

Regional Thoroughfare Plan – DRAFT REPORT

Chapter: Context Zones

Context is pivotal in the design of the right-of-way (ROW), as it defines the area's crucial characteristics for establishing a well-integrated street network. Simplifying the categorization of land-use context is imperative, as it influences the safety, efficiency, and functionality of the infrastructure across all transportation modes. Context encompasses diverse elements such as surrounding land use, traffic patterns, environmental conditions, and community needs. By understanding these factors, we can tailor the street designs tailored to meet specific ROW requirements.

Urban – Traditional Downtown

Urban traditional downtowns typically serve as the core of a city, embodying its economic, cultural, and social essence. These areas boast dense, pedestrian-friendly streetscapes adorned with historic architecture and lively public spaces, often laid out in a grid pattern to evenly disperse traffic. Designing the right-of-way (ROW) in this context presents both challenges and opportunities to accommodate diverse modes of transportation. Emphasizing walkability and pedestrian safety is fundamental, resulting in features like widened sidewalks, inviting plazas, and pedestrian-oriented streetscape elements. Vehicle speeds are low, integrating public transit options, and providing ample parking solutions are vital to reinforce the accessibility and vibrancy of downtown districts. Additionally, elements such as street furniture, lighting, landscaping, and wayfinding signage enhance the overall ambiance and functionality of traditional downtowns, making them appealing destinations for residents, visitors, and businesses alike.

Urban – Residential

Urban residential areas serve as the primary living spaces for urban populations, featuring a blend of single-family homes, multi-family dwellings, and apartment buildings. These neighborhoods are strategically situated near amenities, services, transportation access points, and surrounding land uses. Emphasizing pedestrian safety, neighborhood connectivity, and residents' quality of life in urban residential areas. Key features such as sidewalks, crosswalks, and traffic calming measures enhance walkability and encourage active transportation within these neighborhoods. Additionally, accommodating diverse transportation modes, including cycling infrastructure and public transit options, is essential for providing residents with accessible and sustainable mobility choices. Designing right-of-way infrastructure in urban residential areas requires careful consideration of the unique context and residents' needs, with a focus on promoting safety, accessibility, and enhancing the overall quality of life within the neighborhood.

Urban – Industrial

Urban industrial areas are zones within cities designated for manufacturing, warehousing, logistics, and other industrial activities. Contextually, these areas are shaped by factors such as land availability, transportation infrastructure, zoning regulations, and historical development patterns. In terms of right-of-way design, urban industrial areas have specific considerations that distinguish them from other types of urban environments. These areas often experience high volumes of heavy truck traffic, robust infrastructure to support efficient freight movement while minimizing impacts on surrounding neighborhoods. Key elements of ROW design in industrial areas include wide arterial roads, designated truck routes, and dedicated freight corridors, which are essential for accommodating large vehicles and facilitating logistics operations.

Suburban- Residential

Suburban residential areas are neighborhoods on the outskirts of urban centers, characterized by low to medium population densities and consisting of single-family homes, emphasizing residential living. In these areas, right-of-way design typically prioritizes vehicle mobility and safety, reflecting the prevalent reliance on automobiles for transportation. Streets are often designed with wider lanes, cul-de-sacs, and curved layouts to accommodate vehicle traffic and ensure easy access to residential properties. Additionally, sidewalks, crosswalks, and pedestrian pathways are integral features enhancing walkability and encouraging active transportation within suburban neighborhoods. Public transit service is commonly available along fixed routes, while roadways tend to be narrower and lined with parking, resulting in reduced vehicle speeds. Bicycles typically share the road or utilize designated bike lanes, with sidewalks provided on at least one side of the street.

Commercial

Commercial areas within urban and suburban settings are crucial components of the built environment, serving as hubs for economic activity, retail, dining, entertainment, and services. These areas vary in scale and character, ranging from small neighborhood shopping districts to large commercial corridors and mixed-use developments. In right-of-way design, commercial areas prioritize pedestrian access, customer convenience, and vehicular circulation to support businesses and accommodate visitor traffic. Efficient transportation infrastructure is essential for commercial areas to facilitate the movement of goods and services. Designing streets with designated loading zones, delivery access points, and parking facilities helps support the logistical needs of businesses while minimizing congestion and disruptions to traffic flow. Separated commercial uses typically exist in suburban environments but can also be found in urban and rural settings.

Rural Village

Rural villages are small settlements typically situated in agricultural or countryside settings, characterized by close-knit communities. They prioritize pedestrian safety, local connectivity, and the preservation of community character. Integrating wayfinding signage, rest areas, and parking facilities into the right-of-way design supports tourism and economic development in rural communities while enhancing the visitor experience.

Rural Residential/Agriculture

Rural residential and agricultural areas are characterized by dispersed housing amidst agricultural land, natural landscapes, and rural amenities. They prioritize safe and efficient transportation for residents, farmers, and agricultural vehicles while preserving the rural character and natural surroundings. Rural villages often prioritize accommodating agricultural traffic, including tractors, farm equipment, and livestock transport. Designing streets with wider shoulders, designated agricultural vehicle lanes, and passing areas ensures the safe and efficient movement of agricultural vehicles while minimizing conflicts with other road users. Road networks designed to provide direct routes between residential clusters, agricultural fields, and transportation hubs facilitate travel for residents and support the movement of goods and services within the rural economy.

Rural Activity Center

Rural activity centers serve as focal points within rural areas, where economic, social, and community activities converge. Streets in rural villages function as smaller-scale hubs of retail and activity within their respective areas. These centers play vital roles in commerce, services, recreation, and cultural exchange, providing essential amenities and opportunities for residents living in surrounding rural communities. Prioritizing accessibility, safety, and the promotion of economic vitality while maintaining the area's rural character. Rural activity centers are designed to accommodate various modes of transportation, including automobiles, bicycles, and pedestrians. Roads leading to and within these centers ensure convenient access for residents and visitors. They often feature pedestrian-friendly streetscapes with wide sidewalks, crosswalks, and pedestrian crossings, enhancing walkability and encouraging foot traffic between businesses and amenities.

Regional Link

Regional links are transportation corridors or networks that connect different regions or areas within a larger geographical area. They play a crucial role in facilitating the movement of people, goods, and services between cities, towns, and rural areas, contributing to economic development, regional integration, and social connectivity. Prioritizing efficiency, safety, and capacity to accommodate high volumes of traffic and long-distance travel associated with interregional transportation. Regional link is designed with features such as multiple lanes,

controlled access, and grade-separated interchanges to ensure smooth traffic flow and minimize congestion. While all roads technically serve as shared bikeways, cyclists along regional links may benefit from buffered shared-use paths. Transit options along regional links are sparse, with stops being rare and primarily serving regional fixed routes or on-demand services.

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Chapter - Modes: Network Connections

Users and their Transportation Modes

For a Complete Street Network, we must consider all modes of transportation for motorized and non-motorized mode of travel to form a continuous street network. This forms a well-established right-of-way (ROW). Prioritization of modes in the context helps with determining the specific details of the road's ROW design. It helps users with motorized and non-motorized modes create high-speed and low-speed corridors with sustainable, equitable, and livable urban environments. Understanding the users for all transportation modes helps us assign priority levels for each, as given below:

Pedestrian - Walking

Pedestrians must be considered in transportation planning to achieve a complete network and last-mile service. They are the most vulnerable of all other road users where safety becomes important. They generally move at a slow rate and travel short distances. Walking trips should be under half a mile, a 10-minute walk. Having broad categories and containing many different ages and abilities, it is important to separate or buffer pedestrian spaces from other road user groups, especially motorized mode. Integrating sidewalks, crosswalks, pedestrian signals, and other pedestrian-friendly features into the street network ensures that walking is a safe and viable option for transportation.

Bike – Cyclists

An energy-efficient and slow-moving mode of transport, including unicyclists, bicyclists, tricyclists, and more. They are vulnerable on a shared path for the safety of themselves or others (pedestrians); cyclists are obligated to keep to the buffered roadway in many jurisdictions, not the sidewalk. The development of a bicycle infrastructure network will help encourage more types of users to choose bicycles as a primary mode of transport. A reasonable bicycle trip is 2–4 miles, a 10–20 minute ride. The route or bike lanes should be thought through thoroughly in context while looking at future planning.

Transit - Transit Riders

Transit provides longer arterial connections for both pedestrians and cyclists to cover more distance at a faster rate of speed. Headway – a passenger's waiting time should not be more than 15 minutes; this gives a good measure of transit trip feasibility. Transit also allows people with disabilities to reach destinations more easily. With greater numbers of people in each vehicle, transit riders contribute to the most efficient mode of travel. Transit riders typically board transit vehicles at designated stops located in the right-of-way, which can include seating, a shelter, or other amenities.

Vehicles – Motorist

The most dominant mode of transportation at high-speed, showing how the roadway design is for motor vehicles. They are an essential part of the Complete Streets network, but they should not be the only mode considered in network optimization. Supporting mode shift will increase trip capacity in the roadway network and ensure the long-term sustainability of the system. Upon reaching those destinations, motorists are required to park their vehicles out of traffic so that other motorists can utilize the right-of-way. It is important to note that all motorists are also pedestrians when they are heading to, or once they get out of, their vehicle.

Parking

As the road network is designed for motorists, the need for parking also increases, which optimizes traffic flow. Parking is not only for long-term parking but also for off-loading or on-loading short-term parking. Well-planned parking can help reduce congestion while encouraging other modes of transport. Effective parking design also supports sustainable urban development by encouraging the use of public transportation and reducing the need for excessive road space dedicated to parked vehicles.

Freight Operators

The role of freight operators is integral to transportation systems, and this should be considered while designing roadway networks. Ranging from small local delivery pickup trucks to large tractor-trailer trucks, freight operators move goods between locations and communities. Their vehicles are usually larger than those of motorists and may require special loading zones or parking facilities to accommodate their size and model. It also enhances the overall functionality of the street network, promoting economic growth while minimizing disruptions to pedestrian and cyclist activities.

Business

Consideration of open public space for business in roadway design helps connect people with different transportation modes and economic vitality. Well-designed roadways that prioritize accessibility, efficient traffic flow, and the strategic location of commercial zones play a pivotal role in fostering a conducive environment for businesses to thrive. A pedestrian-friendly infrastructure is vital while being designed to increase foot traffic and accessibility to business. Businesses, the heartbeat of any local economy, thrive most when they are located along streets with large numbers of pedestrians and cyclists. Within the right-of-way, businesses may achieve greater success or a competitive edge when they provide outdoor seating, extra advertisement signs, or additional space to display their wares. Some businesses, like food trucks, are entirely mobile, and providing space for their vehicles can improve not just the vibrancy of an area but also the profitability of these mobile businesses.

Regional Thoroughfare Plan - Matrix Priortization of Contexts to Modes

	Street Type	Boulevard						
	Modes	Pedestrian	Cyclists	Transit Riders	Motorist	Parking	Freight Operators	Businesses
Context Zones	Urban - Traditional Downtown	3	4	1	2	7	6	5
	Urban Residential	3	4	2	1	6	5	7
	Urban Industrial	3	4	2	5	6	1	7
	Suburban Residential	2	3	4	1	5	6	7
	Commercial	5	6	4	2	3	1	7
	Rural Village	5	4	2	1	6	3	7
	Rural Residential/Agricultural	4	3	2	1	6	5	7
	Rural Activity Center	2	3	1	4	6	7	5
	Regional Link	5	4	3	1	6	2	7

Least Priority = Insignificant	Red Text
Because of the nature of the context	
Or changes according to context	
For example, In regional Link - Boulevard, parking can change to shoulder need	

1, 2, 3 are top three highest priorities in the list

1 is High Priority, while 7 is Least Priority

Defining context remains same	-
No Defining context	--



Defining Context	Street Type	Boulevard						
	Modes	Pedestrian	Cyclists	Transit Riders	Motorist	Parking	Freight Operators	Businesses
Context Zones	Urban - Traditional Downtown	Shared use	Shared use	Shared Path with easier boarding stops (Buffer Area)	Shared Path	Paved	Connection to Freight Routes	Frontage towards street
	Urban Residential	Shared use sidewalk	Shared use sidewalk	Shared Path with bus stops in intervals/ Shared Path	Shared Path	-	--	--
	Urban Industrial	Shared use sidewalk	Shared use sidewalk	Shared Path with easier boarding stops (Buffer Area)	Shared Path	-	Freight Routes	Samll local business
	Suburban Residential	Shared use sidewalk	Shared use sidewalk	Shared Path	Shared Path	Paved	-	--
	Commercial	Shared use/Separate Lane sidewalk	Shared use/Separate Lane sidewalk	Shared Path with bus stops in intervals	Shared Path	Paved	Connection to Freight Routes	Frontage towards street
	Rural Village	Paved Shoulder	Paved Shoulder	Shared Path	Shared Path	Paved Shoulder	Connection to Freight Routes	Samll local business
	Rural Residential/Agricultural	Paved Shoulder	Paved Shoulder	Shared Path	Shared Path	Paved Shoulder	Freight Routes	--
	Rural Activity Center	Shared use sidewalk	Shared use sidewalk	Shared Path with easier boarding stops (Buffer Area)	Shared Path	Paved Shoulder	Connection to Freight Routes	Frontage towards street/ Samll local business
	Regional Link	--	--	--	-	Act as Shoulder	Freight Routes	--

	Street Type	Avenues						
	Modes	Pedestrian	Cyclists	Transit Riders	Motorist	Parking	Freight Operators	Businesses
Context Zones	Urban - Traditional Downtown	1	2	3	4	6	7	5
	Urban Residential	1	2	4	3	6	7	5
	Urban Industrial	4	2	3	5	6	1	7
	Suburban Residential	1	2	6	3	4	5	7
	Commercial	3	4	1	2	6	5	7
	Rural Village	1	2	3	4	6	5	7
	Rural Residential/Agricultural	3	2	4	1	6	5	7
	Rural Activity Center	1	2	4	3	6	7	5
	Regional Link	4	3	2	1	6	5	7

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Defining context remains same	-
No Defining context	--



Defining Context	Street Type	Avenues						
	Modes	Pedestrian	Cyclists	Transit Riders	Motorist	Parking	Freight Operators	Businesses
Context Zones	Urban - Traditional Downtown	Marked Shared use/Separate Lane sidewalk	Marked Shared use/Separate Lane sidewalk	Shared Path with easier boarding stops (Buffer Area)	Shared Path	-	Connection to Freight Routes	Frontage towards street; Act as a buffer curbside as public space
	Urban Residential	Marked Shared use/Separate Lane sidewalk	Marked Shared use/Separate Lane sidewalk	Shared Path with easier boarding stops/Shared Path	Shared Path	-	-	Small local business
	Urban Industrial	Shared use sidewalk	Shared use sidewalk	Shared Path with easier boarding stops	Shared Path	-	Freight Routes	Possibilities for small food business
	Suburban Residential	Shared use sidewalk	Shared use sidewalk	Shared Path	Shared Path	-	-	--
	Commercial	Marked Shared use/Separate Lane sidewalk	Marked Shared use/Separate Lane sidewalk	Shared Path with bus stops in intervals	Shared Path	-	Connection to Freight Routes	Frontage towards street; Act as a buffer curbside as public space
	Rural Village	Shared use sidewalk	Shared use sidewalk	Shared Path with bus stops in intervals	Shared Path	Act as Shoulder	Connection to Freight Routes	Small local business
	Rural Residential/Agricultural	Shared use sidewalk	Shared use sidewalk	--	Shared Path	Act as Shoulder	Freight Routes	--
	Rural Activity Center	Marked Shared use/Separate Lane sidewalk	Marked Shared use/Separate Lane sidewalk	Shared Path with bus stops in intervals	Shared Path	Paved Shoulder	Connection to Freight Routes	Frontage towards street/ Small local business
	Regional Link	Act as Shoulder/ Paved Shoulder	Act as Shoulder/ Paved Shoulder	--	-	Act as Shoulder	Freight Routes	--

	Street Type	Avenues						
	Modes	Pedestrian	Cyclists	Transit Riders	Motorist	Parking	Freight Operators	Businesses
Context Zones	Urban - Traditional Downtown	1	2	3	5	6	7	4
	Urban Residential	1	2	4	3	6	7	5
	Urban Industrial	2	3	1	4	7	5	6
	Suburban Residential	1	2	4	3	5	6	7
	Commercial	1	3	2	4	5	7	6
	Rural Village	1	2	4	3	6	5	7
	Rural Residential/Agricultural	1	2	3	4	6	5	7
	Rural Activity Center	1	2	3	4	6	7	5
	Regional Link	4	3	1	2	6	7	5

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Defining Context	Street Type	Avenues						
	Modes	Pedestrian	Cyclists	Transit Riders	Motorist	Parking	Freight Operators	Businesses
Context Zones	Urban - Traditional Downtown	Separate Lane sidewalk	Separate Lane sidewalk	Shared Path with easier boarding stops (Buffer Area)	Shared Path	-	--	Frontage towards street; Act as a buffer curbside as public space
	Urban Residential	Marked Separate Shared use	Marked Separate Shared use	Shared Path with easier boarding stops/Shared Path	Shared Path	-	--	Small local business
	Urban Industrial	Marked Shared use/Separate Lane sidewalk	Marked Shared use/Separate Lane sidewalk	Shared Path with easier boarding stops	Shared Path	-	Freight Routes	Possibilities for small food business
	Suburban Residential	Marked Shared use/Separate Lane sidewalk	Marked Shared use/Separate Lane sidewalk	Shared Path with bus stops in intervals	Shared Path	Paved	--	--
	Commercial	Marked Separate Shared use	Marked Separate Shared use	Shared Path with bus stops in intervals	Shared Path	Paved Shoulder	Connection to Freight Routes	Frontage towards street; Act as a buffer curbside as public space
	Rural Village	Shared use sidewalk	Shared use sidewalk	Shared Path with bus stops in intervals	Shared Path		--	Small local business
	Rural Residential/Agricultural	Shared use sidewalk	Shared use sidewalk	--	Shared Path	Paved Shoulder	Connection to Freight Routes	--
	Rural Activity Center	Marked Separate Shared use	Marked Separate Shared use	Shared Path with bus stops in intervals	Shared Path	Paved Shoulder	Connection to Freight Routes	Frontage towards street/ Small local business
	Regional Link	Act as Shoulder	Act as Shoulder	--	-	Act as Shoulder	Freight Routes	--

DRAFT Reading Matrix Methodology

Poplar Street, Colville Street to 5th Avenue



Fig.1.1 Google Map of Poplar Street

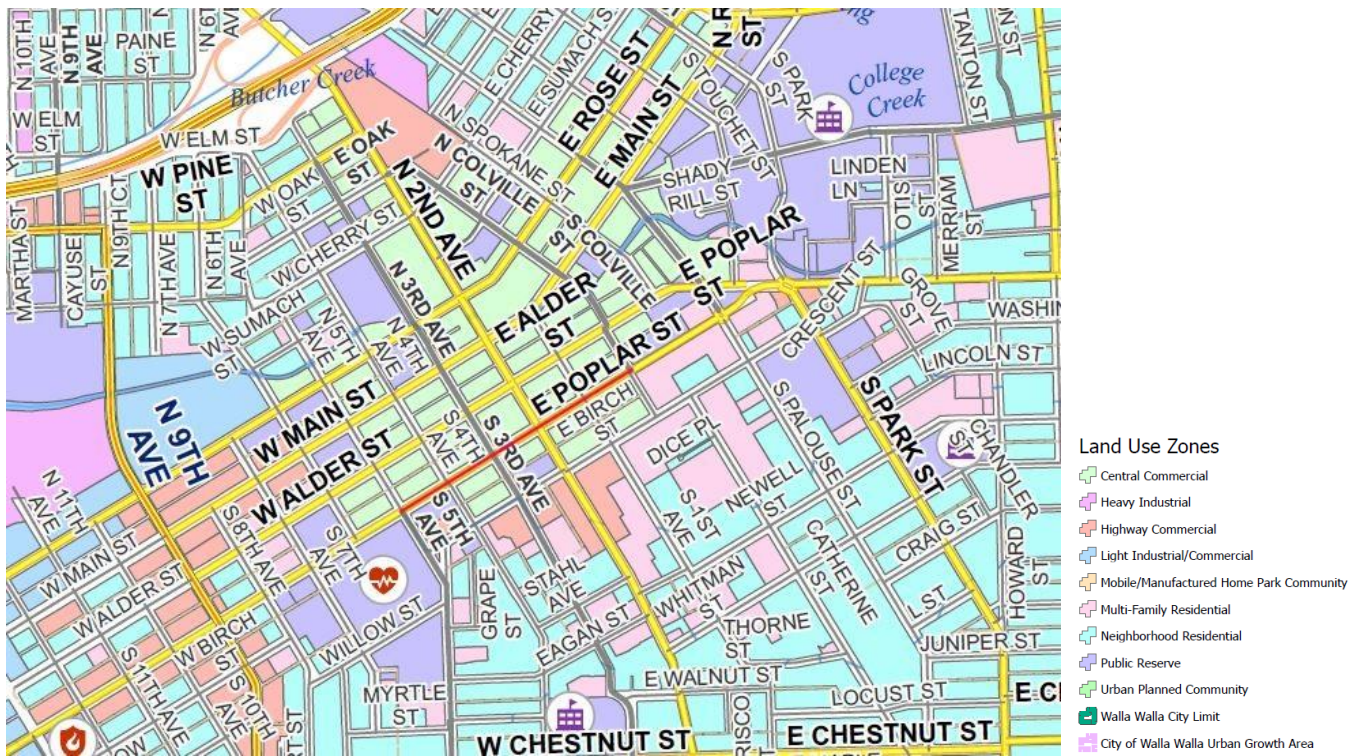


Fig.1.2 City of Walla Walla 2023 Zoning Map with legend

The following steps would help us understand how the table of the matrix methodology for regional thoroughfare plan could be adopted according to context zone and street types:

Step 1: Identifying Context

It is crucial to grasp the context in which a road is situated, as it shapes its behavior and characteristics. For example, if a street is in an urban traditional downtown context, it should be seamlessly connected to all modes of transportation. In such environments, prioritizing pedestrian and non-motorized modes of travel becomes imperative for businesses to thrive.

Existing Example: In the City of Walla Walla 2023 Zoning Map, Poplar Street – Colville Street to 5th Avenue (Fig.1.2), the corridor is a combination of central commercial, public reserve (Providence St. Mary Medical Center) and multi-family residential zones. The street lies a block from the central commercial zone, equivalent to the urban traditional downtown context zone on the table. To make access to the urban traditional downtown easier, Poplar Street would be best suited for transit connections or parking. With the combination of zones on Poplar Street, there is a lower level of downtown activities due to its residential and medical center context, where traffic calming measures should be consider. Therefore, the street is situated in a commercial context rather than the usual vibrant urban core, i.e., urban traditional downtown.

Context Zones	Urban - Traditional Downtown
	Urban Residential
	Urban Industrial
	Suburban Residential
	Commercial
	Rural Village
	Rural Residential/Agricultural
	Rural Activity Center
	Regional Link

Fig 1.3 Context Zones from Prioritization Matrix Methodology

Step 2: Identifying Street Type

The classification of a street type defines how a street can have intentional design and regulates the flow of activities and traffic, including both motorized and non-motorized modes. It aids in prioritizing different transportation modes, ranging from 1 as the highest priority to 7 as the lowest. For instance, designating a street as a boulevard implies accommodating a high capacity of motorized vehicles moving at moderate speeds. The street types are:

- **Boulevard:** A street designed for higher vehicle capacity and moderate speed, traversing an urbanized area.
- **Avenues:** A street of moderate to high vehicular capacity and low to moderate speed, acting as a connector between urban centers.

- **Street/ One-Way Street:** A street is a local, multi-movement facility. Streets can make connections along commercial corridors but often serve residential areas. Here, the street is designed for lower vehicle capacity and low speed.

Existing Example: Poplar Street resides within a commercial context zone, merely two streets away from the urban traditional downtown area. As previously mentioned, this context underscores the importance of transit connections. Understanding the context enables us to intentionally design Poplar Street, which is classified as an avenue street type.

Street Type	Avenues						
Modes	Pedestrian	Cyclists	Transit Riders	Motorist	Parking	Freight Operators	Businesses
Commercial	3	4	1	2	6	5	7

Fig.1.4 Poplar Street lies under avenue street type from the matrix table. 1 is the highest priority while 7 is the least priority.

Step 3: Assigning the Street Type and Context to the Matrix

Upon comprehensively understanding the context and street type, we can efficiently navigate through the methodology. The prioritization matrix methodology is applicable to both future development and existing scenarios. Following this, we can define the context that best suits our needs, thus outlining our course forward.

Step 4: Matrix Methodology

Prioritizing all seven modes of transportation listed in the table enables us to develop a design concept with detailed right-of-way (ROW) specifications for each mode. These ROW specifications should offer flexibility to accommodate future development while aligning with the existing context. Such adaptability will be guided by the specific needs of the street and compliance with ROW road standards.

Existing Example: Poplar Street, a commercial context on an avenue street type. Below are the ROW specifications (flexible):

	Pedestrians	Cyclists	Transit	Motorists	Parking	Freight	Businesses
Commercial	Continuous, buffered sidewalk with space for transit stations; crossing spacing of 500-1000'	Shared lanes (unmarked, marked), bike lanes	Local and Regional Fixed Route, On-Demand, Vanpool	25-35mph design speed 11-12' lanes 1-2 travel lanes per direction	Off-Street, some on-street	FGTS T-2 or 3 Very limited loading	Short to wide setbacks

Fig.1.6. Flexible right-of-way specification for Commercial Context