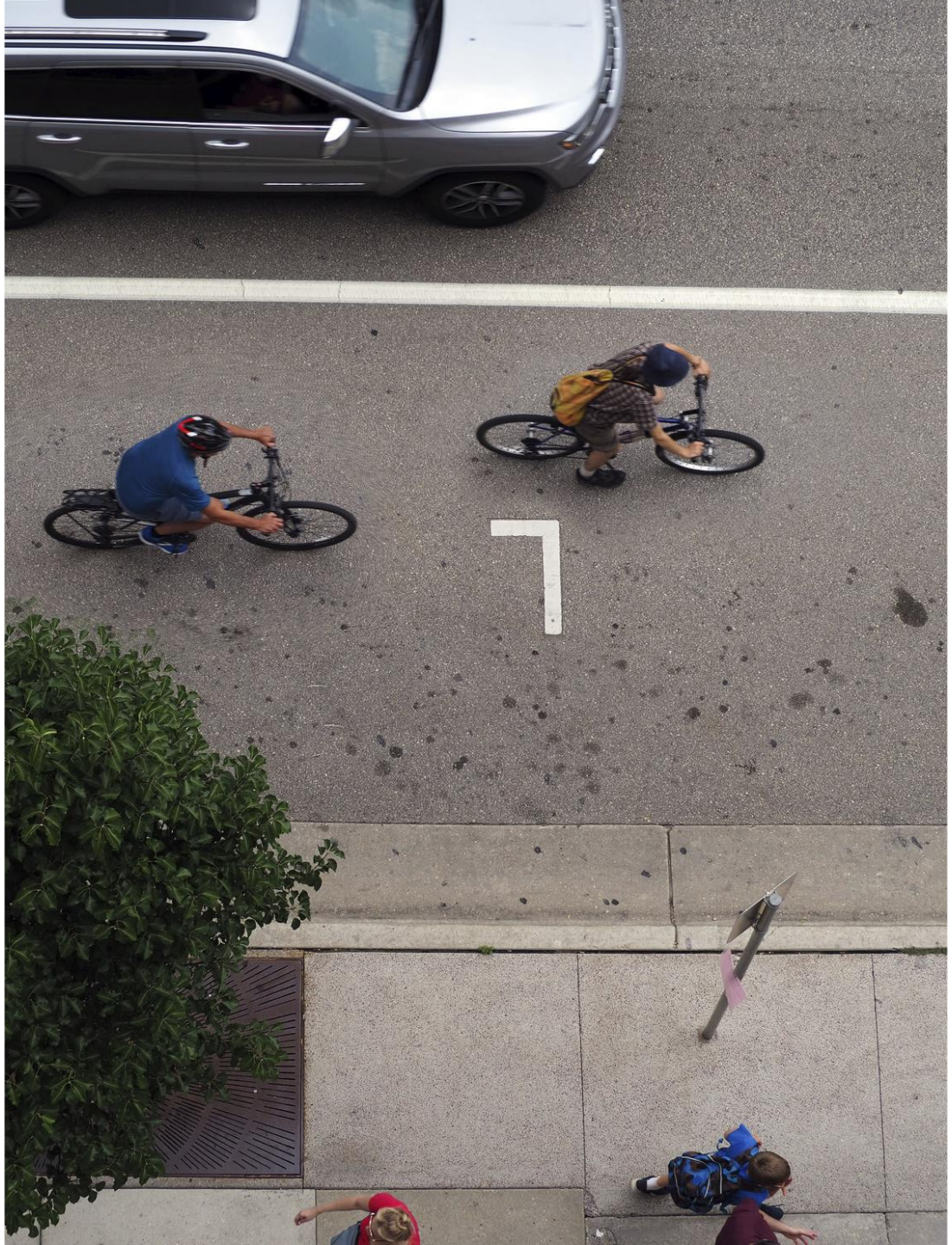
City of Madison

Complete Green Streets Guide



Approved January 6, 2023

Transportation Commission Review

2025 Guide Update

Ongoing Implementation

- Engineering and Traffic Engineering staff training in August 2023
  - Training for new staff as needed
- Completed the CGS Checklist for 5 reconstruction projects
- Subdivision ordinance updated to follow Complete Green Streets Guide on July 25, 2023
  - One new development came to Transportation Commission for variance to standards
  - Four other new development projects followed Guide without requesting variance
- Area Plans reviewed Street Types and All Ages and Ability Bike Network routing
  - Small number of changes recommended in Northeast and West Area Plans
- Guide Review & Discussion - Transportation Commission & BPW
  - September 2024

Complete Green Streets Policy Resolution

- That the City of Madison public right of way shall be designed, operated, and maintained in accordance with the Complete Green Street Policy Guide, which seeks to address accessibility and comfort, safety, and needs of all users, of all ages and abilities, while integrating green infrastructure to the extent practicable.
- That street construction and reconstruction that vary from the Complete Green Streets Policy Guide shall only be implemented if approved by the Transportation Commission; and
- That the Transportation Commission shall have the ability to modify the Complete Green Streets Policy Guide on an annual basis to address unforeseen challenges and remain current with state-of-the-art street design practices; and
- That the Transportation Commission shall have the ability to approve updates to the Transit Priority Network and All Ages Ability Bike Network; and
- That the Board of Public Works shall have the ability to approve updates to the tree canopy and green infrastructure priority area overlays; and
- That Sub Area Plans will recommend street types based on the Complete Green Streets Policy Guide;

Guide Update: Staff Recommendations

- Change to Equity Priority Area
  - Add new Neighborhood Resource Team (NRT) areas
    - Sandburg NRT and East Milwaukee NRT
- Change to Designing All Ages and Abilities Bikeway Selection Chart
  - Add “Buffered If Possible” under Bike Lanes
- Change Street Zone Names
  - Better clarity
  - Change to: Walk Zone, Flex Zone & Travelway Zone
- Add a New Section 6.5
  - Add Neighborhood Street design options that meet fire code requirements

Guide Update: Staff Recommendations

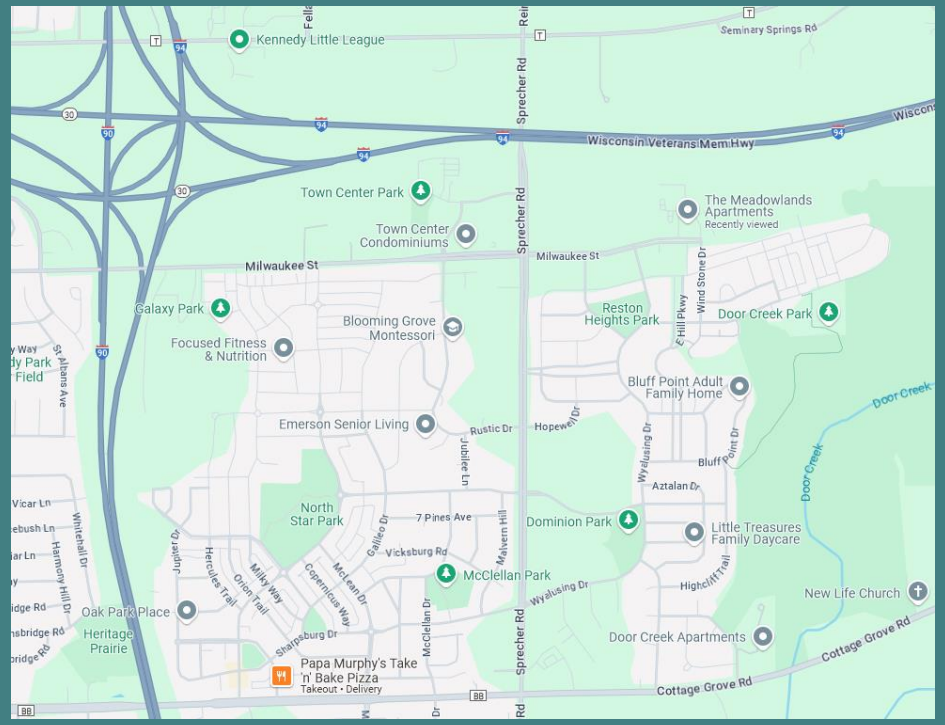
- Design Tables
  - List where widths are measured (face of curb, edge of pavement, center of markings)
  - Add footnote Neighborhood Yield St and Neighborhood St can have 7’ parking spaces
  - Add footnote that Neighborhood Yield Streets with few or no driveways will be reviewed for pull over zones to accommodate emergency services
  - Add footnote that Neighborhood Yield Streets with low/no parking would have additional design elements so street doesn’t rely on parking to ensure narrow Travelway
  - Details added on space needs of transit buses on Community Connector & Community Main Street
- Overall document clean-up
  - Changed Transportation Policy & Planning Board references to Transportation Commission
  - Updates to 7.4 Standards and Guidelines to show new documents/guidance
  - Updated Street Type Map and All Ages Ability Bike Network Map to reflect approved Area Plans

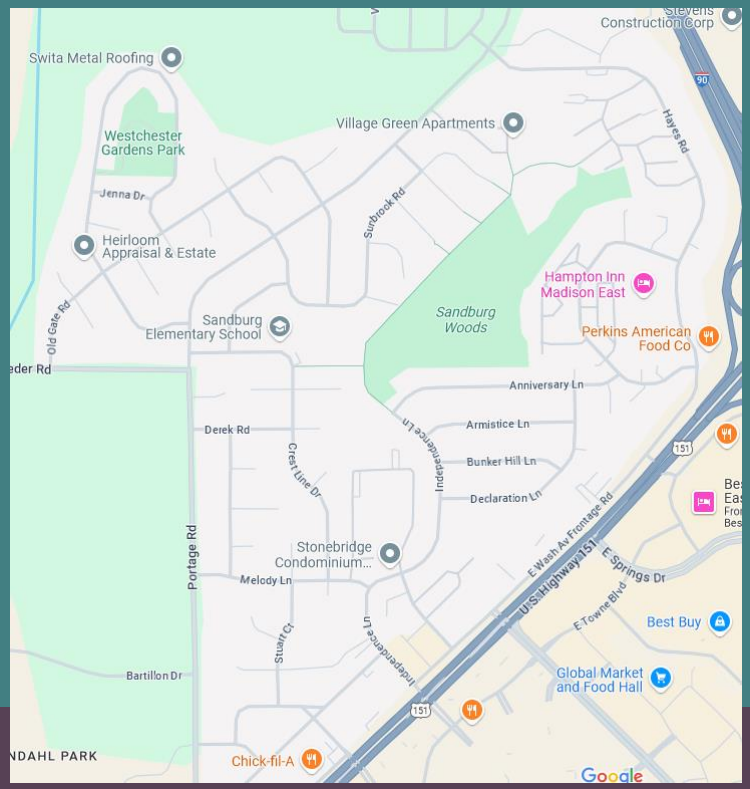
Board of Public Works Approved Updates

- Added a new Section 6.4 Tree Canopy Enhancement Guidance
- Added a reference to trees as significant feature to the Boulevard Street Type description:
  - Connecting major streets conveying large numbers of people. Feature tree lined sidewalks, terraces and medians. Frequently part of the Transit Priority Network. May be part of the National Highway System and/or serve as a Truck Route.
- Design Table 6.1: New Flex Zone Footnote
  - Added a footnote: New streets or dedications require an 8’ minimum terrace
- Update of DGI Flowchart graphic (no other changes)

Add New Neighborhood Resource Teams

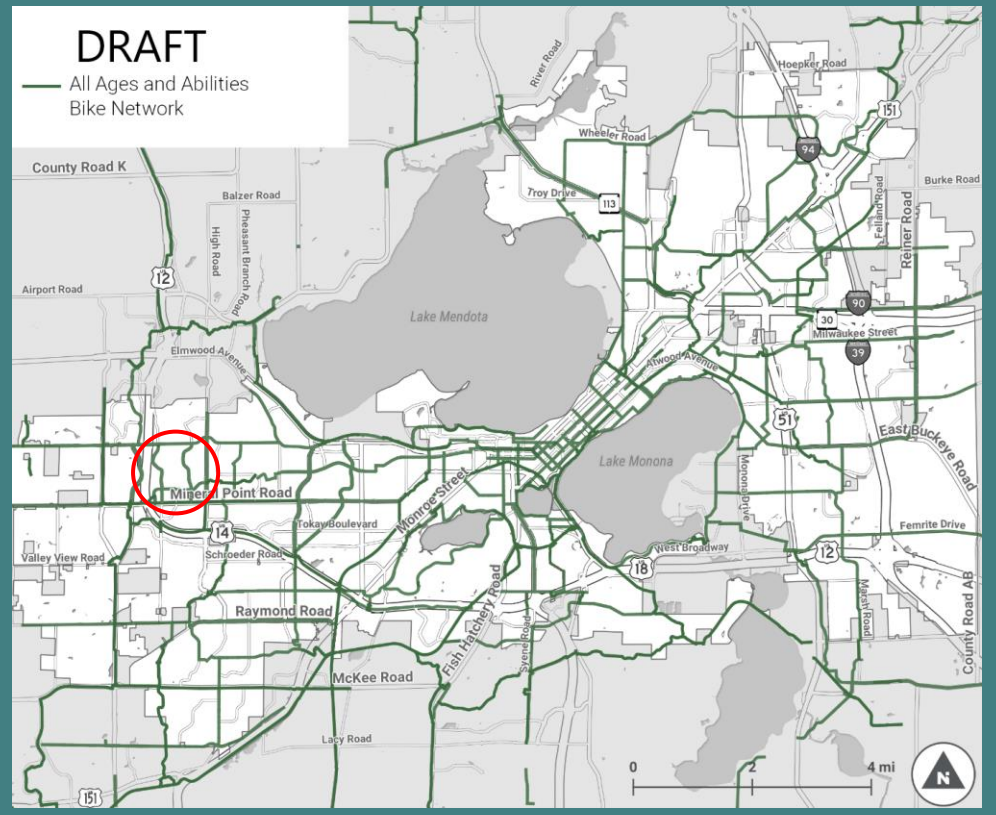
- East Milwaukee St Area
- Sandburg Area





AAA Bike Network Map – West Area Plan Change

- All Ages Ability Bike Network Map Change
  - Removal of Sauk Creek Greenway Path
  - Addition of High Point Rd & Westfield

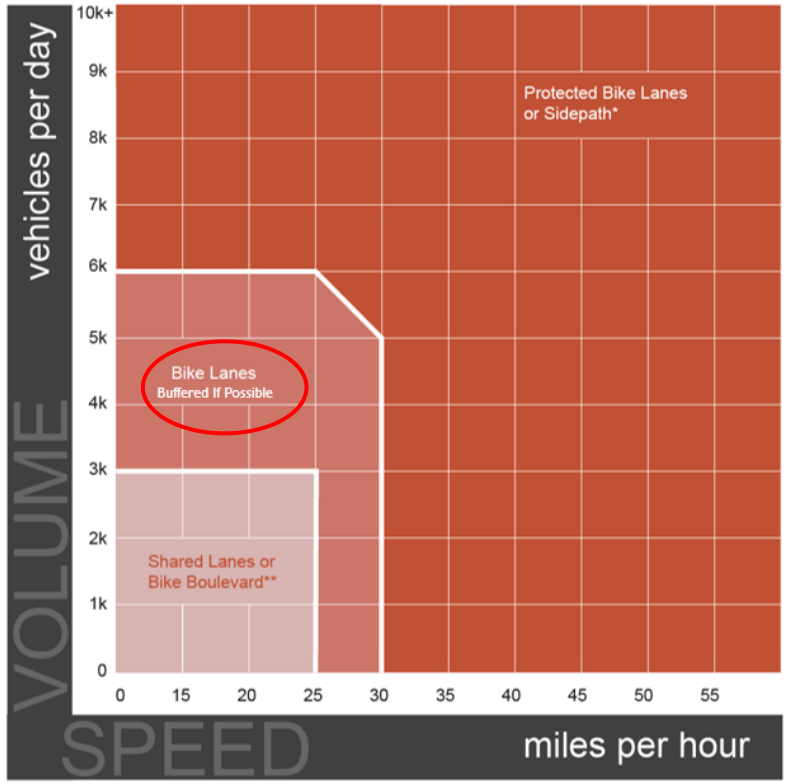


Bike Facility Selection Chart Addition

Designing All Ages and Abilities Bikeways

The design of bikeways on the All Ages and Abilities Bike Network considers the speed and volume of the different types of traffic along a corridor. As the volume and speeds increase, separation between bicycles and motor vehicles needs to increase to ensure the route is safe and comfortable for all users. This means that often the All Ages and Abilities Bike Network includes protected bike lanes, paths, and low-volume local streets. The City will use the matrix to the right—which is shaped by FHWA's "All Ages and Abilities" criteria for bicycle facilities—for selecting bicycle facility types for all types of streets.

Additional consideration will be given to the overall roadway context and number of motor vehicle lanes as outline in the NACTO Urban Bikeway Design Guide when selecting an appropriate bike facility.

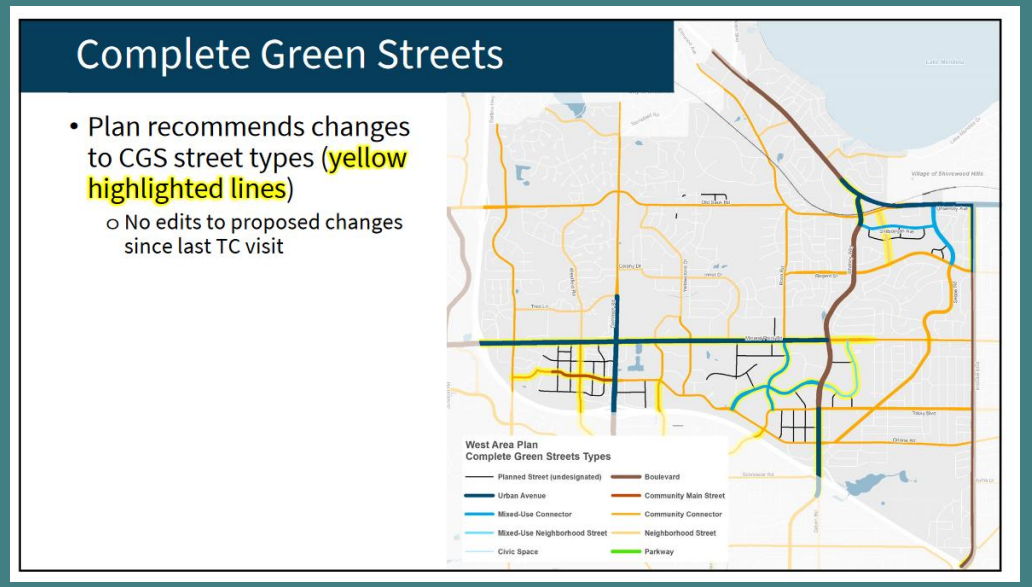


*To determine whether to provide a shared-use path or separated bike lane, consider pedestrian and bicycle volumes or, in the absence of volume, consider land use.
**The preferred traffic volume for bike boulevards and shared lanes is 2,000 vehicles per day or less. Above this volume, additional considerations should be made to reduce speeds and/or limit the possibility for potential future increases in vehicle volumes.

Bike facility selection thresholds for All Ages and Abilities.

Updated Street Type Map

- Approved Area Plan Changes
  - West Area Plan
  - Northeast Area Plan



Adjust Street Zone Names

- Change Walkway to Walk Zone
- Change Travelway to Travelway Zone
- Keeps Flex Zone as is

Walk Zone is the space where people walk and is comprised of the sidewalk and a frontage buffer (a paved or landscaped space between the sidewalk and adjacent buildings). The Walk Zone may be designed as a pathway shared by people walking and biking. The defined widths for the Walk Zone—defined for each street type on the following pages—represent just one side of the street.

Flex Zone is a variable space comprising the terrace (measured from edge of sidewalk to back of curb) and any on-street parking or loading. The design of this space may vary significantly depending on context and *Overlays*. This space includes most non-linear elements of the street, such as trees, sidewalk cafes, bike racks and micromobility stations, loading zones, on-street parking, etc. As such, the elements included in this space can share the same portion of the right-of-way, alternating back and forth. The defined widths for the Flex Zone—defined for each street type on the following pages—represent just one side of the street. However, the combined total of the Flex Zone for both sides of the street could be combined and split asymmetrically between the two sides of a street. An example of when this could occur is if the street would have parking on one side of the street.

Travelway Zone is the primary portion of the roadway dedicated to movement of people and goods. It includes on-street bikeways, travel lanes, any dedicated transit lanes, medians, and turn lanes. The Travelway Zone can be split by the Flex Zone for parking-protected bike lanes. The defined widths in the following tables for each street type represent the Travelway Zone for both directions on a two-way street.

6.1 Design Parameter Table Changes

- State measurement of Total Travelway Zone Width
  - Edge of pavement to edge of pavement
- Neighborhood Street and Neighborhood Yield St Footnote
  - Parking may be accommodated with 7’ of space (street space + gutter)
- Typical ADT – Removed but remains in Table 6.2

6.1. Street Type Space Requirements

The combination of design criteria (e.g., number of travel lanes, terrace width, and sidewalks width) determine the typical overall width and minimum right-of-way required for each street type. These widths, and the widths of each zone within the street type, are shown below. Note that while minimum widths are identified, applying only the minimums for each zone in order to avoid making tradeoffs is not a good approach because it erases the priority between zones and results in a street design that does not function well for any use.

Street Type	Total Walk Zone Width (per side)[a]		Total Flex Zone Width (per side)[b]		Total Travelway Zone Width [c] (edge of pavement to edge of pavement)			Total Right-of-Way Width	
	Pref.	Min.	Pref.	Min.	Max.	Typ.	Min.	Typ.	Min.
Urban Avenue	9'	6'	15'	10'	102	96'	76'	150'	108'
Boulevard	7' if sidewalk	6'	15'	10'	102'	80'	76'	146'	108'
Parkway	14' [d]	6'	20'	12'	62'	60'	22'	128'	58'
Mixed-Use Connector	9'	6'	19'	8'	38'	38'	28' [e]	94'	56'
Community Main Street	9'	6'	18' [f]	9'	56' [f]	36'	36'	90'	66'
Community Connector	7' [g]	6' [g]	15'	9'	36'	36' [g]	26'	80'	56'
Mixed-Use Neighborhood Street	9'	6'	19'	9'	22'	20'	20'	78'	50'
Neighborhood Street	6'	6'	15' [j]	10' [j]	22'	20'	18'	64'	50'
Neighborhood Yield Street	6' [h]	6' [h]	17' [j]	10' [j]	16'	16'	14'	62'	46'
Civic Space	13'	10'	19'	13'	Varies	Varies	20'	Varies	66'
Neighborhood Shared Street	7' [i]	6' [i]	Varies	Varies	Varies	NA	NA	Varies	Varies

[a] *Includes 1' typical buffer between sidewalk and right-of-way line. If a sidepath is provided, the minimum pavement width is 8' and the preferred is 12-14' depending on volumes. At least 2' clear is required on each side of a sidepath.*

[b] *Includes curb, gutter, terrace and on-street parking, if present. See Section 6.2. There may be constrained right-of-way where the minimum may need to be as small as 3'. New streets or dedications require an 8' minimum terrace.*

[c] *Total width at a midblock location. Includes all transit lanes, on-street bikeways, travel lanes, center turn lanes, and medians, but NOT on-street parking. Assumes a two-way street, with the exception of Mixed-Use Connector. Does not assume any center turn lane or median for streets where these features are noted as "not preferred" or "not compatible" in Section 6.2. If and when a right or left turn lane is needed at an intersection, that would be in addition to the total Travelway width unless a lane drop (a travel lane becomes a turn-only lane) is provided. When additional space for a turn lane(s) is needed, space will be taken first from on-street parking, then from the median (if present, retaining a minimum pedestrian refuge space when feasible), and then from the terrace (retaining the minimum Flex Zone width for the street type). If this does not provide adequate space for turn lanes, additional right-of-way will be required.*

[d] *Preferred Walkway may be a shared-use path on one-side and a typical sidewalk on the other side.*

[e] *The minimum Travelway width of the Mixed-Use Connector is based on a one-way street.*

[f] *Max Travelway width and preferred Flex Zone width are likely not both achievable on the same street for Community Main Streets, which are predominately in existing constrained corridors. Rather, if the Travelway width is greater than the typical value (to accommodate peak hour travel lanes), the minimum Flex Zone width is likely to be used.*

[g] *A 6' portion of the Travelway space could be allocated to the Walkway area to create a shared-use path.*

[h] *Neighborhood Yield Street could have a sidewalk on only one side in constrained conditions (e.g., "Court" streets).*

[i] *An accessible pedestrian space will be maintained year-round but it may not be a traditional sidewalk.*

[j] *Parking may be accommodated with 7' of space (street space + gutter).*

6.2 Roadway Design & Space Allocation Parameters Table Changes

- Typical ADT change to Estimated ADT
  - Allows more flexibility in assigning Street Type
- Neighborhood Yield Street – Add Footnote
  - Streets with few or no driveways will be reviewed to ensure pullover zones exist every 100-200'. Streets that do not have good sight lines will be reviewed for additional pullover zones appropriate to the topography and street layout.
  - Streets with no or very low parking utilization will include design elements that reinforce slow travel and a narrow travelway.
- New footnote for Community Connector and Community Main Street:
  - Transit buses need a dynamic envelope of a minimum of 11' (including 8.5' bus body, 9-12" mirror on each side, and a small amount of additional space needed for road curvature and to keep the bus from encroaching in other lanes while driving. This could be an 11' lane, or it could be a 10' lane adjacent to a minimum 2' gutter pan or minimum 2' painted buffer, or 10.5' lane adjacent to minimum 1' gutter pan or minimum 1' painted buffer.
- Clarify Measurements
  - Travelway Zone: Measured face of curb to face of curb
  - Lane Width: Measured edge of pavement to center of pavement marking

6.2. Roadway (Travelway Zone and Street Edge) Design & Space Allocation Parameters

Design criteria for roadways are determined using the table below. Deviation from the ranges specified should be carefully considered and occur rarely. When deviations occur, they will be documented appropriately.

	Travelway Zone									
Street Type	**Typical # of Travel Lanes***	**Lane Width** (edge of pavement to center of pavement markings)			**Center Turn Lane / Median**	**Target Speed** (miles per hour)**	**Estimated ADT** (motor vehicles)	**Total Pavement Width‡** (face of curb to face of curb)		
		Max.	Pref.	Min.				Max.	Typ.	Min.
Urban Avenue	4	11'	10'	10'	Median Standard	25	>20,000	106'	100'	80'
Boulevard	4	11'	10'	10'	Median Standard	25-30	>14,000	106'	84'	80'
Parkway	2-4	11.'	10'	10'	Median standard	25-35	>10,000	64'	64'	26'
Mixed-Use Connector	2	11'	10'	10'*	Optional	25	3,000 to 15,000	56'	48'	32'
Community Main Street	2-3	10'	10'	10'*	Optional (not common)	25 or less	10,000 to 25,000	60'	52'	40'
Community Connector	2-3	10'	10'	10'*	Optional	25 or less	3,000 to 14,000	52'	46'	24'
Mixed-Use Neighborhood Street	No centerline†		N/A†		Not preferred	20-25	<3,000	38'	30'	30'
Neighborhood Street	No centerline†		N/A†		Not preferred	20 or less	<3,000	38'	36'	28' ∞
Neighborhood Yield Street	No centerline		N/A		Not compatible	20 or less	<1,500	32'	28'	24' ∞
Civic Space	No centerline		N/A		Not compatible	20 or less	<2,000	Varies	Varies	24'
Neighborhood Shared Street	No centerline		N/A		Not compatible	10 or less	<500	Varies	Varies	Varies

**Total both directions, not including bikeways or any dedicated transit lanes. Upper limits of these ranges may reduce available Flex Zone Street Edge space for on-street parking or loading zones.*

***For new streets, design speeds should match target speeds. For retrofit or reconstruction projects, designs should incorporate speed mitigation tactics to reduce speeding and achieve the target speed, as needed. One aspect of achieving lower speeds is reduced corner radii. Corner radii greater than 15' on local streets and 20' on arterial and collector streets should be reviewed and approved by City Traffic Engineer or City Engineer.*

†Unless ADT is above 4,000, then a centerline and lanes 10' min up to 11.5' max are provided.

‡ Total midblock curb-to-curb cross section with for the roadway, including all on-street parking, bike lanes, dedicated transit lanes, center turn lanes, and medians. Non-continuous right turn lanes and other factors that widen the roadway at intersections are not included in this figure.

*∞Minimum face of curb-to-face of curb width for parking on both sides of the street is 36' for a Neighborhood Street and 28' for a Neighborhood Yield Street. Streets with few or no driveways will be reviewed to ensure pullover zones exist every 100-200'. Streets that do not have good sightlines will be reviewed for additional pullover zones appropriate to the topography and street layout. Streets with no or very low parking utilization will include design elements that reinforce slow travel and a narrow travelway. *Transit buses need a dynamic envelope of a minimum of 11' (including 8.5' bus body, 9-12" mirror on each side, and a small amount of additional space needed for road curvature and to keep the bus from encroaching in other lanes while driving. This could be an 11' lane, or it could be a 10' lane adjacent to a minimum 2' gutter pan or minimum 2' painted buffer, or 10.5' lane adjacent to minimum 1' gutter pan or minimum 1' painted buffer.*

Section 6.5 Alignment with Fire Code

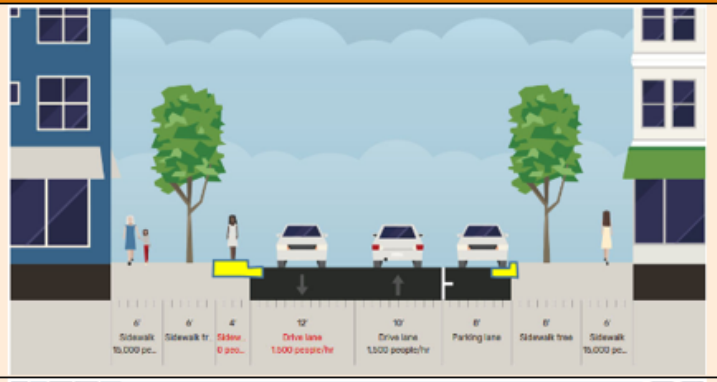
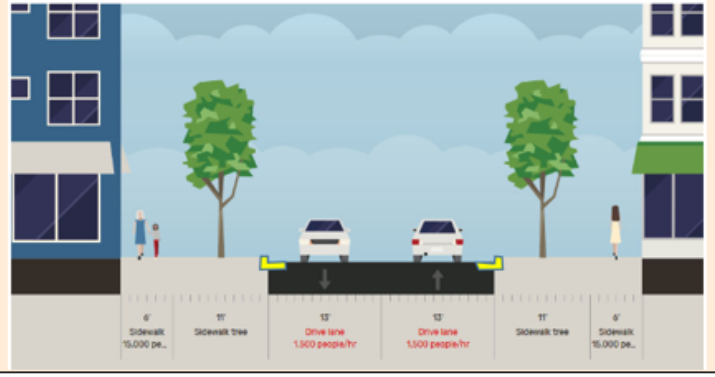
- Offers Some Neighborhood Street Design Options
  - Options for meeting Complete Green Streets Requirements when Fire Zone uses right of way
  - Concepts that would meet the goal for maintaining a narrower Neighborhood Street
- Estimated ADT for Neighborhood Street is 3,000 or less
  - Typical Travelway is shared space for motor vehicle and bicycle users

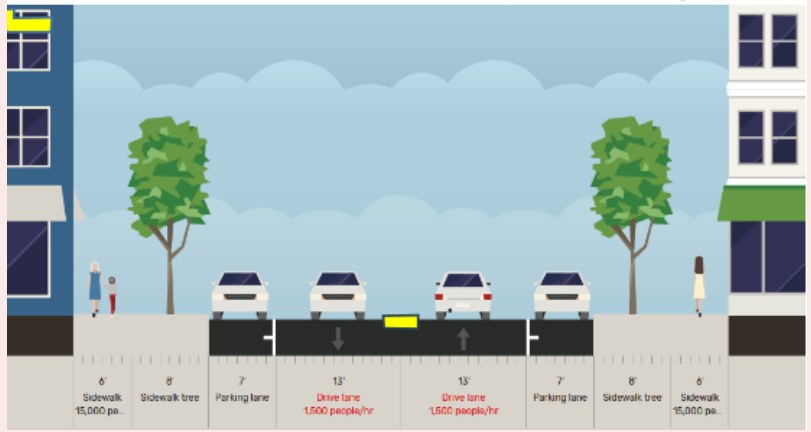
6.5 Complete Green Streets & Alignment with Fire Code

The fire lane requirement is summarized as follows:

- 20' clear for commercial buildings (includes residential properties with 3 units or more) up to 30' in height
- 26' clear required for buildings over 30' where aerial apparatus is required on one side of the building for at least 25% of the building perimeter.

Development teams should explore options that meet fire code requirements that do not use the public right of way including construction methods and use of the private parcel. If no other option is feasible for the development, the options below are examples of ways to follow the Complete Street Guides and still meet the fire code requirements.

Street Design Options	
Option 1 - Limit parking to one side of street • Include a 4' paved terrace • Include a 4" rolled curb on side with paved terrace Notes: • Signs and light poles would be allowed in terrace • Verify 4" curb works with storm management plan • Snow clearing of terrace will be responsibility of property owner, not City. • May require terrace support system to allow for planting of appropriate tree species	
Option 2 - Build 26' street with no parking • 22' pavement (travelway) with 2' curb pans	

Street Design Option	
Option 3 - Limit parking to one side of street • Include a 4’ curb pan • Similar to Option 1. Can be used if stormwater management plan requires full curb head • If symmetrical street aesthetics are desired, widened curb could be used on both sides of street	
Option 4 – Build a small island in the center of the street • Not full curb height	
Option 5 – Limit parking to one side with back in angled parking • Include 4’ paved terrace with mountable curb similar to Option 1OR • Include 4’ gutter(s) similar to Option 2 • May require terrace support system on one or both sides of street to allow for planting of appropriate tree species	

Overall Document Clean Up

- Remove references to Transportation Policy & Planning Board
  - Change to Transportation Commission
- Remove references to updating Subdivision Ordinance
  - Now updated
- Updates to 7.4 Standards and Guidelines
  - Reference on PROWAG updating
  - Added new AASTO Guide for Development of Bike Facilities
  - Added new NACTO Urban Bikeway Design Guide
- Spelling mistakes, wording updates now being implemented etc.

Additional Items

- 7. Implementation Section
  - Item 4. Eliminate mention of Transportation Policy & Planning Board
- Parkway Speed Limit
  - Originally listed as 25-35 mph
  - Discussed changing to 25-30 mph

Next Steps

- Update Guide with approved changes & post on website –
  - www.cityofmadison.com/transportation/initiatives/complete-green-streets
- Continue Implementation
  - Share updates with staff who use Guide
- Continued Improvement & Refinement
  - Staff Team – Led by DOT Planner
    - Transportation, Traffic Engineering, Engineering, Planning, Fire, Forestry
  - 2026 Review by Transportation Commission & BPW
    - Area Plan Updates
      - Southwest and Southeast Area Plans
    - Finalize All Ages Ability Bike Network
    - Work on Equity Priority Areas & Engagement Process
    - Other Identified Items

Summary of Staff Recommended Changes

1. Equity Priority Area – Add Sandburg & East Milwaukee NRTs
2. Bikeway Selection Chart: Add “Buffered If Possible” under Bike Lanes
3. Street Zone Names: Change to Walk Zone, Flex Zone & Travelway Zone
4. Remove Typical ADT from Table 6.1 and change to Estimated ADT in Table 6.2
5. Section 6.1 Design Parameters Table Additions
   a) Travel Zone Width: Measured from edge of pavement to edge of pavement
   b) Lane Width: Measured edge of pavement to center of pavement marking
   c) Neighborhood Street & Neighborhood Yield St Footnote: Parking may be accommodated with 7’ of space (street space + gutter)
6. Section 6.2 Roadway Design & Space Allocation Parameters Table Additions
   a) Neighborhood Yield St Footnote: Streets with few or no driveways will be reviewed to ensure pullover zones exist every 100-200’. Streets that do not have good sight lines will be reviewed for additional pullover zones appropriate to the topography and street layout. with no or very low parking utilization will include design elements that reinforce slow travel and a narrow Travelway.
   b) Community Connector & Community Main St Footnote: Transit buses need a dynamic envelope of a minimum of 11’ (including 8.5’ bus body, 9-12” mirror on each side, and a small amount of additional space needed for road curvature and to keep the bus from encroaching in other lanes while driving. This could be an 11’ lane, or it could be a 10’ lane adjacent to a minimum 2’ gutter pan or minimum 2’ painted buffer, or 10.5’ lane adjacent to minimum 1’ gutter pan or minimum 1’ painted buffer.
   c) Total Pavement Width: Clarify measurement is face of curb to face of curb
7. Addition of Section 6.5 – Complete Green Streets **or Neighborhood Streets** & Alignment with Fire Code
8. Overall Document Clean Up **including in 7.4 removing mention of TPPB**
9. **Change Parkway typical speed limit to 25-30 mph**