



Policy Implementation Memo

May 5, 2025



CITY OF BEND



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Introduction

To support the City of Bend (City) in implementing transportation and land use policy, this memo highlights the policy processes and guiding documents that the City currently uses to develop street projects and how the new low-car districts and People Streets typology could be integrated. Each guiding document was explored for its place in the current policy implementation, and suggestions were added for updates that could be included in each. The suggestions listed below are a place for the City to begin to implement policy changes, but by no means are intended to be comprehensive or to limit the update process. In addition to the policy processes, this memo includes other elements to consider when implementing People Streets.

Background

The Climate Friendly and Equitable Communities (CFEC) rules, specifically OAR 660-012-0330 (7) Land Use Requirements, require that “cities and counties with an urban area over 100,000 in population must have reasonable land use regulations that allow for the development of low-car districts. These districts must be developed with no-car or low-car streets, where walking or using mobility devices are the primary methods of travel within the district.” Bend, with a population just over 100,000, is subject to this rule, and therefore must develop policies that define and allow for low-car districts, which will be developed with “no-car or low-car streets.” This project is a first step towards developing those policies, building on best practices from other cities and considering Bend-specific context.

This project included the development of four potential street types for “no-car or low-car streets,” which the City of Bend is calling “People Streets.” These street types were tested in a case study that evaluated the different street types on a real-world example between Juniper Park and Drake Park, connecting through the Hawthorne Overcrossing to Downtown Bend. Based on the key takeaways from the case study evaluation and other best practices, this memo assesses the City’s policies and processes to determine where and how to integrate low-car districts and People Streets. There are opportunities to meaningfully advance People Streets across the City by updating policy and processes for development, street preservation and maintenance, capital improvement projects, and by realigning funding allocation and design standards.





State Requirements

The following outlines the requirements of OAR 660-012-0330 (7):

“(7) Cities and counties with an urban area over 100,000 in population must have reasonable land use regulations that allow for development of low-car districts.”

Given that the City of Bend has a population over 100,000, the rule applies, thus reasonable land use regulations must be adopted to allow for low-car districts to develop.

“These districts must be developed with no-car or low-car streets, where walking or using mobility devices are the primary methods of travel within the district.”

Within low-car districts, the streets must prioritize people walking and using mobility devices through designs for no-car and low-car streets.

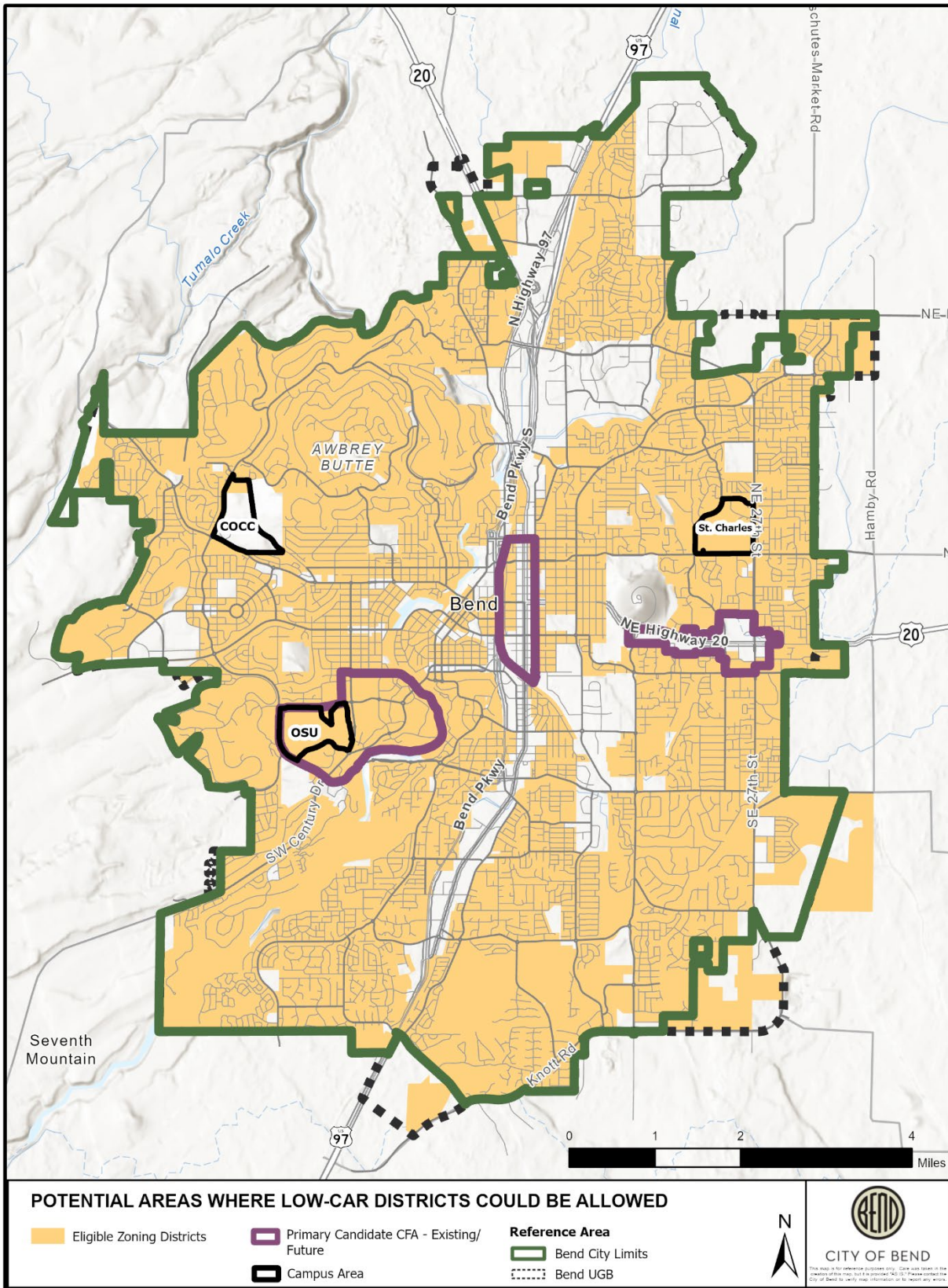
“Cities and counties must make provisions for emergency vehicle access and local freight delivery.”

While vehicles may be restricted or deprioritized in low-car districts, there still must be access for emergency vehicles and local freight delivery. Some streets may have traditional emergency vehicle access or loading zones, while other People Streets may be designed for pedestrians and non-motorized modes only, with emergency and freight access from an alley or through removing bollards, for example.

“Low-car districts must be allowed in locations where residential or mixed-use development is authorized.”

While People Streets could be developed in areas not zoned for residential or mixed-use development, the rule requires that low-car districts must be allowed in designated residential and mixed-use areas. Figure 1 illustrates where these zoning districts currently exist, and highlights some of the places where the City could allow low-car districts in the future, subject to continued planning and adoption of implementing regulations.







People Streets Guiding Principles

To develop a robust approach to People Streets, there are a range of considerations that the City should address as it updates guiding documents, determines design details, and specifies the process for implementing People Street improvements. During the update process for the Comprehensive Plan, Transportation System Plan (TSP), Bend Development Code (BDC), Complete Streets Manual, and Standards and Specifications, it is important to consider other streetscape elements. The guiding principles recommended by the People Streets Steering Committee during project outreach are:

- **Safe & Comfortable** - The design of these spaces will prioritize safety and comfort for people walking, biking, and rolling. They may include vehicle limitations and restrictions where appropriate.
- **Connected & Accessible** - These spaces will be thoughtfully integrated into the community and existing street networks; they will be easily accessible via low-cost transportation options nearby; and they will provide opportunities for both community gathering and through-movement while accommodating necessary emergency, service, and delivery access.
- **Activated & Livable** - These spaces will support activity in all seasons and at all times of the day and provide attractive space for businesses and people to use the street for both commerce and gathering.
- **Inclusive of Nature & Art** - These spaces will be living, vibrant, and attractive by integrating trees and native, pollinator-friendly, and edible landscapes as well as vibrant, multi-cultural art.
- **Welcoming to All** - These vibrant people-first spaces will be welcoming to all ages, abilities, cultures, identities, and income levels. The design, messaging, and materials in these spaces will be thoughtfully inviting to all.
- **Resilient** - These spaces will include durable, maintainable, and resilient materials to ensure they are vibrant now and in the future.

Through additional public engagement, people emphasized the importance of:

- Recognizing the business impacts of changing traffic circulation, access, and parking in design and ensuring access to businesses are maintained.
- The importance of incorporating street lighting and street trees scaled to the land use context.
- The importance of designing People Streets to accommodate snow removal/snow storage.





Transportation Project Delivery Pathways

In Bend, as in many other cities, transportation improvement projects are designed, funded, and delivered by one of three basic pathways (Figure 2):

1. As **capital improvement projects**, which are long term investments in city infrastructure led by the City. These projects are often identified in city plans before advancing for design and funding. These typically include more expensive investments and projects that require more public involvement. They also include special programs like the Neighborhood Street Safety Program.
2. Through **maintenance and similar programs** provided by city street maintenance and operation crews. These programs carry out activities such as repaving, pothole repair, restriping traffic lanes, changing traffic signs, operating and updating traffic signals, and maintaining bridges. These programmed activities can be a cost-effective way to make small but meaningful transportation improvements, especially where other work needs to occur (e.g., during street repaving). They are best suited for improvements that are low-cost, can use quick-build/interim materials, and that do not need significant public involvement.
3. As a part of **private development**. Where development will add trips or transportation impacts to the network, developers can be required to construct or improve nearby transportation infrastructure to meet city standards. The extent of the improvements the City can require depends on the size and impacts of the development.

Each project delivery pathway is directed by specific city documents, described below.

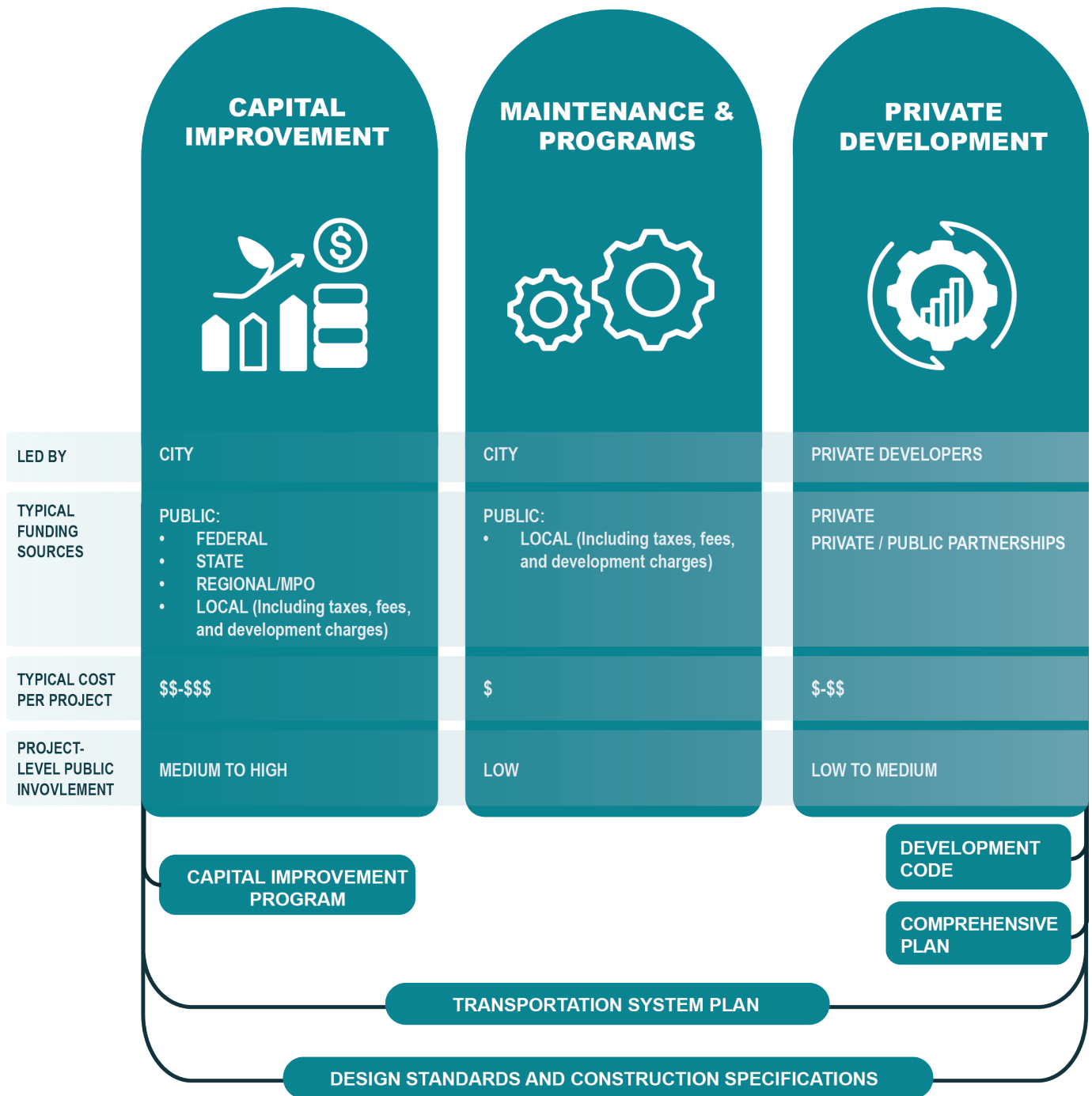


FIGURE 2. COMPARISON OF PROJECT DELIVERY PATHWAYS



Overview of Guiding Documents

The character of the City's built environment is guided by several long-range plans and codes. These documents collectively ensure that Bend's growth is managed in a coordinated and sustainable manner, aligning development with the city's long-term goals and policies. Each plan type is described below.

Comprehensive Plan

- The highest-level policy document and plan that guides long-range planning for Bend's growth. It uses 20-year forecasts for population, housing, and employment to ensure the City has adequate land for housing, jobs, schools, parks, and includes long-range plans for transportation, water, and wastewater systems.
- Includes the TSP as a key element and provides a framework and policy guidance to ensure community members can walk, bike, drive, and use transit services safely and efficiently.
- Provides policies and goals for creating complete neighborhoods with access to jobs, services, parks, and schools.

Bend Transportation System Plan (TSP)

- The transportation element of the Comprehensive Plan.
- Outlines mobility policies and projects for the city's transportation system that are designed to ensure safety and enhance our community. Using an analysis of current and future transportation conditions, the TSP creates a vision for Bend's transportation system in 2040 in order to accommodate future growth needs.
- Provides a list of prioritized projects and a financial plan, with project construction to be carried out by the City, private developers, and regional, state, or federal agencies, depending on the project.

Capital Improvement Program (CIP)

- Includes transportation construction projects that will be delivered by the city and its contractors.
- Commits funding to city infrastructure projects, in five-year increments, to implement projects identified in the TSP.

Bend Development Code

- Describes all zoning districts, special planned districts, refinement plans, area plans, and master plans. Includes their purpose, characteristics, allowed, and conditional uses.
- Contains specific regulations for development, including transportation improvement standards.
- Requires that streets within or adjacent to new developments be improved according to the City's standards and specifications.

Design Standards and Construction Specifications (Standards and Specifications)

- Provides design criteria and construction standards for public infrastructure, including transportation facilities.
- Applies to both city/public projects and private developments.



- Ensures that all public improvements meet the required quality and safety standards.
- Includes exception or deviation process for when local conditions or desired improvements do not fit existing standards.

The Complete Streets Manual

- Provides information and guidance on how to design, build, operate, and maintain complete streets elements within the City of Bend.
- Supplements the TSP, Development Code, and Standards and Specifications, which take precedence over it.

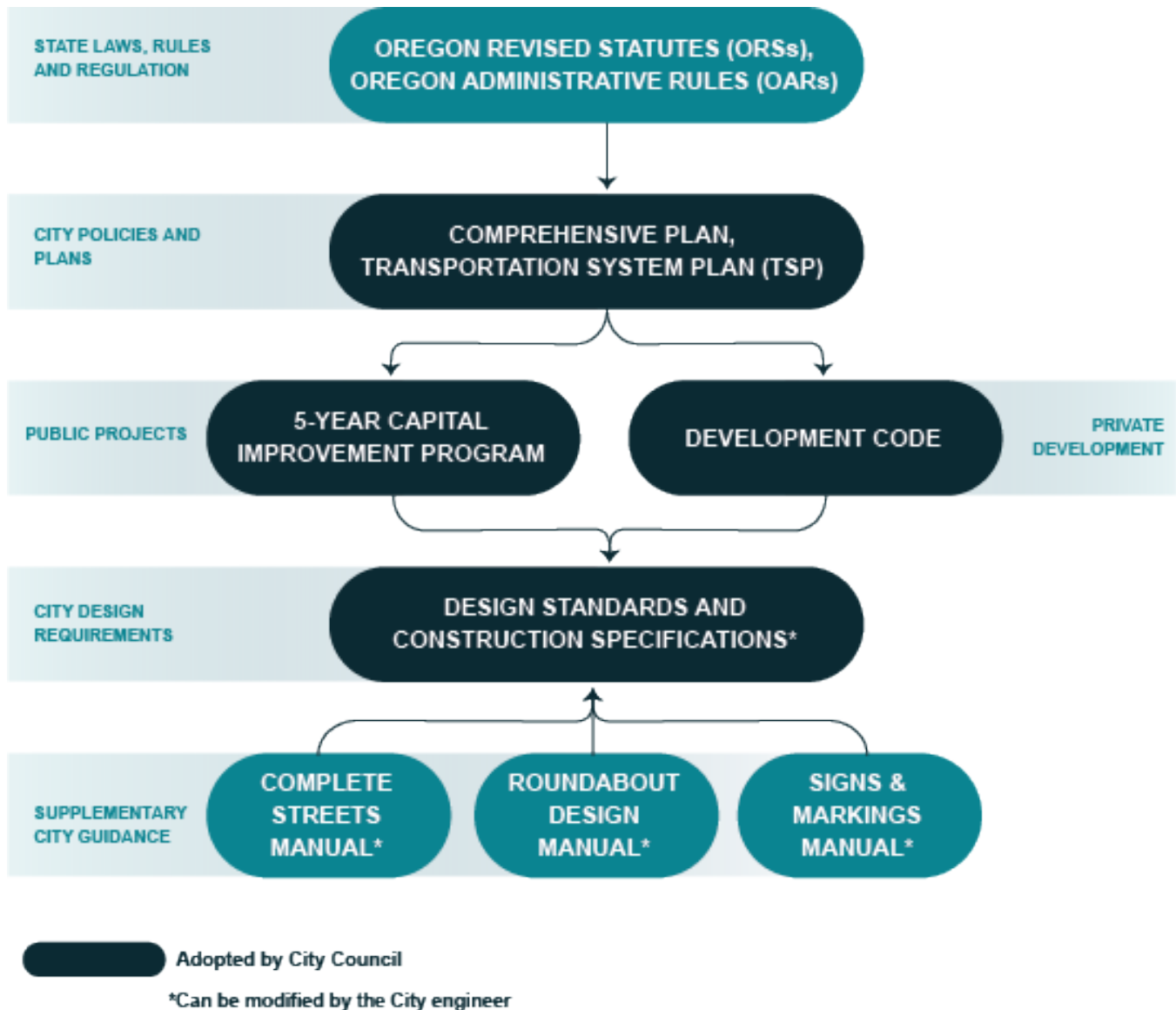


FIGURE 3. DOCUMENTS GUIDING PLANNING, DESIGN, AND CONSTRUCTION OF CITY TRANSPORTATION FACILITIES



Policy Implementation Options

There are no established best practices in the State of Oregon for implementing low-car districts and low/no-car streets. With most cities still early in the CFEC compliance process, the Department of Land Conservation and Development (DLCD) is allowing individual paths to implementation rather than directing a particular approach. Based on a review of Bend's current guiding documents, there are three general approaches Bend could take to advance policies related to low-car districts and People Streets (Figure 4).

- 1. Prescriptive.** This policy option involves defining new land use designations for low-car districts and transportation designations for People Streets, creating policies for them, and mapping boundaries and networks.
 - Comprehensive Plan amendments: Bend would create a new land use designation, likely as an overlay, special area, or special district that could be layered with established zoning (e.g., similar to existing overlays like Bend Central District (BCD)). This land use designation would include new policies describing its purpose, characteristics, and implementing actions. The Comprehensive Plan Map would be updated with boundaries defining where low-car districts existed.
 - TSP amendments: The City would create a new network typology, as it did with the Key Walking and Bicycling Routes and the Low-Stress Network. This would include new policies describing its purpose, characteristics, and implementing actions. The TSP would be updated to map People Street locations and include low-car district and People Streets improvements in its project list.

Benefits of this approach: With clear geographic boundaries, policy requirements, and intent documented, the Prescriptive option is most likely to result in construction of low-car districts and People Streets.

Limitations of this approach: The Prescriptive option requires the most public process and decision-making prior to adoption. It adds complexity for staff, community members, and developers seeking to understand how low-car district and People Street requirements interact with other overlapping land use and transportation network designations. With all geographic overlay and network decisions made at adoption of the Comprehensive Plan and TSP, this option may limit opportunities for context-sensitive decision-making during subarea planning, capital projects, or development review.

- 2. Complementary.** This policy option involves identifying current land use designations that will be converted into low-car districts and transportation networks where People Streets should be developed. It also includes incorporating new policy language for those designations.
 - Comprehensive Plan amendments: Bend would identify zoning districts, overlays, special areas, or special districts where low-car district policies should be added. Existing policy





language suggests low-car districts are consistent with the intent of the following land use designations:

- i. Zoning districts: Central Business, Mixed Use (all), Residential (all). These correspond to the CFEC requirements that low-car districts be allowed in mixed-use and residential development contexts.
- ii. Overlays and special districts listed in BDC Chapter 2.7: Bend Central District, Central Oregon Community College Special Planned District/Overlay Zone, Southeast Area Plan Overlay Zone, and others as applicable.
- TSP amendments: Bend would add policies that specify that the Key Walking and Bicycling Routes and the Low-Stress Network are compatible with People Streets, for non-arterial functional classifications. At its discretion, Bend could limit People Street implementations to these networks within land use areas allowing low-car districts. Bend could also choose to add a “People Streets First” policy for certain network segments and land use contexts (the “Roundabouts First” policy provides a good example of this kind of policy language). Where low-car district and People Streets improvements were identified as a priority, they could be included in the TSP project list.

Benefits of this approach: The Complementary option advances both existing policies and CFEC requirements without introducing new land use or transportation designations. It requires less intensive public process and decision-making, as it does not involve the establishment of new geographies.

Limitations of this approach: Community members would likely need a reference map to understand where low-car districts and People Streets policies have been adopted, though this map would not need to be amended into the Comprehensive Plan or TSP. Project-specific decisions would need to be made, potentially increasing time and effort, but also potentially increasing public awareness, engagement, and buy-in.

- 3. Minimal.** This policy option involves identifying where low-car districts and People Streets may be introduced and adding policy language describing what actions to take to advance them.
- Comprehensive Plan amendments: Bend would define mixed-use and residential land use contexts as areas where low-car districts are allowed. Policy language could describe the process to advance low-car districts, such as through district, subarea, or master plans.
 - TSP amendments: Bend would describe People Streets as an allowed street type for mixed-use or residential areas, for non-arterial functional classifications. Policy language could describe the actions needed to consider People Street designs during capital project development or as a part of right-of-way improvements with private development.

Benefits of this approach: The Minimal option allows Bend to comply with CFEC without introducing new designations or introducing new geographic requirements. It requires the least public process and decision-making prior to implementation for specific projects and does not oblige any area or developer to implement low-car districts or People Streets.



Limitations of this approach: The Minimal option defers all decisions to future refinement plans, CIP project development, or development review processes. It places the burden on community members or developers to learn about low-car district and People Streets policies and request they be advanced in specific locations. With no action required of the City, actual implementation could be inconsistent.

Gradations exist between these three options, depending on the specific policy and geographic decisions the city might choose to advance.

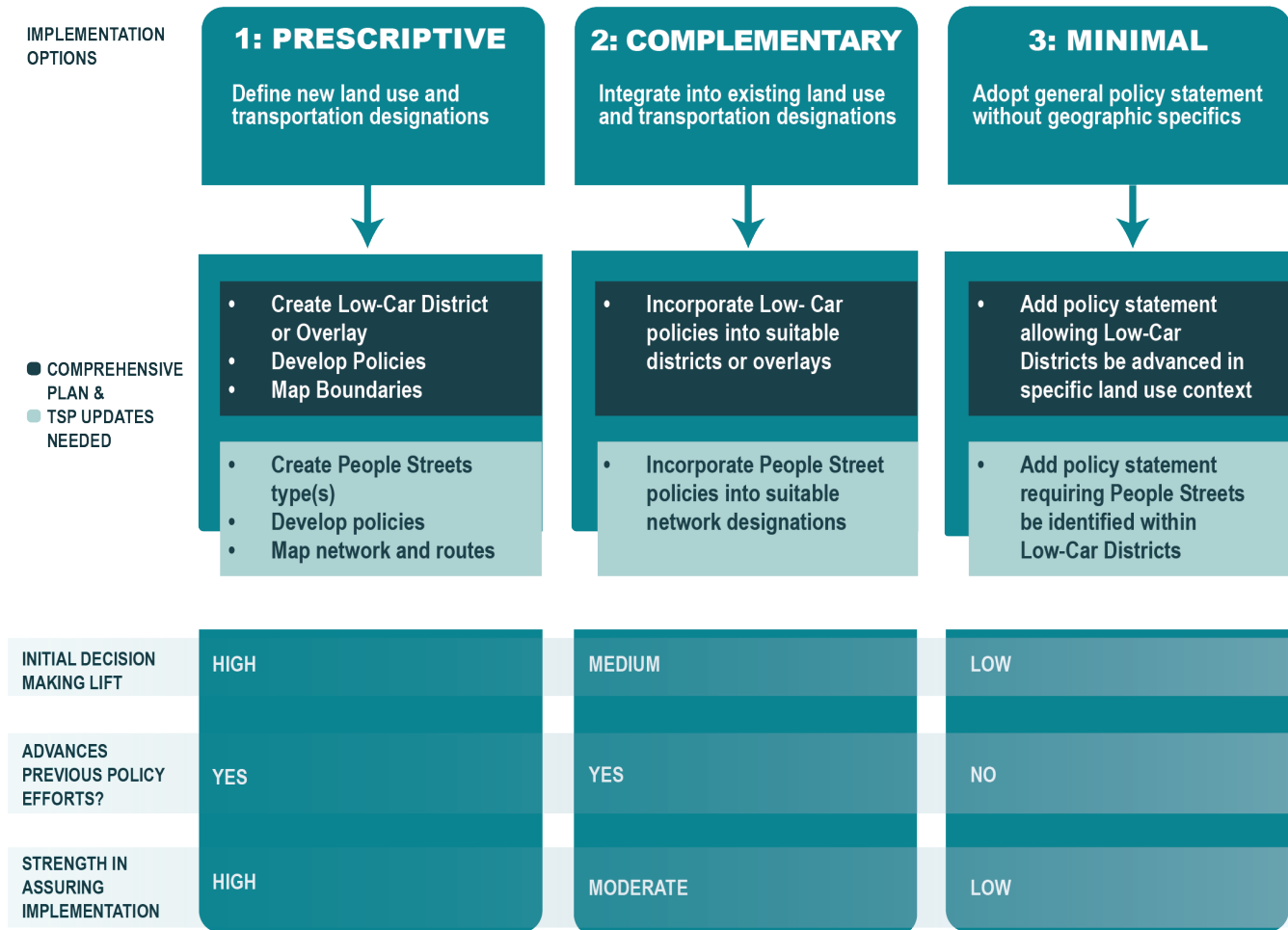


FIGURE 4. POLICY IMPLEMENTATION OPTIONS FOR LOW-CAR DISTRICTS AND PEOPLE STREETS



Implementing Code and Design Requirements

In addition to Comprehensive Plan and TSP updates, the three policy implementation options above all require changes to other City guiding documents to fully implement low-car districts and People Streets.

CAPITAL IMPROVEMENT PROGRAM

To implement low-car districts and People Streets specific TSP projects should be incorporated in the CIP as funding becomes available. As described above in the Project Delivery Pathways section, this is most important for higher-cost improvements that make significant long-term changes to city streets and need more public process.

PEDESTRIAN NETWORK IMPLEMENTATION PLAN

Priority projects in the Pedestrian Network Implementation Plan should be reviewed to determine where People Streets should be considered first or are an appropriate design option, then analyzed to determine where People Streets would offer greater net benefits than other design alternatives. Future updates of the Pedestrian Network Implementation Plan should utilize low-car districts and People Streets designations as an input when identifying and prioritizing projects.

BEND DEVELOPMENT CODE (BDC)

Certain sections of the BDC would need updates to implement low-car districts and People Streets. The table below outlines various sections of the BDC that should be evaluated to incorporate references to and requirements for People Streets. This list is not exhaustive.

In most cases, the BDC should refer to the Standards and Specifications and the Complete Streets Manual for specific requirements for the design and construction of People Streets. The BDC currently specifies right-of-way width, and, in some cases, right-of-way elements related to adjacent land use such as sidewalk widths or curb types, which are also defined in the Standards and Specifications. Certain elements regarding low-car districts and streets that private development will be required to comply with should be included in the BDC.





TABLE 1. BEND DEVELOPMENT CODE UPDATES

Current Code Section	Updates
[Multiple] Descriptions of zone districts, special planned districts, refinement plans, area plans, and master plans.	For any new low-car district designations or existing land use designations that have been amended, revise the purpose and characteristics language to allow or require low-car districts and/or People Streets. Changes should be consistent with Comprehensive Plan amendments.
3.1.200(D)(1) , Street Connectivity and Formation of Blocks	Consider redefining “connected” as some of the People Street types may restrict access for vehicles.
3.1.300(B)(2)(d) , On-Site Pedestrian Facility Development Standards	Revise language to allow for curbless sidewalks adjacent to roadways for Shared Street and Plaza Street People Street types.
3.1.400(K) , Barricades	Consider revising language to allow for barricades to be installed to restrict vehicular access on People Streets.
3.1.500(C)(3) , Clear Vision Areas, Applicability	Consider revising Clear Vision Areas to allow on-street bikeshare stations or bike corrals/parking, as opposed to needing special approval on People Streets.
3.3.300(C) , Parking Standards, Location	Reference Complete Streets Manual for future guidance on on-street parking for People Street types.
3.4.150(B) , Waiver and Modification of Public Improvement Standards, Criteria	Add People Streets “overlay” as a reason that the waiver does not prohibit People Streets from being implemented.
3.4.200(F) , Minimum Rights-of-Way and Street Sections	“...must be provided in compliance with the City of Bend Standards and Specifications cross-sections.” Add People Streets cross-sections so this reference is valid or add People Streets cross-section or minimum width to the BDC.
3.4.200(Q) , Curbs, Curb Cuts, Ramps, and Driveway Approaches	“Curb exposure shall be per City Standards and Specifications.” Revise Standards and Specifications to include curbless streets option. “All public and private streets shall have curbs, except...” Include People Streets in exception. “...minimum width between curb extensions shall be 24 feet.” Consider revising to neck down to 20 feet at People Streets, provided emergency services are otherwise accommodated.



3.5.200(C) , Standards for Installation and Operation of Outdoor Lighting	Include reference to People Streets or to Complete Street Manual content related to lighting on People Streets, especially Plaza Streets, to encourage activation. Recommend establishing pedestrian-scale lighting requirements for People Streets.
3.6.200(G)(3) , Manufactured Home Parks, Access	Consider revisions to street width to allow for narrower People Streets on streets that don't need to be accessed by manufactured home delivery trucks. Assess widths and turning radii with design vehicle.
3.6.300(A) , Automobile-Oriented and Automobile-Dependent Uses and Facilities	Consider restricting automobile-oriented and automobile-dependent uses and facilities on certain People Streets.
3.6.300(D) , Mobility Hub	Reference People Streets.
3.6.300(F) , Outdoor Storage and Display within Public Rights-of-Way	Consider incorporating permanent and flexible locations for merchants in the right-of-way on People Streets and adding guidelines within the Complete Streets Manual.
4.7.400 , Transportation Facilities Report	Consider revising Guidelines on Transportation Facilities Reports, especially related to trip generation in accordance with the latest ITE Trip Generation Manual, for People Streets to consider mode shift with high-quality, low-stress facilities. Consider referencing the ITE Multimodal Transportation Impact Analysis for Site Development (MTIA).

STANDARDS AND SPECIFICATIONS

The Standards and Specifications contain design standards and details. The details include ranges of widths of streetscape elements in cross-sections, utilities details, material selection, and others which help designers establish consistency across projects around the City, and make sure that elements are being designed to a certain standard and at the appropriate location within the network. Cross-sections are the primary section of the Standards and Specifications that will need to be updated to incorporate People Street types as a new type of street. Additionally, other details that could be added include:

- Flush streets tactile guidance placement
- Preferred plaza drainage techniques to avoid ponding and tripping hazards
- Interaction between bikes and transit at bus stops on People Streets
- Quick-build materials





The table below (Table 2) is not comprehensive but identifies key sections where updates would support the design and construction of People Streets. In general, standard drawings should be replaced with more flexible width ranges. Following precedent cases from other cities, this flexible guidance can also be included in the Complete Streets Manual. See the Figure 5 for an example from Denver, CO, illustrating draft cross-section ranges based on street type (in this case, a Downtown Street).

TABLE 2. STANDARD DRAWING UPDATES

Current Standard Drawing	Update for People Streets
R-1 Typical Street Cross-Sections – General Notes	Add People Street types to “Street Type” table
R-1 series (Cross-Sections)	Create R-1H, R1-J, etc. for People Street type sections. Provide ranges for widths to allow for more flexible implementation. See Figure 5 for an example.
R-3 Concrete Curb	Include flush curb with detectable edge for flush people streets (e.g., Shared Street type)
R-4A Shared-Use Path/Sidewalk Setback	Add language to allow flush curb and associated pavement thicknesses
R-4B Shared-Use Path/Sidewalk Curb-Tight	Add language to allow flush curb and associated pavement thicknesses for People Streets
R-5 series (Driveways)	Create R-5F, R-5G, etc. for driveway details for People Street types as needed.
R-6 series (Curb Ramps)	Create R-6D for flush “ramp” (i.e., detectable warning surface without a sloped ramp)
R-9 Standard Street Sign Placement	Add language based on “to edge of vehicular traveled way” for signs on People Streets that permit cars. For Plaza Streets, add sign placement guidance in general.
R-26 Local Street Curb Extensions	Consider adding a variation on throat width between curb extensions to 20’ for People Streets. Consider including quick build materials as an option for curb extensions.



Downtown Streets

Downtown streets are surrounded by the most intense land uses including hotels, street-level retail and office, residential, and mixed-use towers. They are pedestrian-oriented and have narrow setbacks and strong engagement of the street. Curb space is highly managed and pedestrian and bicycle connectivity is of high priority. Street trees and green infrastructure, café seating, enhanced hardscaping, pedestrian lighting, and public plazas make for a vibrant place on downtown streets. Along with Downtown Collectors, there are two types of Downtown Arterials: One-Way Arterials and Two-Way Arterials.



Example Streets

- » Larimer Street
- » 14th Street

	Frontage Zone	Sidewalk Zone	Amenity Zone	Curbspace	Outside Travel Lane	Inside Travel Lane
Preferred	-	12'	8'	8'	12'	10'
Minimum	0'	8'	5'	7'	11'	10'
Maximum	10'	-	12'	9'	12'	11'

FIGURE 5. DENVER COMPLETE STREETS DESIGN GUIDELINES 2020 CROSS-SECTION ISOMETRIC EXAMPLE

COMPLETE STREETS MANUAL

The City of Bend Complete Streets Manual is a companion to the BDC and Standards and Specifications and provides a toolkit for design decision-making with a “menu” of options for street elements. The City of Bend Complete Streets Manual should be updated for the purpose of designing People Streets and incorporated into capital project design processes.

The manual will define the range of People Streets, and which type is generally most suitable based on land use context (see Table 3). As an easy method of providing guidance to staff, including People Streets guidance in the Complete Streets Manual (non-binding) can occur without updating other plans. The Complete Streets Manual contains consolidated guidance on design and implementation as well as how a street improvement or traffic change can advance other City goals such as Safe Routes to School. The Complete Streets Manual will reference the Standards and Specifications, where relevant, for granularity of design details like cross-sections.

**TABLE 3. LAND USE AND PEOPLE STREETS**

Land Use	Most Applicable People Street Type			
	Plaza	Shared	Low-Car	Greenway
Urban Area Reserve district (UAR) ³ , Low Density Residential (RL)				X
Standard Density Residential (RS), Industrial district (IG, IL)			X	X
Medium Density Residential (RM-10, RH)		X	X	X
High Density Residential (RH), Central Commercial district (CG, CBD, MR), Mixed-Use Urban (MU)	X	X	X	
Commercial district (CC, CL), Mixed Employment (ME), Mixed-Use Neighborhood (MN)		X	X	
Professional Office (PO)			X	
Public Facilities district (PF) ¹	X		X	X
Special Planned districts ² , Urbanizable Area district (UA) ³	X	X	X	X

¹ Example of People Streets in a Public Facilities District are Plaza Street (e.g., new civic plaza), Shared Street (e.g., access streets, through parking lots), and Greenway Street (e.g., continuation of greenway with bike/ped trails on public property).

² All People Street types could be applicable, but it depends on Special Planned District goals for specific streets.

³ Prior to annexation, may not be included in low-car district. After annexation, dependent on developed permitted land use implemented.





Other Elements of Policy, Design, and Project Delivery

Business and Economic Development

The streetscape is important for business and economic development and vice versa. Businesses can contribute to an active streetscape, and special events can create a sense of place and celebration, while also bringing customers to nearby businesses.

APPLICABLE GUIDING PRINCIPLES

- Activated & Livable

MOST APPLICABLE STREET TYPES

- Plaza Street
- Shared Street
- Low-Car Street

CONSIDERATIONS

- Encourage specific land uses such as mixed-use (including commercial, employment, and residential) or higher-intensity typologies from subarea plans.
- Develop criteria for which land uses or contexts are a good fit for People Streets so that the street type might inform desired development (if the street project were to be completed first). See Table 3.
- Activate the street
 - Include placemaking elements. This can include street furniture, public art, pedestrian scaled lighting, street trees and landscaping – anything that makes the place somewhere people want to linger.
 - Provide a list of urban design standards, such as a street furniture palette, for specific streets or districts within Bend. This can live within the Complete Streets manual, with references in the BDC.
 - Provide opportunities for public events featuring local businesses that close streets to cars on a temporary or regular basis.
- Continue to permit parklets, streeteries, and other alternative uses of curbside space
 - Review the City of Bend's current parklet program to ensure that the process is not onerous for small businesses. Additionally, consider implementing a curb management





- program that would gather use data to help to manage use to ensure appropriate turnover. For example, in winter months, parklets may be generally underutilized and there may be more demand for parking.
- Monitor parking utilization and transportation mode share and conduct surveys of businesses and residents to understand impacts of street improvements on businesses.

Accessibility

Accessibility for people with disabilities is a critical aspect of creating a space that everyone can use and enjoy. With curbed streets, ADA accessible curb ramps are essential. With curbless or flush streets, curb ramps may not be needed. In all cases, Public Right-of-Way Accessibility Guidelines (PROWAG) must be followed, and grades and cross slopes should be kept to a minimum where possible while still accounting for drainage. Evaluate the need for detectable warnings.

APPLICABLE GUIDING PRINCIPLES

- Connected & Accessible
- Welcoming to All

MOST APPLICABLE STREET TYPES

- Plaza Street
- Low-Car Street
- Shared Street
- Greenway Street

CONSIDERATIONS

- Encourage flush/curbless street design in the Standards and Specifications and BDC. Curbless design has many co-benefits including fewer tripping hazards, easier maintenance, safety for all modes, easier emergency access, and improved aesthetics and economic appeal. Flush streets can also cost less over their lifecycle because they require less maintenance than curbed streets.
- Address accessibility issues that can arise in flush street design by adding design guidelines in the City of Bend Complete Streets manual or reference to the **FHWA Accessible Shared Streets Guide** or other leading guidance that encourages separating spaces for different for different modes and using detectable edges and tactile devices for aid in warning people with impaired vision that they are entering a shared space.





Maintenance and Ownership

Maintenance and ownership of People Streets are important to establish clearly so that they continue to be desirable, well-cared for, safe spaces. City staff should consult stakeholders early in the planning and design process. This should include Business Improvement Districts (BIDs), City crews, etc., who will be responsible for up-keep and what their specific roles are. A simple checklist in the Complete Streets Manual could help a project team account for all the agreements and activities that will need to take place in the project's maintenance plan on City-funded projects. Linear parks and People Streets along existing parks will need coordination with the Bend Park and Recreation district for implementation, including amendments to their Comprehensive Plan and standards documents. These types of People Streets may not be appropriate or possible for the City to be the lead agency on.

APPLICABLE GUIDING PRINCIPLES

- Safe & Comfortable
- Connected & Accessible
- Activated & Livable
- Resilient

MOST APPLICABLE STREET TYPES

- Plaza Street
- Shared Street
- Low-Car Street
- Greenway Street

CONSIDERATIONS

- Maintenance depends on the street elements and edges (curbs vs. curbless) and whether permanent or quick-build elements are being used.
- Updated maintenance routines should prioritize People Streets (e.g., streets on Key Walking and Bicycling Routes). This includes both seasonal maintenance, such as leaf or snow removal, as well as maintaining street elements that may have been damaged and need repair or replacement. Review best practices and learn from other winter cities such as Toronto, which:
 - Performs summer servicing, relying on both service requests and patrolling to determine areas that need maintenance.
 - Uses e-bikes for patrolling on People Streets.
 - Maintains a fleet of small sweepers to clear bikeways and sidewalks, and performs sweeping route twice per month, especially during the fall.
 - Performs winter servicing using different service levels assigned to different streets, prioritizing streets with bike/ped facilities to achieve 60% bare pavement.





- Uses winter plow equipment that has plow blade angle flexibility to cover different edge conditions.
 - Uses both plowing and salting to manage snow, although the City acknowledges that use of salt on roadways in Oregon is not permissible.
- Consider maintenance during planning and design for a People Street project and include a maintenance plan. Consider developing a standard template for a maintenance agreement between private property owners and the city.
- Confirm the City or other owners have the staff and equipment to perform adequate maintenance for the streetscape or explore other design alternatives that can meet the goals of the project with less maintenance. For example, a quick-build bikeway will be inexpensive to install but will demand more maintenance to repair or replace vertical buffer elements. A sidewalk-level bikeway will be more challenging to design and construct, but it will typically require less maintenance and may be easier to clear of snow.
- Consider ownership and maintenance responsibilities in a maintenance plan, especially around linear parks, trails, and other urban design features. Agreements may be needed between City departments or other agencies on maintenance of facilities, considering capacities and skill sets. Options for placement of the public right-of-way line may include:
 - All active transportation infrastructure within the responsibility of the transportation department and contained within the public ROW.
 - All active transportation infrastructure within parks district property (alongside existing parks or designating a new linear park).
 - ROW line splits pedestrian and bike facilities (e.g., bikeway is on roadway, sidewalk is at curb height or behind vegetation).
- Where People Streets incorporate design elements that have a higher maintenance need than typical infrastructure (e.g., more expensive street furniture, lighting, landscaping, pavers, etc.), work with adjacent and nearby property owners to form a sustainable funding model to ensure the long-term success of the investment. This could be established through a new or existing BID that assesses businesses in the area or a property owners association (POA or HOA) that assesses property owners. Key considerations of such a public-private funding strategy include:
 - Create an equitable funding formula that appropriately assesses property or business owners for the relative benefit that they receive from the improvement. Funding methodologies can vary widely and can include adjustments for distance from the People Street, business or land use (e.g., a lower assessment for residential uses), parcel size, and amount of lineal frontage along the street. While it is possible to exclude tax-exempt properties, best practices are that all property owners contribute to the funding.
 - Ensure that BID or POA funding is used to supplement service above the baseline that they city would otherwise provide. That is, do not use it to replace city funding, but instead to supplement it.
 - In addition to funding regular maintenance, budget for a capital reserve fund to pay for major repairs, upgrades, and replacements.





- Potential uses for the supplementary funding could include many services such as more frequent street and sidewalk cleaning, trash removal, utility expenses for lighting or irrigation, snow removal, private security patrols, seasonal landscaping for planters, holiday decorations, and other services as determined by the organization's leadership.

Quick-Building People Streets During Programmed Maintenance

Quick-build elements, such as flex posts, tuff curb, hardened centerlines, and rubber speed humps, provide an opportunity to reserve right-of-way for a long-term solution. The interim quick-build solution can have immediate benefits. For example, a paint-buffered bikeway converted to a flex post-buffered bikeway can reduce the visual and effective lane width and help slow vehicles.

APPLICABLE GUIDING PRINCIPLES

- Safe & Comfortable
- Connected & Accessible
- Activated & Livable
- Resilient

MOST APPLICABLE STREET TYPES

- Shared Street
- Low-Car Street
- Greenway Street

CONSIDERATIONS

While the TSP uses a 20-year horizon for capital projects, the City will have opportunities to implement less expensive, but high-impact projects in the 2- to 10-year time horizon. This should include the use of quick-build elements, such as tuff curb, flex posts and paint. During pavement preservation projects, for example, these elements can be used to reset the lane allocation and space for active modes of transportation, for a small or no additional cost. Quick build methods could be used to construct many of the City's Low Stress Network identified in the 2020 TSP, and the City could identify these projects in the next TSP update.

As a street preservation project is scoped, the TSP should be reviewed to make a determination if

- 1) a full-build People Street can be established by a synergy of preservation funding for the paving repair and additional funding from another source, or





2) if additional funding is available for an interim version of a future People Street that can be installed with the street preservation project using quick-build concepts to hold the space for a future full-build People Street.

Preserving the space for active modes is the first, and often most critical and challenging, step in transforming the street. Modest or interim changes to streets may not require public involvement, especially if more significant public involvement occurred during the TSP process relatively recently. If a proposed redesign is substantial enough to need a more robust public process, that may indicate the need to deliver it as a capital project instead. For preservation projects with full-depth pavement work funded by the Oregon State Highway Fund, the **"Pedestrian and Bicycle Bill" (ORS 366.514)** requires by law that pedestrian, bicycle, and ADA facilities to be implemented as part of the project. This statute does not only pertain to Oregon State Highway Fund projects, but also to all agencies with jurisdiction over the right-of-way.

The City has a complete streets policy (meeting or exceeding ORS 366.514). In the Standards, Section 3, pg. 54, "These street standards shall be used to support the design and construction of land use requirements, exactions and mitigations within the City of Bend as well as public works projects implemented outside of the land use process." In the Complete Streets Manual, it includes a bullet: "City Maintenance Projects – Pavement preservation and utility capital projects where existing pavement is replaced or modified, will make minor complete street upgrades as feasible within the existing pavement width such as installing accessible curb ramps, marking crosswalks, or modifying bike lane striping. Other street improvements such as pavement widening, adding missing sidewalks, separating bike lanes, and adding enhanced crossings are not part of maintenance project funding. Construction of these elements may be included as synergy projects along with a maintenance project when there is a budgeted capital improvement project that coincides." The City should review existing complete streets policy language to clarify when maintenance projects will consider implementing quick-build People Streets.





Curbside Management

Curbside management is important because there are many competing uses of limited curb space including parking, loading, transit, bike lanes, parklets, and other uses. Efficient curbside management improves overall mobility.

APPLICABLE GUIDING PRINCIPLES

- Connected & Accessible
- Activated & Livable

MOST APPLICABLE STREET TYPES

- Plaza Street
- Shared Street
- Low-Car Street

CONSIDERATIONS

- Consider curbside management zones for businesses including loading and unloading and servicing.
- In the City's parking management policies, consider parking needs, such as implementing short-stay parking (15- to 30-minute) along "Main Street" business areas to help encourage turnover. Develop consolidated longer-term parking off the "Main Street."





Security, Safety, and Comfort

How a street feels matters. People should feel safe and comfortable traversing and lingering along People Streets, and to make this happen, elements of street design, activation, and enforcement must be considered during planning, development, implementation, and beyond. It requires close coordination with other City departments, such as the Bend Police Department, business districts, housing and homelessness services, and others.

APPLICABLE GUIDING PRINCIPLES

- Safe & Comfortable
- Activated & Livable
- Welcoming to All

MOST APPLICABLE STREET TYPES

- Plaza Street
- Shared Street
- Low-Car Street
- Greenway Street

CONSIDERATIONS

- Use the Crime Prevention Through Environmental Design (CPTED) approach, which uses urban and architectural design along with collaboration between law enforcement, government, and community partners to reduce crime. The four main principles of CPTED are:
 - Territoriality – make physical improvements to neighborhoods to encourage ownership
 - Natural surveillance – maximize visibility
 - Access control – reduce opportunities for criminal activity by guiding people through well-placed entrances, exits, fences, etc. and in some cases, securing access points
 - Maintenance – residents and business owners help keep their neighborhood well-maintained to show that there's investment in the space and that destruction won't be tolerated
- Physical CPTED investments can include:
 - Lighting (to improve visibility, especially around building entrances)
 - Landscaping (to discourage unwanted entry)
 - Fencing (to avoid hiding places)
 - Remove signs blocking windows (to allow clear views in and out of storefronts)
 - Maintenance (to show the area is cared for)
- Design with homelessness in mind. Bend allows sitting, lying, and camping in the ROW, so long as sidewalks are not blocked and other time, place, and manner restrictions are followed,





except in residential areas, and people who are houseless are legitimate users of public space. While transportation projects may not address the aspects of physical temporary or permanent shelter or other forms of stability for the homeless, acknowledging the issue is present and a reality in the streetscape is the first step in finding opportunities to address the problem during the transportation project. A few strategies include:

- Involving non-profit and government partners in the public health, mental health, and housing areas early in the project
- Addressing the issue as a hyper-local one, which may include specific outreach to individuals
- Include homeless individuals as part of stakeholder engagement
- Strategize with law enforcement on how traffic and other security concerns will be monitored in the low-car district and on People Streets. Find ways for community engagement with law enforcement outside of emergency situations for creating community trust. Explore other ways of patrolling without using vehicles, such as bike or foot patrols.





Emergency Access

People Streets, like most other streets, need to be accessible to emergency vehicles and personnel in case of an event. During project development, emergency services departments should be consulted to determine when width or access exceptions are permitted, or when alternate alleys or streets are required to provide access. See Appendix A for a City of Portland example of streetscape considerations related to street width required for effective firefighting as well as for the Portland Bureau of Planning Services' Fire Apparatus and Aerial Fire Apparatus road widths graphic.

APPLICABLE GUIDING PRINCIPLES

- Safe & Comfortable
- Resilient

MOST APPLICABLE STREET TYPES

- Plaza Streets
- Shared Streets
- low-car Streets
- Greenway Streets

CONSIDERATIONS

- Discuss exceptions or alternative designs where the required 20' (or 26' for fire truck with outriggers) clear width on emergency circulation path may be constrained in the People Street typology, including clarifying if there are locations where the width may be narrowed temporarily but widen back out where emergency access or firefighting capabilities are most important.
- Consider temporary or flexible bollards or temporary encroachment into bike/ped space to reduce roadway width and access while still providing emergency vehicle access.
- Determine exceptions to the fire code depending on building type, access via an alley or other means, hydrant clearances, and others. Confirm approach with Fire Marshall for exceptions, and if supported codify in the Standards and Specifications.
 - Exceptions would be made by project and could be conditional. For example, if a fire hydrant is moved, a concession of space at the new hydrant may be needed to continue to provide access to fire trucks.





Mobility Programs

The mobility inside a low-car district is as important as the travel options used to get there. This can include forms of shared mobility, such as scooter or bikeshare, placed in strategic locations. It can also include strategies to ensure plentiful and secure bicycle parking to allow people to bike to a low-car district and walk once there.

APPLICABLE GUIDING PRINCIPLES

- Connected & Accessible

MOST APPLICABLE STREET TYPES

- Plaza Street
- Shared Street
- Low-Car Street
- Greenway Street

CONSIDERATIONS

- People Street types that limit vehicular access may also limit transit access. While transit access may be frequent and reliable, it may only stop at the outer edge of a low-car district. People will need a way to access the interior of the low-car district, and mobility hubs can help with this.
- Create mobility hubs as points for first/last mile connections and provide information to help people access transit as well as harder to reach parts of the low-car district. Incorporate bike parking, shared micromobility, and wayfinding at mobility hubs.
 - Mobility hub guidelines included in BDC **3.6.300(D)**, Mobility Hub. The City of Bend Complete Streets manual references this code section and provides more guidance for design.
- Create a robust bike parking program where bike corrals can be requested by business owners or districts. Refer to BDC **3.3.600**, Bicycle Parking Standards, for standard details that specify siting and placement as well as preferred bike rack types.





Transit Vehicle Needs

Transit is a key component of making low-car districts work across the city and to provide an alternative to driving when distances are farther. Because not all People Street types can support larger transit vehicles, Cascade East Transit routes can coincide with the outer edge of a low-car district, and micromobility can help solve first/last mile issues within districts. Often, transit vehicles have specific requirements for boarding and alighting at bus stops, such as requiring a curb to be able to deploy a ramp.

APPLICABLE GUIDING PRINCIPLES

- Connected & Accessible

MOST APPLICABLE STREET TYPES

- Shared Street
- Low-Car Street

CONSIDERATIONS

- Consider how flush streets will be served by transit vehicles, especially regarding boarding and alighting while deploying the wheelchair ramp.
- If on a transit route, consider how People Street traffic-calming geometries and curvilinear features on People Streets can accommodate transit vehicles.
- Consider options to make a street transit vehicle only, with bike/ped shared or adjacent infrastructure, to help reduce vehicular volumes.

Placemaking and Urban Design

Because of their inherent focus on the experience of people walking and rolling, People Streets offer unique opportunities to advance placemaking and urban design improvements to Bend's neighborhoods. Providing urban design guidance for streetscapes will help People Streets and other streets contribute to a more cohesive urban environment that reflects the pride and authenticity of Bend's unique character.

APPLICABLE GUIDING PRINCIPLES

- Safe & Comfortable
- Connected & Accessible
- Activated & Livable



- Inclusive of Nature & Art
- Welcoming to All

MOST APPLICABLE STREET TYPES

- Plaza Street
- Shared Street

CONSIDERATIONS

- Determine the most effective approach for incorporating streetscape urban design guidance into existing policy frameworks. The flowchart below shows potential tools for this.

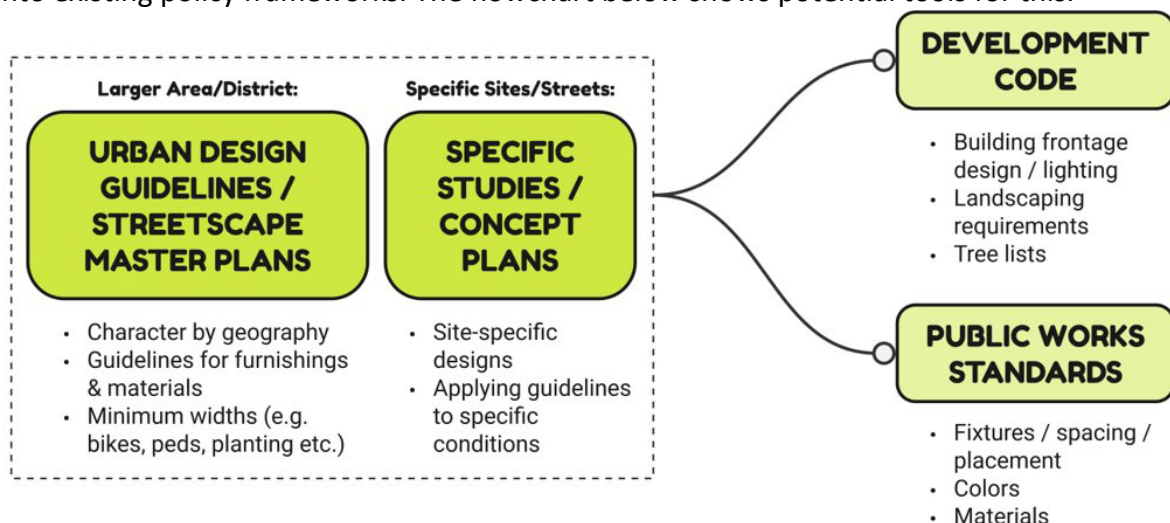


FIGURE 6. EXAMPLE URBAN DESIGN POLICY FRAMEWORKS

- Define the desired character and identity that streetscapes should express for particular districts or areas, which may differ across areas and neighborhoods of Bend. Streetscape master plans or urban design guidelines are tools to achieve this.
- Consider including streetscape design guidelines for the specific street furniture, landscaping, lighting, paving, and other elements that may be used in streetscapes for low-car districts.
- Update the **Complete Streets Manual** section on Placemaking to reference different low-car district design preferences and then use the manual to detail aspects of these design preferences.
- Rely on standard details for streetscape dimensions and constraints from existing standard details (cross-sections) and new People Streets standard cross-sections to place placemaking elements.





People Streets Next Steps

To meet state requirements set in OAR 660-012-0330(7), the City will continue to explore ways to advance policy, code and standards updates to better allow for the implementation of People Streets. Many of the guiding policy documents discussed above will be updated on different timelines. For example, the recommendations from this study will inform the City’s next TSP update, planned to start in 2026 (see Figure 7). Updates to codes and standards to support People Streets as well as ongoing community outreach and engagement can occur alongside or throughout the TSP update process, depending on the policy implementation pathway (policy implementation option) the City decides to advance.



FIGURE 7. BEND’S 20-YEAR GROWTH PLAN TIMELINE

In addition, as a case study, this project tested People Street ideas along a real route between Juniper Park and Drake Park, connecting Bend’s Core Area with Downtown Bend. This case study helped the City understand the potential benefits and trade-offs of People Streets in different types of existing areas. The results of this study may inform future policy recommendations for citywide considerations, but there are no plans to change any streets as part of this study.

While there are no planned changes to streets along this route, the City of Bend 2025-2027 Council Goal Framework references the case study route under their Economic Prosperity goal⁴, to “leverage public-private partnerships that catalyze investment in the Bend Central District, including the development of a new City Hall and investments in the Drake to Juniper Park connection”. The City will continue to advance opportunities in the Bend Central District moving forward.

⁴ Goal is to “Lead an effort to strengthen economic prosperity by enhancing strategic partnerships”.



Appendix A





Accommodation Information for People with Disabilities

To obtain this information in an alternate format such as Braille, large print, electronic formats, etc., please contact Susanna Julber at sjulber@bendoregon.gov or 541-323-8573. Relay Users Dial 7-1-1.



MEMORANDUM

To: Jocelyn Bates, PLACE
From: Adrian Witte, Toole Design
Date: September 3, 2024
Project: North Park Blocks
Subject: Street Width and Emergency Response Considerations

The City of Portland has adopted the [2021 Portland Fire Code](#) (PFC)¹ as the guidance that governs the design of streets and accessways for the Fire Bureau to respond to fires and other emergencies. That document is based on an amended version of the International Fire Code² adopted as the 2019 Oregon Fire Code (ORS 476.030).

Relevant sections of the PFC state that:

- Section 503.2.1 Dimensions: "Fire apparatus access roads shall have an unobstructed width of not less than 20 feet, exclusive of shoulders."
- Section 503.4 Obstructions: "Fire apparatus access roads shall not be obstructed in any manner, including the parking of vehicles. The minimum widths and clearances established in Sections 503.2.1 and 503.2.2 shall be maintained at all times".
- Section 503.2.2 Authority: "The fire code official shall have the authority to modify the dimensions specified in Section 503.2.1."

The largest fire vehicles are approximately 8.5' wide exclusive of mirrors. The 20' minimum allows for a fire truck to be pulled up in a 10' space (approximately 8.5' + 1.5' shy distance) and for a 10' circulation aisle for other response vehicles to pass around the truck.

Aerial fire apparatus need access to buildings more than 30 feet in height (Section D105.1) unless they are equipped with an approved automatic sprinkler system and meet several other requirements (Section D105.7). Where a ladder truck needs to deploy its outriggers, a minimum width of 26' is required (Section D105.2) to accommodate the truck plus its outriggers (approximately 16') and a 10' circulation aisle.

Key questions to ask when considering variations to the minimum width requirements:

¹ 2021 Portland Fire Code. Accessed [online](#) on September 2, 2024.

² The International Fire Code was developed originally by a private firm for gated communities and is adopted by numerous cities largely without change. Oregon and Portland have amended some sections of the code to reflect some local considerations.

- Does the proposed design maintain the intent of the code, i.e., space to park the fire truck and another space for vehicle circulation around the truck. For example, a pedestrian refuge island will allow for a truck to park on one side and space on the other side of the island for circulation around the truck.
- Does the adjacent building (based on height and modernity of building equipment, e.g., automatic sprinkler systems, standpipes, etc.) need to deploy ladder trucks or just regular fire apparatus?
- What does the fire bureau consider “unobstructed?” Does this include parked vehicles, trees, flexible delineators, vertical or other types of curbs, etc.?
- Do the width requirements need to be “continuous”? or could it be located strategically where outriggers need to be deployed and operating space around the truck is required?

Example streets in Portland with taller building heights and narrow access widths:

- Park & 8th Avenues between Yamhill & Alder: example linked [here](#).

There are examples of where deviations from the PFC have been allowed to accommodate complete streets designs. These include the design of traffic calming devices. Section 503.4.1 of the PFC states that “traffic calming devices shall be prohibited unless approved by the fire code official.” However there are numerous examples of fire access streets in the City of Portland with traffic calming devices that have been designed through a collaborative process with the Fire Bureau.

Lessons learnt from elsewhere:

- Working closely with the Fire Bureau is critical to successful street design that balances the needs of emergency responders with complete street designs that result in fewer crashes and healthier communities. More complete and compact street design with more opportunities for safe active transportation has the potential to reduce the number of non-fire calls over time (note: building fires are only 3-5% of incident calls nationally).
- Lower profile and roll curb adjacent to bike lanes or landscaping without significant vertical obstruction could be considered part of the clear space requirements.
- Breaks in parking, landscaping, and other features could be placed strategically where outriggers would need to be deployed.
- Fire departments around the country are considering whether they can adapt to smaller vehicles that have similar performance. Key metrics for a ladder truck are ladder height (vertical) and reach (horizontal) and many European and Japanese fire vehicles are smaller than US fire vehicles and exceed performance in these metrics. This allows for more complete streets with narrower widths and tighter turning radii.³

³ NACTO (2018). Optimizing Large Vehicles for Urban Environments. Accessed [online](#) on September 2, 2024.

Fire Apparatus and Aerial Fire Apparatus Access Road Widths and Parking, *where permitted.*

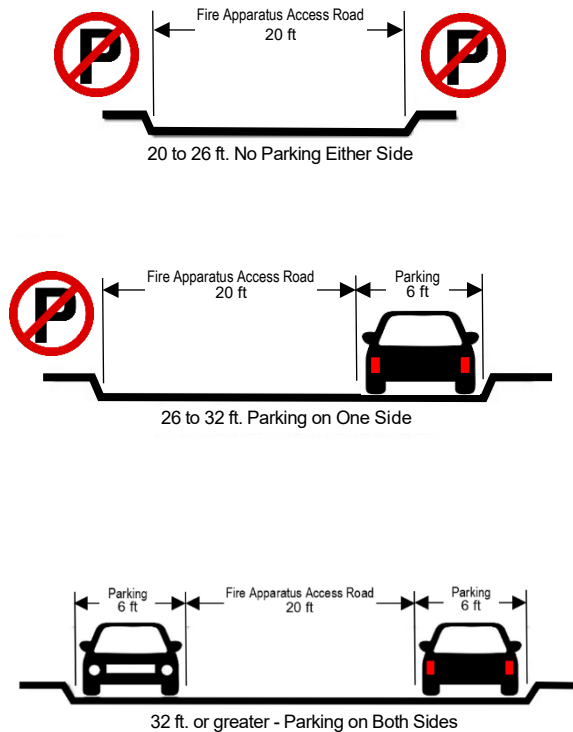
Reference: OFC/PFC section 503.2 & Appendix D, sections D103.6.1, D103.6.2 and D105.

Note: While Portland Fire Bureau uses 6 feet for parking lane widths for plan review purposes, per the OFC and the PFC, the Portland Bureau of Transportation (PBOT) uses a more restrictive 8 feet for parking lane widths. Please refer to the [PBOT Development Review Manual](#) for public streets and connections or, for private rights of way, see [Approved Permanent Rule for Private Rights of Way](#) for more information.

Fire Apparatus Access roads and Aerial Fire Apparatus roads shall have a minimum unobstructed width (exclusive of shoulders) of not less than the following:

Fire Apparatus Access Road Width (without Aerial Access required)		
No Parking on either side	Parking (Parallel) on one side	Parking (Parallel) on both sides
20 feet	26 feet	32 feet
Aerial Fire Apparatus Access Road Width		
No Parking on either side	Parking (Parallel) on one side	Parking (Parallel) on both sides
26 feet	32 feet	38 feet

Fire Apparatus Access only



Aerial Fire Apparatus Access

