

Task 4: Juniper to Drake Case Study

- City and Contractor Work Sessions (held August 7, and additional bi-weekly between August 2024 and March 2025)
- Draft and Refined Route and Cross Section Scenario graphics and cover memo
- Draft and Final Transportation & Alternatives Analysis Memo



Planning For People Streets

Case Study Evaluation



CITY OF BEND



Technical Memorandum

DATE: April 15, 2025

TO: Susanna Julber | City of Bend

FROM: Emily D'Antonio & Kayla Fleskes-Lane, PE | DKS Associates

SUBJECT: Planning for People Streets:

DKS Project # 24829-000

Juniper to Drake Case Study Evaluation

The City of Bend is required to adopt regulations to allow for the development of low-car districts, which must be developed with no-car or low-car streets. These regulations are required under the Climate Friendly and Equitable Communities rules (OAR 660-012-000) adopted by the Department of Land Conservation and Development in 2023. OAR 660-012-330(7) provides the regulatory framework for cities to develop low-car and no-car districts, where streets are designed to enable people to walk, bike, and roll¹. The City of Bend received a state grant to study criteria and design standards to help the City develop standards for implementation of low-car no-car districts. The City is generally referring to these types of streets and districts as “People Streets”. Part of this effort includes evaluation of a “Case Study”, to test People Streets concepts and implementation on a real-world route. This memo evaluates a concept of using People Streets to connect Juniper Park to Drake Park, two landmark parks within the City of Bend, via the planned Hawthorne Overcrossing bicycle and pedestrian bridge (Hawthorne Overcrossing) (See **Figure 1**).

People Streets will support population growth and higher density development providing low-cost, safe, and comfortable transportation options for people to access local businesses, services, and recreational opportunities. People Streets will incorporate a high level of urban design to create inviting and activated spaces and new opportunities to highlight the unique Bend experience. People Streets could include creating linear parks, providing native plantings and landscaping, creating civic

¹ Per OAR 660-012-0330(7), low-car 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. Cities and Counties must make provisions for emergency vehicle access and local freight delivery. Low-car districts must be allowed in locations where residential or mixed-use development is authorized.”



gathering spaces and places for public art and festivals, and attractive spaces for people to enjoy and support local businesses.

The goal of the Juniper Park to Drake Park Case Study is to understand how different treatments or policies might work in a real-world example so that the City can understand potential benefits and tradeoffs that will need to be considered in the future when developing code and policy changes to support the implementation of the new state requirements citywide.

This memorandum describes:

- Why this area was selected as a case study
- Route and cross section alternatives that were studied using the People Street types (more detail and graphics are included in the **Appendix**)
- What was learned from the case study that could be applied when developing code and policy changes in the future.

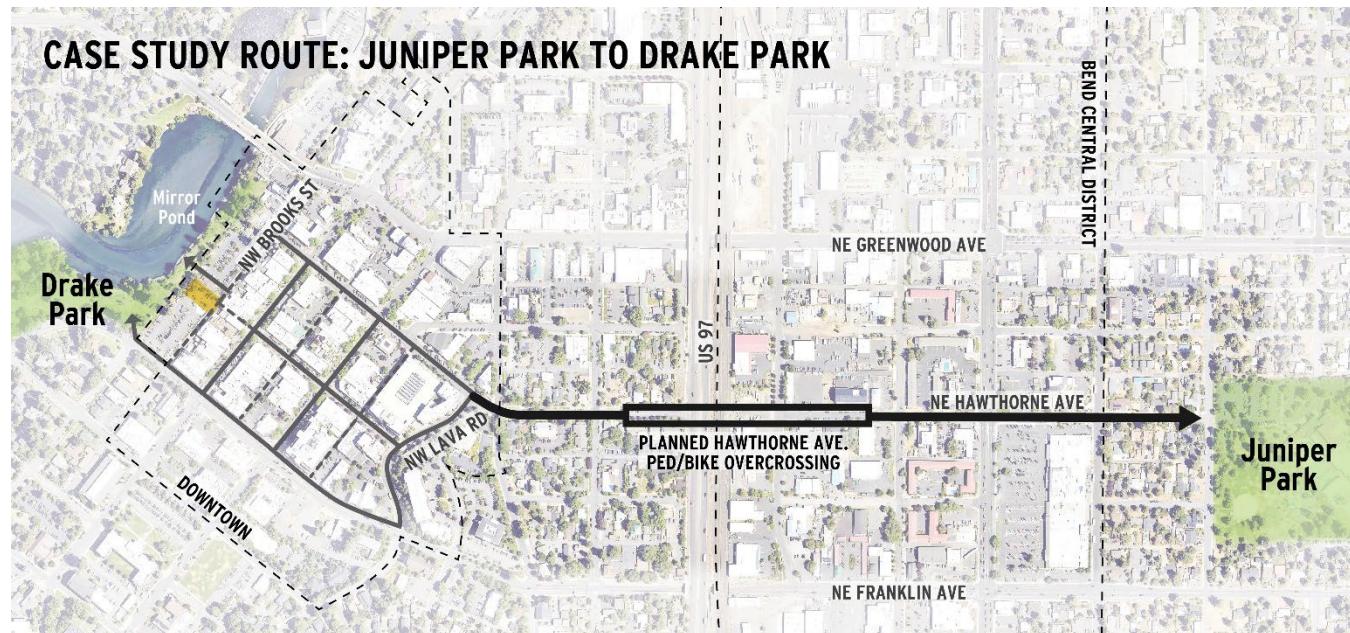


FIGURE 1. STUDY AREA

The City will use what was learned from best practices, this case study, and community engagement to develop a Next Steps & Recommendations report which will serve as a roadmap for when and how a people street could be used in Bend to develop a low-car district.



Case Study Selection

The Juniper Park to Drake Park Case Study area was selected because it provides a wide range of existing conditions to test different people street concepts and policies including:

- **Land use mix:** East of the Bend Parkway (Parkway) along Hawthorne Ave., there is a mix of land uses, with residential uses adjacent to Juniper Park and commercial uses on both east and west sides of the Parkway, including Downtown Bend. The area around Hawthorne Avenue east of 3rd Street is anticipated to be an area for future redevelopment. In addition, there are plans to turn the Hawthorne Transit Center into a mobility hub to better facilitate multimodal transportation options. To the east of the Parkway, the City is implementing the Core Area TIF Plan, which is a financing tool to support redevelopment within a specific area, including new infrastructure. This area overlaps with the Bend Central District (BCD), where the City owns several parcels that may be redeveloped in the future, including with a new City Hall. Additionally, the planning documents such as the Core Area Plan and Climate Friendly Areas Study show the area could support up to 565-1,895 housing units in the future. The potential growth in this area provides a unique land use setting for varying types of People Streets and allows them to be planned as part of development rather than retrofitted into an existing environment. The different land uses result in varied possibilities for street activation (a reason for people to gather and spend time in a space).
- **Transportation connectivity barriers:** The study area crosses NE 3rd Street and US 97, which are current barriers to transportation connections between Juniper Park and Drake Park and between Downtown and the BCD. The existence of these major barriers allows for further refinement of ideas to understand how barriers fit in the context of more people-centered routes. These barriers also provide opportunities for People Streets with some of the intersecting streets being less connected and naturally having less vehicle traffic today.
- **Varying existing transportation conditions:** The streets in the study area include a wide range of existing transportation elements, including a variety of right-of-way widths, number of vehicle travel lanes, pedestrian and bicycle facilities, transit access, and urban design features that may provide context for what People Streets might look like in the area in the future.



- **Synergy with other projects and visions:** The Drake-to-Juniper Pedestrian Corridor was identified within the Envision Bend Vision Action Plan ² to create an east-west corridor that would link Drake Park and Downtown Bend to the BCD, a potential new Bend City Hall and Civic Plaza, and Juniper Park. This area is also part of the City's Midtown Crossings Project and is the area of the planned Hawthorne Overcrossing, with construction expected in 2026-27. Additionally, adjacent to Drake Park at the Mirror Pond Plaza and Brooks Alley, the City and downtown businesses are working to create a flexible public plaza that can accommodate year-round events and support local and tourist activities in the heart of downtown.

This route provides an opportunity to test different scenarios and understand the benefits and impacts that might influence policies and standards for People Streets in the future. In the following sections, the alternatives and evaluation are discussed separately for the east side of the route (through the BCD, east of US 97) and the west side of the route (Downtown Bend area, west of US 97).

People Street Types

As part of this project, four draft street types were developed for People Streets, as show in Figure XX. This general framework for People Street types was considered when developing concepts for the Case Study.

- **Plaza Street** - These streets prioritize walking and biking and could include temporary, permanent, and/or seasonal restrictions to limit vehicular traffic to emergency vehicle and business delivery access.
- **Shared Street** - These streets would be designed to prioritize walking and biking while still allowing some vehicle access. Vehicle lanes are typically narrow and special pavement colors and treatments are used to slow speeds so drivers must travel slowly and yield to people walking. These streets are most applicable near commercial land uses or mixed land uses where buildings may be closer to the street.
- **Low-Car Street** - These streets could restrict vehicle movement to one-way or include turn restrictions to reduce the number of vehicles on the road. These streets are most applicable near more mixed land uses or residential areas.

²Envision Bend (2023). *Vision Action Plan 2024-2028*- note: the Vision Action Plan is not a City sponsored or adopted planning document.



- **Greenway Street** - These streets are typically shared streets located along traffic-calmed local road where walking and biking are prioritized. These streets are most applicable near more mixed land uses or residential areas.



DRAFT STREET TYPES



Walking and Rolling are Primary Modes
Vehicular Access is limited

Commercial uses, larger buildings, continuous frontage



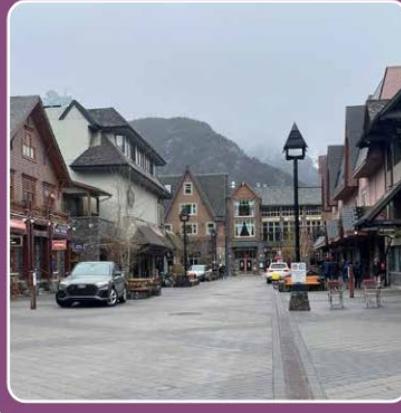
Multimodal
Vehicular access remains but walking and rolling are prioritized

More residential uses, smaller buildings, porous frontage

Plaza Street



Shared Street



Low-Car Street



Greenway Street

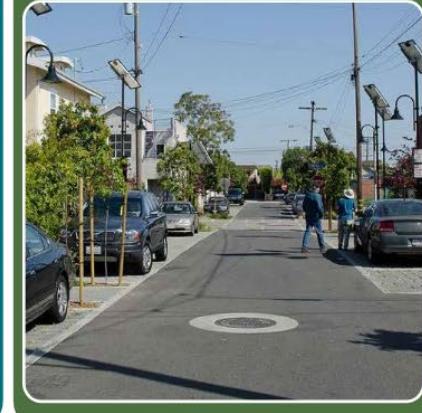


FIGURE 2. DRAFT PEOPLE STREET TYPES



Guiding Principles

Based on discussion with the study's Steering Committee members, the following are draft principles to help inform what People Streets might look like. Bend's People Streets will be:

- **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.
- **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.
- **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.
- **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 utilize the street for both commerce and gathering.
- **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.
- **Resilient** - These spaces will include durable, maintainable, and resilient materials to ensure they are vibrant now and in the future.

East Side Alternatives and Evaluation

The following sections describe the route considerations on the east side, two different case study scenarios that include cross section alternatives, and expected benefits and tradeoffs associated with each scenario.



Route Considerations

Greenwood Avenue, Franklin Avenue, and Hawthorne Avenue are three streets that cross US 97 in this area (either today or in the near future with the planned Hawthorne Overcrossing) and were all evaluated for a potential route to connect Juniper and Drake Parks as part of this case study. Key considerations for each route as a future people street include:

- **Greenwood Avenue:** The City recently completed a pilot project to test a “road diet” and provide wider bike lanes along Greenwood Avenue west of 3rd Street. The City will be evaluating safety and usage data from the pilot project to determine if the project warrants permanent improvements considering safety, alternative travel mode usage, and traffic flow. East of 3rd Street, Greenwood Avenue is an ODOT owned facility that is considered to have a high level of stress for pedestrians and bicyclists, with no near-term funding allocated for walking or bicycling improvements. Greenwood Avenue would also require the most out-of-direction travel to connect to Juniper Park. Given these factors, Greenwood Avenue was eliminated from consideration for the case study on potential improvements that could connect Juniper Park to Drake Park on the east side.
- **Franklin Avenue:** Franklin Avenue has planned bike and pedestrian projects that will help reduce the stress for people biking and walking along the corridor in the future. The City is currently designing the Franklin Avenue undercrossing improvements and corridor and has capital funding for these improvements. However, Franklin Avenue is classified as a minor arterial in the City’s Transportation System Plan (TSP), has a relatively wide right of way, and carries traffic volumes consistent with its classification. Although the City’s planned improvements will enhance its safety and improve pedestrian and bicycle access, the project team determined the corridor would not make sense as a People Street for purposes of the case study on potential People Street improvements that could connect Juniper Park to Drake Park.
- **Hawthorne Avenue:** With the planned overcrossing, Hawthorne Avenue will provide a bike and pedestrian connection between areas to the east and west of US 97. Hawthorne Avenue is not part of the regional vehicular network (ending at the RR & Parkway and Juniper Park), so traffic volumes are much lower along Hawthorne Avenue, providing more opportunity for low-stress walking and biking opportunities. Hawthorne Avenue also connects to the Hawthorne Station Transit Center. For these reasons, the case study focuses on Hawthorne Avenue as the primary route to study, connecting Juniper Park over US 97 using People Street concepts and typologies.



Scenario Descriptions

The following text describes the two case study scenarios developed for this evaluation. **Figures 2-Figures 6** show example images and cross section ideas for how these scenarios could function, with more details and examples provided in the **Appendix**.

EAST SCENARIO 1: HAWTHORNE AVE. LOW-CAR STREET

East Scenario 1 explores design elements and characteristics that could be implemented to enhance Hawthorne Avenue as a Low-Car Street. Key features of this scenario include:

- Hawthorne Avenue would become a one-way street for cars from the Hawthorne Overcrossing to 5th Street.
- The space gained from removing a travel lane would provide the needed width for walking and biking improvements including a two-way separated bikeway and continuous sidewalk between Hawthorne Overcrossing to 5th Street.
- Increased greenery along the street would provide better shade cover for all users of the street.
- To mitigate the diversion impacts caused by the one-way conversion and to increase vehicular connectivity in the area, this scenario suggests a need for an extension of Irving Avenue to 1st Street and street improvements along Greeley Avenue.

EAST SCENARIO 2: HAWTHORNE AVE. PLAZA STREET/SHARED STREET

East Scenario 2 explores design elements and characteristics that could be implemented to enhance Hawthorne Avenue as a Plaza Street from the Hawthorne Overcrossing to NE 3rd Street and a Shared Street from 3rd Street to 5th Street. Key features of this scenario include:

- The Plaza Street segment would provide open access for people walking and biking but would not be open to general motor vehicles. As shown, it includes a central multi-use path to help separate people traveling through the space more quickly from those lingering.
 - Ideally the path would be flush with the sidewalk allowing for movement between spaces and various activations in the pedestrian dedicated spaces.
- Delivery vehicles and emergency services vehicles would still be accommodated.
- The Shared Street segment would maintain slow-speed two-way traffic and could maintain parking on both sides. Bicyclists would not have a dedicated space and would share the street



with vehicular traffic. The street would include design treatments and visual cues to encourage slow driving, including different material treatments, fewer markings to encourage yielding, streetside features and plantings, and a visual narrowing of the travel way.

- To mitigate the diversion impacts caused by the vehicular restrictions along the Plaza Street, this scenario assumes an extension of Irving Avenue to 1st Street and street improvements along Greeley Avenue.

EAST SCENARIO 1: HAWTHORNE AVE. LOW-CAR STREET

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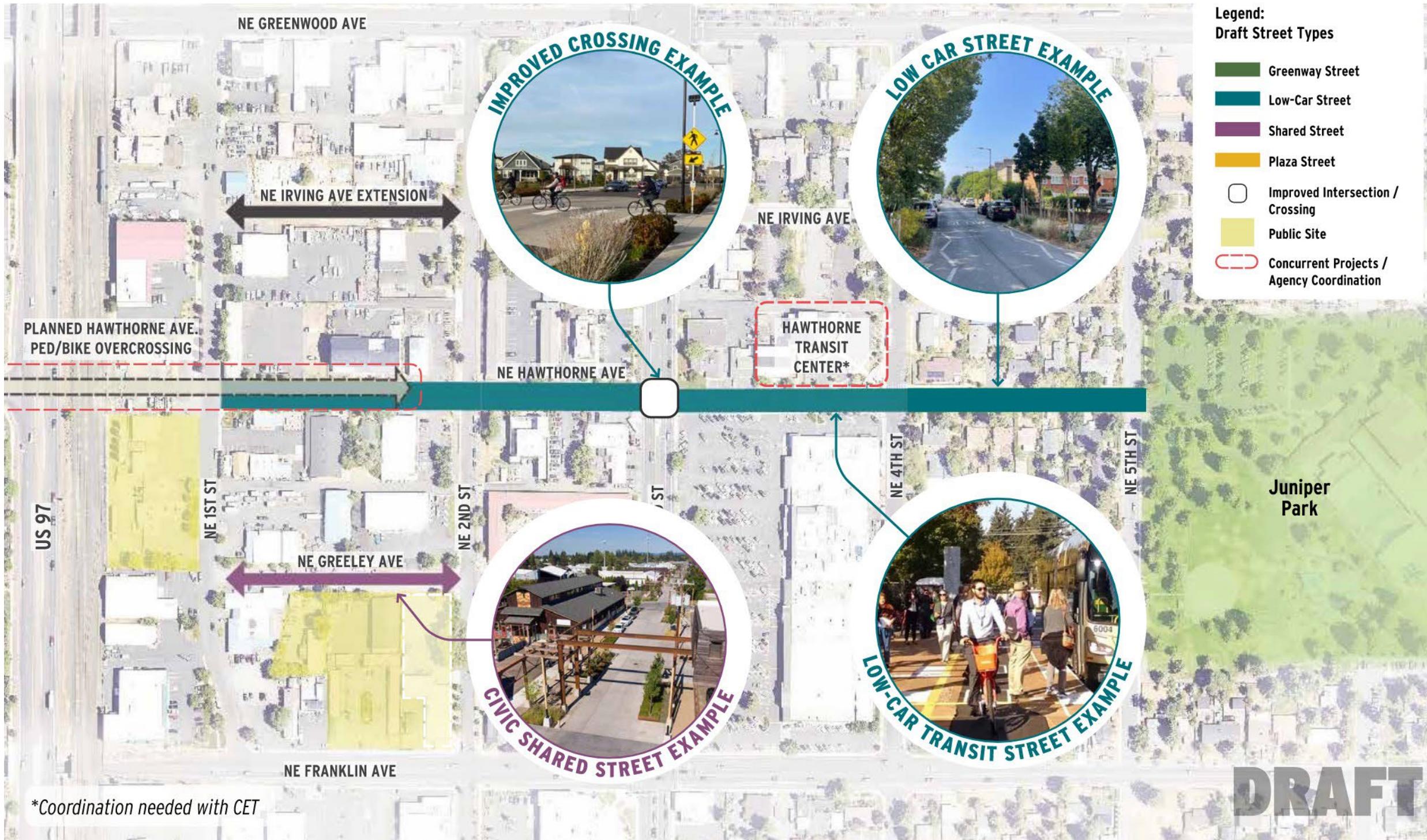


FIGURE 3. EAST SCENARIO 1

EAST SCENARIO 2: HAWTHORNE AVE. PLAZA STREET / SHARED STREET

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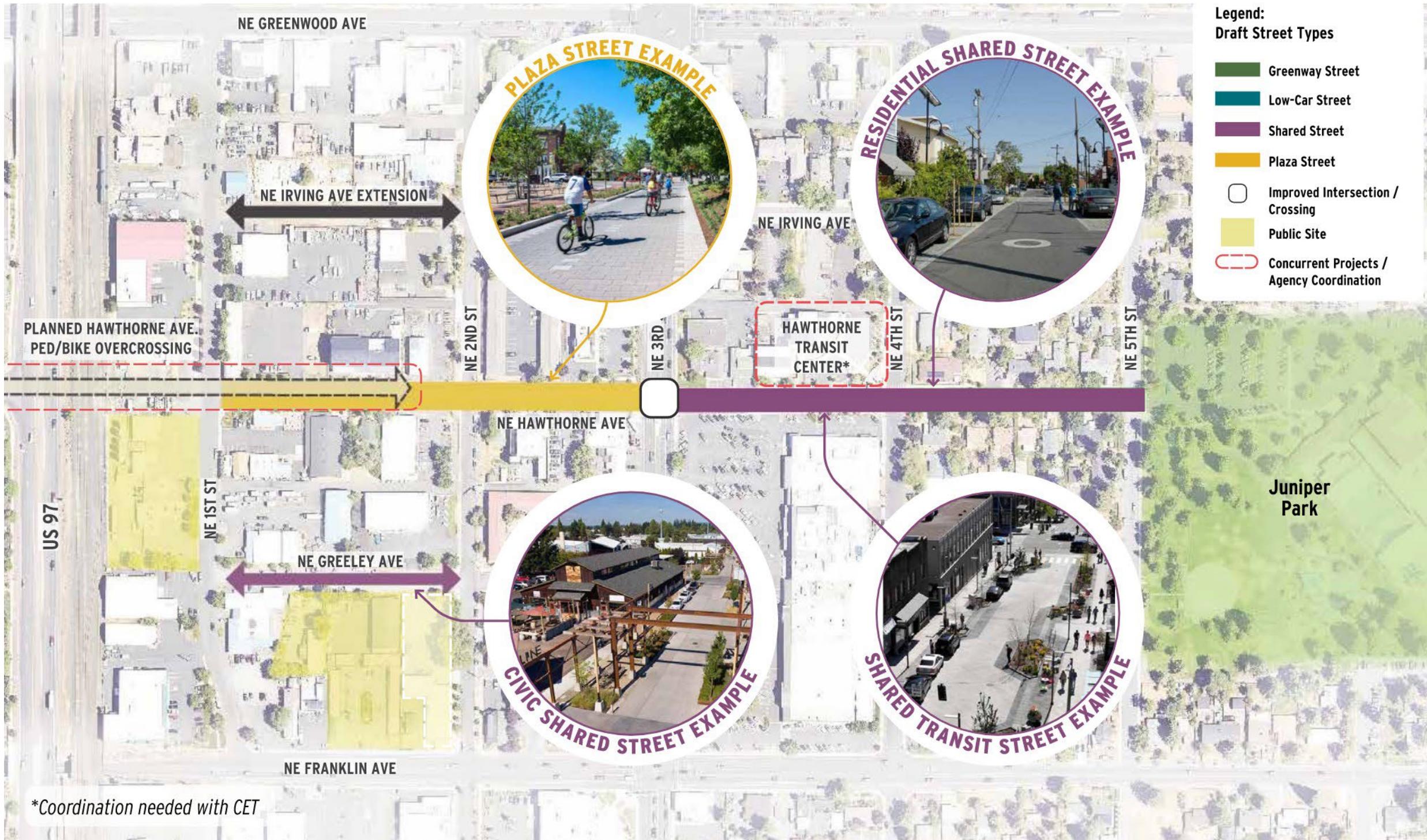
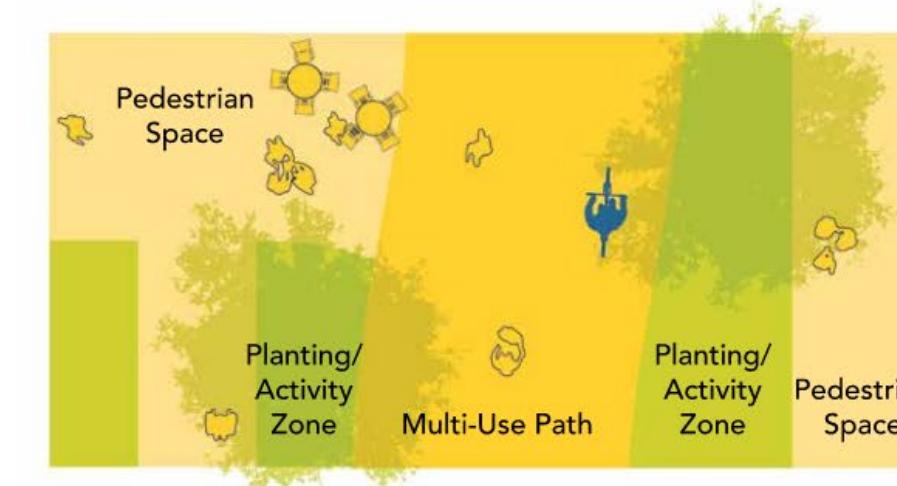
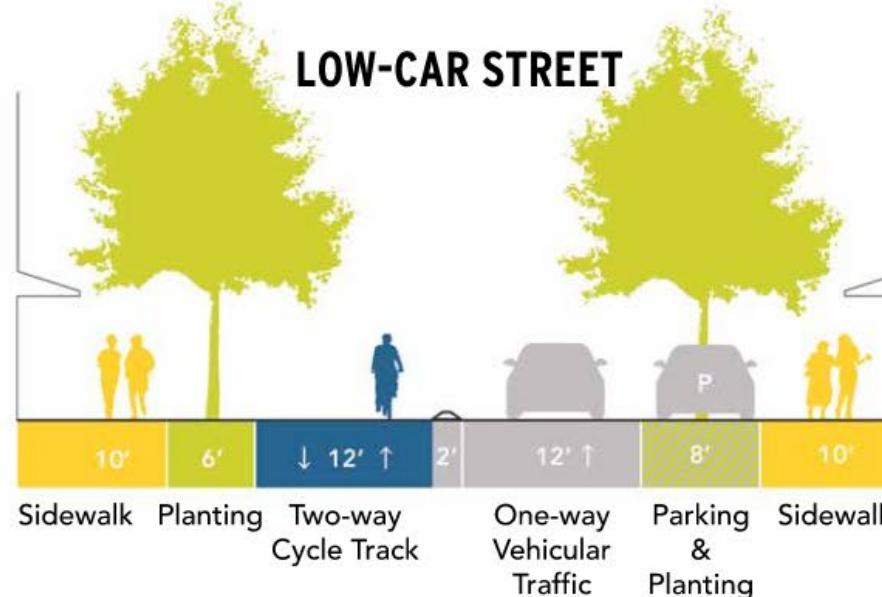
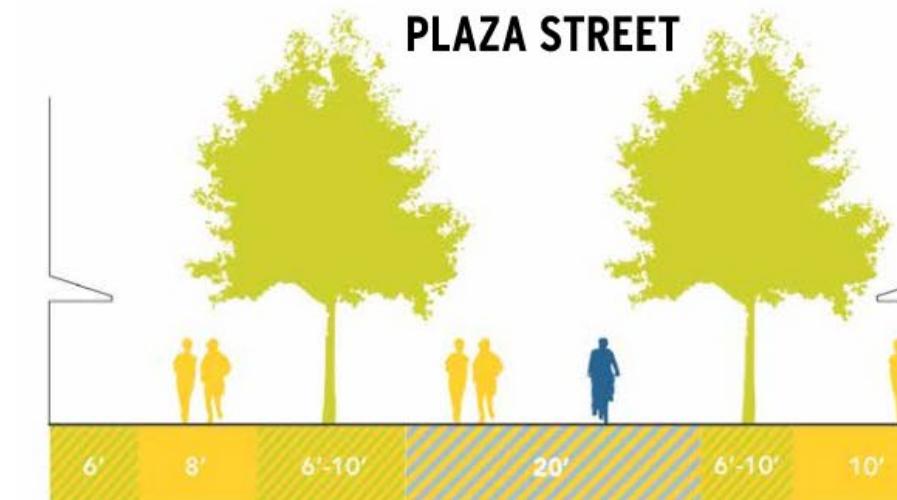
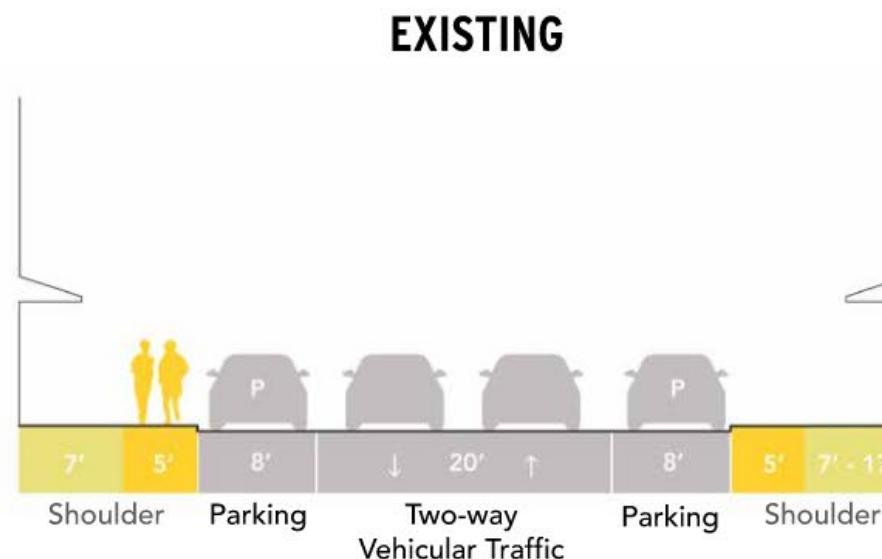


FIGURE 4. EAST SCENARIO 2

HAWTHORNE AVE. IDEAS: WEST OF 3RD ST.

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Key Map:



Legend:

- Plantings
- Pedestrian Areas
- Cycle Track
- Vehicular Areas

FIGURE 5. EXAMPLE CROSS SECTION IDEAS – WEST OF 3RD STREET

HAWTHORNE AVE. IDEAS: AT TRANSIT CENTER

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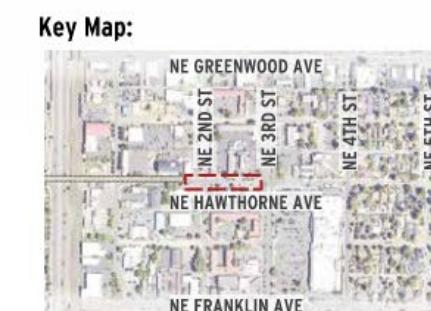
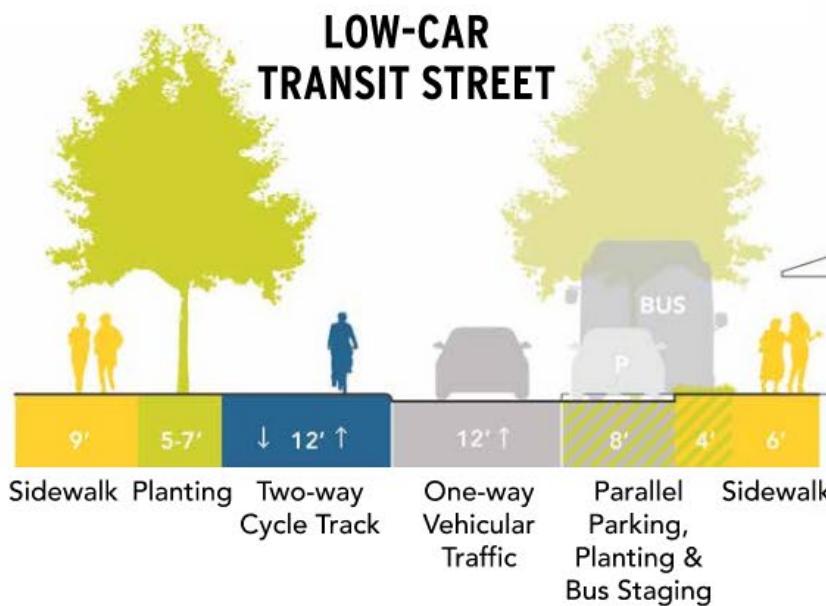
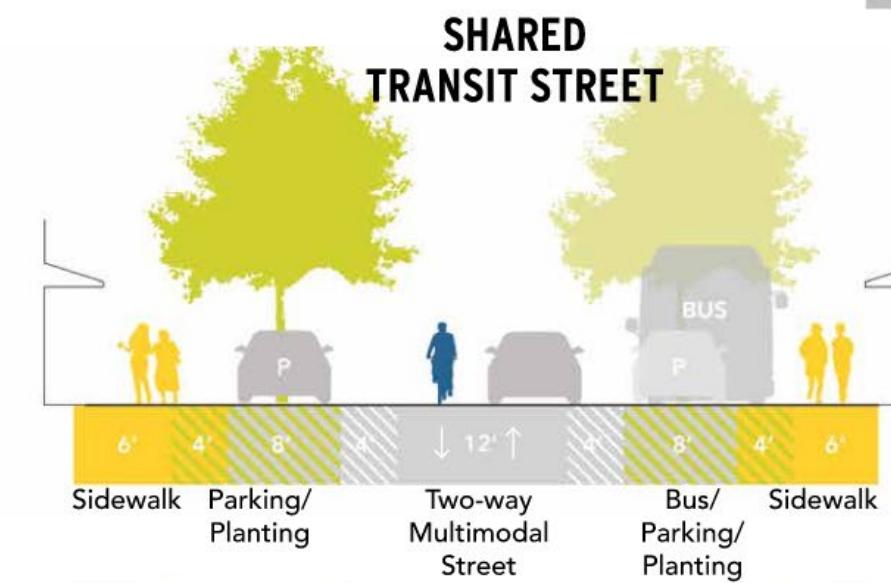
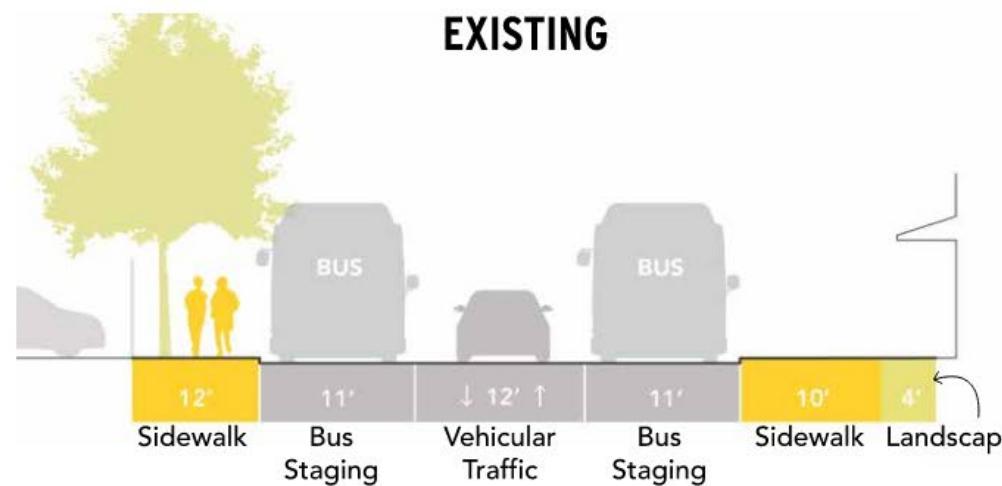


FIGURE 6. EXAMPLE CROSS SECTION IDEAS – NEAR TRANSIT CENTER

HAWTHORNE AVE. IDEAS: BETWEEN 4TH AND 5TH ST.

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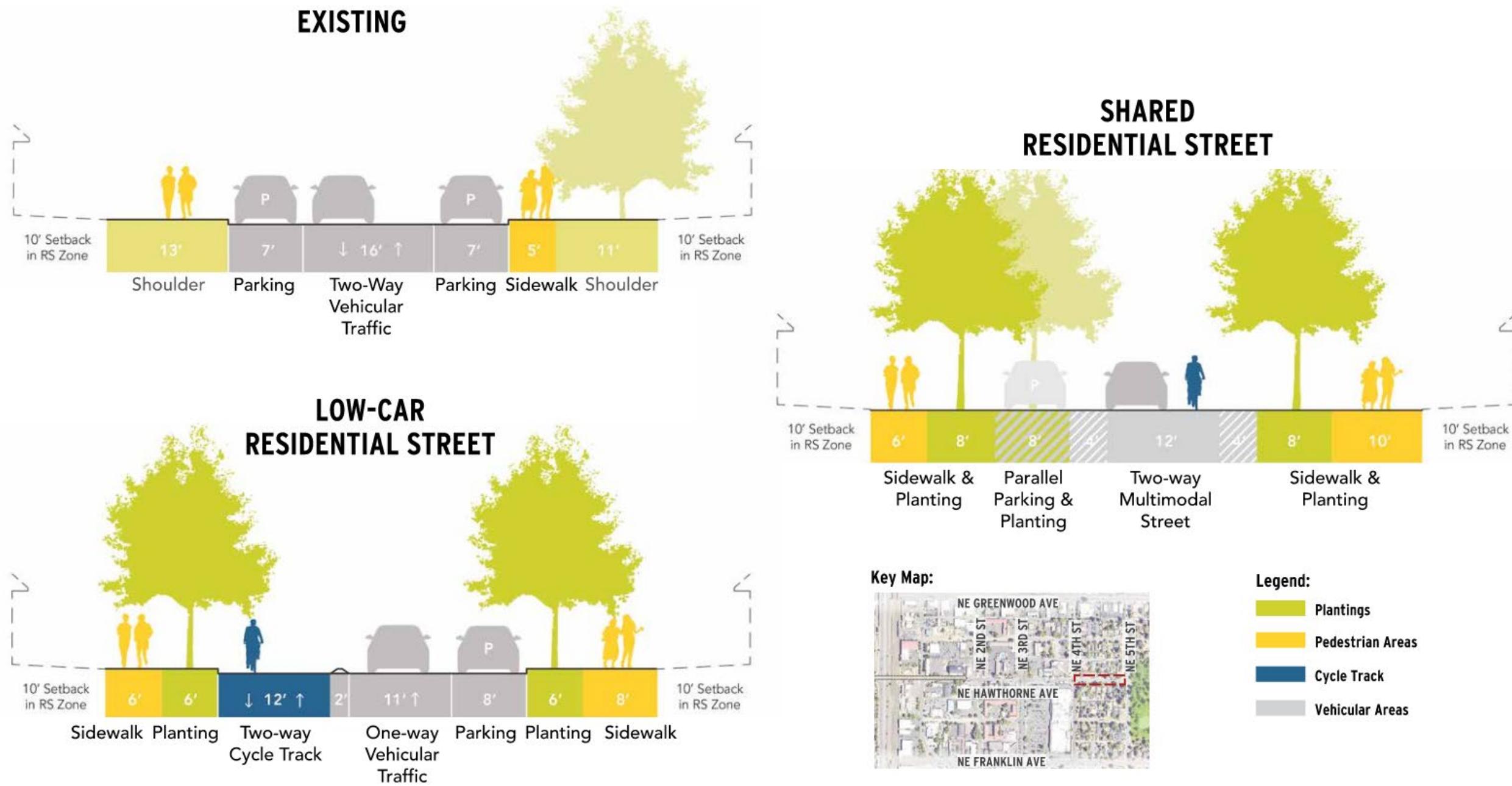


FIGURE 7. EXAMPLE CROSS SECTION IDEAS – BETWEEN 4TH STREET AND 5TH STREET



Scenario Evaluation

The following table summarizes some of the key advantages, disadvantages and considerations for each scenario.

TABLE 1. SCENARIO EVALUATION SUMMARY

	Both Scenarios	S1: Hawthorne Low-Car Street	S2: Hawthorne Plaza/ Shared Street
Advantages	<ul style="list-style-type: none">Provides a continuous sidewalk where limited sidewalks currently exist.Reduces vehicle traffic volumes, conflicts between people walking, biking, and driving, and improves level of stress for people walking and biking.Encourages walking and bicycling, helping reduce emissions in line with City TSP goals and new state rules.Increases landscaping, which provides traffic calming benefits, greening, and shade.	<ul style="list-style-type: none">Separates people walking, biking, and driving with a two-way separated bike lane.Ability to maintain some on-street parking along the low-car street.	<ul style="list-style-type: none">Ability to maintain some on-street parking along the shared street.Creates a linear park opportunity and civic space for new development in the area.In the long term, Plaza Street would provide opportunities for placemaking and activation.



	Both Scenarios	S1: Hawthorne Low-Car Street	S2: Hawthorne Plaza/ Shared Street
Disadvantages	<ul style="list-style-type: none">Reduces on-street parking opportunities.	<ul style="list-style-type: none">Reduces sidewalk width for a short segment to accommodate bus staging.Limits routing choices for Cascades East Transit services with one-way travel (more coordination would be needed).	<ul style="list-style-type: none">Lack of dedicated bike facilities from Juniper Park to the Hawthorne Overcrossing.A shared street with multiple buses could reduce comfort for people biking.Depending on the materials used, there may be an increase in maintenance costs associated with a Plaza Street or Shared Street.In the short term, likely challenges with Plaza Street activation given the existing buildings that front Hawthorne Ave.
Considerations	<ul style="list-style-type: none">Requires street improvements on Greeley Ave and/or an extension of Irving Ave to reduce local circulation impacts with one-way or limited vehicle access on Hawthorne between 1st Street and 3rd Street.	<ul style="list-style-type: none">Design treatments required at driveway access points to manage conflicts across the two-way separated bike lane.	<ul style="list-style-type: none">The Plaza Street would require buy-in from nearby businesses to aid in activation (land use should support reasons for people to want to be in and dwell in the space).Reducing the use of Hawthorne Ave to access Juniper Park and the nearby shopping complex by vehicles should be considered



	Both Scenarios	S1: Hawthorne Low-Car Street	S2: Hawthorne Plaza/ Shared Street
	<ul style="list-style-type: none">• Potential increase to maintenance responsibilities for new pavement and plantings.• An enhanced crossing of 3rd Street needed to support safe crossing and walking and biking connectivity.		<ul style="list-style-type: none">• during future planning and redevelopment processes.• Need for coordination with businesses along Plaza Street to address delivery needs

KEY TAKEAWAYS

Based on the evaluation of the east side case study scenarios, several key themes emerged that will likely influence future policy and programs, as listed below. These key policy areas will be explored in more detail in the Next Steps & Recommendations report.

- **Area traffic circulation:** The case study scenarios highlighted the importance of local street connectivity and improvements (e.g., Greeley Avenue and Irving Avenue) as complementary to people street concepts to maintain an appropriate level of vehicle circulation in the area. Particularly with the plaza street concept, private vehicle access is restricted but commercial vehicle deliveries would still need to be accommodated, either directly on the plaza street or through relocated driveway access as future redevelopment occurs. The case study highlights the need for future redevelopment areas to consider local street circulation improvements and alternative access to adjacent properties to reduce traffic and access needs on People Streets.
- **Street design standards:** The City does not currently have standards that would easily allow for plaza streets or shared streets. Shared streets have very specific design elements that would allow users to more easily understand how to share and navigate the space. Shared streets standards would also need to be consistent with ADA guidelines and ensure accessibility access.
- **Urban design and placemaking standards:** With street treatments that are less common in Bend today (e.g., plaza and shared streets), there is an opportunity to include more urban design and placemaking features in the built environment. Examples include paving, pedestrian scale lighting, street furnishings, and thoughtful integration of trees and planting areas. The City will likely want to consider guidelines for these features moving forward.
- **Street activation:** Plaza streets and shared streets are most successful when there is an activation of the public space. Introducing plaza streets and shared streets could be a catalyst for redevelopment of the Core Area. Fronting land uses should be compatible with these street types and encourage active frontages and active use of the street.
- **Emergency service access:** In all scenarios, emergency vehicles will still need to maintain sufficient access to People Streets and properties in the area. The Bend Development Code and the City's Standards and Specifications provide emergency access standards for private and public development. People Street emergency access provisions would be provided in these two



regulatory documents. Specific design needs should be coordinated with emergency service providers to understand and maintain needed emergency vehicle access.

- **Maintenance needs:** With both plaza streets and shared streets, maintenance needs and responsibilities can be accommodated in several ways (e.g., City maintenance, business improvement districts, property managers). Considering maintenance needs in an area will help facilitate the success of these street types.

West Side Treatments

The following text describes the route considerations for the west side and expected benefits and tradeoffs associated with each route option.

Route Considerations

Multiple streets could be utilized on the west side to connect the Hawthorne Overcrossing to Drake Park. Greenwood Avenue, Hawthorne Avenue/Oregon Avenue, Minnesota Avenue, and Franklin Avenue are the main streets that connect east-west through the case study area. However, these could be combined and connected by the north-south streets in the area (e.g., Hawthorne Avenue to Harriman Street to Franklin Avenue). When considering potential route options for the case study scenarios, there are different tradeoffs associated with people walking and biking; therefore, the walking route and biking route options are discussed separately below.

WALKING ROUTE CONSIDERATIONS

In general, to help meet the guiding principles of a People Street, the route for pedestrians should:

- Have wide sidewalks that provide ample space for plantings, street trees, and street furniture to provide a buffer between the pedestrian and vehicles.
- Have lower traffic volumes and slower moving vehicles to increase pedestrian comfort and facilitate safe street crossings.
- Provide a direct path to their destination (as people walking are less likely to take an out of direction route of travel).
- Incorporate a higher density of people-oriented land uses (e.g., restaurants, cafes, retail) to provide economic benefit to these businesses and add to a sense of personal security and comfort (compared to industrial or less active land uses, for example).



Figure 7 below highlights existing sidewalk widths and other considerations for a walking route through this area to connect the new Hawthorne Overcrossing to Drake Park.

BIKING ROUTE CONSIDERATIONS

Several biking route options exist to connect the new Hawthorne Overcrossing to Drake Park, as shown in **Figure 8**. **Table 2** and **Table 3** lists key opportunities and constraints associated with each bike route.

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DOWNTOWN PEDESTRIAN ENVIRONMENT

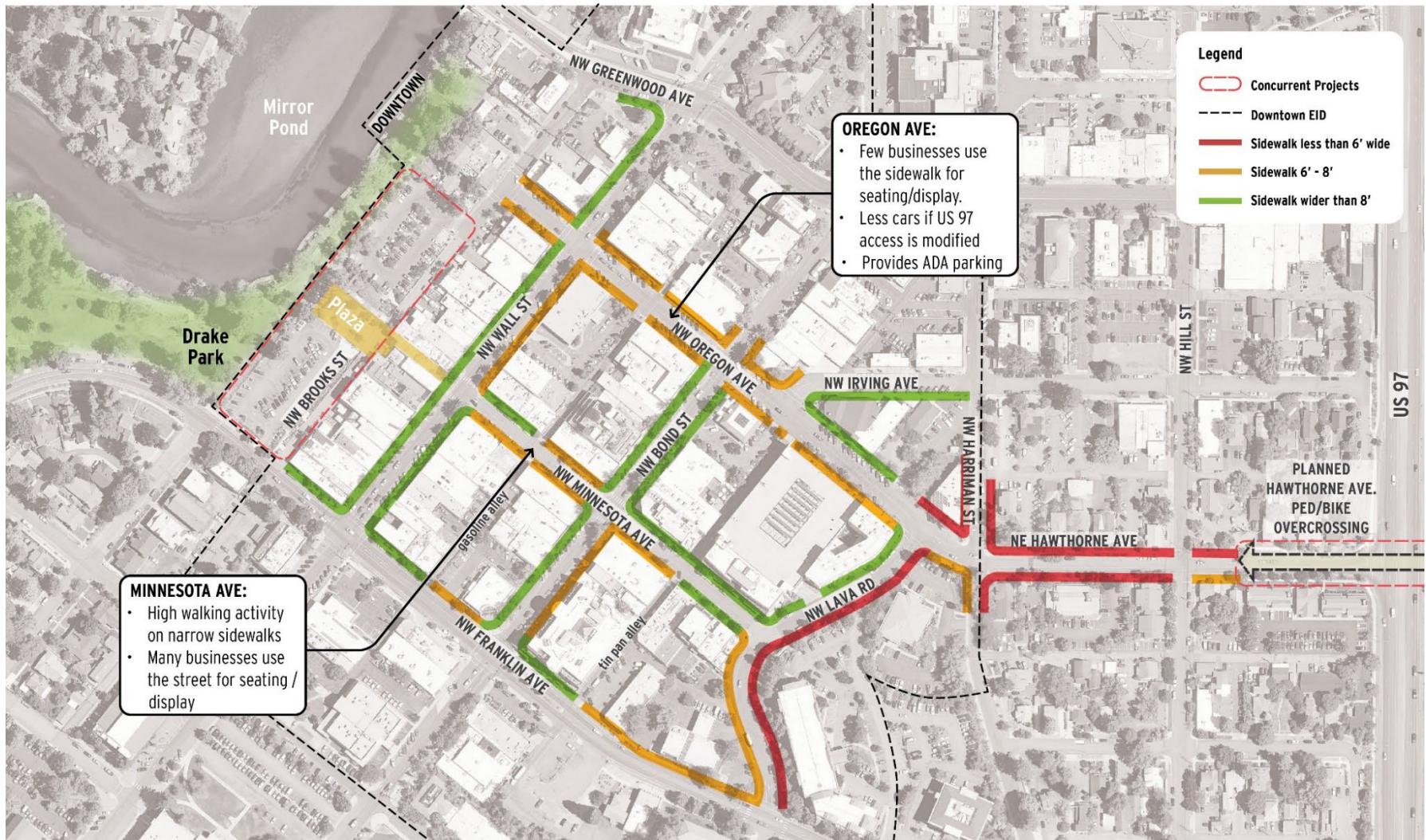


FIGURE 8. PEDESTRIAN ENVIRONMENT CONSIDERATIONS ON THE WEST SIDE

BIKE ROUTE STUDIES

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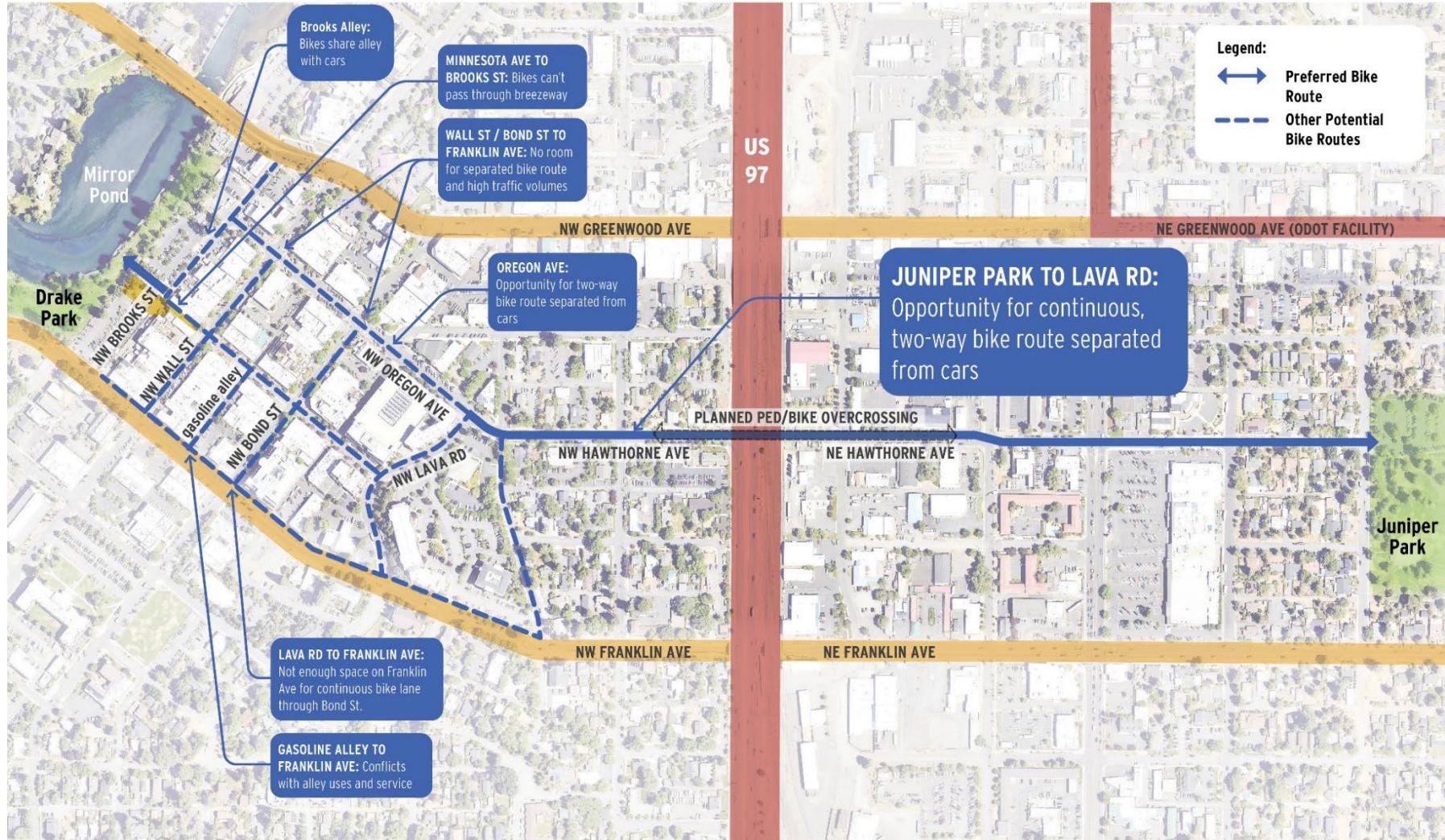


FIGURE 9. POTENTIAL BIKING ROUTE CONSIDERATIONS ON THE WEST SIDE



TABLE 2. BIKING ROUTE OPPORTUNITIES AND CONSTRAINTS – EAST-WEST ROUTES

Street	Opportunities	Constraints
Greenwood Ave	<ul style="list-style-type: none">The City is currently evaluating a pilot project that added bike lanes on Greenwood Avenue from Wall Street to 2nd Street.	<ul style="list-style-type: none">Higher existing daily vehicle volumes and speeds result in higher stress for people biking.Less direct connection to the Hawthorne Overcrossing and Drake Park.Greenwood Ave is an ODOT facility east of 3rd Street, which complicates connecting bike facilities farther east than 2nd Street.
Oregon Ave/ Hawthorne Ave	<ul style="list-style-type: none">Most direct connection from the overcrossing towards Drake Park.Wider existing right-of-way provides more opportunity for repurposing space for bike facilities.With US 97 access changes, vehicle traffic volumes will be reduced.Identified in the City's Transportation System Plan as a Key Walking and Bicycling route.Currently signed for bicyclists with sharrows pavement markings.	<ul style="list-style-type: none">Existing angled parking reduces comfort for people biking in the street. Reconfiguring on-street parking to provide more comfortable bike facilities would reduce the current on-street parking supply.Repurposing a vehicle travel lane to provide more comfortable bike facilities (e.g., converting to one-way travel) would change local traffic circulation patterns and business access.Would need to design around existing curb bulb outs.Certain design treatments would need to be coordinated with emergency vehicle access needs,



Street	Opportunities	Constraints
		particularly when considering the clear distances needed for fire apparatuses given building heights.
Minnesota Ave	<ul style="list-style-type: none">Higher density of land uses and is centrally located downtown.Shorter street that primarily serves direct business access and circulation (rather than through vehicle trips), resulting in lower vehicle volumes compared to other streets.There is less on-street parking that would be impacted on Minnesota Ave than on Oregon Ave and several spaces have already been converted to more active uses such as sidewalk cafes and parklets in line with people street objectives.	<ul style="list-style-type: none">Less direct connection to Drake Park/Mirror Pond Plaza from the Hawthorne Overcrossing, the breezeway is too narrow to allow bicyclists.Narrower existing right-of-way would limit the types of bike facility options.Repurposing on-street parking to provide more comfortable bike facilities would reduce the current on-street parking supply.Repurposing a vehicle travel lane to provide more comfortable bike facilities (e.g., converting to one-way travel or restricting vehicles) would change local traffic circulation patterns and business access.Would need to design around existing curb bulb outs.Certain design treatments would need to be coordinated with emergency vehicle access needs, particularly when considering the clear distances needed for fire apparatuses given building heights.



Street	Opportunities	Constraints
Franklin Ave	<ul style="list-style-type: none">Provides direct access to Drake Park without having to go through Mirror Pond Plaza.Has existing bike lanes west of Broadway St and east of Lava Rd.There is less on-street parking than along Oregon Ave and Minnesota Ave, reducing the impact of repurposing on-street parking.	<ul style="list-style-type: none">Less direct connection to the Hawthorne Overcrossing.Higher vehicle volumes and speeds would require a higher level of separation and design to reduce stress for people biking.Limited right of way, particularly where the existing bike lanes drop into a sharrows between Wall Street and Bond StreetThere would be some loss of on-street parking if it is repurposed to provide more comfortable bike facilities.Does not directly connect to many Downtown businesses.
Planned Neighborhood Greenway Route (Harriman St to Delaware Ave to Riverfront Street)	<ul style="list-style-type: none">Planned greenway from Franklin Ave and Harriman Street intersection to Delaware Avenue provides connection to Miller's Landing Park and then Riverfront Street which is planned to connect to Drake Park.Utilizes existing planned bicycle facilities and utilizes the low-stress bicycle network to connect people biking through the area.	<ul style="list-style-type: none">Least direct connection between the Hawthorne Overcrossing and Drake Park that would create significant out-of-direction travel.Does not directly connect to Downtown businesses.



TABLE 3. BIKING ROUTE OPPORTUNITIES AND CONSTRAINTS – NORTH-SOUTH ROUTES

Street	Opportunities	Constraints
Harriman St	<ul style="list-style-type: none">Existing low-stress network bicycle route.Planned improvements south of Franklin Avenue to add a two-way separated bike lane and crossing at Franklin Avenue would provide good bike connectivity south of the downtown area.	<ul style="list-style-type: none">Less direct connection to Downtown businesses.
Lava Rd	<ul style="list-style-type: none">Has parallel parking along curb that could be repurposed for a more comfortable bike facility.	<ul style="list-style-type: none">Is the main access point to the Centennial parking garage.
Wall St/Bond St	<ul style="list-style-type: none">Has a wider right-of-way than other north-south streets.Has more business frontages.	<ul style="list-style-type: none">Angled parking provides a significant on-street parking supply.Would need to design around existing curb bulb outs.Very high traffic volumes would require a high level of design to provide comfortable biking facilities for all ages and abilities.
Brooks St / Tin Pan Alley/ Gasoline Alley	<ul style="list-style-type: none">Lower vehicle volumes.Already a semi-shared space.	<ul style="list-style-type: none">Narrower right of way than other north-south streets.Frequent use by delivery vehicles.Limited business frontage.

Key Takeaways

Based on the evaluation of the west side case study route scenarios, several key themes emerged that will need to be considered in development of standards for People Streets, as listed below. These related considerations will be explored in more detail in the Next Steps & Recommendations report.

- **Route selection:** In areas that are already developed and thriving, route selection will become critical to help achieve the intent of People Streets while balancing the tradeoffs that can come with a retrofit of an existing street (e.g., parking changes, emergency vehicle access needs, etc.)
- **Balancing tradeoffs in the built environment:** While the City's Transportation System Plan (TSP) helps set the framework for priorities by identifying Key Walking and Biking Routes, the implementation of those routes can vary significantly based on the existing built environment and will need to be balanced with other tradeoffs along the route. Similarly, the selection of a certain street type can have a significant influence on the specific design treatments that might be considered for implementation. For example, a plaza street would have more pedestrian oriented activation (like café dining and outdoor seating) incorporated into the design than a greenway street.
- **Area traffic circulation:** Particularly in an area with a high number of visitors (like downtown Bend), changes that limit vehicle circulation on one people street could have greater implications for the other streets in the area. These implications could include relocating vehicle access to businesses/properties in the area, accommodating delivery vehicle access needs and shifting traffic volume to other streets in the area.



Summary of Findings

There are various ways to implement a route from Juniper Park to Drake Park that would meet the guiding principles of People Streets. If any improvements were to advance in this specific area, the opportunities and constraints would have to be carefully balanced. In addition to these considerations, it will be necessary to coordinate any improvements with other on-going planning efforts, business and property owners and other affected agencies (e.g., Cascades East Transit).

While this case study helps highlight area-specific needs, it also identifies general needs that will likely apply anywhere in Bend when considering People Streets. The sections above help outline key policy areas that will be explored in more detail in the Next Steps & Recommendations report. More broadly, the following are some of the general considerations that the case study highlighted that should be considered when developing standards that will be used to implement People Streets:

- How will business access be provided on a people street? What about deliveries and nearby parking?
- How will vehicle circulation in an area be accommodated if turn restrictions, one-way travel or no general vehicle access is allowed on a people street?
- How will ADA requirements for accessibility be provided?
- Are there project partners in the area that will help support pedestrian activation for shared street or plaza street types?
- Do the design treatments selected for a specific street type follow the guiding principles of People Streets?
- Will the design treatments selected for a specific street type be easy to maintain?
- Will the design treatments selected for a specific street type allow for appropriate emergency vehicle access?



Drake-to-Juniper Park Route Next Steps

While this Case Study focused on evaluating People Street concepts using a real-world example between Drake and Juniper Parks, more outreach to neighbors and communities along the route and more detailed conceptual design would need to be prioritized and funded before advancing any of the route concepts discussed in this memo. There is currently no committed funding for a project or proposed improvement that fully connects the Drake-to-Juniper concept. However, there are several near-term opportunities in the area to improve accessibility for people walking and biking:

- The Bend Bikeways project is an on-going City-funded Capital Improvement Program project to improve accessibility for people walking and biking along Franklin Avenue, Harriman Avenue and 5th Street.
- There is on-going construction along 2nd Street from Greenwood Avenue to Franklin Avenue, which includes new curbs and sidewalks in this area.
- The planned Hawthorne Overcrossing will connect over US 97 at Hawthorne Avenue and make improvements from Harriman Street to 2nd Street, including changes to the US 97 ramps. Note that during open houses and outreach for this project, many community members emphasized the need to plan for better safety and connectivity on either sides of the bridges (e.g., a safer crossing at 3rd Street), which is not currently funded as part of the Hawthorne Overcrossing.

In the longer term, there are also opportunities for synergy between People Street concepts and planned land use changes such as the potential relocation of City Hall and redevelopment in the BCD (a potential Climate Friendly Area). Given the scope of these planned changes the City could consider ways to continue to coordinate and leverage improvements to improve conditions for people walking and biking in the BCD, and to pilot new street types that prioritize human scale urban design. .

In addition, the potential relocation of City Hall provides opportunity for the City to consider a coordinated master plan for Downtown Bend that sets a long-term vision for Downtown's continued success and growth, identifies opportunities for City owned sites and addresses common needs heard during this study (e.g., additional parking opportunities, bike and pedestrian improvements, and broader circulation to and from this area). Such a plan would require substantial resources to ensure a robust stakeholder engagement process and is not currently funded.

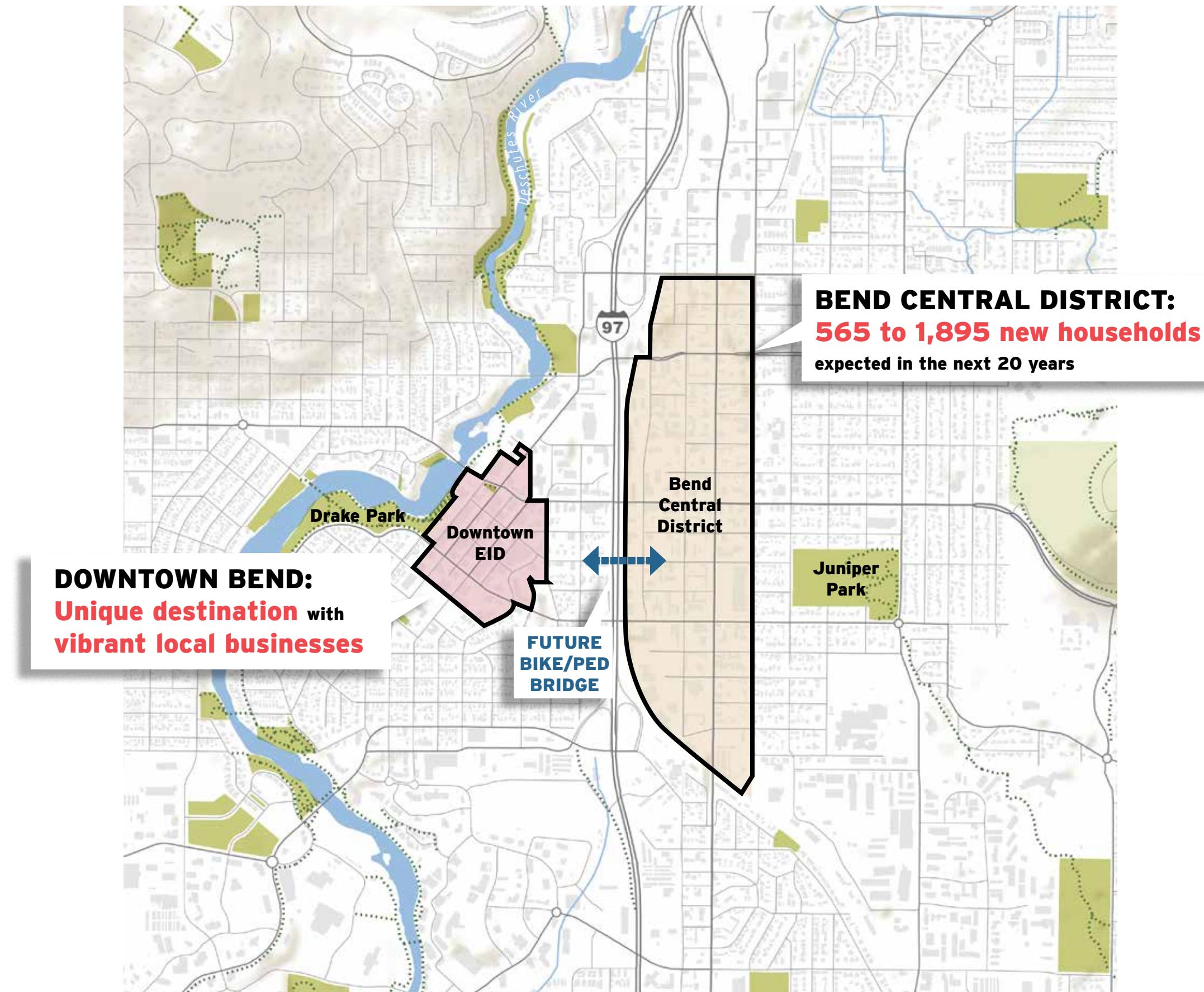
PEOPLE STREETS CASE STUDY

Climate Friendly Area Mobility & Low-Car District Study

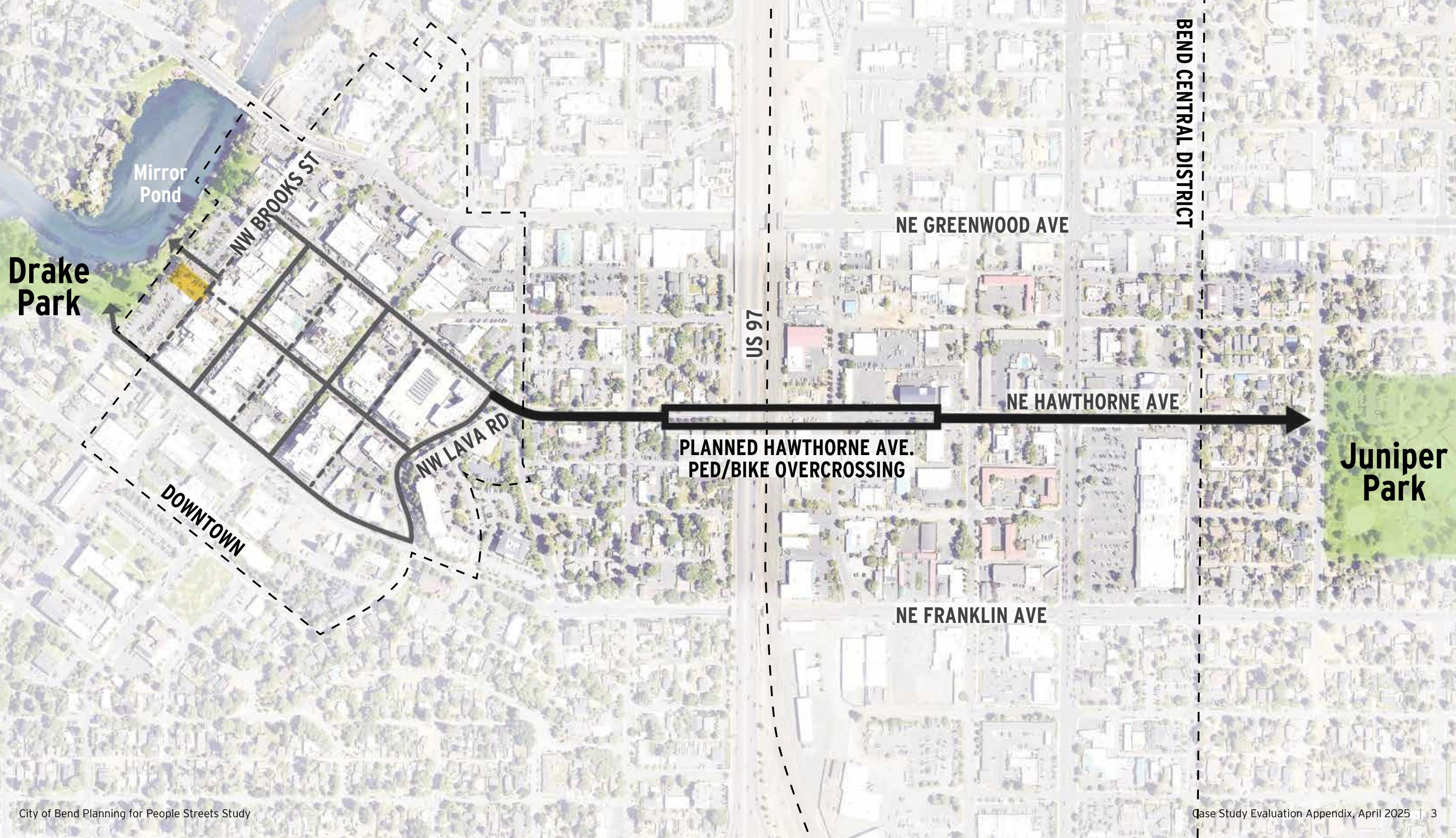


PLANNING FOR THE FUTURE

Appendix A



CASE STUDY ROUTE: JUNIPER PARK TO DRAKE PARK



PEOPLE STREETS CASE STUDY

GOALS:

1. Identify a **safe and convenient route to connect key destinations** (Juniper Park, Downtown, Drake Park) using the planned Hawthorne Pedestrian & Bicycle Overcrossing
2. Use this route to help **explore and test new People street types** to help inform “Low-Car” district implementation here and in other parts of the city

NETWORK CONSIDERATIONS:



Bike Routes



**Pedestrian
Routes**

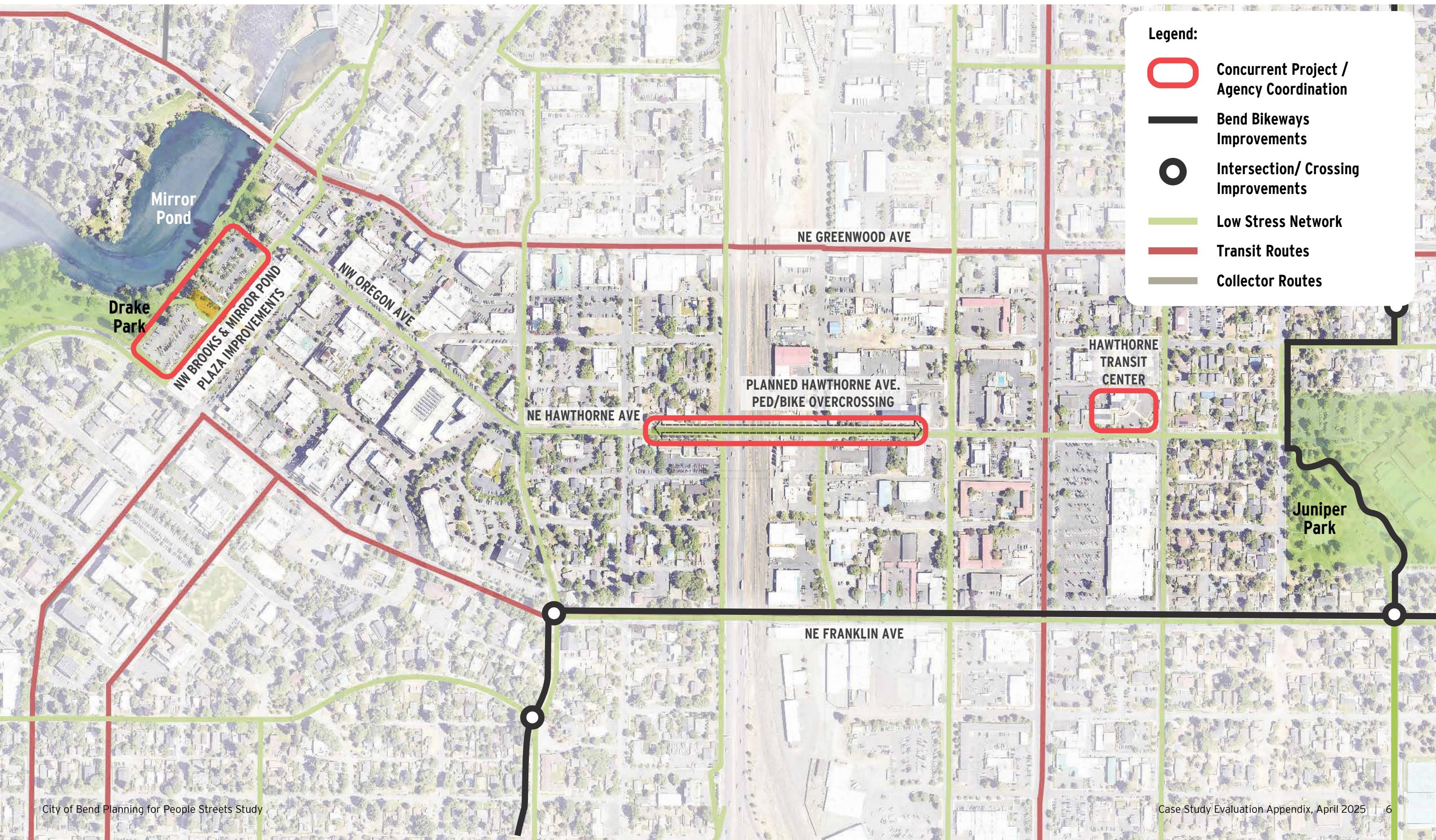


**Transit Stops
& Routes**

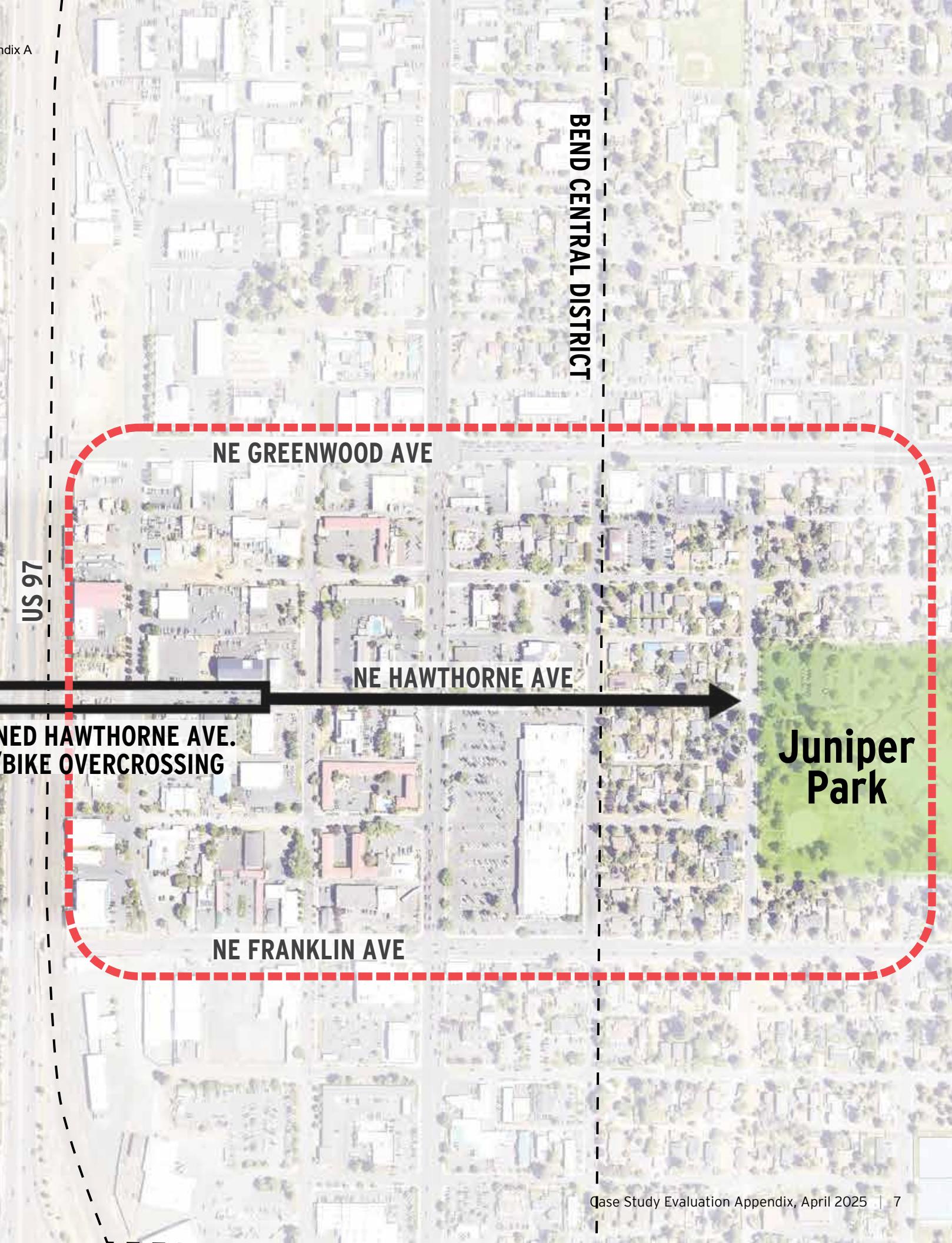


**Vehicular
Access,
Including
Service**

NETWORK CONSIDERATION & PROJECT SYNERGIES

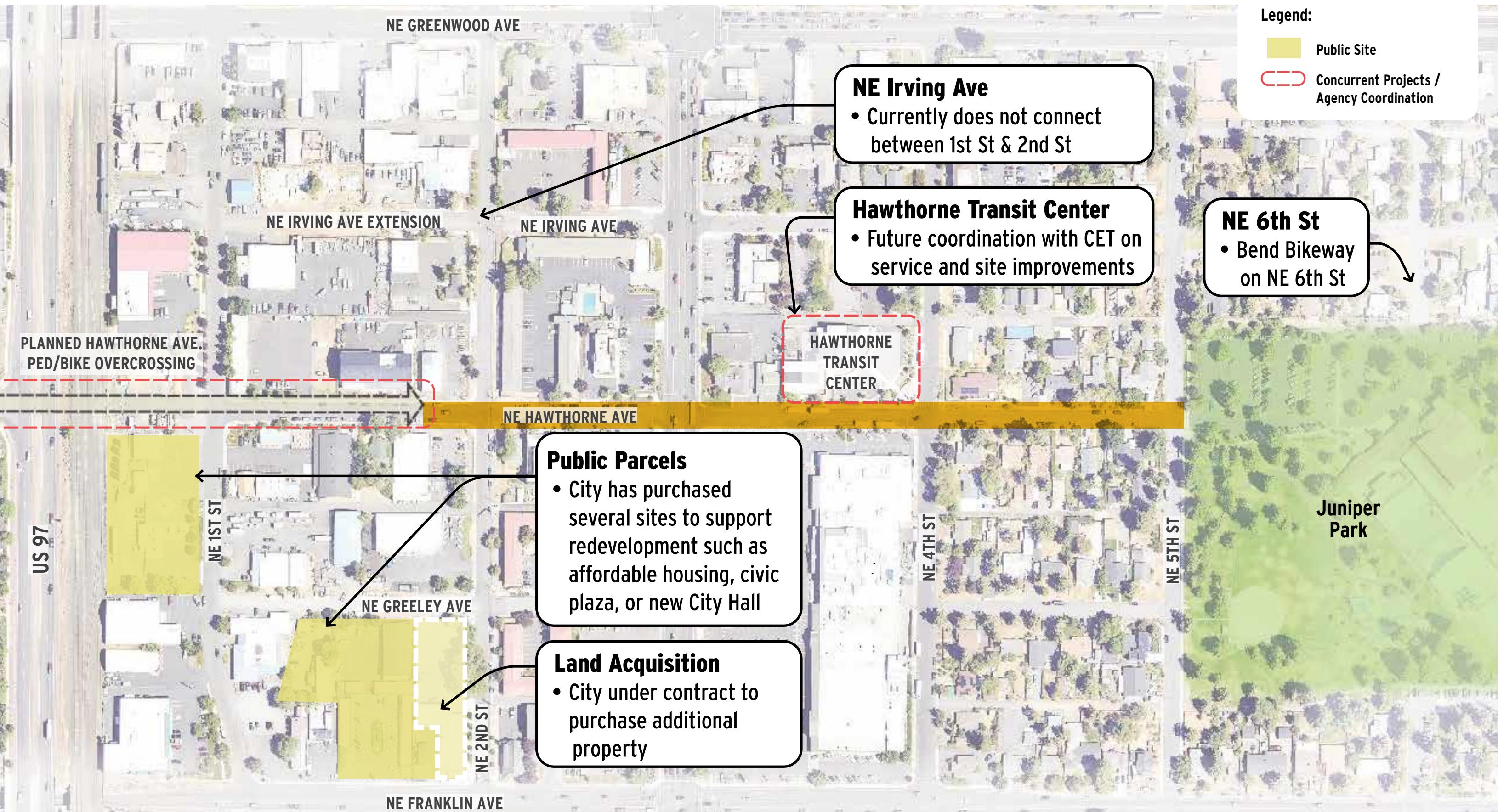


EAST SIDE EVALUATION



HAWTHORNE AVE. CONSIDERATIONS

Appendix A



EXISTING HAWTHORNE AVE. WEST OF 3RD ST.

Appendix A

- Narrow or no sidewalks
- Driveways cross pedestrian path
- Vehicular access to buildings is available from parallel streets



EXISTING HAWTHORNE AVE. AT TRANSIT CENTER

Appendix A

- Bus staging occurs on both sides of the street, but may be reduced with CET service improvements
- Limited trees and greenery



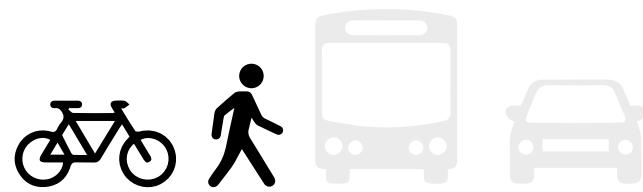
EXISTING HAWTHORNE AVE. BETWEEN 4TH AND 5TH ST.

Appendix A



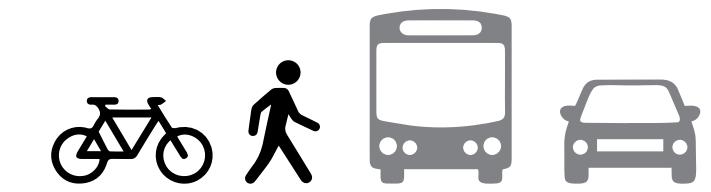
DRAFT STREET TYPES

Appendix A



Walking and Rolling are Primary Modes
Vehicular Access is limited

Commercial uses, larger buildings, continuous frontage



Multimodal
Vehicular access remains but walking and rolling are prioritized

More residential uses, smaller buildings, porous frontage

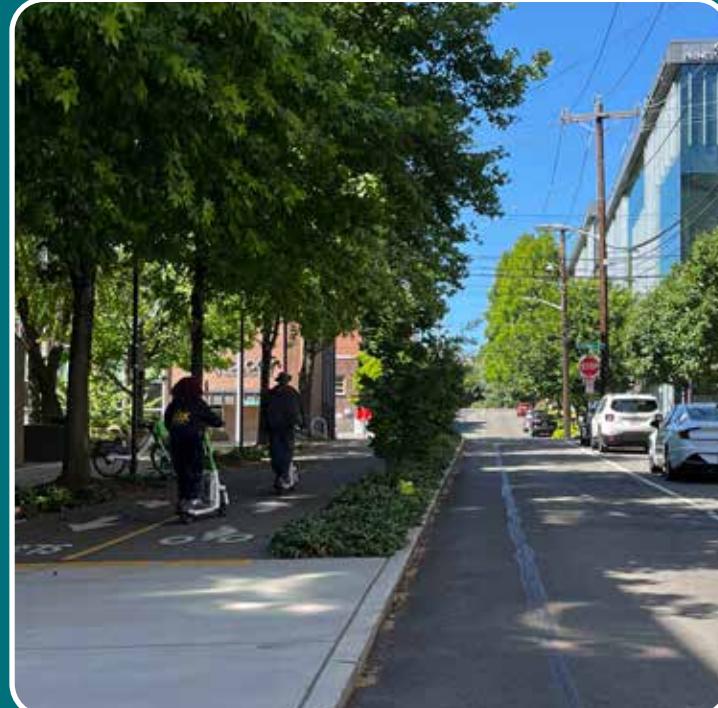
Plaza Street



Shared Street



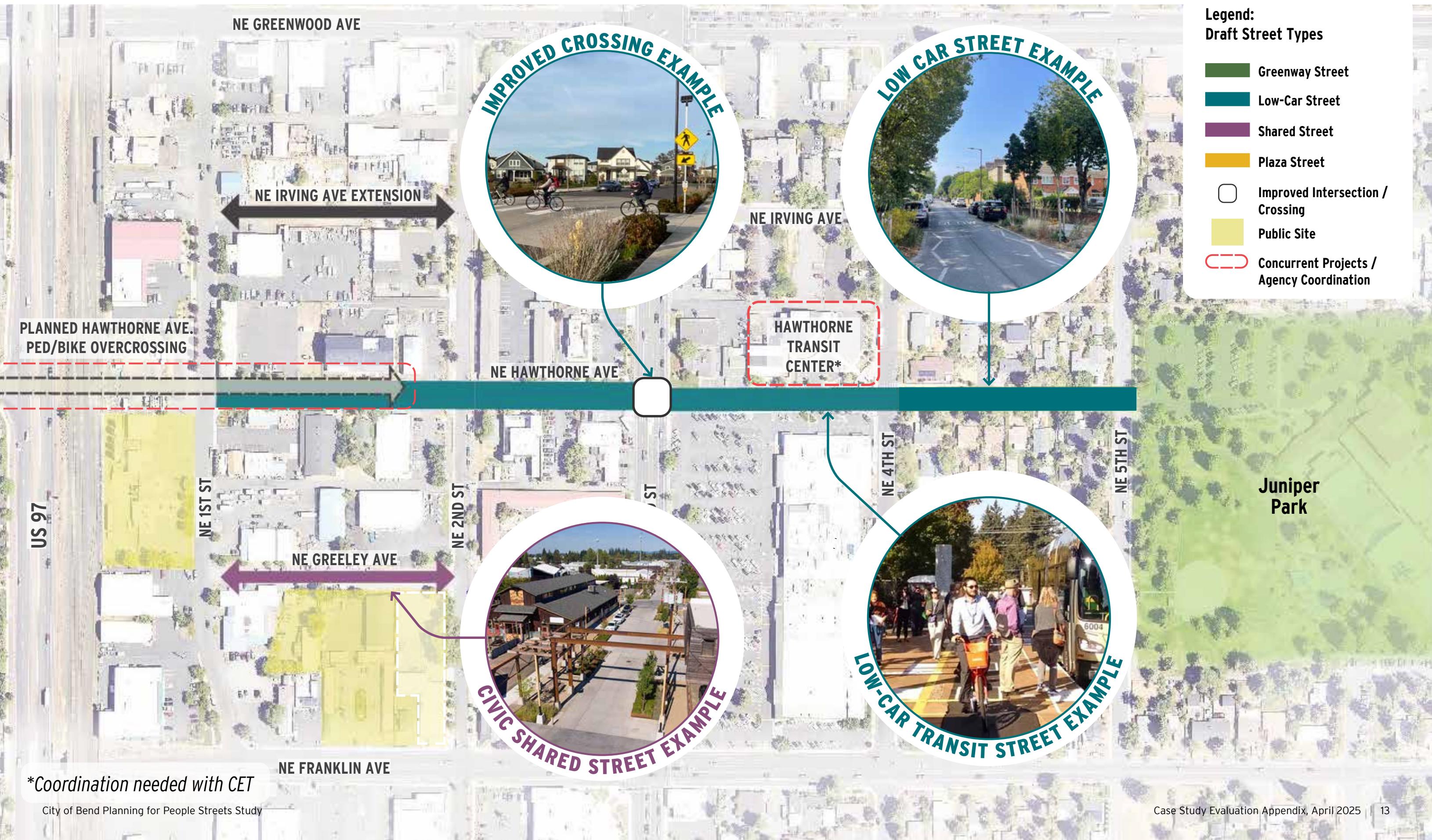
Low-Car Street



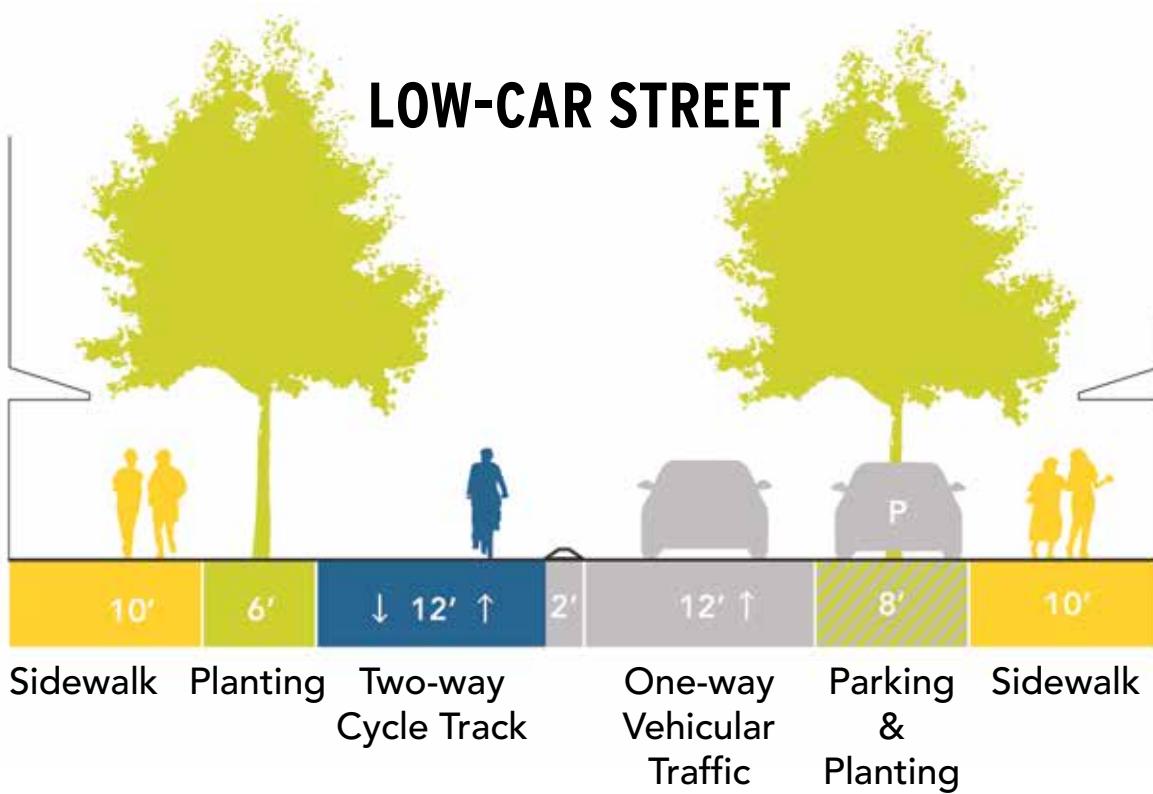
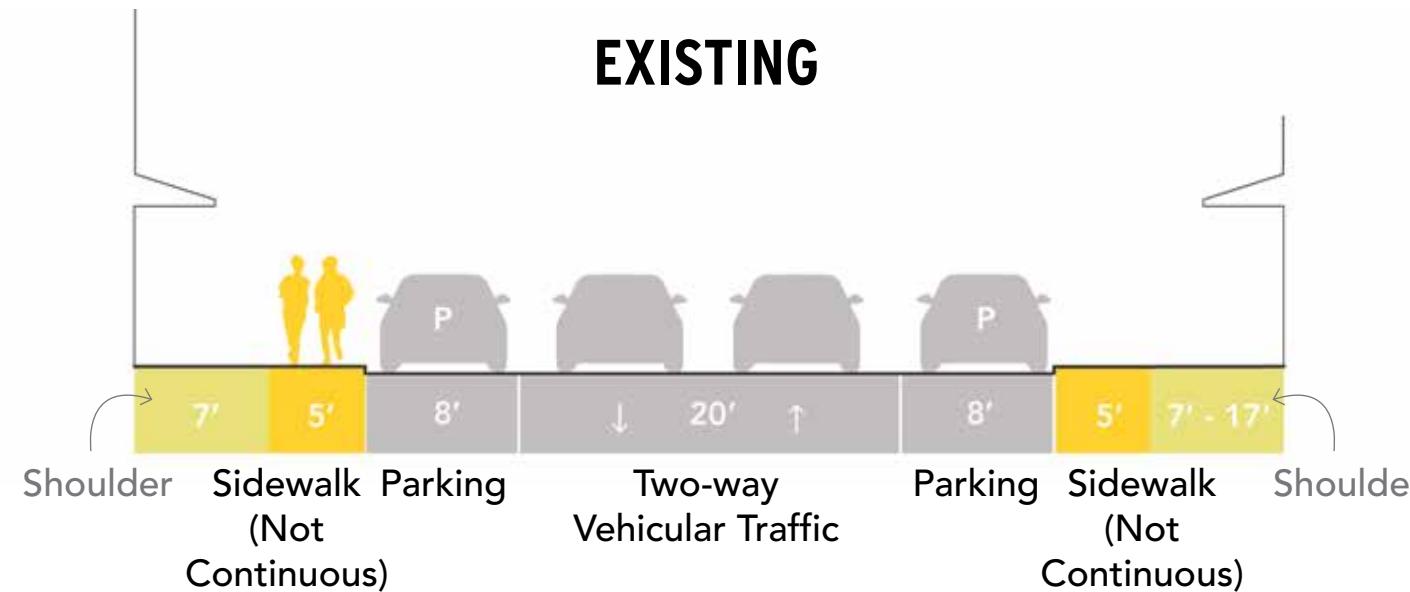
Greenway Street



SCENARIO 1: HAWTHORNE AVE. LOW-CAR STREET



HAWTHORNE AVE: LOW-CAR STREET WEST OF 3RD ST.

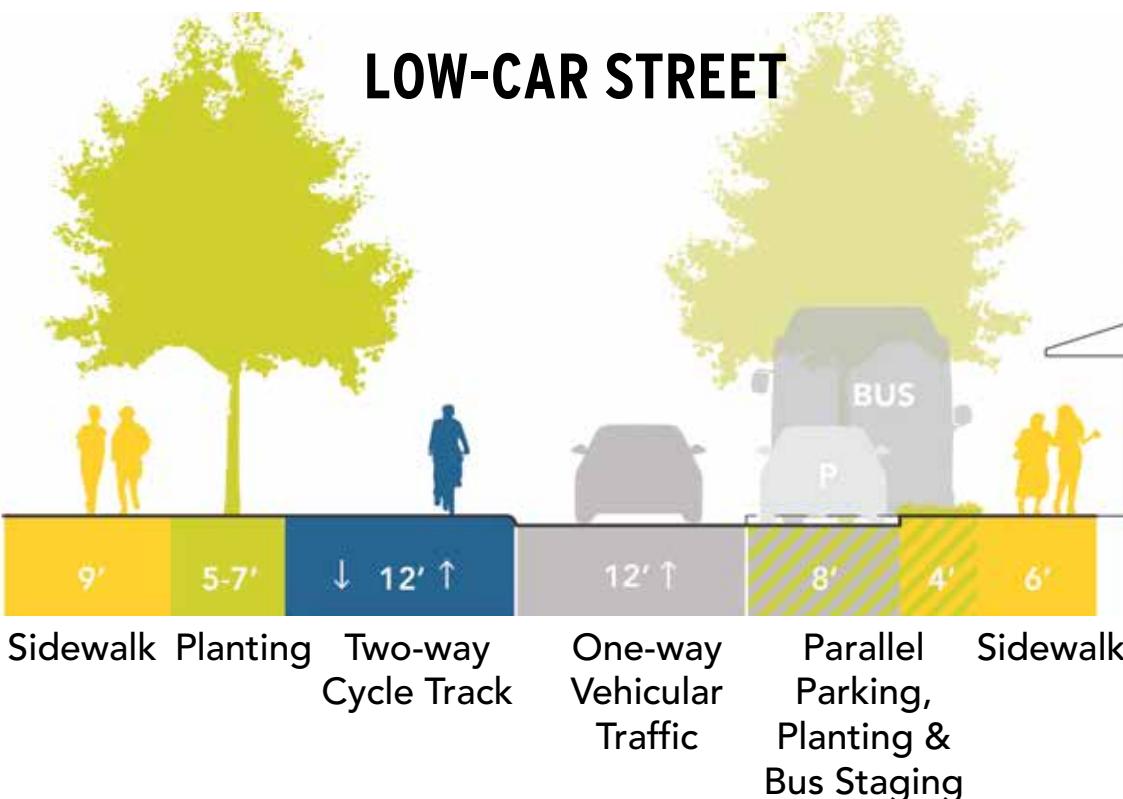
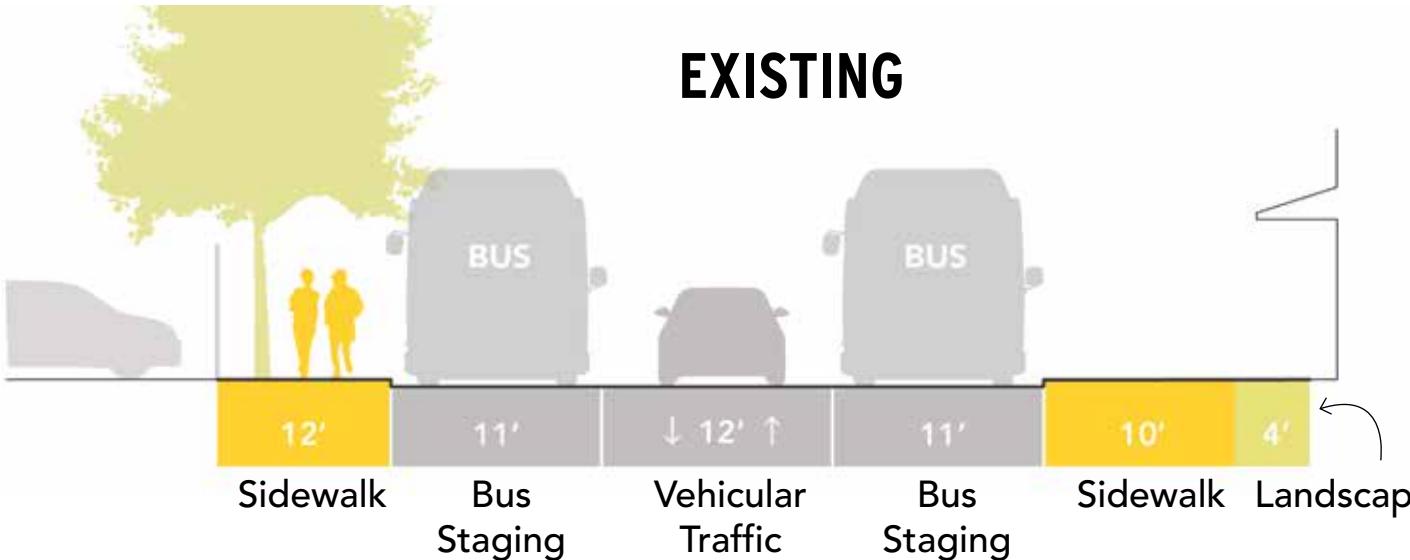


Legend:

- Plantings
- Pedestrian Areas
- Cycle Track
- Vehicular Areas

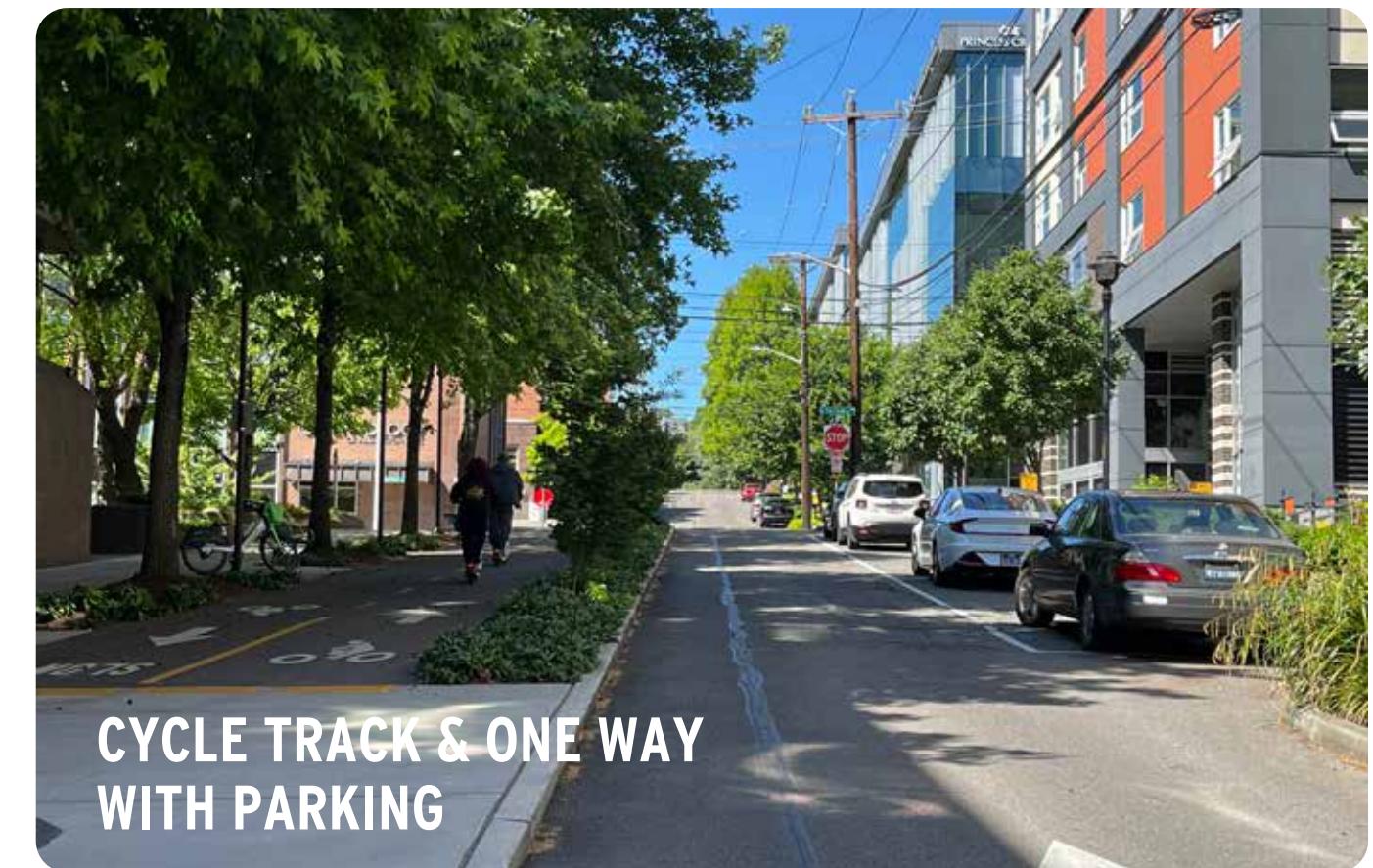


HAWTHORNE AVE: LOW-CAR STREET AT TRANSIT CENTER



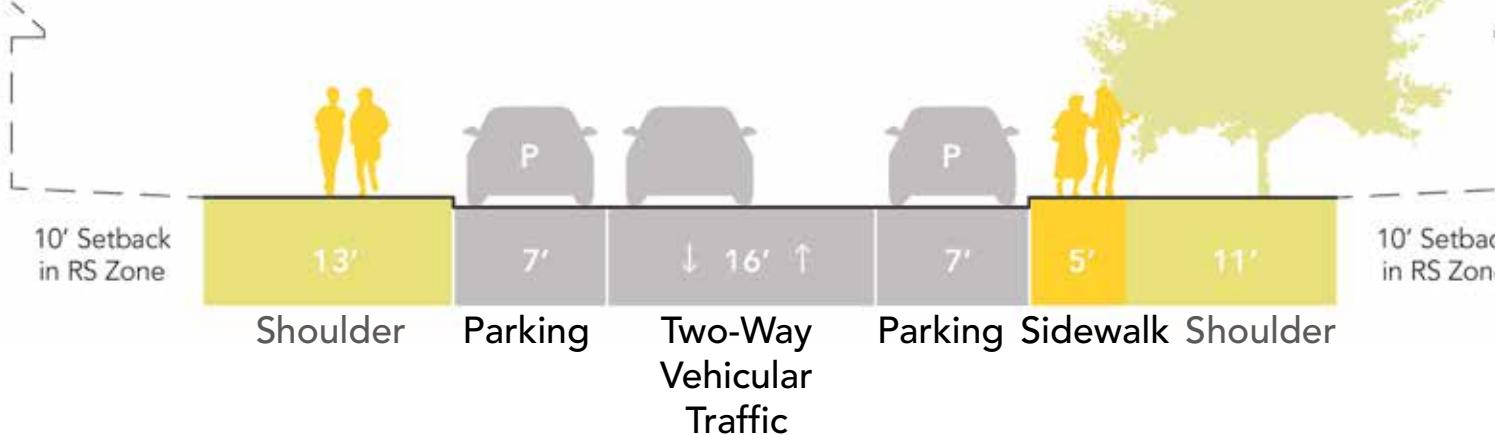
Legend:

- Plantings
- Pedestrian Areas
- Cycle Track
- Vehicular Areas

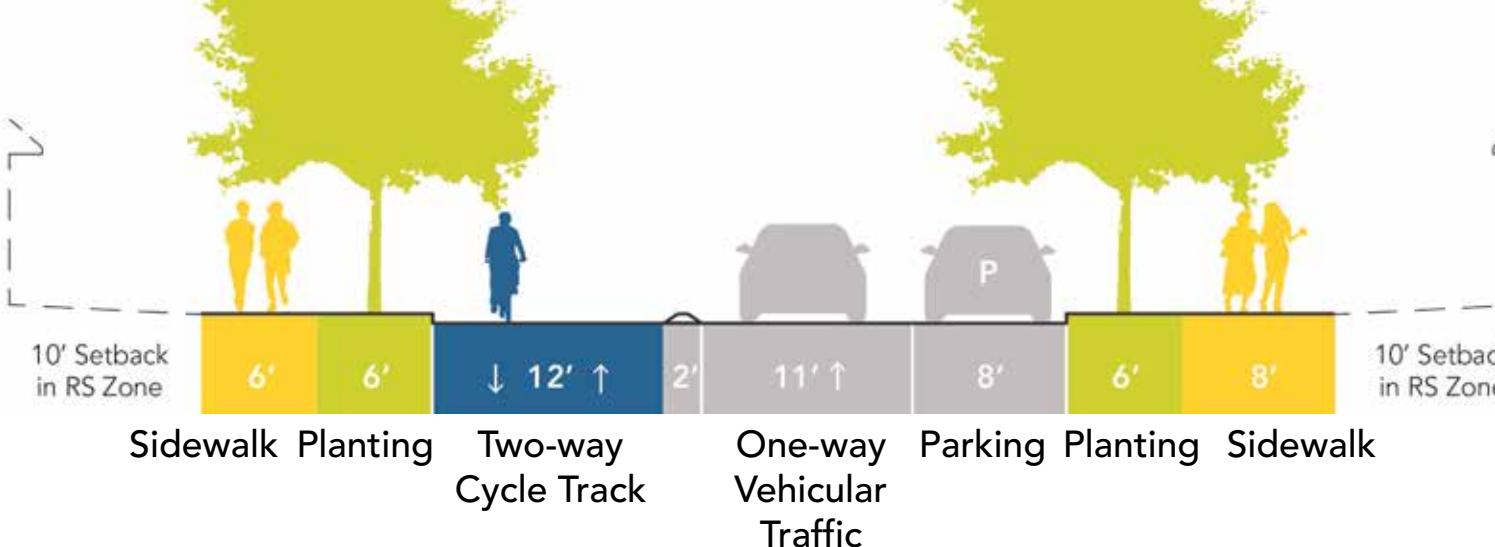


HAWTHORNE AVE: LOW-CAR STREET 4TH TO 5TH ST.

EXISTING



RESIDENTIAL LOW-CAR STREET



Legend:

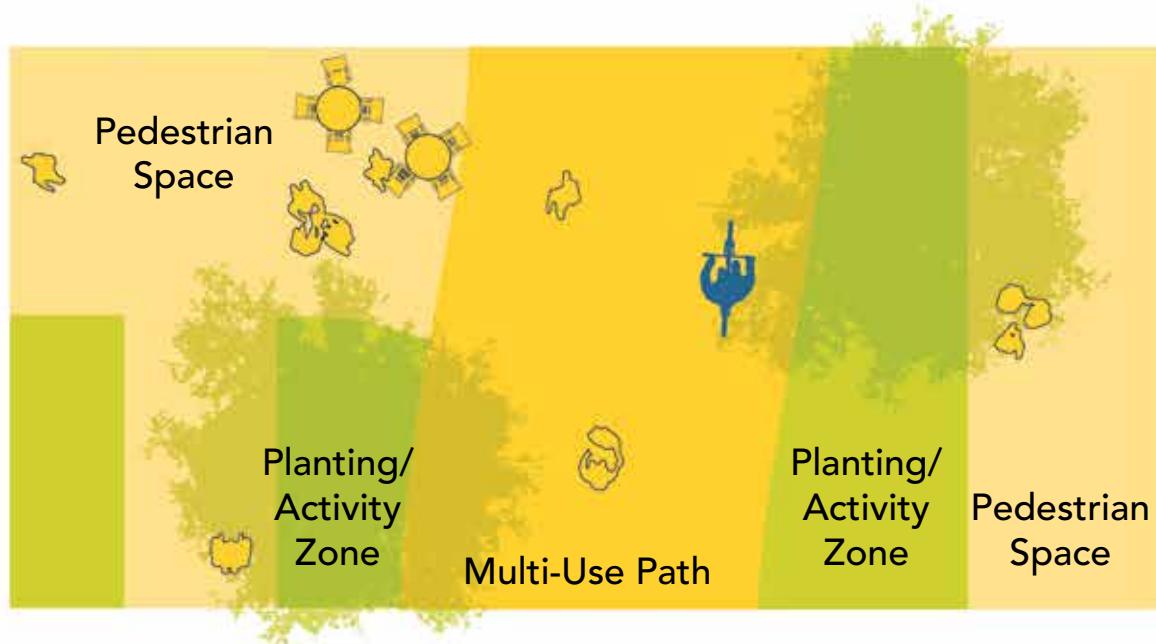
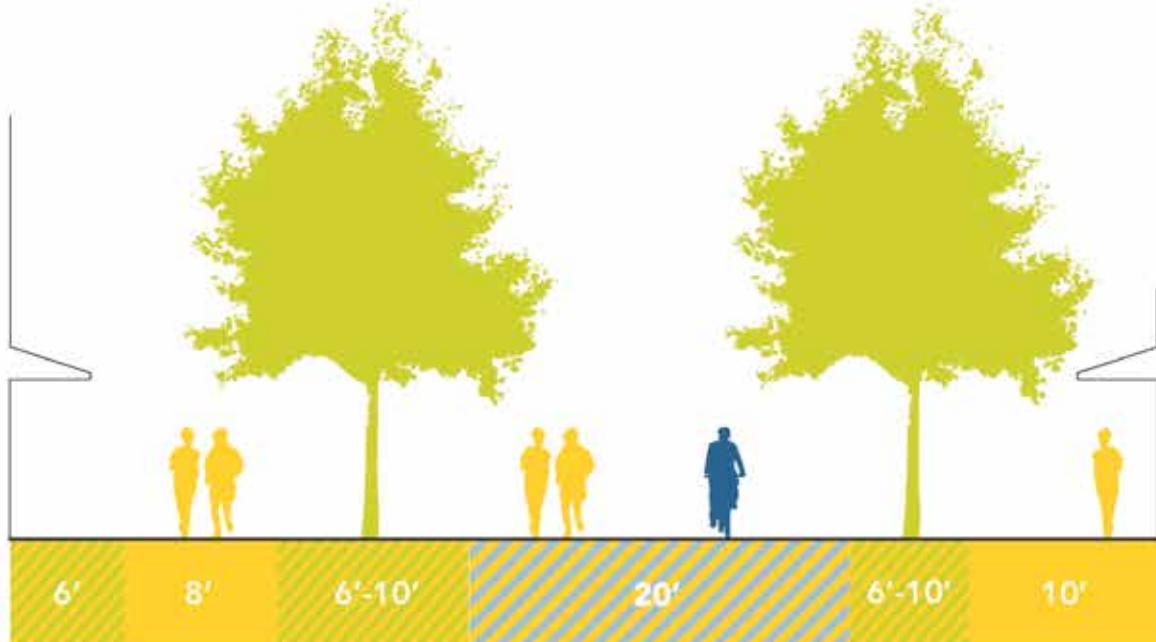
- Plantings
- Pedestrian Areas
- Cycle Track
- Vehicular Areas



SCENARIO 2: HAWTHORNE AVE. PLAZA STREET / SHARED STREET



HAWTHORNE AVE: PLAZA STREET WEST OF 3RD



Key Map:

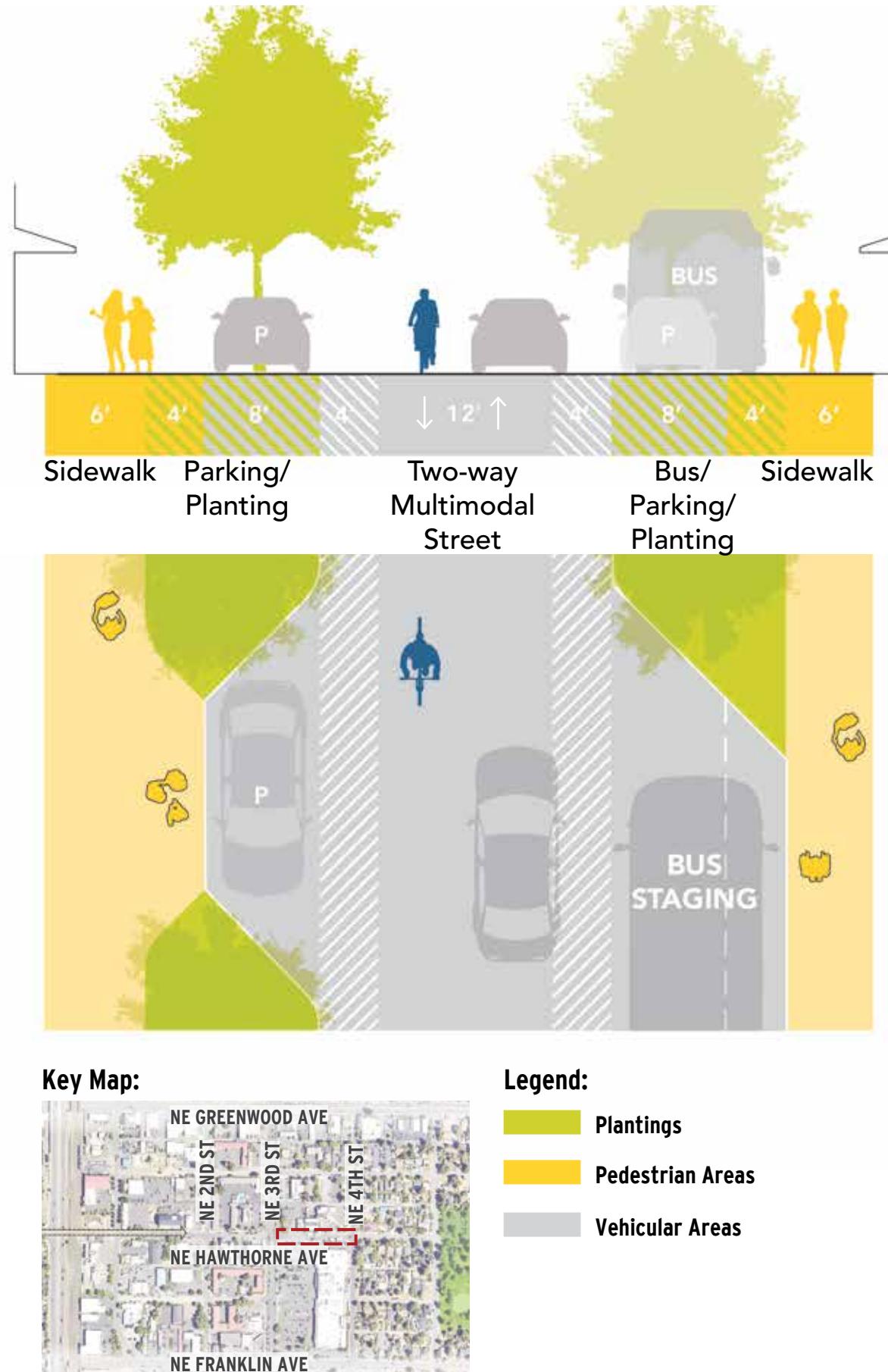


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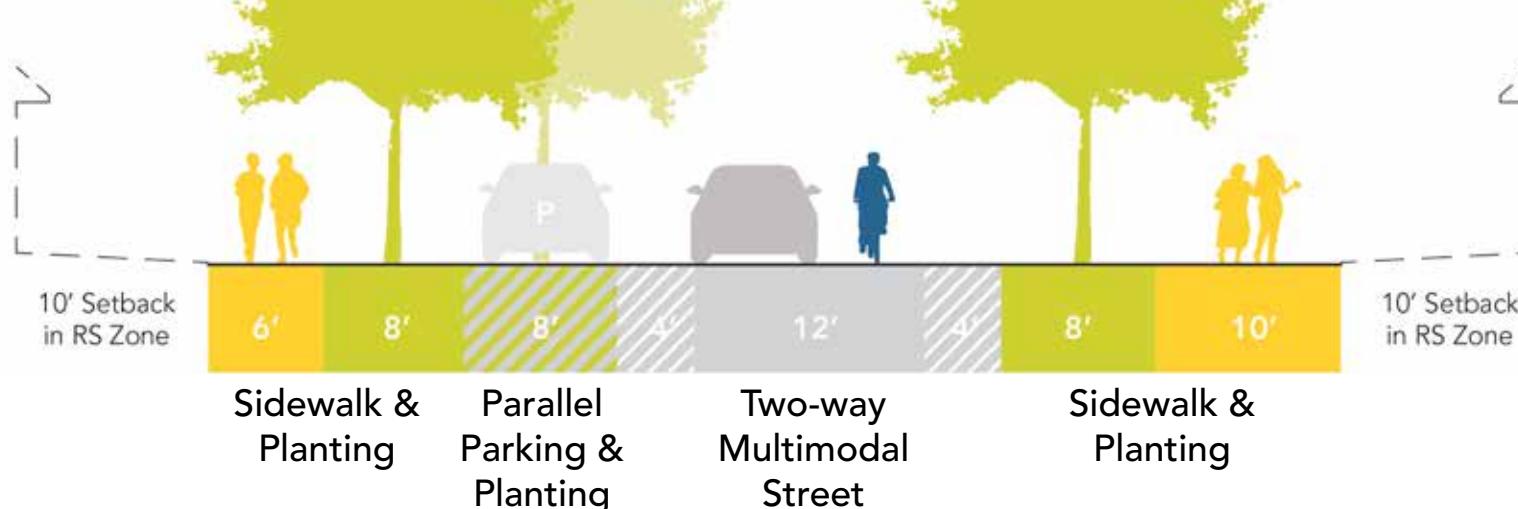
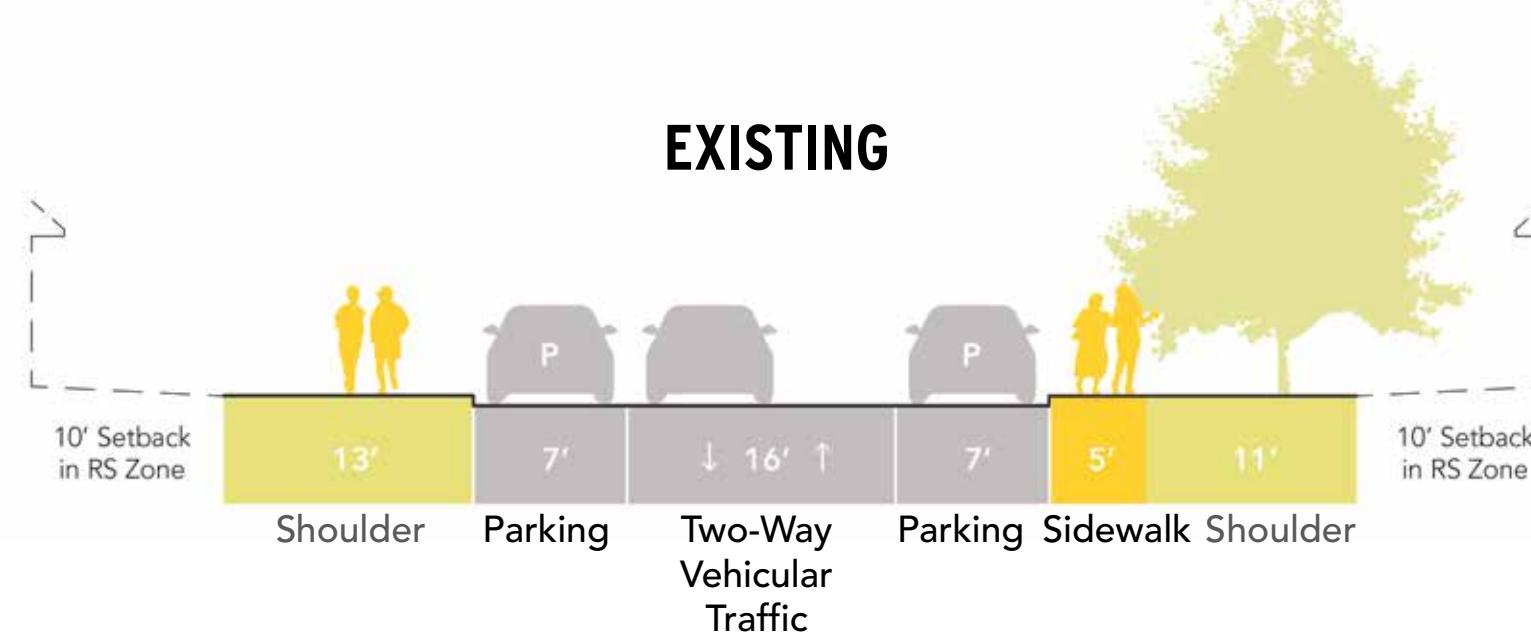
- Plantings
- Pedestrian Areas
- Cycle Track
- Vehicular Areas



HAWTHORNE AVE: SHARED STREET AT TRANSIT CENTER



HAWTHORNE AVE: SHARED STREET 4TH TO 5TH ST.



Key Map:



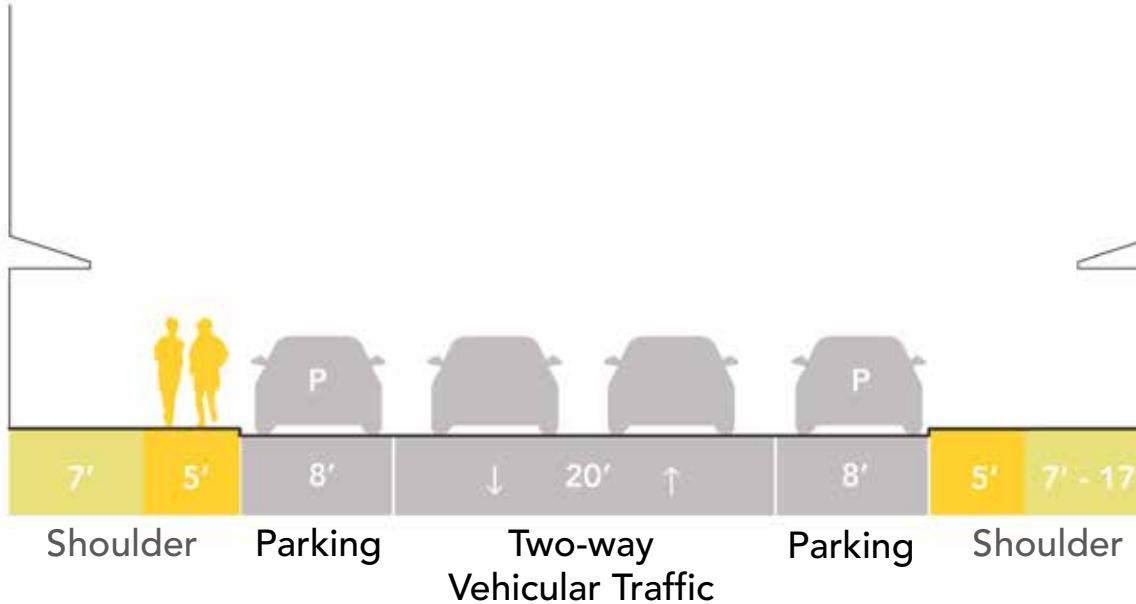
Legend:

- Plantings
- Pedestrian Areas
- Vehicular Areas

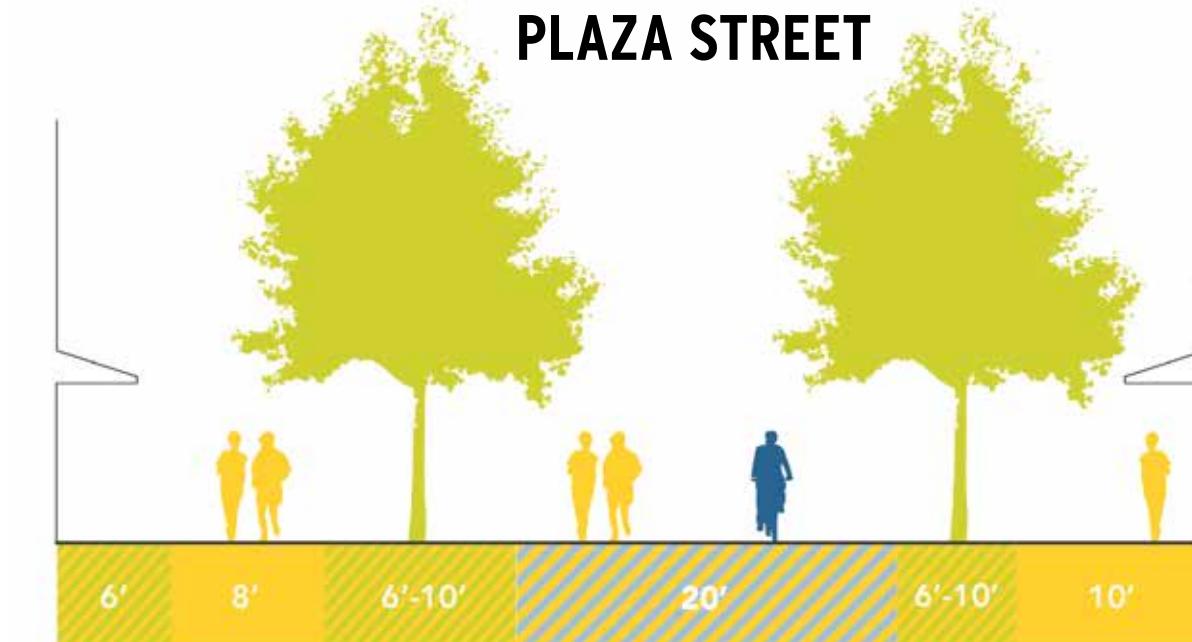
HAWTHORNE AVE. IDEAS: WEST OF 3RD ST.

Appendix A

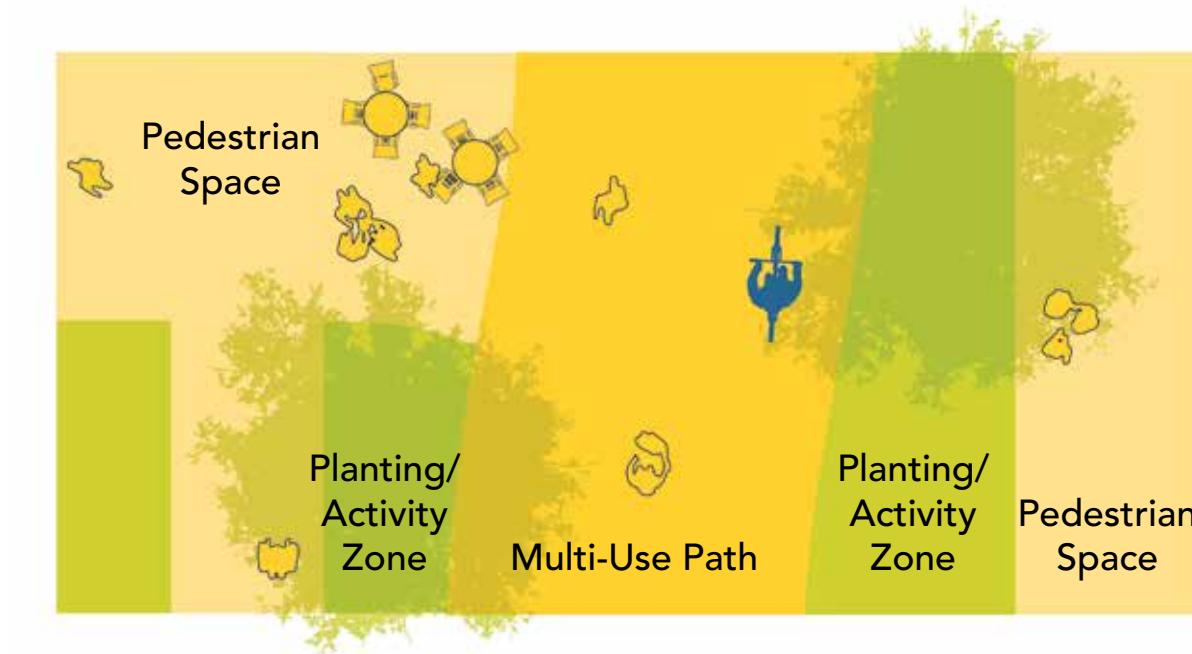
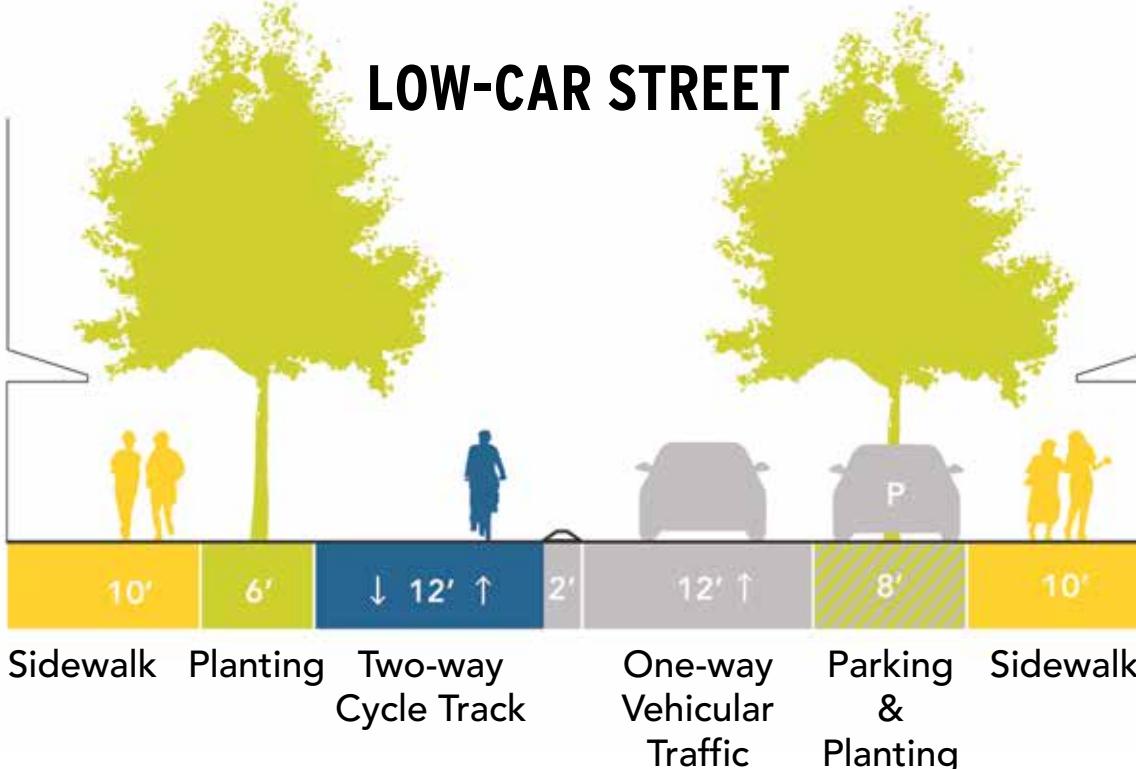
EXISTING



PLAZA STREET

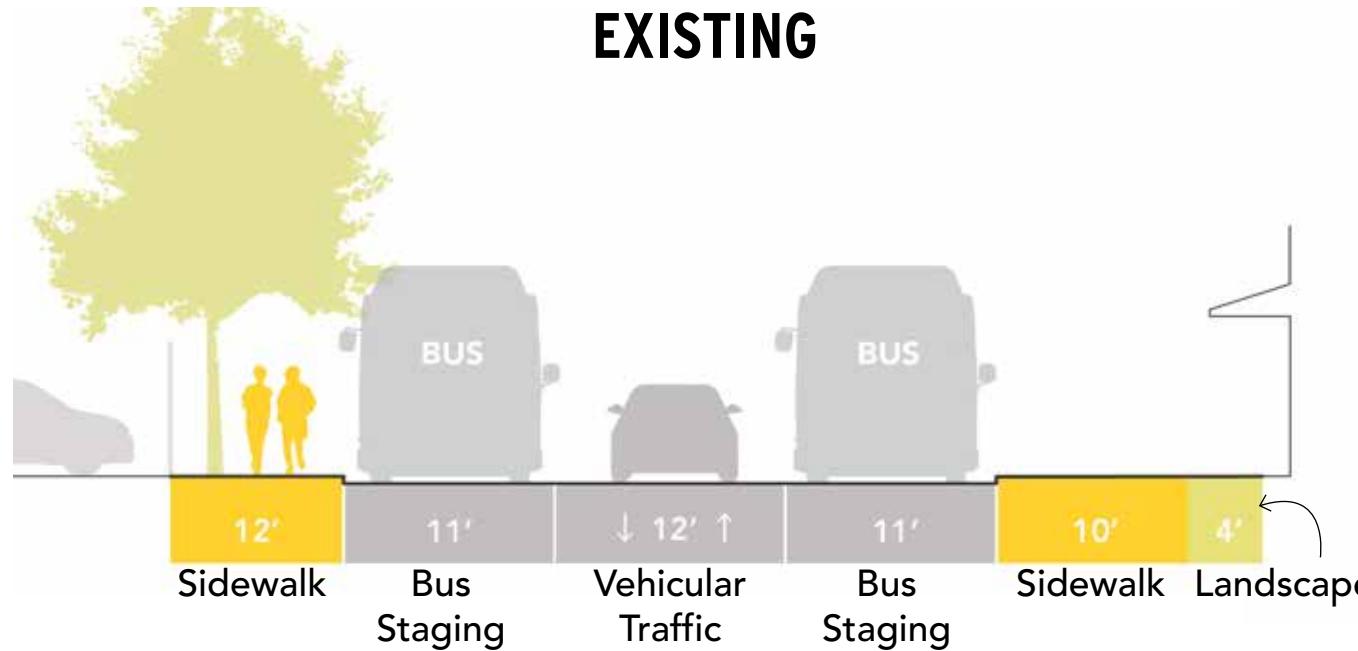


LOW-CAR STREET

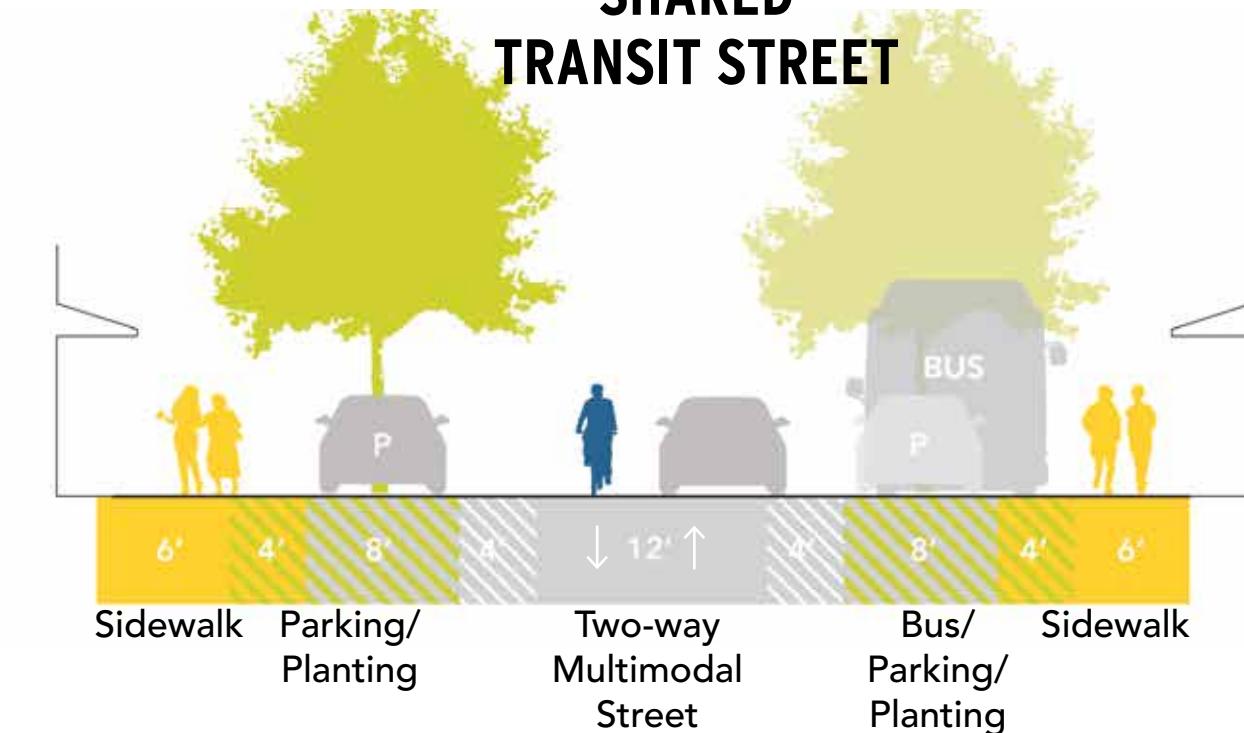


HAWTHORNE AVE. IDEAS: AT TRANSIT CENTER

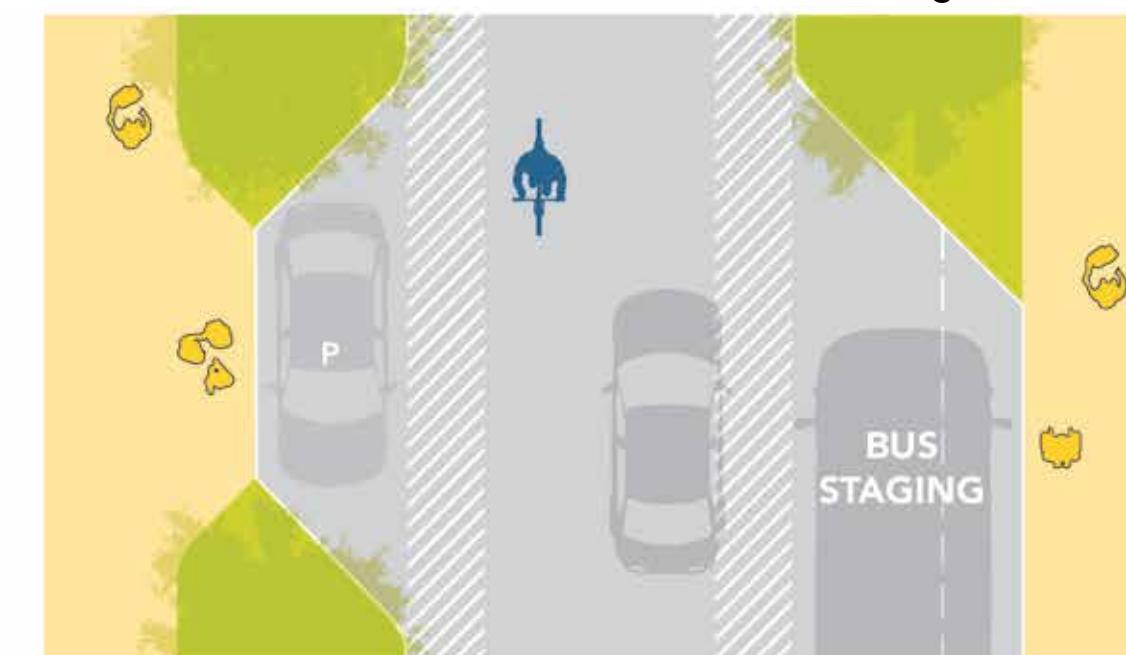
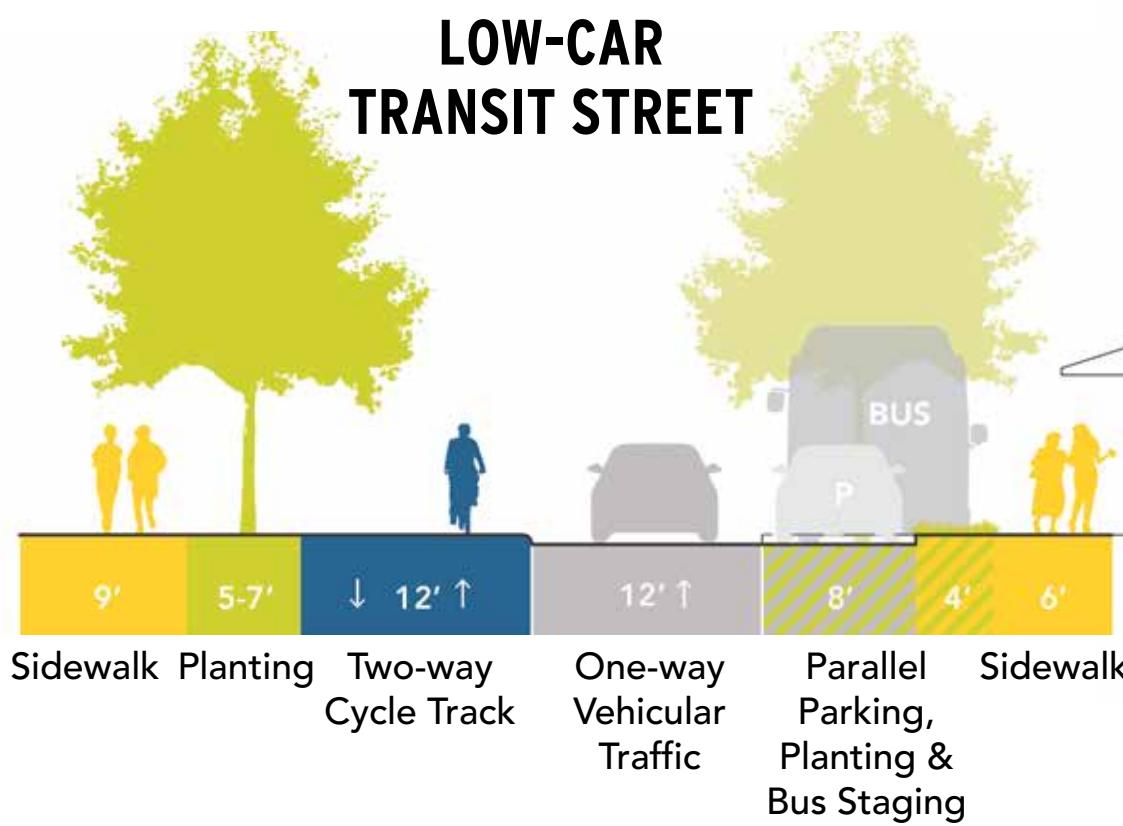
EXISTING



SHARED TRANSIT STREET



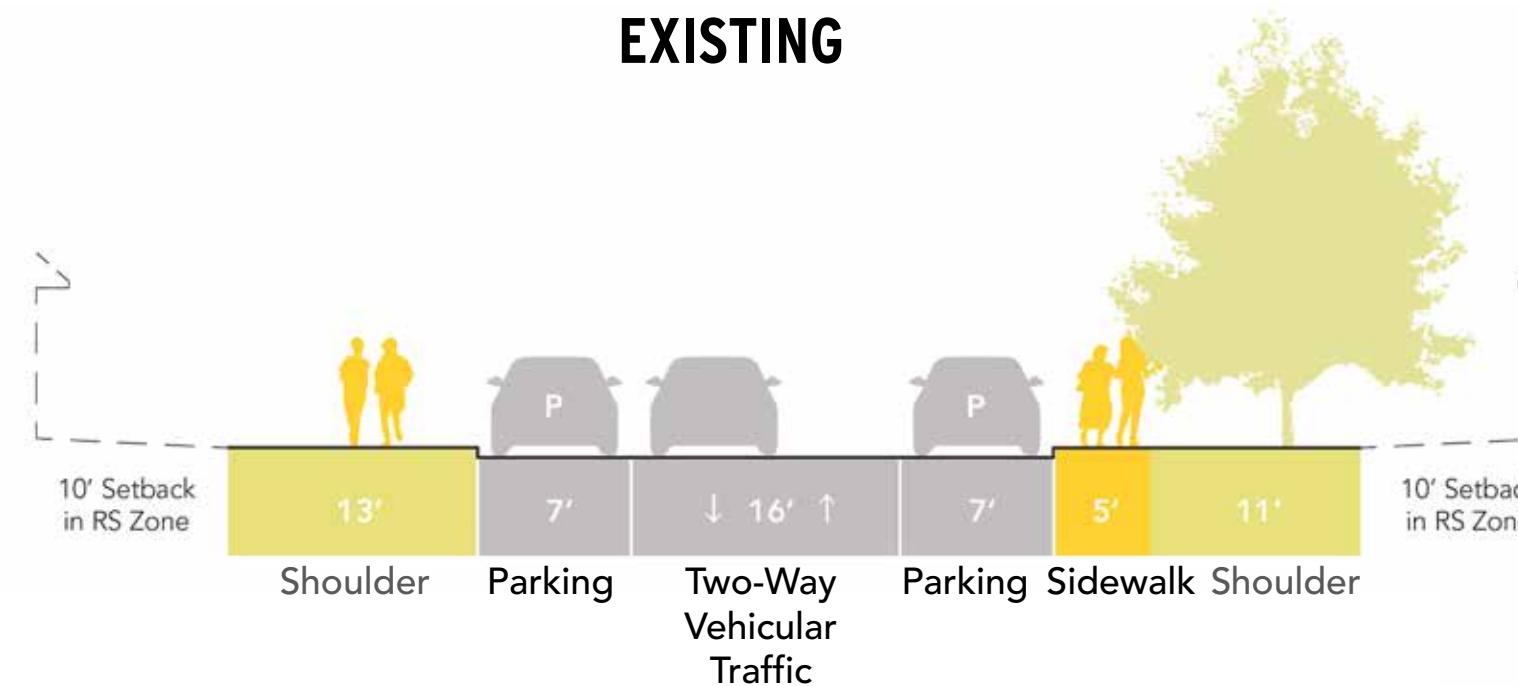
LOW-CAR TRANSIT STREET



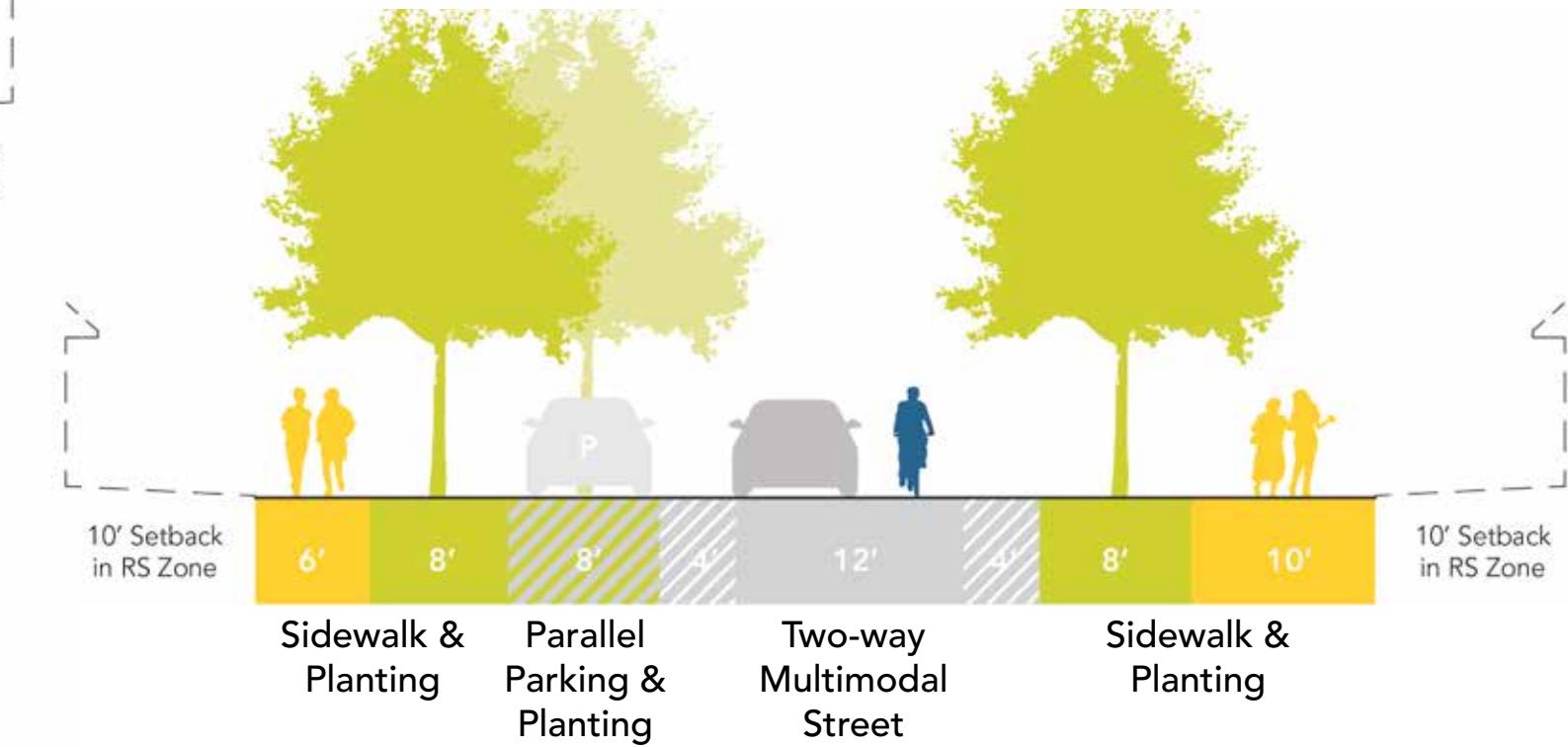
Legend:

- Plantings
- Pedestrian Areas
- Cycle Track
- Vehicular Areas

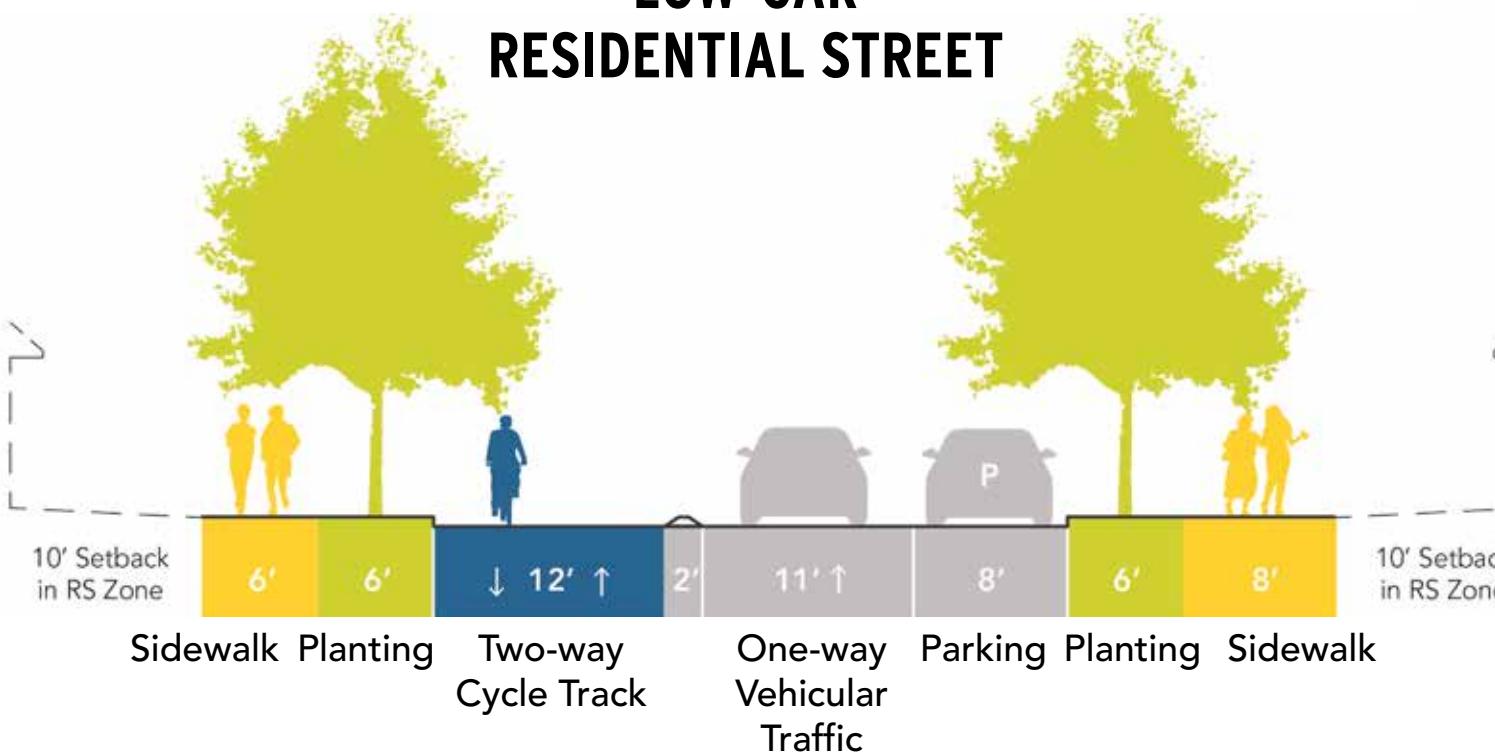
HAWTHORNE AVE. IDEAS: BETWEEN 4TH AND 5TH ST.



SHARED RESIDENTIAL STREET



LOW-CAR RESIDENTIAL STREET



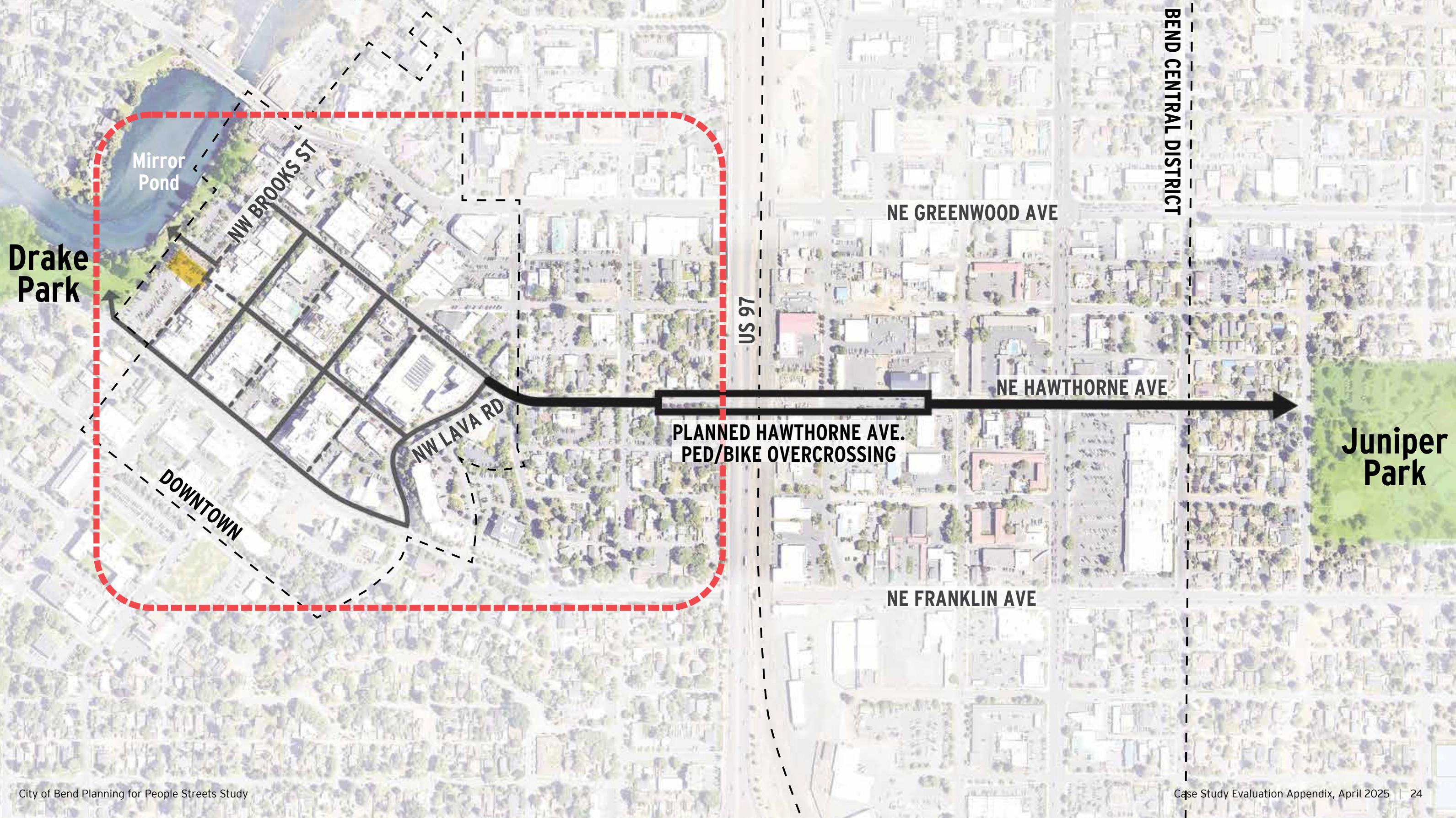
Key Map:



Legend:

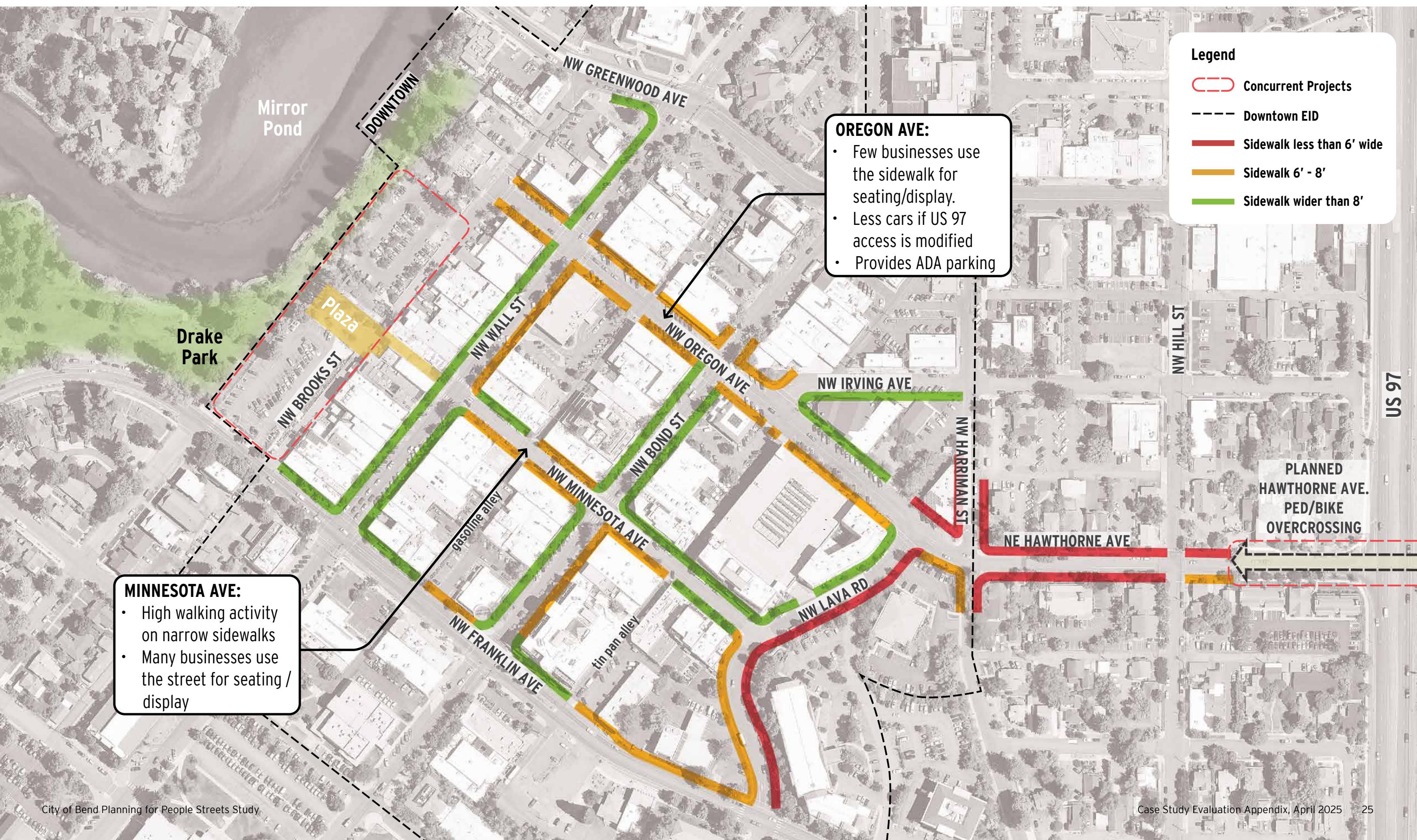
- Plantings
- Pedestrian Areas
- Cycle Track
- Vehicular Areas

WEST SIDE EVALUATION



DOWNTOWN PEDESTRIAN ENVIRONMENT

Appendix A



EXAMPLE: MINNESOTA AVE.

Appendix A

- High walking activity on narrow sidewalks
- Many businesses use the street for seating / display



EXAMPLE: OREGON AVE.



BIKE ROUTE STUDIES

Appendix A

