total Public		Building Setback	Frontage	Pedestrian Zone	Curb Zone	Gutter Pan	Parking Lane Requirement	Parking Lane Width	Parking Lane Count	Bikeway	Bikeway Type	Vehicle Lane Width		Vehicle Lane Count
Density Intensity	Residential Districts	Order of Considerations	MPH	UDC Streetscape Plates	Max. (feet)	Min. (feet)	Max. (feet)	Min. (feet)	Max. (feet)	Min. (feet)	Max. (feet)	Min. (feet)	Min. (feet)	Min. (feet)	Min. (feet)	(feet)	Requirement?	Min. (feet)	Count	Min. (feet)	Type	Min. (feet)	Max. (feet)	Count
	Residential – Estate (RE)	Walk, Bike, Transit, Auto, Freight	25	Plates S13-S15	36	24	36	18	36	42	72	50	0	5	4.5	2	(optional)	7	2	0	Shared Lanes/Bike Boulevards	10	11	1
	Residential Single-Family – 15 (R-15) Residential Single-Family – 10 (R-10) Residential Single-Family – 8 (R-8)	Walk, Bike, Transit, Auto, Freight	25	Plates S13-S15	36	24	36	18	36	42	72	15-30	0	5	4.5	2	(optional)	7	2	0	Shared Lanes/Bike Boulevards	10	11	1
	Residential Single-Family – 6 (R-6) Residential Single-Family – 3 (R-3)	Walk, Bike, Transit, Auto, Freight	25	Plates S13-S15	36	24	36	18	36	42	72	15-20	0	5	4.5	2	(optional)	7	2	0	Shared Lanes/Bike Boulevards	10	11	1
	Residential Urban – 1 (RU-1) Residential Urban – 2 (RU-2) Residential Urban – 3 (RU-3)	Walk, Bike, Transit, Auto, Freight	20	Plates S13-S15	36	24	36	18	36	42	72	15-20	6	5	4.5	2	(optional)	7	2	0	Shared Lanes/Bike Boulevards	10	11	1
	Residential Urban – 4 (RU-4) Residential Urban – 5 (RU-5)	Walk, Bike, Transit, Auto, Freight	20	Plates S13-S15	max 36	24	36	18	36	42	72	2-20	6	5	4.5	2	(optional)	7	2	0	Shared Lanes/Bike Boulevards	10	11	1
Density Intensity	Mixed Use Districts	Order of Considerations	MPH	UDC Streetscape Plates	Max. (feet)	Min. (feet)	Max. (feet)	Min. (feet)	Max. (feet)	Min. (feet)	Max. (feet)	Min. (feet)	Min. (feet)	Min. (feet)	Min. (feet)	(feet)	Requirement?	Min. (feet)	Count	Min. (feet)	Type	Min. (feet)	Max. (feet)	Count
	Office General (OG)	Walk, Bike, Transit, Auto, Freight	25	Plates S1-S15	36	24	40	18	36	42	76	20	8	5	4.5	2	(optional)	7	2	0	Marked shared lanes	10	11	1
	Commercial Mixed Use – 3 (CMU-3)	Walk, Bike, Transit, Auto, Freight	25	Plates S1-S15	36	24	40	18	36	42	76	20	2	5	4.5	2	(optional)	7	2	0	Marked shared lanes	10	11	1
	Campus Master Plan (CMP-2)	Walk, Bike, Transit, Auto, Freight	20	Plates S1-S15	36	24	40	18	36	42	76	20	8	5	4.5	2	(optional)	7	2	0	Marked shared lanes	10	11	1
	Commercial Mixed Use – 2 (CMU-2)	Walk, Bike, Transit, Auto, Freight	25	Plates S1-S15	36	24	40	18	36	42	76	20	8	5	4.5	2	(optional)	7	2	0	Marked shared lanes	10	11	1
	Residential Work (RW) Commercial Mixed Use – 1 (CMU-1)	Walk, Bike, Transit, Auto, Freight	25	Plates S1-S4	36	26	36	18	36	44	72	20	7	5	8	2	(optional)	7	2	0	Marked shared lanes	10	11	1
	Campus Master Plan (CMP-1)	Walk, Bike, Transit, Auto, Freight	20	Plates S1-S4	36	26	36	32	43	58	79	20	2	5	8	2	(optional)	7	2	14	Two-way cycle track	10	11	1
	Central Business District (CBD)	Walk, Bike, Transit, Auto, Freight	20	Plates S1-S4	36	26	36	32	43	58	79	0	7	5	8	2	(optional)	7	2	14	Two-way cycle track	10	11	1
Density Intensity	Industrial Districts	Order of Considerations	MPH	UDC Streetscape Plates	Max. (feet)	Min. (feet)	Max. (feet)	Min. (feet)	Max. (feet)	Min. (feet)	Max. (feet)	Min. (feet)	Min. (feet)	Min. (feet)	Min. (feet)	(feet)	Requirement?	Min. (feet)	Count	Min. (feet)	Type	Min. (feet)	Max. (feet)	Count
	Employment (EMP) (office parks)	Walk, Bike, Transit, Auto, Freight	30	Plates S1-S15	36	24	40	36	38	60	78	30	8	5	4.5	2	(none)	0	0	8	Buffered Bike Lanes	10	11	2
	Warehouse & Distribution (WD) Heavy Industrial (IH) Designated Truck Routes	Walk, Auto, Freight, Bike, Transit	30	Plates S1-S15	36	24	40	40	40	64	80	30	8	5	4.5	2	(none)	0	0	8	Buffered Bike Lanes	12	12	2
Density Intensity	Overlay Districts	Order of Considerations	MPH	UDC Streetscape Plates	Max. (feet)	Min. (feet)	Max. (feet)	Min. (feet)	Max. (feet)	Min. (feet)	Max. (feet)	Min. (feet)	Min. (feet)	Min. (feet)	Min. (feet)	(feet)	Requirement?	Min. (feet)	Count	Min. (feet)	Type	Min. (feet)	Max. (feet)	Count
	Medical Overlay District (MO)	Walk, Bike, Transit, Auto, Freight	20	Article 8.2.7	36	24	40	18	36	42	76	7	7	5	5	2	(optional)	7	2	0	Marked shared lanes	10	11	1
	University District Overlay (UDO)	Walk, Bike, Transit, Auto, Freight	20	Plates S1-S4	36	26	36	18	36	44	72	2	2	5	8	2	(optional)	7	2	0	Marked shared lanes	10	11	1

One-Way Neighborhood Street Residential Single-Family
UDC Zoning Districts: RE, R-3, R-6, R-8, R-10 and R-15

Pedestrian Realm Total		Travel Way Realm Total		Public ROW Total	
min	max	min	max	min	max
24'	36'	18'	36'	42'	72'

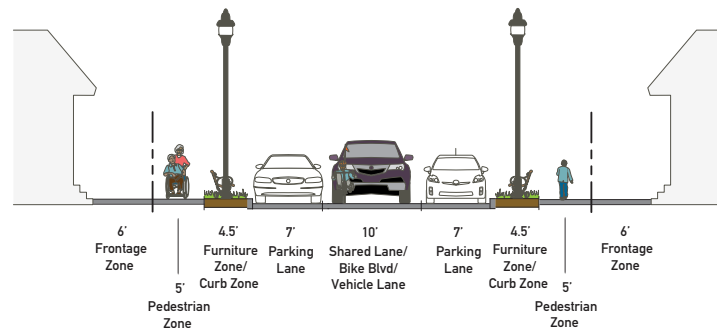
Note: Minimum widths for each element are illustrated below.
Minimums for each element illustrated below may not equal the total minimum width for each realm in the above chart.



One-Way Neighborhood Street Residential Urban
UDC Zoning Districts: RU-1, RU-2, RU-3, RU-4, RU-5

Pedestrian Realm Total		Travel Way Realm Total		Public ROW Total	
min	max	min	max	min	max
24'	36'	18'	36'	42'	72'

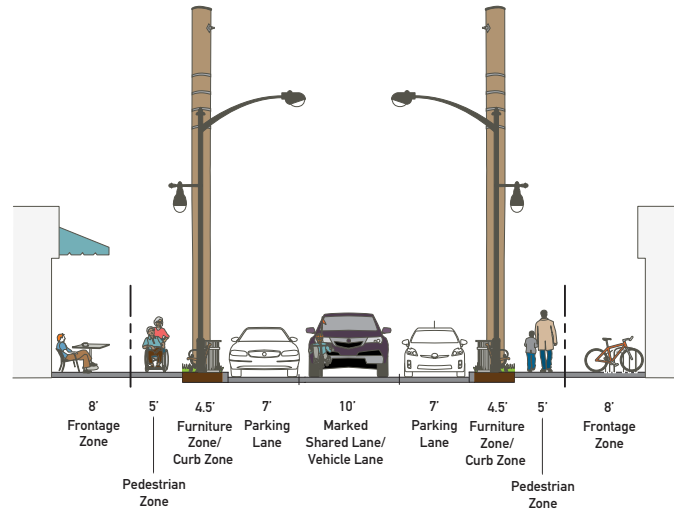
Note: Minimum widths for each element are illustrated below.
Minimums for each element illustrated below may not equal the total minimum width for each realm in the above chart.



One-Way Neighborhood Street Mixed Use, UDC Zoning Districts: OG, CMP-2, and CMU-2

Pedestrian Realm Total		Travel Way Realm Total		Public ROW Total	
min	max	min	max	min	max
24'	40'	18'	36'	42'	76'

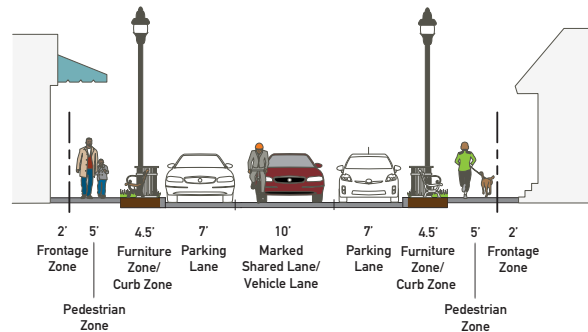
Note: Minimum widths for each element are illustrated below.
Minimums for each element illustrated below may not equal the total minimum width for each realm in the above chart.



One-Way Neighborhood Street Mixed Use, UDC Zoning District: CMU-3

Pedestrian Realm Total		Travel Way Realm Total		Public ROW Total	
min	max	min	max	min	max
24'	40'	18'	36'	42'	76'

Note: Minimum widths for each element are illustrated below.
Minimums for each element illustrated below may not equal the total minimum width for each realm in the above chart.

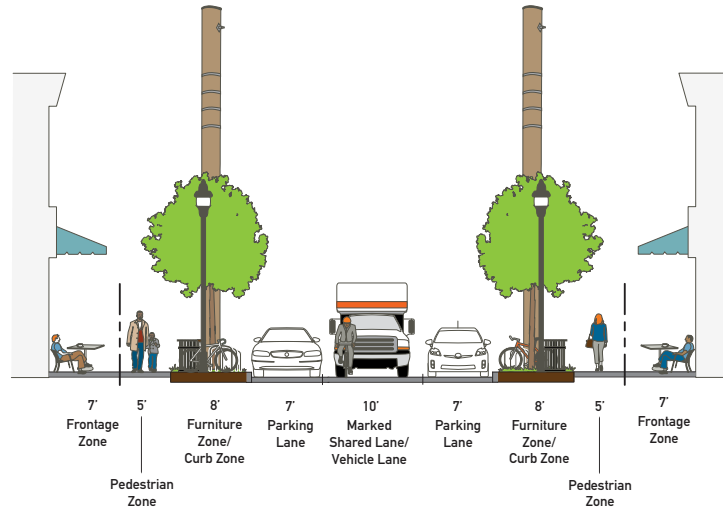


One-Way Neighborhood Street Mixed Use, UDC Zoning Districts: RW and CMU-1

Pedestrian Realm Total		Travel Way Realm Total		Public ROW Total	
min	max	min	max	min	max
26'	36'	18'	36'	44'	72'

Note: Minimum widths for each element are illustrated below.

Minimums for each element illustrated below may not equal the total minimum width for each realm in the above chart.

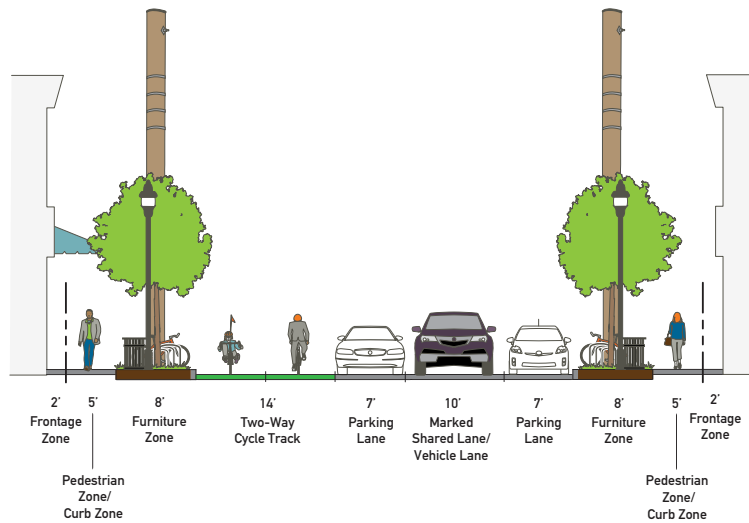


One-Way Neighborhood Street Campus Master Plan, UDC Zoning District: CMP-1

Pedestrian Realm Total		Travel Way Realm Total		Public ROW Total	
min	max	min	max	min	max
26'	36'	32'	43'	58'	79'

Note: Minimum widths for each element are illustrated below.

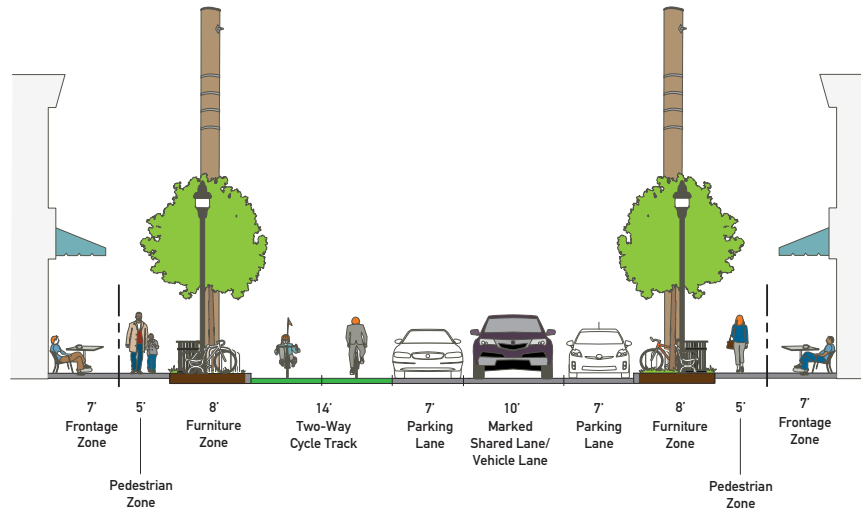
Minimums for each element illustrated below may not equal the total minimum width for each realm in the above chart.



One-Way Neighborhood Street Central Business District, UDC Zoning District: CBD

Pedestrian Realm Total		Travel Way Realm Total		Public ROW Total	
min	max	min	max	min	max
26'	36'	32'	43'	58'	79'

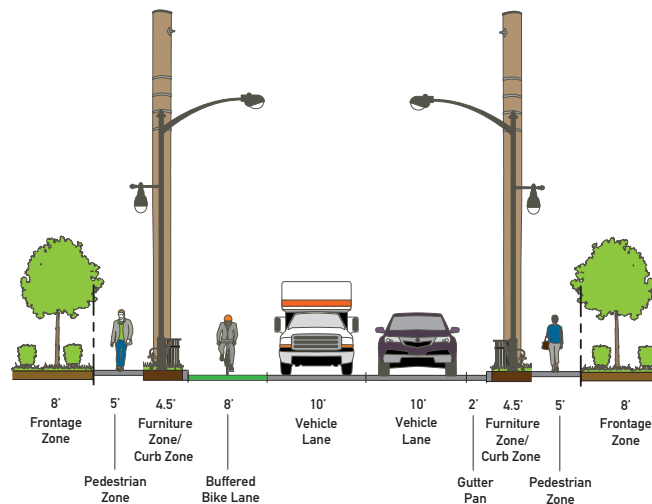
Note: Minimum widths for each element are illustrated below.
Minimums for each element illustrated below may not equal the total minimum width for each realm in the above chart.



One-Way Neighborhood Street Employment, UDC Zoning District: EMP

Pedestrian Realm Total		Travel Way Realm Total		Public ROW Total	
min	max	min	max	min	max
24'	40'	36'	38'	60'	78'

Note: Minimum widths for each element are illustrated below.
Minimums for each element illustrated below may not equal the total minimum width for each realm in the above chart.

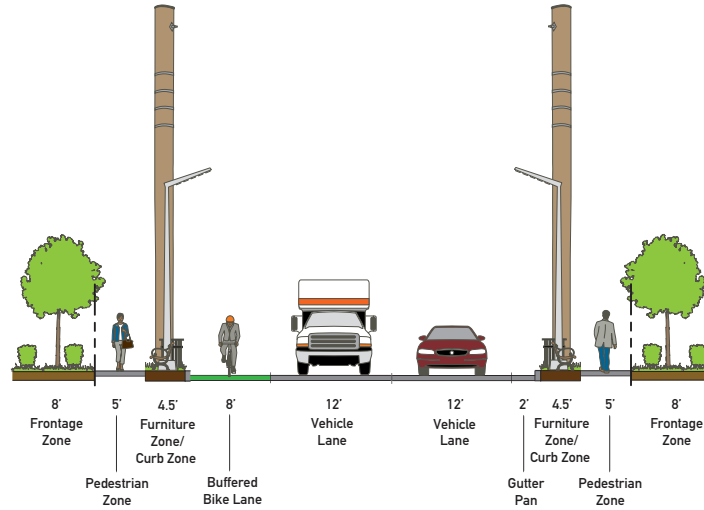


One-Way Neighborhood Street Industrial and Distribution, UDC Zoning District: WD and IH

Pedestrian Realm Total		Travel Way Realm Total		Public ROW Total	
min	max	min	max	min	max
24'	40'	40'	40'	64'	80'

Note: Minimum widths for each element are illustrated below.

Minimums for each element illustrated below may not equal the total minimum width for each realm in the above chart.

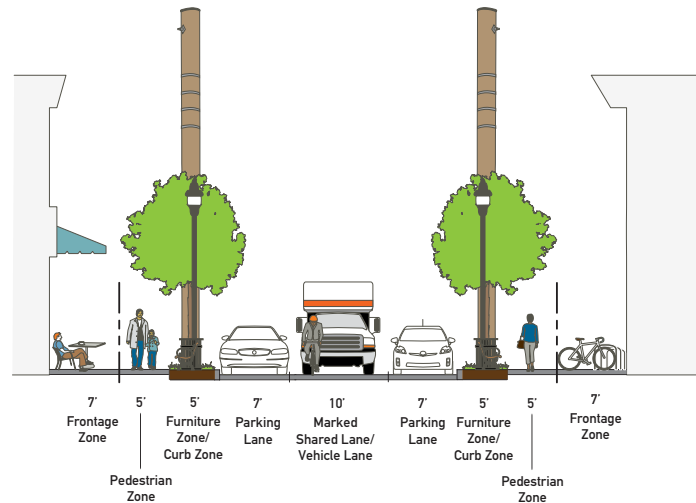


One-Way Neighborhood Street Medical Overlay, UDC Zoning District: MO

Pedestrian Realm Total		Travel Way Realm Total		Public ROW Total	
min	max	min	max	min	max
24'	40'	18'	36'	42'	76'

Note: Minimum widths for each element are illustrated below.

Minimums for each element illustrated below may not equal the total minimum width for each realm in the above chart.



One-Way Neighborhood Street University Overlay, UDC Zoning District: UDO

Pedestrian Realm Total		Travel Way Realm Total		Public ROW Total	
min	max	min	max	min	max
26'	36'	18'	36'	44'	72'

Note: Minimum widths for each element are illustrated below.
Minimums for each element illustrated below may not equal the total minimum width for each realm in the above chart.

