

CORRIDOR MASTER PLAN

ST. HELENS - US 30 & COLUMBIA BLVD./ST. HELENS ST. CORRIDOR MASTER PLAN
JANUARY 2015

ORD. NO. 3181



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The contents of this document do not necessarily reflect views or policies of the State of Oregon.

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A. INTRODUCTION

The City of St. Helens worked with a project team of staff from the Oregon Department of Transportation (ODOT) and urban design, land use planning, and transportation engineering and planning consultants to develop this Corridor Master Plan. The Master Plan addresses the US 30 corridor, as well as Columbia Boulevard, St. Helens Street and 1st Street within the greater Downtown Area, including the Houlton business district and the Riverfront District. The plan reflects the community's vision of how these areas should appear and function in the future, and includes measures for how to implement the plan. The plan focuses primarily on how the major streets and intersections in these areas are designed and improved over time to ensure that vehicles, bicyclists and pedestrians have ready access to local businesses and can travel safely and comfortably within and between these different parts of town.

As initial steps in the corridor planning process, the City's project team prepared a series of technical memoranda describing existing and projected future conditions in the study area, including land use, urban design, access, and relevant plans and policies, as well as different strategies or approaches that may be used to meet the goals for the corridor.

Previous reports summarized and illustrated a set of alternative design concepts and improvements for the three corridor segments in the study area, including:

- proposed plan view drawings of the corridor segments (with elements such as pedestrian crossings, gateway features, and special opportunity areas);
- three-dimensional cross-sections showing streetscape design options for each corridor segment; and
- potential enhancements to key intersections in the project area.

The information in this Plan builds on previous work conducted in this project, including the project Vision and Guiding Principles, Existing Conditions Report, Streetscape Design Toolkit and Master Plan Design Options and Evaluation Report. The project team, advisory committees, local business and property owners, St. Helens Planning Commission and City Council, and other community members reviewed and evaluated all of these documents and provided invaluable input which was used to refine those reports and help prepare this document.

The Table of Contents for this plan is as follows. Sections that address recommendations and design options are broken down into the three corridor segments.

- Introduction
- Summary of Recommendations
- Planning Process, Public and Agency Involvement
- Plan Goals and Objectives, Vision and Guiding Principles
- Evaluation of Corridor Design Options
 - Summary of Evaluation Criteria and Process
 - Summary of Options Evaluated
 - Rationale for Recommended Design Options
- Recommended Corridor Design Options
 - Overall Approach
 - Streetscape Design Concepts
 - Special Opportunity Areas
 - Conceptual Intersection Enhancements
 - Phasing recommendations and cost considerations
- Policy and Regulatory Changes
 - Land Use Issues and Potential Changes
 - Development Code Changes or Strategies
 - Access Management Goals and Approach



US 30 Corridor Area

Houlton & Riverfront District
Corridor Areas

Figure A-1. Overall Project Area and Corridor Segments

B. SUMMARY OF RECOMMENDATIONS

US 30 Corridor Segment

DESIGN RECOMMENDATION FOR US 30 CORRIDOR SEGMENT	
•	Green Edge , short-term
•	Sidewalk and fencing on the rail side as shown in Green Corridor Design , long-term

The streetscape design option recommended for the US 30 Corridor Segment is the “Green Edge” option, with lower-cost plantings in the median, a combination of banner poles, and more consistent landscaping on the east side (rail side) of the highway in the short-term

Developing sidewalk and fencing on the rail side, as is shown in the “Green Corridor” option, is recommended in the long-term, if feasible within the available area and rail constraints.

The recommendation includes planted center medians at designated locations throughout the corridor segment and fencing on both sides of the rail corridor. An initial review of the corridor segment shows that there is enough room on the rail side of the highway for a six-foot sidewalk and at least three feet of landscaped area along the entire length of the US 30 corridor segment. Portions of potential future improvements along the rail side may encroach on the railroad easement currently owned by the Portland and Western Railroad (PNWR). If railroad right-of-way is required to accommodate the proposed improvements, it is likely that the right-of-way would need to be purchased from the Portland and Western Railroad. Even though the state of Oregon technically owns the underlying right-of-way, due to an existing rail service easement benefitting PNWR, the state cannot sell, lease or give permission for improvements thereon, without consulting with PNWR.

Two **Special Opportunity Areas** are recommended for the US 30 corridor segment.

- US 30/Downtown Gateway
- Pedestrian Bridge at Milton Creek

Conceptual Intersection Enhancements are recommended at the following intersections in this corridor segment.

- US 30 / Wyeth Street
- US 30 / St. Helens Street

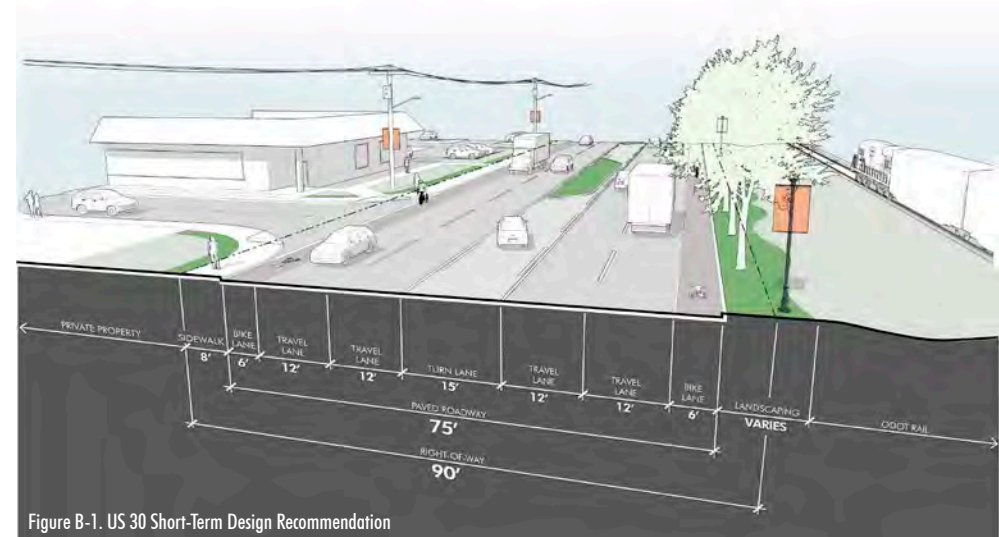


Figure B-1. US 30 Short-Term Design Recommendation

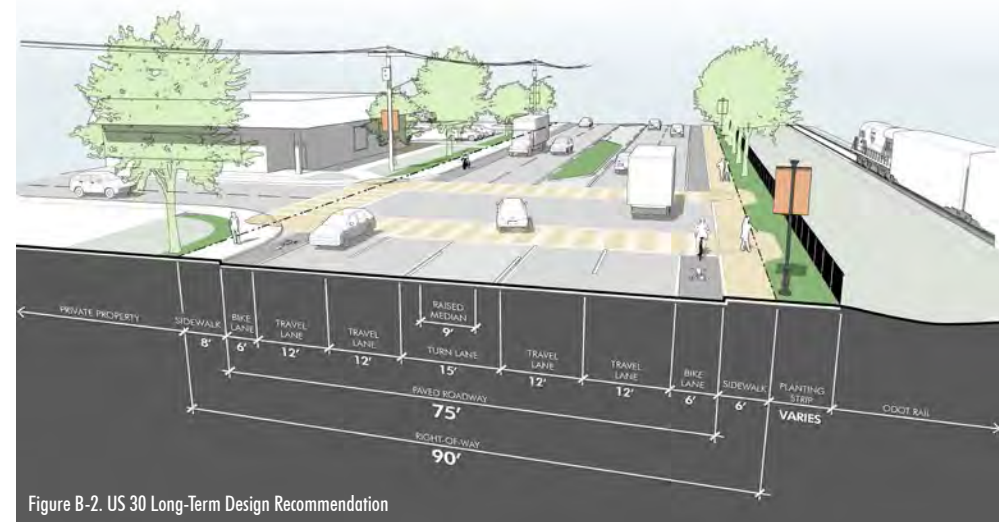


Figure B-2. US 30 Long-Term Design Recommendation

B. SUMMARY OF RECOMMENDATIONS



Figure B-3. US 30 Corridor Segment - Proposed Improvements and Plan Keymap



Figure D-6 on pages 38-39

Figure D-7 on pages 40-41

Figure D-8 on page 42-43



B. SUMMARY OF RECOMMENDATIONS

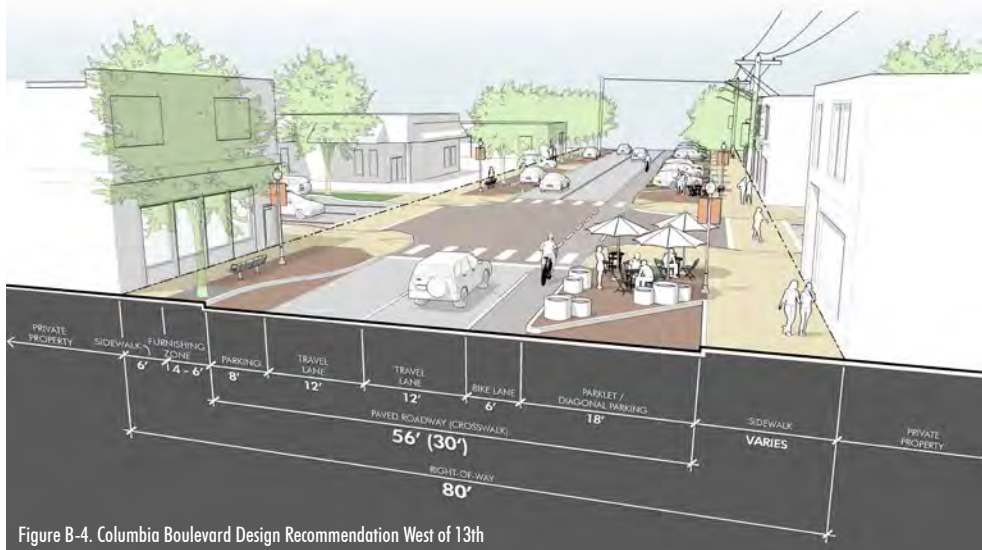


Figure B-4. Columbia Boulevard Design Recommendation West of 13th

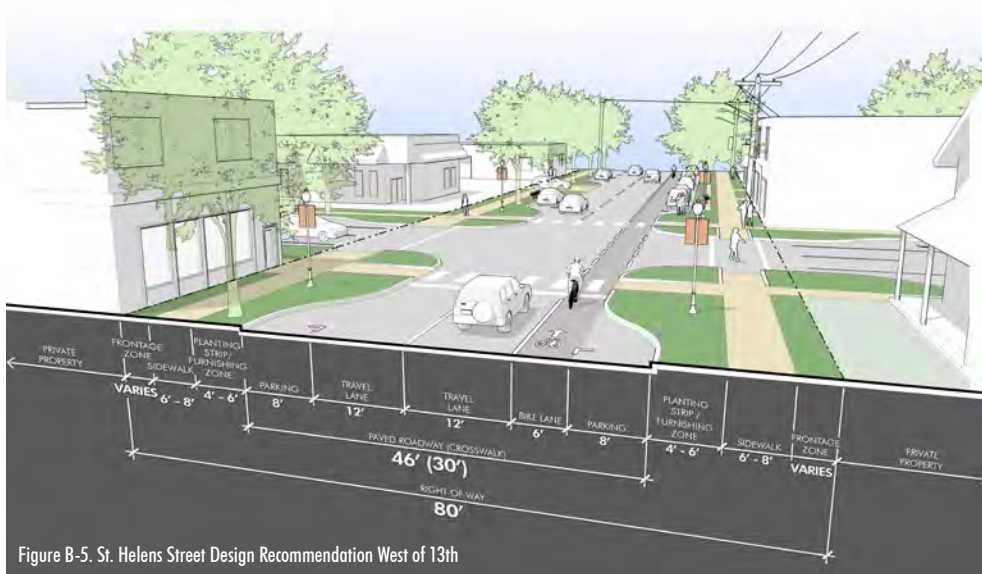


Figure B-5. St. Helens Street Design Recommendation West of 13th

Houlton/Riverfront District – West of 13th Street

DESIGN RECOMMENDATION FOR HOULTON/RIVERFRONT DISTRICT – WEST OF 13TH STREET

- Columbia Boulevard: Parklets Design
- St. Helens Street: Pedestrian Promenade Design, with bicycle lanes

The Parklet option proposed on the majority of Columbia Boulevard includes wider sidewalks, a bicycle lane and on-street parking on both sides of the street, with angled parking provided along the south side of Columbia Boulevard. This efficient parking layout allows room for large, open sidewalk areas called “parklets” at each intersection corner and/or in selected mid-block locations. Given the available right-of-way, angled parking would not be feasible between US 30 and 18th Street. In that area, parallel parking would be provided but parklets could still be included based on requests or agreements between property owners and the City in place of some on-street parking.

The Pedestrian Promenade on St. Helens Street includes widened sidewalks with generous planting strips and/or furnishing zones with street trees on both sides of the street. Curb extensions are proposed at all intersections in both the Parklet and Pedestrian Promenade options.

In ODOT terminology, buffered bike lanes refer to bike lanes with an extra wide striped area between the vehicle travel lane and the bike lane, creating a “buffer”. Although not represented in the graphic, the City could create buffered bicycle lanes as an interim striping improvement on Columbia Boulevard and St. Helens Street. The striping would offer a lower cost alternative in the short term if the City resurfaces St. Helens Street in the next few years but doesn’t have the full funding to implement the other plan elements.

Three **Special Opportunity Areas** are recommended for this corridor segment:

- Gateway Plaza - Columbia Boulevard / Milton Way (Chamber of Commerce)
- Stormwater / Interpretive Gathering Space - Columbia Boulevard / 14th Street
- Civic Gathering Space - Columbia Boulevard / 13th Street

Conceptual Intersection Enhancements are recommended for the following sets of intersections in this corridor segment.

- Columbia Boulevard / Milton Way
- Columbia Boulevard / 18th Street
- Columbia Boulevard / St. Helens Street / 13th Street

Houlton/Riverfront District – East of 13th Street

DESIGN RECOMMENDATION FOR HOULTON/RIVERFRONT DISTRICT – EAST OF 13TH STREET

- Primarily **Pedestrian Promenade**, with buffered bike lanes
- Allow for **Parklets** in some locations where appropriate

As noted above, the Pedestrian Promenade option includes widened sidewalks with generous planting strips and/or furnishing zones with street trees on both sides of the street, along with curb extensions at all intersections. More permanent or temporary parklets are recommended for this corridor segment in situations. Curb extensions, a bicycle facility, and improved crossings at the intersections are also recommended.

Although not represented in the graphic, the City could create buffered bicycle lanes as an interim striping improvement on Columbia Boulevard and St. Helens Street. The striping would offer a lower cost alternative in the short term if the City resurfaces a street segment in the next few years but doesn't have the full funding to implement the other plan elements.

Four **Special Opportunity Areas** are recommended for this corridor segment.

- Civic Gathering Space – Columbia Boulevard / 9th Street
- Civic Gathering Space – Columbia Boulevard / 2nd Street
- Columbia River Overlook – Columbia Boulevard just east of 1st Street
- Riverfront District Overlook – 1st Street between Columbia Boulevard & St. Helens Street

Conceptual Intersection Enhancements are recommended for the following sets of intersections in this corridor segment.

- Columbia Boulevard / 11th Street
- Columbia Boulevard / 9th Street
- Columbia Boulevard / 7th Street
- Columbia Boulevard / 1st Street
- St. Helens Street / 1st Street



Figure B-6. Columbia Boulevard Design Recommendation East of 13th

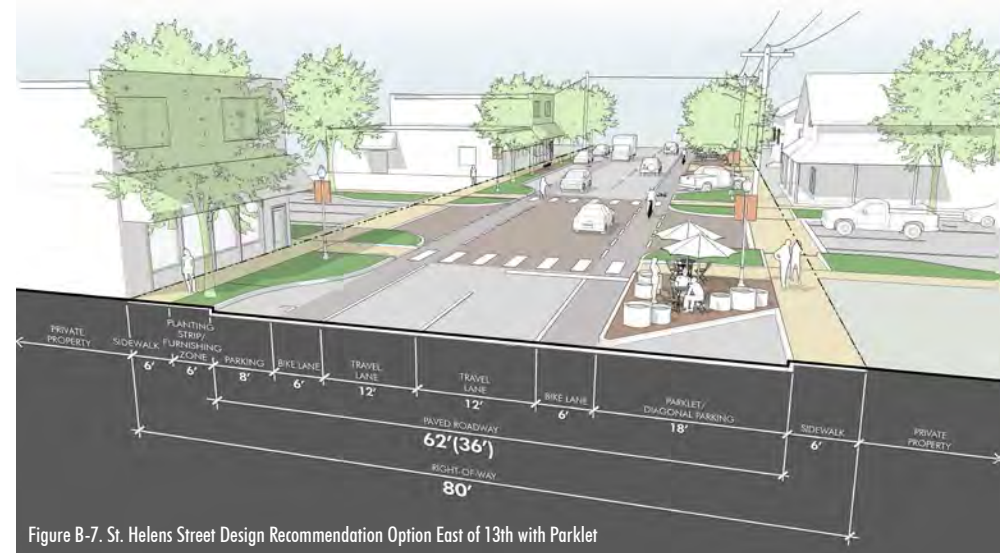


Figure B-7. St. Helens Street Design Recommendation Option East of 13th with Parklet



Figure B-8. Houlton & Riverfront District Corridor Segment Proposed Improvements



C. EVALUATION OF CORRIDOR DESIGN OPTIONS

As illustrated in Figure C-1 The Corridor Design Planning process included the following steps:

- Preparation of project goals, objectives, visions and guiding principles
- Review of existing conditions in the study area related to land use, streetscape design, access and regulatory requirements
- Development of a Design Options Toolkit
- Creation and evaluation of Design Options for each corridor segment
- Recommendations for preferred designs for each corridor segment

Throughout this process, city staff and consulting team members worked with community members to review and refine these materials and the recommendations in this Corridor Master Plan. These activities included the following:

- Project Website to distribute and provide access to all project materials and notify people about upcoming meetings and events
- Five meetings of a Citizens Advisory Committee (CAC) and four meetings of a Technical Advisory Committee (TAC)
- Three meetings with other business and property owners in the study area
- Additional meetings with staff from the Oregon Department of Transportation (ODOT)
- Three combined Planning Commission work sessions and public meetings
- Direct e-mail and phone conversations with community members
- Displays of presentation materials at City Hall and in a storefront on Columbia Boulevard

PLANNING PROCESS, PUBLIC AND AGENCY INVOLVEMENT

Throughout this process, Streetscape Design Concepts were evaluated for consistency with the project Goals and Guiding Principles, including improving safety, economic vitality, appearance and function of these areas, as well as relative cost and financial feasibility of implementing the improvements. Based on the review and evaluation of the concepts, the project team identified a preferred design concept and set of improvements for each corridor.

ST. HELENS US 30 & COLUMBIA BLVD. / ST. HELENS STREET CORRIDOR MASTER PLAN

Work Plan Summary



TASK 1:
Project Start-up & Management

TASK 2:
Citizen/Public & Agency
Involvement & Project Kick-off

TASK 3:
Develop Project Vision, Goals &
Guiding Principles

TASK 4:
Existing Conditions, Opportunities
& Constraints

TASK 5:
Draft Corridor Master Plan Design
Options & Implementation
Strategy

TASK 6:
Corridor Master Plan Design
Option Evaluation

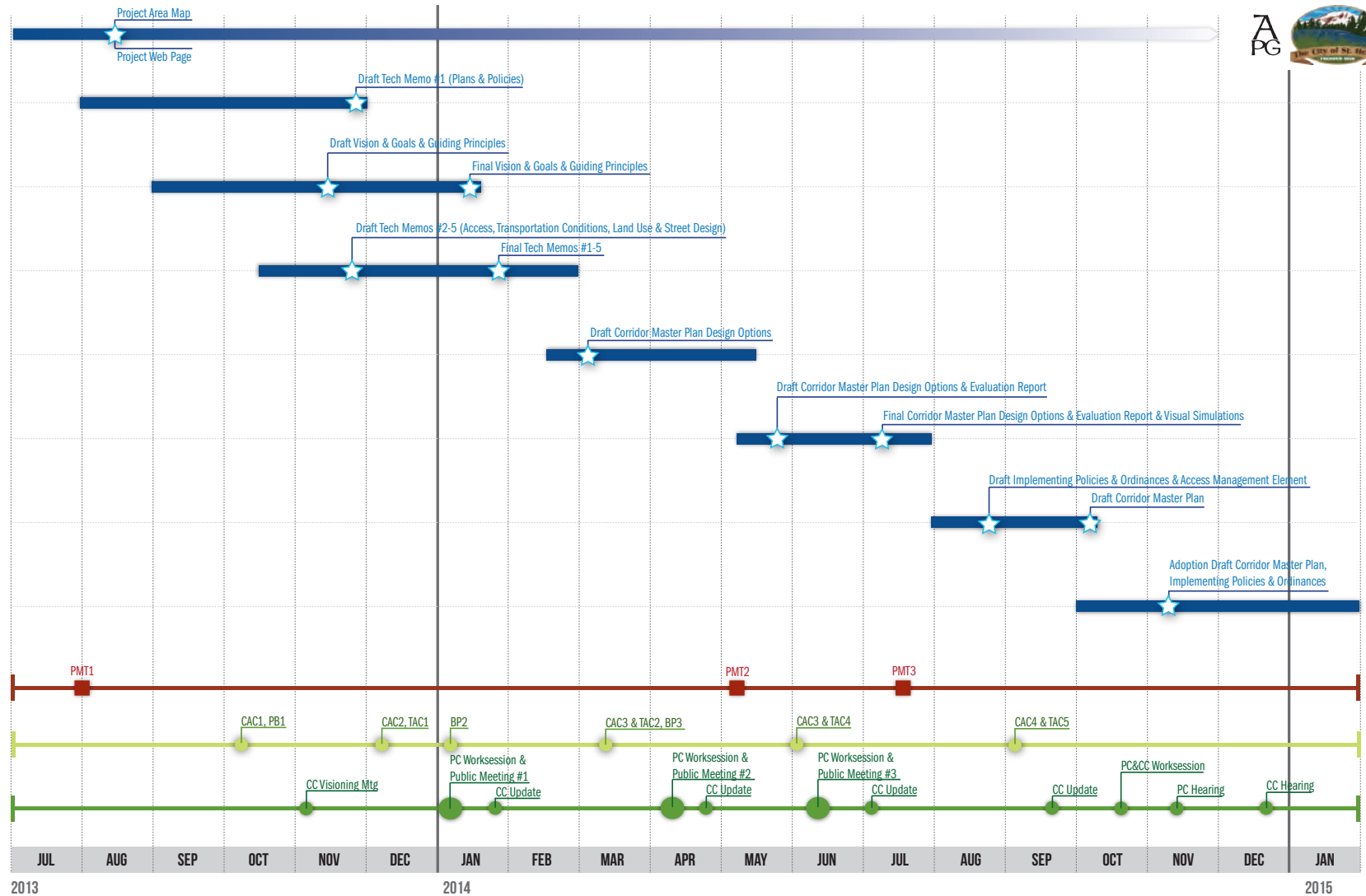
TASK 7:
Refinement of Corridor Master
Plan, Implementaiton Report &
Access Management Element

TASK 8:
Adoption

**PROJECT MANAGEMENT
TEAM MEETINGS**

**STAKEHOLDER & COMMITTEE
MEETINGS**

**PUBLIC, PLANNING
COMMISSION & CITY COUCL
MEETINGS**



TAC = Technical Advisory Committee; CAC = Citizen Advisory Committee; PC = Planning Commission; CC = City Council; BP = Businesses & Property Owners; "&" indicates combined meeting, "," indicates back-to-back meetings

Figure C-1. Project Schedule

Summary of Evaluation Criteria and Process

In evaluating the relative merits of different street design options, the project team considered the goals and guiding principles developed in earlier phases of the project, along with the feedback and recommendations received from community members including:

- Business and property owners
- Technical and citizen advisory committees
- St. Helens Planning Commission
- St. Helens City Council

PROJECT AND CORRIDOR VISION, OVERALL GOALS, AND GUIDING PRINCIPLES

The following guiding principles and vision statements were developed in the early stages of the project and used to develop and evaluate corridor design options and recommended actions.

CORRIDOR VISION

US 30 CORRIDOR SEGMENT

Highway 30 will provide safe, convenient access to local businesses along the highway, while balancing that with state goals for traffic mobility. The appearance of the highway will be improved over time to enhance landscaping and other elements that will make it a more attractive place for people to travel by car, bicycle, walking or transit. Key intersections such as at Gable Road, Columbia Blvd. and St. Helens Street will be improved to enhance safety for all types of travel and to create attractive, clearly recognizable gateways to other parts of St. Helens, helping meet the community's goals for economic revitalization in those areas.

COLUMBIA BLVD./ST. HELENS STREET SEGMENT

Columbia Blvd. and St. Helens Street will provide safe, convenient travel to access the Houlton business area, Riverfront District and adjacent neighborhoods by drivers, bicyclists and pedestrians. These streets will provide good access to local businesses and be attractively designed to help draw people to the area and enhance their shopping and travel experiences. Street designs will incorporate opportunities for landscaping, public art and signage that directs people to the Houlton area and Riverfront District. Designs will recognize physical conditions and constraints, be cost-effective and build on natural and cultural features and other opportunities in the area.

OVERALL PROJECT GOALS

- Create "streetscape" plans for the US 30 & Columbia Blvd/St. Helens Street corridors that reflect the community's vision for appearance and function.
- Improve the aesthetics and function of the corridors to attract business and investment, provide better access, direction and signage to the Houlton and Riverfront District areas, and improve desirability.

GUIDING PRINCIPLES

Planning Process and Community Involvement

- Establish a community vision, goals and guiding principles for the project area.
- Engage business and property owners, residents, stakeholders, and elected and appointed officials.
- Ensure consistency with local and state plans and policies.

Economy and Business Support

- Develop planning design and implementation standards to revitalize businesses and business districts in the planning area.
- Ensure that customers, employees and others have good access to local businesses, including through on-street parking.
- Ensure that proposed solutions and projects are cost-effective and make efficient use of limited resources.

Transportation Safety and Mobility

- Improve street connectivity, design, and ability to access and locate business areas.
- Improve pedestrian and bicycle safety and accessibility, thereby encouraging walking and bicycling.
- Balance the need for local access and traffic calming with the need to provide for through-traffic movement and mobility (particularly in the US 30 corridor) as well as emergency vehicle accommodations.
- Develop and implement solutions that are consistent with local and regional transportation needs.

Connectivity and Streetscape Aesthetics

- Improve the appearance of the US 30 and Columbia Boulevard/St. Helens Street corridors.
- Improve pedestrian and bicycle connectivity between the corridor areas and adjacent open spaces and parks, trail/bicycle/transit networks, and neighborhoods.
- Develop and apply street designs that serve the unique needs of each corridor segment (US 30, Houlton and Riverfront District).
- Consider opportunities for integrating sustainable design strategies into the streetscape design and implement them where appropriate.

Existing Conditions and Corridor Options Evaluated

This section of the Plan briefly summarizes the design options evaluated for each corridor segment. Existing conditions are briefly illustrated with visual simulation graphics alongside illustrations of the design options. More detailed information about existing conditions in the study area can be found in Appendix B.

US 30 CORRIDOR SEGMENT

Three alternative streetscape design options were developed for consideration for the US 30 corridor segment, and are shown in Figure C-2. In general, these options would apply to the entire corridor segment but some of the individual improvements are targeted to specific locations within the corridor. Each concept attempts to “humanize” the current vehicle-dominated environment and create a civic identity befitting St. Helens through the use of landscape plantings, street trees, landscaped roadway medians, and improved pedestrian sidewalks and crossings. Each of the three concepts is described in further detail below. The descriptions are followed by a summary of responses from advisory committees, business and property owners, the Planning Commission, and City Council to these options. (See Table B-1: Feedback Regarding Design Options In The US 30 Corridor Segment)

OPTION 1: “GREEN EDGE” – This option proposed to create a distinctive landscaped edge along the east side of the highway while discouraging informal pedestrian crossings of US 30 and of the railroad tracks. Crosswalks would be provided at signalized intersections along US 30 to offer connectivity with destinations (potentially including future bus stops) and/or other sidewalks, and a new distinctive planting area was proposed along the east side of the highway.

OPTION 2: “GREEN CORRIDOR” – This option proposed a new sidewalk with a planting strip and continuous fence along the east side of the highway, with enhanced pedestrian crossings at key intersections. Raised planted medians with trees and shrubs were also proposed along the middle of the highway at strategic locations, as well as new planting areas behind the sidewalk along the west side of the highway.

OPTION 3: “COMPLETE STREET” – Option 3 proposed to modify US 30 to meet the recommended roadway cross section established for Major Arterials in the 2011 Transportation System Plan (TSP). This includes widening the west sidewalk to accommodate a new planting strip with street trees, several planted medians at strategic locations, reconstructing the east curb to accommodate a new sidewalk and planting strip with street trees, and re-striping the highway. New pedestrian-scale lighting and furnishings would be proposed at strategic locations.

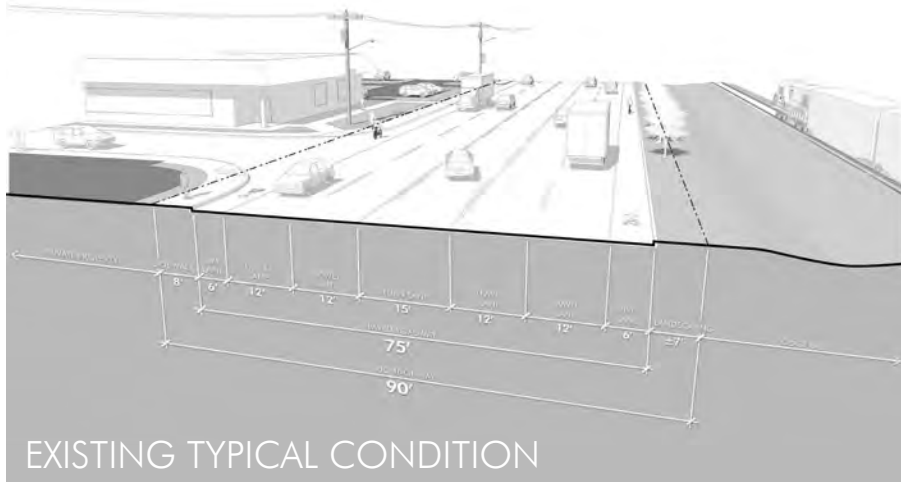


Figure C-2. Existing conditions and three preliminary streetscape options developed for the US 30 corridor.

TABLE C-1. FEEDBACK REGARDING DESIGN OPTIONS IN THE US 30 CORRIDOR SEGMENT	
TAC	<p><u>RECOMMENDATION:</u> None</p> <p><u>ISSUES OF CONCERN</u></p> <ul style="list-style-type: none"> • Maintenance • Highway Capacity • Fencing/appearance • Transit accommodation
CAC	<p><u>RECOMMENDATION:</u> None, but generally supported concepts</p> <p><u>ISSUES OF CONCERN</u></p> <ul style="list-style-type: none"> • Maintenance • Visibility related to trees in median or planting areas • Access to east side landscaped area
PROPERTY AND BUSINESS OWNERS	<p><u>RECOMMENDATION:</u> None</p> <p><u>ISSUES OF CONCERN</u></p> <ul style="list-style-type: none"> • Potential visibility impacts of median landscaping and street trees • Landscaping maintenance • Location of medians • Visual impacts of overhead utilities • Demand for eastside sidewalk
PLANNING COMMISSION	<p><u>RECOMMENDATION:</u> None but like median; like pathway on RR side in long term</p> <p><u>ISSUES OF CONCERN</u></p> <ul style="list-style-type: none"> • Median landscaping visibility impacts • Safety/use of pathway on RR side • Maintenance • Banner poles, lighting on RR side • Type of landscaping on RR side
CITY COUNCIL	<p><u>RECOMMENDATION:</u> None</p> <p><u>ISSUES OF CONCERN</u></p> <ul style="list-style-type: none"> • Mixed opinions on RR sidewalk • No consensus on median

HOULTON / RIVERFRONT DISTRICT – WEST OF 13TH STREET

Three alternative streetscape design options were developed for consideration for the one-way streets west of 13th Street along Columbia Boulevard and St. Helens Street, and are shown in Figure C-3. Each option focused on narrowing the vehicular roadway to the widths recommended in the 2011 TSP in order to improve the safety of pedestrians while creating a sense of place and identity for St. Helens. Each option proposed widened sidewalks, street trees and plantings, site furnishings, and improved pedestrian sidewalks and crossings. Each design option is described in further detail below. The descriptions are followed by a summary of responses from advisory committees, business and property owners, the Planning Commission, and City Council to these options. (See TABLE C-3 on page 26)

OPTION 1: “PEDESTRIAN PROMENADE” – This option proposed widened sidewalks with generous planting strips and/or furnishing zones with street trees on both sides of the street. Bulbouts were proposed at each intersection to significantly shorten the pedestrian crossing distances.

OPTION 2: “GREEN SPINE” – This option proposed an elevated “cycle track” between the parking lane and the sidewalk buffered by planting strips and furnishing zones on either side. New widened sidewalks with planting strips and furnishing zones were proposed on each side of the street, with bulbouts at intersections shortening the pedestrian crossing distance.

OPTION 3: “PARKLETS” – This option proposed back-in angled parking along the south side of Columbia Boulevard and the north side of St. Helens Street. This efficient parking layout allows room for large, open sidewalk areas called “parklets” at each intersection corner and/or in selected mid-block locations, which can be designed to reflect the character and function of the adjacent land use (e.g., outdoor seating and tables adjacent to commercial uses, and landscaped areas with a bench or two adjacent to residential uses). On-street parking areas are shown to have special paving that visually extends the parklet, offering adjacent business owners the opportunity for temporary uses in the on-street parking areas such as outdoor seating or shopping areas. Widened sidewalks with street trees, pedestrian lighting, and furnishing zones were proposed along the other side of the street.

C. EVALUATION OF CORRIDOR DESIGN OPTIONS

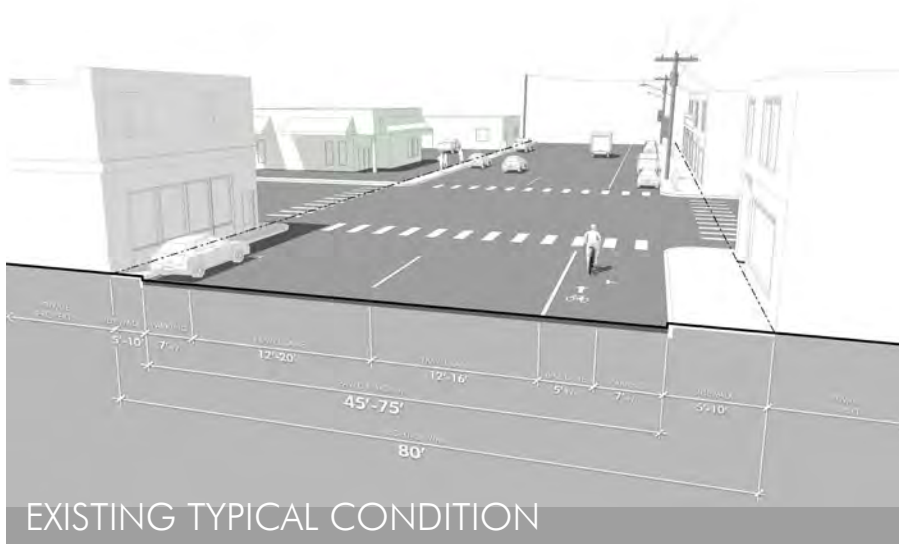


Figure C-3. Existing conditions and three preliminary streetscape options developed for the Houlton/Riverfront District - West of 13th Street

TABLE C-2. FEEDBACK REGARDING DESIGN OPTIONS IN THE HOULTON/RIVERFRONT DISTRICT – WEST OF 13TH STREET CORRIDOR SEGMENT

TAC	<p><u>RECOMMENDATION:</u> None</p> <p><u>ISSUES OF CONCERN</u></p> <ul style="list-style-type: none"> • Cost/benefit of bicycle facilities • Viability of street trees • Parking impacts • Wayfinding, freight movement
CAC	<p><u>RECOMMENDATION:</u> Parklets or Green Spine on Columbia; Promenade or Green Spine on St. Helens</p> <p><u>ISSUES OF CONCERN</u></p> <ul style="list-style-type: none"> • Bicycle and pedestrian safety • Difficulty with reverse angled parking • Flexibility, location of parklets
PROPERTY AND BUSINESS OWNERS	<p><u>RECOMMENDATION:</u> None</p> <p><u>ISSUES OF CONCERN</u></p> <ul style="list-style-type: none"> • Greater benefit to businesses immediately adjacent to parklets • Accommodating truck traffic with narrow lanes and bulbouts • Difficulty of using reverse angle parking • Enough room for gateway
PLANNING COMMISSION	<p><u>RECOMMENDATION:</u> Parklets on Columbia; Promenade or Green Spine on St. Helens</p> <p><u>ISSUES OF CONCERN</u></p> <ul style="list-style-type: none"> • Bicycle and pedestrian safety; bike/vehicle conflicts • Flexibility, location of parklets • Location of diagonal parking
CITY COUNCIL	<p><u>RECOMMENDATION:</u> Parklets</p> <p><u>ISSUES OF CONCERN</u></p> <ul style="list-style-type: none"> • Differing opinions on reverse angle vs. traditional diagonal parking

HOULTON / RIVERFRONT DISTRICT – EAST OF 13TH STREET

Three alternative streetscape design options were developed for consideration for the two-way portion of Columbia Boulevard east of 13th Street, and are shown in Figure C-4. Like the corridor segment west of 13th Street, each concept focused on narrowing the vehicular roadway to the widths recommended in the 2011 TSP in order to improve pedestrian safety while creating a sense of place and identity. Each option proposed widened sidewalks, street trees and plantings, site furnishings, and improved pedestrian sidewalks and crossings. Each concept is explained in further detail below. The descriptions are followed by a summary of responses from advisory committees, business and property owners, the Planning Commission, and City Council to these options. (See Table B-3: Feedback Regarding Design Options In The Houlton/Riverfront District – East Of 13Th Street Corridor Segment)

(Note: These concepts do not apply to 1st Street between Columbia Boulevard and St. Helens Street, which has a unique configuration requiring special attention. However, they could be applied with some modifications to the section of St. Helens Street between 1st Street and 4th Street.)

OPTION 1: “PEDESTRIAN PROMENADE” – This option proposed widened sidewalks with generous planting strips and/or furnishing zones with street trees on both sides of the street. Bulbouts were proposed at each intersection to significantly shorten the pedestrian crossing distances.

OPTION 2: “BOULEVARD” – This option proposed raised landscaped medians that separate the east- and west-bound lanes. Other improvements include widened sidewalks with planting strips, site furnishings, street trees, as well as bulbouts and pedestrian refuge islands.

OPTION 3: “PARKLETS” – This option proposed parklets similar to that of Streetscape Option 3 for the corridor segment west of 13th Street, above. However, due to the added bike lane in this two-way roadway configuration, the right-of-way would not accommodate a planting strip between back-in or traditional angled parking lane and the sidewalk along the south side of Columbia Boulevard.

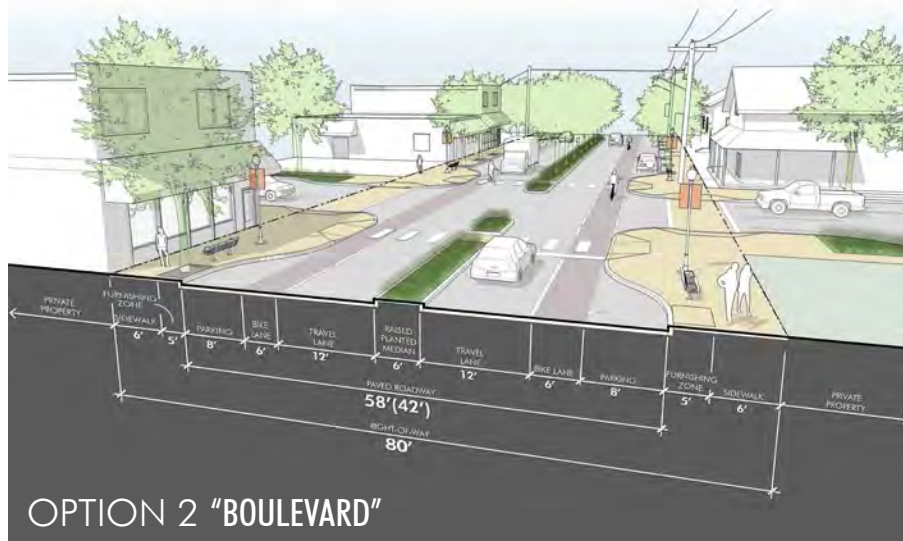
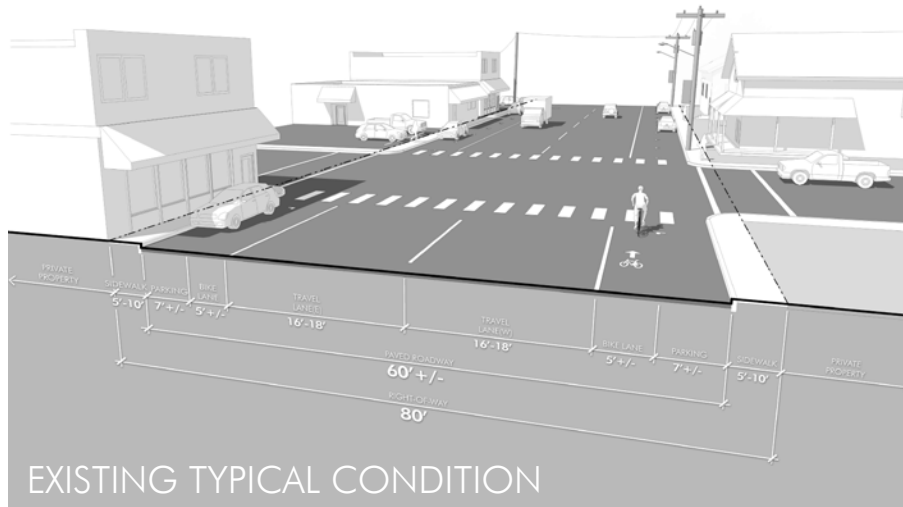


Figure C-4. Existing conditions and three preliminary streetscape options developed for the Houltton/Riverfront District - East of 13th Street

TABLE C-3. FEEDBACK REGARDING DESIGN OPTIONS IN THE HOULTON/RIVERFRONT DISTRICT – EAST OF 13TH STREET CORRIDOR SEGMENT	
TAC	<p><u>RECOMMENDATION:</u> None</p> <p><u>ISSUES OF CONCERN</u></p> <ul style="list-style-type: none"> • Difficulty with reverse angled parking • Mini-roundabout operations
CAC	<p><u>RECOMMENDATION:</u> Green Spine or Parklets</p> <p><u>ISSUES OF CONCERN</u></p> <ul style="list-style-type: none"> • Median is overkill • Loss of on-street parking • Location, design of gateway on 1st Street
PROPERTY AND BUSINESS OWNERS	<p><u>RECOMMENDATION:</u> None</p> <p><u>ISSUES OF CONCERN</u></p> <ul style="list-style-type: none"> • Location of gateway • Grade-separated rail crossings • Improving appearance of streets in order to improve area’s vitality
PLANNING COMMISSION	<p><u>RECOMMENDATION:</u> Pedestrian Promenade</p> <p><u>ISSUES OF CONCERN</u></p> <ul style="list-style-type: none"> • Median is overkill • Don’t need diagonal parking in this area • Bicycle safety (consider buffered bike lanes)
CITY COUNCIL	<p><u>RECOMMENDATION:</u> Parklets</p> <p><u>ISSUES OF CONCERN</u></p> <ul style="list-style-type: none"> • Special opportunity area at end of Columbia/1st – concern about open space there; want trail connection

Rationale for Recommended Design Options

Following is a summary of the rationale for selecting each corridor segment design option.

US 30 SEGMENT

- Selective application of raised median treatment promotes City and ODOT safety and access management objectives while recognizing and respecting property access needs (no existing driveway closures are proposed by the plan)
- Final Design of median location and content can address site-specific considerations such as individual property access, business visibility and maintenance issues
- Consistent with state design standards and guidelines
- Improves the visual appearance of the corridor to a greater degree than the non-median option
- Balances goals for improvements to appearance with cost and financial viability
- Short-term implementation represents lower cost solution; long-term phases will not be undertaken if not financially feasible
- Improves bicycle and pedestrian connectivity and safety in the short- and long-term
- Equally consistent or superior in satisfying project goals and objectives in a financially feasible manner as compared to other options
- Generally consistent with community and stakeholder feedback to date; anticipated property-specific issues can be addressed and resolved through the detailed design of specific proposed improvements
- Improvements shown along the east side of US 30 advance long-sought safety and aesthetic changes that screen and protect the adjacent railroad corridor
- Improvement recommendations can be implemented in phases as resources and timing allow and/or as property redevelopment occurs

HOULTON/RIVERFRONT DISTRICT – WEST OF 13TH STREET

- Designs for each street best meet land use conditions and goals
- Improves the visual appearance of the corridor segment to an equal or greater degree than other options; creates a long-sought gateway
- Deemed best option to enhance economic viability compared to other options (particularly on Columbia Boulevard)
- Represents mid-range or lower cost alternative compared to other options
- Key elements (e.g., parklets) can be implemented in a temporary manner at relatively low cost and in a shorter timeframe, allowing the community to “try on” these options
- Improves bicycle and pedestrian connectivity and safety with a balanced approach to meeting mobility needs for all users
- Equally consistent with all other project goals and objectives in comparison to other options

C. EVALUATION OF CORRIDOR DESIGN OPTIONS

- Most consistent with community and stakeholder feedback to date, compared to other options
- Improvement recommendations can be implemented in phases as resources and timing allow and/or as property redevelopment occurs

HOULTON/RIVERFRONT DISTRICT – EAST OF 13TH STREET

- Designs for each street best meet land use conditions and goals
- Improves the visual appearance of the corridor segment to an equal or greater degree than other options
- Represents lower cost alternative compared to other options
- Maximizes space for pedestrians throughout the corridor compared to other options
- Improves bicycle and pedestrian connectivity and safety with a balanced approach to meeting these needs and those of drivers
- Equally consistent with all other project goals and objectives in comparison to other options
- Most consistent with community and stakeholder feedback to date, compared to other options
- Improvement recommendations can be implemented in phases as resources and timing allow and/or as property redevelopment occurs

D. RECOMMENDED CORRIDOR DESIGNS

This section of the Plan describes the designs recommended for each corridor segment in detail using narrative text, plan view maps, street cross-sections and other illustrations, and photos depicting specific design features.

US 30 Corridor Segment

OVERALL APPROACH

The proposed improvements along the US 30 highway corridor between Gable Road and Pittsburgh Road strive to improve safety while enhancing the character of the roadway, better creating a sense of place, and bolstering economic viability. Through the use of landscape plantings, street trees, landscaped roadway medians, and improved pedestrian sidewalks and crossings, the recommended design creates a Green Corridor and attempts to “humanize” this vehicle-dominated environment and create a civic identity befitting St. Helens. The following goals and strategies for the recommended design of the US 30 corridor segment are summarized below.

1. **IMPROVE PEDESTRIAN SAFETY.** The recommended design proposes to retrofit the US 30 corridor with a number of traffic calming features and elements intended to facilitate pedestrian movement without impacting vehicular function. These improvements include new crosswalk striping, ADA-accessible curb ramps, pedestrian refuge median islands, and enhanced crosswalk signals. Additionally, new fencing along each side of railroad corridor will help discourage informal crossings of the railroad tracks.
2. **IMPROVE CONNECTIVITY.** Several design features improve pedestrian and bicycle connectivity along the US 30 corridor, and between the corridor and nearby neighborhoods and destinations. New sidewalks along the east side of highway provide additional accessible routes for pedestrians to reach and move along the corridor, tying into existing sidewalks at most intersections. Additionally, a new pedestrian bridge at Milton Creek provides an important link for pedestrians moving along the east side of the US 30 corridor.
3. **IMPROVE AESTHETICS AND SENSE OF PLACE.** New street trees, planted highway medians, and planting areas on each side of the highway work together to reinforce US 30 as a Green Corridor, breaking down the scale of this wide, intimidating highway arterial to one that is attractive, inviting and accessible to pedestrians. Highly visible gateway elements at the intersections of Gable Road and Columbia Boulevard mark key transitions and reinforce civic identity. Additionally, banner poles distributed at equal intervals along each side of the corridor add festiveness and help to unify the corridor.

D. RECOMMENDED CORRIDOR DESIGN OPTIONS: US 30 CORRIDOR SEGMENT



Figure D-1. US 30 Corridor Segment - Proposed Improvements and Plan Keymap



D. RECOMMENDED CORRIDOR DESIGN OPTIONS: US 30 CORRIDOR SEGMENT

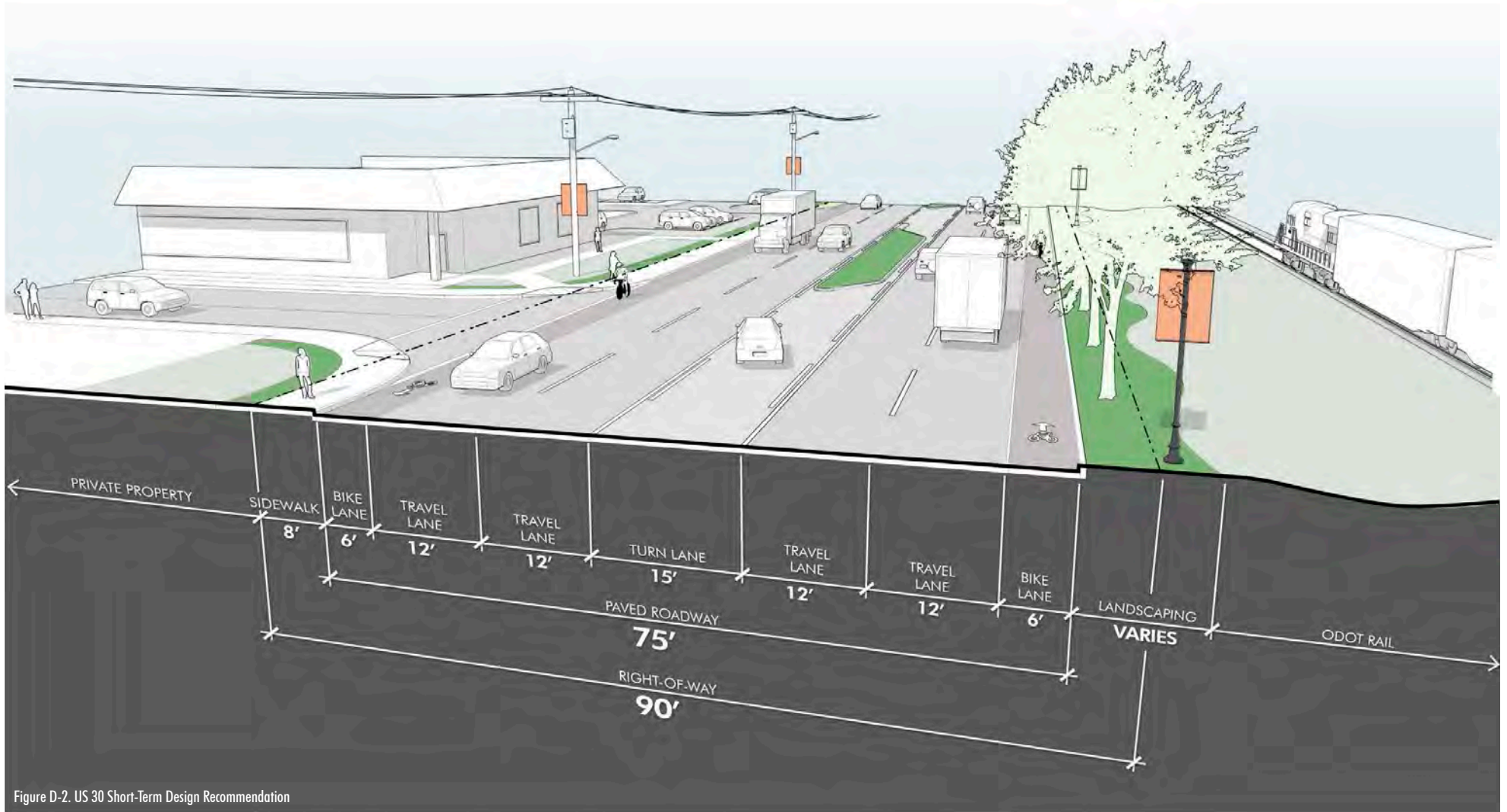


Figure D-2. US 30 Short-Term Design Recommendation

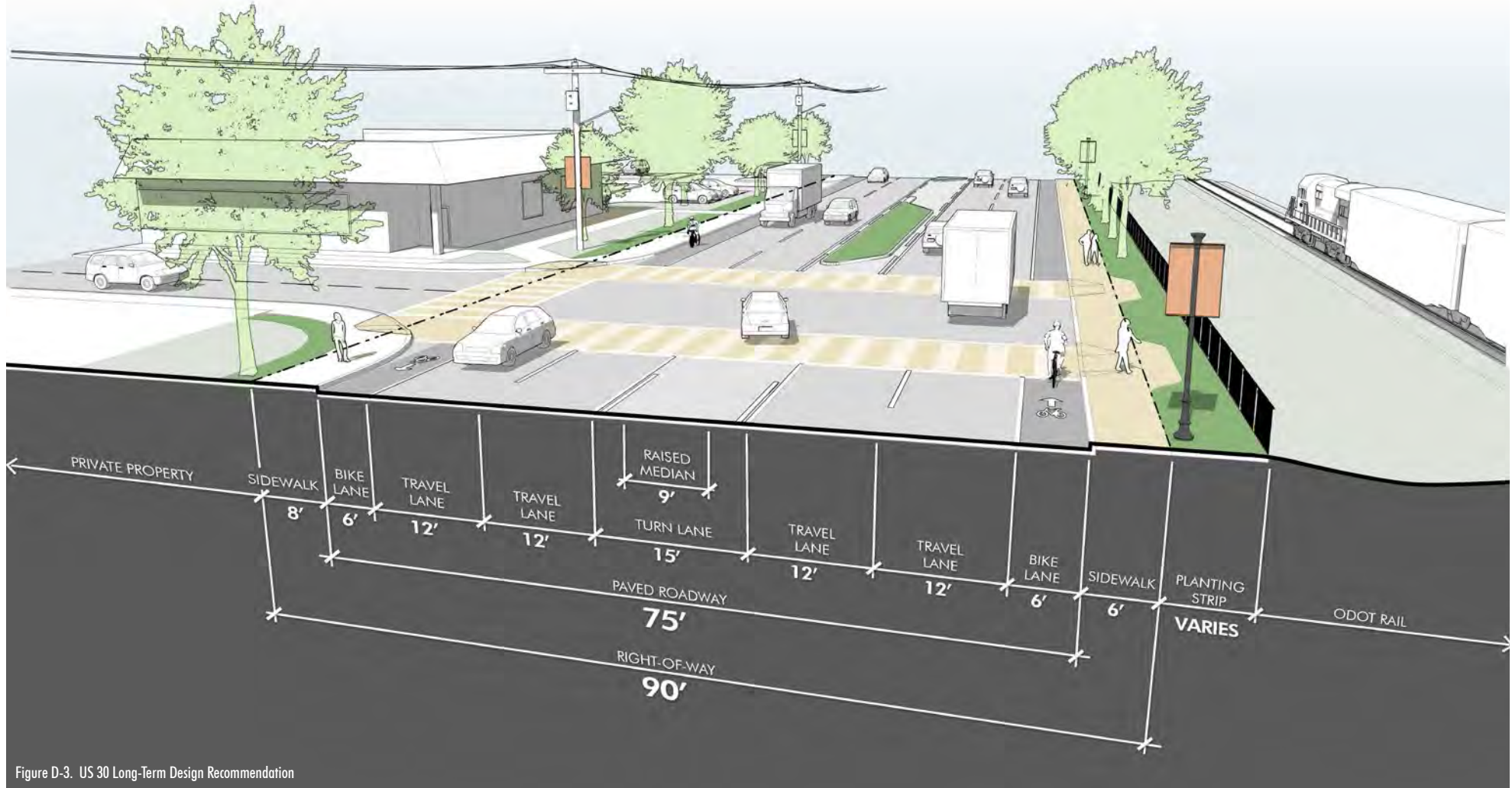


Figure D-3. US 30 Long-Term Design Recommendation

D. RECOMMENDED CORRIDOR DESIGN OPTIONS: US 30 CORRIDOR SEGMENT

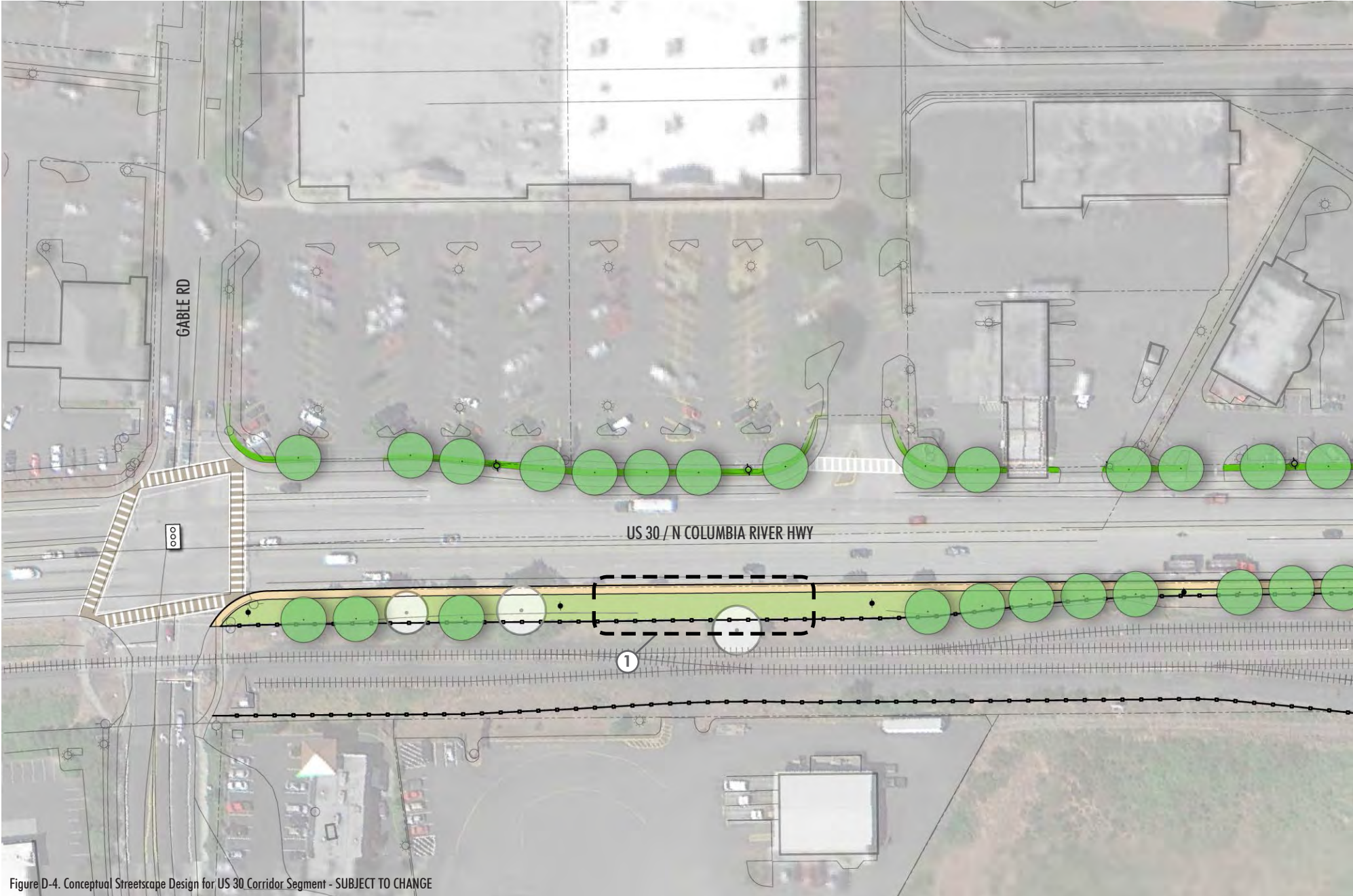
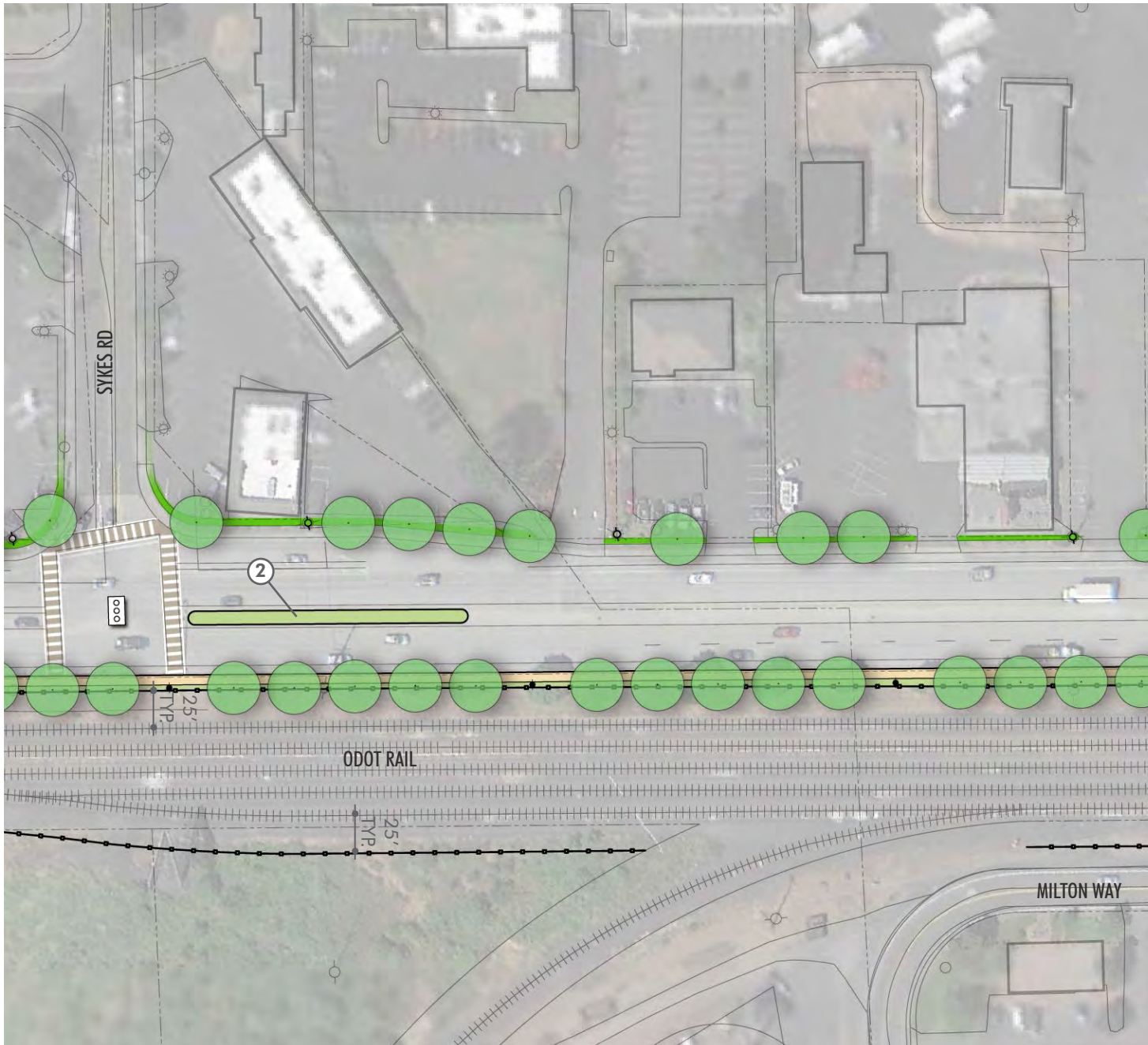











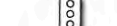
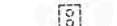



Figure D-4. Conceptual Streetscape Design for US 30 Corridor Segment - SUBJECT TO CHANGE



D. RECOMMENDED CORRIDOR DESIGN OPTIONS: US 30 CORRIDOR SEGMENT



LEGEND: US 30 CORRIDOR

-  NEW 6' SIDEWALK *
 -  NEW LANDSCAPE AREA
 -  PRIVATE PROPERTY LANDSCAPE IMPROVEMENTS
 -  INTERSECTION CROSSWALK PAVING ENHANCEMENTS *
 -  NEW CROSSWALK STRIPING
 -  NEW 5' HT. FENCE *
 -  NEW BANNER POLE
 -  NEW BANNER ON EXISTING UTILITY / POLE
 -  NEW TREE *
 -  EXISTING TREE TO REMAIN
 -  EXISTING SIGNALIZED INTERSECTION
 -  FUTURE SIGNALIZED INTERSECTION
 -  SPECIAL OPPORTUNITY AREA
 -  CONCEPTUAL INTERSECTION ENHANCEMENT
- * DENOTES LONG-TERM IMPROVEMENTS

KEY NOTES

-  FUTURE BUS STOP
-  PLANTED MEDIAN - SEE PAGE 46



PLANS ARE CONCEPTUAL AND SUBJECT TO CHANGE

D. RECOMMENDED CORRIDOR DESIGN OPTIONS: US 30 CORRIDOR SEGMENT

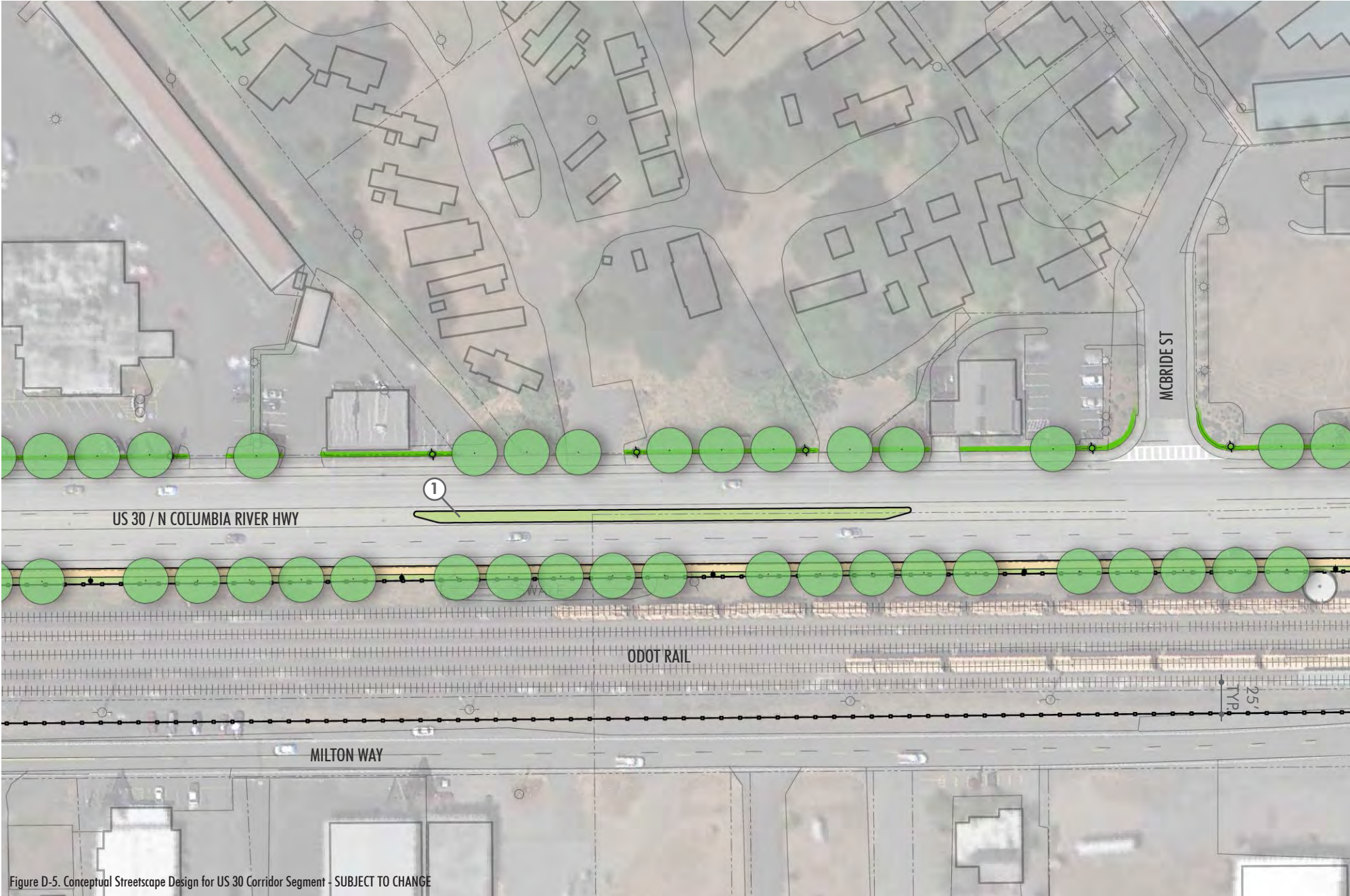
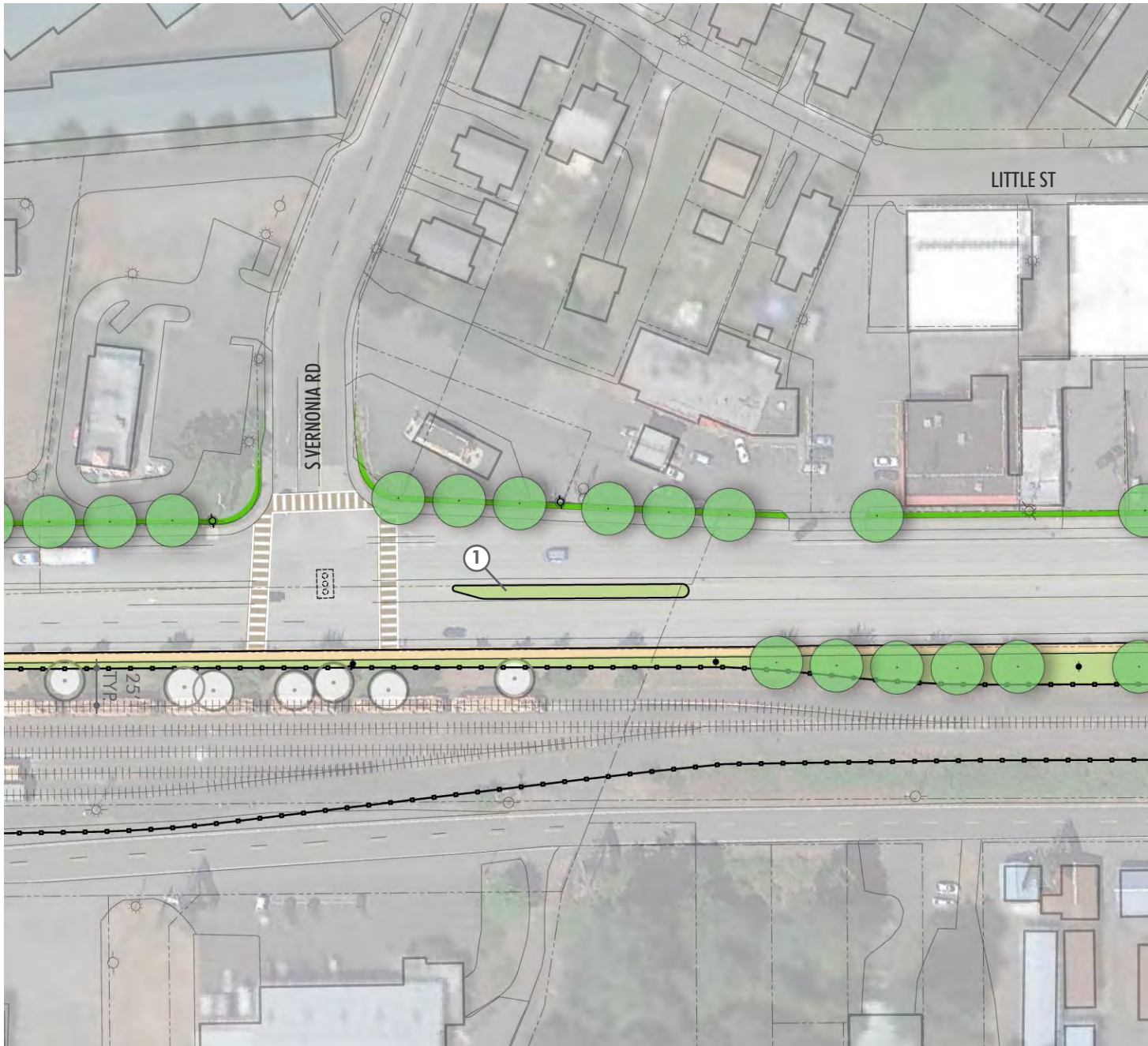


Figure D-5. Conceptual Streetscape Design for US 30 Corridor Segment - SUBJECT TO CHANGE

D. RECOMMENDED CORRIDOR DESIGN OPTIONS: US 30 CORRIDOR SEGMENT



LEGEND: US 30 CORRIDOR

- NEW 6' SIDEWALK *
 - NEW LANDSCAPE AREA
 - PRIVATE PROPERTY LANDSCAPE IMPROVEMENTS
 - INTERSECTION CROSSWALK PAVING ENHANCEMENTS *
 - NEW CROSSWALK STRIPING
 - NEW 5' HT. FENCE *
 - NEW BANNER POLE
 - NEW BANNER ON EXISTING UTILITY / POLE
 - NEW TREE *
 - EXISTING TREE TO REMAIN
 - EXISTING SIGNALIZED INTERSECTION
 - FUTURE SIGNALIZED INTERSECTION
 - SPECIAL OPPORTUNITY AREA
 - CONCEPTUAL INTERSECTION ENHANCEMENT
- * DENOTES LONG-TERM IMPROVEMENTS

KEY NOTES

- ① PLANTED MEDIAN - SEE PAGE 46



PLANS ARE CONCEPTUAL AND SUBJECT TO CHANGE

D. RECOMMENDED CORRIDOR DESIGN OPTIONS: US 30 CORRIDOR SEGMENT

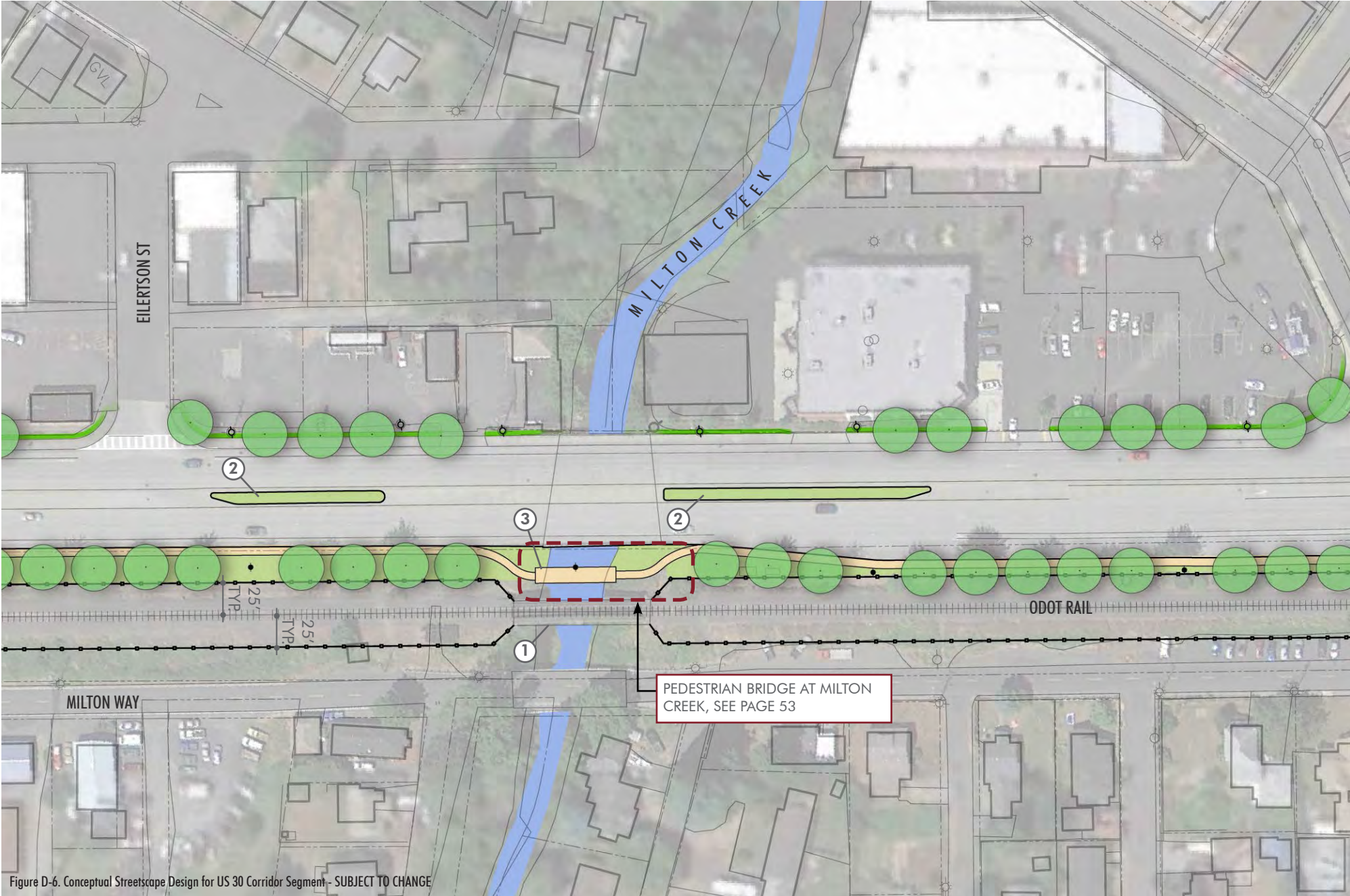
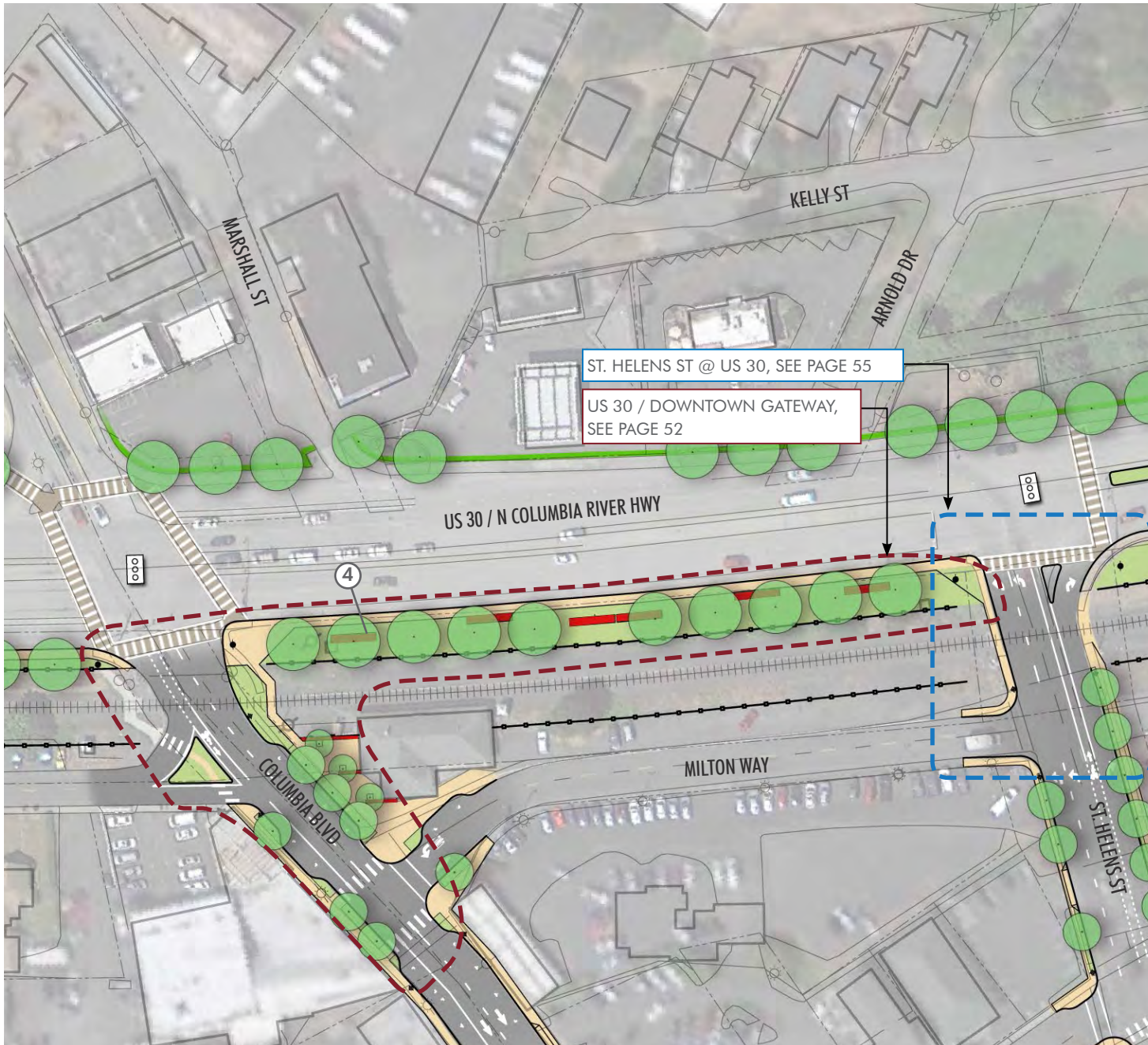











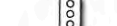
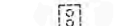







Figure D-6. Conceptual Streetscape Design for US 30 Corridor Segment - SUBJECT TO CHANGE



LEGEND: US 30 CORRIDOR

-  NEW 6' SIDEWALK *
 -  NEW LANDSCAPE AREA
 -  PRIVATE PROPERTY LANDSCAPE IMPROVEMENTS
 -  INTERSECTION CROSSWALK PAVING ENHANCEMENTS *
 -  NEW CROSSWALK STRIPING
 -  NEW 5' HT. FENCE *
 -  NEW BANNER POLE
 -  NEW BANNER ON EXISTING UTILITY / POLE
 -  NEW TREE *
 -  EXISTING TREE TO REMAIN
 -  EXISTING SIGNALIZED INTERSECTION
 -  FUTURE SIGNALIZED INTERSECTION
 -  SPECIAL OPPORTUNITY AREA
 -  CONCEPTUAL INTERSECTION ENHANCEMENT
- * DENOTES LONG-TERM IMPROVEMENTS

KEY NOTES

-  EXISTING TRAIN TRESTLE
-  PLANTED MEDIAN, SEE PAGE 46
-  NEW PEDESTRIAN BRIDGE AT MILTON CREEK
-  US 30 GATEWAY SCULPTURAL ELEMENTS



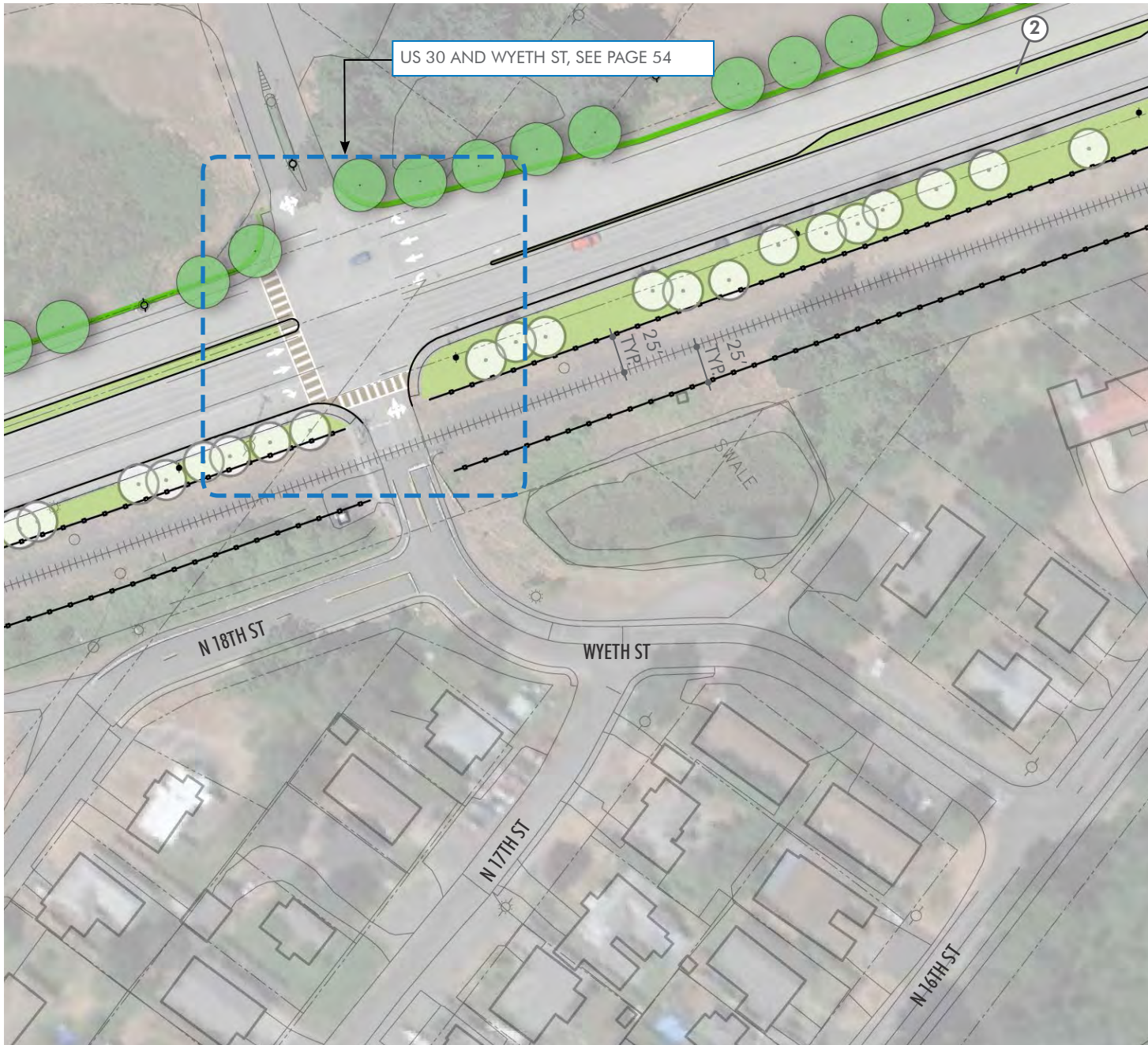
PLANS ARE CONCEPTUAL AND SUBJECT TO CHANGE

D. RECOMMENDED CORRIDOR DESIGN OPTIONS: US 30 CORRIDOR SEGMENT












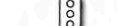
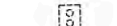



Figure D-7: Conceptual Streetscape Design for US 30 Corridor Segment - SUBJECT TO CHANGE



D. RECOMMENDED CORRIDOR DESIGN OPTIONS: US 30 CORRIDOR SEGMENT



LEGEND: US 30 CORRIDOR

-  NEW 6' SIDEWALK *
 -  NEW LANDSCAPE AREA
 -  PRIVATE PROPERTY LANDSCAPE IMPROVEMENTS
 -  INTERSECTION CROSSWALK PAVING ENHANCEMENTS *
 -  NEW CROSSWALK STRIPING
 -  NEW 5' HT. FENCE *
 -  NEW BANNER POLE
 -  NEW BANNER ON EXISTING UTILITY / POLE
 -  NEW TREE *
 -  EXISTING TREE TO REMAIN
 -  EXISTING SIGNALIZED INTERSECTION
 -  FUTURE SIGNALIZED INTERSECTION
 -  SPECIAL OPPORTUNITY AREA
 -  CONCEPTUAL INTERSECTION ENHANCEMENT
- * DENOTES LONG-TERM IMPROVEMENTS

KEY NOTES

-  FUTURE BUS STOP
-  PLANTED MEDIAN, SEE PAGE 46

PLANS ARE CONCEPTUAL AND SUBJECT TO CHANGE



D. RECOMMENDED CORRIDOR DESIGN OPTIONS: US 30 CORRIDOR SEGMENT

















Figure D-8. Conceptual Streetscape Design for IIS 30 Corridor Segment - SUBJECT TO CHANGE

D. RECOMMENDED CORRIDOR DESIGN OPTIONS: US 30 CORRIDOR SEGMENT



LEGEND: US 30 CORRIDOR

-  NEW 6' SIDEWALK *
 -  NEW LANDSCAPE AREA
 -  PRIVATE PROPERTY LANDSCAPE IMPROVEMENTS
 -  INTERSECTION CROSSWALK PAVING ENHANCEMENTS *
 -  NEW CROSSWALK STRIPING
 -  NEW 5' HT. FENCE *
 -  NEW BANNER POLE
 -  NEW BANNER ON EXISTING UTILITY / POLE
 -  NEW TREE *
 -  EXISTING TREE TO REMAIN
 -  EXISTING SIGNALIZED INTERSECTION
 -  FUTURE SIGNALIZED INTERSECTION
 -  SPECIAL OPPORTUNITY AREA
 -  CONCEPTUAL INTERSECTION ENHANCEMENT
- * DENOTES LONG-TERM IMPROVEMENTS

KEY NOTES

- ① PLANTED MEDIAN, SEE PAGE 46



PLANS ARE CONCEPTUAL AND SUBJECT TO CHANGE

D. RECOMMENDED CORRIDOR DESIGN OPTIONS: US 30 CORRIDOR SEGMENT

STREETScape DESIGN CONCEPTS

Specific site responses to the goals listed above, and to the physical and environmental influences on the corridor are explained in further detail below.

1. **TRAFFIC CALMING FEATURES.** An inviting pedestrian environment on US 30 relies on creating routes for pedestrians that are safe, accessible, and can help calm traffic. Traffic calming measures such as enhanced crosswalks and planted medians slow traffic and encourage awareness of drivers to their surroundings. The following features are proposed along US 30:

- Several enhanced east-west pedestrian crosswalks are proposed at key intersections along US 30, visually breaking the monotony of asphalt streets and creating a more inviting pedestrian route. These crosswalks could feature special paving materials, articulated scoring patterns, or integral concrete colors, and can significantly enhance the pedestrian experience along the US 30 corridor. They also must include some kind of highly visible striping, consistent with state design standards for the highway. If textured paving is used, stamping or texturing of crosswalks should be relatively minimal to avoid adverse impacts on people in wheelchairs with spinal issues. Crosswalk enhancements are proposed at the intersections of Gable Road, Columbia Boulevard, St. Helens Street (north side only), Wyeth Street (south side only) and Pittsburgh Road (south side only). New E-W crosswalks are proposed at Vernonia Road and Sykes Road



Figure D-9. Example of a concrete crosswalk on an asphalt roadway with striping.



Figure D-10. Example of a Pedestrian Refuge Island with Crosswalk Striping



Figure D-11. Example of a raised planted median on an arterial roadway with plantings, trees, light poles with banners, and a perimeter maintenance walkway - Ottawa, Canada

with the anticipated future new pedestrian sidewalk and intersection signalization. It should be noted that ODOT State Traffic Engineer approval is required for all crosswalk locations across US 30 .

- Several improved north-south pedestrian crosswalks are proposed at roadway intersections and major driveway entrances along the west side of US 30 where few, if any, crosswalk amenities exist. New striping and ADA-accessible curb ramps are proposed at the US 30 entrance to Safeway, and the intersections at McBride Street, Eilertson Street, Marshall Street, and Howard Street.
- New planted roadway medians are proposed at strategic locations, subject to ODOT approval considering the freight classification of US 30. The areas where potential medians are conceptually shown assume that existing driveway access and left-turn lanes at public intersections will remain unchanged. The median areas will need to accommodate both long-term intersection left-turn queues and the taper transition design requirements established by ODOT through the Oregon Highway Design Manual (HDM). It should also be noted that one or more breaks in the conceptual median area shown between Milton Creek and 22nd Street may be sought as properties west of US 30 redevelop in the future.

Generally speaking, ODOT will require the following for raised planted medians:

- The roadway cross section shall include a 2' shy distance between the median curb and adjacent travel lane.

D. RECOMMENDED CORRIDOR DESIGN OPTIONS: US 30 CORRIDOR SEGMENT

- Raised medians with planted trees will require a minimum 8' median island width and minimum 100' length per ODOT HDM standards.
- If trees are planted in medians, and their mature canopy size is wider than the median area itself, the bottom of the canopy must maintain minimum 16' vertical clearance, free of branching to avoid vehicular conflicts. If the mature canopy size is less than or equal to the width of the median, the bottom of the canopy must maintain 10' vertical clearance.
- Any groundcover plantings must maintain a maximum 24" height from the adjacent roadway grade.

Three possible planted median options are presented here, offering different low-maintenance planting and hardscape strategies to consider during design.

Option 1 proposes the use of columnar deciduous or coniferous trees planted in tree wells and spaced approximately 30-feet on center, creating a vertical punctuation at key intersections. The ground plane consists of low maintenance unit paving material such as clay bricks, or concrete unit pavers, mortared in place. An ODOT-approved mountable curb is utilized to provide ease of access for maintenance vehicles.



Figure D-12. US 30 Planted Median Option 1



Figure D-14. US 30 Planted Median Option 2



Figure D-13. US 30 Planted Median Option 3

Option 2 proposes the use of free-standing poles with colorful banners to further reinforce the civic and cultural identity of St. Helens, and are coordinated with new banner located along the east side of the highway, as well as banners mounted to existing utility and light poles along the west side of the highway. A mass of low-maintenance, drought-tolerant ornamental grasses are proposed to soften the roadway and further reinforce US 30 as a Green Corridor.

Option 3 proposes to utilize ODOT-approved modified jersey barrier-style walls to create a robust, elevated planting expression along US 30. Large, broad-leaved deciduous trees are proposed in this option, offering a number of benefits to this asphalt-dominated roadway corridor including needed shade, reduced heat-island effect, stormwater benefits. Low-maintenance, evergreen shrubs provide a year-long stripe of green along this Green Corridor.

From a traffic operations perspective, all three options are viable. Key considerations stakeholders should evaluate when selecting a preferred alternative include on-going ease/cost of maintenance, visibility implications for businesses along the corridor, and the ease of making future modifications if needed to accommodate changes in adjacent land use/access/or turn bay lengths. While the concept plan shows anticipated needs, some redevelopment/further development along the corridor is anticipated. Certain options will have advantages over others in these respects. For example, Option 1 likely would have the lowest maintenance costs, while providing less greenery to soften the character of the roadway. Option 3 would have the most significant impact on the look and feel of the road but also could have the most significant impact on visibility of businesses or properties on the west side of the highway for drivers heading north. Note that some businesses along Milton Way on the east side of the highway may also have visibility concerns.

2. **PEDESTRIAN AMENITIES.** Streetscape enhancements to the US 30 corridor like new sidewalks, fencing, and plantings are important features for pedestrians to feel welcome and that the street is a comfortable place to be. A vibrant pedestrian realm can increase public safety, increase the value of adjacent real estate, and sustain the health of local businesses. The following summarizes the proposed amenities along US 30:
 - A new 6' wide, curb-tight sidewalk is proposed along the east side of the US 30 corridor between Gable Road and St. Helens Street, with connections to existing sidewalks at Gable Road, Columbia Boulevard, and St. Helens Street. This new sidewalk will provide an extension to the existing sidewalk network on the east side of US 30 north of St. Helens Street, and is proposed as a long term improvement for the US 30 corridor. As an alternative to a curb-tight sidewalk, this walkway could be buffered by a landscaping strip next to the roadway. This would improve pedestrian comfort and safety to some degree. However, provision of a landscape strip would have several disadvantages. Because of the variation in right-of-way and the need to maintain a distance of at least 25 feet from the railway tracks, the path would be forced to meander. This would increase costs of construction and maintenance and would be at odds with current pathway standards recommended by ODOT (which don't favor meandering pathways). In addition, the potential need to purchase railroad right-of-way, varying topography and drainage issues along the length of the corridor also would increase costs and make construction and drainage more challenging. For these reasons, the curb-tight walkway is recommended. However, other options could be considered during a detailed design process.
 - To discourage informal crossings of the railroad tracks, a 5' tall fence is proposed on each side of the railroad corridor located 25' from the centerline of the nearest track as required by ODOT Rail to accommodate operations and maintenance vehicles and activity. Access gates shall be provided at each private property entrance, and every 1,000' along each side of the corridor. In addition, access gate location should be determined with cooperation of emergency response agencies.

D. RECOMMENDED CORRIDOR DESIGN OPTIONS: US 30 CORRIDOR SEGMENT

- The fence should be attractive, visually transparent, durable yet cost effective, and should not have barbed wire or other such human-proofing elements.
- Two fence types - welded-wire mesh fence panels and chain link fencing - are recommended here, each with benefits and disadvantages.

Welded-wire mesh partition fences are a better security barrier than chain link, are easier to modify an existing layout, easier to replace damaged partitions, and have better structural integrity. The vertically-oriented 2"x4" mesh grid is difficult to get a foot-hold, discouraging people from climbing. Additionally, most are fabricated with a durable epoxy and polyester coating that provides better corrosion resistance over time than galvanized chain-link fences. This type of fence is an attractive, alternative to standard chain-link fence, which tends to look and feel utilitarian. This type of fence is more expensive than chain-link fences.

Chain link fences are the best-selling fencing system in the world, are less expensive, and easier to install. However, they are easier to climb and not as structurally stable, requiring more long-term maintenance. If this type of fence is pursued, a black vinyl coating is recommended to create a more attractive streetscape edge.

Although the pathway and fencing proposed adjacent to the roadway have been located at least 25' from the center of the railroad tracks, consistent with ODOT and railway guidance and the right-of-way in this area is owned by ODOT, approval of improvements within the rail right-of-way will have to be approved by the railroad because it has an easement to use this area.



Figure D-15. Example of a concrete sidewalk with plantings and fencing



Figure D-16. Welded-Wire mesh fencing

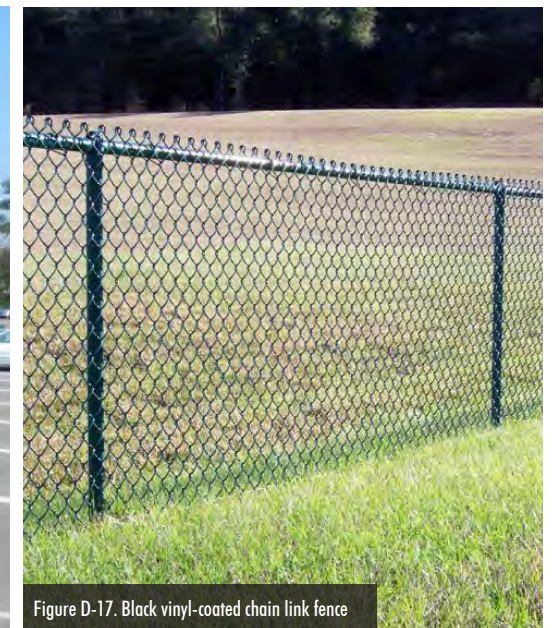


Figure D-17. Black vinyl-coated chain link fence

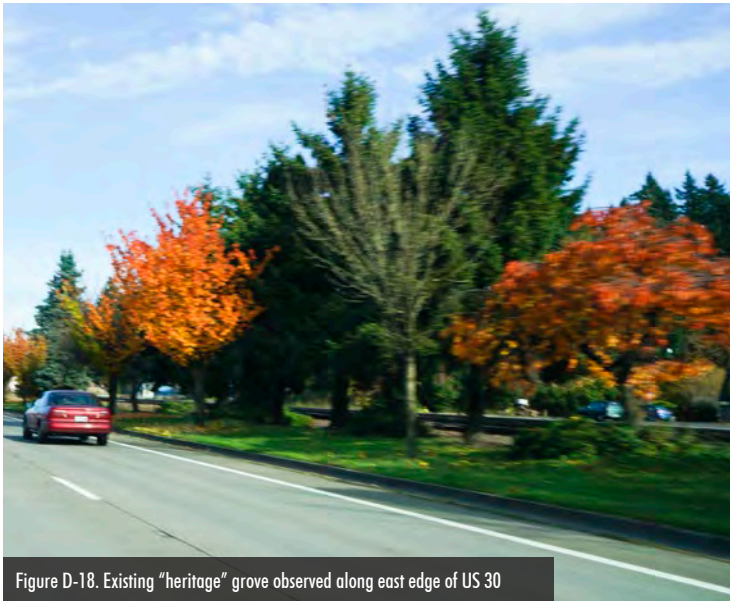


Figure D-18. Existing "heritage" grove observed along east edge of US 30



Figure D-19. Existing street trees on US 30



Figure D-20. Long term planting concept for the east edge of US 30 including tree groups, shrubs, grasses, and groundcover

- To create a distinctive and uniform "green edge" along the east side of US 30, a continuous, linear swath of street trees is proposed to supplement existing groups of tree plantings. In proposing a long-term vision for establishing a distinctive green edge of the highway, several factors were considered.

First, there are several existing stands of trees and shrubs along the east side of US 30 that are comprised of a mix of species in various states of health and maturity. Several stands, however, are in good health and vigor and should be preserved, and are specifically located just north of Gable Road, just east of Vernonia Road, and from north of St. Helens Street to Pittsburgh Road (and beyond). The design proposes to retain these existing "heritage" groves, and intersperse new plantings in a way that complements and highlights them.

Secondly, approximately 60 street trees located approximately 6' from the back of curb, extend north from Gable Road to just north of Sykes Road, and from McBride Street to Columbia Boulevard. These street trees, which are also in varying states of health and maturity, are comprised of a mix of oak, ash, and cherry, will likely all require replacement in roughly 20-30 years. Additionally, due to its proximity to these existing trees, the new east sidewalk may require many, if not all of these street trees to be removed. However, considering the east sidewalk is a long-term improvement, the design proposes removing and replacing these trees in kind with species of equal or greater value at the time the sidewalk is installed, which would help in establishing the long-term vision of creating a distinc-

D. RECOMMENDED CORRIDOR DESIGN OPTIONS: US 30 CORRIDOR SEGMENT

five, uniform green edge along the east side of US 30.

- New shrub and ornamental grass plantings are proposed along the east edge of the highway between the back of sidewalk and fence to reinforce the concept of a green highway edge, and should be comprised of species that are low-maintenance, site appropriate, distinctive, and should maintain sight lines at intersections and rail crossings.
 - The design proposes to enhance the west side of US 30 by encouraging private property owners to plant new tree and shrub plantings behind the sidewalk and create a needed visual and physical buffer between public sidewalks and private parking lots. These plantings would be installed on private property through redevelopment activity and/or partnerships between the City and private property owners. These shrubs and trees should complement the species and groupings on the east side of the highway to maintain continuity and reinforce US 30 as a green corridor.
3. **CIVIC IDENTITY.** Gateway elements, public art, and banner poles can strengthen the identity of the US 30 corridor, enhancing the visitor's relationship to St. Helens and resulting in frequent visitation, loyalty, and an ongoing interest in the vitality of its downtown. The following summarizes the proposed elements that contribute to civic identity along US 30:
- New banners are proposed on both sides of US 30 to add festiveness and variety to this commercial arterial. Along the west edge, the design proposes to hang banners on existing utility and light poles, which are spaced on average at 250' apart between Gable Road and Columbia Boulevard. North of Columbia Boulevard on the west side where there are fewer existing utility poles, and along the eastern edge of US 30 from Gable Road to Pittsburgh Road, new banners poles are proposed at 250' spacing to reinforce a consistent and unified roadway corridor.
 - As part of the US 30 / Columbia Boulevard Gateway (described further below), a series of sculptural elements are proposed



Figure D-21. Example of street banners from Lake Oswego, OR

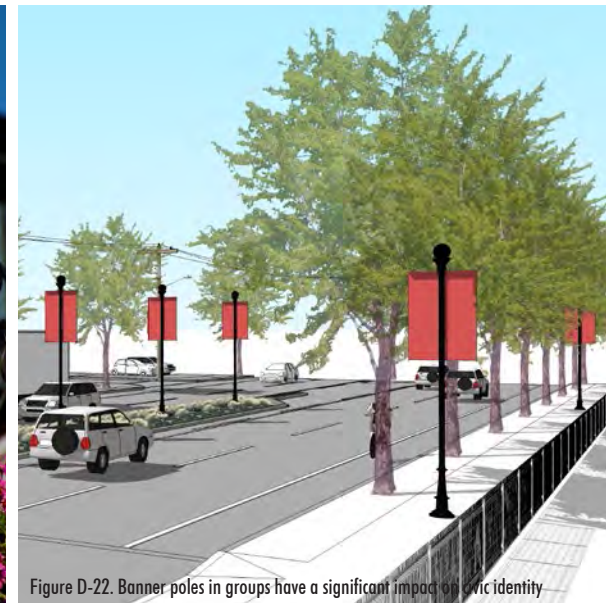


Figure D-22. Banner poles in groups have a significant impact on civic identity

along the east side of the highway at strategic locations to help announce key intersections, help draw visitors downtown, and create a unified and distinctive streetscape that honors the spirit of St. Helens. Specific locations include north of Gable Road, between Columbia Boulevard and St. Helens Street, and north of St. Helens Street. These sculptures are intended to serve as a “trail of breadcrumbs” for visitors to St. Helens, and are described in greater detail below.

4. **PUBLIC TRANSIT AND POLICE VEHICLES** The Columbia County Transit District (CC Rider) has long term plans for providing transit service in the US 30 corridor using bus stops on the roadway. Currently buses pull off the road into parking or other areas to allow riders to get on or off the buses, causing significant increases in transit time. At this time, only two to three stops are envisioned, at approximately Gable Road, Columbia Boulevard and possibly a location approximately mid-way between them. Incorporating bus pullouts in these or other locations will require some combination of the following to accommodate them:

- Acquisition of additional right-of-way or easements, particularly on the west side of US 30
- Location-specific design refinements to the proposed pathway and landscaping concepts on the east side of US 30
- Incorporation of bus shelters, lighting, landing pads and/or other needed amenities associated with the bus pullouts and stops

These features are not illustrated in the proposed design concept for US 30. They could be incorporated during a future, more detailed design phase as construction design plans are developed. The St. Helens Police Chief requested provision of pull-outs for law enforcement use along US 30. Pullout for use by law enforcement vehicles could be stand-alone or potentially integrated with future Transit pullouts.



Figure D-23. Metal sculptural elements recall railroad history, creating a unique identity for the front door of St. Helens. A welcome sign is integrated into one of the elements, and is located at a “mini plaza”.

D. RECOMMENDED CORRIDOR DESIGN OPTIONS: US 30 CORRIDOR SEGMENT

SPECIAL OPPORTUNITY AREAS

A number of areas are identified throughout this report as "Special Opportunity Areas." These locations provide prospects for signature improvements that will enhance the overall corridor and meet specific community goals or needs, and may include the creation of gathering places, gateway features, viewpoints, or stormwater management features. Special Opportunity Areas that are located on private property are identified below, which will require the City to purchase the land and develop these recommended improvements. These preliminary ideas would need the support of impacted property owners to move forward.

1. US 30 / DOWNTOWN GATEWAY
– A gateway feature that marks the entrance to downtown St. Helens is proposed along US 30 between St. Helens Street and Columbia Boulevard to help draw people into Houlton and towards the Riverfront District. The feature should be highly visible, and representative of the spirit and culture of St. Helens. A number of site constraints should be considered, including proximity to the railroad tracks, required sight lines, and limited landscape area. Subject to ODOT approval, this feature could be one or any combination of typical gateway features, including an arched gateway monument, a sculptural or iconic element, or a vibrant and expansive landscaped area. While the primary gateway features are envisioned at the intersection of US 30 and Columbia Boulevard, the gateway may include features that extend as far as the US 30/ St. Helens Street intersection, which would serve as a secondary gateway.



Figure D-24. Conceptual view of the US 30 / Downtown Gateway, showing sculptural elements, "mini-plaza", street trees, intersection enhancements, and gateway arch - SUBJECT TO CHANGE



Figure D-25. Conceptual view of a gateway arch spanning over Columbia Boulevard located just east of Milton Way, integrating metal materials also utilized in sculptural elements along US 30 - SUBJECT TO CHANGE



Figure D-26. The existing US 30 crossing and train trestle at Milton Creek

2. MILTON CREEK PEDESTRIAN BRIDGE
– A critical link to the successful establishment of a new pedestrian sidewalk along the east side of US 30 will be a new pedestrian bridge crossing at Milton Creek. This bridge will be constructed independently of the existing roadway bridge currently spanning the creek. A gateway art installation has been placed on the existing US 30 bridge, as shown in Figure D-26. The potential new pedestrian bridge will need to be designed to accommodate the new art.



Figure D-27. Example of a pedestrian bridge of similar scale and character

CONCEPTUAL INTERSECTION ENHANCEMENTS

A number of potential improvements have been identified to address traffic safety and operational issues and concerns at specific locations in this corridor segment. These conceptual intersection enhancements are intended to improve safety for all users (e.g., drivers, bicyclists, and pedestrians), while also enhancing the appearance and function of the transportation system.

1. US 30 / WYETH STREET - This concept illustrates a potential enhanced pedestrian crossing at the south leg of the US30 / Wyeth Street intersection. Conceptually the crossing would include signing, striping, and a raised median island to help facilitate pedestrian movements across US30. Subject to ODOT and ODOT Rail review and approval, the crossing may also include Rectangular Rapid Flash Beacons (RRFB) on the shoulders and in the center median or a High-Intensity Activated crossWalk (HAWK) signal. Either treatment would restrict northbound left-turn movements from US30 to the Columbia Commons Business Campus. ODOT state traffic engineer approval would be required for any intersection improvements; coordination with ODOT Rail is also needed. This likely will be a challenging project for which to obtain ODOT approval and secure funding. It also should be considered in the context of potential future development in this area and alternative connectivity, such as the anticipated future US30 / Pittsburg Road traffic signal.



Figure D-28. Conceptual Intersection Enhancement: US 30 @ Wyeth Street



Figure D-29. Conceptual Intersection Enhancement: St. Helens Street @ US 30

2. ST. HELENS STREET / US 30 -
 This concept illustrates potential enhancements to the westbound approach to the US30/St Helens Street intersection as well as the segments of St Helens Street within the Houlton area. This concept includes a continuous on-street bicycle lane along the north side of St Helens Street, which continues straight through to US30 between the two left-turn lanes and the right-turn lane (which is developed after 21st Street). This concept also includes a small splitter island at the westbound approach to the intersection to improve crossing conditions for pedestrians as well as to provide further separation between cyclists and right-turning motorists. This concept would not impact the capacity of the intersection for motor vehicles; however, there would be a significant increase in the capacity for cyclists. Further, this concept provides bicycle lane delineation in accordance with ODOT and transportation industry best practices. This concept would also contribute to an improvement in the Bicycle Level of Traffic Stress scoring for the roadway.

PHASING RECOMMENDATIONS AND COST CONSIDERATIONS

Improvements for the US 30 Corridor segment can be separated into short-term and long-term improvements:

- **Short-term Improvements** – Implement Option 1, with lower cost plantings in the medians, a combination of banner poles, and more consistent landscaping on the rail (east) side of the highway.
- **Long-term Improvements** – Develop sidewalk on the rail side of the highway, if feasible within available area and rail constraints.

A potential range of construction costs is provided for the US 30 Corridor Segment improvements in Table C-1, below. These potential costs are broken down into Short-Term Improvements and Long-Term Improvements. These order-of-magnitude costs were derived from the recommended improvements described in the pages above, and are presented as a range to allow for flexibility in implementation, described further below.

TABLE D-1. ORDER OF MAGNITUDE COSTS FOR US 30 CORRIDOR SEGMENT IMPROVEMENTS			
ITEM	INCLUSIONS	POTENTIAL RANGE OF CONSTRUCTION COSTS	
		LOW	HIGH
<u>SHORT-TERM IMPROVEMENTS</u>	<ul style="list-style-type: none"> • Medians (curbs, plantings, trees/banner poles) • Plantings (east side of US 30) • New Banner Poles (east side of US 30) • New Banners on Existing Utility Poles • New Curb Ramps • New Crosswalk Striping • Mobilization/Demo • 30% Design / Construction Contingencies 	\$750,000	\$1,650,000
		Assumes low-intensity landscape plantings throughout medians and new planting areas, standard median curbs, and base options for banners and banner poles.	Assumes medians with banner poles or sculptural elements, jersey barrier-style walls and articulated paving, higher-intensity trees and plantings in all new landscape areas, and high quality banners and banner poles.
<u>LONG-TERM IMPROVEMENTS</u>	<ul style="list-style-type: none"> • Fencing (each side of ODOT Rail property) • New Sidewalk (east side of US 30) • Intersection Crosswalk Paving • Curb Ramps • Trees and Plantings (east side of US 30) • Private Property Landscape Improvements • Mobilization/Demo • 30% Design / Construction Contingencies 	\$1,500,000	\$2,350,000
		Assumes chain-link fencing, standard concrete sidewalks, standard concrete crosswalk paving materials, and low-intensity landscape plantings.	Assumes welded-wire mesh panel fencing, articulated concrete sidewalk paving, colored and/or textured concrete crosswalk paving materials, and high-intensity landscape plantings.

Greater Downtown (Houlton & Riverfront District) Corridor Segment

OVERALL APPROACH

In developing concepts for improving these areas, our overall approach considers the Houlton and Riverfront District corridor segments together, working in concert to create a cohesive Master Plan for the entire corridor between US 30 and 1st Street. The following list summarizes the overall approach for improving Greater Downtown (Houlton and Riverfront District). These goals build on and are consistent with the Vision and Guiding Principles developed for this project, as well as discussion with advisory committee and community members.

1. **IMPROVE PEDESTRIAN SAFETY.** The recommended design proposes to introduce a number of traffic calming features and elements throughout Houlton and the Riverfront District that help build human-scale spaces and a pedestrian-friendly environment. These improvements rely on narrowing the roadway and widening sidewalks to accommodate bulbouts and pedestrian refuge islands that shorten pedestrian crossings, diagonal parking strategies that increase driver awareness and calm traffic, as well as enhanced intersections and new crosswalk striping.
2. **IMPROVE CONNECTIVITY.** Several design features improve pedestrian and bicycle connectivity throughout and between the Houlton and Riverfront District corridors. Widened sidewalks, new roadway striping for bicyclists and pedestrians, as well as a consistency in streetscape design and materials from US 30 to 1st Street facilitate pedestrian and bicycle movement throughout the downtown district.
3. **IMPROVE AESTHETICS AND SENSE OF PLACE.** A number of pedestrian amenities are proposed as part of the recommended design for the Houlton and Riverfront District corridor segments, and include planting strips with new street trees, streetscape furnishings such as benches, bike racks, and waste receptacles, pedestrian scale lighting, wayfinding signage, community kiosks, and gateway markers. Additionally, several flexible, unprogrammed sidewalk spaces called “parklets” are provided as a strategy to provide additional space for amenities and green space and to “reclaim the right-of-way” for pedestrians.
4. **IMPROVE ECONOMIC VITALITY.** Improving the safety and comfort for pedestrians will make this a more attractive place to visit and shop, including for those people driving to the area. Providing more area for people to gather, sit and/or shop on the sidewalks and within the parking areas will expand opportunities for local business and also help draw people to the area. All of these impacts will enhance the economic viability of the area.



Figure D-30. Houlton & Riverfront District Corridor Segment Proposed Improvements



D. RECOMMENDED CORRIDOR DESIGN OPTIONS: GREATER DOWNTOWN (HOULTON & RIVERFRONT DISTRICT) CORRIDOR SEGMENTS

Two predominant roadway types comprise the Houlton and Riverfront District project areas: one-way streets along Columbia Boulevard and St. Helens Street west of 13th Street; and two-way streets along Columbia Boulevard east of 13th Street, along 1st Street between Columbia Boulevard and St. Helens Street, and along St. Helens Street between 1st Street and 4th Street. The following two sections provide a summary of the design concepts for each of these areas – West of 13th Street, and East of 13th Street – followed by a summary of the design concepts and streetscape elements common to the Houlton and Riverfront District corridor segments.

STREETSCAPE DESIGN CONCEPTS – WEST OF 13TH STREET

Between US 30 and 13th Street in the Houlton corridor segment, Columbia Boulevard serves as the one-way eastbound street surrounded primarily by commercial land uses, while St. Helens Street serves as the one-way westbound street and is predominantly residential. The recommended design proposes two distinctive streetscape strategies that best serve the unique character and settings of each of these streetscapes west of 13th, and are explained further below:

1. COLUMBIA BOULEVARD BETWEEN US 30 AND 13TH STREET

The recommended design concept proposes to narrow each one-way travel lane width down to 12' and dedicate the leftover space oriented towards pedestrians, and also to introduce unprogrammed, flexible spaces that serve as extensions of the sidewalk called "parklets".

- Parklets can be either permanent spaces at corners or mid-block bulbout locations designed in a flexible manner to accommodate various uses or amenities. Alternatively, parklets can be more temporary in nature and located in on-street parking stalls that are visually or physically differentiated from the adjacent roadway in some manner. In this commercial setting, parklets offer adjacent business owners with potential for setting up outdoor seating, dining, or shopping areas, which would help activate the streetscape and encourage people to stop and linger.

Parklets can be implemented along Columbia Boulevard between US 30 and 13th Street, however, due to varying right-of-way widths, parklets will tend to be narrow and more linear between Milton Way and 18th Street where the existing right-of-way is generally around 60' in width, and generally deeper and larger between 18th Street and 13th Street where the right-of-way width widens out to approximately 80' in width.

- Between 18th Street and 13th Street, this 80' right-of-way provides opportunities to introduce diagonal parking with a 6-7' width sidewalk along the south side of Columbia Boulevard. Angle parking requires less linear curb length per parking stall than traditional parallel parking, so more stalls can typically be provided on the same block. Angle parking is commonly used in downtown areas to increase the on-street parking supply and to slow or calm traffic. Angle parking also visually reinforces one-way street orientation for drivers. Striving for no net loss or gain in parking, this efficient diagonal parking layout accommodates more space for parklets than in traditional parallel parking configurations. The graphics in this report show potential conceptual locations for parklets that make sense within the context of the location of intersections and other conditions in the area. However, the exact location of these features could be refined based on further discussion between the City, business and property owners and other community members.
- Both back-in and front-in angled parking were discussed and considered in this area. While both front-in and back-in angle parking are viable options, back-in angle parking offers a variety of benefits over front-in angle parking that were and should be considered in the future, including:
 - A. Better visibility: Back-in angle parking allows for better visibility than front-in angle parking because the driver is backing into a parking stall instead of into a travel lane where there is moving traffic. This reduces the potential for collisions and provides a safer environment for the parked vehicle and the vehicles and bicycles in the adjacent travel lane.
 - B. Easier access: Drivers can generally maneuver into back-in parking stalls faster than parallel parking stalls allowing for quicker entry and exits, and therefore shorter time period when the travel lane is blocked.
 - C. Safer for users: Back-in angle parking allows for safer loading and unloading than front-in angle parking from the vehicle doors and the trunk. With back-in angle parking, the vehicle doors channel occupants to the sidewalk and the vehicle trunk may be accessed from the sidewalk instead of from the adjacent roadway.
 - D. Bicycle friendly: Back-in angle parking creates a more bicycle friendly environment than front-in angle parking since drivers are able to see them easier (and much sooner) when exiting a parking stall. Some cities have reported a decrease in the number of parking related accidents since back-in angle parking was installed.

D. RECOMMENDED CORRIDOR DESIGN OPTIONS: GREATER DOWNTOWN (HOULTON & RIVERFRONT DISTRICT) CORRIDOR SEGMENTS

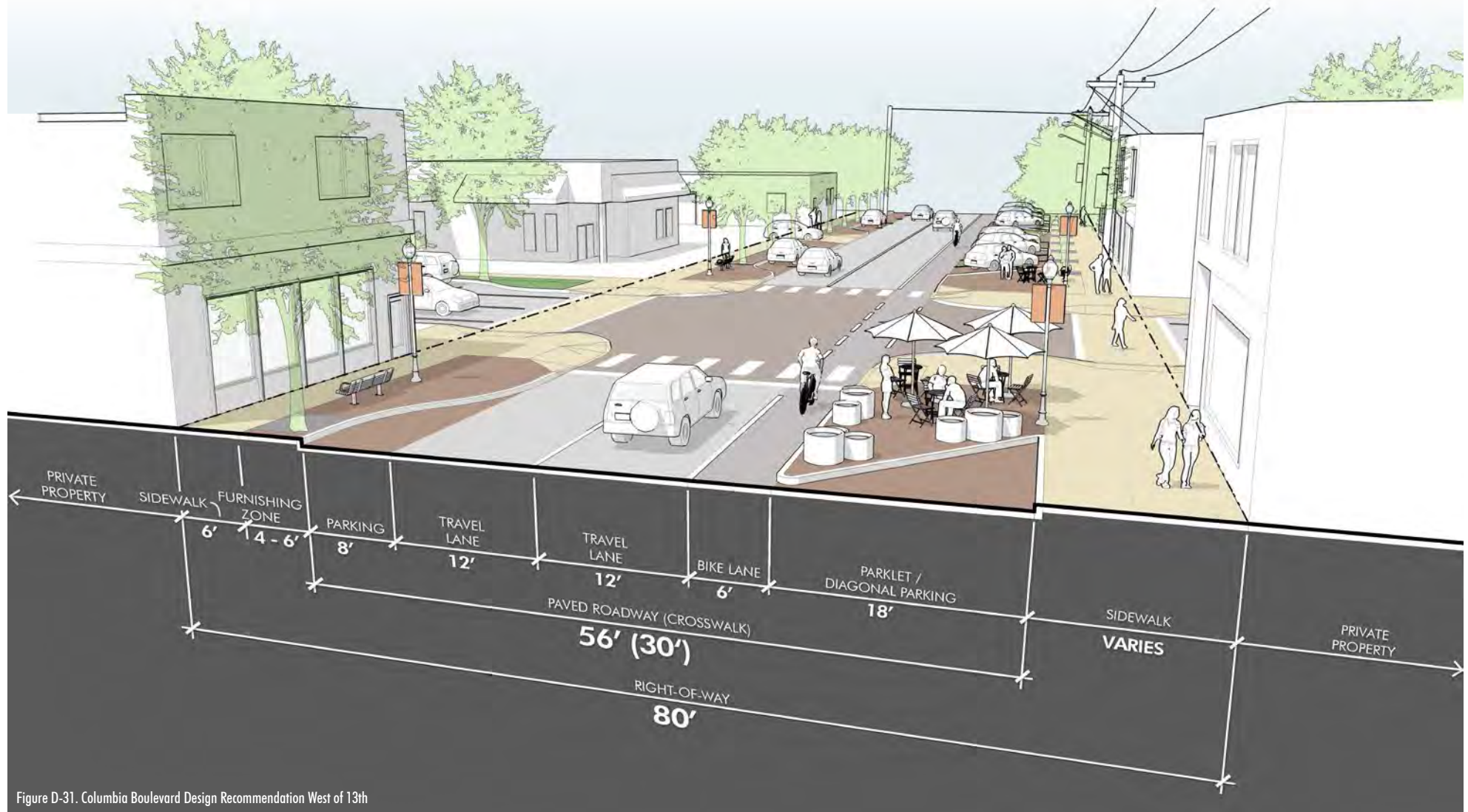


Figure D-31. Columbia Boulevard Design Recommendation West of 13th

D. RECOMMENDED CORRIDOR DESIGN OPTIONS: GREATER DOWNTOWN (HOULTON & RIVERFRONT DISTRICT) CORRIDOR SEGMENTS

While back-in angle parking offers many benefits over front-in angle parking, there are a few drawbacks unique to back-in angle parking that should also be considered:

- Vehicles may overhang the sidewalk and/or back into street furniture. This can be alleviated with proper design of the parking stalls and placement of the street furniture.
- Vehicles may enter the stalls head-in from the opposite side of the street. This can be alleviated with enforcement, signs, and driver awareness. This will not be an issue along the one-way segments of Columbia Boulevard slated for angle parking.
- Vehicles may idle in the parking stall, emitting exhaust over sidewalks. Some cities restrict idling for certain periods of time.
- Community member support for back-in angle parking can also be a challenge in some communities, and therefore it is often installed on a trial/ temporary basis.

Ultimately a majority of advisory groups and other stakeholders in this process recommended front-in angled parking in large part due to the potential unfamiliarity with and difficulty in becoming accustomed to back-in angle parking. However, the City could consider implementing back-in angle parking if these attitudes

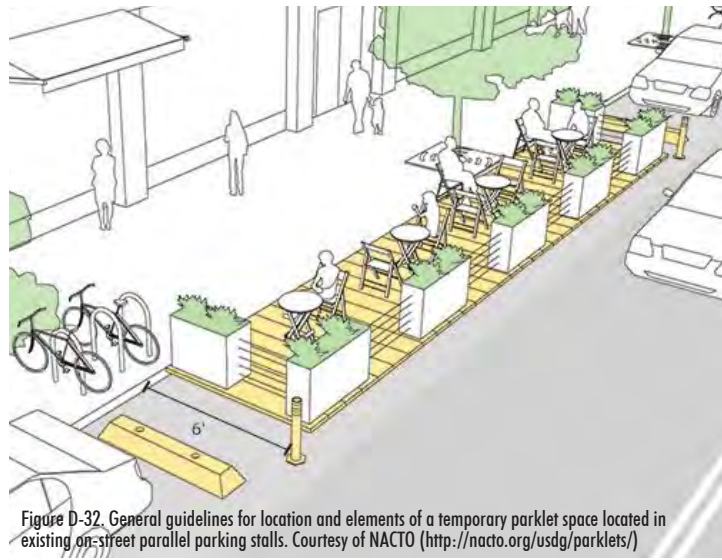


Figure D-32. General guidelines for location and elements of a temporary parklet space located in existing on-street parallel parking stalls. Courtesy of NACTO (<http://nacto.org/usdg/parklets/>)



Figure D-33. An example of a temporary parklet located in existing on-street parking stalls - Oakland, CA



Figure D-34. Outside cafe seating and planting amenities located in an extension of the sidewalk area adjacent to existing on-street diagonal parking - Winters, CA

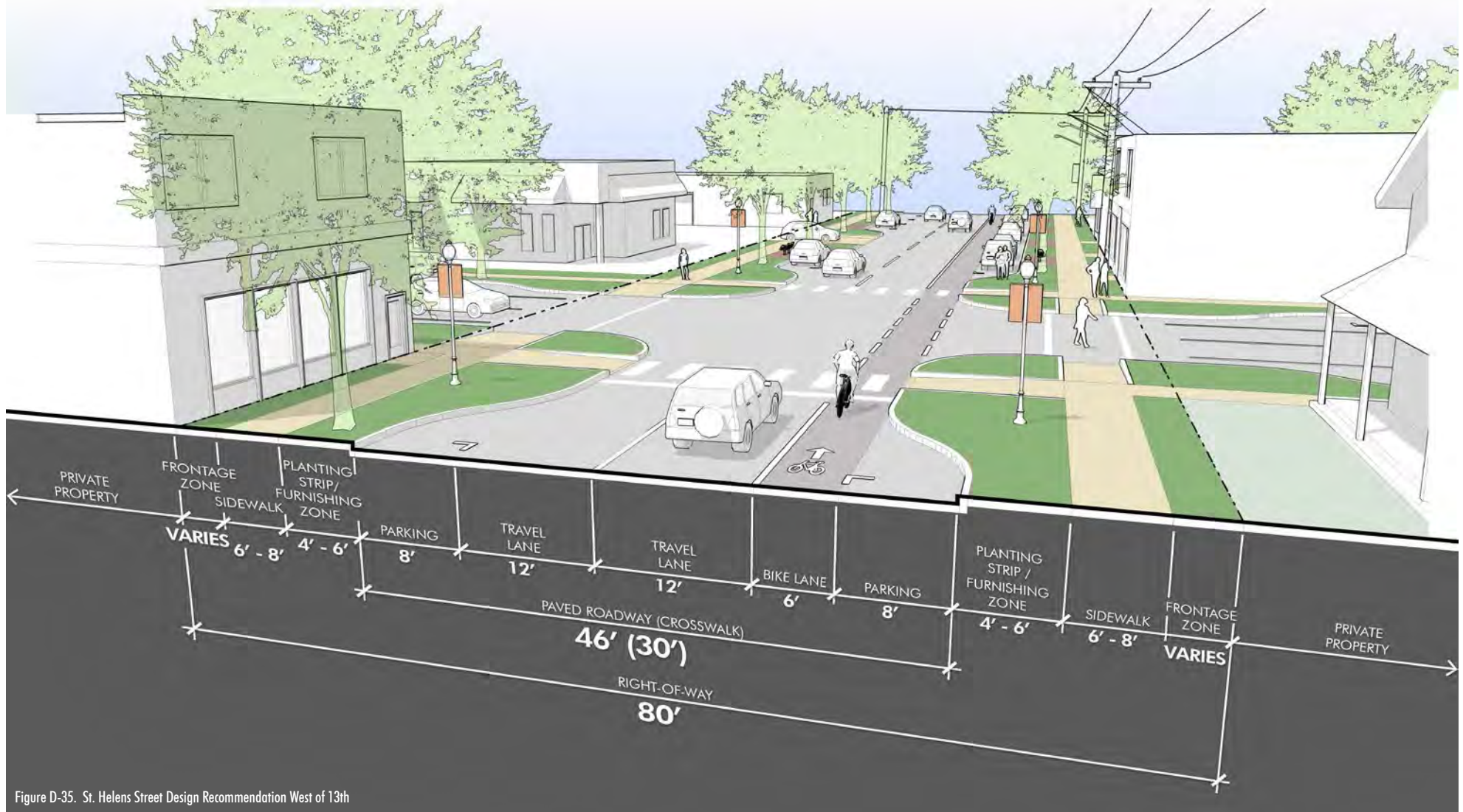


Figure D-35. St. Helens Street Design Recommendation West of 13th

change or could implement it in small demonstration areas to test its feasibility.

Along the north side of Columbia Boulevard between 18th Street and 13th Street, the design proposes a 10' wide paved sidewalk that accommodates a 6' width pedestrian through-zone and a 4' width furnishing zone with site furnishings, pedestrian scale lights, and street trees.

- Between US 30 and 18th Street, the 60' right-of-way can accommodate 6' width sidewalks and parallel parking on each side of Columbia Boulevard in addition to the two 12' width travel lanes and 6' width bicycle lane. Bulbouts and mid-block curb extensions along this stretch provide spaces for planting areas, street furnishings, and pedestrian scale lighting, which need to meet minimum sight clearance requirements.
- To shorten pedestrian crossing distance and help calm traffic, bulbouts and mid-block crossings are proposed at most intersections along Columbia Boulevard between US 30 and 13th Street. Bulbouts with crosswalks are generally located on the west side of intersections along this one-way street to minimize pedestrian and motor vehicle conflicts. Mid-block crossings are located at T-intersections along the south side of Columbia Boulevard, and provide space for additional plantings and/or street furnishings.

2. ST. HELENS STREET BETWEEN US 30 AND 13TH STREET

The recommended design concept proposes to narrow one-way travel lanes to 12' in width along St. Helens Street, and dedicate the leftover space to create widened sidewalks with generous planting strips and furnishing zones on both sides of the street. Street trees and plantings soften the streetscape and create an aesthetically-pleasing buffer between the paved roadway and pedestrian areas, creating a Pedestrian Promenade for visitors and residents of St. Helens. Bulbouts shorten the pedestrian crossing distance from 45'-55' in the current roadway conditions down to 30' in this option, improving pedestrian safety.

- To shorten pedestrian crossing distance and help calm traffic, bulbouts and mid-block crossings are proposed at most intersections along St. Helens Street between US 30 and 13th Street. Bulbouts with crosswalks are generally located on the east side of intersections along this one-way street to minimize pedestrian and motor vehicle conflicts. Mid-block crossings are located at T-intersections along the north side of St. Helens Street, and provide space for additional plantings and/or street furnishings, which need to meet minimum sight clearance requirements.

STREETSCAPE DESIGN CONCEPTS – EAST OF 13TH STREET

East of 13th Street, Columbia Boulevard serves as the primary two-way street providing access to the Riverfront District area. The recommended design concept proposes the use of widened sidewalks, street trees and plantings, site furnishings, and improved pedestrian sidewalks and crossings, to improve the safety of pedestrians, while creating a sense of place and identity for St. Helens. As noted previously, 1st Street between Columbia Boulevard and St. Helens Street has a unique configuration demanding special attention, and will be addressed in the following Special Opportunity Areas section.

1. COLUMBIA BOULEVARD BETWEEN 13TH STREET AND 1ST STREET

The recommended design concept for this segment proposes to narrow two-way travel lanes to 12' in width, and dedicate the leftover space towards widened sidewalks with generous planting strips and/or furnishing zones on both sides of the street. Street trees and plantings soften the streetscape and create an aesthetically-pleasing buffer between the paved roadway and pedestrian areas. Bulbouts shorten the pedestrian crossing distance from 55'-60' in the current roadway condition down to 36' in this option, improving pedestrian safety. These elements work in concert to create a Pedestrian Promenade that connects visitors between the Houlton and Riverfront District areas.

2. ST. HELENS STREET BETWEEN 1ST STREET AND 4TH STREET

Along these four blocks, new bulbouts and crosswalk striping are proposed to increase pedestrian safety and provide additional areas for planting areas and site furnishings. Parklets are proposed at the corner of St. Helens and 1st Street, providing flexible spaces that could act as gateway elements announcing visitors' arrival into the Riverfront District.



Figure D-36. Columbia Boulevard Design Recommendation East of 13th

D. RECOMMENDED CORRIDOR DESIGN OPTIONS: GREATER DOWNTOWN (HOULTON & RIVERFRONT DISTRICT) CORRIDOR SEGMENTS

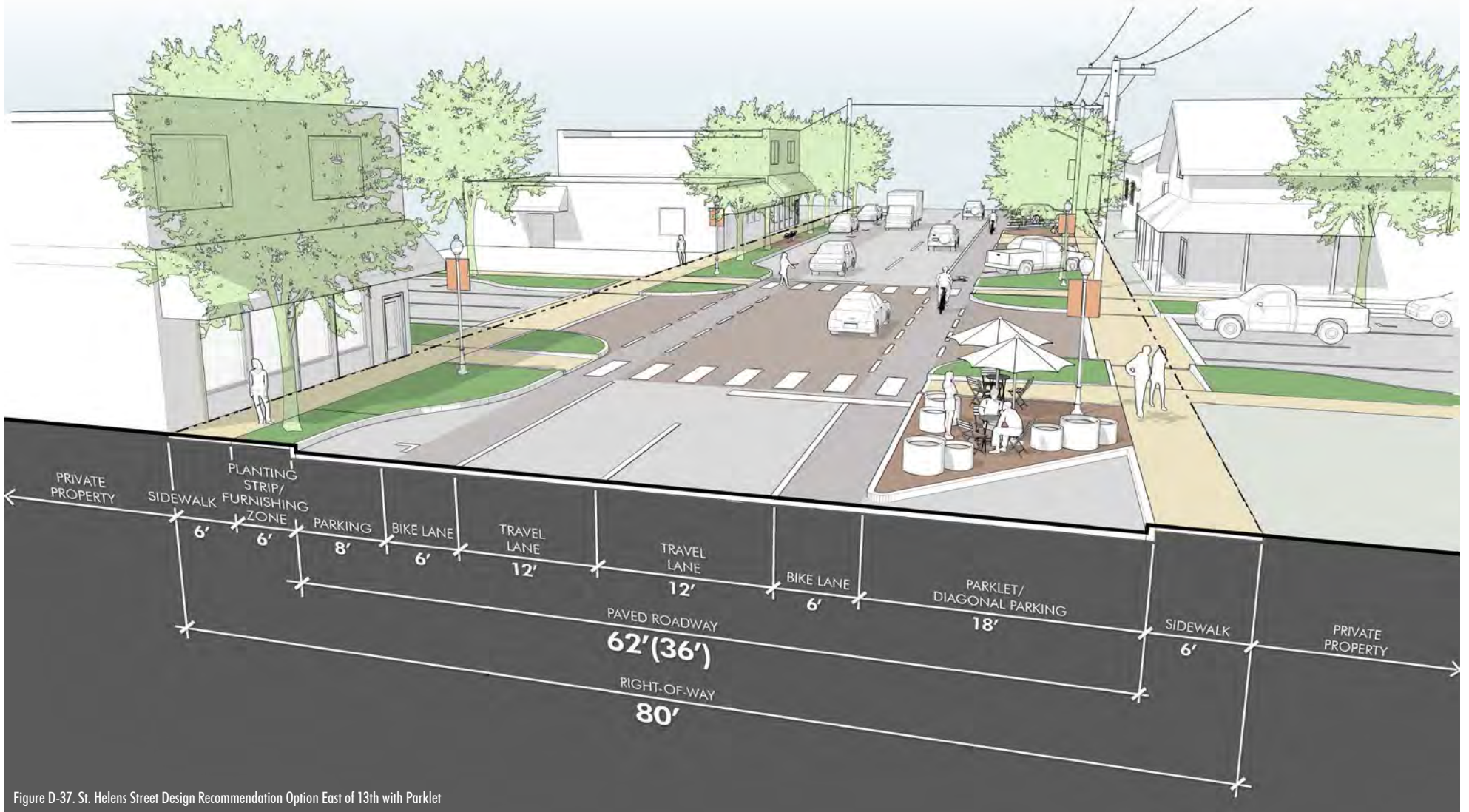


Figure D-37. St. Helens Street Design Recommendation Option East of 13th with Parklet

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D. RECOMMENDED CORRIDOR DESIGN OPTIONS: HOULTON & RIVERFRONT DISTRICT CORRIDOR SEGMENTS

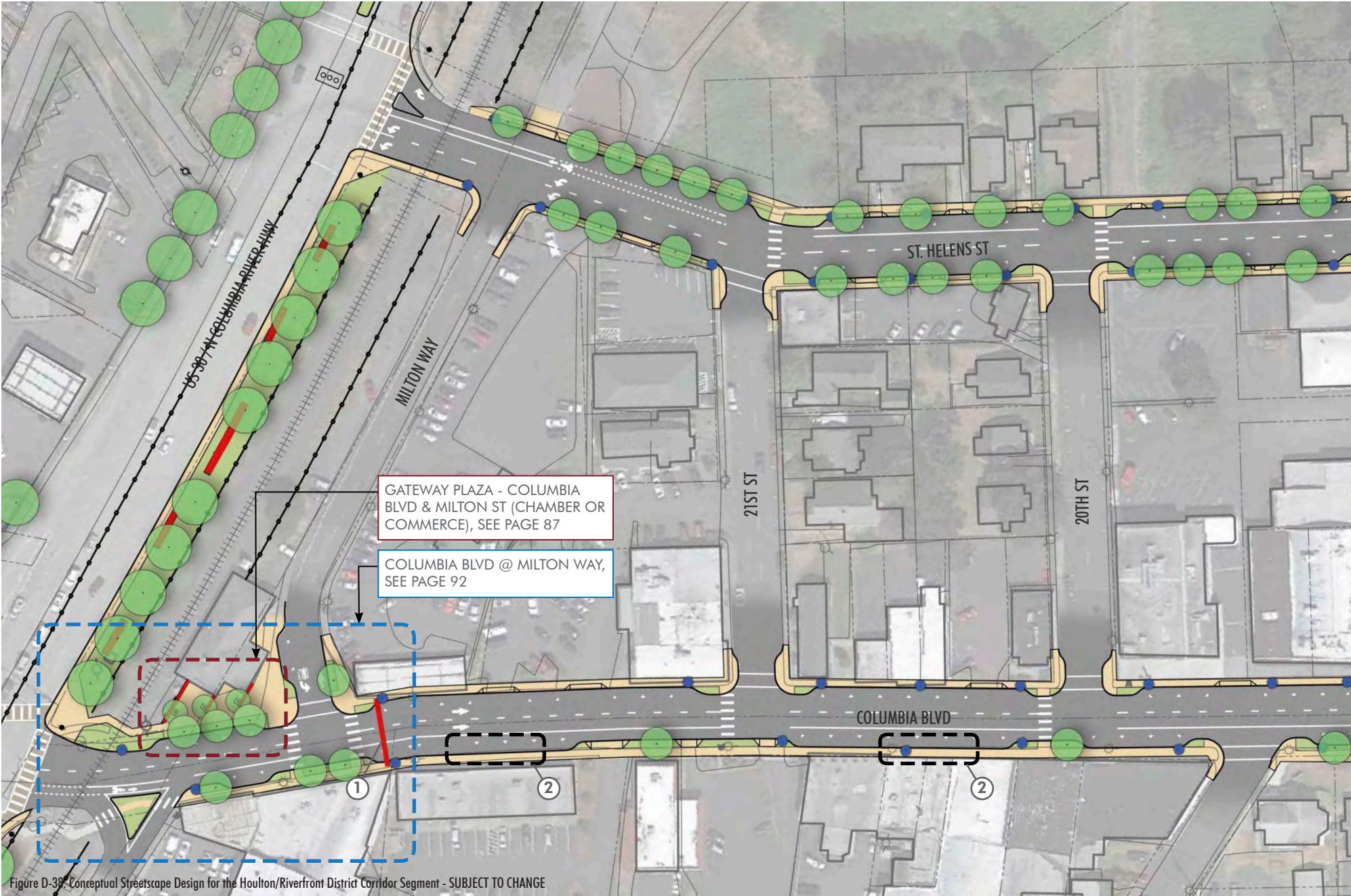


Figure D-39: Conceptual Streetscape Design for the Houlton/Riverfront District Corridor Segment - SUBJECT TO CHANGE

D. RECOMMENDED CORRIDOR DESIGN OPTIONS: HOULTON & RIVERFRONT DISTRICT CORRIDOR SEGMENTS



LEGEND: HOULTON & RIVERFRONT DISTRICT

- NEW SIDEWALK
- PLANTING STRIP/FURNISHING ZONE
- SCULPTURAL ELEMENT
- PARKLET - SUBJECT TO CHANGE
- NEW CROSSWALK STRIPING
- NEW LIGHT POLE
- NEW TREE
- SPECIAL OPPORTUNITY AREA
- CONCEPTUAL INTERSECTION ENHANCEMENT

KEY NOTES

- ① GATEWAY ARCH
- ② TEMPORARY PARKLET LOCATION - SUBJECT TO CHANGE



PLANS ARE CONCEPTUAL AND SUBJECT TO CHANGE

D. RECOMMENDED CORRIDOR DESIGN OPTIONS: HOULTON & RIVERFRONT DISTRICT CORRIDOR SEGMENTS

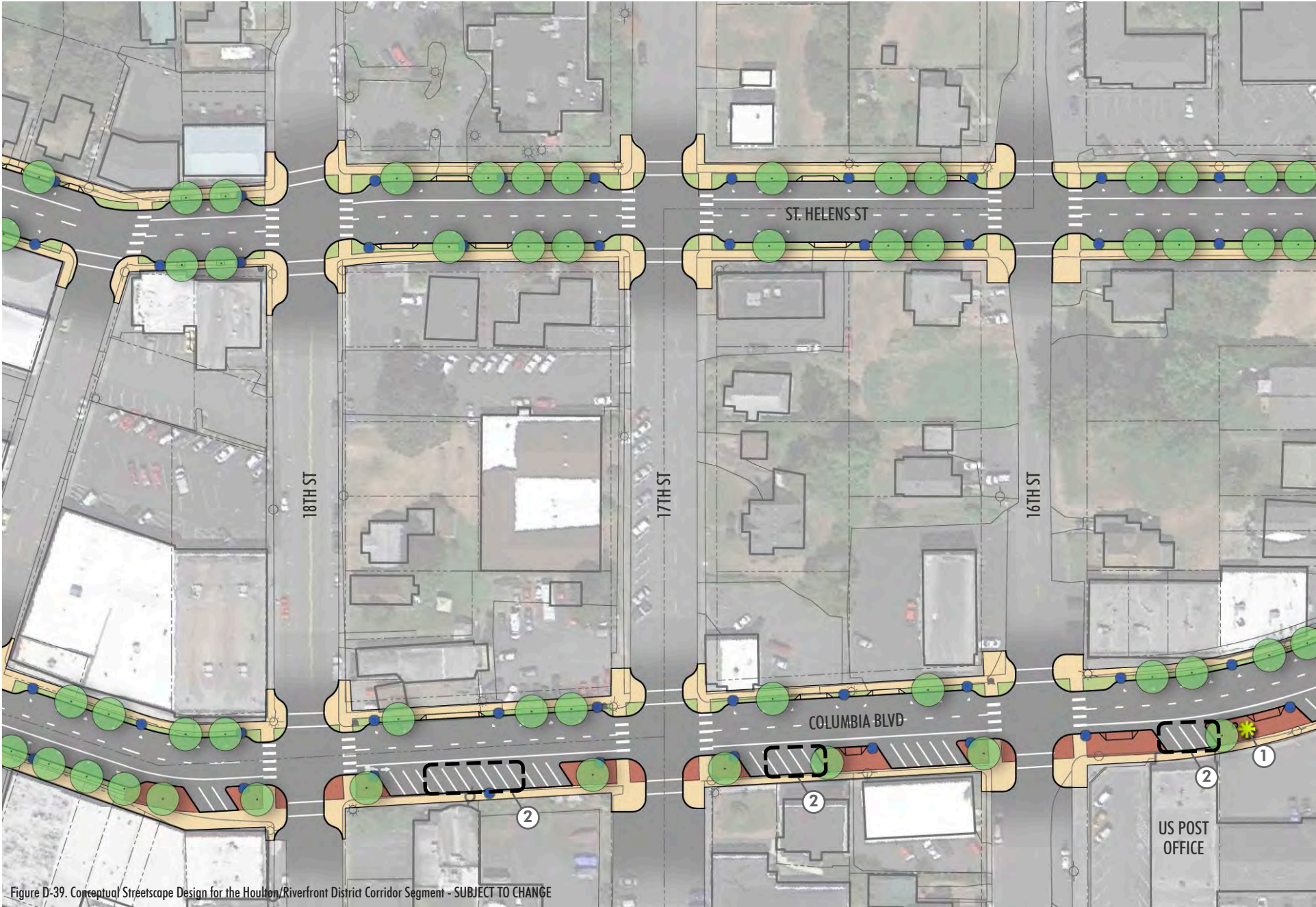
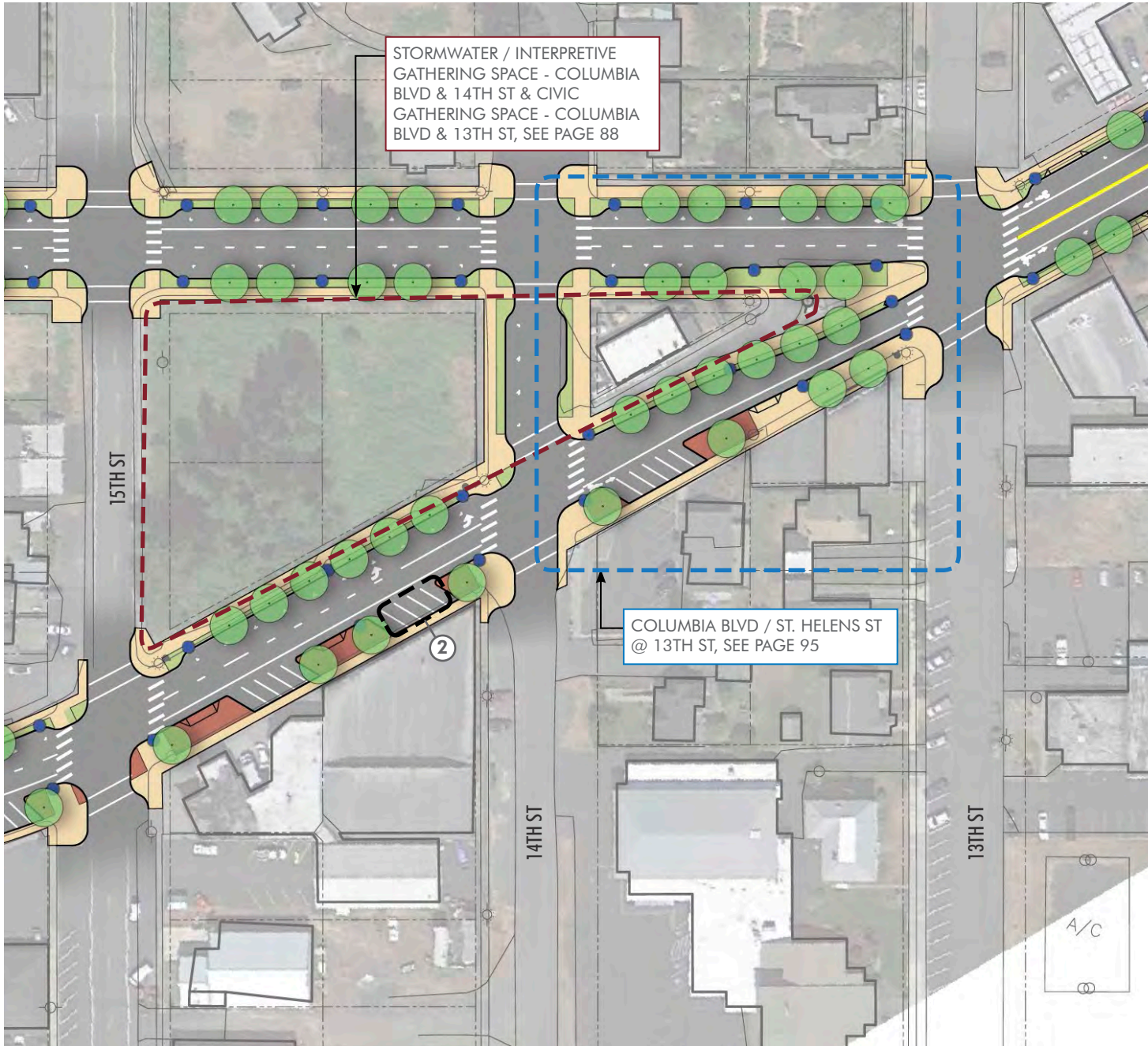











Figure D-39. Conceptual Streetscape Design for the Houlton/Riverfront District Corridor Segment - SUBJECT TO CHANGE



D. RECOMMENDED CORRIDOR DESIGN OPTIONS: HOULTON & RIVERFRONT DISTRICT CORRIDOR SEGMENTS



LEGEND: HOULTON & RIVERFRONT DISTRICT

-  NEW SIDEWALK
-  PLANTING STRIP/FURNISHING ZONE
-  SCULPTURAL ELEMENT
-  PARKLET - SUBJECT TO CHANGE
-  NEW CROSSWALK STRIPING
-  NEW LIGHT POLE
-  NEW TREE
-  SPECIAL OPPORTUNITY AREA
-  CONCEPTUAL INTERSECTION ENHANCEMENT

KEY NOTES

-  COMMUNITY KIOSK
-  TEMPORARY PARKLET - LOCATION SUBJECT TO CHANGE



PLANS ARE CONCEPTUAL AND SUBJECT TO CHANGE

D. RECOMMENDED CORRIDOR DESIGN OPTIONS: HOULTON & RIVERFRONT DISTRICT CORRIDOR SEGMENTS

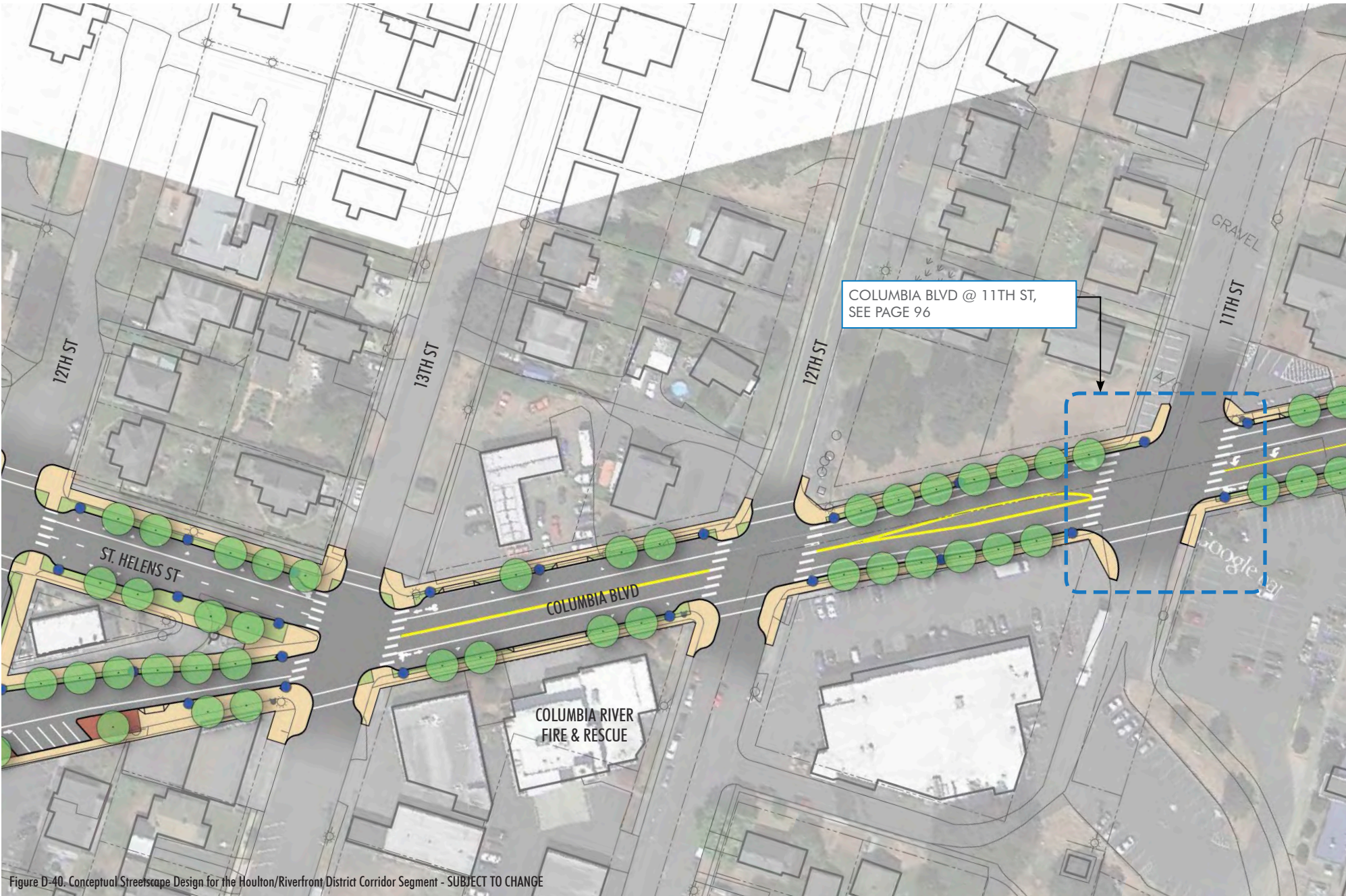
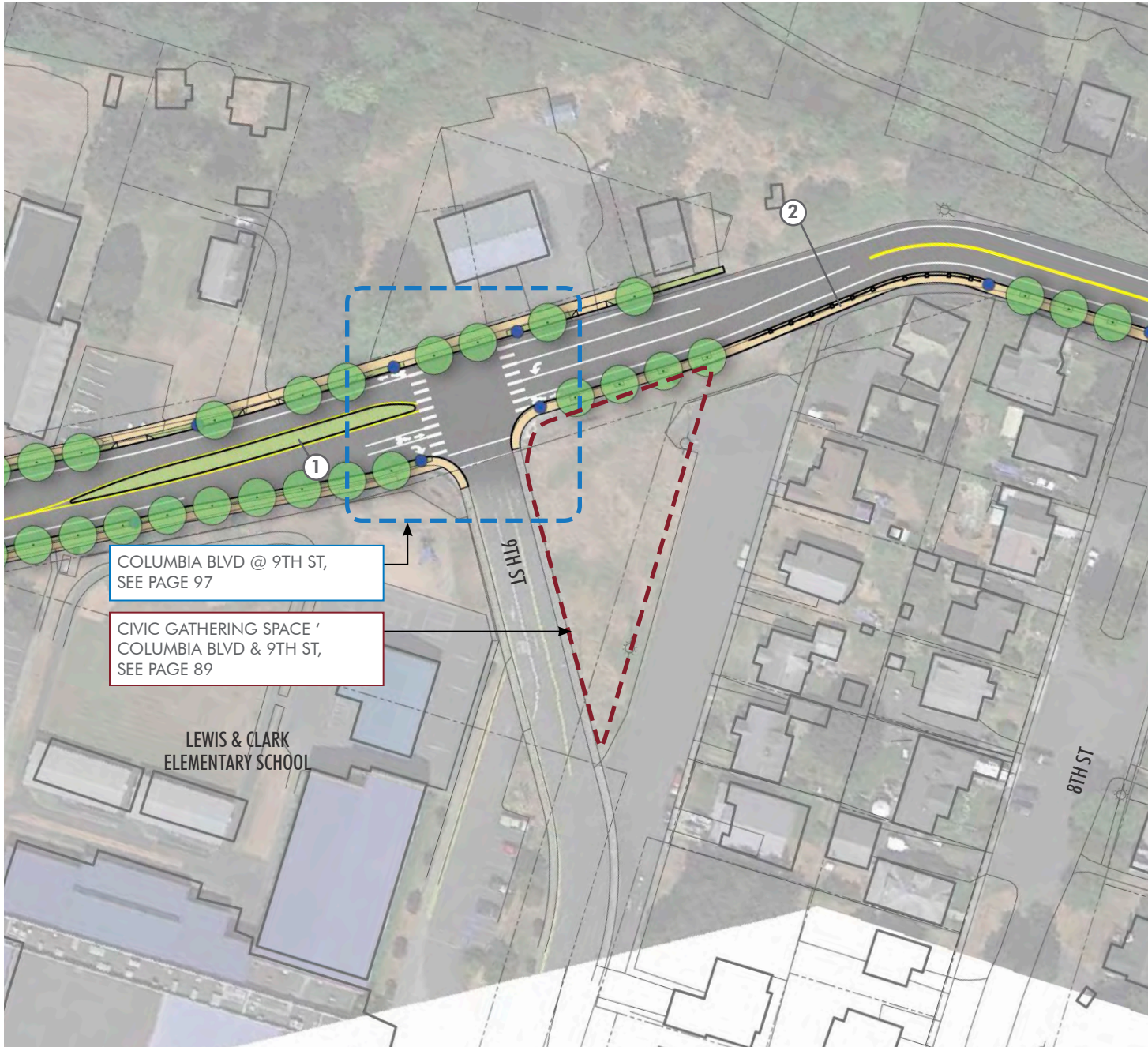


Figure D-40. Conceptual Streetscape Design for the Houlton/Riverfront District Corridor Segment - SUBJECT TO CHANGE

D. RECOMMENDED CORRIDOR DESIGN OPTIONS: HOULTON & RIVERFRONT DISTRICT CORRIDOR SEGMENTS



LEGEND: HOULTON & RIVERFRONT DISTRICT

- NEW SIDEWALK
- PLANTING STRIP/FURNISHING ZONE
- SCULPTURAL ELEMENT
- PARKLET - SUBJECT TO CHANGE
- NEW CROSSWALK STRIPING
- NEW LIGHT POLE
- NEW TREE
- SPECIAL OPPORTUNITY AREA
- CONCEPTUAL INTERSECTION ENHANCEMENT

KEY NOTES

- 1 NEW PLANTED MEDIAN
- 2 NEW ORNAMENTAL GUARDRAIL



PLANS ARE CONCEPTUAL AND SUBJECT TO CHANGE

D. RECOMMENDED CORRIDOR DESIGN OPTIONS: HOULTON & RIVERFRONT DISTRICT CORRIDOR SEGMENTS

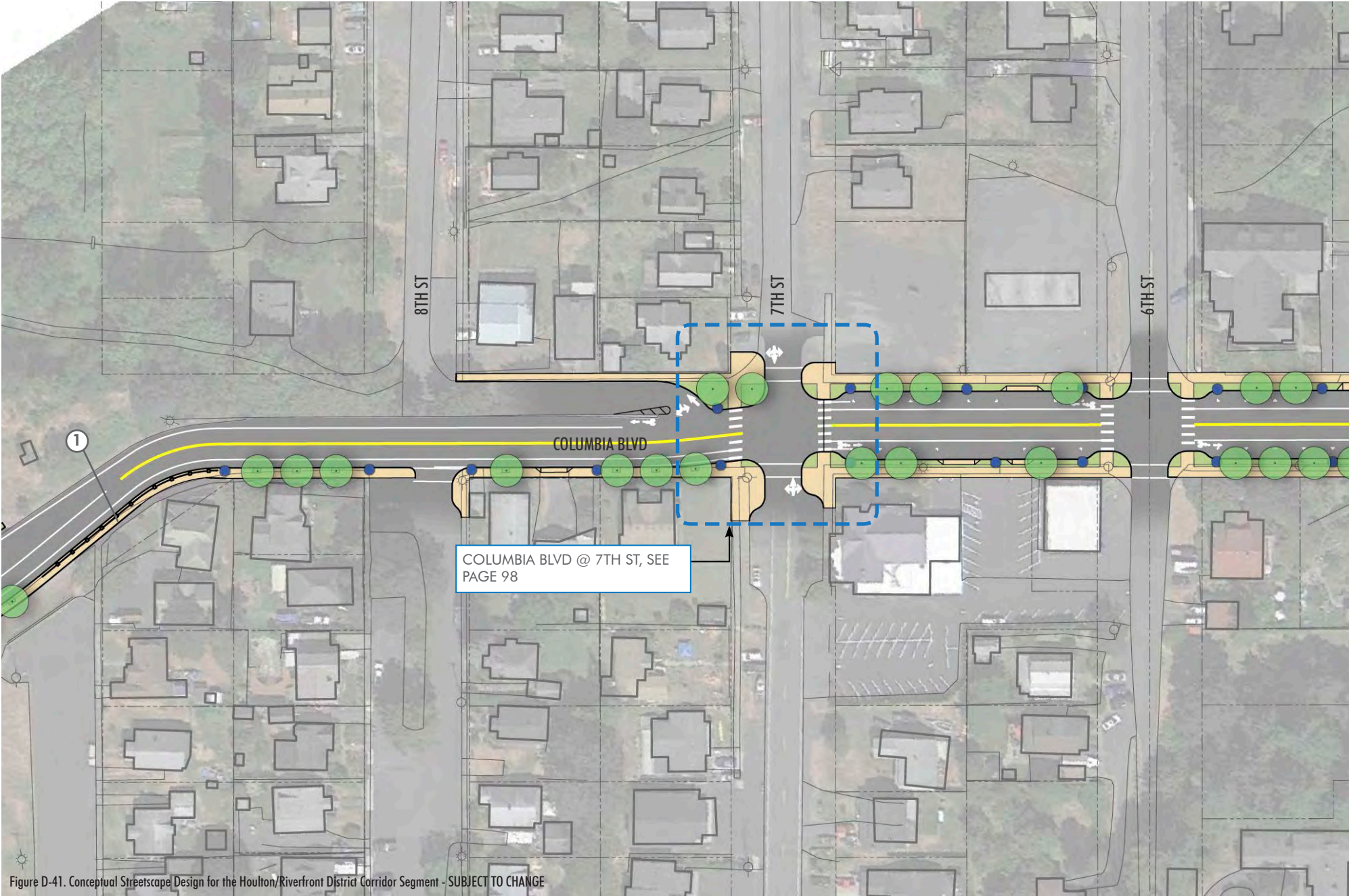
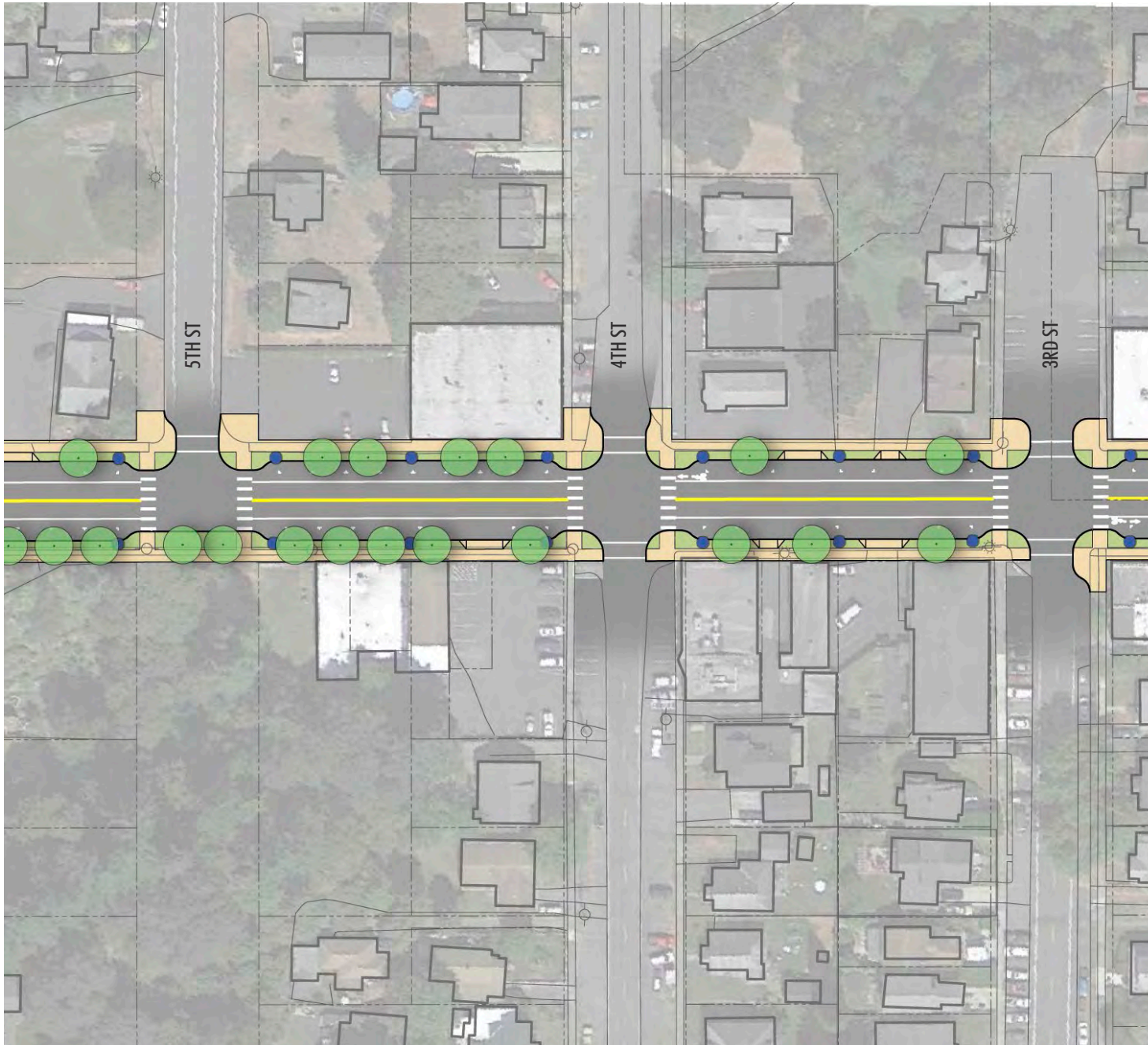











Figure D-41. Conceptual Streetscape Design for the Houlton/Riverfront District Corridor Segment - SUBJECT TO CHANGE

D. RECOMMENDED CORRIDOR DESIGN OPTIONS: HOULTON & RIVERFRONT DISTRICT CORRIDOR SEGMENTS



LEGEND: HOULTON & RIVERFRONT DISTRICT

-  NEW SIDEWALK
-  PLANTING STRIP/FURNISHING ZONE
-  SCULPTURAL ELEMENT
-  PARKLET - SUBJECT TO CHANGE
-  NEW CROSSWALK STRIPING
-  NEW LIGHT POLE
-  NEW TREE
-  SPECIAL OPPORTUNITY AREA
-  CONCEPTUAL INTERSECTION ENHANCEMENT

KEY NOTES

- ① NEW ORNAMENTAL GUARDRAIL



PLANS ARE CONCEPTUAL AND SUBJECT TO CHANGE

D. RECOMMENDED CORRIDOR DESIGN OPTIONS: HOULTON & RIVERFRONT DISTRICT CORRIDOR SEGMENTS

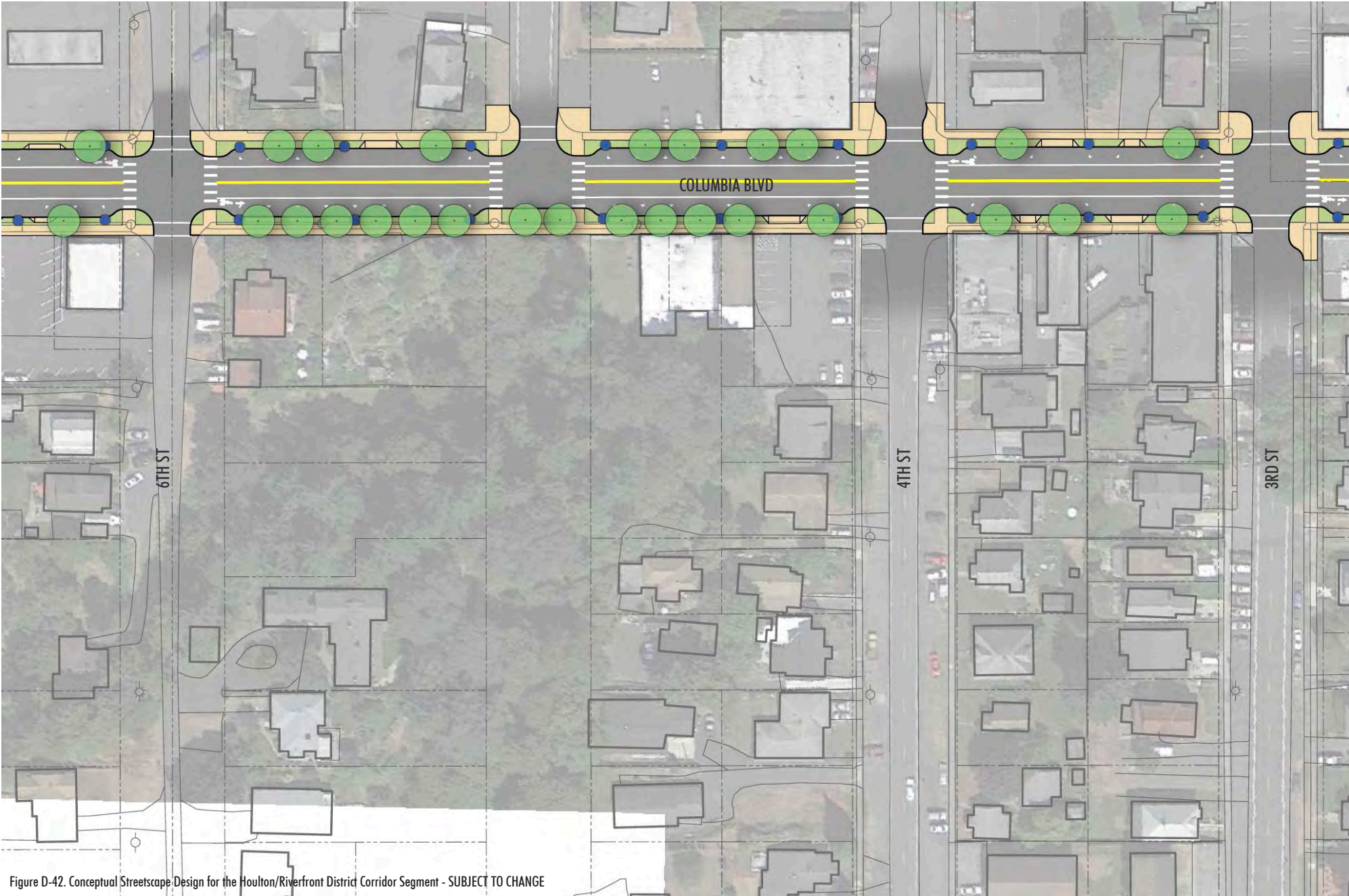
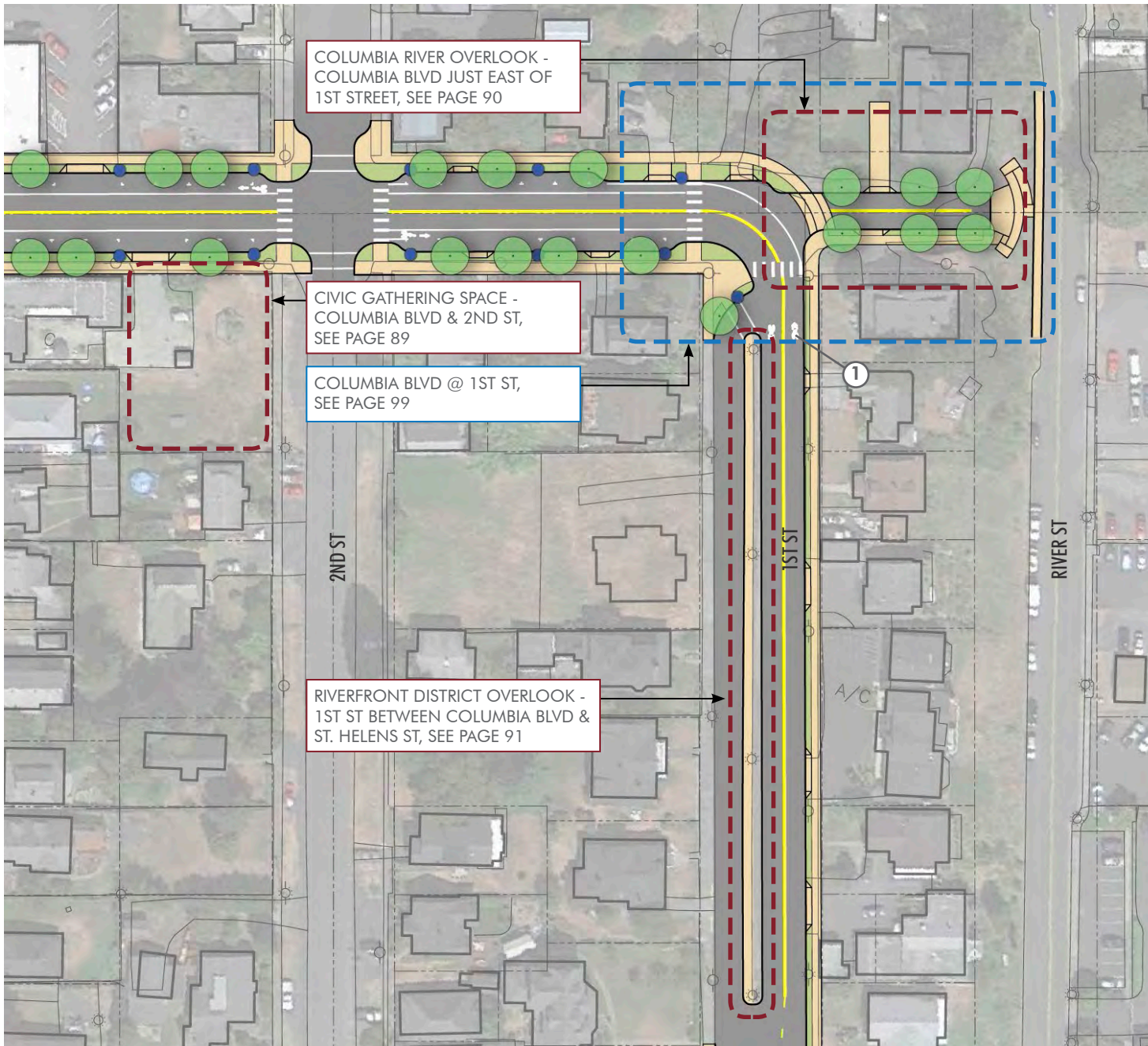











Figure D-42. Conceptual Streetscape Design for the Houlton/Riverfront District Corridor Segment - SUBJECT TO CHANGE

D. RECOMMENDED CORRIDOR DESIGN OPTIONS: HOULTON & RIVERFRONT DISTRICT CORRIDOR SEGMENTS



LEGEND: HOULTON & RIVERFRONT DISTRICT

-  NEW SIDEWALK
-  PLANTING STRIP/FURNISHING ZONE
-  SCULPTURAL ELEMENT
-  PARKLET - SUBJECT TO CHANGE
-  NEW CROSSWALK STRIPING
-  NEW LIGHT POLE
-  NEW TREE
-  SPECIAL OPPORTUNITY AREA
-  CONCEPTUAL INTERSECTION ENHANCEMENT

KEY NOTES

- ① SHARROWS ON NORTH- AND SOUTHBOUND LANES OF 1ST STREET - SHARED BIKE AND VEHICULAR TRAFFIC.



PLANS ARE CONCEPTUAL AND SUBJECT TO CHANGE

D. RECOMMENDED CORRIDOR DESIGN OPTIONS: HOULTON & RIVERFRONT DISTRICT CORRIDOR SEGMENTS

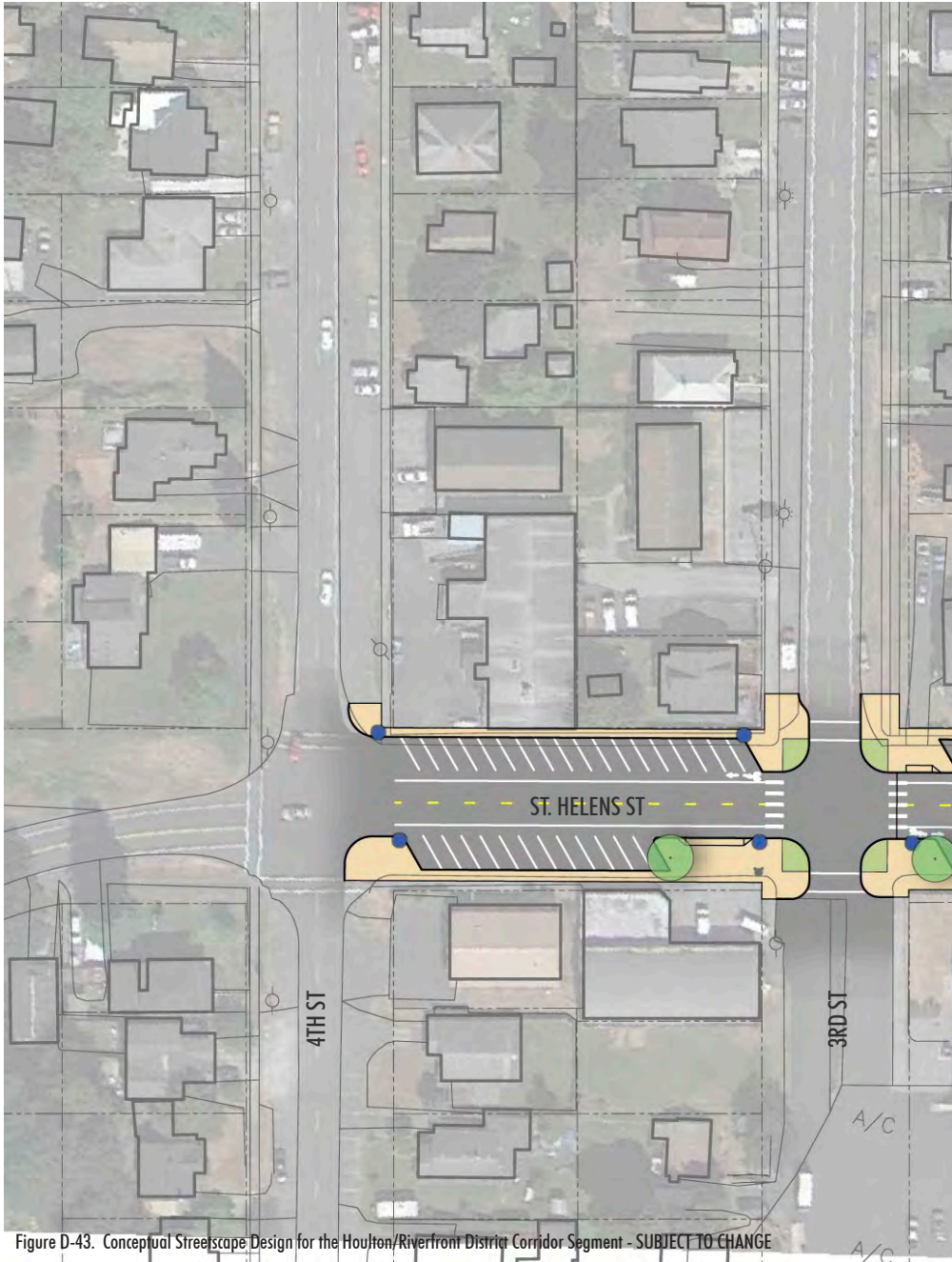
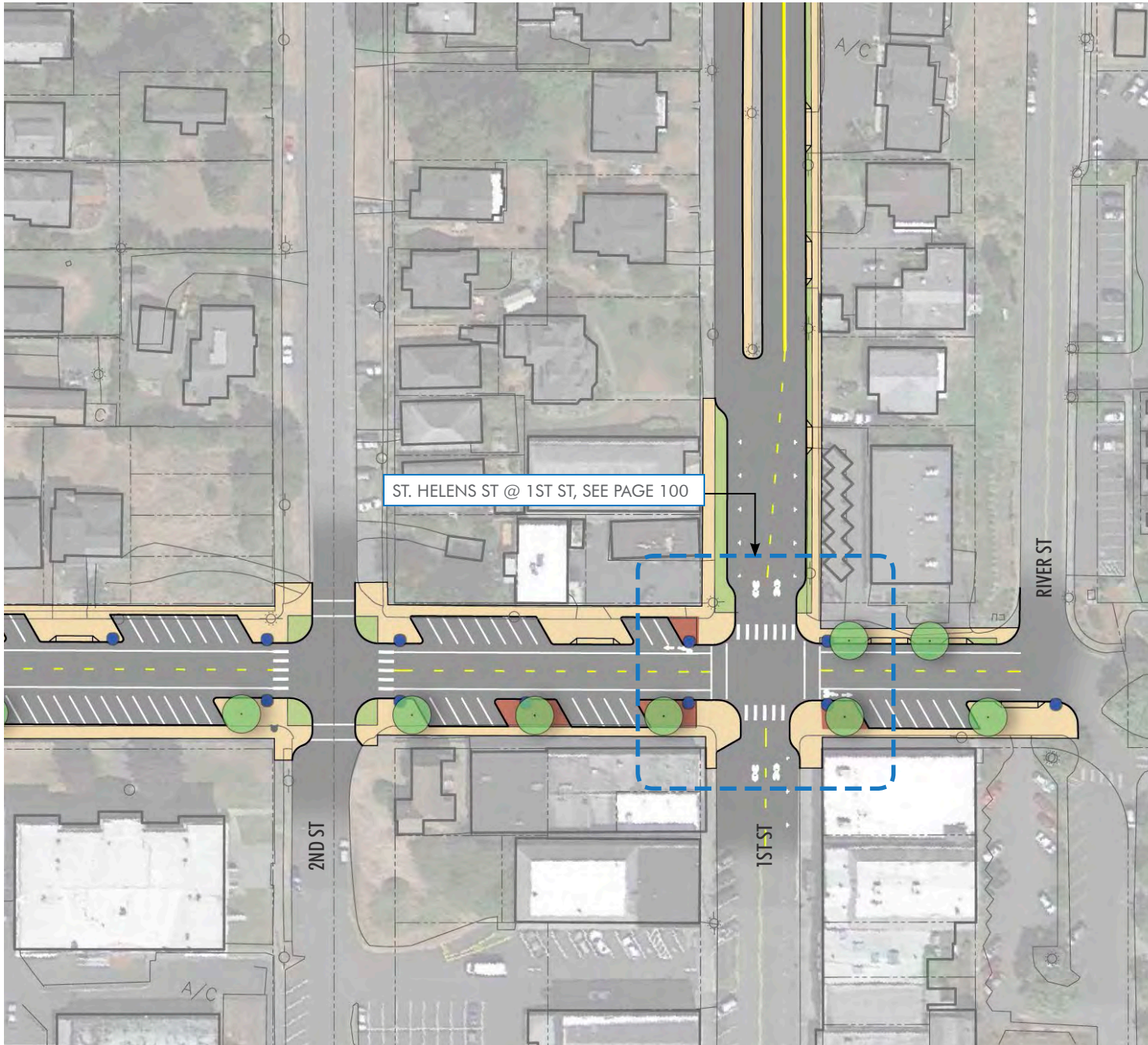


Figure D-43. Conceptual Streetscape Design for the Houlton/Riverfront District Corridor Segment - SUBJECT TO CHANGE

D. RECOMMENDED CORRIDOR DESIGN OPTIONS: HOULTON & RIVERFRONT DISTRICT CORRIDOR SEGMENTS



LEGEND: HOULTON & RIVERFRONT DISTRICT

- NEW SIDEWALK
- PLANTING STRIP/FURNISHING ZONE
- SCULPTURAL ELEMENT
- PARKLET - SUBJECT TO CHANGE
- NEW CROSSWALK STRIPING
- NEW LIGHT POLE
- NEW TREE
- SPECIAL OPPORTUNITY AREA
- CONCEPTUAL INTERSECTION ENHANCEMENT

PLANS ARE CONCEPTUAL AND SUBJECT TO CHANGE



STREETScape DESIGN CONCEPTS – GREATER DOWNTOWN (HOULTON & RIVERFRONT DISTRICT) CORRIDOR SEGMENTS

1. TRAFFIC CALMING FEATURES

Traffic calming measures like bulbouts, mid-block crossings, improved crosswalks, buffered bicycle lanes, and on-street angled-parking areas will encourage slower vehicular speeds and make Houlton and the Riverfront District safer and more comfortable for residents, pedestrians, children, bicyclists, and drivers. The following traffic calming features are proposed along Houlton and the Riverfront District:

- The design proposes to reduce travel lanes to the recommended width of 12' per the TSP, and dedicate the leftover space to widened pedestrian sidewalks and, where space permits, planting strips and/or furnishing zones on each side of the street.
- To shorten pedestrian crossing distance and help calm traffic, bulbouts are proposed at most intersections throughout these two corridor areas, where adjacent on-street parking areas can accommodate them. Generally these bulbouts work to re-configure on-street parking without eliminating existing spaces, though there are several locations where a minimal loss of on-street parking is required.
- Buffered bicycle lanes, which are conventional bicycle lanes paired with a designated buffer space separating the bicycle lane from the adjacent motor vehicle travel lane and/or parking lane, and are encouraged along St. Helens Street between US 30 and 13th Street, and along Columbia Boulevard between 13th Street and 1st Street. Buffered bike lanes provide greater shy distance between vehicles and bicyclists, allow bicyclists space to pass one another without encroaching on the vehicular travel lane, and encourage bicyclists to ride outside of the "door zone" when the buffer is between parked cars and the bike lane.
- New crosswalk striping and ADA-accessible curb ramps are proposed at all pedestrian crossings throughout the Houlton and Riverfront District corridor areas.
- At key intersections, the design proposes concrete with articulated scoring in the roadway and along crosswalks to reinforce these two corridors as a pedestrian-friendly environment. The change in material from asphalt to concrete alerts drivers as they pass through spaces designed to facilitate pedestrian movement, and helps improve safety throughout the corridor.



Figure D-44. Curb extension (bulbout) example integrated with a stormwater planter - Portland, OR



Figure D-45. Example of a buffered bike lane



Figure D-46. Intersection with enhanced paving example



Figure D-47. Wood bench example

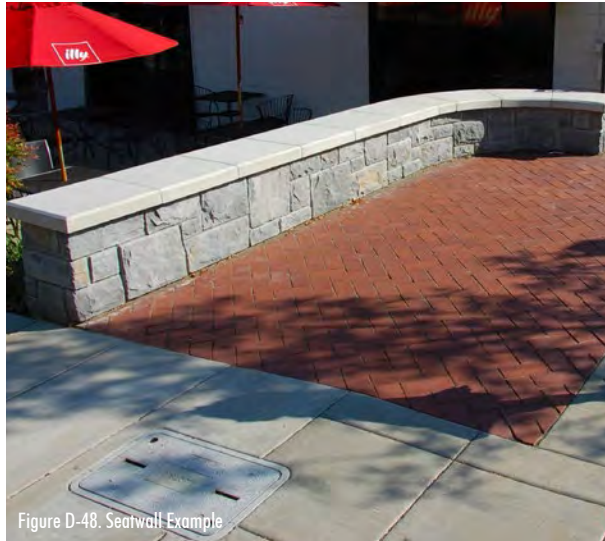


Figure D-48. Seatwall Example



Figure D-49. Pedestrian scale lighting integrated with banners located within the furnishing zone



Figure D-50. Custom Bike Rack



Figure D-51. Benson bubbler drinking fountain, Portland OR

2. PEDESTRIAN AMENITIES

Streetscape enhancements like street furnishings, street trees and planting areas, and pedestrian light poles create an inviting streetscape for pedestrians and encourages them to linger. This has numerous benefits to a streetscape including safety and economic growth and stability. The following summarizes the proposed pedestrian amenities in the Houlton and Riverfront District corridor segments:

- Street furnishings such as benches, bike racks, and waste receptacles are proposed throughout the corridor within furnishing zones, outside of the path of travel, and in special opportunity areas. The final locations, quantities, types, and styles of these elements will need to be further developed during subsequent design phases, but should generally be of a style and material befitting St. Helens.
- Pedestrian-scale light poles are proposed along each block face throughout the corridor, which will act as an organizing element for the streetscape and have numerous benefits including increased pedestrian safety, economic vitality during evening hours, and increased access throughout the project corridor. These lights are generally 12'-18' in height and should reinforce the character and identity of St. Helens. This design proposes locating one light at each corner near pedestrian crosswalks, and additional lights every 100' minimum.

D. RECOMMENDED CORRIDOR DESIGN OPTIONS: GREATER DOWNTOWN (HOULTON & RIVERFRONT DISTRICT) CORRIDOR SEGMENTS

- Street trees are proposed throughout the US 30, Houlton, and Riverfront District corridor segments. Street trees are an integral component to a successful, vibrant, pedestrian-friendly streetscape. Their social, economic, and environmental benefits include shading streets and buildings, enhancing neighborhood beauty, filtering the air, improving adjacent real estate values, and even reducing crime.

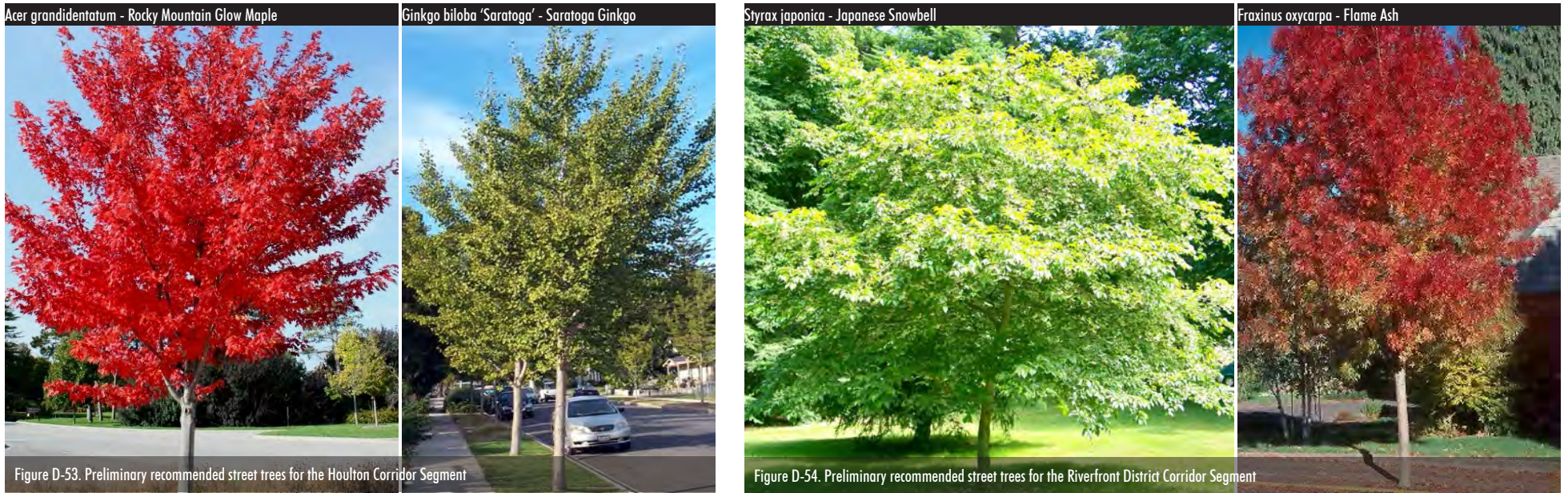
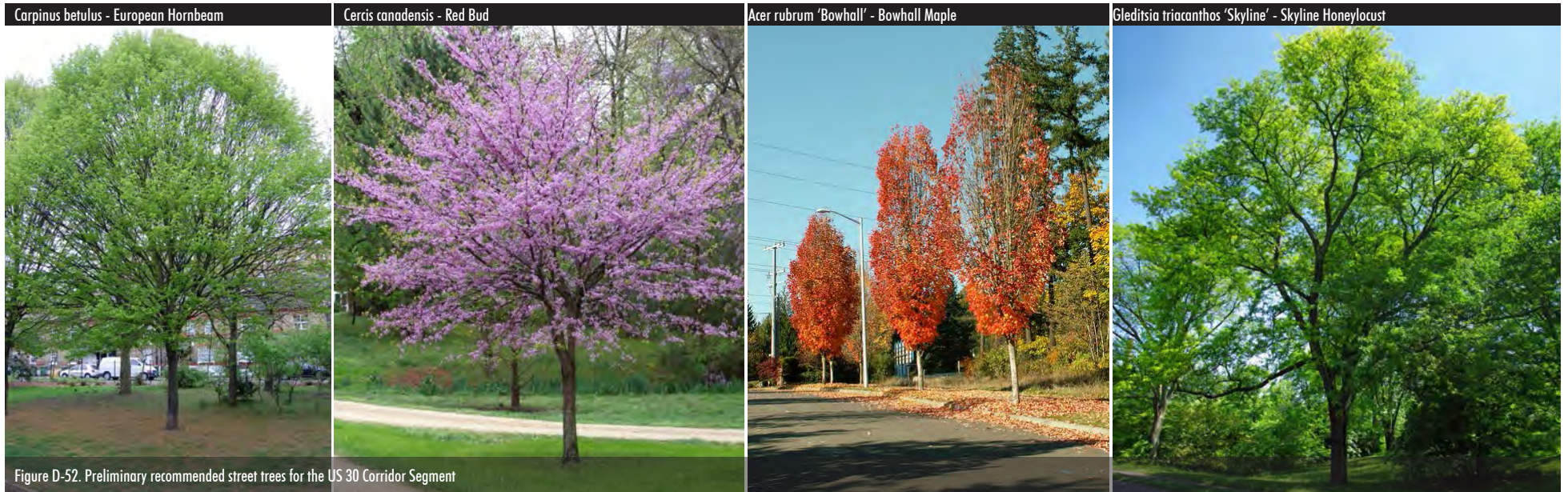
The requirements for locating street trees can be found in chapter 17.72.035 of St. Helens Municipal Code. In addition to these requirements, the following recommended criteria informed by feedback from the TAC, CAC, Planning Commission, and City Council, are intended to act as a guide for the selection of new street trees along US 30, Columbia Boulevard, and St. Helens Street:

- Select trees to avoid interference with overhead utility lines where applicable;
- Select trees with canopy widths to work with pedestrian-scale lighting (i.e. ensure that trees do not block light), and utility poles;
- Select trees with non-invasive roots to minimize impacts to tree well paving and sidewalks;
- Avoid tree species that cause excessive litter;
- Select trees to provide color and contribute to neighborhood identity;
- Select ‘business-friendly’ trees with airy leaf/branch patterns;
- Select trees suited for the available planting area to ensure proper root development;
- Select trees from the City’s Recommended Street Trees list in Chapter 17.72 of the Municipal Code that meet the above criteria

Given these criteria, the following is a preliminary recommendation of potential street trees for US 30, Houlton, and Riverfront District areas:

<u>CORRIDOR SEGMENT</u>	<u>LOCATION</u>	<u>SPECIES</u> (<i>Botanical name</i> - <i>Common Name</i>)
US30	East Side	<i>Acer platanoides</i> ‘Schweden’ - Schwedler Norway Maple <i>Carpinus betulus</i> - European Hornbeam <i>Gleditsia triacanthos</i> ‘Skyline’ - Skyline Honeylocust <i>Tilia cordata</i> ‘Glenleven’ - Glenleven Linden
	West Side	<i>Acer truncatum</i> x <i>A. platanoides</i> ‘Warrenred’ - Pacific Sunset Maple <i>Acer grandidentatum</i> - Rocky Mountain Glow Maple <i>Cercis canadensis</i> - Red Bud <i>Ginkgo biloba</i> ‘Saratoga’ - Saratoga Ginkgo
	Medians - Columnar Trees	<i>Acer platanoides</i> ‘Columnar’ - Columnar Norway Maple <i>Acer rubrum</i> ‘Bowhall’ - Bowhall Maple
	Medians - Broad Canopies	<i>Acer platanoides</i> ‘Schweden’ - Schwedler Norway Maple <i>Carpinus betulus</i> - European Hornbeam <i>Gleditsia triacanthos</i> ‘Skyline’ - Skyline Honeylocust
HOULTON	Under Overhead Power	<i>Acer truncatum</i> x <i>A. platanoides</i> ‘Warrenred’ - Pacific Sunset Maple <i>Acer grandidentatum</i> - Rocky Mountain Glow Maple <i>Cercis canadensis</i> - Red Bud
	No Overhead Power	<i>Fraxinus ornus</i> - Flowering Ash <i>Fraxinus oxycarpa</i> - Flame Ash <i>Ginkgo biloba</i> ‘Saratoga’ - Saratoga Ginkgo
RIVERFRONT DISTRICT	Under Overhead Power	<i>Acer grandidentatum</i> - Rocky Mountain Glow Maple <i>Cercis canadensis</i> - Red Bud <i>Styrax japonica</i> - Japanese Snowbell
	No Overhead Power	<i>Fraxinus ornus</i> - Flowering Ash <i>Fraxinus oxycarpa</i> - Flame Ash <i>Ginkgo biloba</i> ‘Saratoga’ - Saratoga Ginkgo

D. RECOMMENDED CORRIDOR DESIGN OPTIONS: GREATER DOWNTOWN (HOULTON & RIVERFRONT DISTRICT) CORRIDOR SEGMENTS



D. RECOMMENDED CORRIDOR DESIGN OPTIONS: GREATER DOWNTOWN (HOULTON & RIVERFRONT DISTRICT) CORRIDOR SEGMENTS

- Planting areas along streetscape corridors are an effective, attractive way to enhance the pedestrian experience, improve adjacent property values, and indicate a sense of civic care for a neighborhood. Some planting areas can manage stormwater runoff, as described in the last section of this document.

Like street trees, planting areas can take many forms. They can exist at-grade, visually breaking up the paving area and providing focal points of interest, or they can be raised above the grade of the sidewalk in planters to elevate the green to the pedestrian's eye and help to create distinct spaces. They can be containerized, either in pots on or adjacent to sidewalks as the City has done in the Houlton area in recent years, or elevated in planter baskets that hang off of other streetscape elements like light posts or wayfinding signs. Plantings can also be located in roadway medians at busy highway intersections or crosswalks to help with traffic calming and pedestrian safety. Median planting/landscaping on US 30 was identified as a potential option in the St. Helens 2011 TSP.

As with installing street trees, certain site conditions in each of the corridor segments can limit the ability to implement planting areas. Shallow basalt bedrock, vehicular sight lines, and narrow rights-of-way all have an impact on where and how planting areas might be located.



Figure D-55. The existing planting area at Columbia Blvd/St. Helens St. is a good example of planting areas serving as a streetscape focal point



Figure D-57. Stormwater plantings accent a curb extension - Portland, OR



Figure D-56. Streetscape plantings provide the streetscape with a native landscape character - Winters, CA



Figure D-58. Gateway arch marks the transition into an old town neighborhood - Bandon, OR



Figure D-60. Banners on light poles add festivity and reinforce civic identity.



Figure D-59. A community kiosk example



Figure D-61. Example of a downtown wayfinding sign - Breckenridge, CO

3. CIVIC IDENTITY & WAYFINDING

Gateway elements, wayfinding signs, banners, and community kiosks can enhance the civic identity of the Houlton and Riverfront District areas, adding vitality and character to its downtown. The following summarizes the proposed elements that contribute to civic identity throughout Houlton and the Riverfront District:

- Establish a gateway at the US 30 / Columbia Boulevard intersection that draws people into the Houlton area and towards the Riverfront District. Additional gateway elements are proposed at 13th Street to mark the arrival to Houlton's commercial couplet, and one at Columbia Boulevard and 1st Street marking the arrival to the Riverfront District.
- Locate wayfinding signs at key intersections that include maps and directories to guide people to various neighborhood amenities and destinations within and outside of the Houlton and Riverfront District project areas.
- A community kiosk is proposed mid-block on the south side Columbia Boulevard at 16th Street, adjacent to the St. Helens Post Office. Several community members have expressed a desire for this streetscape element, and confirmed that this location currently acts as a community news and gathering place.

4. GATEWAYS

The proposed gateway features at the intersection of US 30 and Columbia Boulevard would serve as a primary gateway to the Houlton and Riverfront District areas. A series of secondary gateways could be located at multiple locations along Columbia Boulevard to alert people that they are approaching or entering the Riverfront District area. Advisory committee and other community members suggested consideration of gateway elements at 6th, 4th, 2nd and/or 1st Streets. These gateway elements could include repeating signage, sculptural or other artistic elements and could vary somewhat at each place to signify culturally or historically significant aspects of each location.

D. RECOMMENDED CORRIDOR DESIGN OPTIONS: GREATER DOWNTOWN (HOULTON & RIVERFRONT DISTRICT) CORRIDOR SEGMENTS

5. GREEN STREET STRATEGIES

The Houlton and Riverfront District streetscapes will feature a series of vegetated stormwater planters to capture and infiltrate stormwater run-off from adjacent roadways and sidewalks. These planters are envisioned as structural, landscaped reservoirs used to collect, filter, and infiltrate stormwater run-off and will feature low vegetation that tolerates both drought and inundation; street trees will be planted in their own wells rather than in the planters.

Though stormwater facilities are not located on the plans or sections above, we recommend that vegetated stormwater planters, swales, and rain gardens be integrated into the final streetscape design, where feasible. Reference the City of Portland 2008 Stormwater Management Manual for location, sizing, and design criteria of these Green Street Strategies.

Each of the following strategies for Houlton and the Riverfront District must consider the shallow basalt bedrock present throughout the project areas, and the potential impediments this bedrock could have on constructability and long-term performance:

- Rain Gardens
- Stormwater Planters
- Stormwater Infiltration Swales



Figure D-62. Example of a rain garden

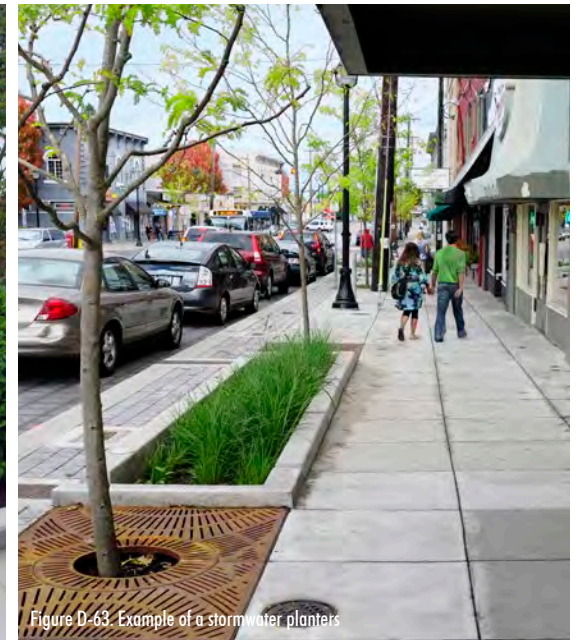


Figure D-63. Example of a stormwater planter



Figure D-64. Example of a stormwater swale



Figure D-65. Existing photo of the South Columbia County Chamber of Commerce

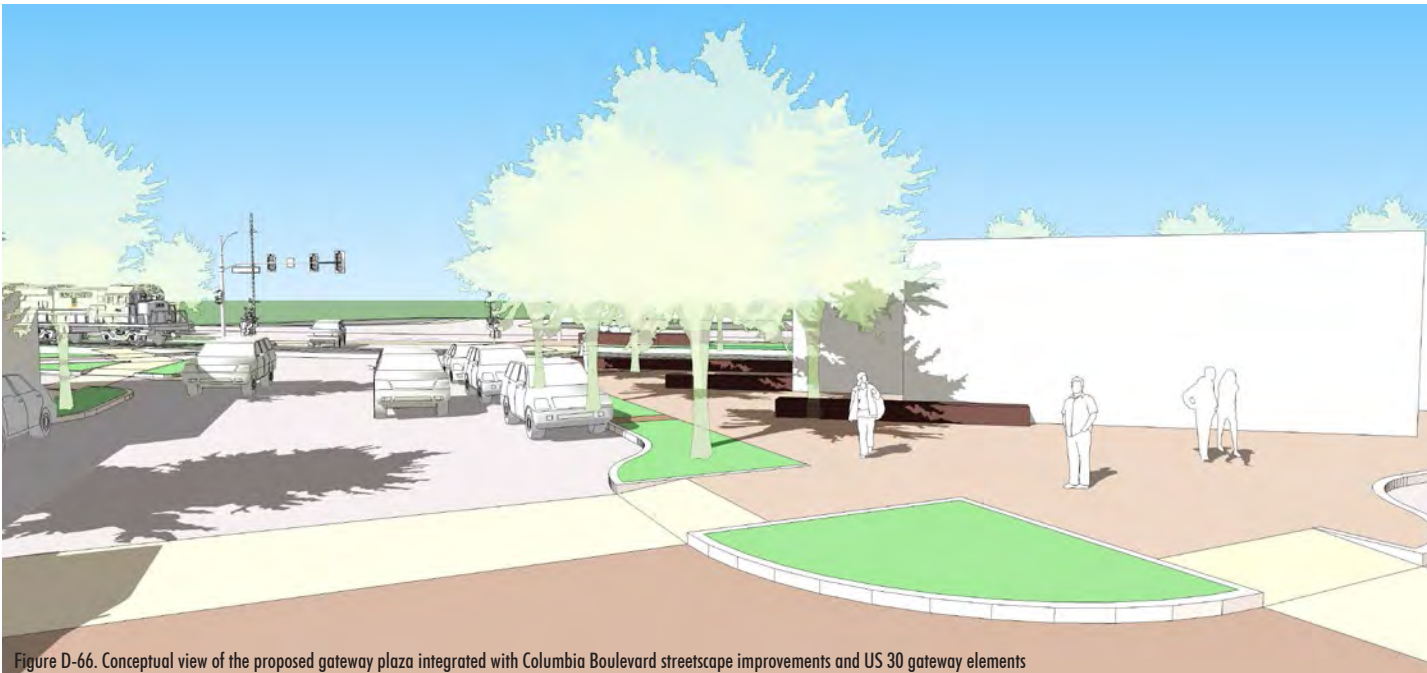


Figure D-66. Conceptual view of the proposed gateway plaza integrated with Columbia Boulevard streetscape improvements and US 30 gateway elements

SPECIAL OPPORTUNITY AREAS

Refer to plan views on page 68-79 for locations of Special Opportunity Areas.

1. GATEWAY PLAZA – COLUMBIA BOULEVARD & MILTON STREET (CHAMBER OF COMMERCE)

The South Columbia County Chamber of Commerce is located just off of US 30 on Columbia Boulevard at Milton Way, and is situated at the front door to St. Helens' commercial core. Recommended intersection and streetscape enhancements adjacent to this site create an opportunity to establish a Gateway Plaza - a space to welcome visitors to relax and orient themselves to the various businesses and destinations throughout downtown St. Helens. Sculptural features that define the US 30 / Columbia Boulevard Gateway could be repeated in this space to further unify this gateway area. Sculptural elements should be designed to minimize future maintenance needs, including as a result of unintended use by skateboarders.

D. RECOMMENDED CORRIDOR DESIGN OPTIONS: GREATER DOWNTOWN (HOULTON & RIVERFRONT DISTRICT) CORRIDOR SEGMENTS

2. STORMWATER / INTERPRETIVE GATHERING SPACE – COLUMBIA BOULEVARD & 14TH STREET

Located at the heart of the Houlton area, a vacant, depressed city block provides a special opportunity for creating a public space that could serve the many needs of the community. The site is situated at the low point of the Houlton area, making it a prime location for a large-scale stormwater detention basin with pedestrian trails or boardwalks, as well as interpretive elements that recall the natural history of the St. Helens area. According to City staff, this site already serves as a stormwater management facility to some degree. Enhancing its function for this purpose and as a community focal point is recommended. While this facility could improve the appearance and function of this area, it also requires acquisition of private property and likely would be relatively expensive to construct. As a result, it is considered a lower priority or longer range project in comparison to other recommended improvements.



Figure D-67. Photo of the existing vacant site at 14th Street and Columbia Blvd



Figure D-68. Photo of the existing triangular area at 13th Street and Columbia Blvd / St. Helens St

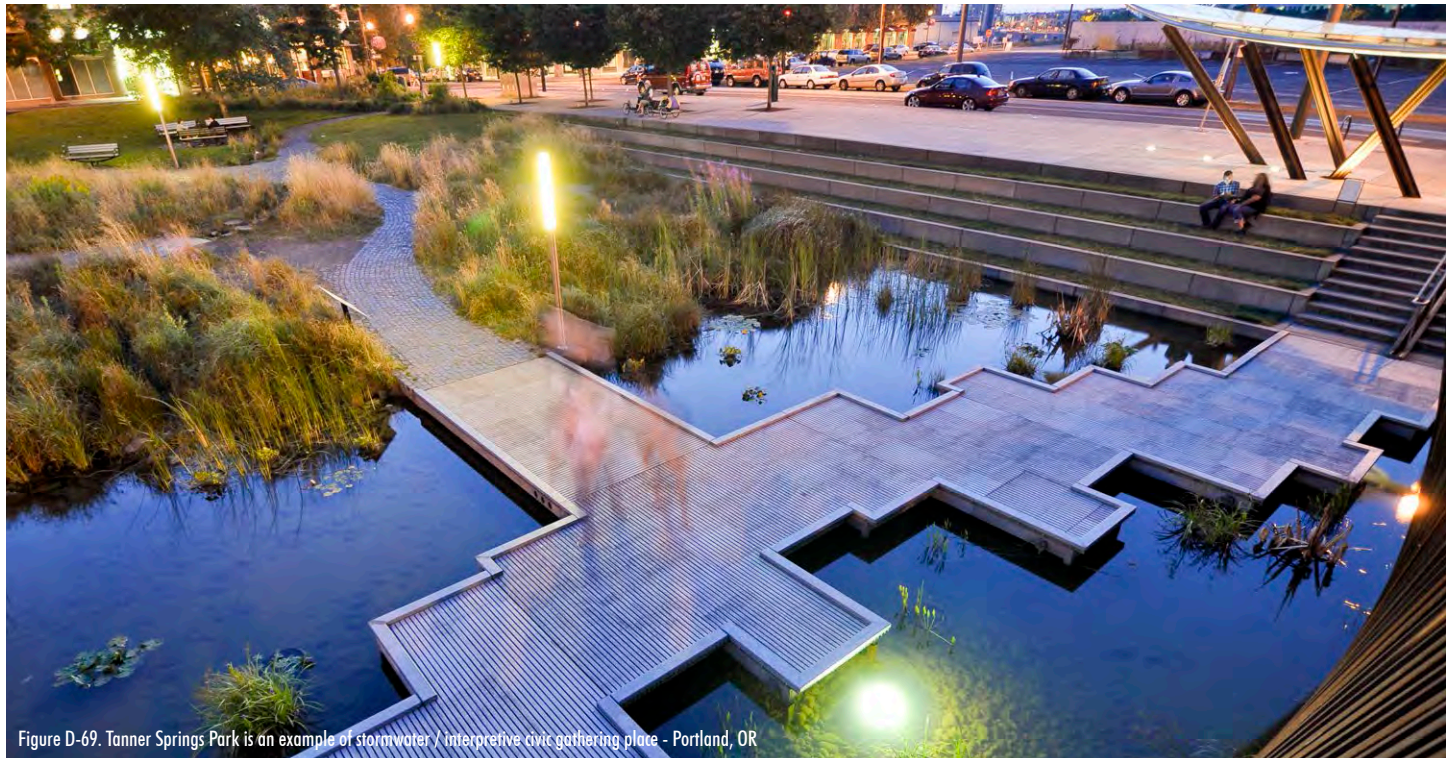


Figure D-69. Tanner Springs Park is an example of stormwater / interpretive civic gathering place - Portland, OR

D. RECOMMENDED CORRIDOR DESIGN OPTIONS: GREATER DOWNTOWN (HOULTON & RIVERFRONT DISTRICT) CORRIDOR SEGMENTS



Figure D-70. Photo of the existing lawn space at Columbia Blvd @ 9th Street



Figure D-71. Photo of the existing lawn space at Columbia Blvd @ 2nd Street



Figure D-72. Example of a family-friendly civic space oriented towards recreation, gathering, and natural history.

3. CIVIC GATHERING SPACE – COLUMBIA BOULEVARD & 13TH STREET

A wedge-shaped parcel located at 13th Street where Columbia Boulevard and St. Helens Streets converge could accommodate a flexible, pedestrian-oriented, paved outdoor space that could host a number of different civic events. This space could be designed to work in concert with the stormwater / interpretive gathering space located across 14th Street. As described in the Conceptual Intersection Enhancements 3B and 3C, the overall size of the wedge could increase significantly over what is there today.

4. CIVIC GATHERING SPACE – COLUMBIA BOULEVARD & 9TH STREET

A large, elevated lawn area at 9th Street adjacent to the elementary school could accommodate a civic gathering space that is oriented towards families, education, or cultural or natural history of St. Helens.

5. CIVIC GATHERING SPACE – COLUMBIA BOULEVARD & 2ND STREET

An existing lawn area at 2nd Street is located in the heart of a residential neighborhood, and could host a variety of civic events with a park-like setting. If this idea moves forward, it will be essential to carefully consider the type and hours of use of this area and minimize impacts on adjacent residents and property owners.

D. RECOMMENDED CORRIDOR DESIGN OPTIONS: GREATER DOWNTOWN (HOULTON & RIVERFRONT DISTRICT) CORRIDOR SEGMENTS

6. COLUMBIA RIVER OVERLOOK – COLUMBIA BOULEVARD JUST EAST OF 1ST STREET

An existing parking area in City right-of-way at the end of Columbia Boulevard offers great views of the Columbia River. Nestled between two residences, an overlook with seating could provide some respite off the beaten path and a new way for the community to experience a natural wonder in their backyard. More discussion of this area is provided on page 99.



Figure D-73. Photo of the existing right-of-way spur just east of the Columbia Boulevard / 1st Street intersection



Figure D-74. Concept view of an overlook feature integrated with pedestrian walkways, on-street parking, planting areas and a vehicular turn around. Existing access to adjacent residences are preserved. SUBJECT TO CHANGE



Figure D-75. Photo of the upper section of 1st Street overlooking the Riverfront District, the Columbia County Courthouse, and the Columbia River

7. RIVERFRONT DISTRICT OVERLOOK
– 1ST STREET BETWEEN COLUMBIA
BOULEVARD & ST. HELENS STREET

An elevated portion of 1st Street offers great views of the Riverfront District’s “Main Street”, the historic Columbia County Courthouse, and the Columbia River beyond. An overlook with seating and other pedestrian accommodations is proposed here, and would be accessed by a new pedestrian sidewalk along the top of the basalt outcrop wall.

CONCEPTUAL INTERSECTION ENHANCEMENTS

As with the US 30 corridor segment, a number of potential improvements have been identified to address traffic safety and operational issues at specific locations in the Houlton/Riverfront District area. These options are intended to improve safety for all users (drivers, bicyclists and pedestrians), while also enhancing the appearance and function of the transportation system. The proposed enhancements are shown in Figure D-76 to Figure D-84.

1. COLUMBIA BOULEVARD / MILTON WAY (Figure D-76) - This concept illustrates potential enhancements to the Milton Way/Columbia Boulevard intersection. This concept has been designed to prevent southbound motorists on Milton Way north of Columbia Boulevard from traveling the wrong-way on Columbia Boulevard to continue south along Milton Way as well as to enhance pedestrian and bicycle connectivity to US 30 and to improve parking for the Chamber of Commerce. Initially two concepts were considered in this area: the recommended concept; and another option that would allow and legitimize the southbound movement onto Milton Way while making it safer. The primary benefit of the second alternative would be to continue to provide direct access southbound on Milton Way and to adjacent neighborhoods. The primary disadvantages would be to narrow Columbia Boulevard, to one lane between US 30 and Milton Way and to continue to create potential conflicts between vehicles and pedestrians in this area.



Figure D-76. Conceptual Intersection Enhancement: Columbia Boulevard @ Milton Way

While the project advisory groups failed to reach a consensus on a preferred option and a number of citizens argued for the second option, the City Council ultimately recommended the preferred option shown in this Report. While this will reduce direct access to residents near Milton Way to some degree, they will still be able to access the area from roads to the south via Columbia Boulevard such as 18th Street.

In addition to prohibiting the southbound movement to Milton Way, City Police Department personnel advocated for measures to ensure that vehicles turning left onto Columbia from US 30 southbound do not subsequently turn right onto Milton Way southbound. There is inadequate space between US 30 and Milton Way to perform this maneuver legally. Police personnel suggested considering a median or other barrier in this section of Columbia Blvd to restrict this maneuver. However, the project team does not recommend a barrier at this time because it likely would not prevent all motorists from making the maneuver and could in fact create safety and maintenance issues. As an alternative, the design team recommends installing “lane extension striping (wide white dotted line)” that directs motorists turning left southbound from US 30 to remain in the left lane of Columbia Boulevard. Subject to ODOT approval, the design team further recommends either 1) modifying the existing “No Right Turn on Red” part time restriction sign (that currently becomes active during a rail crossing event) to also activate when the southbound left-turn receives a green light or 2) posting a “No Turn on Red” sign on the northbound US 30 intersection approach. Both of these measures would reduce potential southbound left-turn and northbound right-turn vehicle interaction at this intersection. Additional options to address the concerns raised by police personnel also could be considered during a more detailed design phase.

This concept includes re-aligning the north leg of the intersection further east to provide greater separation between the north and south legs of the intersection, which also creates the opportunity for a pedestrian plaza adjacent to the Chamber of Commerce building. This concept also includes curb extensions on all four quadrants of the re-aligned north leg of the intersection (improving sight lines and shortening crossing distances for pedestrians). Pedestrian crossings of Columbia Boulevard are shown both east and west of Milton Way to maximize pedestrian connectivity. It would be possible to implement just one of these crossings and that could be considered in a more detailed design process. This project also includes a splitter island at the south leg to provide a refuge for pedestrian crossing Milton Way. As configured in this Report, the splitter island would allow from a moderate sized truck (e.g., one with a wheel base of about 40 feet) to turn right onto Milton Way after turning onto Columbia Boulevard. However, larger trucks would not be able to make this maneuver without driving over the splitter island. Signage is recommended to discourage larger trucks from attempting this maneuver.

Additional information about other concepts considered for this intersection is found in Appendix C.

D. RECOMMENDED CORRIDOR DESIGN OPTIONS: GREATER DOWNTOWN (HOULTON & RIVERFRONT DISTRICT) CORRIDOR SEGMENTS

2. COLUMBIA BOULEVARD / 18TH STREET (Figure D-77) - This concept illustrates potential enhancements to the 18th Street/Columbia Boulevard intersection as well as the segments of Columbia Boulevard within the Houlton area. This concept includes curb extensions on all four quadrants of the intersection (improving sight lines and shortening crossing distances for pedestrians as well as providing channelization through the intersection). This concept also includes removal of the eastbound right turn-lane to provide wider sidewalks and on-street parking along Columbia Boulevard. Final design of the intersection will need to accommodate truck turn movements toward the Port area.





Figure D-78. Conceptual Intersection Enhancement: Columbia Boulevard / St. Helens Street @ 13th Street

3. COLUMBIA BOULEVARD / ST. HELENS STREET / 13TH STREET (Figure D-78)
 - This concept illustrates a wide variety of potential enhancements to the 14th Street/Columbia Boulevard, 14th Street/St Helens Street, and 13th Street Columbia Boulevard intersections as well as the block bounded by 14th Street, Columbia Boulevard, and St Helens Street. This concept has been designed to improve the transition between the one-way segments of Columbia Boulevard and St Helens Street and the two-way segments of Columbia Boulevard. This concept includes removal of the eastbound left-turn lane between 14th and 13th Street and creation of a left-turn lane at the eastbound approach to 14th Street. This concept also includes curb extensions on all four quadrants of all three intersections (improving sight lines and shortening crossing distances for pedestrians) as well as wider sidewalks and on-street bike lanes.

D. RECOMMENDED CORRIDOR DESIGN OPTIONS: GREATER DOWNTOWN (HOULTON & RIVERFRONT DISTRICT) CORRIDOR SEGMENTS

4. COLUMBIA BOULEVARD / 11TH STREET (Figure D-79) - This concept illustrates minor variations on the existing lane configurations at the 11th Street/Columbia Boulevard intersection. This concept has been designed to better transition between the potential cross-sections located east and west of the intersection while accommodating large trucks traveling to/from the south along 11th Street. This concept includes a painted median at the west leg of the intersection as well as wider sidewalks along Columbia Boulevard.





Figure D-80. Conceptual Intersection Enhancement: Columbia Boulevard @ 9th Street

5. COLUMBIA BOULEVARD / 9TH STREET (Figure D-80) - This concept illustrates minor variations on the existing lane configurations at the 9th Street/Columbia Boulevard intersection. This concept has been designed to better transition between the potential cross-sections located east and west of the intersection while accommodating vehicles queues and school buses traveling to/from Lewis & Clark Elementary. This concept includes a painted median and striped crosswalk at the west leg of the intersection as well as wider sidewalks along Columbia Boulevard.

D. RECOMMENDED CORRIDOR DESIGN OPTIONS: GREATER DOWNTOWN (HOULTON & RIVERFRONT DISTRICT) CORRIDOR SEGMENTS

6. COLUMBIA BOULEVARD / 7TH STREET (Figure D-81) - This concept illustrates potential enhancements to the 7th Street/Columbia Boulevard intersection. This concept has been designed to better transition between the existing cross-section located west of the intersection to the potential cross-section located east while also maintaining access to 8th Street. This concept includes bulbouts on all four quadrants of the intersection (improving sight lines and shortening crossing distances for pedestrians as well as to providing channelization through the intersection).

7. COLUMBIA BOULEVARD / 1ST STREET (Figure D-82 and Figure D-83) - This concept illustrates potential enhancements to the 1st Street/Columbia Boulevard intersection as well as the special opportunity area located immediately east of the intersection. This concept has been designed to better transition between the potential cross section along Columbia Boulevard to the existing cross-section along 1st Street while maintaining access to 1st Street (overlook). This concept includes a bulbout in the southwest quadrant of the intersection (improving sight lines and shortening crossing distances for pedestrians as well as providing channelization through the intersection). Final design of the intersection/adjacent roadways should accommodate boat trailers





Figure D-82. Conceptual Intersection Enhancement: Columbia Boulevard @ 1st Street

and other large vehicles traveling to/ from the boat launch located along River Street. The design for the overlook and surrounding area includes three short-term recommendations: (1) provide a stairway from the end of the Columbia Boulevard right-of-way to River Street below; (2) build a raised crossing area between the two curb extensions on the east side of 1st Street; and (3) provide a bicycle connection to River Street using existing right of way north and east of the intersection. In the long term if the two properties on either side of the right-of-way extension redevelop and no longer need direct vehicle access from that portion of Columbia Boulevard, the area between them could potentially be closed to vehicle traffic and transformed into a pedestrian plaza adjacent to the overlook.

Recommendations for the Section of 1st Street between Columbia Boulevard and St. Helens Street include not allowing for on-street parking within the constrained lower tier, prohibiting parking on the existing sidewalk on the east side within the constrained lower tier, maintaining the current width of that sidewalk, and providing “sharrows” (shared lane markings) in the street for bicycles where the right-of-way is too constrained to provide bike lanes. The striping on the east side of the street would be removed.

Another option which may be considered by the City would be to provide on-street parking on the east side of this section (lower tier) of 1st Street. In order to do so, the sidewalk would need to be narrowed, which

D. RECOMMENDED CORRIDOR DESIGN OPTIONS: GREATER DOWNTOWN (HOULTON & RIVERFRONT DISTRICT) CORRIDOR SEGMENTS

would not be ideal from a pedestrian comfort perspective because this is the only sidewalk through this section of roadway and the sidewalk would have to be narrowed to five feet which represents a minimum acceptable width. However, this could be done if the City decides to pursue that option to allow for on-street parking on that side of the street and ensure that people do not park on the sidewalk. The project team recommends that if this is the final direction given by the City, in the near term, the City should at a minimum reverse the ordinance that currently allows for on-sidewalk parking at this specific location.

8. **ST. HELENS STREET / 1ST STREET** (Figure D-84) - This concept illustrates potential enhancements to the 1st Street/St Helens Street intersection as well as the adjacent segments of 1st Street and St Helens Street within the Riverfront District area. This concept includes bulbouts on all four quadrants of the intersection (improving sight lines and shortening crossing distances for pedestrians). Shared lane pavement markings are shown along 1st Street and on-street bike lanes are shown along St Helens Street to improve driver awareness of cyclists along the roadways. Many of the potential enhancements shown in this concept could be applied to the intersections/roadway segments located further west along St Helens Street as illustrated in other sections of this report. Final design of the intersection/adjacent roadways should accommodate boat trailers and other large vehicles traveling to/from the boat launch located along River Street.



Figure D-84. Conceptual Intersection Enhancement: St. Helens Street @ 1st Street

PHASING RECOMMENDATIONS AND COST CONSIDERATIONS

Streetscape design concepts that are recommended for the Greater Downtown (Houlton and Riverfront District) corridor segments west of 13th Street can be separated into phases by street.

- Columbia Boulevard – Parklets that are recommended for this street in this corridor segment can be implemented first as temporary parklets in on-street parking spaces to explore the success and public use of these spaces. As support builds and the spaces serve public needs in a successful manner, more permanent parklet features as described above in bulbouts at intersections and at mid-block locations can be implemented.
- St. Helens Street – The Pedestrian Promenade streetscape design concept is recommended for this street in this corridor segment, with buffered bicycle lanes, widened sidewalks, planting strips, pedestrian scale lighting, and site furnishings.
- Curb extensions – Upgrading the number of intersections shown in this plan with curb extensions will be costly and will presumably occur on an incremental basis. A phased implementation plan will need to be developed in the future and some curb extensions may be constructed by private parties in conjunction with local development projects.
- Painting and striping – Some of the intersection improvements identified in this plan could initially be undertaken through painting and striping, rather than by building new curbs, sidewalks and specially paved areas. This would allow for the City to try these projects out in a less permanent way and ensure that a more permanent design meets the community’s needs.

The Pedestrian Promenade streetscape design concept, with buffered bike lanes, is recommended for the Houlton/Riverfront District corridor segment east of 13th Street. It is also recommended to allow for parklets in some locations where appropriate in this corridor segment. In terms of phasing, these parklets can be initially implemented as temporary parklets within on-street parking areas.

A potential range of construction costs is provided for the Houlton and Riverfront District Corridor Segment improvements in Table C-3, below. These potential costs are broken down into Intersection Improvements (including vehicular roadway and pedestrian sidewalk areas), Roadway Improvements (including only vehicular roadway areas), and Pedestrian Improvements (including only pedestrian sidewalk areas). These order-of-magnitude costs were derived from the recommended improvements for each Houlton and Riverfront District corridor segment area described in the pages above, and are presented in a manner that allows for flexibility in determining priority projects for implementation.

POTENTIAL PRIORITY PROJECTS

Ultimately the City will need to prioritize the improvements identified in this Report. In doing so, the City should consider the overarching objectives for the proposed design concepts and specific improvements including the goals of improving safety, connectivity, economic vitality and appearance/sense of place. Other criteria for prioritizing projects could include:

- Ease and cost of implementation. Focus first on the “low hanging fruit” – projects with the most benefit for the lowest cost. This will help create early successes reasonably quickly and leverage additional improvements by community partners.
- Consistency with the City’s Transportation System Plan (TSP). The City has already identified a number of projects that should be undertaken to meet overall transportation needs. These also should be considered as relatively high priority.
- Potential for grant funding. Certain types of projects have a higher potential for successful funding from state and federal grant programs. Bicycle and pedestrian improvement projects in particular may garner potential funding from Active Transportation, or other similar grant programs.
- Significant community priorities. Some projects have been identified in a variety of community plans and discussions as priorities for a long period of time. The US 30/Columbia Boulevard/ld. gateway project would fit into this category.

D. RECOMMENDED CORRIDOR DESIGN OPTIONS: GREATER DOWNTOWN (HOULTON & RIVERFRONT DISTRICT) CORRIDOR SEGMENTS

Based on these criteria, the project team has identified the following potential preliminary list of priorities. These should undergo community scrutiny and discussion before completion of the Corridor Master Plan.

1. Stripe a continuous bike lane at the westbound approach to the US30/St Helens Street intersection. (TSP Project)
2. Install a crosswalk at the west leg of the 9th/Columbia Boulevard intersection – could also complete most of the striping enhancements between 11th and 9th Streets along Columbia Boulevard.
3. Install buffered bike lanes in select locations.
4. Install curb extensions/street patios and striping enhancements at 1st Street/St Helens Street. This project is also a priority in terms of addressing existing sight distance needs at the intersection. (TSP Project)
5. Reconfigure the 18th Street/Columbia Boulevard intersection with wider sidewalks along the north and curb extensions. (TSP Project)
6. Reconfigure the 18th Street/St Helens Street intersection with wider sidewalks along the north and curb extensions. (TSP Project)
7. Install curb extensions at 15th/Columbia Boulevard and 15th/St Helens Street. (TSP Project)
8. Reconfigure island between 13th and 14th along Columbia and St Helens to remove left-turn; consider doing this initially with striping and other less costly means.
9. Install curb extensions at 13th Street/Columbia Boulevard. (TSP Project)
10. Install curb extensions at 7th Street/Columbia Boulevard. (TSP Project)
11. Install one or more temporary parklets along Columbia Boulevard along with diagonal parking through striping and use of planter boxes and street furniture to delineate and enhance the parklet.
12. As funding allows, complete initial stages of the US 30/Columbia/Milton Way gateway project, beginning with striping and other low-cost means of providing safety and operational improvements.

TABLE D-3. ORDER OF MAGNITUDE COSTS FOR HOULTON & RIVERFRONT DISTRICT CORRIDOR SEGMENT IMPROVEMENTS

ITEM	INCLUSIONS	POTENTIAL RANGE OF CONSTRUCTION COSTS	
		LOW	HIGH
<p><u>INTERSECTION IMPROVEMENTS</u></p> <ul style="list-style-type: none"> • Vehicular Roadway & Pedestrian Sidewalk Areas • Assumes a 110'x75' intersection 	<ul style="list-style-type: none"> • Curb Extensions (curbs, curb ramps, pedestrian paving areas) • Wearing Surfaces (roadway asphalt, striping, pavement markings) • Pedestrian Scale Lighting (1 luminaire per corner) and associated switching, conduit, and wiring • Site Furnishings (benches & bike racks) • Intersection Paving Enhancements (HIGH only) • Subsurface Drainage Allowances • Mobilization/Demo • 30% Design / Construction Contingencies 	<p>\$170,000 / Intersection</p> <p>Assumes standard curbs, concrete pedestrian paving areas, asphalt roadway paving, pavement markings and striping, roadway signage, base pedestrian scale lighting options and site furnishings (2 benches and 2 bicycle racks per intersection).</p>	<p>\$325,000 / Intersection</p> <p>Assumes concrete pavers and/or colored concrete pedestrian paving areas, colored and/or scored concrete intersection paving and crosswalks, higher quality pedestrian scale lighting, seatwalls, and optimal number of benches and bicycle racks (4 each per intersection).</p>
<p><u>ROADWAY IMPROVEMENTS</u></p> <ul style="list-style-type: none"> • Vehicular Roadway Only • Assumes a 200' length block 	<ul style="list-style-type: none"> • Curbs • Driveways • Subsurface Drainage Allowances • Wearing Surfaces (asphalt, striping, pavement markings) • Signage • Mobilization/Demo • 30% Design / Construction Contingencies 	<p>\$65,000 / Block</p> <p>Assumes standard curbs, asphalt roadway and parking aisle paving, pavement markings, and roadway signage.</p>	<p>\$70,000 / Block</p> <p>Assumes more curbs associated with mid-block curb extensions, painted bike-lanes, and some customized roadway signage.</p>
<p><u>PEDESTRIAN IMPROVEMENTS</u></p> <ul style="list-style-type: none"> • Pedestrian Sidewalk Areas Only • Assumes a 200' length block 	<ul style="list-style-type: none"> • Pedestrian Sidewalk Paving • Planting Strips / Furnishing Zone Treatments • Site Furnishings (bicycle racks, benches, seatwalls) • Pedestrian Scale Lighting (1 luminaire per block face) and associated switching, conduit, and wiring • Pedestrian Wayfinding Signage (select locations) • Mobilization/Demo • 30% Design / Construction Contingencies 	<p>\$115,000 / Block</p> <p>Assumes standard concrete sidewalk paving, low-intensity landscape plantings in planting strips, minimal number of site furnishings, & base lighting options.</p>	<p>\$200,000 / Block</p> <p>Assumes colored and/or scored concrete pedestrian sidewalk paving with unit paver accents, high-intensity planting strip/ furnishing zone paving treatments, optimal quantity of site furnishings, seatwalls, and higher quality pedestrian scale lighting.</p>

E. POLICY AND REGULATORY CHANGES

Conclusions from the Land Use and Urban Design report (Technical Memorandum #4) can be used as the basis for potential policy and regulatory changes needed in order to implement the Corridor Master Plan. The following conclusions, by corridor segment, are those that can be addressed through local regulations, particularly City development code.

US 30

- Consider updating standards for parking lot landscaping and design to increase landscaping and improve pedestrian connections.

HOULTON

- Use excess right-of-way to enhance landscaping, as well as bicycle and pedestrian facilities and create a narrower feel to the road that can help slow traffic.
- Provide improved pedestrian amenities (e.g., pedestrian scale light, street furniture, etc.) to create more of sense of place and unique identity for the area; use signage both for this purpose and to guide people to the Riverfront District.

RIVERFRONT DISTRICT

- Ensure that on and off-street parking requirements and availability are integrated to meet the needs of existing and future land uses and businesses in the area.

These conclusions, in addition to elements from the recommended streetscape design options, are discussed further in terms of potential regulatory changes in the following sections.

Land Use Issues and Potential Changes

The following conclusions related to land use were presented in the Land Use and Urban Design report.

- Short of undergoing a very significant transformation through major redevelopment, the vehicle-oriented character of development on US 30 is not likely to change in the near future.
- Houlton is a key shopping and business district for residents and visitors, as well as a gateway to the Riverfront District area. Land use patterns and design standards have the potential to encourage a mix of land uses.
- There are opportunities for more mixed use development in the Riverfront District in the future. The area currently has a strong residential character with accents of civic uses and businesses as well as activities on the Riverfront.

A variety of uses can be developed and redeveloped in the corridor given existing land use and zoning designations. Therefore, no land use or zone changes are being developed or proposed as part of the Corridor Master Plan.

The recommended streetscape design options for Houlton and the Riverfront District, in particular, have been developed to reflect and complement the variety of existing and potential uses in these areas. For example, parklets recommended in commercial areas would feature more seating and active uses than parklets recommended in residential uses, which would feature more landscaping, passive, and “park-like” uses.

Development Code Changes or Strategies

Potential development code changes and strategies are being developed based on conclusions from the Land Use and Urban Design report and elements from the recommended streetscape design options that relate to the development code. These potential changes and strategies include the following development code concepts:

- Landscaping standards for parking lots and yards fronting US 30, Columbia Boulevard, and St. Helens Street
- Pedestrian connections through parking lots to US 30
- Landscaping in planting strips and bulbouts along Columbia Boulevard and St. Helens Street
- Pedestrian amenities (e.g., pedestrian-scale lighting, street furniture, etc.) along Columbia Boulevard and St. Helens Street
- Temporary parklets in on-street parking spaces

These code concepts are discussed in terms of on-site landscaping standards, pedestrian access standards, planter strip standards, and other code requirements in the following sections.

LANDSCAPING STANDARDS

City Development Code requirements for landscaping and screening (St. Helens Municipal Code (SHMC) Chapter 17.72) generally apply to construction of new structures and to changes of use that either increase on-site parking or loading requirements or change access requirements. The requirements do not apply to single-family and two-family dwelling units or to uses that do not require site design review or a conditional use permit. Landscaping and screening requirements apply to on-site locations. Landscaping in the public right-of-way, namely the planting strip, is addressed by street trees and related requirements discussed in the following sections.

PARKING LOT LANDSCAPING

Pursuant to SHMC 17.72.110(b), the following screening provisions apply to parking areas in St. Helens:

(b) Screening of parking (larger than three spaces) and loading areas (larger than 400 square feet) is required. The specifications for this screening are as follows:

- (i) Landscaped parking areas shall include special design features which effectively screen the parking lot areas from view. These design features may include the use of landscaped berms, decorative walls, and raised planters;*
- (ii) Landscape planters may be used to define or screen the appearance of off-street parking areas from the public right-of-way;*

RECOMMENDATION: For parking lots that front US 30, Columbia Boulevard, or St. Helens Street in the project area, it can be specified which design features (e.g. landscaping or planters, but not walls) shall be required to screen parking lots, as well as any other design details that will serve the vision of the Master Corridor Plan. Buffer requirements should accordingly be set for parking lots fronting an arterial street in Figure 13 of SHMC Chapter 17.72.

FRONT YARD LANDSCAPING

There are no front yard setbacks, per se, required in the Highway Commercial District along US 30 and there is a zero front yard setback in the Houlton Business District and Riverfront District.

SHMC Chapter 17.64 of the City Development Code establishes the setback requirements below for streets of substandard width in the project area, which is not necessarily an identified issue in the project area.

- Major arterials (US 30) – At least 50 feet measured from the centerline
- Minor arterials (Columbia Boulevard, St. Helens Street, and Old Portland Road) – At least 30 feet from the centerline
- Collectors (1st Street) – At least 25 feet measured from the centerline

The Development Code allows the maximum setback in Houlton and the Riverfront District to be increased if the increased setback is used for pedestrian-oriented amenities, such as a sidewalk cafe, plaza, or courtyard (17.32.170 and SHMC 17.32.175(4)).

Existing landscaping standards do not set minimum standards (e.g., percentage) for site landscaping based on land use district or proposed use.

RECOMMENDATION: Minimum landscaping standards can be established for front yard setbacks created during development or redevelopment (development subject to site development review pursuant to SHMC Chapter 17.96) along US 30, Columbia Boulevard, and St. Helens Street in the project area. Given the recommendations in this Plan, the most effective use of front-yard setbacks for new landscaping and buffering would be along US 30. While such setbacks would help implement the recommendations in this Plan, setbacks should not be excessive.

PEDESTRIAN ACCESS STANDARDS

SHMC 17.84.050 (Required walkway location) establishes walkway requirements between buildings on a site and between building entrances and streets. It also requires separated or demarcated walkways when crossing motor vehicle traffic ways in parking lots.

Recommendation: To increase pedestrian connections to US 30 for development subject to site development review, requirements can be added specifying the maximum spacing of walkways crossing parking lots larger than a threshold size and connecting to US 30.

PLANTING STRIP STANDARDS

PLANTER STRIPS

SHMC 17.152.060(2) requires at least five feet separation between the curb and sidewalk (i.e., planter strip) for arterials and collectors except in some specified cases. Maintaining sidewalks, planter strips, and curbs is the responsibility of the adjacent property owner.

STREET TREES

Pursuant to SHMC Chapter 12.06 (Street Trees), the City or a development applicant is required to plant street trees where there is a lack of street trees, which is defined as the absence of trees for 100 lineal feet or more along one or both sides of the street. It is the City's responsibility to provide street trees under the following conditions:

- Replaces or substantially repairs 30 lineal feet or more of sidewalk;
- Performs an asphalt overlay of the entire street width for a street section longer than 50 feet; or
- Makes underground utility repairs that require any of the work described above.

Street tree provisions in SHMC 17.72.030 also specify that all development fronting a public or private street, or a private driveway more than 100-feet long, must provide street trees according to a City-approved plan. Exemptions to street tree requirements may be granted if the tree would potentially conflict with existing utility lines, would create visual clearance problems, does not have enough space within the public right-of-way, or could not be supported by the ground/soil conditions within the public right-of-way. In cases of exemption the applicant may be required to provide a landscaping easement outside of the public right-of-way or pay a fee to the City commensurate with the cost of the trees that would have otherwise been required.

Street trees are to be provided in accordance with street tree regulations in SHMC Chapter 17.72. These regulations address the location,

spacing, size, and species of the trees. Recommended street tree species tables (small trees, understory trees, overstory trees, flowering trees, columnar trees, and conifers) are provided at the end of Chapter 17.72.

RECOMMENDATION: Landscaping requirements can be modified to specify trees that are particularly suited to the soils in the project areas, as well as to allow for and/or require other (non-tree) planting in the soil or in planters in the planting strip are part of development subject to site development review. Spacing and other standards also may be adjusted based on the recommendations in this Plan.

PEDESTRIAN AMENITY REQUIREMENTS

Existing street improvement standards require that street lights to be provided “in accordance with regulations adopted by the city’s direction,” and that, at a minimum, “there shall be a street light at each street intersection”(SHMC 17.152.030(24)). There is not guidance about the type or design of lighting. There are also not requirements currently in the Development Code for providing furniture or other pedestrian amenities in the planting strip as part of street improvements.

RECOMMENDATION: Provisions could be added to these standards that require development subject to site development review to provide pedestrian amenities in the planting strip—for example, developers can be required to provide a fee-in-lieu of actual amenities that would cover their proportional share of the cost of amenities along a given section of the street. Examples of and guidelines for pedestrian-scale lighting, street furniture, and other pedestrian amenities that can be installed in the planting strip should be provided in the City of St. Helens Engineering Department Public Facilities Construction Standards Manual, and a reference to that section in the manual should be included in the street improvement standards in the Development Code.

OTHER CODE REQUIREMENTS

The Development Code also likely will need to be updated in order to allow and implement parklets and, in particular, temporary parklets in on-street parking spaces. Other communities have regulated these types of parklets in street, traffic, and building code and not development code. They have provided a permitting process and guidelines for design, construction, and maintenance.

RECOMMENDATION: Guidelines for parklets, including temporary parklets in on-street parking spaces, should be provided in the City of St. Helens Engineering Department Public Facilities Construction Standards Manual. A reference to that section in the manual should be included in applicable code sections—for example, in SHMC Title 10 (Vehicles and Traffic), Title 12 (Streets, Sidewalks and Public Places), and Title 15 (Buildings and Construction).

More information about this topic can be found in Appendix D.

Access Management Goals and Approach

Access management goals for roadways within the study area are documented in the City's adopted Transportation System Plan (TSP) as well as in previous technical memoranda associated with this study. The segments of US 30, Columbia Boulevard, and St Helens Street located within the project area currently have multiple access points that do not meet adopted access spacing standards for new construction.

This study does not provide recommendations for making changes to existing private driveways within the project area, nor does it provide guidance on how to address issues with existing access points in the future. As public and private properties within the project area redevelop, ODOT and the City will review the location of existing and proposed access points along their respective facilities. Driveway conformance with access spacing standards will be assessed and a determination will be made as to whether proposed land use changes or other factors necessitate the consolidation or reconfiguration of existing or proposed access points. ODOT and the City retain the legal authority to close or restrict driveways on an as-needed basis if safety or other conditions warrant. In the interim, many of the existing access points that do not conform with access spacing standards may continue to operate acceptably due to: 1) relatively low traffic volumes and travel speeds, 2) separation of left and right-turn movements at many of City's the major intersections, and 3) the presence of a two-way left-turn lane (TWLTL) along US 30 and Columbia Boulevard east of St Helens Street.

This study includes recommendations for installation of a raised median islands along portions of US 30 and for roadway alignment changes along the Columbia Boulevard and St. Helens Street Corridors. The recommended changes shown are conceptual in nature and were developed to minimize potential impacts to existing private driveways. No private driveway closures or turn movement restrictions are proposed along US 30 except at the US 30/Wyeth Street intersection and in areas where signalized intersection queuing currently blocks driveway access. Final design of any median improvements along US 30 will be subject to a public review process and that process would be the forum for assessing specific potential property implications. Similarly, any potential future changes to private driveway access along US 30 are subject to a public review and appeal process.

More information on this topic can be found in Appendix E.