

Chapter 6: Infrastructure Improvements

Presented by:

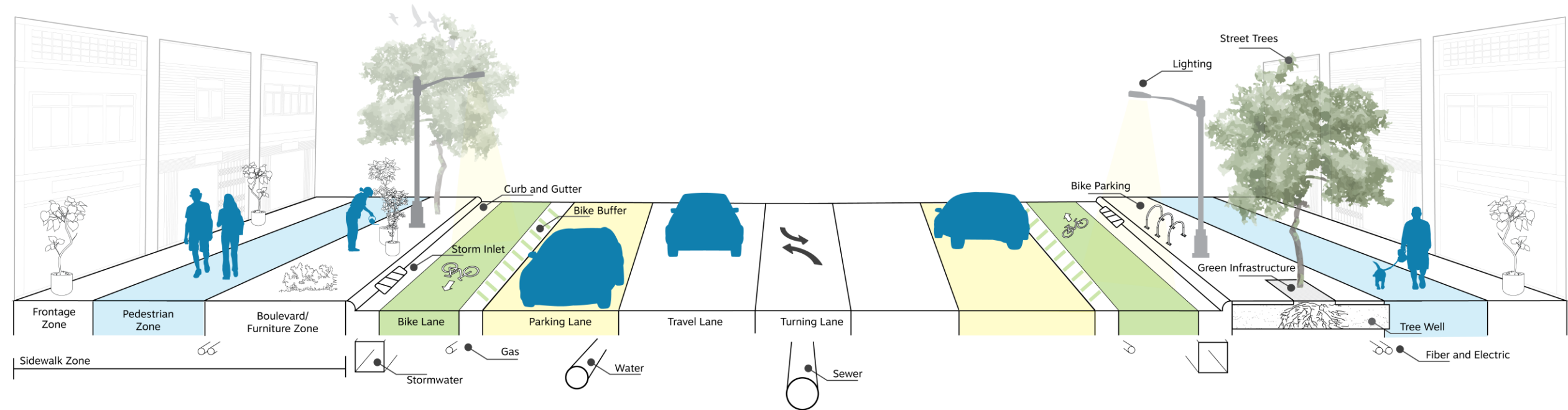
- Ross Mollenhauer (Engineering Manager)
- Aaron Wilson (Transportation Planning Manager)



WHAT IS CHAPTER 6 ABOUT ANYWAY?

Chapter 6 – Infrastructure Improvements

- Chapter 6 establishes the design, construction, and permitting requirements for public and private infrastructure required during development.



HOW WAS CHAPTER 6 CREATED?

WE STARTED WITH GUIDING PRINCIPLES...

WE MOVED CODE TO WHERE IT BELONGS...

- All "development related" sections of code were moved from:
 - Title 12 – Streets Sidewalks and Public Places
 - Title 13 – Public Services (Utilities).
- All "maintenance and operations" sections will remain in Titles 12 and 13.
- All standards and specifications were moved to the "Manual".

WE SIMPLIFIED, REWROTE AND REMOVED CODE TO MAKE IT EASIER TO UNDERSTAND...

- Current Code in Title 12:

"Upon the filing of any such notice the city council shall, at its first regular meeting thereafter, instruct the city engineer to designate the places upon and along the streets, avenues and alleys of the city where poles may be located; thereafter, upon the presentation to and filing with the ..."
- New Code in UDC:

"All new utilities shall be placed underground."



SO WHAT IS THE "MANUAL"?

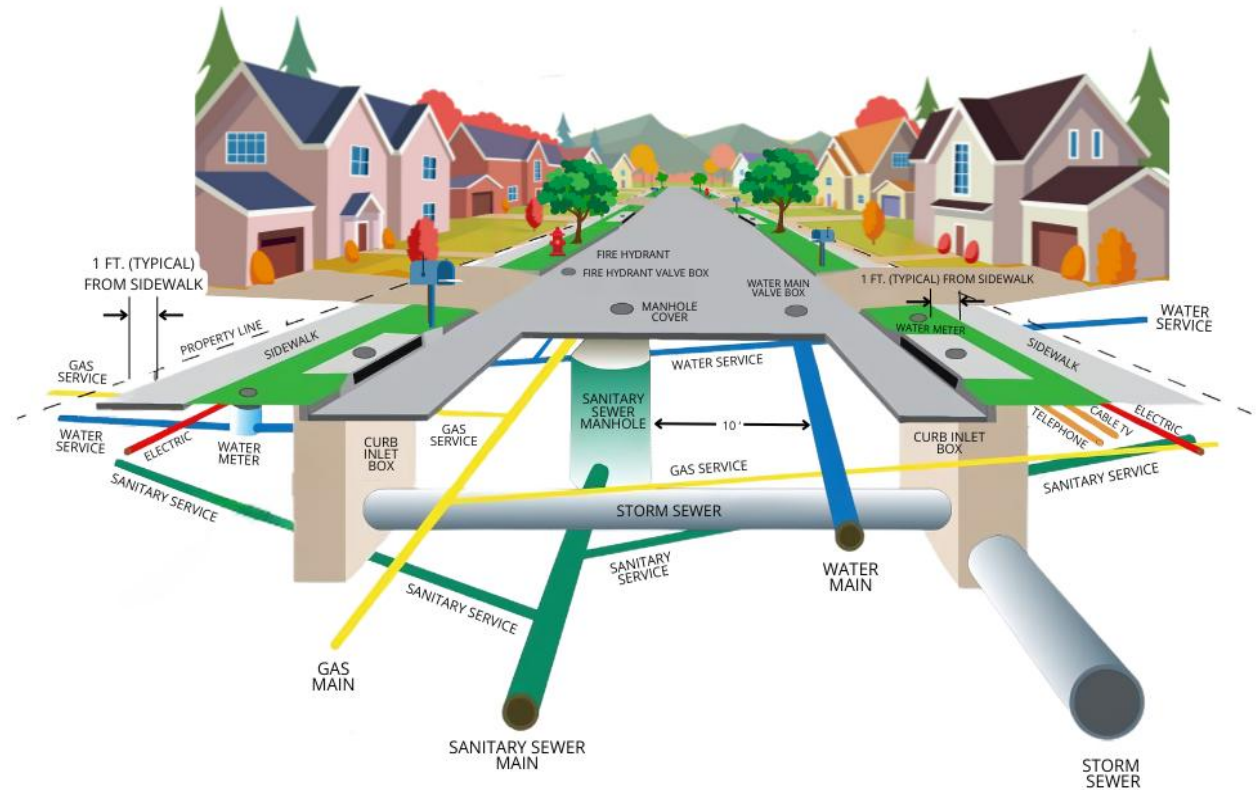
- The City of Missoula Standards and Specifications Manual (COMSSM)
 - Combination of the former Public Works Manual and Parks and Rec Manual.
 - PW Manual was first created in 2020 and serves as a collection of administrative rules, standard details, specifications, and requirements for contractors and engineers.
 - Code specifies WHEN or WHERE something is required but the Manual tells Contractors and Engineers HOW to build it.

Infrastructure Examples	Code:	Manual
Water/Sewer	When you have to hookup...	Specifies type of pipe, depth, pipe size, setbacks, etc.
Streets	When improvements are required...	Specifies thickness, width of sidewalk; asphalt width and specifications, type of street trees, soil volumes



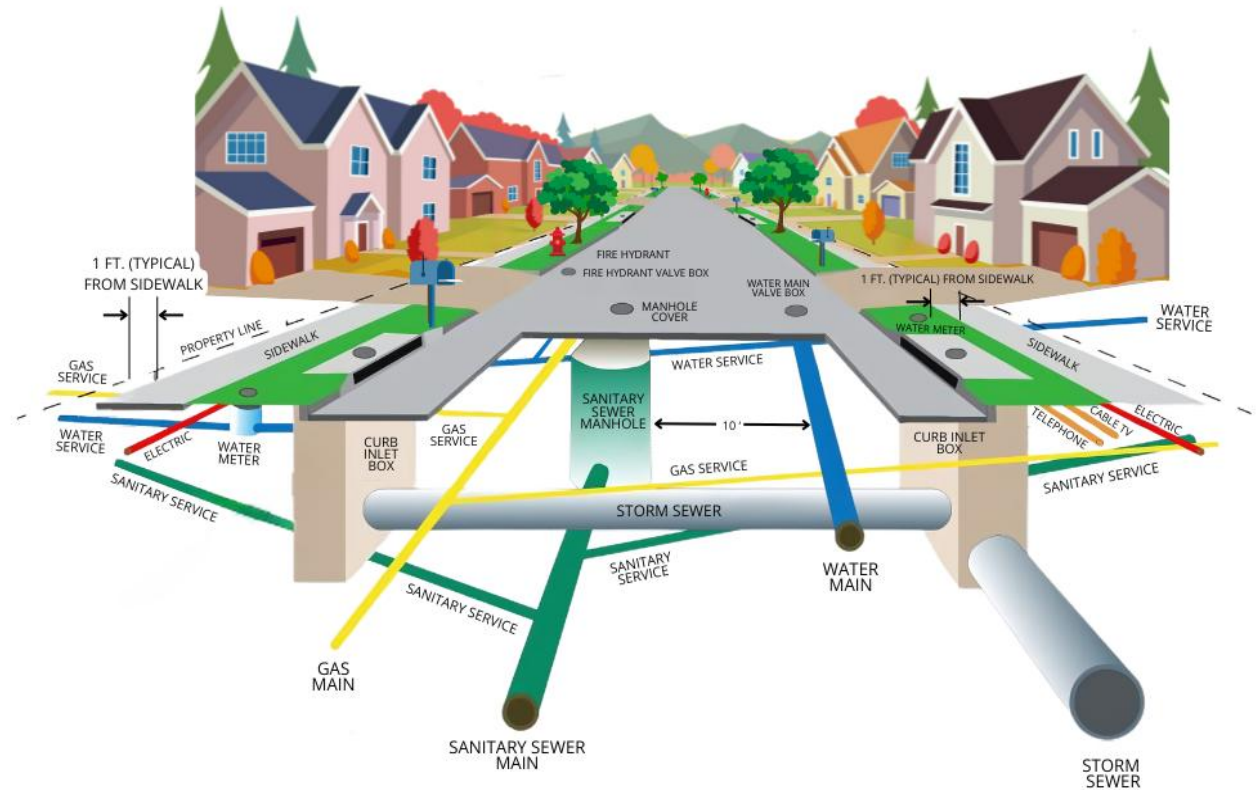
BACK TO UDC, SO WHAT CHANGED IN CHAPTER 6?

- Authority Statements
- ROW Improvement Triggers
- Street Types/Trail Types Map
- Shared Utility Services
- Driveway Requirements
- Drive-Through Queuing Lengths
- Fences



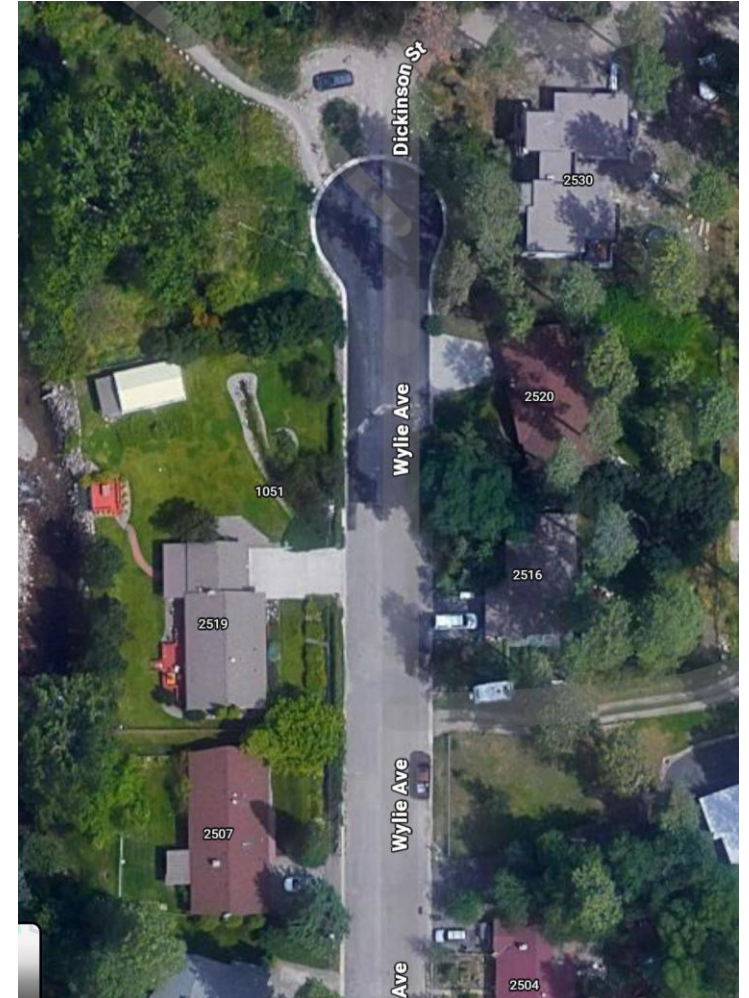
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AUTHORITY STATEMENTS

- **Administrative Rules:**
PWM Director shall have the authority to adopt administrative rules (the “Manual”) containing standards and specifications for the design and construction of infrastructure improvements.
- **Approvals:**
The City Engineer(s) shall approve the design and construction of infrastructure in accordance with these administrative rules (Manual).
- **Design Exceptions:**
PWM Director may grant design exceptions.



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ROW IMPROVEMENT TRIGGERS

Current Triggers:

- *Right-of-way improvements shall be installed where none currently exist for the following:*
 1. *New construction of residential dwelling, commercial, and/or industrial building, excluding accessory dwelling units.*
 2. *Additions or changes to existing structures that will cause an increase in the required parking.*
 3. *Where new construction or additions to parking facilities occur, excluding single and two-family residential carports and garages.*

Postponements:

Single family or duplex residential units or lots are eligible for right of way improvement postponements. Note: Three or more residential units or lots on the same block, or any commercial or industrial lots will not be eligible for a postponement.

ROW IMPROVEMENT TRIGGERS

- **Proposed Triggers:**

- *Right-of-way infrastructure shall be installed directly adjacent to new development in accordance with the Manual where existing infrastructure is incomplete, missing, or otherwise inadequate to mitigate the impacts of the development for the following conditions:*

(a) New construction that results in a total of seven or more combined new or existing dwelling units, including mixed-use construction;

(b) New construction that results in a total of five or more new on-site parking spaces;

(c) New construction of a driveway approach onto a public or private street;

(d) Non-residential construction which requires additional new on-site parking;



ROW IMPROVEMENT TRIGGERS

- **Proposed Code:**

- 6.2.01.A.3 – *Exception for Existing Hazardous Infrastructure:*
 - *Right-of-way infrastructure directly adjacent to the development which is deemed to be hazardous by the City Engineer or designee upon any inspection shall be replaced, repaired, or otherwise improved to current standards.*



ROW IMPROVEMENT TRIGGERS

- **Proposed Code:**

- 6.2.01.A.2.e. *Exception for Street Trees:*

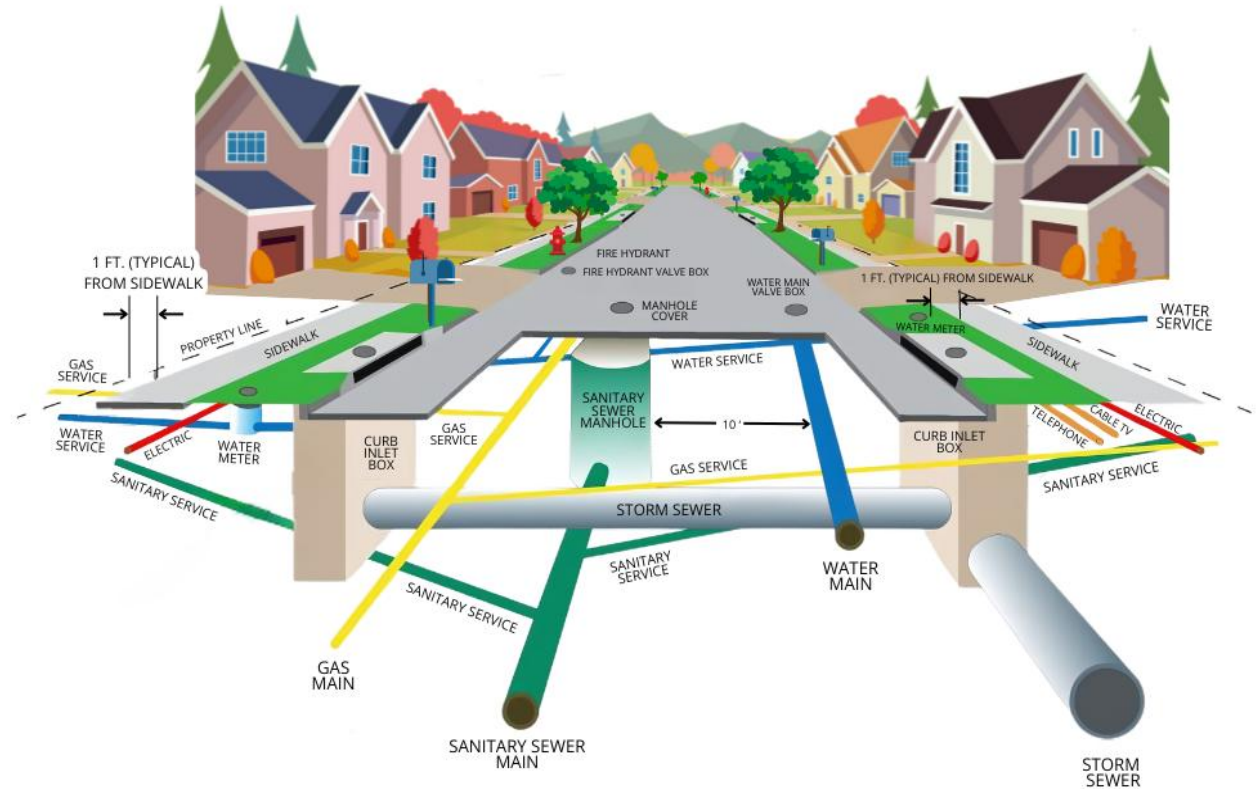
- (e) *Street trees shall be installed in accordance with the Manual where none currently exist for the following:*

- i. *Residential projects that create 1 or more new dwelling units with a maximum of 1 tree required per dwelling unit;*
- ii. *All new non-residential projects.*



WHAT CHANGED IN CHAPTER 6?

- Authority and Applicability Statements
- ROW Improvement Triggers
- **Street Types/Trail Types Map**
- Shared Utility Services
- Driveway Requirements
- Drive-Through Queing Lengths
- Fences



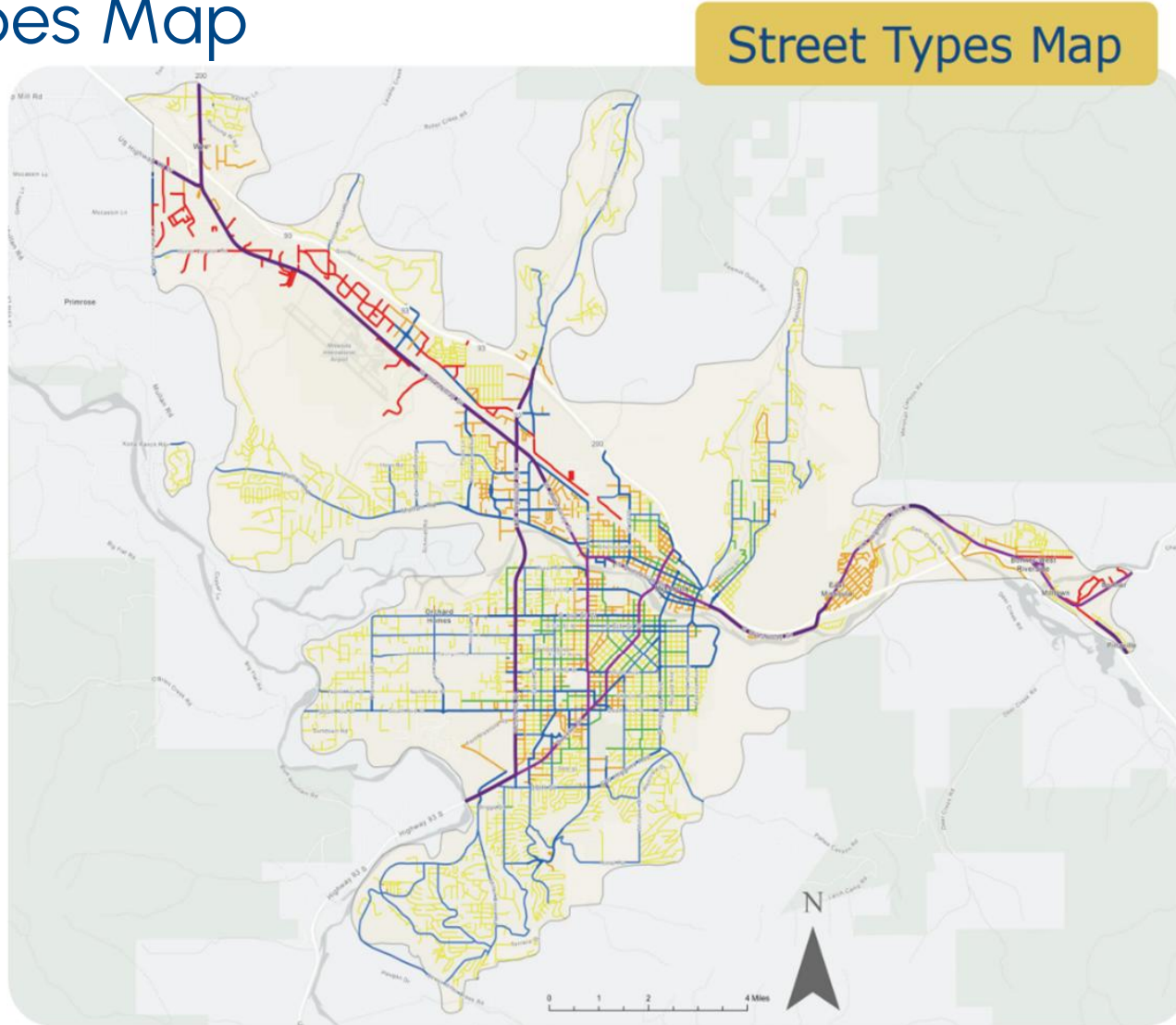
Why Street Types?

Street Types Map

Better Alignment with Right-of-Way (ROW)
 The purpose of Street Types is to connect transportation facilities to the land uses they serve—context—and refocus the design of infrastructure on people who utilize the street's facilities. An effective Street Types framework communicates the characteristics of streets to both professionals and residents, creates shared expectations about how streets are designed, and ensures our transportation infrastructure serves the needs identified in the Land Use Plan.

How do I Use Street Types to Design My Streets' Infrastructure?

- Identify Context**
 Determine the Place Type and Street Type using the typology maps. Visit the online map at ourmissoula.konveio.com/review-street-types-map
- Apply Standards**
 Use the Street Type Standards in Section 7.2.2.
- Refine Design**
 For variations or specific treatments—such as intersections, traffic calming, or pedestrian and roadway elements—refer to Section 7.3 and the Design Objectives of the Street Type.
- Coordinate Review**
 Work with the appropriate agencies and provide the required plans and reports as outlined in Chapter 3 of the Manual.



Street Types Map

Street Types

<p>Regional Connector These streets are critically important to the regional travel network and generally serve as gateways to the urban core, where they often transition to Regional or Community Mixed-Use.</p>	
<p>Regional Mixed-Use These streets serve as gateways, introducing people from around Missoula and the wider region to the city and its major destinations. These streets are critically important to the regional multimodal network, passing through areas of significant commercial land use and pedestrian activity. They carry high traffic volumes but must do so safely.</p>	
<p>Industrial These streets serve adjacent industrial land uses that see frequent truck, freight, and delivery traffic. They should accommodate current uses while also being adaptable to and compatible with redevelopment into future land uses.</p>	
<p>Community Mixed-Use These streets are vitally important multimodal corridors supporting dining, shopping, and employment opportunities, enhancing Missoula's character and economy. They connect residents from their neighborhoods to commercial and cultural centers.</p>	
<p>Community Residential These streets are high-quality residential corridors that also have an important function in the larger transportation network. They may serve popular destinations such as parks, schools, religious assemblies, and recreation areas.</p>	
<p>Neighborhood Greenway These streets connect people biking, walking, and using micromobility devices to nearby destinations and other neighborhoods. These low-speed streets often run parallel to more intense streets and provide enhanced crossings at major intersections.</p>	
<p>Neighborhood Mixed-Use These streets support adjacent shopping, dining, and employment opportunities. They are located within/adjacent to residential neighborhoods and host a variety of low-impact commercial activities along them. They often act as transitions between lower intensity and higher intensity uses.</p>	
<p>Neighborhood Residential These streets provide multimodal access to and from adjacent residential properties. These streets are quiet, shady, and kid-friendly, an extension of your front yard. There is very little traffic, and cars move slowly.</p>	

Street Types Map – Current Classifications:



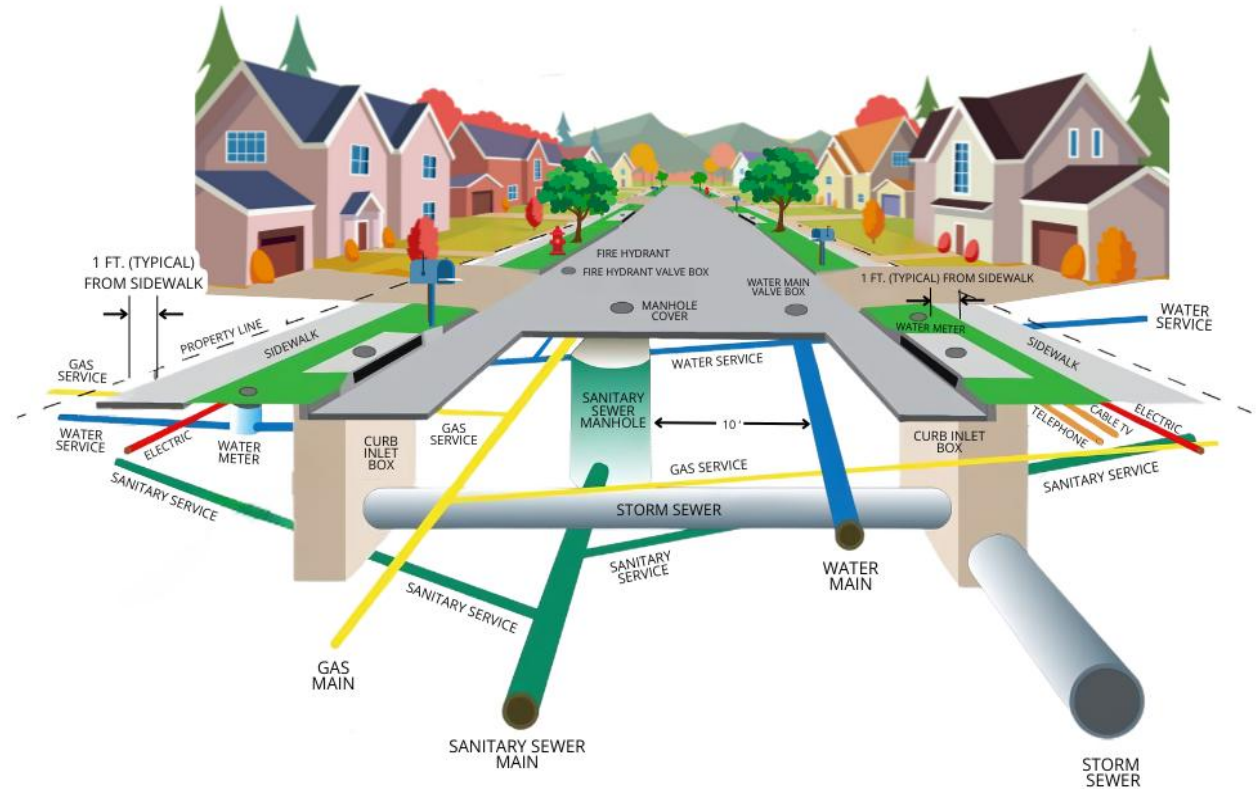
- Commerce St
 - Local Street in an Industrial Zone.



- Jackson St
 - Local Street in a Residential Zone.

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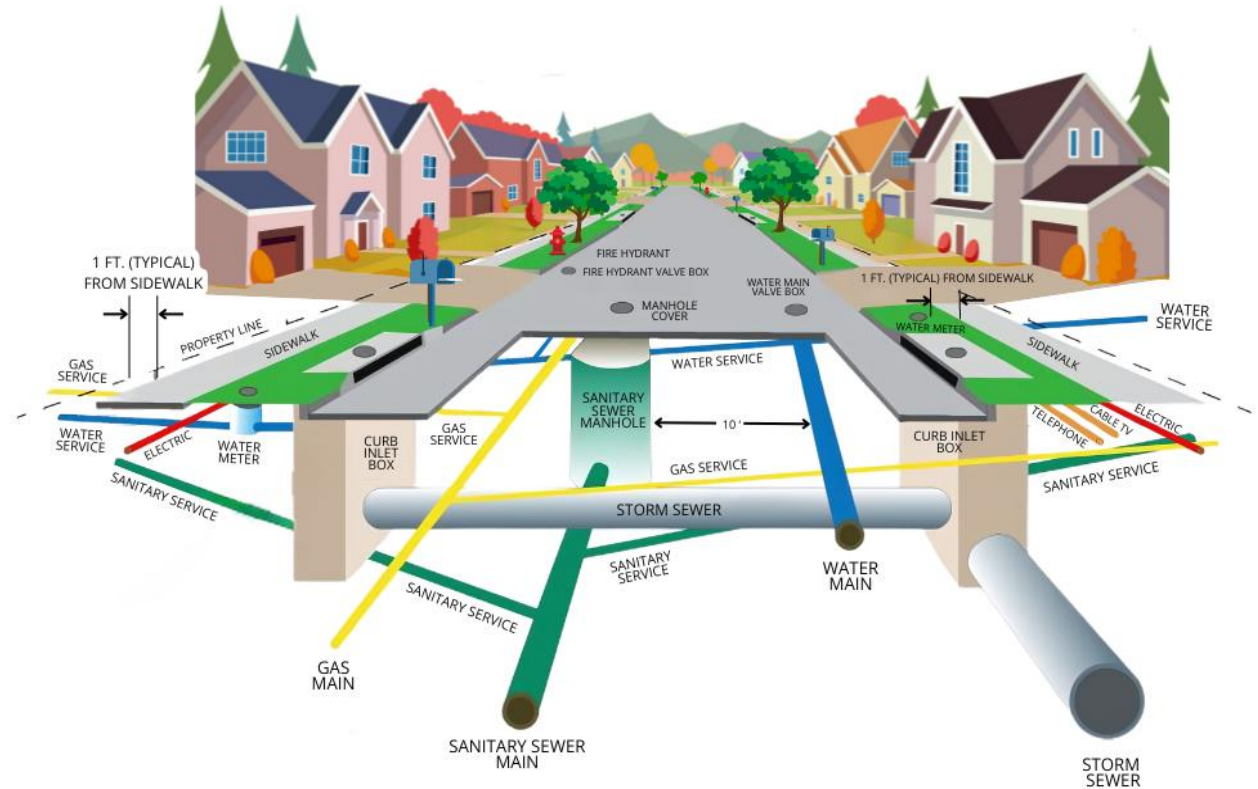
SHARED UTILITY SERVICES

- Clarifies expectations for accessory building projects related to whether existing ¾” galvanized services can be used for more than one dwelling unit.
- DEQ ARM 17.38.101 defines a water service as serving a single property, including a primary dwelling and accessory dwelling.



WHAT CHANGED IN CHAPTER 6?

- Authority and Applicability Statements
- ROW Improvement Triggers
- Utility Services for Accessory Dwellings
- Street Types/Trail Types Map
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- Fences



DRIVEWAYS/DRIVE-THROUGHS/FENCES

- **Driveway Pavement Requirements:**
 - Modifies City requirements for paving of existing driveways to bring them in line with Missoula City County's Air Quality Program.
- **Drive-Through Queuing Lengths:**
 - Codifies the standards City Engineering has been applying to drive-through commercial facilities in an effort to reduce conflicts between waiting cars and pedestrian users on the sidewalk.
- **Fences:**
 - Clarifies that fence reviews shall be done by City Engineering rather than City Planning.
 - Changes the "Front Yard" definition for fencing so that the "Front Yard" is determined by the Front Door of the house.

DRIVEWAYS/DRIVE-THROUGHS/FENCES



BESIDES UDC, WHAT SHOULD I KNOW ABOUT?

- Titles 5,12,13,15 will be adopted by ordinance on a different schedule than UDC's schedule.
 - Early January - Presentation to PW Committee
 - Late January - Public Hearing
- City of Missoula Standards and Specifications Manual (COMSSM) updates will be adopted administratively.
 - Public Review Period is ongoing.
 - Early January – Presentation to PW Committee





Questions?

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A photograph of the Aurora Borealis (Northern Lights) over a forest at night. The sky is a mix of purple, pink, and green, with stars visible. The foreground shows a dark field with some lights and trees.

Street Design Standards

Table 7.3 – Neighborhood Mixed Use Design Standards

Place Type	Frontage Zone	Pedestrian Zone	Boulevard/ Furniture Zone	Curb & Gutter	Parking Lane	Bicycle Facilities	Travel Lane	Turn Lane ⁽¹⁾
DT	2'	6'	10'	2'	5.5'	-	10'	10'
UMH	2'	6'	10'	2'	5.5'	-	10'	10'
UML	1'	6'	10'	2'	5.5'	-	10'	10'
LMU	1'	5'	8'	2'	5.5'	-	10'	10'
URH	2'	6'	10'	2'	5.5'	-	10'	10'
URL	1'	5'	8'	2'	5.5'	-	10'	10'
LUR	1'	5'	8'	2'	5.5'	-	10'	10'
IE	1'	5'	8'	2'	6.5'	-	10'	10'

(1) Turn Lanes should only be considered at major intersections.

What's the Difference Between the Old and New Standards?

☑ Standards vs. Minimums

Old standards set only the minimums for mobility and legal compliance. New standards follow best practices to improve safety, support development, and meet city goals.

☑ Total Right-of-Way Width

Previously, streets had a fixed right-of-way width. Now, width is based on the sum of all design elements, ensuring a better fit for each street type.

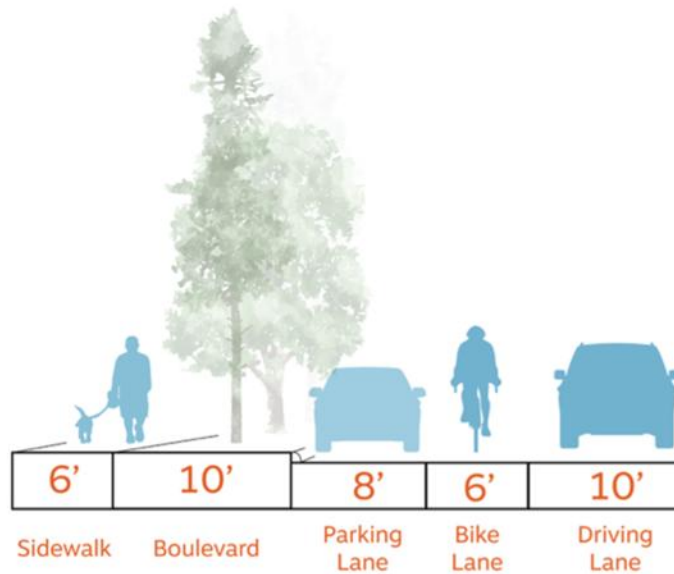
☑ Greater Flexibility

The updated manual allows flexibility and provides guidance to adapt designs to geographic constraints and other unique conditions.

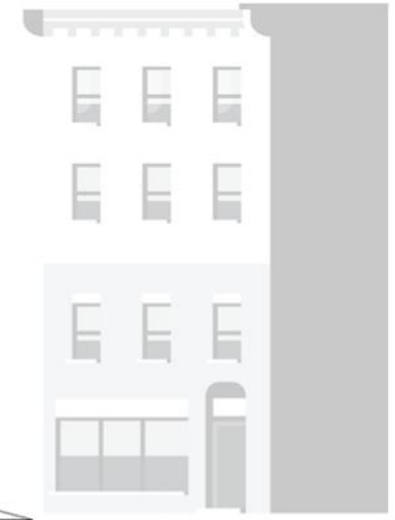
Existing Subdivision Regulations Minor Arterial



Minor Arterial
90' - 100' Right-of Way



Proposed Standards Manual Community Mixed-Use



Community Mixed-Use
94' - 125' Right-of Way



Community Mixed-Use

- Frontage zone supports seating and commercial activity
- Sidewalks support infill and increased density
- Boulevard/furniture zone provide appropriate soil volumes for street trees and potential flexibility for angled parking
- Protected bike facilities provide greater comfort and safety for users of all ages and abilities
- Travel and parking lanes are sized to support large vehicles (buses and freight)

Case Study 1: Multi-unit infill

ROW Triggers:

- More than 7 units
- Increase parking by 5 or more new spaces
- New driveway access
- Hazardous infrastructure

Utilities:

- New sewer & water service lines to each unit/individual ownership
 - *can have accessory utility units
- Stormwater report and plan required? Ref. Site Priority Ranking Sheet

Trees:

- ROW required: trees per ROW standards
- No ROW req'd: 1 tree/unit



Case Study 1: Multi-unit infill

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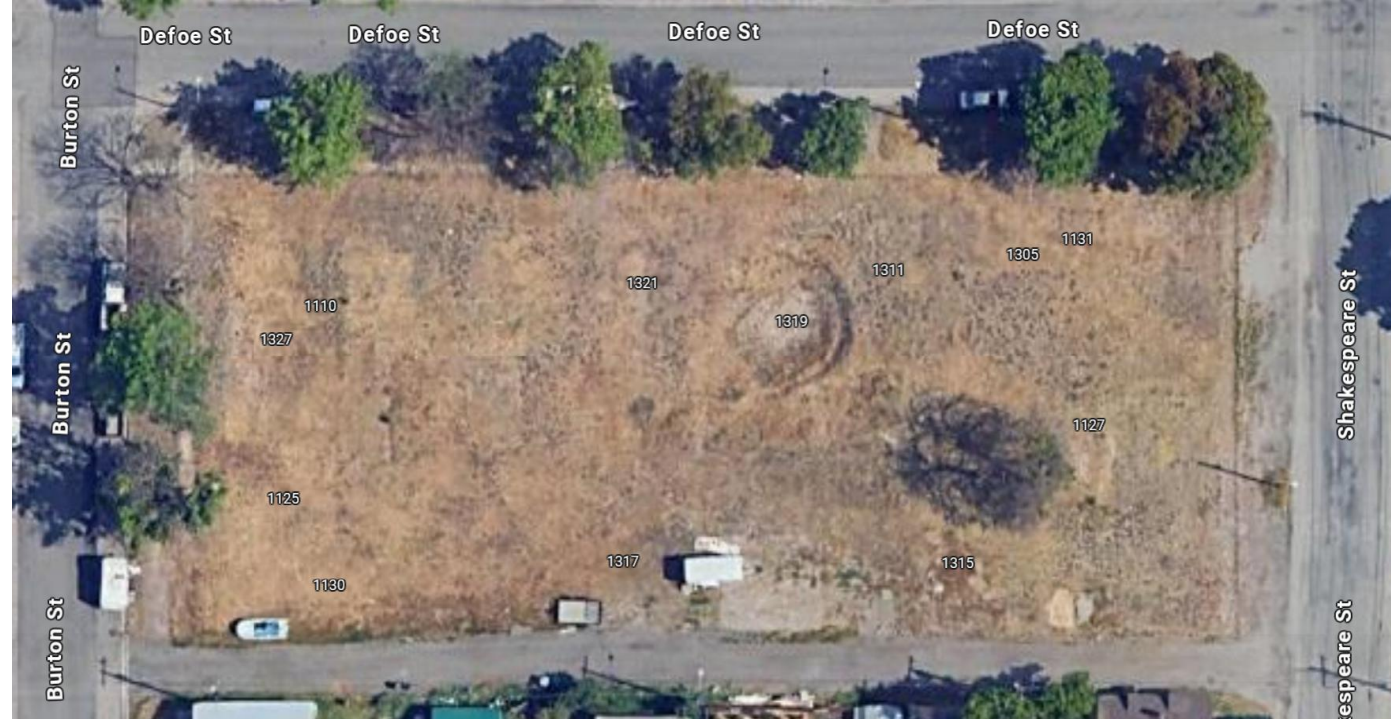
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Utilities:

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Trees:

- ROW required: trees per ROW standards
- No ROW req'd: 1 tree/unit



Case Study 2: Green/Brownfield

ROW Triggers:

- New streets: standards = street type x placetype (ex. Com Mixed Use, UR-4)
- ROW = minimum required for street type standards + utilities

Utilities:

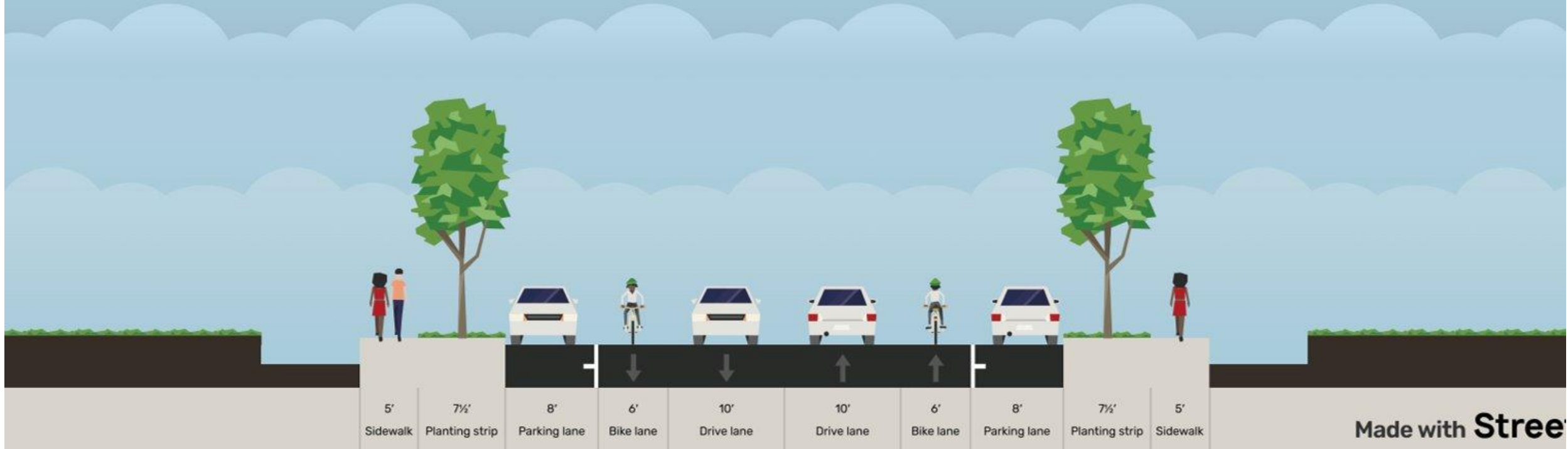
- New sewer & water service lines to each unit/individual ownership
 - *can have accessory utility units
- New main extensions
- Stormwater report and plan required? Ref. Site Priority Ranking Sheet

Trees:

- Meet requirements in Manual Chpt ??



Johnson St Extension South - Subdivision Regs

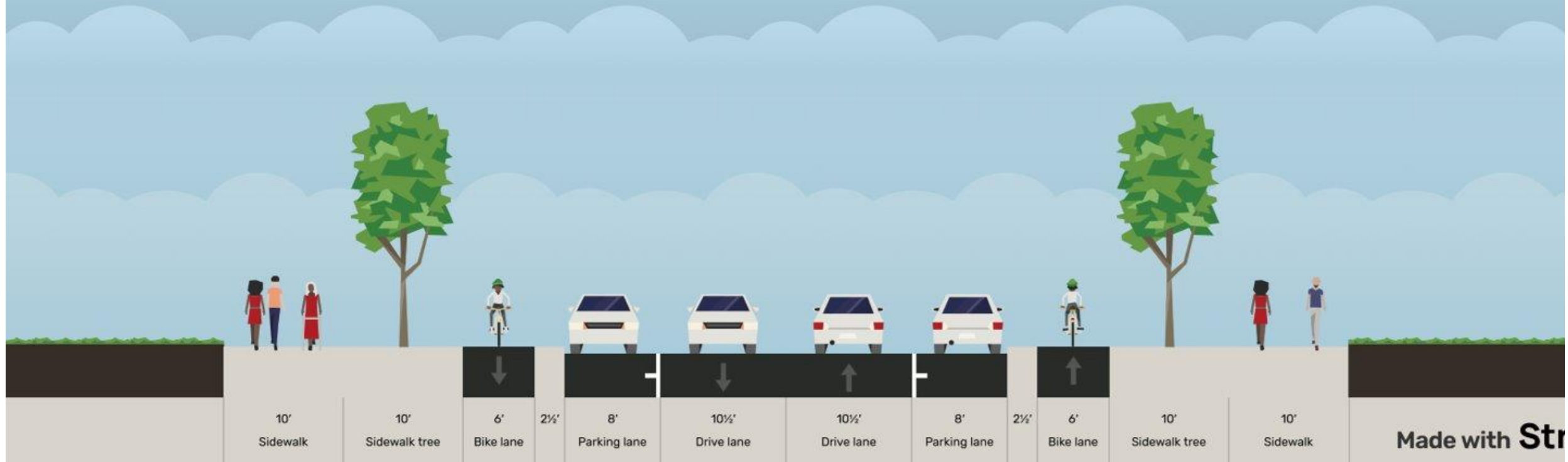


Min. ROW per regulations = 90'

Utilized ROW = 73'

Dimensions shown are minimums and may not provide acceptable dimensions for multimodal safety, comfort, and convenience.

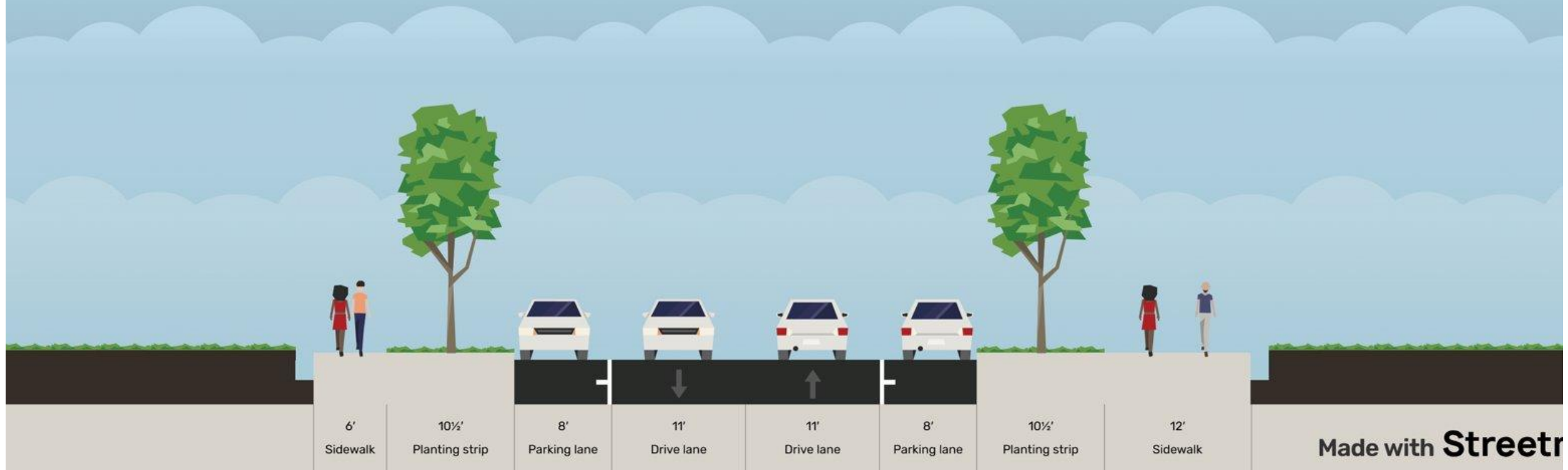
Johnson St Extension South - CMU Standards



Utilized ROW = 94'

Dimensions are standards for Urban Mixed-Use High place type, which envisions a downtown-type development pattern, a “legible and consistent street wall”

Johnson St Extension South - Alt Compliance



ROW = 80'

Utilized ROW = 77'

Matches Mary Ave design. Achieves CMU design objectives through context: proximity to Regional Trail, development pattern not matching zoning/place type