



# COMPLETE GREEN STREETS GUIDE PROCESS OVERVIEW



# COMPLETE GREEN STREETS GUIDE

- Guide for streets that reflects community values & priorities
- Reflects City need to increase overall safety, equity and resiliency
- Develops a process for trade offs in constrained ROW
- Framework for implementing the current Complete Streets resolution (approved in 2009)
- Living document that will be added to & updated

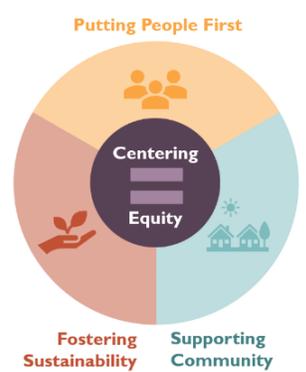
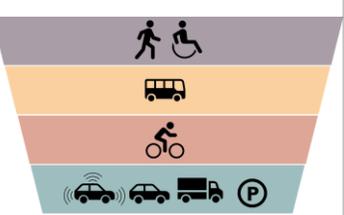
*When we use the word “street,” we are referring to the sidewalks, terraces, roadway, and everything in between. As a more holistic approach to design, the Complete Green Streets Guide provides:*

	<b>A process centered in community values</b>
	<b>Clear direction on priorities</b>
	<b>Defined street types to use as starting point for design</b>
	<b>Explicit equity framework and associated process</b>
	<b>Flexible tool that will evolve over time as Madison evolves</b>

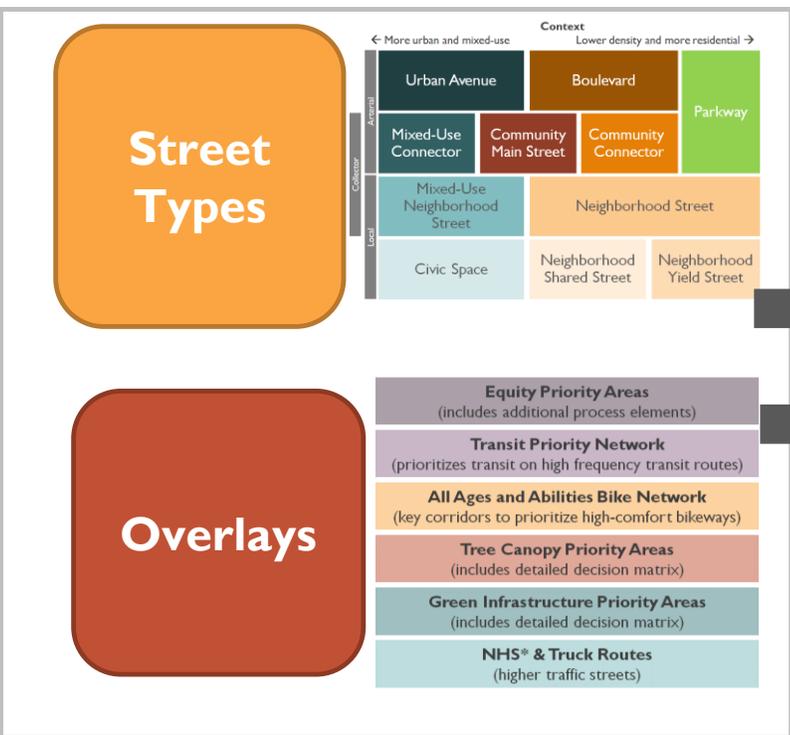
# KEY ELEMENTS

- Street Values
- Modal Hierarchy
- Overlays
  - Equity Process
  - Complete Networks
  - Green Infrastructure/Trees
- Street Types
- Design Parameters

# PROCESS AND ELEMENTS



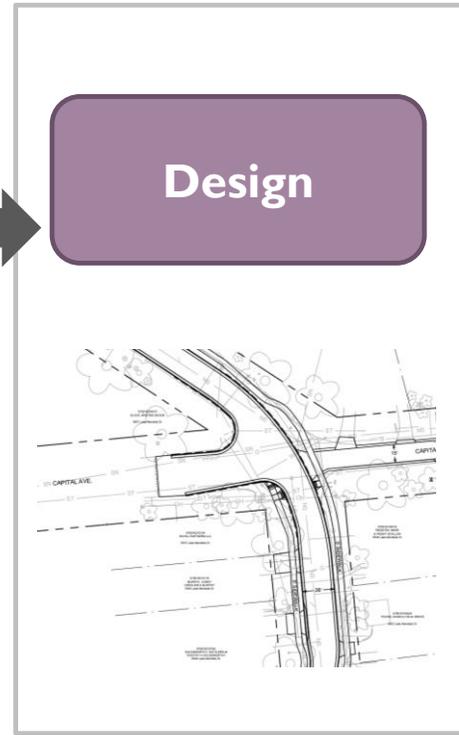
**Values**



**Identify Street Design Priorities**

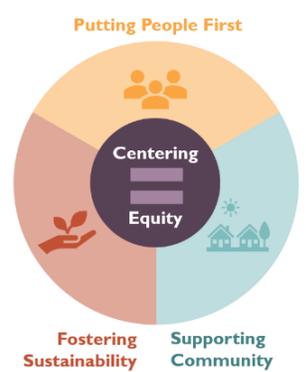
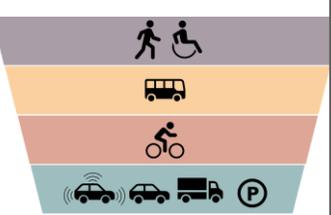
**Allocate Street Zone Space**

Street Type	Typical # of Travel Lanes (not including any bike facility)	Target Speed (miles per hour)	Typical ADT (motor vehicles)	Total Pavement Width (includes travel lanes, bike facility and any parking (curb to curb))		
				Max.	Typ.	Min.
Urban Avenue	4-6	25	>20,000	102'	96'	74'
Boulevard	4-6	25-30	>14,000	102'	80'	74'
Parkway	2 or 4-6	25-35	>10,000	86'	66'	26'
Mixed-Use Connector	2	25	2,000 to 15,000	56'	40'	38'
Community Main Street	2-3	25	10,000 to 20,000	56'	56'	38'
Community Connector	2-3	25	3,000 to 14,000	66'	54'	24'
Mixed-Use Neighborhood Street	2 lanes, often no centerline	20	<3,000	38'	36'	30'
Neighborhood Street	2 lanes, often no centerline	20	<3,000	38'	36'	22'
Neighborhood Yield Street	2 lanes, often no centerline	15-20	<1,000	30'	24'	22'
Civic Space	2 lanes, often no centerline	15	<2,000	52'	Varies	20'
Neighborhood Shared Street	No centerline	10-15	<500	20'	20'	19'

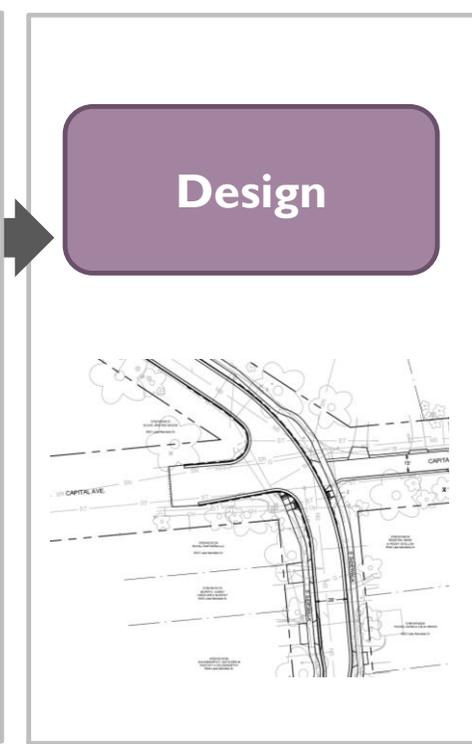
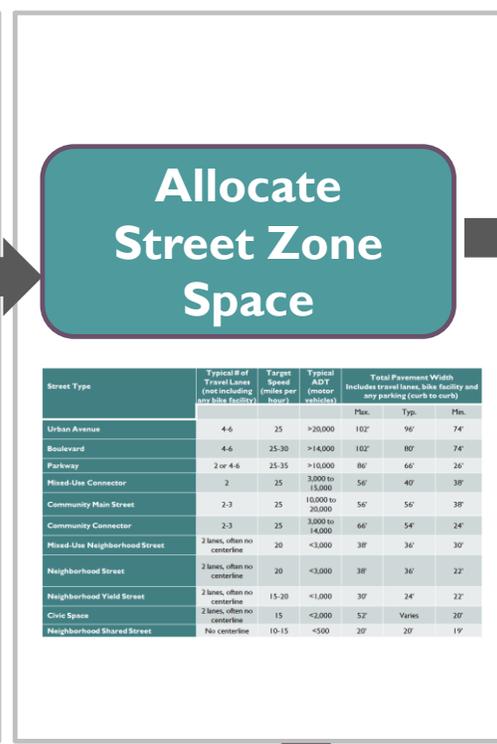
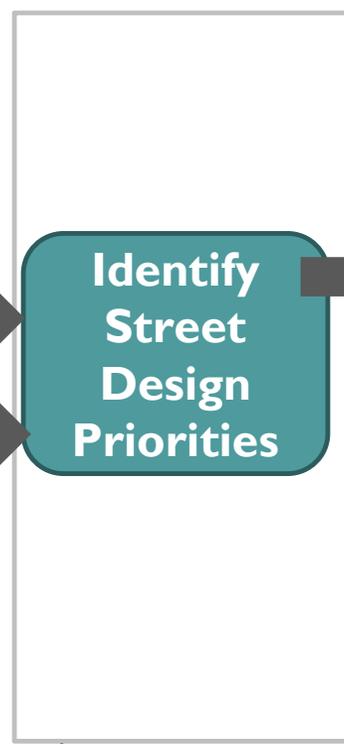
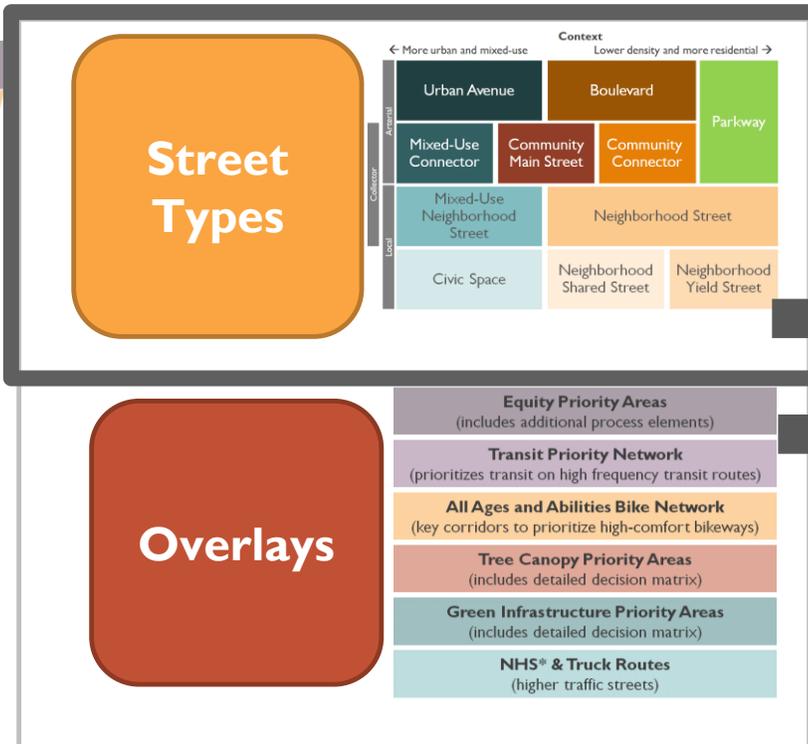


**If constrained space, determine tradeoffs**

# PROCESS AND ELEMENTS



**Values**



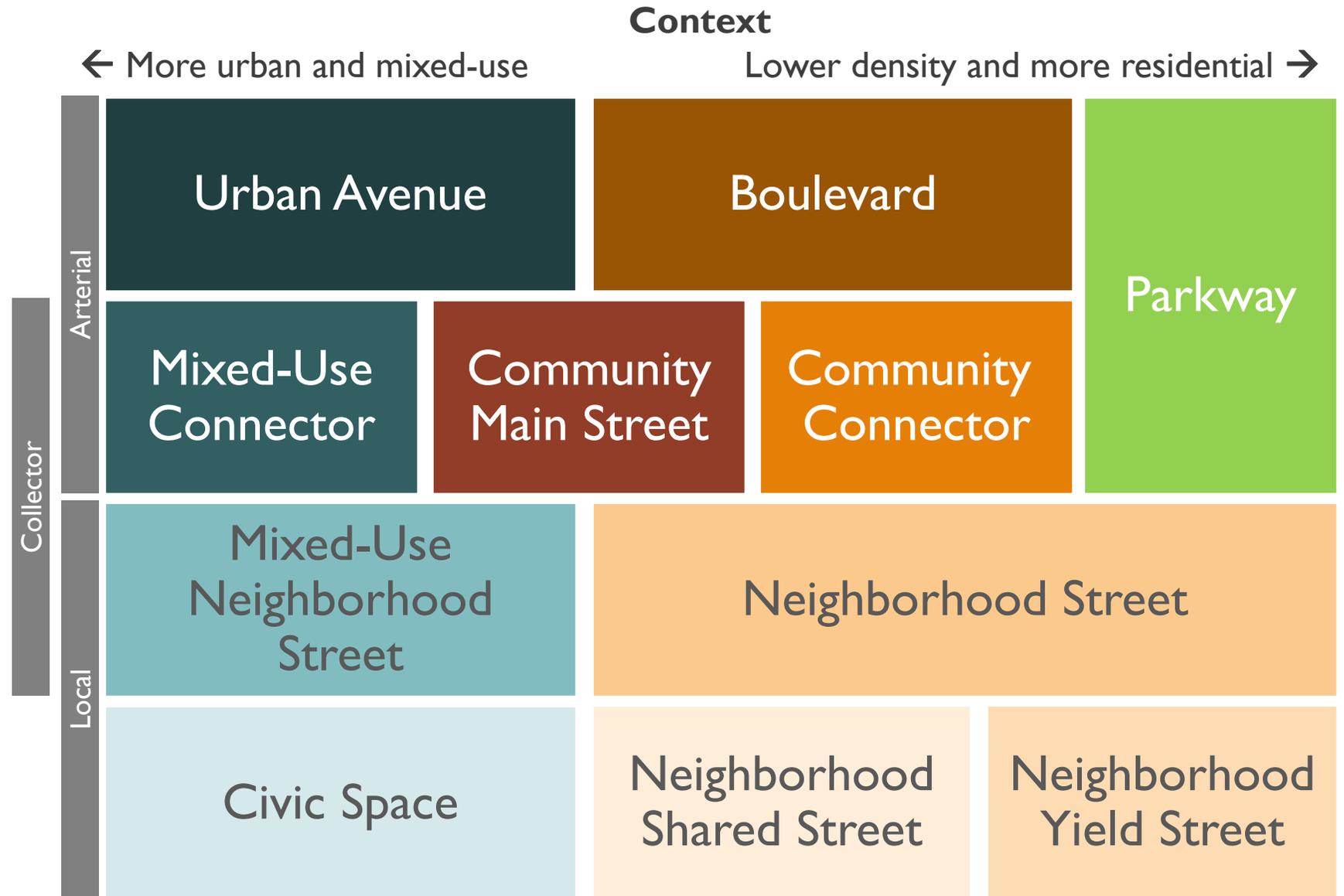
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# STREET TYPES

CGS is built around a collection of **11 street types** (the typology) that describe the spectrum of current and future streets in Madison. They serve as **starting points for street design**.

The types are based on **context** and the amount of varied activity occurring.

**They are intended to be aspirational.**



# STREET ZONES

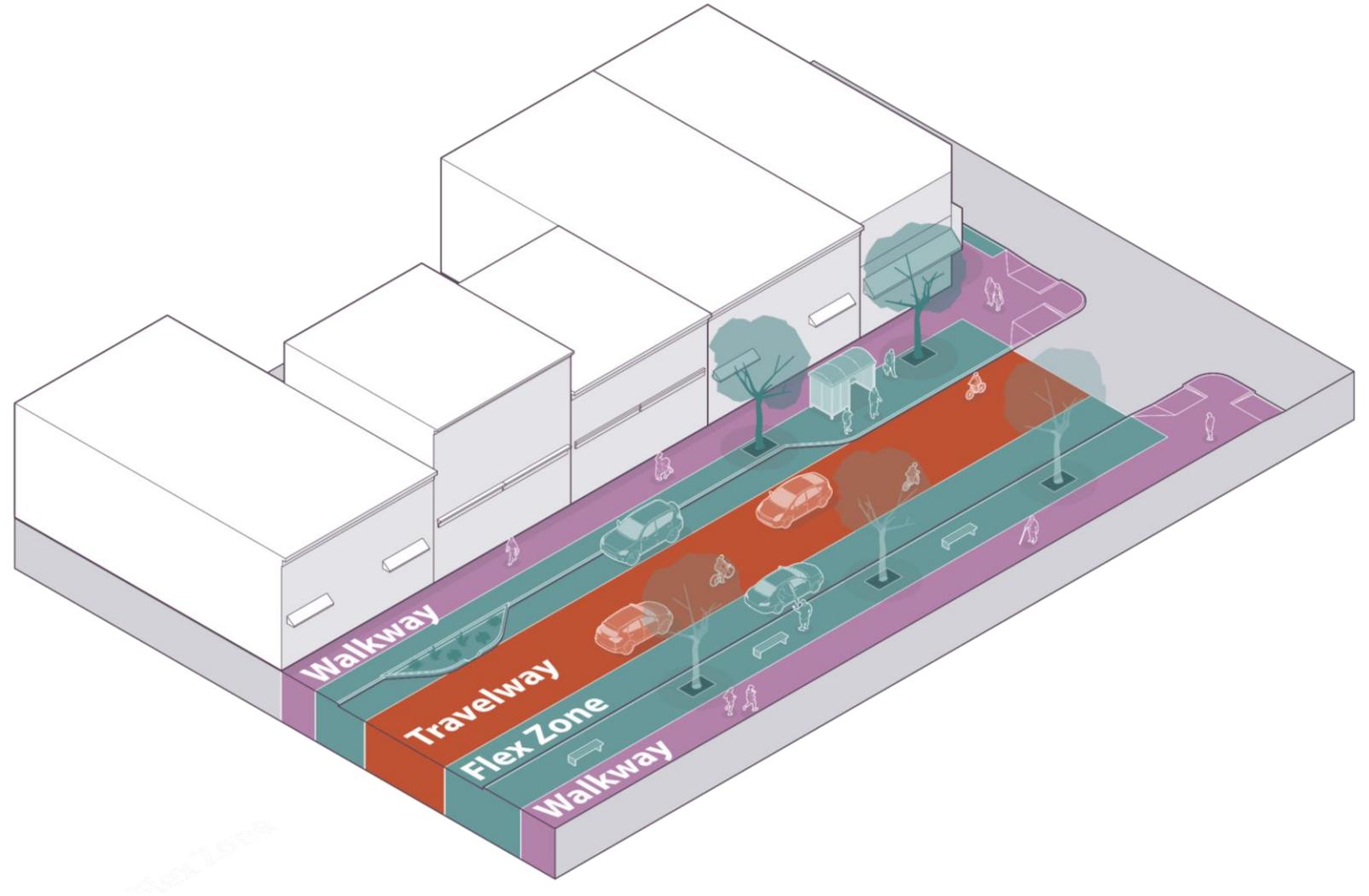
Each street type is divided into zones.

**Movement** (walking, biking, driving) happens in the walkway and travelway.

Bike facilities might be part of the travelway (lanes or cycletrack) or part of the walkway (a path).

**Stationary uses** (parking, cafes, trees) occur in the flex zone.

The flex zone can be terrace or part of the roadway.



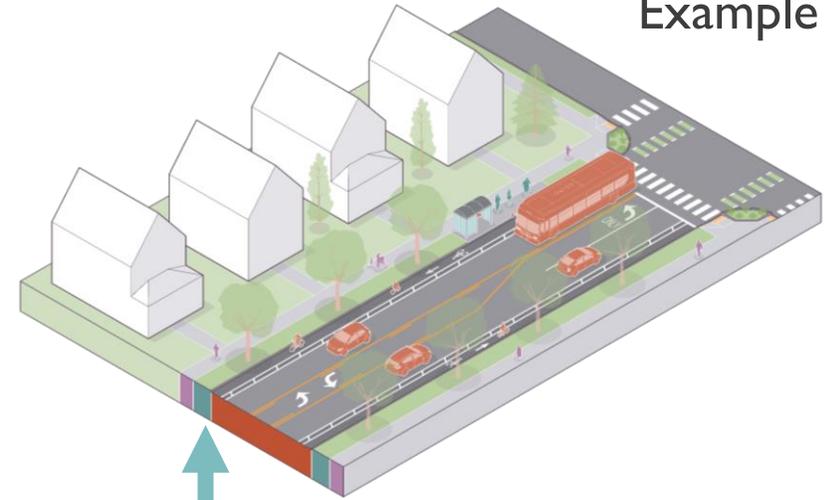
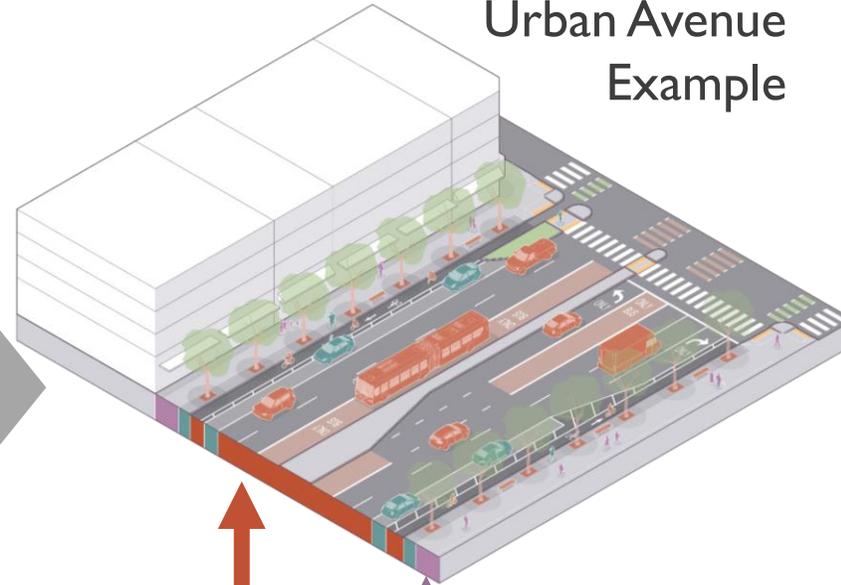
# STREET ZONES

Urban Avenue Example

Community Connector Example

Each street type graphic identifies the **location** and **relative size** of each street zone, with color-coding.

Each street type describes the relative **priority** of each zone, as well as what is **typically provided** in each zone, specific to that street type.



<b>Walkway</b> High Priority
Wider sidewalks with buildings close to or touching the sidewalk.
<b>Flex Zone</b> Medium Priority
Street trees, bike racks, and enhanced transit stops. Parallel on-street parking. Loading zones, if needed, should be provided around the corner on intersecting minor streets.
<b>Travelway</b> High Priority
Dedicated transit lanes, separated bike lanes, often 2 travel lanes per direction, and medians.

<b>Walkway</b> High Priority
Standard sidewalks, with buildings offset from the sidewalk by landscaping.
<b>Flex Zone</b> Low Priority
Landscaped terrace with street trees. On-street parking may be provided in some locations.
<b>Travelway</b> Medium Priority
1 travel lane per direction with bike facilities, often with medians or center turn lane. Appropriate transit accommodations.

# Example: Urban Avenue

Major streets that serve as backbones of the street network and convey large numbers of people via multiple modes. High number of transit boardings and amount of cross traffic. May be part of the National Highway System and/or serve as a Truck Route.

## Walkway

High Priority

Wider sidewalks with buildings close to or even at the edge of the right of way.

## Flex Zone

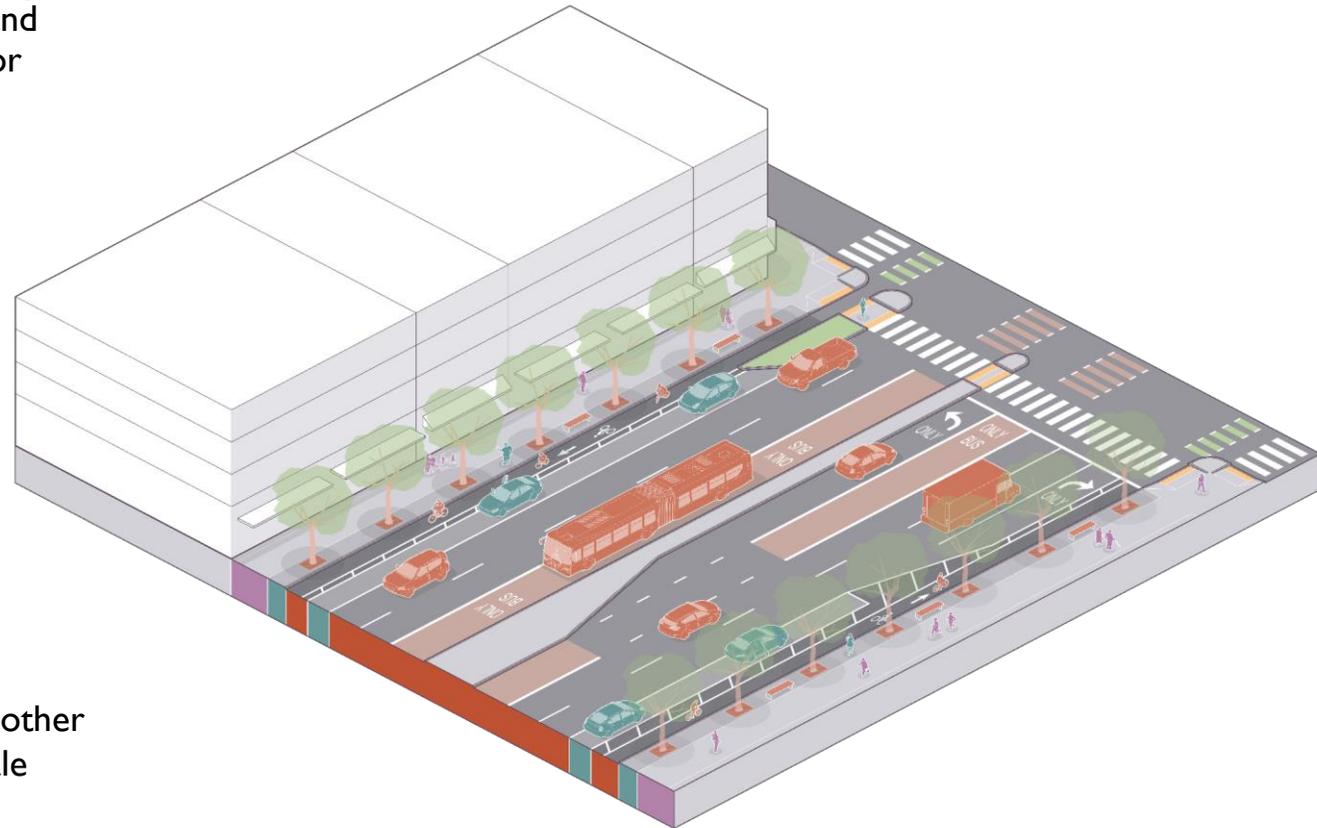
Medium Priority

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## Travelway

High Priority

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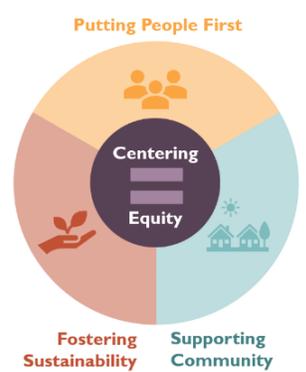
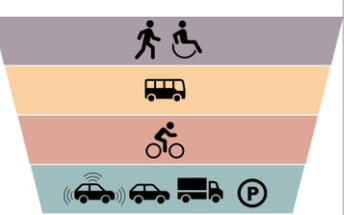


**Context:** Downtown and other corridor-oriented large scale mixed use. High density, consolidated parcels.

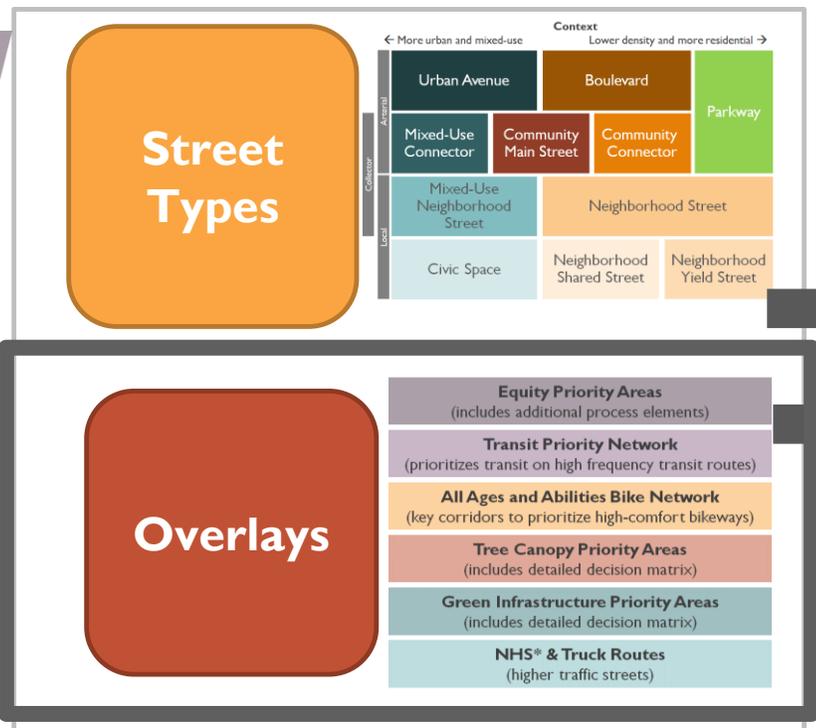
**Functional Classifications:**  
Arterials

**Target Speed:** 25 mph

# PROCESS AND ELEMENTS



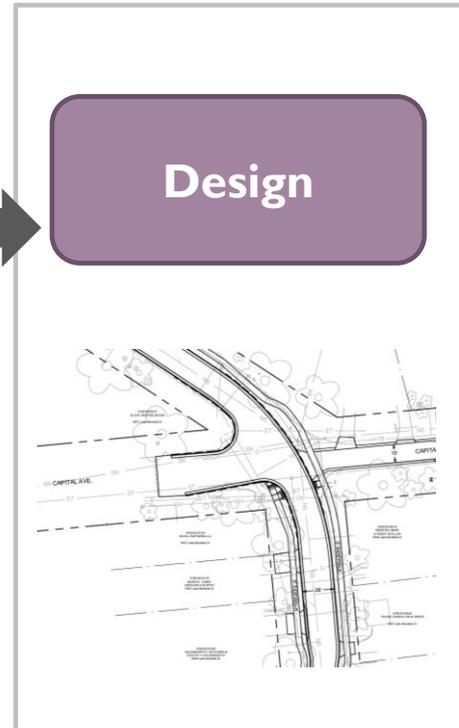
**Values**



Identify Street Design Priorities

Allocate Street Zone Space

Street Type	Typical # of Travel Lanes (not including any bike facility)	Target Speed (miles per hour)	Typical ADT (motor vehicles)	Total Pavement Width (includes travel lanes, bike facility and any parking (curb to curb))		
				Max.	Typ.	Min.
Urban Avenue	4-6	25	>20,000	102'	96'	74'
Boulevard	4-6	25-35	>10,000	102'	80'	74'
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Mixed-Use Connector	2	25	2,000 to 15,000	56'	40'	38'
Community Main Street	2-3	25	10,000 to 20,000	56'	56'	38'
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Civic Space	2 lanes, often no centerline	15	<2,000	52'	Varies	20'
Neighborhood Shared Street	No centerline	10-15	<500	20'	20'	19'



If constrained space, determine tradeoffs

# OVERLAYS

- Overlays influence design decisions and the priority of various elements.
- Each street type describes the influence of each overlay.

**Equity Priority Areas**  
(includes additional process elements)

**Transit Priority Network**  
(prioritizes transit on high frequency transit routes)

**All Ages and Abilities Bike Network**  
(key corridors to prioritize high-comfort bikeways)

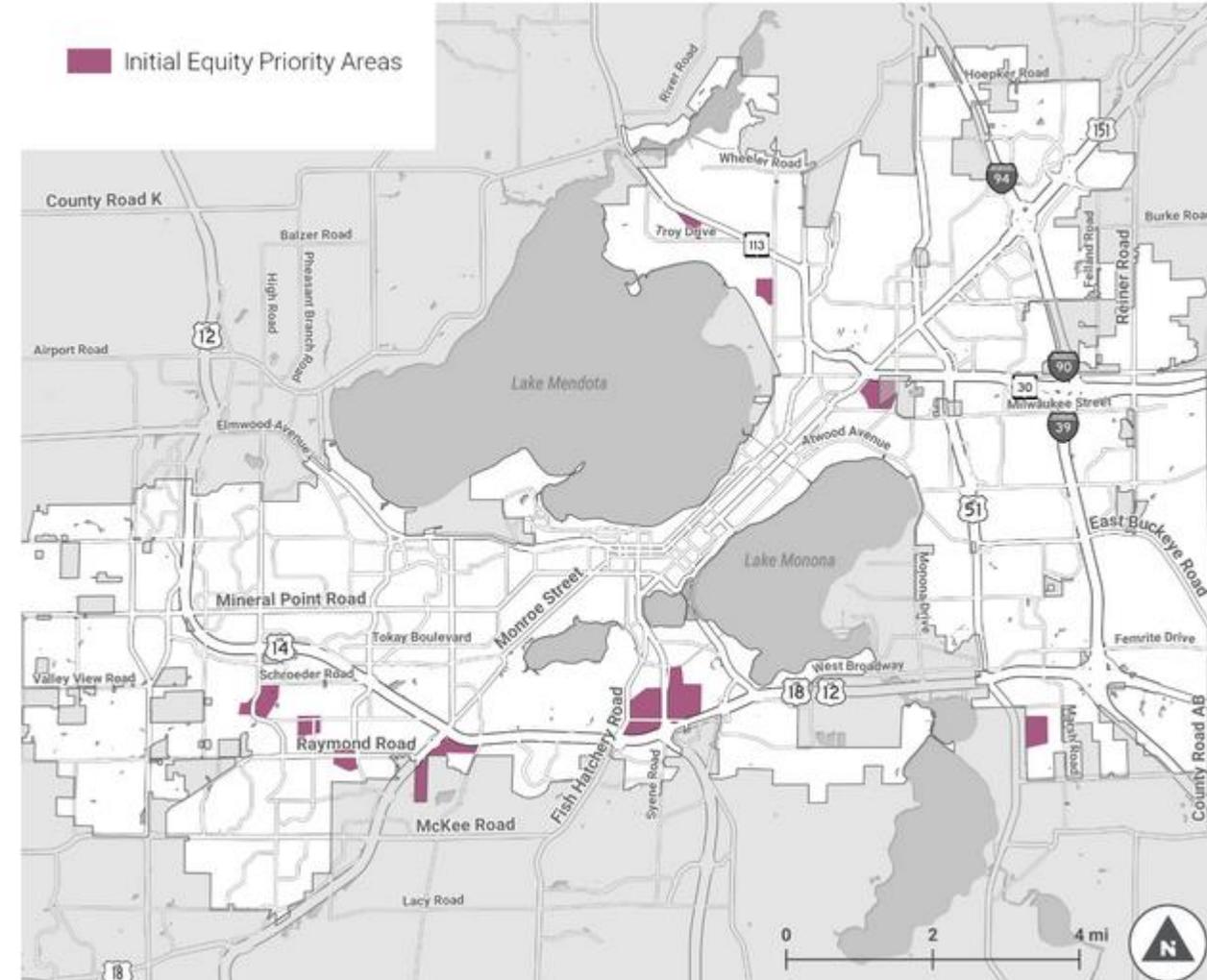
**Tree Canopy Priority Areas**  
(includes detailed decision matrix)

**Green Infrastructure Priority Areas**  
(includes detailed decision matrix)

**National Highway System & Truck Routes**  
(higher traffic streets)

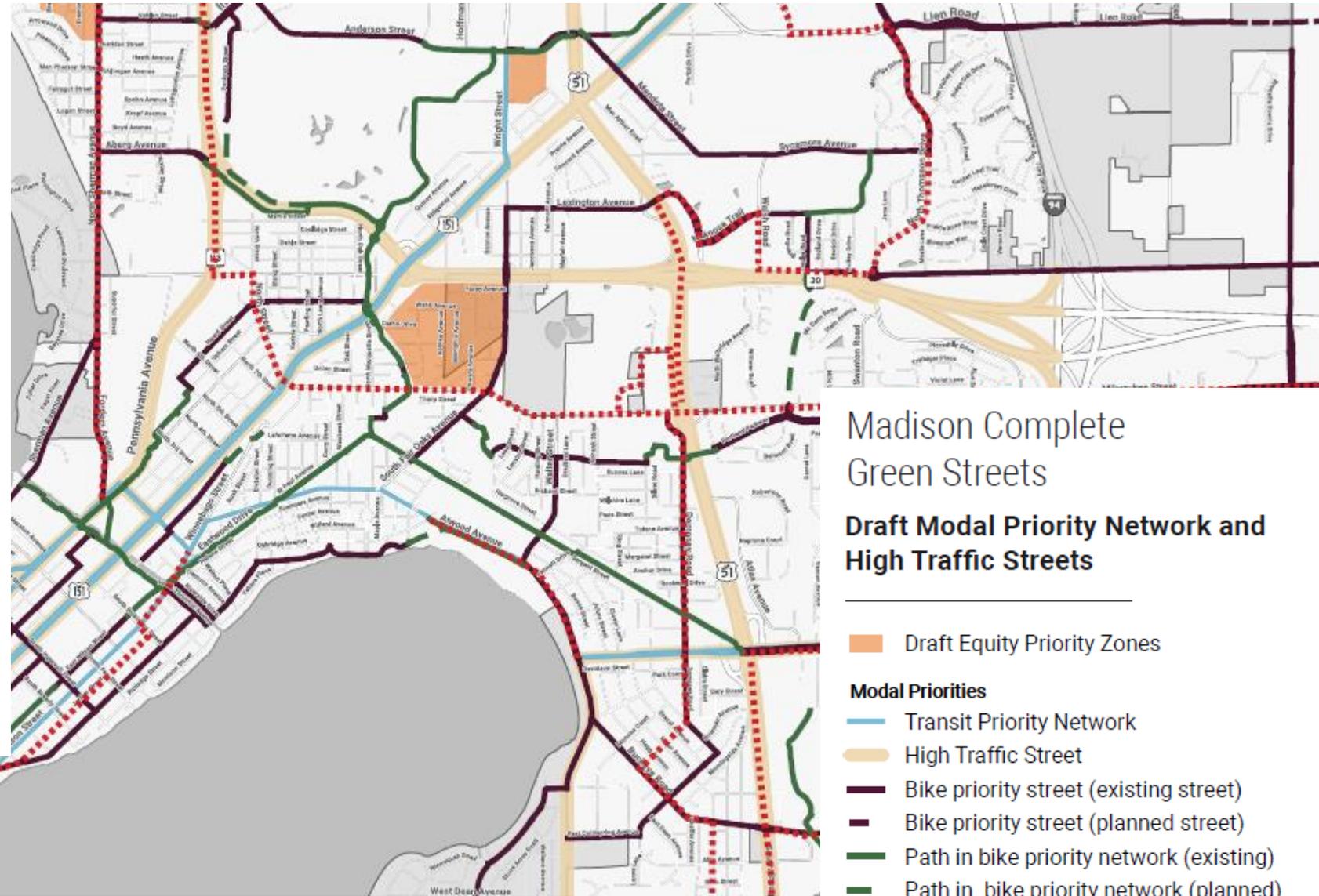
# EQUITY PRIORITY AREAS

- Projects located in Equity Priority Areas will include additional engagement & coordination
- Additional documentation will be included in Complete Green Streets checklist to allow for review of outcomes



# TRANSIT PRIORITY & ALL AGES ABILITY BIKE NETWORK

- Transit Priority based on approved routes
  - Priority streets would have 15 minute service on weekdays, midday
- All Ages Ability Bike Network
  - Considered most critical for creating a complete network.
  - Designed for all ages and abilities.
  - Start with interim map & finalize in 2023



# TREE CANOPY PRIORITY

## Purpose & Goals

- Reach citywide goal of 40% tree canopy coverage.
- Identify areas with low amounts of existing tree canopy coverage to prioritize space in Flex Zone for trees
- Identify appropriate solutions for planting trees while reducing conflicts with other right-of-way priorities.
- Support for Urban Forestry Task Force Report

<b>Tree Canopy Priority</b>	<b>Existing Percent Tree Canopy in ROW</b>	<b>Tree Equity Score<sup>1</sup></b>
High	<15%	40 to 75
Moderate	15% to 35%	75 to 90
Low	>35%	90 to 100

<sup>1</sup>Madison Score: <https://www.treeequityscore.org/map/#11/43.0699/-89.4111>)

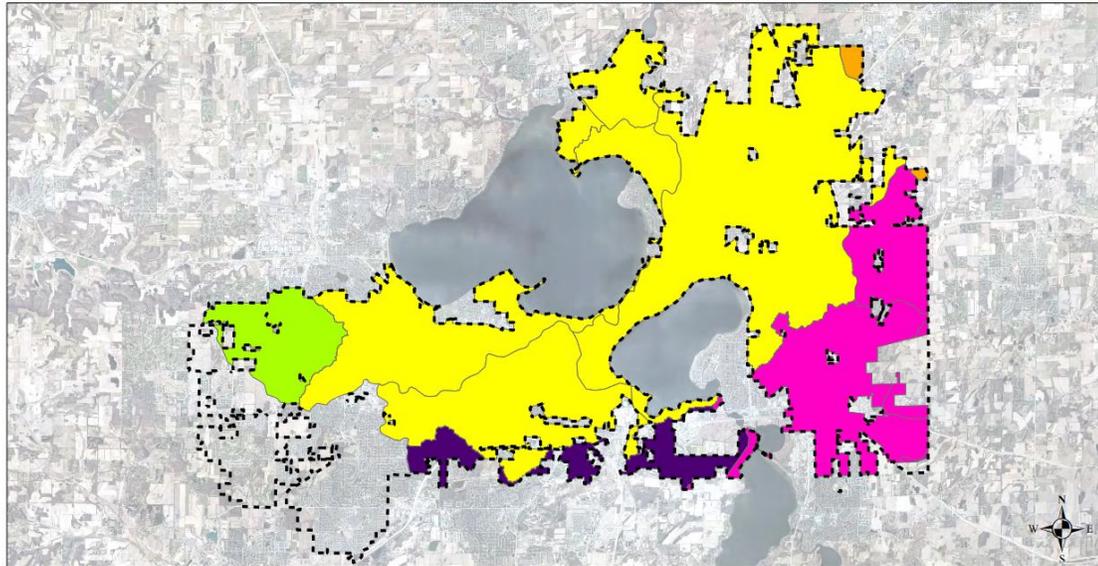
<sup>2</sup>Methodology: <https://www.treeequityscore.org/methodology/>

**Table 1 Tree Canopy Priority**

# GREEN INFRASTRUCTURE PRIORITY

## Purpose & Goals

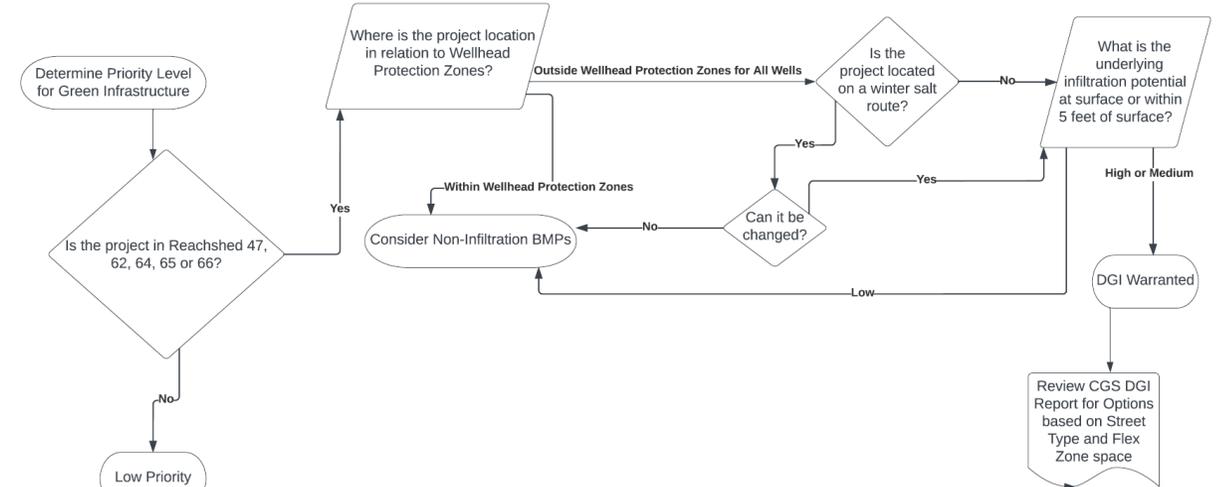
- Identify appropriate and viable locations for distributed green infrastructure (DGI) for stormwater management and water quality improvement and appropriate engineering solutions.



City of Madison Boundary

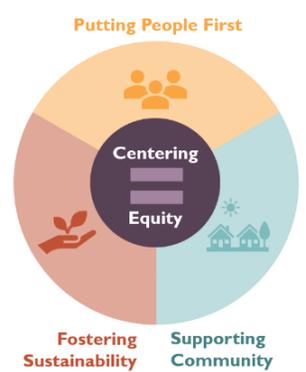
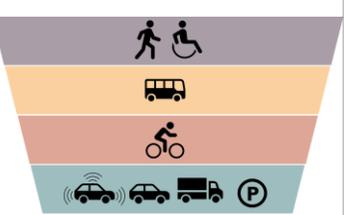
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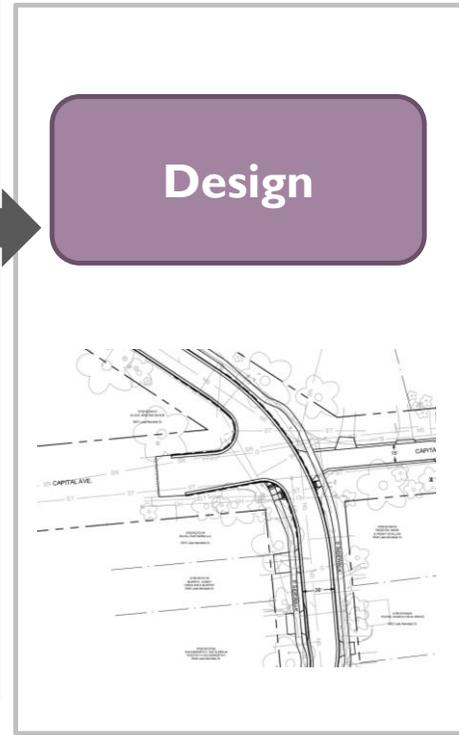
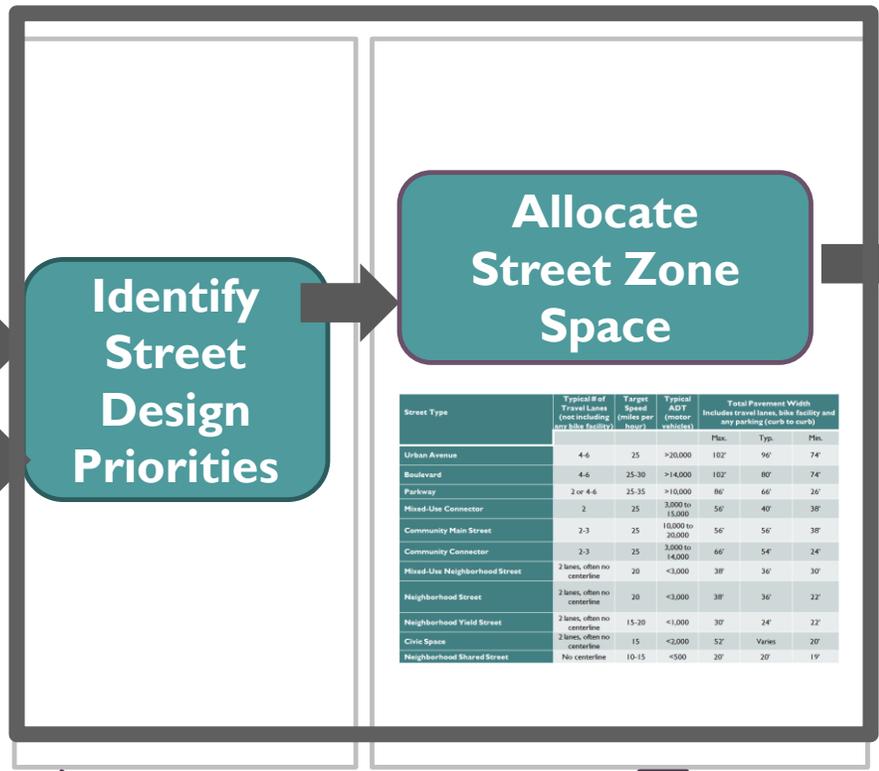
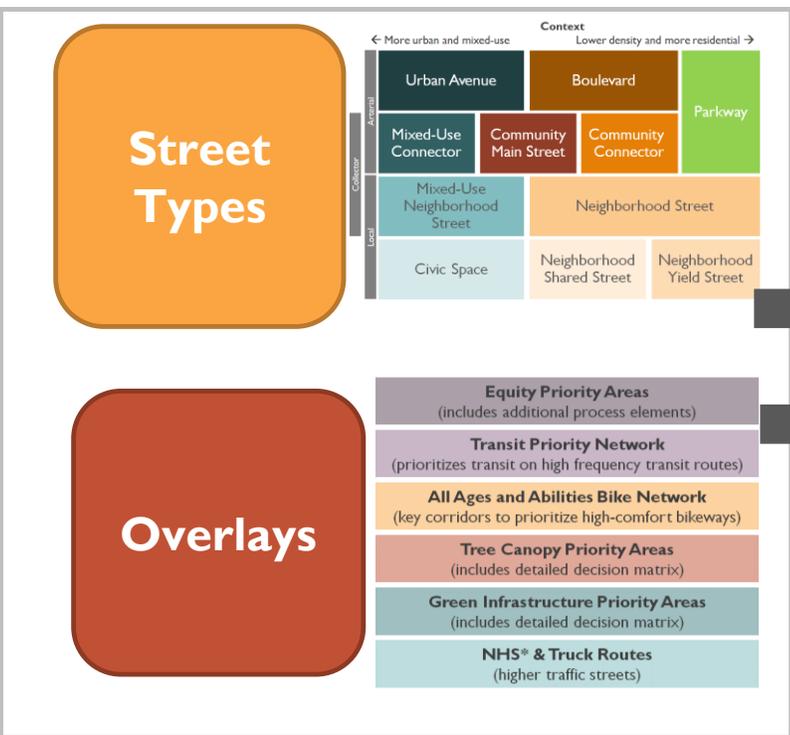


## Decision Matrix

# PROCESS AND ELEMENTS



**Values**



If constrained space, determine tradeoffs

# STREET ZONE ALLOCATION CHARTS

- Chart for each street zone with
- May be typical widths or minimum/maximums
- ROW based on preferred widths for each zone
- Details to help with design

Street Type	Travelway						
	Typical # of Travel Lanes	Lane Width			Center Turn Lane / Median	Target Design Speed (mph)	Typical ADT (motor vehicles)
		Max.	Pref.	Min.			
Urban Avenue	4	11'	10'	10'	Median Standard	25	>20,000
Boulevard	4	11'	10'	10'	Median Standard	25-30	>20,000
Parkway	2-4	11'	10'	10'	Median Standard	25-30	>10,000
Mixed-Use Connector	2	10.5'	10'	10'	Center Turn Lane Optional	25	3,000 to 20,000
Community Main Street	2-4	10'	10'	10'	Center Turn Lane Optional (not common)	25	10,000 to 25,000
Community Connector	2-3	10'	10'	10'	Center Turn Lane Optional	25	3,000 to 20,000
Mixed-Use Neighborhood Street	2 lanes often no centerline		If centerline, typical 10'		Not preferred	20	<3,000
Neighborhood Street	2 lanes often no centerline		If centerline, typical 10'		Not preferred	20	<3,000
Neighborhood Yield Street	No centerline		N/A		Not compatible	15-20	<1,000
Civic Space	2 lanes often no centerline		If centerline, typical 10'		Not compatible	15	<2,000
Neighborhood Shared Street	N/A		N/A		Not compatible	10	<500

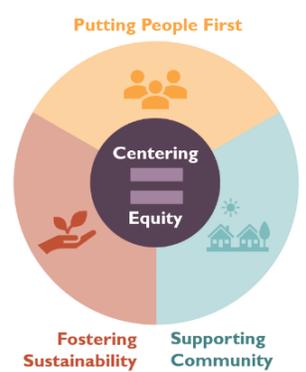
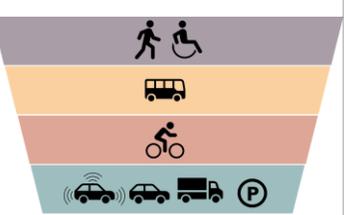
Street Type	Total Flex Zone Width (per side)		Motor Vehicle Parking
	Typical	Typical Minimum	
	Urban Avenue	12'	
Boulevard	12'	8'	Add 8' (6"x2' gutter) for each side for streets that will include parking
Parkway	12'	8'	Parking not typical on Parkway
Mixed-Use Connector	18'	5'	18' includes parking but may be only on one-side of street, inset into terrace or not needed based on development; if parking included, review if space needed for parking meters
Community Main Street	10'	5'	Parking would be provided as part of travelway if street has a peak hour only travel lane; Add 8' (6"x2' gutter) for each side of street meeting parking if no peak hour lane. Consider if only on one side of street, inset into terrace or not needed; if parking included, review if space needed for parking meters
Community Connector	12'	6'	Add 7' (5.6"x2' gutter) for each side for streets that will include parking
Mixed-Use Neighborhood Street	18'	6'	18' includes parking & gutter but may be only on one-side of street, inset into terrace or not needed based on development; review if space is needed for parking meters
Neighborhood Street	17'	6'	17' includes parking & gutter but may be only on one-side of street, inset into terrace or not needed based on development
Neighborhood Yield Street	17'	6'	17' includes parking & gutter but may be only on one-side of street, inset into terrace or not needed based on development
Civic Space	18'	10'	18' includes parking & gutter but may be only on one-side of street, inset into terrace or not needed based on development; review if space is needed for parking meters.
Neighborhood Shared Street (Woonerf)	Varies based on features	Varies based on features	Parking would occur in defined areas only and serve as a traffic calming feature. Any parking will be considered along with other included features such as trees, green infrastructure, placemaking, etc. Travel happens in the Flex Zone as this is shared space.

Street Type	Total Walkway Width (per side including buffer to ROW edge)		Typical sidewalk or path width
	Preferred	Typical Minimum	
	Urban Avenue	9'	
Boulevard	7'	6'	Sidewalk: 6' preferred, 5' minimum
Parkway	14'	6'	Shared-Use Path: 12' preferred, 17' where provide separate walk/bike space, 8' minimum. Clear zone of 2-feet on each side of path. Sidewalk: If have shared use path only on one side and sidewalk on opposite side, 5' minimum
Mixed-Use Connector	9'	6'	Sidewalk: 8' preferred, 5' minimum
Community Main Street	9'	6'	Sidewalk: 6' preferred, 5' minimum
Community Connector	7'	6'	Sidewalk: 6' preferred, 5' minimum
Mixed-Use Neighborhood Street	9'	6'	Sidewalk: 8' preferred, 5' minimum
Neighborhood Street	6'	6'	Sidewalk: 5' typical
Neighborhood Yield Street	6'	6'	Sidewalk: 5' typical
Civic Space	13'	10'	Sidewalk: 12' preferred, 9' minimum
Neighborhood Shared Street	6'	6'	Pedestrian Zone: Accessible pedestrian area without obstacles or mode conflicts. Typical 5' depending on context with appropriate tactile indicators if not a traditional sidewalk.

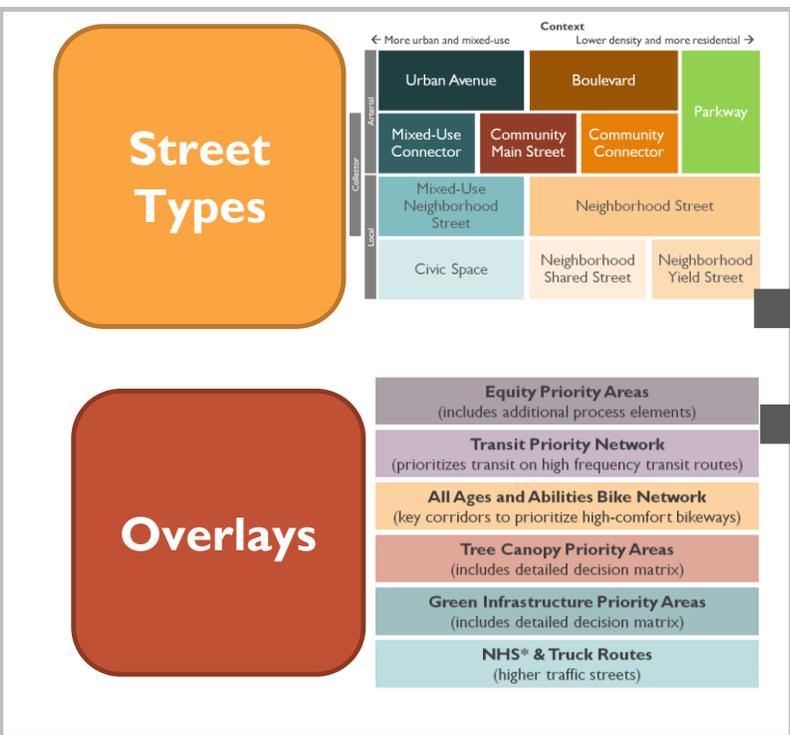
Street Type	Total Pavement Width (Curb to Curb midblock)		Typical # of Travel Lanes & other considerations
	Max	Typical Min	
	Urban Avenue	102'	
Boulevard	102'	72'	74' with 4 motor vehicle lanes and protected bike lanes and 12' median
Parkway	86'	26'	46' with 4 motor vehicle lanes with no median 66' with four motor vehicle lanes and median with trees (bicycle facility typically a shared-use path)
Mixed-Use Connector	56'	38'	38' with one-way street, motor vehicle lanes and parking protected bike lane; 54' with protected bike lanes and parking both sides
Community Main Street	60'	38'	54' with protected bike lanes and parking both sides (no peak hour lane); 60' with peak hour lane 50' with center turn lane, protected bike lane and no parking
Community Connector	66'	24'	66' with 2 motor vehicle lanes, center turn lane, buffered/protected bike lane and parking 54' with 2 motor vehicle lanes, buffered/protected bike lanes and parking both sides 24' with 2 travel lanes and no parking (bicycle facility a shared-use path)
Mixed-Use Neighborhood Street	38'	30'	38' with 2-way travel, bus route and parking both sides 38' with 2-way travel, not a bus route, parking both sides 30' with 2-way travel and parking on one side
Neighborhood Street	38'	30'	38' with 2-way travel, bus route and parking both sides; 38' with 2-way travel, not a bus route, parking both sides 30' with 2-way travel and parking on one side (low frequency transit only)
Neighborhood Yield Street	30'	18'	30' with 2-way travel and parking both sides; 24' with 2-way travel and parking on one side (22' if houses only on 1 side) 18' with 2-way travel and no parking (lemit distance at 18')
Civic Space	52'	18'	Project Specific: Base width on travel, parking and event needs of street. May include contraflow lanes for bikes if one-way street.
Neighborhood Shared Street (Woonerf)	N/A	N/A	No travel lanes designated; shared space which is all considered part of Flex Zone

Street Type	Total Right of Way	
	Max	Min
Urban Avenue	144'	116'
Boulevard	114'	90'
Parkway	114'	74'
Mixed-Use Connector	94'	66'
Community Main Street	84'	68'
Community Connector	86'	80'
Mixed-Use Neighborhood Street	74'	68'
Neighborhood Street	70'	61'
Neighborhood Yield Street	62'	52'
Civic Space	132'	66'
Neighborhood Shared Street	Varies	Varies

# PROCESS AND ELEMENTS



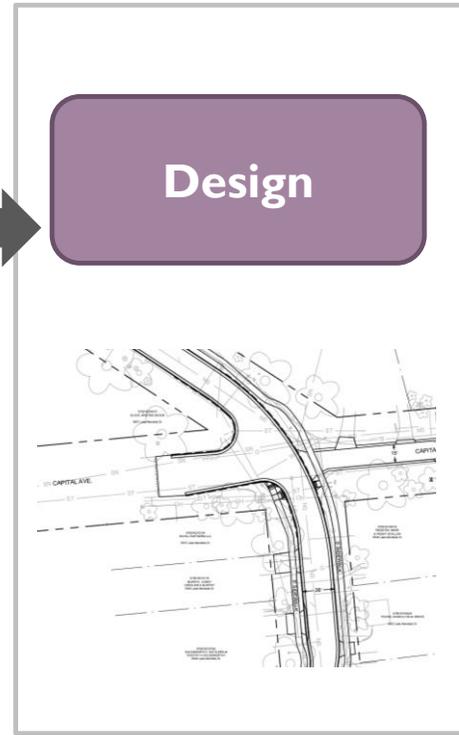
**Values**



**Identify Street Design Priorities**

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# DESIGN SUPPORT

- Complete Green Streets Guide will include reference to design guides that will be used to assist with projects.
- Including:
  - NACTO
    - Urban Street Design Guide
    - Urban Bikeway Design Guide, Designing for All Ages & Abilities
    - Don't Give Up at the Intersection
    - Transit Street Design Guide
    - Designing Streets for Kids
  - FHWA Separated Bike Lane Planning and Design Guide
  - AASHTO
    - Green Book
    - Guide for the Development of Bike Facilities (updated version to be final soon)

# SUPPORTING DGI DECISION-MAKING

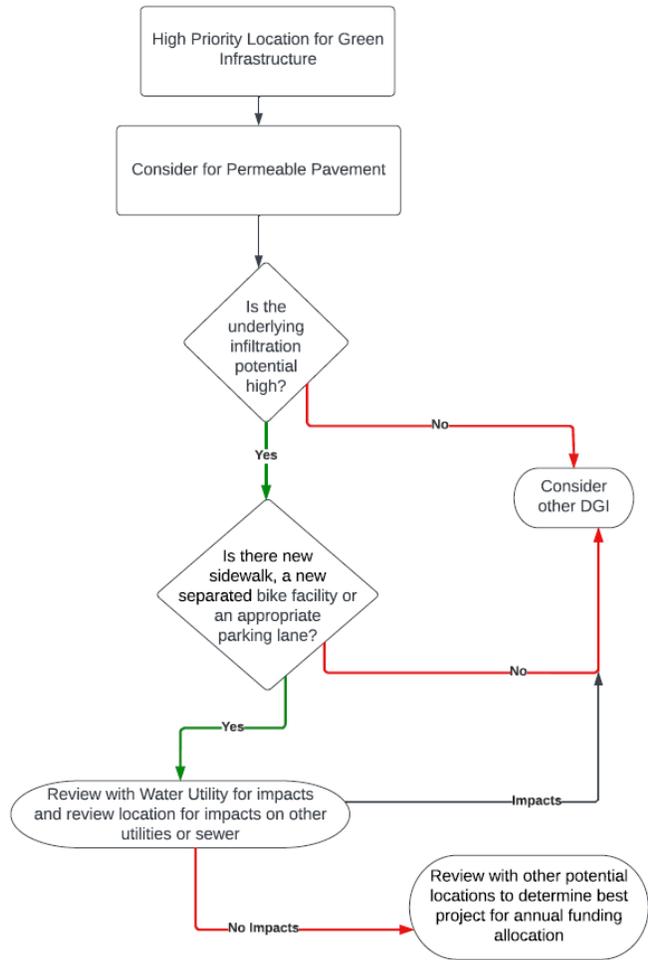
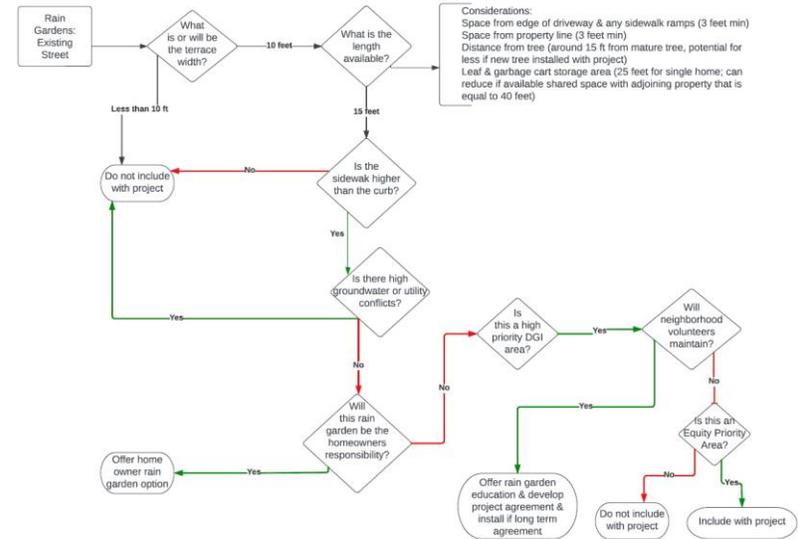


Table 14 Nonpermeable Pavement Green Infrastructure Use Per Street Type

	Street Type <sup>1</sup> ○ Yes ● Maybe ■ No	Bioretention Basin	Bioswale	Terrace Rain Garden	Traffic-Calming Rain Garden Bump Out	Rock Vault	Filter Strip	Stormwater Planter	Catch Basin	Coanda Screen	Stormwater Terrace
Collector	Arterial	Urban Avenue	●	■	■	■	■	●	○	○	■
		Boulevard	○	■	■	■	■	○	○	○	○
		Parkway	○	■	●	■	■	○	●	○	○
		Mixed-Use Connector	●	■	■	●	■	■	○	○	○
		Community Main Street	●	■	■	●	■	■	○	○	○
		Community Connector	●	●	■	●	■	●	●	○	○
Local	Neighborhood Street	Mixed-Use Neighborhood Street	●	●	○	○	●	●	○	○	○
		Neighborhood Street	○	●	○	○	○	●	●	○	○
		Neighborhood Yield Street	●	●	○	○	○	●	●	○	○
		Civic Space	○	●	○	○	●	●	○	○	○
		Neighborhood Shared Street	●	●	●	●	●	●	●	○	○

<sup>1</sup>Consult Table 13 and narrative in Section D. Nonpermeable Pavement Green Infrastructure for additional decision-making criteria for a specific site.



# DESIGN DECISION-MAKING

Street Type	Compatibility of Treatments with Street Types (Y=yes; M=maybe; N=no)										
	Signal Timing	Pedestrian Refuge / Median Islands	Curb Extensions	Road Diets	Raised Intersection	Raised Crosswalk*	Speed Humps**	All-Way Stops	Traffic Diverters	Chicanes	Choker / Pinch point
Urban Avenue	Y	Y	Y	Y	Y	N	N	N	N	N	N
Boulevard	Y	Y	M	Y	M	N	N	N	N	N	N
Parkway	Y	Y	M	Y	M	M	N	N	N	N	N
Mixed-Use Connector	Y	Y	Y	Y	Y	M	N	M	N	N	N
Community Main Street	Y	Y	Y	Y	Y	M	M	M	N	N	N
Community Connector	M	Y	Y	Y	Y	M	M	M	N	N	N
Mixed-Use Neighborhood Street	M	Y	Y	M	Y	Y	M	Y	M	M	M
Neighborhood Street	M	Y	Y	N	M	Y	M	Y	M	M	M
Neighborhood Yield Street	N	M	Y	N	M	Y	Y	Y	Y	Y	Y
Civic Space	Y	M	Y	N	Y	Y	M	Y	M	M	Y
Neighborhood Shared Street	N	N	M	N	Y	Y	Y	Y	Y	Y	Y

## Speed Management Application Guidance

\*Compatibility regarding crossing the street type listed. These treatments may be suitable parallel to the street type, at intersections with other street types. For example, a raised crosswalk may be compatible across a Mixed-Use Neighborhood Street where it intersects an Urban Avenue.

\*\*Not compatible on transit routes

# COMPLETE GREEN STREETS PROJECT CHECKLIST

- Serves as implementation tool for Complete Green Streets for staff, committees, elected officials, and public
- Used to track City's progress towards building safe streets that align with values and the modal hierarchy as well as track improvements to the Transit Priority Network, AAA Bike Network and green infrastructure/tree additions
- Assist with reporting improvements on the High Injury Network to support Vision Zero

# TIMELINE

- 12/6 Introduce to CC
- 12/8 Plan Commission
- 12/14 Board of Public Works
- 12/14 Transportation Commission
- 12/19 Transportation Policy & Planning Board
- January CC