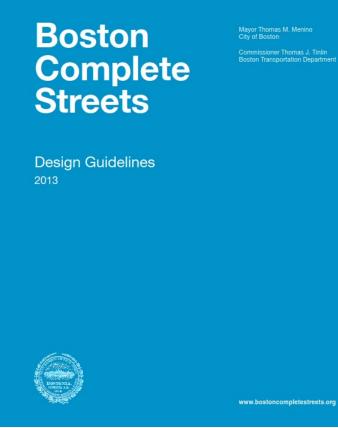
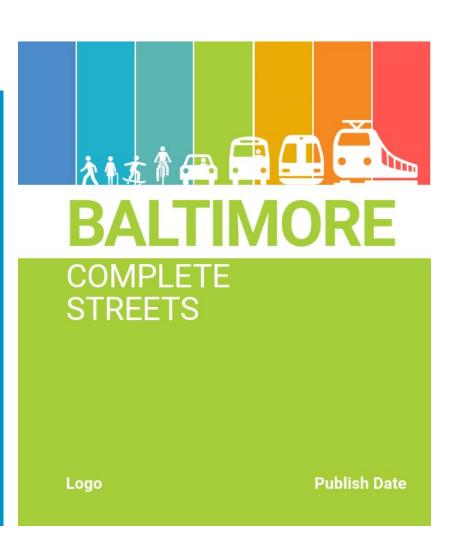
## Complete Streets Manual Overview of Content











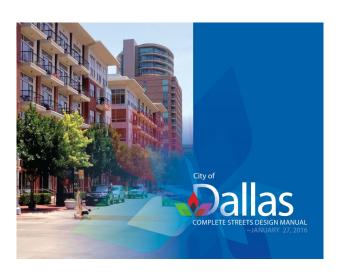
## Complete Streets Manual Overview of Content



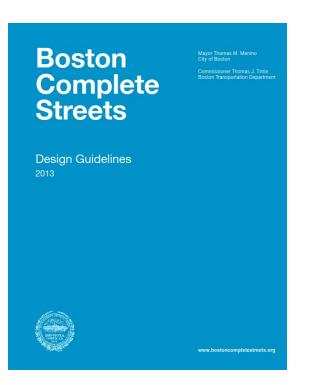


## **Introduction Section**

- Letter of Commitment from the City Council
- Complete Streets Policy
- Guiding Principles for Designers & Performance Measures
- What is a CSM / How to Use this Manual







## Complete Streets Manual Overview of Content

### Letter of Commitment from the City Council

### COMMISSIONER'S STATEMENT

Chicagoans experience city life through its streets in our daily commutes, street fairs and block parties, and even the view from our front porches. Public activity and neighborhood vitality often reflect the nature of surrounding streets. We must build and maintain our roads for healthy business districts, vibrant neighborhoods, and high quality of life- and move away from the narrow perspectives of the past. We must measure success on safety, choices, and livability.

Chicago residents need places to gather, conduct business, and recreate. We need systems that support choices to walk, bike, and connect to transit. Our street design should be reflective of our city; the historic boulevards, the elevated trains, the lakefront trail. Today, we are building a new Chicago for the next 100 years. When we say "complete streets." we mean designing streets for people. We mean designing for all users and all modes. We mean looking past the project level, to the surrounding community and economic systems. We mean protecting our most vulnerable users and eliminating pedestrian and bicyclist deaths.

Complete Streets Chicago builds upon Chicago's 2006 complete streets policy. That policy influenced our Bikeway Design Guide and Bike 2015 Plan and began creating complete streets. The Chicago Department of Transportation (CDOT) has now launched its Streets for Cycling 2020 plan and Chicago Pedestrian Plan. This new policy and design guide will bridge these and similar planning efforts. It defines our processes, standards, and expected outcomes.

Complete Streets Chicago is the result of an integrated and inclusive process. CDOT's divisions were asked to look at methods for project delivery, measurement, and standards to identify areas for improvement. We went outside the agency to improve upon statelevel project coordination. I applaud CDOT staff for contributions to this guide and their commitment to building complete streets.

CDOT's mission is to keep the city's surface transportation networks and public way safe for users, environmentally sustainable, in a state of good repair and attractive, so that its diverse residents, businesses and guests all enjoy a variety of quality transportation options, regardless of ability or destination.

We all want better, safer streets. This effort will bring the City closer to this goal.









OFFICE OF THE MAYOR THOMAS M. MENINO

May 10, 2013

Dear Friends,

I am pleased to present Boston's Complete Streets guidelines, a new vision for the way we design our roadways and sidewalks. The guidelines combine the best of what works for our streets today with 21st century thinking on how to make our streets more engaging, sustainable, and safe for all users. Creating a city where residents of every age feel safe on our streets will have a direct impact on public health, transportation, and the environment.

The guidelines include designs to rebalance the use of our streets so that walking, cycling and transit are as safe and convenient as driving a car. While the guidelines will now enable public agencies, developers and designers to work from a single framework, in practice, we have been following a Complete Streets approach for several years.

Many important programs are already in place. Boston is becoming a great bicycling city, with the success of Hubway and over 60 miles of a growing on-street network of bike facilities. We continue to build street-to-plaza conversions with an eve toward creating new public spaces in the neighborhoods. Pilot projects are demonstrating how clean storm water can be channeled directly into the ground. We are replacing our street lights with LED fixtures that are expected to last 10 years and that will dramatically reduce energy use. The latest technologies are being used to move traffic more efficiently. Food trucks have brought new vitality and healthy food options to our streets, and we have installed on-street public electric vehicle charging stations.

As we continue to celebrate new "firsts" in the city, I'd like to thank the Complete Streets Advisory Committee and all of our community partners for being open to change, keeping us honest, and sharing your ideas. With your help and with these guidelines, we will continue to create streets that support how we wish to live, travel, do business, and play in our city.

Mayor of Boston

BOSTON CITY HALL . ONE CITY HALL PLAZA . BOSTON . MASSACHUSETTS 02201 . 617/635-4000

## Complete Streets Manual Overview of Content





## Complete Streets Policy Statement

- "This transportation system must be designed and operated in ways that ensure the safety, security, comfort, access, and convenience of all users of the streets including pedestrians, bicyclists, public transit users, emergency responders, transporters of commercial goods, motor vehicles, and freight providers."
- "This transportation system must include integrated networks of connected facilities accommodating all modes of travel."
- "The department shall construct and operate a comprehensive complete streets transportation system that enables access, mobility, economic development, attractive public spaces, health, and well-being for all people."

## Complete Streets Manual Overview of Content





### **Guiding Principles**

### System Performance

- Address Safety First: Baltimore streets will be designed to eliminate severe injuries and fatalities.
- Be Accessible by Everyone: Baltimore streets will be accessible by all modes, for people of all ages and abilities.
- Improve Mobility: Baltimore streets will efficiently and reliably move people and goods to, from and around the City.

### **Community Enhancement**

- Ensure Equity: Baltimore streets will reflect equal opportunities for travel regardless of race, income, age, disability, health, English language proficiency, and vehicular access.
- Represent Baltimore's Culture: Baltimore streets will reflect neighborhood values and promote economic vitality.

## Complete Streets Manual Overview of Content





- "This Complete Streets Design Manual provides policies and design best practice guidelines to City agencies, design professionals, private developers, and community groups for the improvement of streets and pedestrian areas throughout the City. The manual promotes higher quality street designs that create safe, multimodal streets for all users. This manual is intended to direct transportation planners and engineers to routinely design and operate the entire right-of-way to enable safe access for all users, regardless of age, ability, or mode of transportation.
- This manual is intended to work alongside the other City guidance documents to provide the policy framework for the design and use of Baltimore's street network. Through the use of this manual early in the design process, street improvement plans will consider the context of the roadway, community design priorities, and the roadway's functional classification. This manual will also serve as a policy guide for private development projects and community-driven initiatives that involve......

### 1. HOW TO USE THIS MANUAL











street designs that create safe, multimodal streets for all users. This manual is ntended to direct transportation planners and engineers to routinely design and operate the entire right-of-way to enable safe access for all users, regardless of age, ability, or mode of transportation. This manual is intended to work alongside the Dallas Thoroughfare Plan and the Dallas Development Code to provide the policy framework for the design and use of Dallas' roadway network. Through the use of this manual early in the design process, street improvement plans will consider the context of the roadway, community design priorities, and the roadway's functional classification. This manual will also serve as a policy guide for private development projects and community-driven initiatives that involve physical improvements within the public right-of-way.

s Complete Streets Design Manual provides policies and design

best practice guidelines to City agencies, design professionals, private developers, and community groups for the improvement of streets and

pedestrian areas throughout Dallas. The manual promotes higher quality



## Modal Hierarchy





### § 40-37. MODAL HIERARCHY

- City-wide
- Street typology specific
  - Hierarchy vs. priority



The foundation of this Complete Streets Manual rests on the establishment of a new modal hierarchy framework that prioritizes the safety and accessibility of people as they walk, bicycle, and take transit - ahead of single occupant vehicles. These travelers are of all ages and abilities, and are most vulnerable to severe injuries and fatalities in crashes. Therefore street types, street design guidance, and other supporting functions must reflect the City's new modal hierarchy.

## Street Typology





## **Proposed Street Types**

- Downtown Commercial
- Downtown Mixed-Use
- Urban Village Main
- Urban Village Neighborhood
- Urban Village Shared Street
- Urban Center Connector
- Neighborhood Corridor
- Industrial Access
- Parkway
- Boulevard

### **Functional Classification System**

- ▶ Arterials
- ▶ Collectors
- ▶ Locals

### **Boston's Street Types**

- Downtown Commercial
- Downtown Mixed-Use
- Neighborhood Main
- ► Neighborhood Connector
- ► Neighborhood Residential
- ▶ Industrial

- Shared Street
- ▶ Parkway
- Boulevard

## Downtown Commercial

Downtown Commercial Downtown Mixed-use Neighborhood Main Street Neighborhood Connector Neighborhood Connector

Industrial Shared Street: Parkwaya

#### Overview

Downtown Commercial Streets define Boston's dense commercial core. These Street Types are found primarily in the Financial District, Government Center, Chinatown, the Leather District, Back Bay, and the South Boston Waterfront. Containing a mix of mid- and high-rise office buildings, the streets serve as international cultural destinations and connect with highways and transit hubs that serve the Greater Boston region.

These often iconic streets play a key role in the regional movement of people, and designs must support extremely high user volumes. Congestion, commercial vehicle traffic, and high volumes of pedestrians and bicycles, combined with relatively short blocks and numerous irregular intersections, make achieving the right modal balance a considerate challenge. Lined with a mix of centuries-old and modern

building facades and grand lobbies, these streets require wide sidewalks which typically feature enhanced finishes and materials. Designs must also respect the historic significance of these streets.

### Example Streets

- ► Congress Street (Government Center/Financial District)
- ► State Street (Government Center/Financial District)
- ▶ Kneeland Street (Chinatown/Leather District)
- ► Summer Street (Financial District/South Boston Waterfront)
- ► Boylston Street (Back Bay)

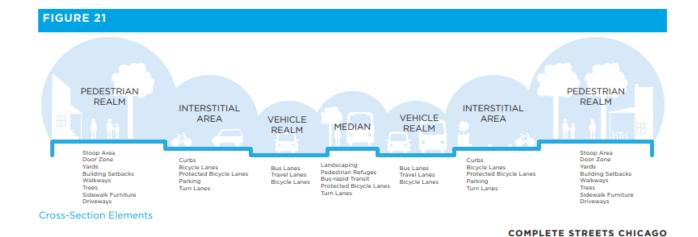


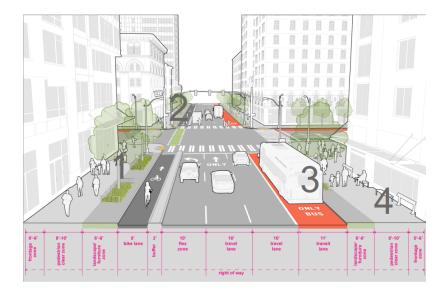




### **Ordinance Addresses:**

- Lane Widths
- Latest & Best Standards
- Design Speed



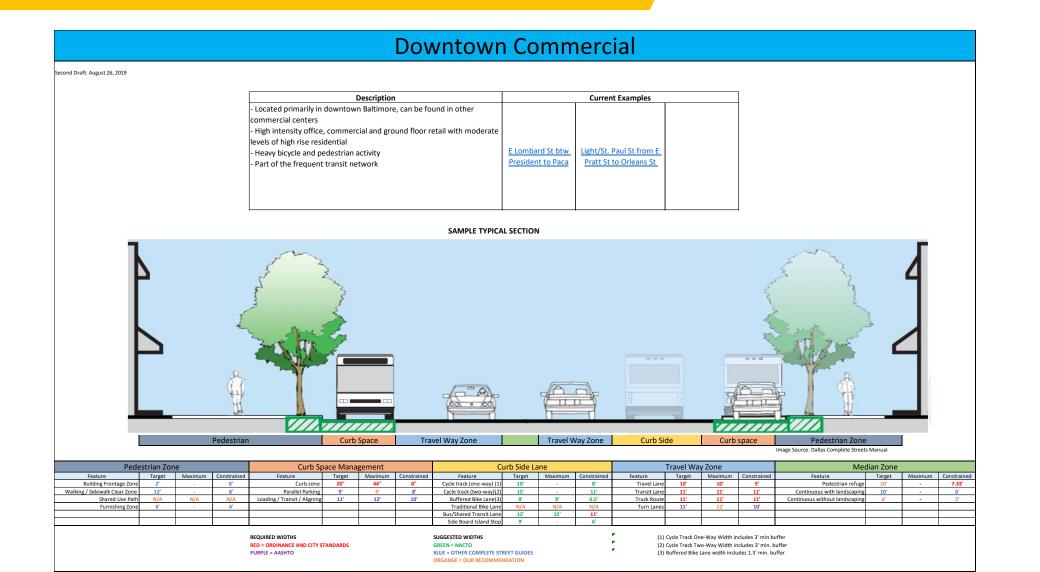


- 1 3.6 Street Trees
  - High demand for space limits landscaping, so street trees are prioritized. Read More »
- 2 Bike Intersection Design Conflicts between bicyclists and pedestrians and motorists can often be mitigated with intersection design. Read More »
- 3 3.9 Transit

  Transit zones within the Frequent Transit Network will have enhanced amenities and
  - Transit zones within the Frequent Transit Network will have enhanced amenities and accommodate higher volumes of transit riders. Read More »
- 4) 3.1 Sidewalks Wide sidewalks accommodate a large number of pedestrians, creating a vibrant streetscape that supports access to businesses, residences, and transportation Read More »









Pedestrian Zone Image Source: Dallas Complete Streets Manual



### Urban Village Main

Second Draft: August 26, 2019

Description	Current Examples							
- Located outside of the downtown core and within an urban village generally a destination for daily essentials and services - High intensity retail, moderate intensity commercial and office and low to mid-rise residential - Characterized by corridors of ground-floor retail - Clearly communicate walking, biking and transit access prioritized	S. Broadway Ave from Thames St to Lombard St	W 36th St from Falls Rd to Keswick Rd	Pennsylvania Ave from Wilson St to Robert St					

SAMPLE TYPICAL SECTION

Pede	strian Zon	е		Curb Sp	ace Mana	gement		Curb Side Lane			Travel Way Zone				Median Zone				
Feature	Target	Maximum	Constrained	Feature	Target	Maximum	Constrained	Feature	Target	Maximum	Constrained	Feature	Target	Maximum	Constrained	Feature	Target	Maximum	Constrained
Building Frontage Zone	2'	-	0'	Curb zone	20"	44"	8"	Cycle track (one-way)(1)	10'	-	8'	Travel Lane	10'	10'	9'	Pedestrian refuge	10'	-	7.33'
Walking / Sidewalk Clear Zone	8'	-	5'	Parallel Parking	9'	9'	8'	Cycle track (two-way)(2)	N/A	N/A	N/A	Transit Lane	11'	11'	11'	Continuous with landscaping	10'	-	6'
Shared Use Path	N/A	N/A	N/A	Loading / Transit / Aligning	11'	12'	10'	Buffered Bike Lane(3)	8'	8'	6.5'	Truck Route	11'	11'	11'	Continuous without landscaping	6'	-	2'
Furnishing Zone	6'	-	3.5'					Traditional Bike Lane	6'	7'	5'	Turn Lanes	11'	12'	10'				
				·				Bus/Shared Transit Lane	12'	12'	11'								
								Side Board Island Stop	9'	-	6'								

REQUIRED WIDTHS RED = ORDINANCE AND CITY STANDARDS
PURPLE = AASHTO SUGGESTED WIDTHS GREEN = NACTO

BLUE = OTHER COMPLETE STREET GUIDES ORGANGE = OUR RECOMMENDATION

(1) Cycle Track One-Way Width includes 3' min buffer

(2) Cycle Track Two-Way Width includes 3' min. buffer (3) Buffered Bike Lane width includes 1.5' min. buffer





### **Urban Village Shared Street**

Second Draft: August 26, 2019

Description	Current Examples							
<ul> <li>Primarily located within an Urban Village</li> <li>Low to moderate intensity residential, Some commercial</li> <li>Streets are primarily used for pedestrian and bicycle access</li> <li>Very low vehicle traffic, vehicles enter this street primarily for loading or pick up/drop off of passengers</li> </ul>	N Bradford St btw E. Fayette and E. Baltimore	Bevan St btw W. Henrietta and W. Hamburg	S Ann Street south of Thames Street					

# SAMPLE TYPICAL SECTION Travel Way Zone

Image Source: Dallas Complete Streets Manual

Pede	estrian Zor	ne		Curb Sp	oace Mana	gement		Curb Side Lane				Travel Way Zone				Median Zone			
Feature	Target	Maximum	Constrained	Feature	Target	Maximum	Constrained	Feature	Target	Maximum	Constrained	Feature	Target	Maximum	Constrained	Feature	Target	Maximum	Constrained
Building Frontage Zone	2'	-	0'	Curb zone	20"	44"	8"	Cycle track (one-way) (1)	N/A	N/A	N/A	Travel Lane	9'	10'	9'	Pedestrian refuge	N/A	N/A	N/A
Walking / Sidewalk Clear Zone	5'	-	5'	Parallel Parking	9'	9'	8'	Cycle track (two-way)(2)	N/A	N/A	N/A	Transit Lane	11'	11'	11'	Continuous with landscaping	N/A	N/A	N/A
Shared Use Path	N/A	N/A	N/A	Loading / Transit / Aligning	N/A	N/A	N/A	Buffered Bike Lane(3)	N/A	N/A	N/A	Truck Route	11'	11'	11'	Continuous without landscaping	N/A	N/A	N/A
Furnishing Zone	N/A	N/A	N/A					Traditional Bike Lane	6'	7'	5'	Turn Lanes	N/A	N/A	N/A				
								Bus/Shared Transit Lane	N/A	N/A	N/A								
								Side Board Island Stop	N/A	N/A	N/A								

REQUIRED WIDTHS

SUGGESTED WIDTHS

GREEN = NACTO BLUE = OTHER COMPLETE STREET GUIDES

- (1) Cycle Track One-Way Width includes 3' min buffer
- (2) Cycle Track Two-Way Width includes 3' min. buffer
- (3) Buffered Bike Lane width includes 1.5' min. buffer



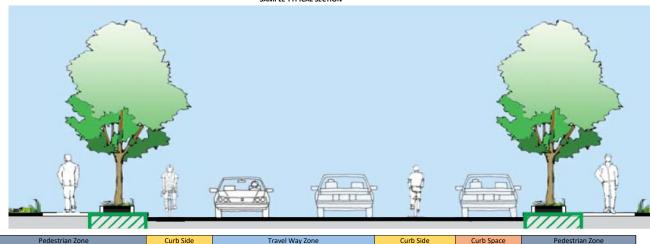


### **Neighborhood Corridor**

econd Draft: August 26, 2019

Description	Current Examples							
- Located outside of Urban Villages, downtown or non-downtown Centers - Does not serve primary transit or freight network - Primarly low to Medium intensity residential - Sporadic retall, commercial, or office activity - Streets are primarily used for local access - Low traffic and low speeds - Pedestrians and bicyclists have priority	<u>Chatham Rd</u>	E Highfield Rd	Rappolla St					

#### SAMPLE TYPICAL SECTION



Curb Space Management Travel Way Zone Median Zone Building Frontage Zone Cycle track (one-way) (1 Pedestrian refuge Curb zone Walking / Sidewalk Clear Zone Cycle track (two-way)(2) Transit Lane Continuous with landscaping Parallel Parking Shared Use Path Loading / Transit / Aligning Buffered Bike Lane(3) Truck Route Continuous without landscaping Traditional Bike Lane

> REQUIRED WIDTHS PURPLE = AASHTO

Side Board Island Stop

BLUE = OTHER COMPLETE STREET GUIDES ORGANGE = OUR RECOMMENDATION

(1) Cycle Track One-Way Width includes 3' min buffer

(2) Cycle Track Two-Way Width includes 3' min. buffer





### **Boulevard**

Second Draft: August 26, 2019

Description		Current Examples	
- Located throughout the city, particularly in downtown, non-downtown Centers and Urban Villages - Similar to Boulevards, but with a higher intensity of development and buildings or active land uses on both sides of the street - a grand scale, intended to create an iconic or memorable place - Wide sidewalks with street trees and furnishings - Wide planted medians that can serve as public open space or transitways - Prioritize walking, bicycling, and transit access - Like Parkways, they have a longer block length	President Street	<u>Broadway</u>	E 33rd Street between Charles St and Hillen Rd

#### SAMPLE TYPICAL SECTION



ge Source: D	allas Complete	Streets Manual

Pede	strian Zon	ne		Curb Sp	ace Mana	gement		Curb Side Lane		Travel Way Zone				Median Zone					
Feature	Target	Maximum	Constrained	Feature	Target	Maximum	Constrained	Feature	Target	Maximum	Constrained	Feature	Target	Maximum	Constrained	Feature	Target	Maximum	Constrained
Building Frontage Zone	2'	-	0'	Curb zone	20"	44"	8"	Cycle track (one-way) (1)	10'	-	8'	Travel Lane	10'	11'	9'	Pedestrian refuge	10'	-	7.33'
Walking / Sidewalk Clear Zone	12'	-	8'-10'	Parallel Parking	9'	9'	8'	Cycle track (two-way)(2)	15'	-	11'	Transit Lane	11'	11'	11'	Continuous with landscaping	10'	-	6'
Shared Use Path	12'	-	10'	Loading / Transit / Aligning	11'	12'	10'	Buffered Bike Lane(3)	8'	8'	6.5'	Truck Route	11'	11'	11'	Continuous without landscaping	N/A	N/A	N/A
Furnishing Zone	10'	-	5'					Traditional Bike Lane	6'	7'	5'	Turn Lanes	11'	12'	10'				
								Bus/Shared Transit Lane	12'	12'	11'								
								Side Board Island Stop	9'	-	6'								

REQUIRED WIDTHS
RED = ORDINANCE AND CITY STANDARDS
PURPLE = AASHTO

CE AND CITY STANDARDS

SUGGESTED WIDTHS
GREEN = NACTO

GREEN = NACTO

BLUE = OTHER COMPLETE STREET GUIDES

ORGANGE = OUR RECOMMENDATION

- (1) Cycle Track One-Way Width includes 3' min buffer
  - (2) Cycle Track Two-Way Width includes 3' min. buffer
  - (3) Buffered Bike Lane width includes 1.5' min. buffer





# Latest / Best Standards



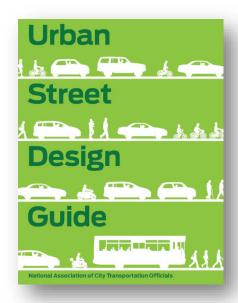




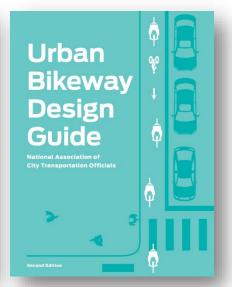


## NACTO Design Guides

Latest / Best Standards



Urban Street
Design Guide
Published Fall
2013



Urban Bikeway
Design Guide
Published 2nd
Edition Fall 2012



Transit Street
Design Guide
Published April
2016

# Trade-offs in Limited Right-of-way

ledium Priority Low Priority

### Trade-Offs in Limited Right-of-Way Priorities Chart

	Pedes	trian Z	Zone	Street	Zone	
Contextual Street Types and Functional Classifications	Frontage Zone (private)	Sidewalk Clear Zone	Buffer/Furnishing/Curb Zone	Parking Zone	Travelway Zone	Median Zone
Mixed Use Streets						
Principal Arterial						3
Minor Arterial			2 2 2 2	5 3		5
Collector						5 5
Minor/Local						5
Commercial Streets						
Principal Arterial				5		4
Minor Arterial						3
Collector						5
Minor/Local						5
Residential Streets						
Principal Arterial						4
Minor Arterial				5 2 2 2		3
Collector						5
Minor/Local						5
Industrial Streets						
Principal Arterial				4		5
Minor Arterial				4		5
Collector		2 2 2 2		4		5
Minor/Local				4		5
Parkways						
Principal Arterial		2				1
Minor Arterial		2				1
Collector						1
Minor/Local						2

### **General Notes:**

- The numbers rank various zones between 1 and 5, with one being the highest priority and 5 being the lowest. The priority level is intended to guide width choices (low priority means minimum width, high priority means desired width).
- Refer to the On-Street Bike and Transit Facility Priorities Chart later in this chapter for additional guidance on the travelway zone.
- The Parking and Median Zones are not essential on all streets. A low priority ranking for these zones implies that they may be eliminated. A high priority implies that it is desirable to include them even if minimum dimensions are used.
- 4. The Frontage Zone priorities shown in this chart reflect the importance of using the public right-of-way for this zone. A low priority implies that the Frontage Zone should be incorporated on private property. A high priority implies that allowing this zone to expand into the right-of-way is an important consideration.
- For streets within a 1/4 mile radius of train stations as shown on the Vision Maps, the Sidewalk Clear Zone and the Buffer/Furnishing Zone should be given a High Priority.
- This chart is intended to be used as a starting point for engaging the community in setting design priorities during the corridor planning stage of the Complete Streets process.





# Design Guidance: Elements for Future Discussion





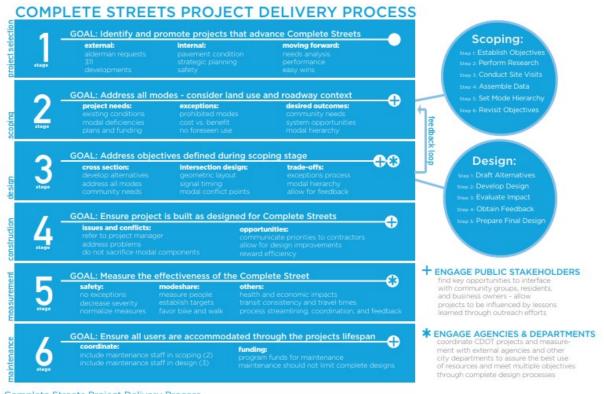
- Intersections
- Sidewalks
- Bicycle Facilities
- Transit Streets
- Sustainable Stormwater Management / Green Infrastructure
- Roadway Crossings and Intersections
- Curbspace Management
- Corner Radii
- Multimodal Signal Operations
- Interim / Quick-build Strategies

## Other Important Sections





- Project Prioritization Process
- Project Delivery Process
- Equity in Community Engagement
- Measuring Success: Annual Report and Performance Measures



Complete Streets Project Delivery Process

## Backup slides





# Summary of Progress Part V. Complete Streets Manual





# Project Prioritization Process Status:

- 1. Held three subcommittee meetings to discuss the details of developing an equitable project prioritization process
- 2. Recommendation 1: expand the existing equity factors in the ordinance to be more inclusive:
  - Factors cited in the Ordinance: Race, gender, sexual orientation, age, disability, ethnicity, national origin, income, geographic subunit, vehicle access.
  - Proposed additional factors: Job access, crime, access to technology, commute times, public health, population density, pedestrian and cyclist crashes, housing, educational attainment, generational factors, environmental factors (air quality, climate change i.e. flooding, heat stress, vulnerability, etc.)
- 3. Recommendation 2: engage the public for input on equity factors

# Summary of Progress Part V. Complete Streets Manual





# Project Prioritization Process Status:

Transportation decision making factors for potential inclusion in project prioritization process:

- Infrastructure condition
- ADA accessibility
- Traffic safety
- Mobility / level of service
- Transit corridors
- Economic development initiatives
- Commuter traffic

## Example Complete Streets Manuals Design Guidance







## Design Guidelines Format

### Section 1 - Definitions

- Pedestrian Zone
  - Definitions will reference City Standards, NACTO and PROWAG
  - Building Frontage Zone
  - Walking / Sidewalk Clear Zone
  - Shared Use Path
  - Buffer / Landscape / Transit Stop / Furnishing Zone
- Curb Space Management
  - Definitions will reference City Code and NACTO
  - Curb Zone
  - On-Street Parallel Parking
  - Commercial Loading / High Transit Boarding / Aligning





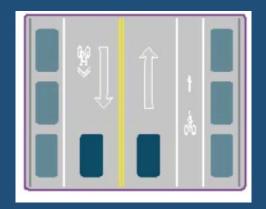


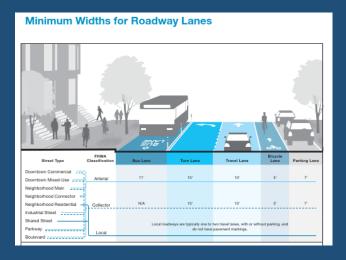




### Section 1 – Definitions Continued

- Curbside Lane
  - Definitions will reference NACTO, ITE & MUTCD
  - Bicycle Infrastructure
  - Transit Infrastructure
- Travel Way Zone
  - Definitions will reference City Ordinance, FHWA, & MUTCD
  - Travel Lane
  - Transit Lane
  - Truck Route
- Median Zone
  - Definitions will reference NACTO & FHWA/PROWAG
  - Pedestrian Refuge
  - Continuous Median









## Example Street Cross Sections for Various Street Types





