



# **Barbur Boulevard: Designing a Model Civic Corridor for the 21<sup>st</sup> Century**

**Fall 2017 • Landscape Architecture Studio**

Evan Elderbrock • Environmental Studies Program

Rob Ribe • Professor

Yekang Ko • Assistant Professor

School of Architecture and Environment

Department of Landscape Architecture

## Acknowledgements

The authors wish to acknowledge and thank TriMet and their Southwest Corridor partners for making this project possible. We would also like to thank the following staff and stakeholders who were instrumental to this project. Many thanks to:

Dean Apostol, MIG  
David Aulwes, TriMet  
Charles Brucker, PLACE  
Tyler Bump, City of Portland  
Liska Chan, University of Oregon  
Michael Corrente, Greenworks  
Ryan Curren, City of Portland  
Karl Dinkelspiel, City of Portland  
Jeb Doran, TriMet  
Mark Eischeid, University of Oregon  
David Elkin, Juncus Studio  
Eric Engstrom, City of Portland  
Amy Fandrich, TriMet  
Tom Fiorelli, University of Oregon  
Chris Ford, Metro  
Sara Geddes, ODOT (retired)  
Michael Geffel, University of Oregon  
John Gillam, City of Portland  
Jun Hak Lee, University of Oregon  
Bob Hastings, TriMet  
Brett Horner, City of Portland  
David Hulse, University of Oregon  
Noah Kerr, University of Oregon  
Jeff Krueger, Jeff Krueger Environments  
Justin Lanphear, Cameron McCarthy  
Rebecca Lewis, University of Oregon  
Tom Liptan, City of Portland (retired)  
Neil Loehlein, City of Portland  
Brian Martin, Lango Hansen  
Carol Mayer-Reed, Mayer-Reed  
Gwynne Mhuireach, University of Oregon  
Eric Parsons, Dougherty Landscape Architecture  
Mark Raggett, City of Portland  
Philip Richardson, City of Eugene  
Steve Roelof, ESA  
John Schmidt, Schirmer Satre  
Lauren Schmitt, MIG  
Kevin Shanley, SWA (retired)  
Michaela Skiles, Metro  
Luzanne Smith, Dougherty Landscape Architecture  
Ruben Snyder, City of Portland  
Kate Tromp Van Holst, Schirmer Satre  
Leah Webber, TriMet  
Malu Wilkenson, Metro  
Xin Cao, Beijing Forestry University

## About SCI

The Sustainable Cities Initiative (SCI) is a cross-disciplinary organization at the University of Oregon that promotes education, service, public outreach, and research on the design and development of sustainable cities. We are redefining higher education for the public good and catalyzing community change toward sustainability. Our work addresses sustainability at multiple scales and emerges from the conviction that creating the sustainable city cannot happen within any single discipline. SCI is grounded in cross-disciplinary engagement as the key strategy for improving community sustainability. Our work connects student energy, faculty experience, and community needs to produce innovative, tangible solutions for the creation of a sustainable society.

## About SCYP

The Sustainable City Year Program (SCYP) is a year-long partnership between SCI and a partner in Oregon, in which students and faculty in courses from across the university collaborate with a public entity on sustainability and livability projects. SCYP faculty and students work in collaboration with staff from the partner agency through a variety of studio projects and service-learning courses to provide students with real world projects to investigate. Students bring energy, enthusiasm, and innovative approaches to difficult, persistent problems. SCYP's primary value derives from collaborations resulting in on-the-ground impact and expanded conversations for a community ready to transition to a more sustainable and livable future.

## SCI Directors and Staff

Marc Schlossberg, SCI Co-Director, and Professor of Planning, Public Policy, and Management, University of Oregon

Nico Larco, SCI Co-Director, and Associate Professor of Architecture, University of Oregon

Megan Banks, SCYP Manager, University of Oregon

## About TriMet

The Tri-County Metropolitan Transportation District of Oregon was created by the Oregon Legislature in 1969 to operate and oversee mass transit in the Portland Metropolitan region. This public entity was formed by the legislature as a municipal corporation to replace the multiple private interest mass transit companies that previously operated in Multnomah County, Clackamas County, and Washington County; the counties that make up TriMet.

In addition to operating bus lines, light rail, and paratransit in the defined Tri-Metropolitan district, TriMet also connects to external mass transit services to provide wider blanket coverage for the region. TriMet's nationally recognized transit system provides more than 100 million rides annually, and carries 45% of rush hour commuters going into the downtown Portland area. TriMet not only moves people, but helps build sustainable cities by improving public health; creating vibrant, walkable communities; supporting economic growth; and working to enhance the region's livability.

Several civic leaders have been highlighted as key Figures in the creation, establishment, and ultimate success of TriMet. Governor Tom McCall is credited with the initial call for the creation of the public corporation; other key contributors include Congressman Earl Blumenauer, Rick Gustafson, Dick Feeney, and Mayor Neil Goldschmidt. All were instrumental in shaping the organization itself, as well as the land use, civic development, and transformation policies that make TriMet the success that it is today.

The vision and efforts of these individuals and countless others have borne fruit. Recently, TriMet celebrated the second anniversary of the opening of its most recent light rail line. Since its inauguration the 7.3-mile MAX Orange Line has experienced continued growth, having a six percent year-to-year increase in ridership. Illustrating the holistic approach that has been a part of TriMet from its inception, there have been wider community benefits such as a positive impact on employment and a focus on sustainable practices such as bio-swales, eco-roofs, a first-in-the-nation eco-track segment, solar paneling, and regenerative energy systems.

TriMet is a key partner in the region's Southwest Corridor Plan and Shared Investment Strategy. Eleven partner agencies are participating in planning for a new 12-mile light rail line in southwest Portland and southeast Washington County that will also include bicycle, pedestrian, and roadway projects to improve safety and access to light rail stations. Southwest Corridor stakeholders include Metro (the regional government), Washington County, Oregon Department of Transportation, and the cities of Beaverton, Durham, King City, Portland, Sherwood, Tigard, and Tualatin. This collaborative approach strives to align local, regional, and state policies and investments in the Corridor, and will implement and support adopted regional and local plans. These initiatives and outcomes from participation with the UO's Sustainable City Year Program will help develop ideas that are cost-effective to build and operate, provide safe and convenient access, and achieve sustainability goals while supporting the corridor's projected growth in population and employment.

## Course Participants

Evan Elderbrock, Environmental Studies Graduate  
Beau Black, Landscape Architecture Undergraduate  
Ben Lucke, Landscape Architecture Undergraduate  
Ryan Nicholson, Landscape Architecture Undergraduate  
Jill Stone, Landscape Architecture Graduate  
Alexis Griffin, Landscape Architecture Undergraduate  
Ali Pougiales, Landscape Architecture Undergraduate  
Nadja Quiroz, Landscape Architecture Graduate  
Brittany Murphy, Landscape Architecture Graduate  
Rachel Spencer, Landscape Architecture Graduate  
Margo Barajas, Landscape Architecture Graduate  
John Maxson, Landscape Architecture Graduate  
Jamie Willeke, Landscape Architecture Graduate  
Alden Carr, Landscape Architecture Graduate  
Eden Haskins-Dahl, Landscape Architecture Undergraduate  
Katya Reyna, Landscape Architecture Graduate  
Russell Martinelli, Landscape Architecture Undergraduate  
Derek Rayle, Landscape Architecture Graduate  
Chris Telomen, Landscape Architecture Graduate  
Flora Chen, Landscape Architecture Graduate  
Chad Hawthorne, Landscape Architecture Graduate  
Justin Kau, Landscape Architecture Graduate  
Yang Ye, Landscape Architecture Undergraduate  
Maxim Granjean, Landscape Architecture Undergraduate  
Dean Snyder, Landscape Architecture Undergraduate  
Whitney Holt, Landscape Architecture Graduate  
Grace Ledbetter, Landscape Architecture Undergraduate  
Megan Little, Landscape Architecture Undergraduate



## Table of Contents

Acknowledgements	2
About SCI	3
About SCYP	3
SCI Directors and Staff	3
About TriMet	4
Course Participants	5
Executive Summary	7
Introduction	8
Process/Methods	13
Civic Corridor Design Proposals	18
Study Area 1: Custer Node	19
Study Area 2: Northeast Corridor	36
Study Area 3: 19 <sup>th</sup> Avenue Node	56
Study Area 4: Tryon Crossing	67
Study Area 6: Southwest Corridor	91
Study Area 7: West Portland Town Center	103
Conclusion	109
Appendix A: Custer Node Analysis Maps	110
Appendix B: Northeast Corridor Analysis Maps	120
Appendix C: 19 <sup>th</sup> Avenue Analysis Maps	130
Appendix D: Tryon Crossing Analysis Maps	141
Appendix E: 30 <sup>th</sup> Avenue Node Analysis Maps	154
Appendix F: Southwest Corridor Analysis Maps	164
Appendix G: West Portland Town Center Analysis Maps	174

## Executive Summary

The transit infrastructure along Barbur Boulevard in southwest Portland creates significant safety hazards due to intermittent bicycle lanes and sidewalks. The need for improved pedestrian, bicyclist, and motorist safety, as well as increased housing and public transportation options in the Southwest Corridor (SWC) of Portland have spurred an assessment of the potential for transit-oriented development along Barbur Boulevard. TriMet has asked students in the Landscape Architecture 4/594 Fall Planning Studio to analyze and experimentally design a 2.5-mile segment of Barbur Boulevard to accommodate a center-running light rail line.

This project aims to reduce automobile congestion; improve safety for all modes of transportation; increase connectivity between neighborhoods adjacent to Barbur Boulevard and downtown Portland; promote a diversity of employment opportunities, mixed income housing, and urban amenities; and integrate stormwater facilities, trees, and public green spaces into the streetscape.

The 2.5-mile segment of Barbur Boulevard was divided into seven distinct study areas. Three-person design teams were responsible for conducting in-depth analyses of their study area and producing plans for three standard right-of-way cross sections identified by TriMet with potential for the final street design.

Each team was responsible for analyzing current conditions within their site across six broad categories: property viability and future development; urban spatial patterns and boundaries; natural capital and systems; land use; off-arterial vehicular circulation; and pedestrian and bicycle safety and circulation. Each of these six categories required multiple analyses and methodological approaches. Analysis maps were used extensively to inform street design and planning decisions throughout the studio. In addition, each team created projections for building footprints and massing, land use classifications, and potential timeframe for redevelopment to accompany their finalized street design plans.

*This report represents original student work and recommendations prepared by students in the University of Oregon's Sustainable City Year Program for TriMet's Southwest Corridor project. Text and images contained in this report may not be used without permission from the University of Oregon.*

## Introduction

With over 240,000 people currently working in the Southwest Corridor (SWC) of Portland (Figure 1) and over 300,000 estimated to live in the SWC by 2040, traffic congestion, limited public transit options, and gaps in pedestrian and bicycle networks pose a serious threat to livability in the area. Numerous regional stakeholders—including TriMet, Metro (regional government of Portland metropolitan area), Oregon Department of Transportation (ODOT), Washington and Multnomah counties, and the cities of Portland, Tigard, and Tualatin—are in the process of planning 12 miles of high capacity transit (HCT)—lightrail or bus rapid transit—from downtown Portland to Tigard and Tualatin (Figure 2) with the goal of improving multimodal transportation circulation and land use in the SWC that will promote community identity and economic development.

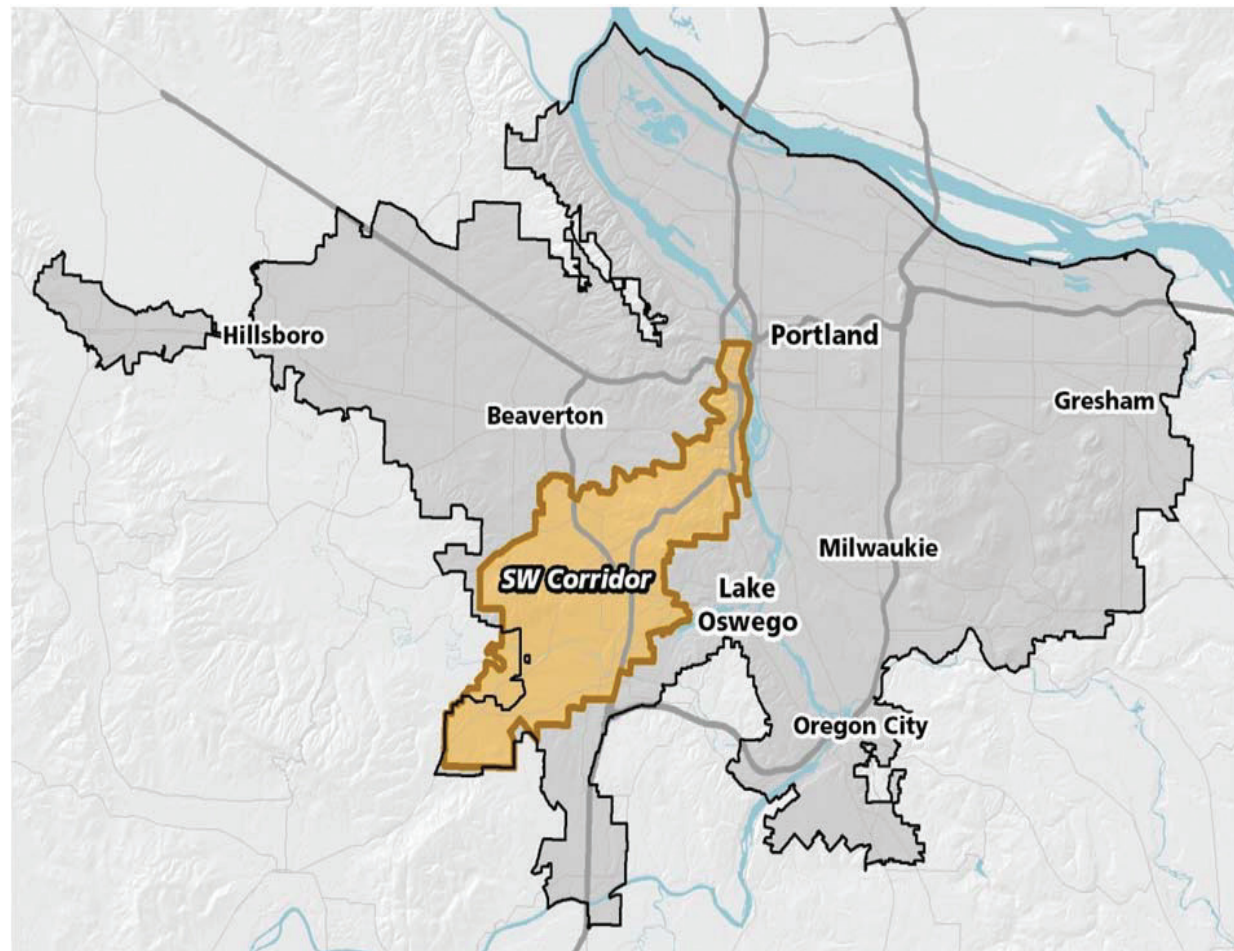


Figure 1: Overview of Southwest Corridor and Portland's Metro Area

The Southwest Corridor Plan Steering Committee, responsible for guiding and directing the SWC planning, requested technical analyses—including construction costs; natural resource impacts; alignment with SWC land use objectives; HCT ridership potential; impacts on private property; and effects on vehicular, bicycle, and pedestrian circulation—of HCT options and solicited public input to narrow design possibilities. Using public feedback and technical analyses, the steering committee recommended HCT alignments (Figure 2) for the Draft Environmental Impact Statement (DEIS) required under the National Environmental Policy Act (NEPA). From south Portland to Tigard, the recommended HCT alignment follows

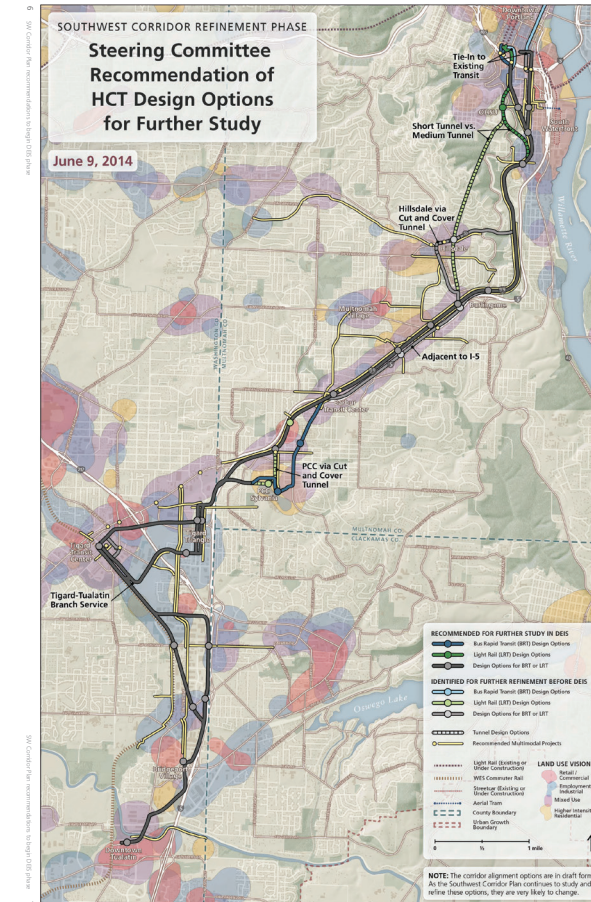


Figure 2: Southwest Corridor Plan Steering Committee Recommendations for High Capacity Transit Line connecting Tigard and Tualatin downtown Portland.

Barbur Boulevard. While the DEIS has yet to be completed, TriMet has asked students in the Landscape Architecture 4/594 studio to analyze and experimentally design the 2.5-mile Historic Highway Segment of Barbur Boulevard (Figure 3) to accommodate a center-running light rail line, improved pedestrian and bicycle infrastructure, and increased mixed-use development.

### Barbur Boulevard – Historical Context

Barbur Boulevard served as the primary automobile route connecting Portland to the rest of Oregon to the south from its inception until the completion of Interstate 5 (I-5) in 1961. Construction of Barbur Boulevard was completed in two segments. The downtown to Bertha Boulevard section (3.2 miles) was completed in 1934 and the Bertha Boulevard to Tigard section (3.3 miles) was completed in 1936. The section of Barbur Boulevard from Bertha Boulevard to downtown Portland was designed to provide a scenic, forested entrance to Portland, while the section from Tigard to Bertha Boulevard was designed to provide amenities for motorists. Travelers in the 1950s could refuel at gas stations, shop at Fred Meyer, enjoy an evening at the drive-in movie theater, spend a night at a motel, or stop for a meal at the Original Pancake House before continuing their journey. Several of the original signs and structures remain along Barbur Boulevard, preserving part of the 1950's character of the road. The construction of I-5 parallel to Barbur Boulevard did not significantly diminish the regional automobile use of Barbur. However, Barbur Boulevard began to receive less

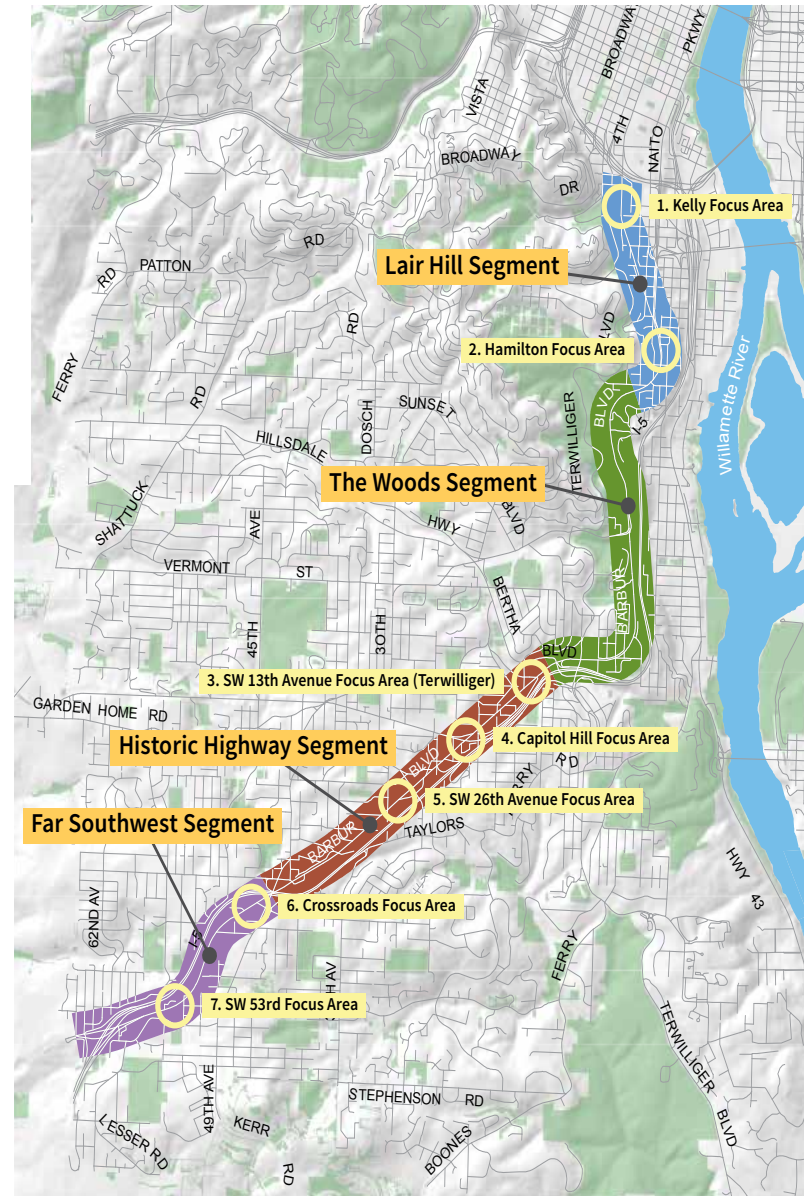


Figure 3: Students in LA 4/594 were asked to re-design the Historic Highway Segment of Barbur Boulevard—one of four distinct sections of Barbur—for transit-oriented development.

funding than other state highways due to its proximity to the interstate. Consequently, Barbur Boulevard lacks many of the urban amenities and safety precautions that have become commonplace in Portland.

The current transit infrastructure in place along Barbur Boulevard creates significant safety hazards. Barbur Boulevard has intermittent bicycle lanes and sidewalks, which are unprotected from the fast moving vehicular traffic. Over half of Barbur Boulevard lacks sidewalks and many of the current sidewalks are directly adjacent to the road with crosswalks spaced, on average, every 1/3 mile.

In addition, the non-rectilinear intersection geometry created by Barbur Boulevard and its cross streets creates hazardous conditions for drivers, bicyclists, and pedestrians alike. The need for improved pedestrian, bicyclist, and motorist safety, as well as increased housing and public

transportation options in the SWC of Portland have an assessment of the potential for transit-oriented development along Barbur Boulevard.

## Barbur Boulevard – a New Civic Corridor

Portland’s 2035 Comprehensive Plan provides the foundation for transit-oriented development along Barbur Boulevard. To accommodate the rapidly growing population of Portland’s metropolitan area without dramatically expanding the urban growth boundary, Portland has established a conceptual framework of corridors and centers (Figure 4) to steer urban development upward rather than outward. Centers are envisioned as mixed-use neighborhoods complete with residential housing, businesses (e.g. grocery stores, restaurants, coffee shops, retail stores, etc.), employment or office space, and civic amenities (e.g. schools, libraries, places of worship, parks, plazas, etc.). Centers are intended to be connected to public transit and non-motorized transportation options. Corridors are linear features that, like centers, are primed for redevelopment to accommodate increased density of housing, stores, and employment opportunities, proximal to public transit. In Portland’s 2035 Comprehensive Plan, Barbur Boulevard is identified as a priority Civic Corridor, envisioned as one of “the city’s busiest, widest, and most prominent streets.” The city of Portland would like to see Barbur Boulevard designed to accommodate various modes of transportation, mixed-use development, street trees, and stormwater infrastructure. The intention is for Barbur Boulevard to serve as a major transit-oriented corridor linking neighborhood centers to each other as well as downtown Portland.

## Barbur Boulevard Redevelopment Vision and Goals

The primary objective of this studio was to create a redevelopment design plan for Barbur Boulevard that advances the goals from Portland’s 2035 Comprehensive Plan, the Southwest Corridor Plan, and the Barbur Concept Plan. These plans envision Barbur Boulevard as a civic corridor where people can enjoy living, working, and recreating; a place accessible for freight, automobiles, public transit, bicyclists, and pedestrians where all transit options coexist safely; a place where businesses are willing to invest and are able to thrive; a place that provides mixed income housing with easy access to all nearby amenities; a place where green infrastructure—street trees, stormwater facilities, parks and streams—is integrated throughout the boulevard; and a place that preserves and celebrates the history of the boulevard, while establishing a unique character within the city of Portland.

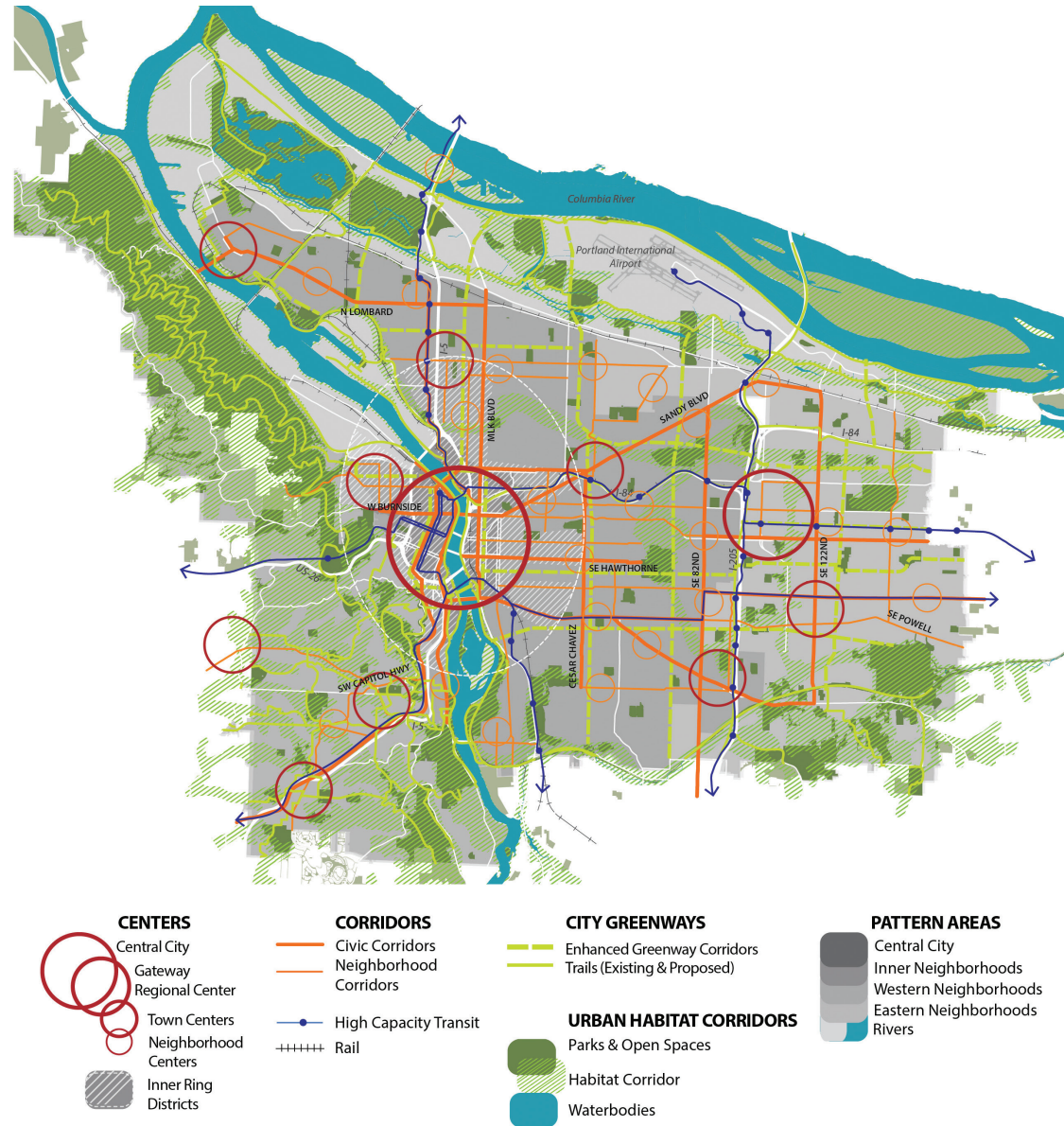
The vision for the Barbur Boulevard redevelopment project is broken into specific goals in the Barbur Concept Plan. As a part of the design process, University of Oregon students in Landscape Architecture 4/594 refined these goals to match the scope of this studio. The five overarching goals are defined below:

- Provide a safe and reliable network of transportation options including high capacity public transit, protected bicycle lanes, and continuous sidewalks.
- Reduce overall automobile congestion and minimize conflicts between all modes of transportation.
- Design a vibrant corridor that encourages a diversity of employment opportunities, mixed income housing, and abundant urban amenities
- Improve connectivity between Barbur Boulevard and adjacent neighborhoods.
- Integrate stormwater facilities, street trees, and public greenspaces into streetscape.

Each studio team worked to accomplish these goals through a process of studying examples of existing vibrant civic corridors; conducting extensive site analyses to understand current conditions and constraints along Barbur Boulevard; and designing plans, sections, and perspectives to address the critical conflicts between the existing conditions and the vision for a vibrant civic corridor.

**A city's form matters.**

The Urban Design Framework shows how the Vision and Guiding Principles in the 2035 Comprehensive Plan are reflected in the location and form of future change.



For more information on the Urban Design Framework, see Chapter 3: Urban Form as well as the Urban Design Direction document.

**What the new Comprehensive Plan can accomplish**  
 The following pages summarize what each of the Guiding Principles is intended to accomplish.

www.portlandoregon.gov/bps/pdxcomplan | December 2016

I-9

Figure 4: Portland's 2035 Comprehensive Plan for centers and corridors. Barbur Boulevard, located in the southwest metro area, is defined as a Civic Corridor with two adjacent town centers (West Portland Node and Custer Node).

**Process/Methods**

At the start of the term, the class divided into nine, three-person teams. Each team was assigned one of the seven segments of Barbur Boulevard's Historic Highway, with two teams working on the West Portland Town Center and two teams working on the Custer Node (Figure 5). In the first half of the term, each team was responsible for conducting in-depth analyses of their study area and producing plans for three standard right-of-way cross sections (Figure 6) identified by TriMet as potentials for the final street design. Each of the cross sections requires unique intersection layouts and parcel access to accommodate the position of the bicycle lanes. Following midterm design reviews in both Eugene and Portland, students finalized their 50-scale plans for all three cross section templates, identifying all major design changes from current conditions and DEIS alignments. In addition, each team prepared a 2050 projection Figure-ground plan of their study area, identifying building footprints and massing, land use classifications, and potential timeframe for redevelopment.

**Study Area Analysis**

Each team was responsible for analyzing a variety of current conditions within their site. These analyses fall within six broad categories: property viability and future development; urban spatial patterns and boundaries; natural capital and systems; land use; off-arterial vehicular circulation; and pedestrian and bicycle safety and circulation. Each of these six categories required multiple analyses and methodological approaches. Groups used a combination of GIS analysis, air photo interpretation, and field work to produce their analysis maps. These analysis maps were used extensively to inform planning and design decisions throughout the studio.

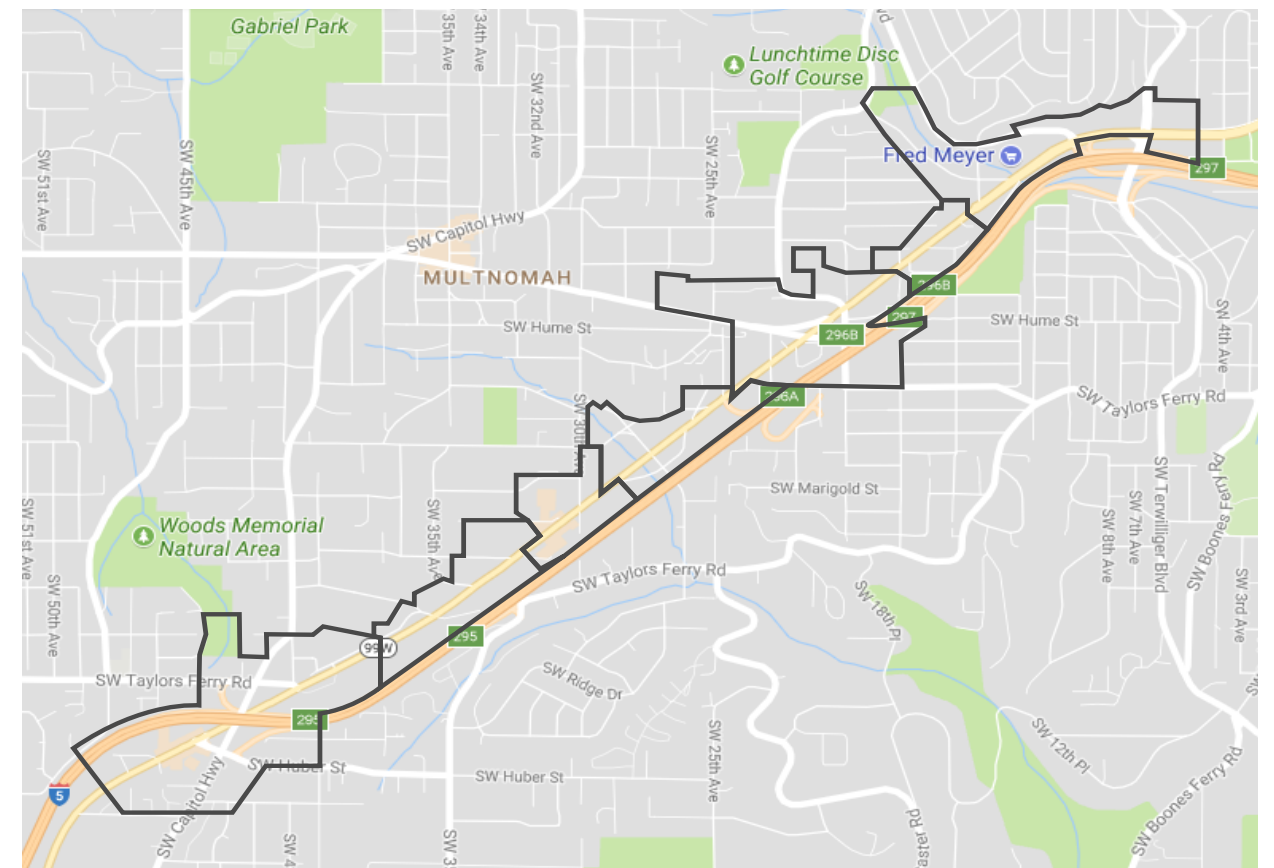


Figure 5: Context map for the seven study areas along Barbur Boulevard.

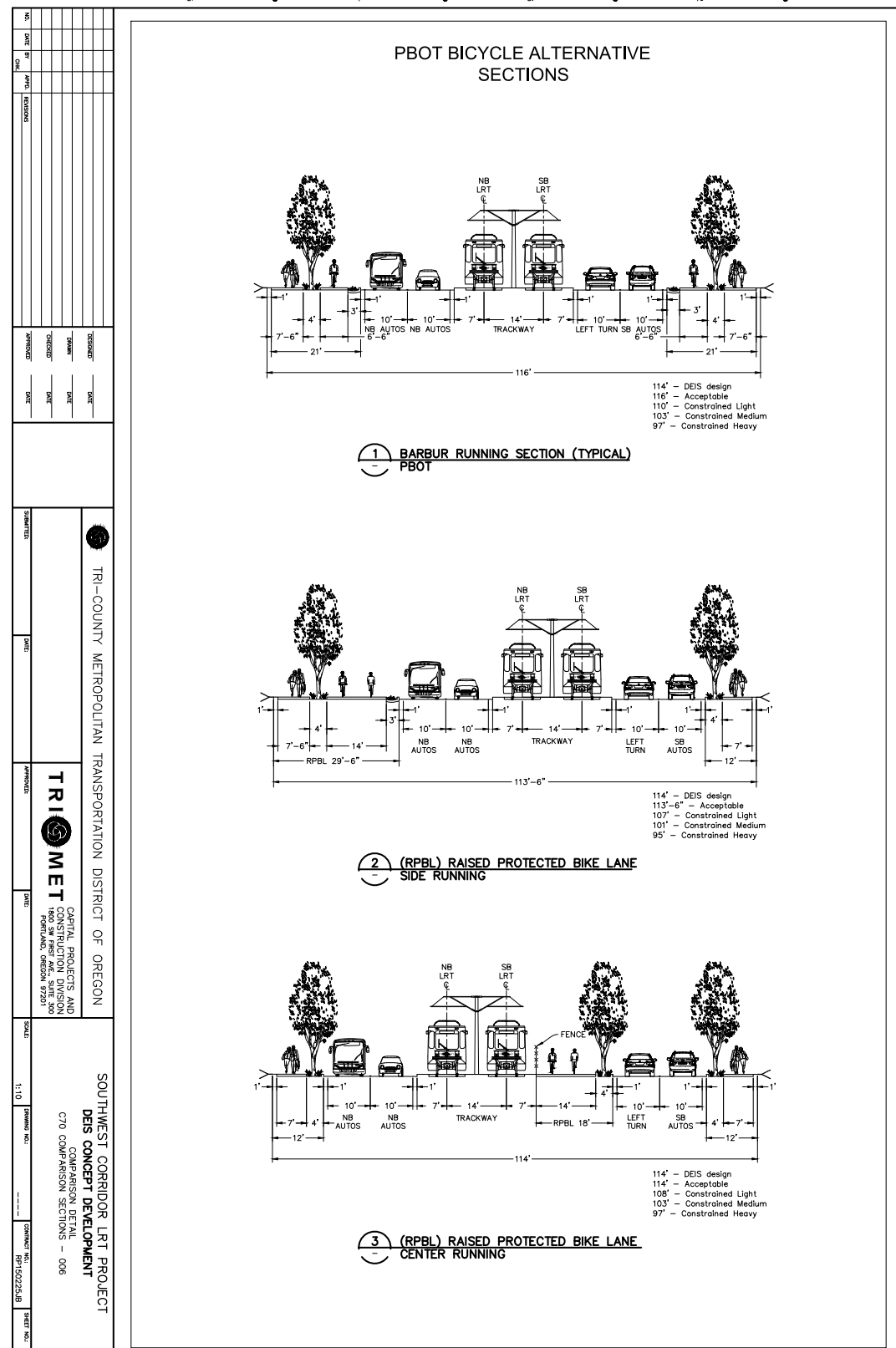


Figure 6: Three template right-of-way cross sections provided by TriMet. Standard-running section with one-direction bicycle lanes on both sides (top); Side-running section with two-direction bicycle traffic on one side of the street (middle); and center-running section with two-way bicycle traffic adjacent to the center-running light rail (bottom).

## Property Viability and Future Redevelopment

Groups produced a property vitality assessment for every building within their study area. Most groups used a combination of visual assessment—air photo and field work—and GIS data to determine property vitality. Students used a variety of attributes from the city of Portland’s Buildable Lands Inventory (BLI) to determine property vitality. The BLI data included an inventory of building age, floor area ratio (FAR), and properties determined to be vacant or in need of redevelopment. In addition, buildings that showed visual signs of abandonment and neglect were determined to have low vitality, or primed for redevelopment. Using the property vitality assessment in conjunction with the DEIS right-of-way alignments, students projected a future redevelopment timeline. Building footprints that overlapped with the DEIS right-of-way and vacant or amortized properties were projected for redevelopment upon construction of the new Barbur Boulevard. Properties identified as underutilized based on BLI data were projected to be redeveloped on within 10-30 years of Barbur Boulevard construction. Residential tax lots and buildings with the highest FAR were projected to be redeveloped last. Groups created flow diagrams to document their process (Figure 7) as each group used different methods to produce the property vitality and future redevelopment maps.

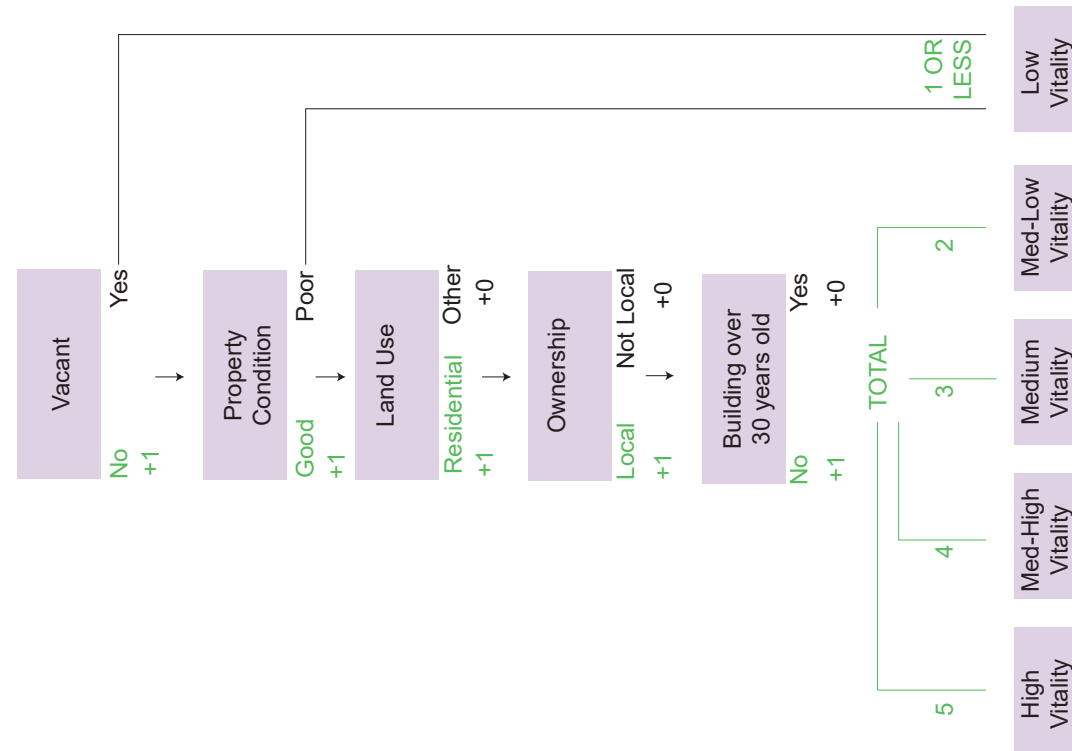
## Urban Spatial Patterns and Boundaries

Students from each team created maps documenting the spatial dependencies within and surrounding their study area. These maps depict walking accessibility from Portland’s planned light rail stations to local amenities (e.g. churches, open spaces, schools, restaurants, cafes, and stores) and surrounding residential areas. While methods varied between groups, most students used a combination of air photo interpretation and Google Street View to identify local amenities. ArcMap’s buffer tool allowed students to locate amenities within a given distance (e.g. ¼, ½, or ¾ mile) from their study areas. In addition, students used data from maps generated by the city of Portland to depict areas within a 10-minute walks from each proposed light rail station.

## Natural Capital and Systems

Each group created a set of maps depicting slope, topography, stormwater drain inlets, existing tree canopy, and natural resources within their study area. Slope maps were generated using the ‘Slope Analysis’ function in ArcMap with DEM data from the city of Portland. Students mapped stormwater flows using the available city of Portland topography data and identified stormwater drain inlets using Google Street View. Maps of tree canopy and natural resource assets—wildlife habitat and riparian value—were mapped using existing data courtesy of the city of Portland.

## PROPERTY VITALITY FLOW CHART



## REDEVELOPMENT TIMELINE

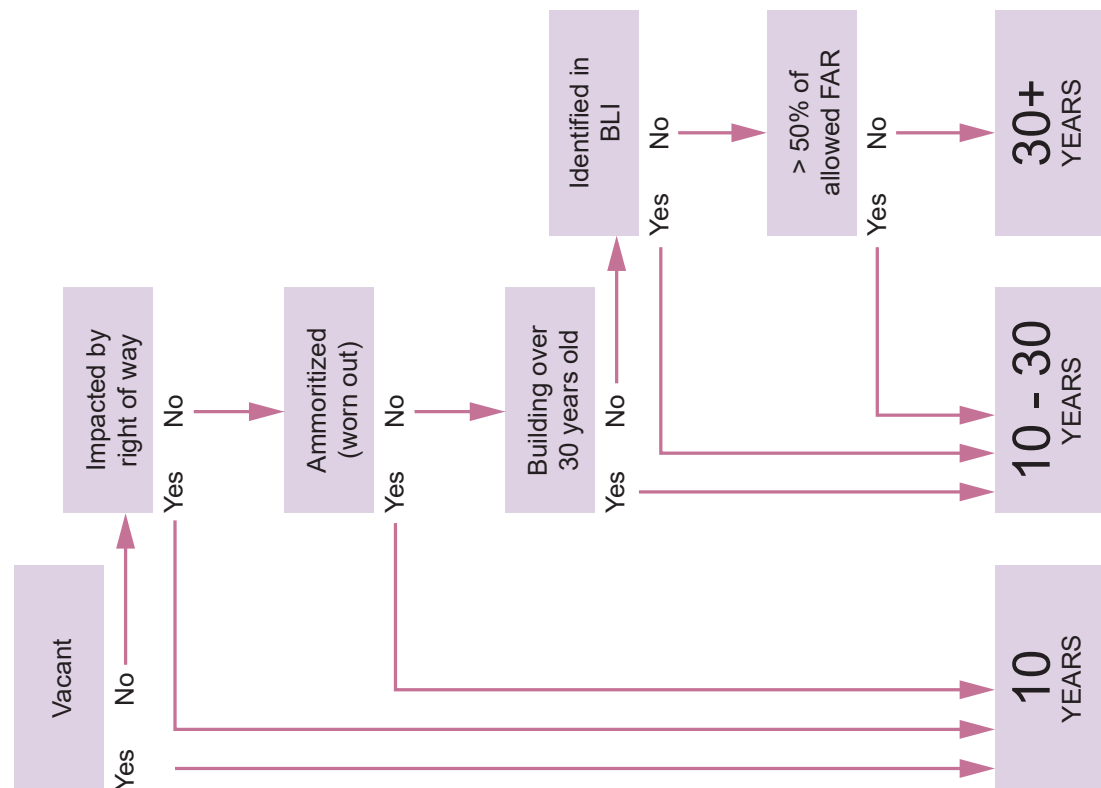


Figure 7: Example flow diagrams depicting one group's process for quantifying property vitality (right) and redevelopment timeline (left).

## Land Use and Analysis

Students created land use, land cover, and zoning maps for their study areas. Land cover maps depict what is physically on the land surface such as buildings, roads, parking lots, grass, or trees. Land use maps describe the type of activity by tax lot parcel such as residential, commercial, industrial, or mixed-use. Land cover maps were created predominantly by air photo interpretation with the addition of the city of Portland Canopy Cover data. Land use maps were generated using either the city of Portland's BLI data ('Land Use' attribute) or the city of Portland's tax lot data ('PRPCD\_DESC' attribute). In addition, all groups created maps comparing existing zoning codes to the newly adopted zoning codes for their study areas using data from the city of Portland's zoning shapefile.

## Off-arterial Vehicular Circulation

Groups located curbs, curb cuts, and dumpsters, counted parking spaces, and measured building setbacks to better understand the movement of vehicles off Barbur Boulevard and through individual parcels. Curbs, curb cuts, dumpsters, and parking spaces were documented using air photo interpretation and Google Street View. Students used ArcMap's measurement tool to measure building setback from the existing right-of-way to the nearest edge of the building footprint (city of Portland's Building Footprint shapefile).

## Pedestrian and Bicycle Circulation

Using air photo interpretation and Google Street View, students inventoried the existing sidewalks, crosswalks, curb ramps, and bicycle lanes to identify locations with safety hazards for pedestrians and bicyclists within their study area. In addition, groups used Google Street View and air photos to identify potential off-street, informal pedestrian circulation.

## Midterm Review Assignment

Each team generated a 50-scale concept plan for all three street cross section templates provided by TriMet using the critical information from their study area analyses. Students manipulated Barbur Boulevard and adjacent street alignments from the DEIS to address all safety, access, and circulation conflicts; suggest new building footprints for properties identified for immediate and short-term redevelopment; and identify opportunities for improving stormwater management, increasing public gathering spaces, and enhancing the identity of Barbur Boulevard.

Each group created a digital presentation complete with design goals, photographs, analysis maps, and TriMet's template cross sections to contextualize their study area concept plans. Professionals from a diversity of design and planning fields reviewed students' concept plans and provided feedback to help direct future design iterations.

## Final Review Assignment

After midterm reviews, each group produced four principle deliverables: final drafts of 'at construction' plans for all three TriMet cross section templates, two Figure-ground plans, an urban design massing study, and three individual sub-area designs. As a whole, these products portray the potential street and building footprint layouts, land use projections for 2050, timeframe for redevelopment, and small-scale illustrative depictions of the most intricate design problems within each study area.

## 'At Construction' Plan

Each team created 'at construction' concept plans for the three right-of-way cross section templates provided by TriMet. Students incorporated feedback from reviewers to resolve all

multi-modal transit conflicts, ensure vehicular access and parking to all private parcels, and maximize public amenities. The final 'at construction' plans included rendered illustrative graphics resolving the form and function of medians, right-of-way planting strips, and sidewalks. Students provided detailed street tree layouts, suggested park plantings, and located appropriate placements for stormwater facilities. Each 'at construction' plan was accompanied by three or more rendered, illustrative, and dimensioned street cross sections to clarify important design details at intersections, light rail stations, and standard street sections. To provide further detail into the design of each concept plan, students created a 100-scale, black and white copy of their 'at construction plan' with labels corresponding to major design moves and any remaining traffic conflicts. All big design changes were labeled with capital letters and are accompanied by a description and justification. All unresolved traffic conflicts were labeled with numbers and are accompanied by a description of the access issue or safety hazard.

### Figure-ground Plan

The second major component of the final review assignment was for each team to complete two figure-ground plans for their study area in 2050 using the street and building design from one of the three final concept plans. The first figure-ground plan depicts building footprints colored by standard land use colors and the second figure-ground plan shows building footprints colored by time-frame for construction. Each group's time-frame for construction was based upon their future redevelopment projections from the site area analysis. Every figure-ground plan outlines curbs and shoulder for all streets within the study area and contains a legend detailing the meaning of the allocated coloring and symbology.

### Massing Study

The urban design massing study provides a three-dimensional bird's eye perspective of each study area. Students used Rhino or Sketch-up to create three-dimensional representations of their figure-ground plan depicting the study area's topographic relief with buildings extruding from the land surface. Buildings were labeled with a letter and color-coded to show land use by floor. In Microsoft Excel, students created a table listing each building and providing estimates for square footage of commercial floor space, office space, residential space and garage space as well as the number of parking spaces required by code for each of the above land uses: 1 parking space per 600 ft<sup>2</sup> of commercial, 400 ft<sup>2</sup> of office, 1000 ft<sup>2</sup> of residential housing, and 400 ft<sup>2</sup> of garage.

### Sub-area Individual Design Project

The last deliverable for the final review assignment was for each team to divide their study area into three sub-areas and prepare individual illustrative designs for each sub-area. The sub-areas—between 10 and 50 acres—were selected to provide detailed design interventions for particularly critical or interesting features within each study area and do not necessarily cover the entirety of the study area. Each student was responsible for one sub-area design complete with a written document detailing their design goals and objectives consistent with the teams' work as a whole; a 20- to 40-scale rendered and labeled plan of the sub-area; as well as any illustrative sections, perspectives, or volumetric drawings to provide informative, visual context for the design.

### Civic Corridor Design Proposals

The studio split into nine teams with each team working on one of the seven study areas. The following sections will provide a complete review of the analyses, goals, and design proposals

for each study area. Each of the following sections will contain street design plans for standard, side-running, and center-running bicycle lanes. Several sub-area designs will be included to provide inspiration for the potential for open spaces along Barbur Boulevard. Due to the volume of analysis maps, each study area will have an accompanying appendix to document the most crucial analyses.

- Study Area 1: Custer Node
- Study Area 2: Northeast Corridor
- Study Area 3: 19<sup>th</sup> Avenue Node
- Study Area 4: Tryon Creek Crossing
- Study Area 5: 30<sup>th</sup> Avenue Node
- Study Area 6: Southwest Corridor
- Study Area 7: West Portland Town Center

### Study Area 1: Custer Node

Custer Node is the northernmost study area within the Barbur Boulevard civic corridor redevelopment project. The most prominent feature within the Custer Node study area is the Fred Meyer—a local historical landmark built in 1950—that occupies a large portion of the Barbur Boulevard street-front. There is a planned light-rail station adjacent to the Fred Meyer.



Figure 8: Custer Node Overview Map.

## Street Design Plans

### Goal I: Community-Centered Planning (“Live, Work, Play”)

- Incorporate parks and/or plazas for each building cluster or district
- Create interactive and engaging features within public spaces
- Incentivize mixed-use development across spatial scales
- Emphasize accessibility to amenities
- Maintain open streetscape visibility
- Keep development at medium scale or smaller
- Incentivize public murals that reflect community identity

### Goal II: Enhance Pedestrian and Cyclist Experience

- Widen sidewalks along storefronts with minimal setbacks
- Bring storefronts closer to sidewalks
- Shift parking and commercial traffic to rear of businesses
- Stack parking below ground and in structures where possible
- Build smoother transitions between travel modes
- Integrate pedestrian pathways through neighborhoods to increase connectivity of Barbur Boulevard districts

### Goal III: Foster Community Identity Through Celebration of Natural Features

- Reconnect green spaces on either side of I-5
- Integrate neighborhood pathways/trails with streams and stormwater features
- Daylight streams where possible
- Preserve buffers or future daylighting, riparian function, and habitat
- Capitalize on topography to create engaging stormwater facilities
- Prioritize stormwater retention and filtration
- Integrate natural character into architecture and developments
- Reinforce neighborhood identity through forms and symbols that reflect ravine character

## Sub-area Designs

### Fred Meyer Plaza

The Fred Meyer Plaza (Figure 23) is the heart of the new Custer Neighborhood transportation node. It sits at the center of several modes of transportation, serves as a flexible gathering space, and provides access to a dynamic natural resource. Elements of this design were selected to support the larger project goal of community centered planning to support a “Live, Work, Play” philosophy. Providing easily accessible open space with a variety of amenities in this plaza was essential to reaching this goal. Because of its central location, we recommend that this area provide an interactive and engaging experience for commuters, shoppers, and residents traveling through the Custer Neighborhood. The playground sits on the interface with Barbur Boulevard providing easy access for kids and families passing by or as a destination in itself. Ample seating and lawn areas provide opportunities for individuals, small groups, and large gathering to use the space, as needed. A place for food carts or pop-up market stalls along the sidewalk would give a dynamic energy to the intersection between Custer Street

## Development Phasing

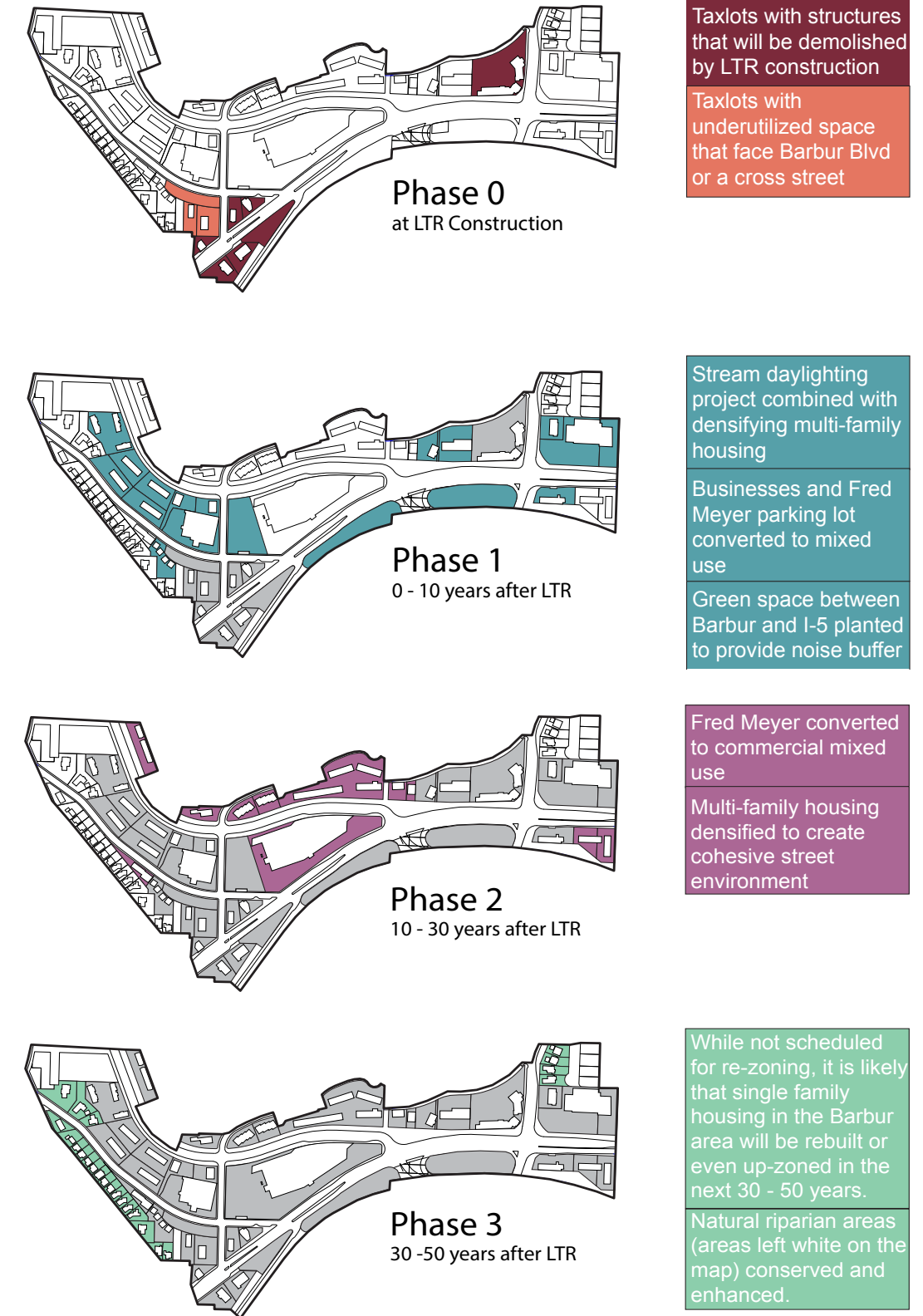


Figure 9: Projected phases of redevelopment.

# 2050 Land Use

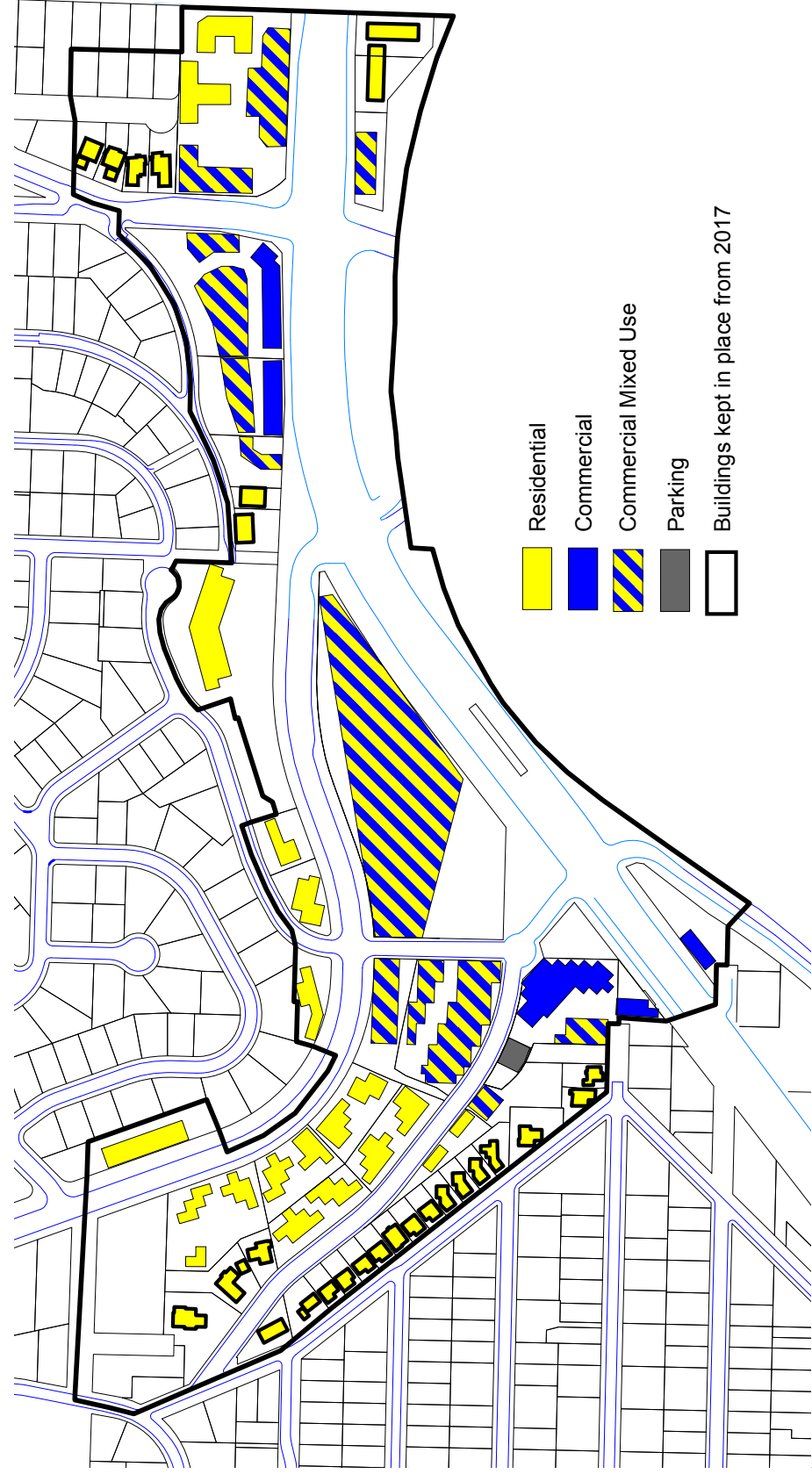
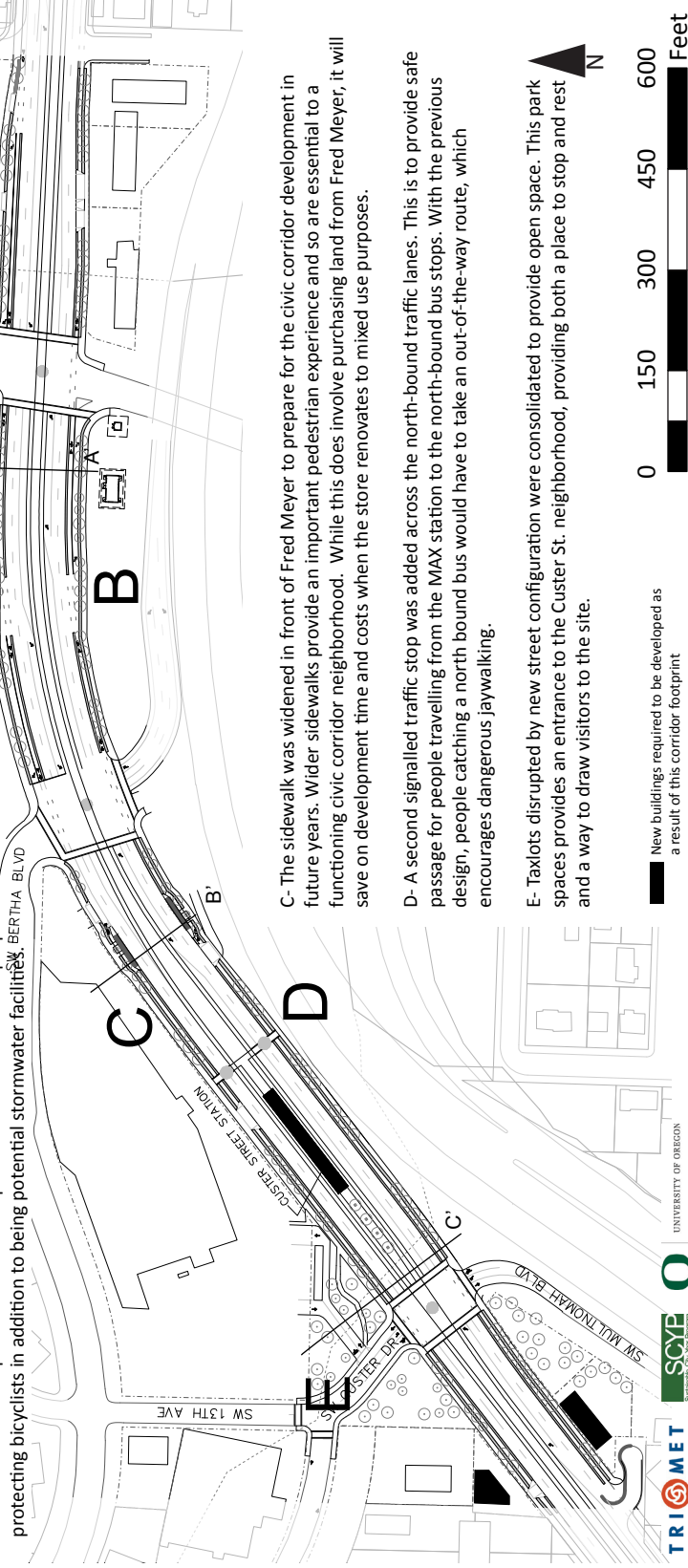


Figure 10: Land use projection for 2050.

# Changes to DEIS Plan

A- While the DEIS plan avoids this taxlot, my design widened the corridor enough to make demolishing these buildings necessary. While expensive, this is a good opportunity to begin developing the mixed use typology that will be coming to this neighborhood in the coming decades.

B- An additional planted median strip was added between the bike lane and the vehicle lanes. With the challenging topography, curves, and fast speed of this street, bikers should not be left exposed to traffic. The planted median serves the purpose of protecting bicyclists in addition to being potential stormwater facilities.

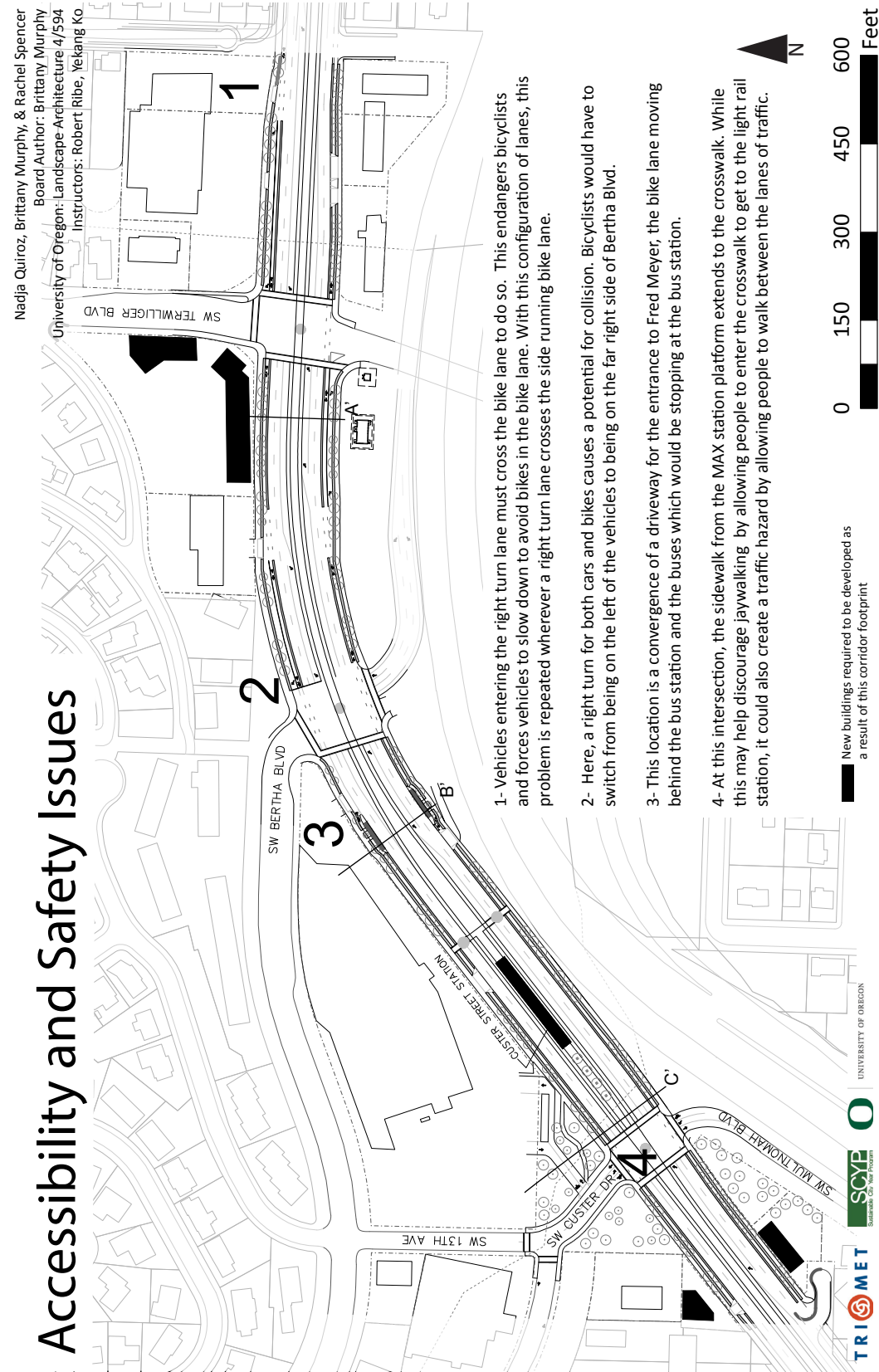


Nadja Quiroz, Brittany Murphy, & Rachel Spencer  
 Board Author: Brittany Murphy  
 University of Oregon: Landscape Architecture 4/594  
 Instructors: Robert Ribe, Yekang Ko

- C- The sidewalk was widened in front of Fred Meyer to prepare for the civic corridor development in future years. Wider sidewalks provide an important pedestrian experience and so are essential to a functioning civic corridor neighborhood. While this does involve purchasing land from Fred Meyer, it will save on development time and costs when the store renovates to mixed use purposes.
- D- A second signalled traffic stop was added across the north-bound traffic lanes. This is to provide safe passage for people travelling from the MAX station to the north-bound bus stops. With the previous design, people catching a north bound bus would have to take an out-of-the-way route, which encourages dangerous jaywalking.
- E- Taxlots disrupted by new street configuration were consolidated to provide open space. This park space provides an entrance to the Custer St. neighborhood, providing both a place to stop and rest and a way to draw visitors to the site.

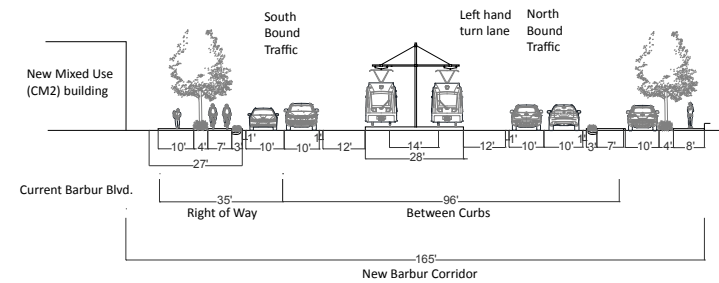
Figure 11: Map of street design with standard-running bicycle lanes. This map indicates the major design changes from the DEIS.

# Accessibility and Safety Issues

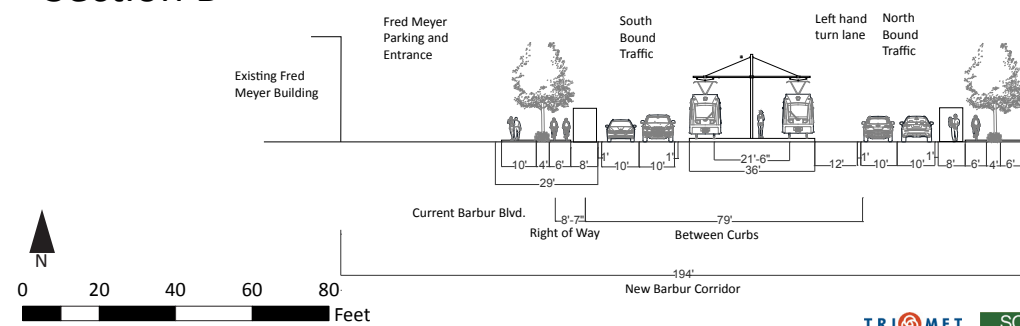


- 1- Vehicles entering the right turn lane must cross the bike lane to do so. This endangers bicyclists and forces vehicles to slow down to avoid bikes in the bike lane. With this configuration of lanes, this problem is repeated wherever a right turn lane crosses the side running bike lane.
- 2- Here, a right turn for both cars and bikes causes a potential for collision. Bicyclists would have to switch from being on the left of the vehicles to being on the far right side of Bertha Blvd.
- 3- This location is a convergence of a driveway for the entrance to Fred Meyer, the bike lane moving behind the bus station and the buses which would be stopping at the bus station.
- 4- At this intersection, the sidewalk from the MAX station platform extends to the crosswalk. While this may help discourage jaywalking by allowing people to enter the crosswalk to get to the light rail station, it could also create a traffic hazard by allowing people to walk between the lanes of traffic.

## Section A'



## Section B'



## Section C'

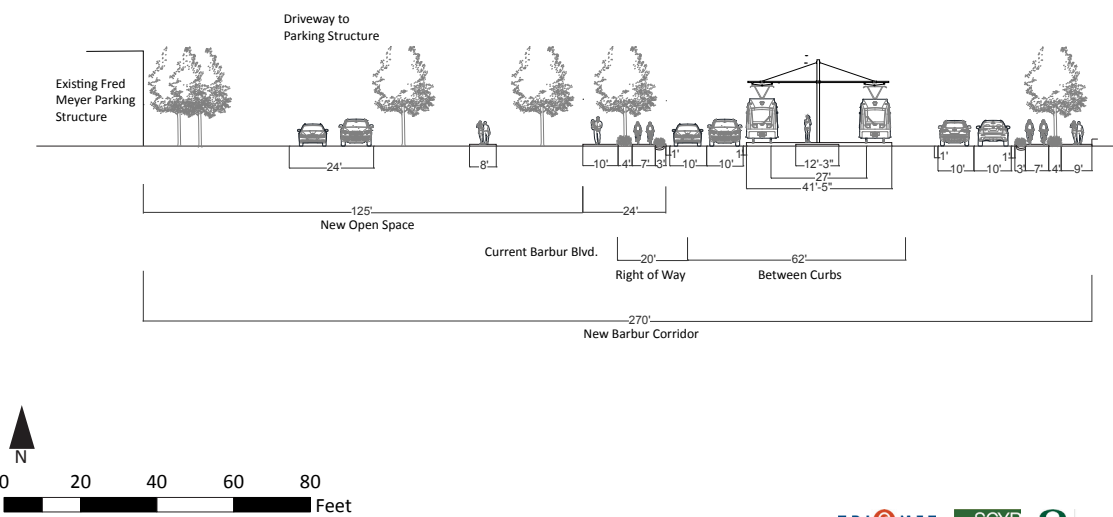
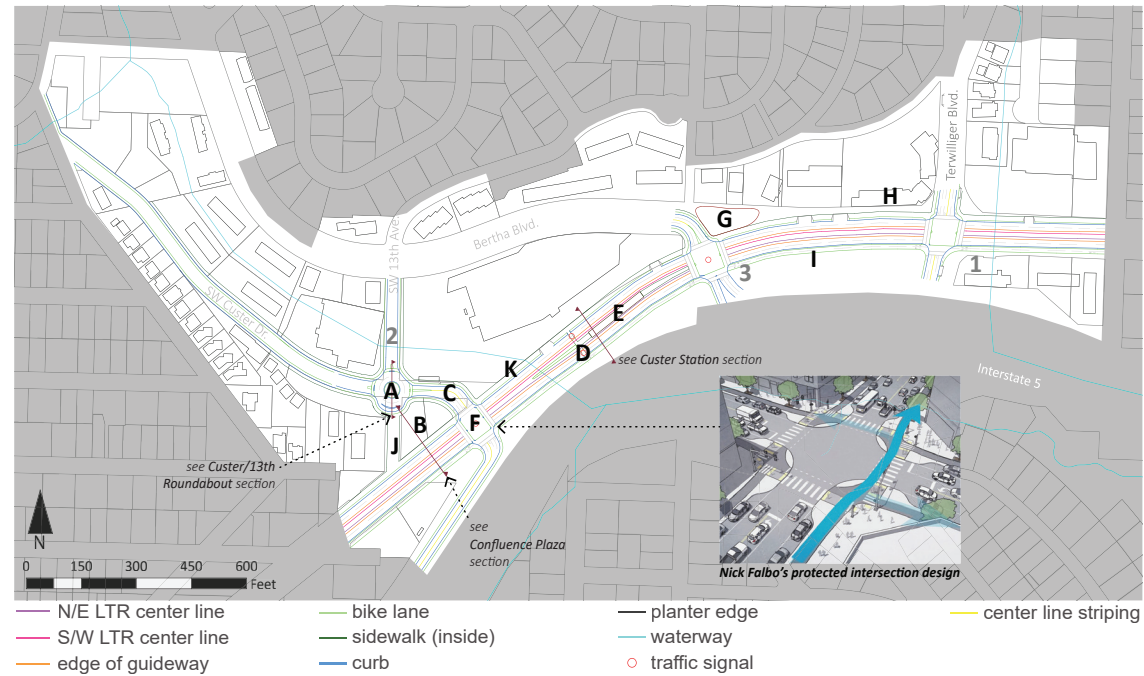


Figure 12: This map shows the same street design as Figure 11, but instead highlights the remaining accessibility and safety concerns.

Figures 13 and 14: Cross sections with standard-running bicycle lanes at multiple locations along Barbur Boulevard. Each location is referenced in Figures 11 and 12.

**"At-Construction" Side-Running RPBL Schematic Plan**



**Changes from DEIS**

**A Double-Laned Roundabout**

at SW Custer Dr and SW 13th Ave., includes stormwater swale, iconic sculptural centerpiece, "kiss and drop" pull-out, and incorporated raised bike lane

**B Confluence Plaza**

connects SW 13th pedestrian avenue (J) with roundabout and extra-wide strolling promenade (K); creates a grounding public space for future street-front shopping and businesses

**C Reconfigured Custer/Barbur Intersection**

Custer/13th combined drive shifted to existing Custer Dr. right-of-way; right-angle configuration creates safer intersection and removes need to divide acquired parcels as suggested by the DEIS

**D Controlled Bicycle Crossing**

alleviates safety concerns associated with side-running cyclists crossing to station platform

**E Shifted Station Platform**

accommodates new location of Custer/Barbur Intersection

**F Dutch-Inspired Protected Intersections**

adapted for a side-running bike lane, intersections include corner refuge bumpers, forward stop-bars, setback crossing, and bicycle signal phasing

**G Gateway Plaza/Park**

capitalizes on existing space and location across from I-5 off-ramp to establish neighborhood identity

**H Retained shopping center**

Barbur ROW shifted south to avoid demolition of newer development

**I Southbound sidewalk removed**

steeper slopes, double-wide bike lane, and lack of developable space justifies focusing pedestrian traffic along north-western side of Barbur Blvd.

**J SW 13th Pedestrian Avenue conversion**

reduces amount of Barbur interactions, increases controllability of traffic flow between cross-streets, creates opportunity for pedestrian engagement between adjacent spaces (A, B, K)

**K Strolling Promenade**

focuses pedestrian traffic along business-heavy side of Barbur and has increased connectivity to future street-front, pedestrian-friendly shopping/business

**Unresolved Issues/Concerns**

**1 Restricted car wash access**

Barbur access removed due to bike lane

**2 Potentially problematic grade**

larger intersection due to roundabout may pose additional grade challenges along SW 13th Ave.

**3 Protected Intersection impact**

I-5 slip-lane reduced but corner refuge bumpers are removed due to sharpness of right turn

Nadja Quiroz, Brittany Murphy, & Rachel Spencer  
Author: Nadja Quiroz  
University of Oregon: Landscape Architecture 4/594, Fall 2017

Figure 15: Map of street design with side-running bicycle lanes. This map describes the major design changes from the DEIS as well as remaining accessibility and safety concerns.

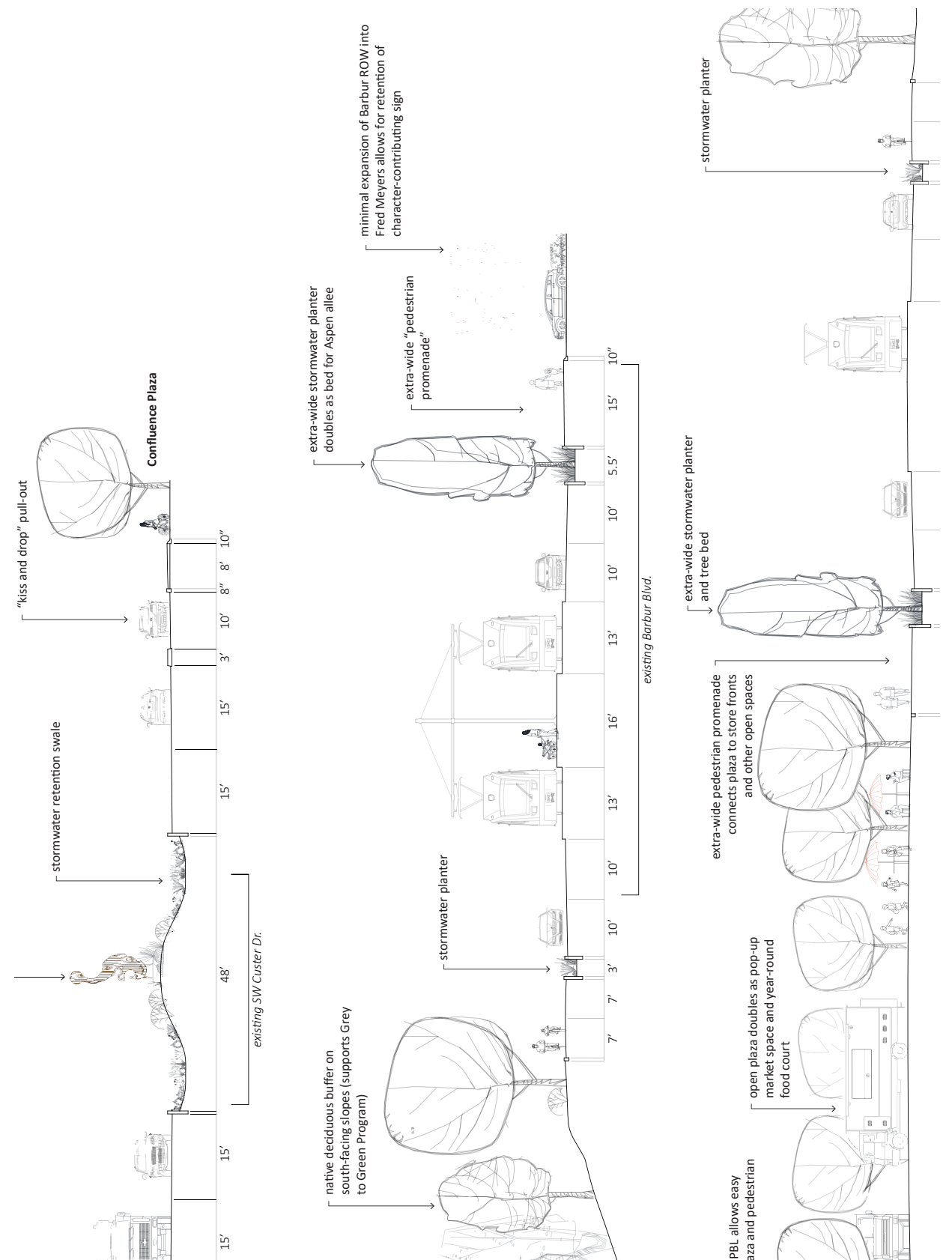


Figure 16: Cross sections with side-running bicycle lanes at multiple locations along Barbur Boulevard. Each location is referenced in Figure 15.

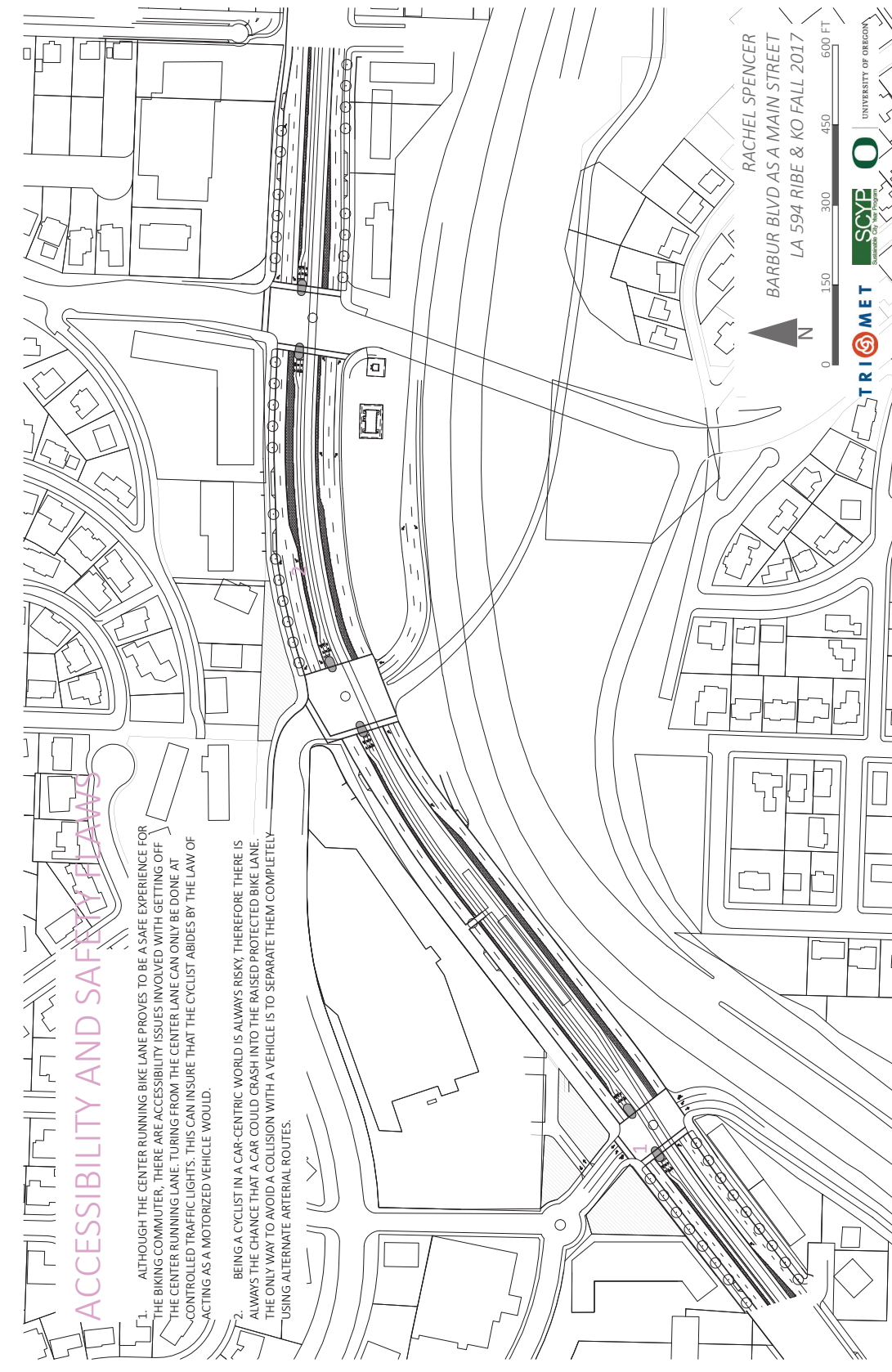
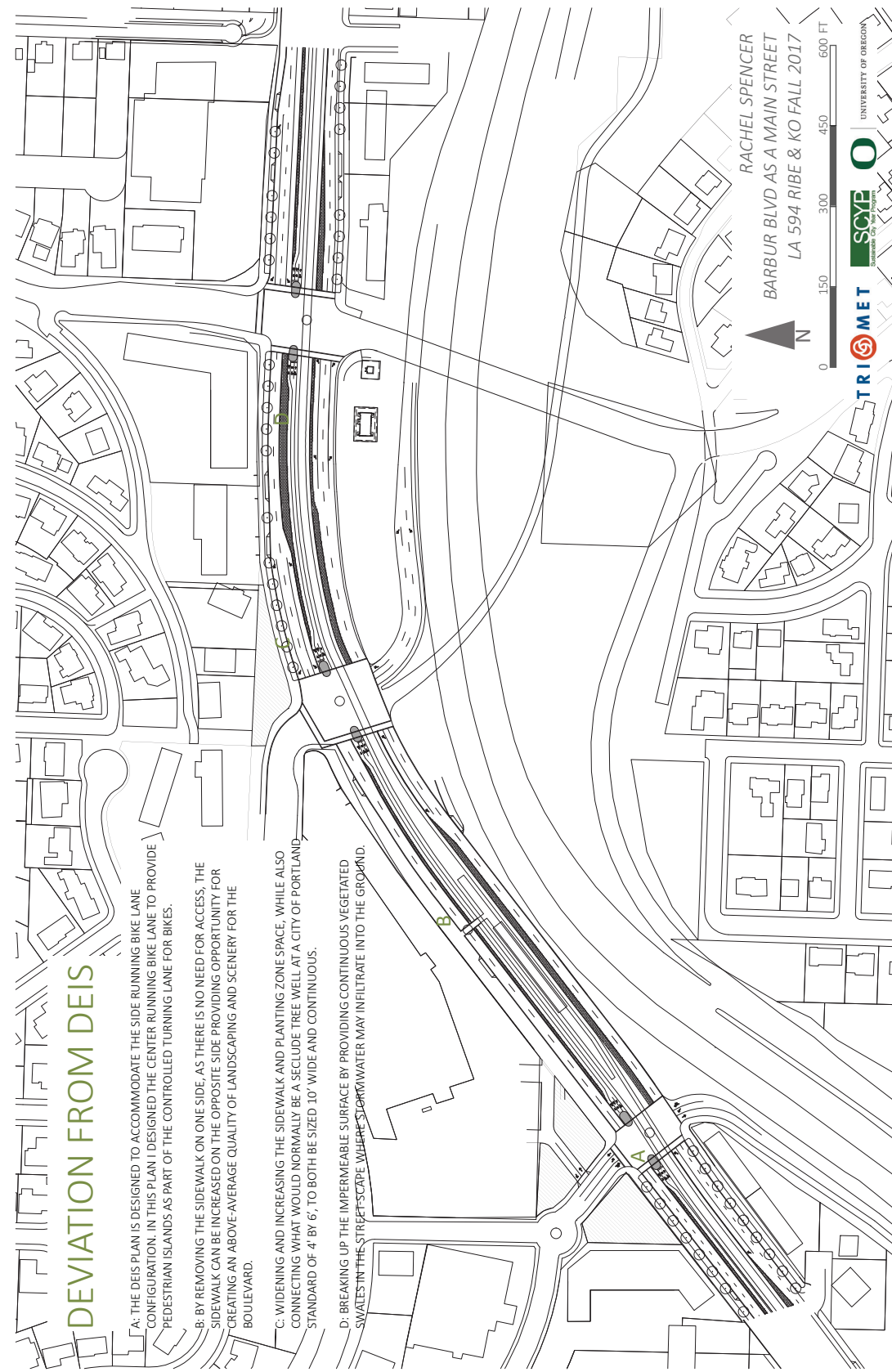


Figure 17: Map of street design with center-running bicycle lanes. This map indicates the major design changes from the DEIS.

Figure 18: Maps of street design with center-running bicycle lanes. This map describes remaining accessibility and safety concerns.

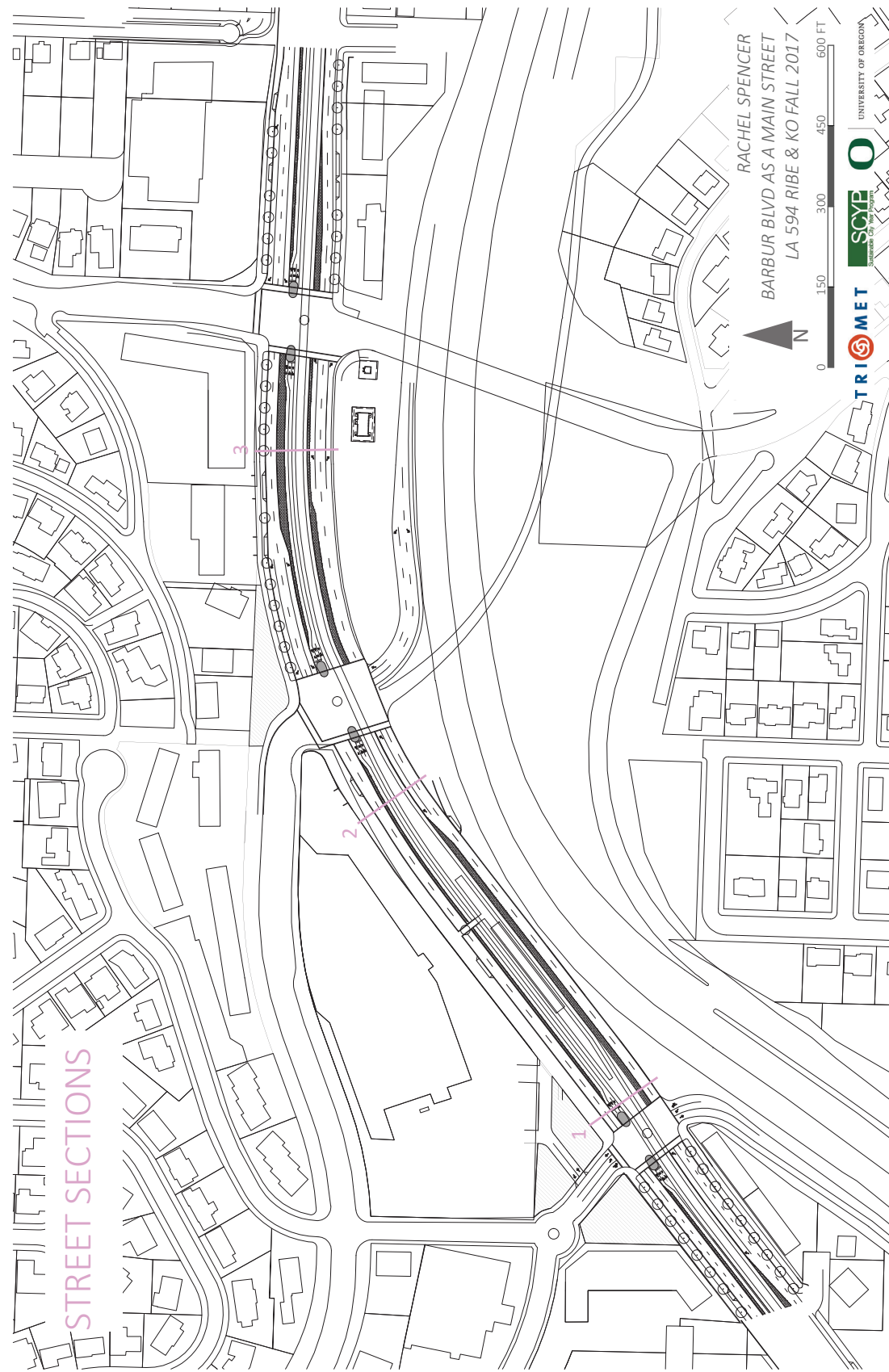
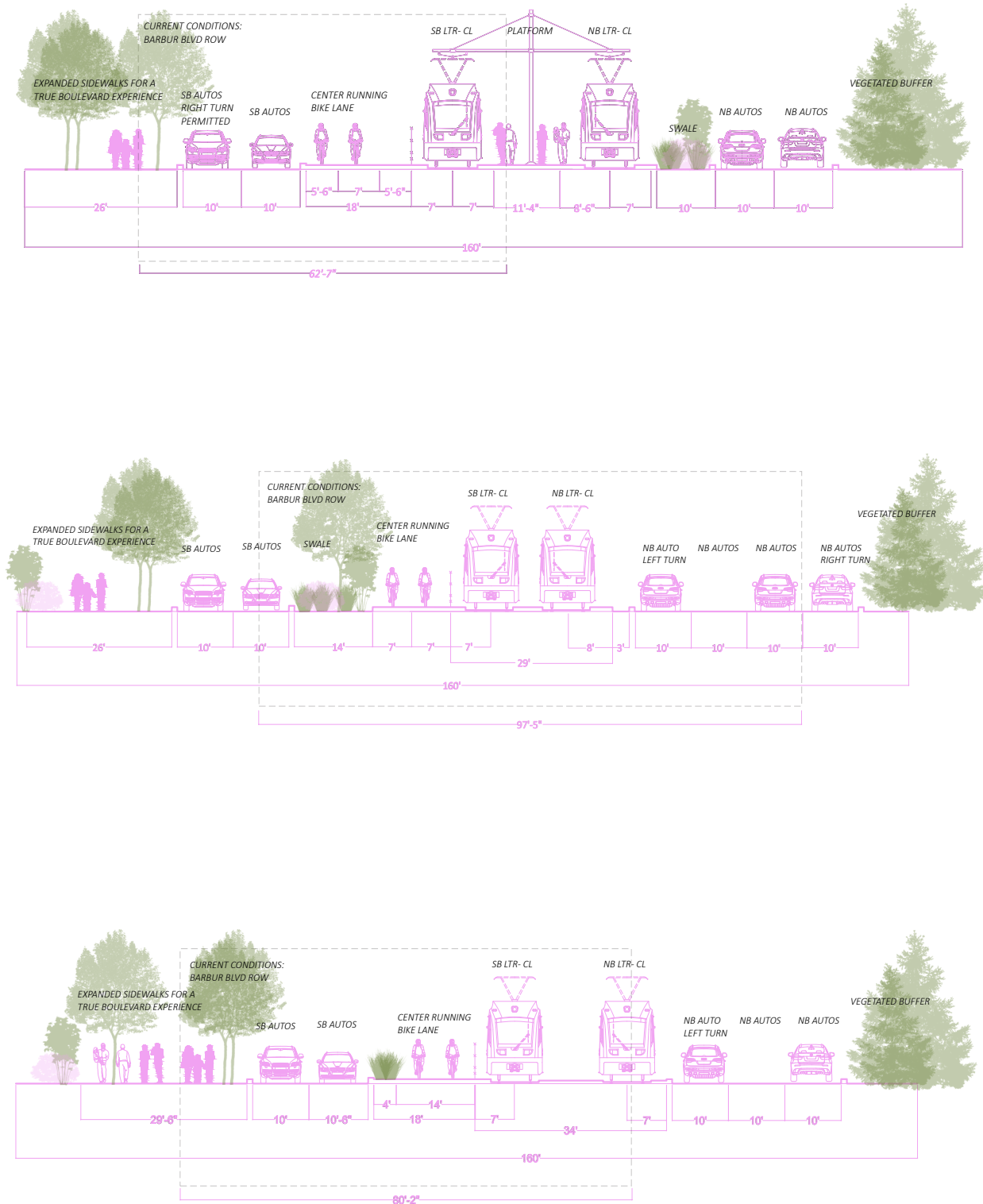


Figure 19: Map showing location of three cross section with center-running bicycle lanes.



Figures 20, 21, 22: Cross sections with center-running bicycle lanes at multiple locations along Barbur Boulevard. Each location is referenced in Figure 19.

and Barbur Boulevard. This could be an eye-catching draw for would-be visitors passing on Barbur Boulevard.

To fulfill the project goal of creating excellent pedestrian and cycling experiences, this plaza is meant to be an easily traversable crossroad. Visibility from the Custer Node Station and the Barbur Boulevard promenade were vital to providing a sense of security that would make this a welcoming place. The Fred Meyer Plaza is where daily commuters, school-goers, and shoppers can move easily between train, bike, car, and foot travel, as the situation requires. The proximity to a Fred Meyer grocery store and other commercial opportunities means this would be a bustling, high traffic area.

The project's final goal was to capitalize and celebrate the area's rich natural resource history and potential open space opportunities. The Fred Meyer Plaza represents the continuation of the Stephen's Creek revitalization project that runs through the adjacent neighborhood. Here, the water provides a community resource to take time out of a busy day to watch the water flow, explore the creek bank, and watch the insects and other wildlife that make the plaza their home. Bringing the resurfaced creek to the public sphere is a daily reminder to make room for the natural systems that once flowed through this area, and hopefully will well into the future.

### Stephen's Creek Daylighting

This project proposes a conceptual design for reestablishing riparian functionality and enhancing pedestrian connectivity while suggesting guidelines for compatible future development along the historic Stephens Creek corridor.

The city of Portland is a national leader in stormwater infrastructure, and the SW Barbur Corridor, though developed much later than the core of Portland, offers many opportunities for general watershed health improvements. The northernmost sub-area of the site, Custer Node, is defined by its remnant stream beds and consequently varied topography. Although it is highly developed, this area retains a lush character that is reminiscent of its historic riparian ravines. We decided that these intact natural features should inform the language of future development, paying particular attention to watershed function, the interplay between architecture and topography, and capitalizing on pedestrian-friendly development to realign the pedestrian experience with natural processes.

This design assesses the feasibility of daylighting Stephens Creek and proposes a partial diversion of the neighboring tributary, Custer Creek, from its ponding area just outside of the Stephens Creek Natural Area to an underutilized greenway. By designating the existing culvert as stormwater overflow, multiple benefits are introduced to the site:

- Riparian functionality and habitat
- An immersive woodland trail that connects the existing natural area to Barbur Boulevard and beyond
- Enhanced stormwater treatment and remediation via a series of engineered wetlands
- Valuable development opportunities for terraced and elevated architecture that can respond to elevated surface water levels

This design would tap into the perennial spring flow of Custer Creek to yield a high quality public amenity.

In addition to introducing desirable features and benefits that are in-line with the city's vision, the combined designs within the Custer Node study area generate a holistic vision that is community and pedestrian-driven, held together by a continuous suburban trail that ties in currently separated boroughs, while realigning the built and natural environments that define Barbur Boulevard.



Figure 23: Design of a plaza adjacent to Fred Meyer.

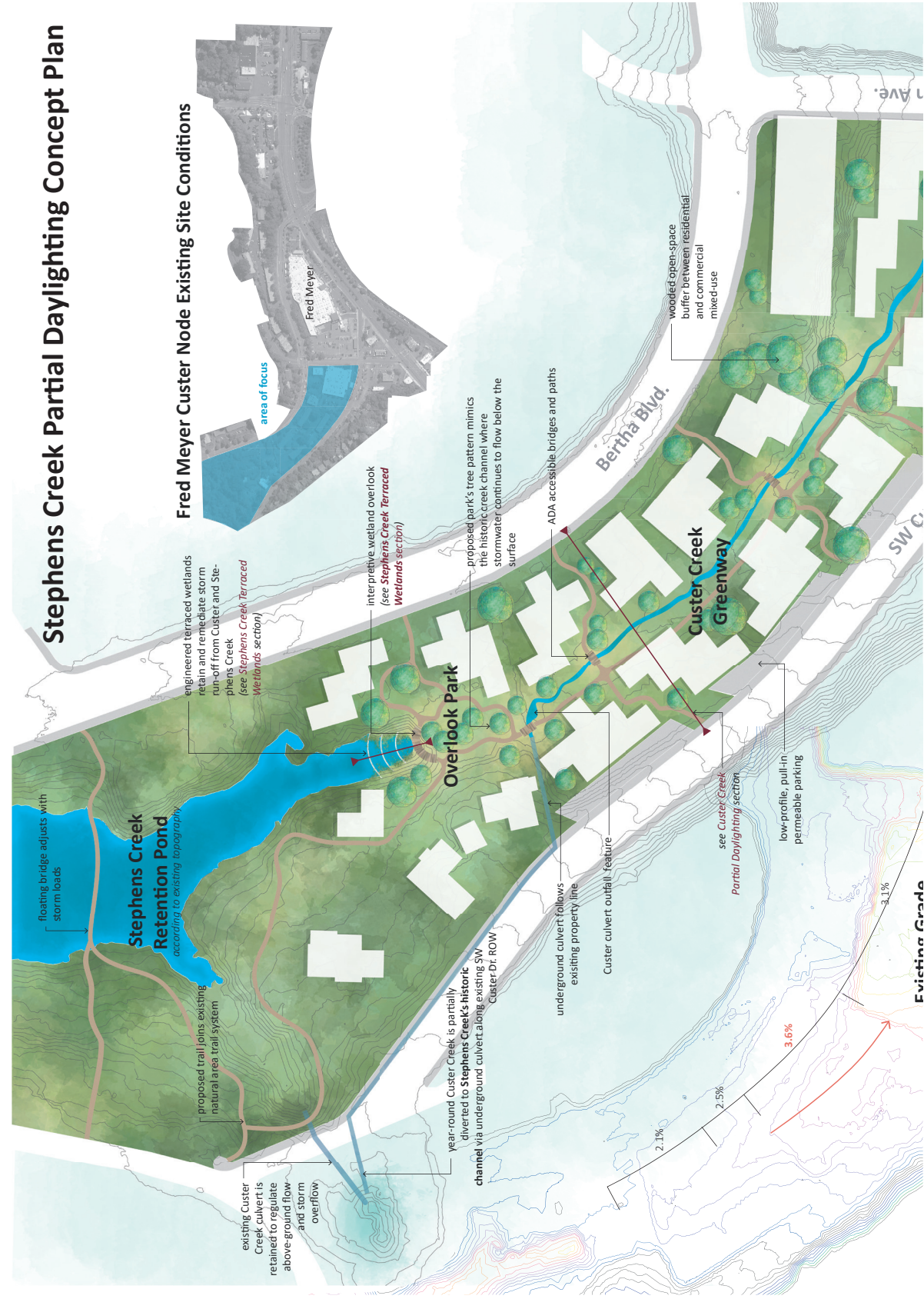
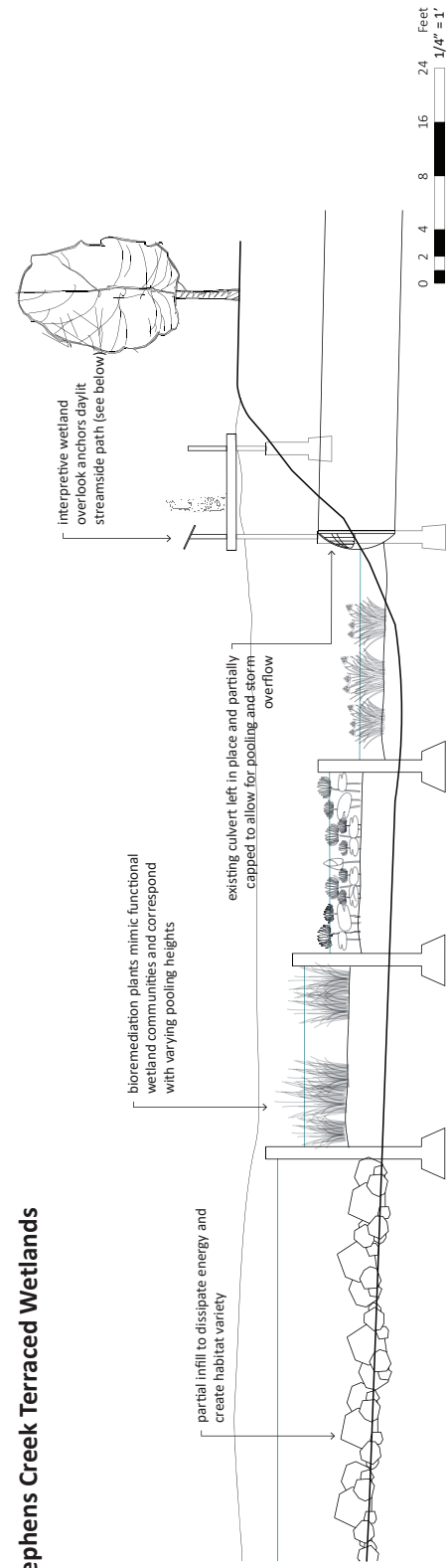


Figure 24: Master plan for daylighting Stephens Creek.

### Stephens Creek Terraced Wetlands



### Custer Creek Partial Daylighting

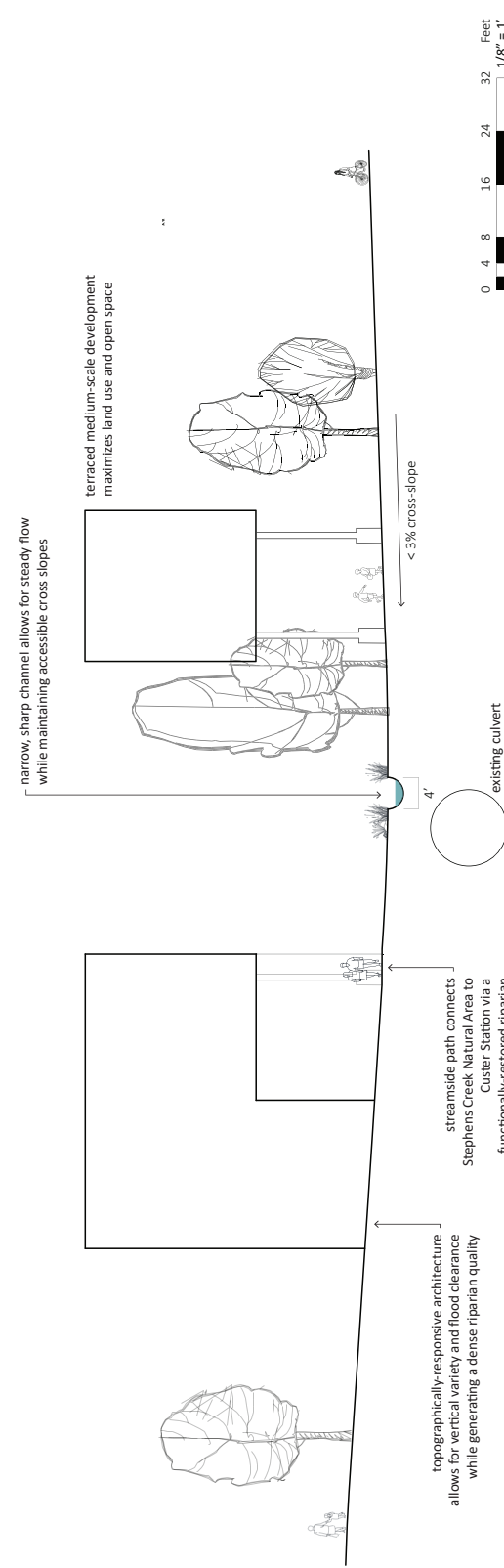


Figure 25: Cross-section from the Stephen's Creek Daylighting design; cross section references can be found in Figure 24.



Figure 26: Northeast Corridor Overview Map.

## Study Area 2: Northeast Corridor

### Street Design Plans

#### Goal I: Reduce Traffic Conflict While Improving Safety and Access for Alternative Forms of Transportation

- Widen and buffer sidewalks and bike lanes

#### Goal II: Create Distinct Mid-density Development That Enhances the Overall Corridor

- Encourage mixed-use development with multi-family residential and commercial opportunities

#### Goal III: Improve the Quality of Air, Water, and Land Resources

- Plant street trees and other visually permeable vegetation and filter stormwater onsite

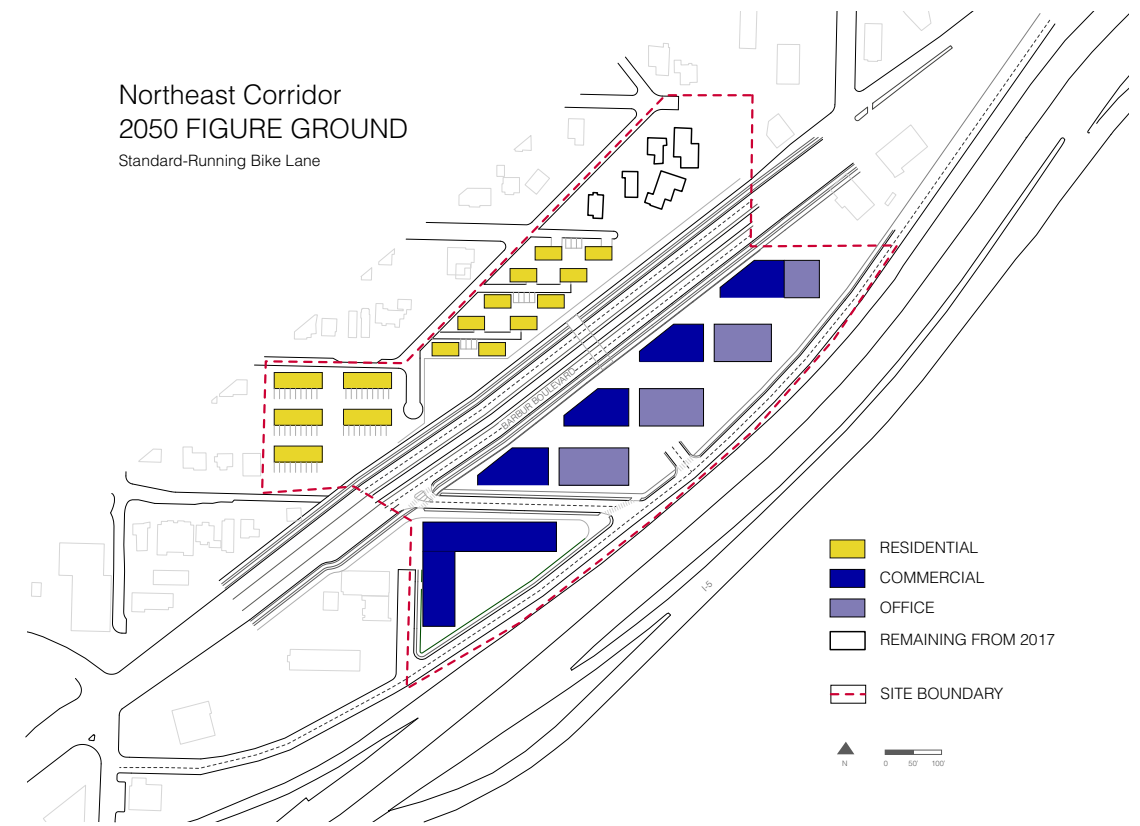


Figure 27: Projected 2050 land use map.

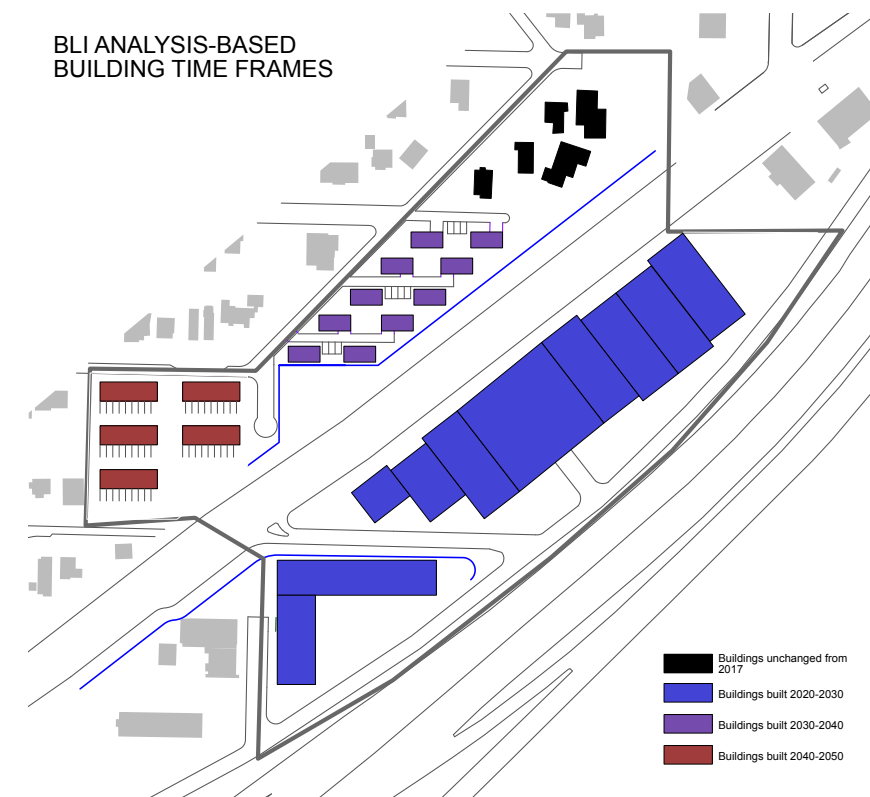


Figure 28: Projected time frame for redevelopment.

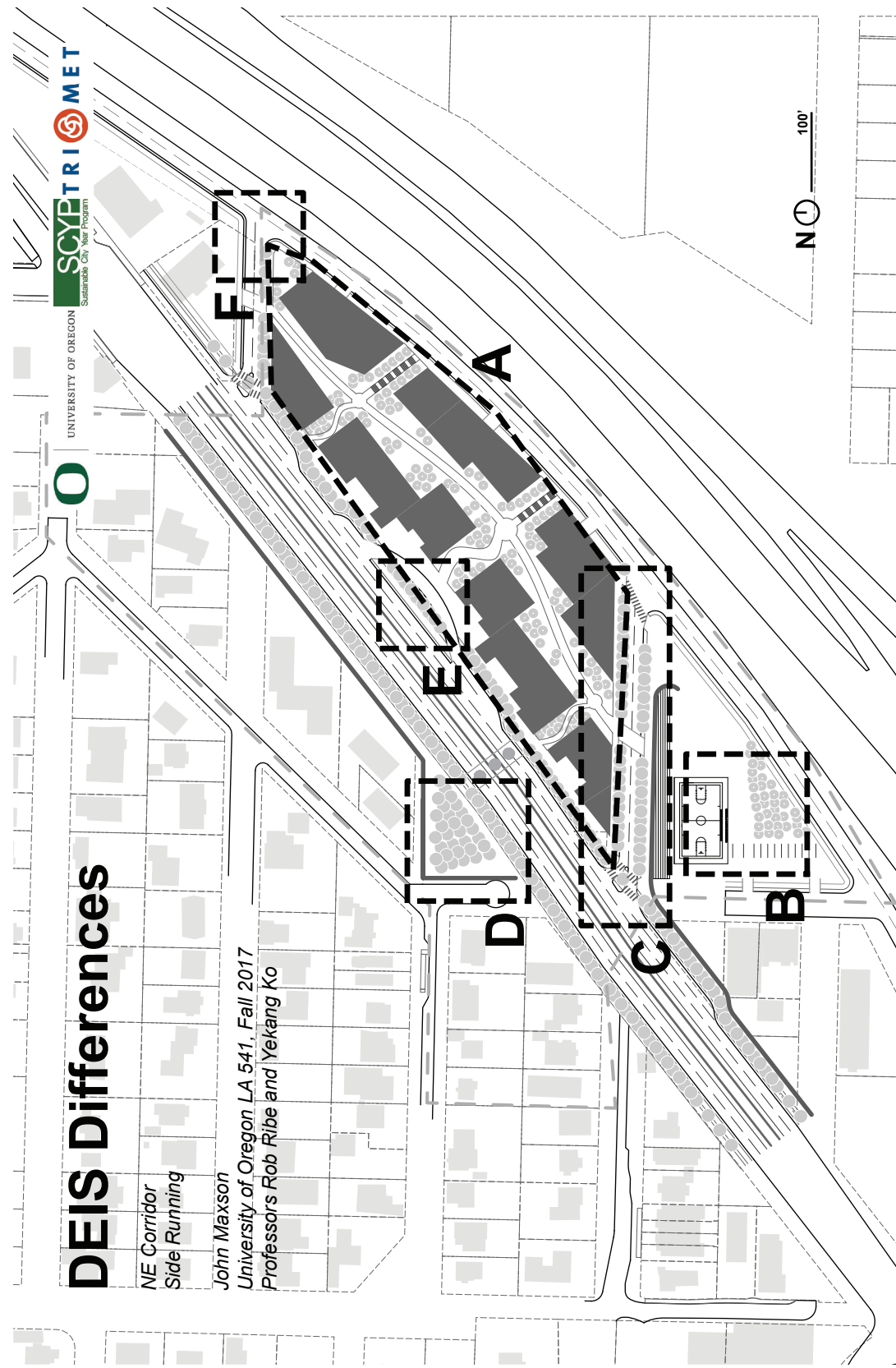


Figure 29: Map of street design with standard-running bicycle lanes. This map indicates the major design changes from the DEIS.

# DEIS Differences

## NE Corridor Side Running

- A** Expansion of Barbur Boulevard, the probability of early development for many of the remaining parcels, and the likelihood of using this site as a Tri-Met construction staging area, caused this design to propose all of the parcels on the east side of Barbur to be purchased at once and developed by a single entity.
- B** Smaller commercial lots are turned into an active open space park with a basketball court, bleachers, and a buried stormwater detention basin to help manage runoff from Barbur Boulevard and the new development to the north.
- C** Evans street is rerouted to provide better access to the new large development. A significant grade change (40') is reflected in the steep slope of the road (10%), but also informs the final alignment of Evans street; other orientations would produce less ideal grades down the street.
- D** Small open space is added after SW17th street is closed to Barbur Boulevard. The existing retaining wall is extended to create a small plaza at the Barbur Boulevard level, also providing a celebrated gateway to the residential community up the hill to the north.
- E** To maximize development area, SW Moss street is closed. A drop off lane for rideshares and autonomous vehicles is added to manage traffic visiting the new development.
- F** SW Troy street is extended to Multnomah street to provide more access for drivers entering and exiting the development area.

Figure 30: Description of the DEIS Differences indicated in Figure 29.

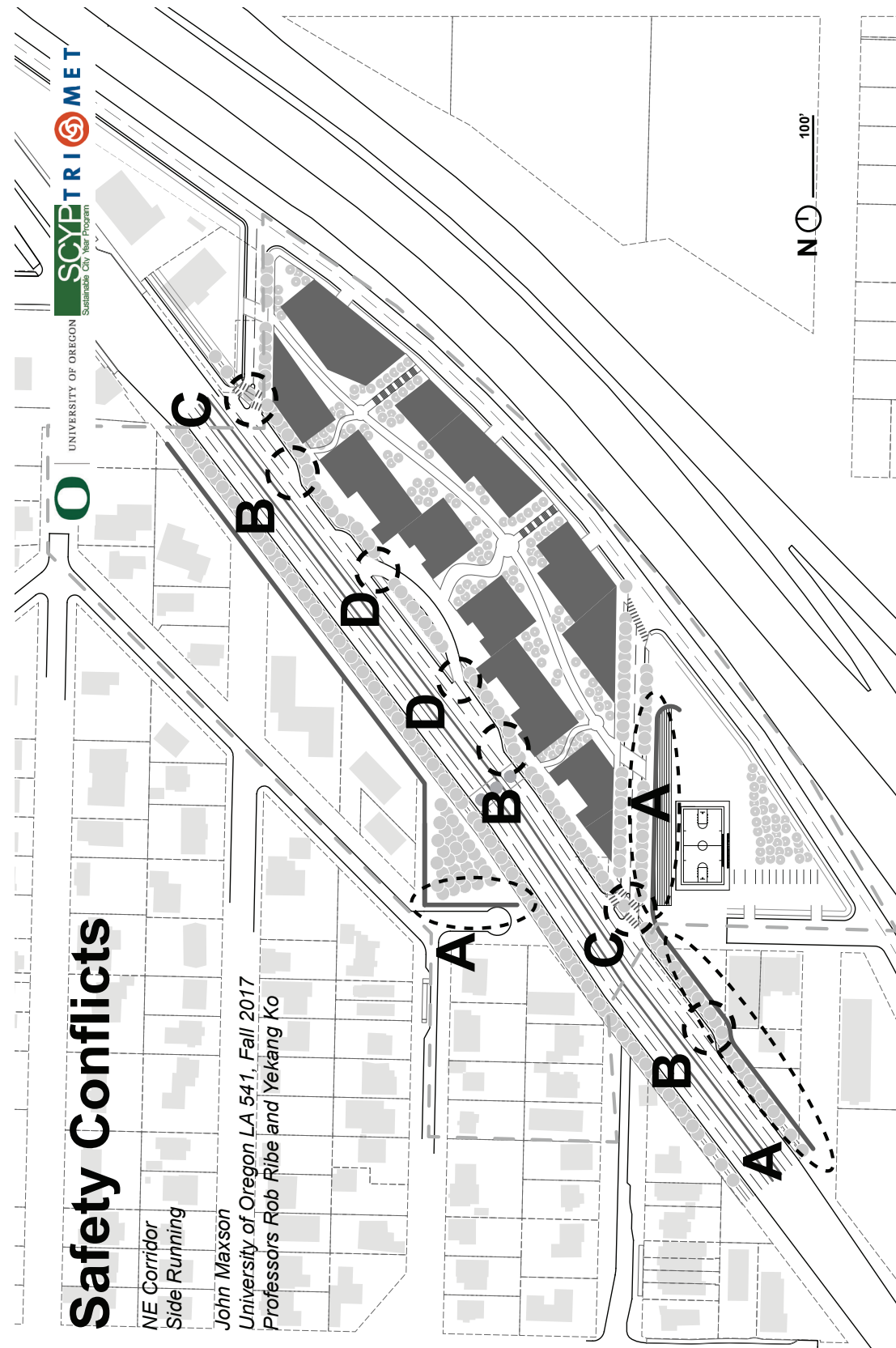


Figure 31: This map shows the same street design as Figure 29, but instead highlights the remaining accessibility and safety concerns.

# Safety Conflicts

## NE Corridor Side Running

- A** The steep slopes of the site necessitate retaining walls to maintain buildable surfaces. Circled sections have very tall (14'+) retaining walls that could pose a hazard to pedestrians or vehicles who are not considerate of the risk of falling. These retaining walls will also be expensive to construct, and even more expensive to repair, so care should be taken to maintain them over time to prevent unnecessary damage.
- B** To accommodate traffic turning into the new development, slip lanes are added along Barbur for vehicles making right-hand turns. These slip lanes are meant to prevent traffic buildups, but could cause confusion for drivers and cause small disturbances in traffic flow.  
  
Three proposed slip lanes, of varying length, are proposed along Barbur, and are circled on the diagram.
- C** These two crossings are not signaled. Bicycles and pedestrians traveling down Barbur must be aware of vehicles in right-turn only lanes, and should yield to them. Confusion about who has a right-of-way may cause delays at these intersections. Small concrete islands are included in both intersections to provide more refuge for pedestrians and bicycles and the better control vehicular movement.
- D** Bicyclists must cross the vehicle drop-off lane entry and exit. Again, bicyclists should yield to moving traffic, but conflicts could occur, especially since both will be traveling in the same direction and may be in each others blind spots. Again, this crossing is not signaled.

Figure 31: Description of the accessibility and safety conflicts indicated in Figure 32.

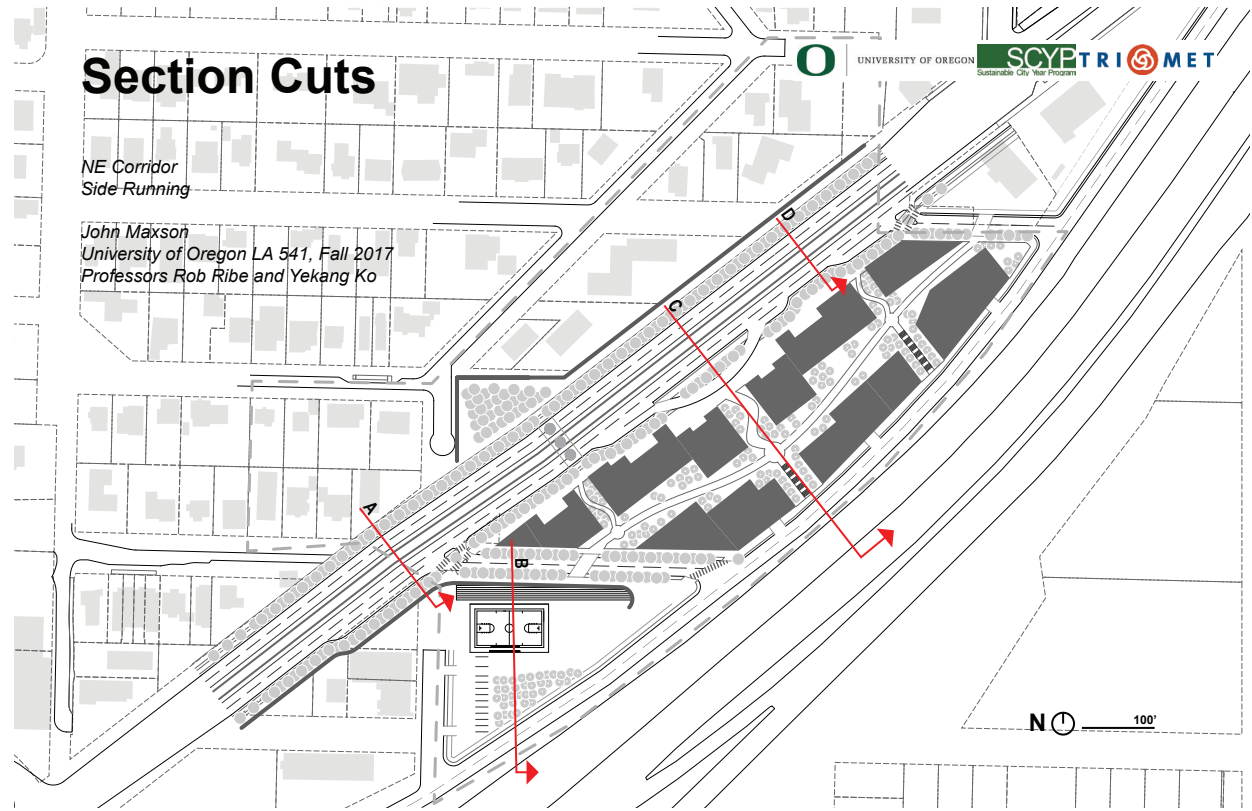


Figure 33: Standard cross section overview map.



Figures 34: Cross sections with standard-running bicycle lanes at multiple locations along Barbur Boulevard. Each location is referenced in Figures 33.

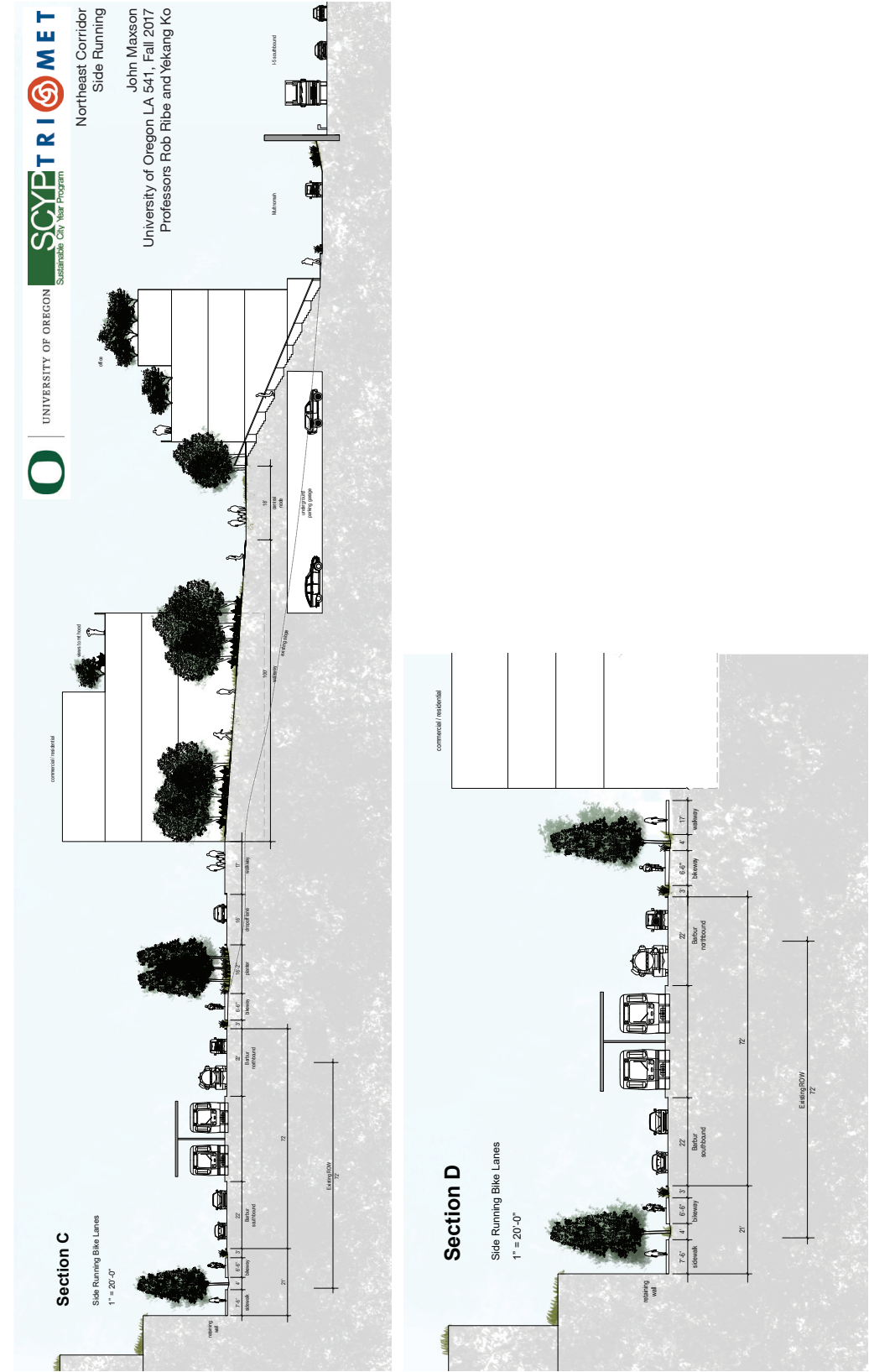
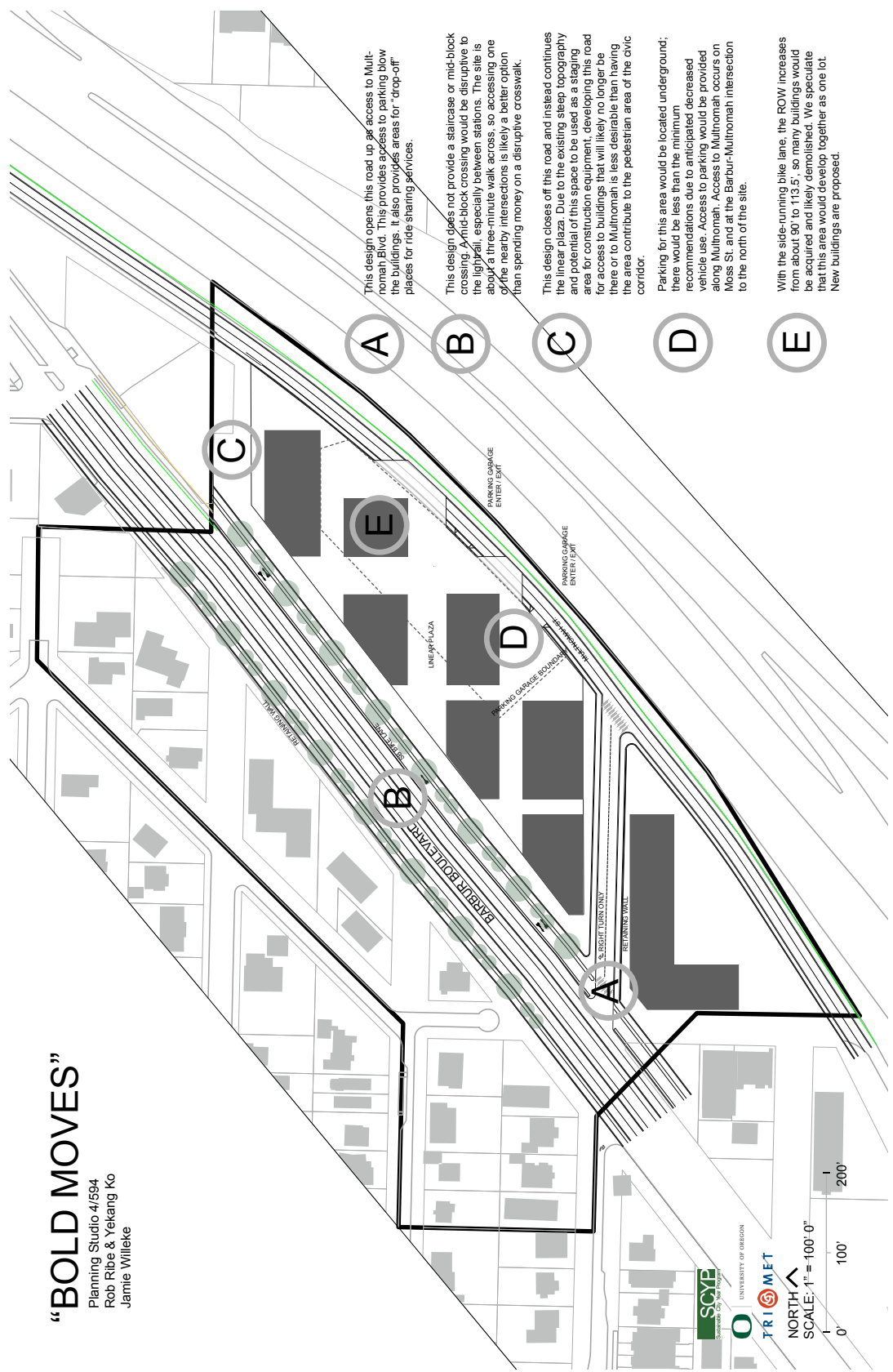


Figure 35: Cross sections with standard-running bicycle lanes at multiple locations along Barbur Boulevard. Each location is referenced in Figure 33.



This design opens this road up for access to Multnomah Blvd. This provides access to parking blow the buildings. It also provides areas for "drop-off" pieces for ride-sharing services.

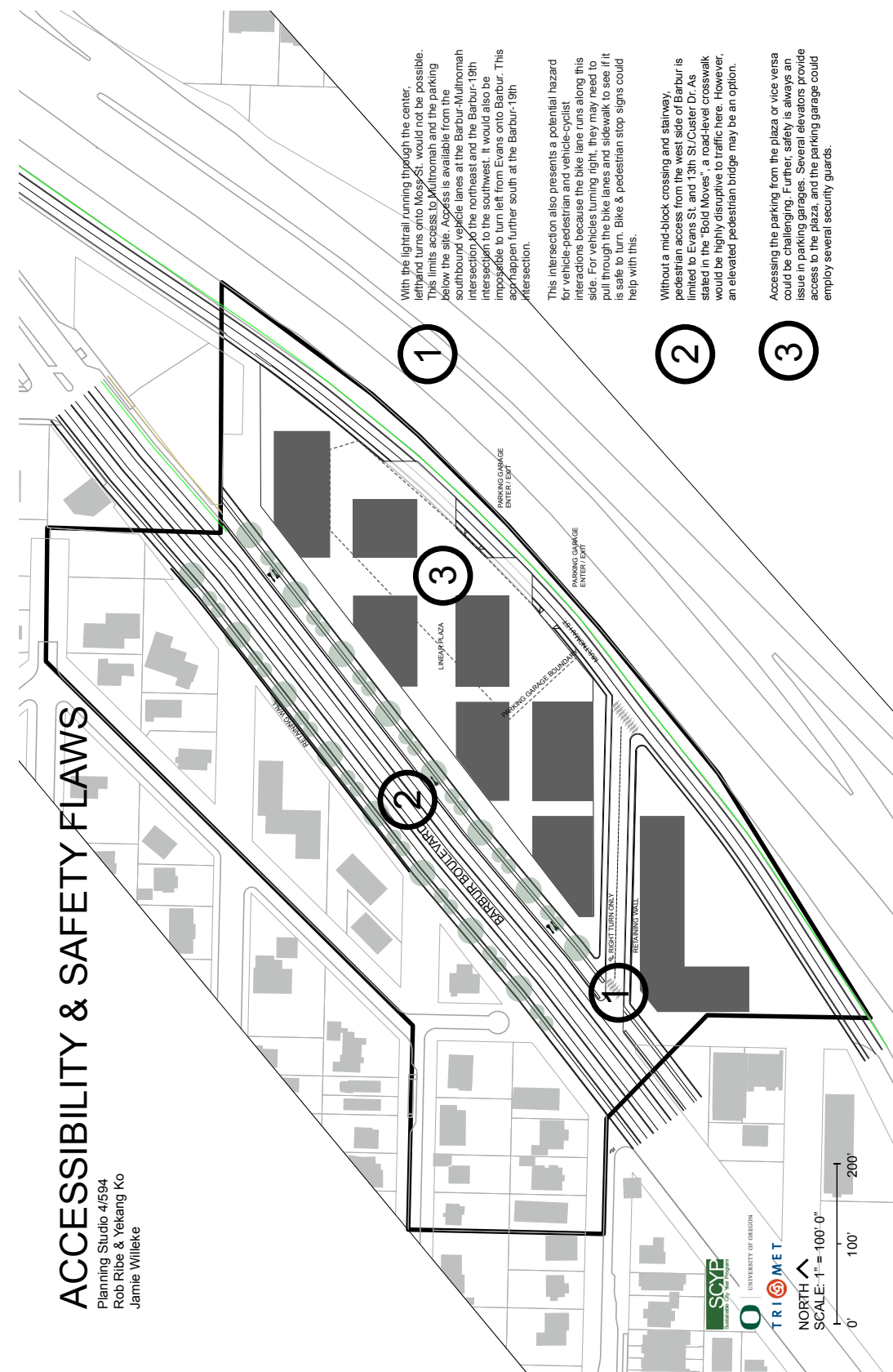
This design does not provide a staircase or mid-block crossing. A mid-block crossing would be disruptive to the light rail, especially between stations. The site is about a three-minute walk across, so accessing one of the nearby intersections is likely a better option than spending money on a disruptive crosswalk.

This design closes off this road and instead continues the linear plaza. Due to the existing steep topography and potential of this space to be used as a staging area for construction equipment, developing this road for access to buildings that will likely no longer be there or to Multnomah is less desirable than having the area contribute to the pedestrian area of the civic corridor.

Parking for this area would be located underground; there would be less than the minimum recommendations due to anticipated decreased vehicle use. Access to parking would be provided along Multnomah. Access to Multnomah occurs on Moss St. and at the Barbur-Multnomah intersection to the north of the site.

With the side-running bike lane, the ROW increases from about 90' to 113.5', so many buildings would be acquired and likely demolished. We speculate that this area would develop together as one lot. New buildings are proposed.

Figure 36: Map of street design with side-running bicycle lanes. This map describes the major design changes from the DEIS.



With the light rail running through the center, left-hand access to Moss St. would not be possible. This limits access to Multnomah and the parking below the site. Access is available from the southbound vehicle lanes at the Barbur-Multnomah intersection to the southeast and the Barbur-19th intersection to the southwest. It would also be impossible to turn left from Evans onto Barbur. This opportunity further south at the Barbur-19th intersection.

This intersection also presents a potential hazard for vehicle-pedestrian and vehicle-cyclist interactions because the bike lane runs along this side. For vehicles turning right, they may need to pull through the bike lanes and sidewalk to see if it is safe to turn. Bike & pedestrian stop signs could help with this.

Without a mid-block crossing and stairway, pedestrian access from the west side of Barbur is limited to Evans St. and 13th St/Custer Dr. As stated in the "Bold Moves", a road-level crosswalk would be highly disruptive to traffic here. However, an elevated pedestrian bridge may be an option.

Accessing the parking from the plaza or vice versa could be challenging. Further, safety is always an issue in parking garages. Several elevators provide access to the plaza, and the parking garage could employ several security guards.

Figure 37: Map of street design with side-running bicycle lanes. This map describes the remaining safety conflicts.

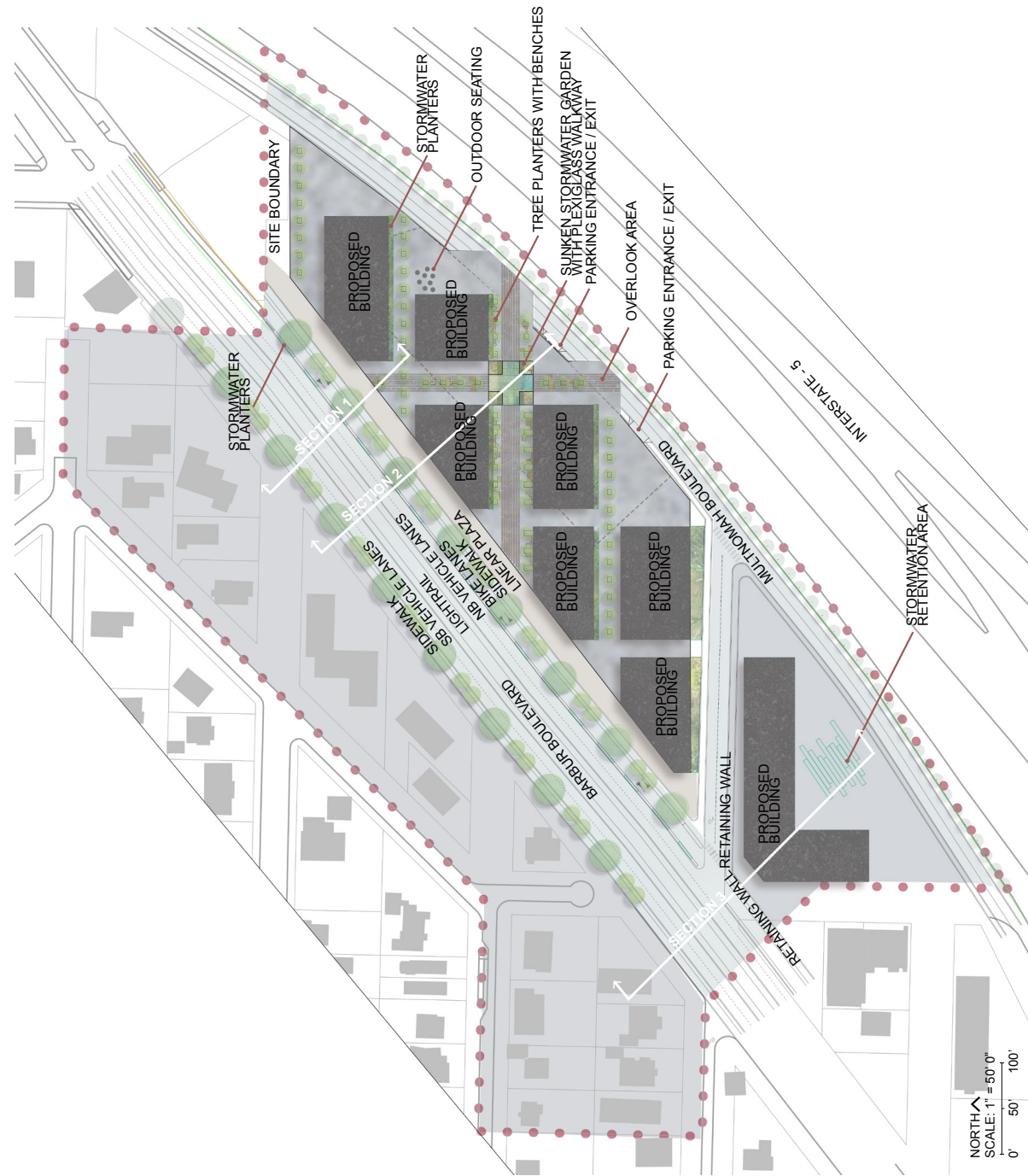


Figure 38: Cross section overview map for side-running bicycle lane street design.

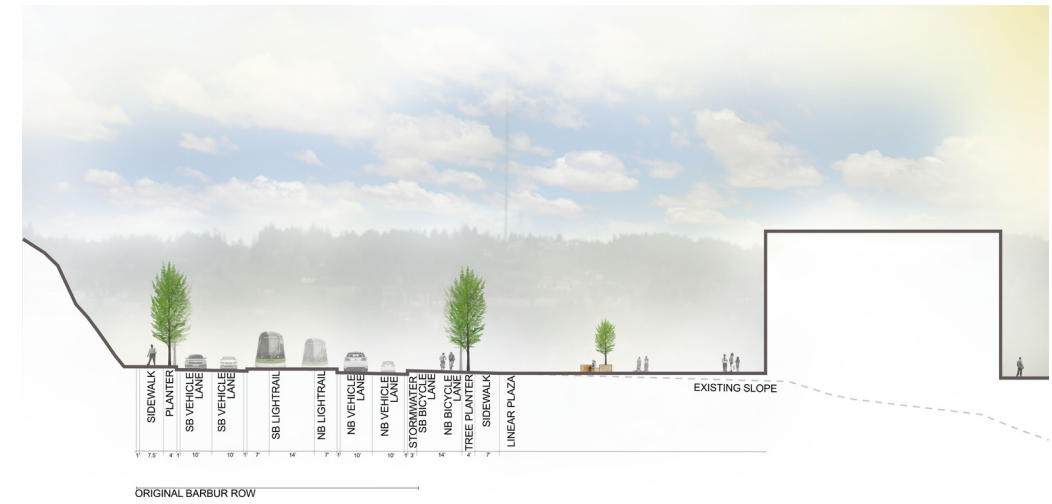


Figure 39

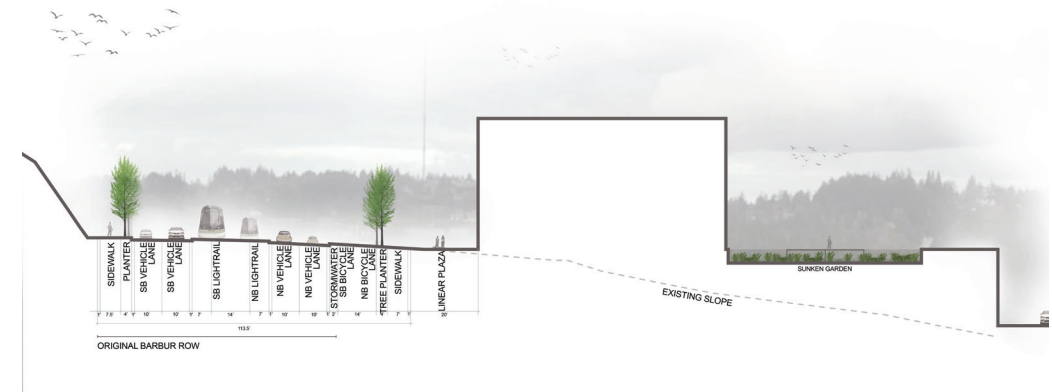


Figure 40

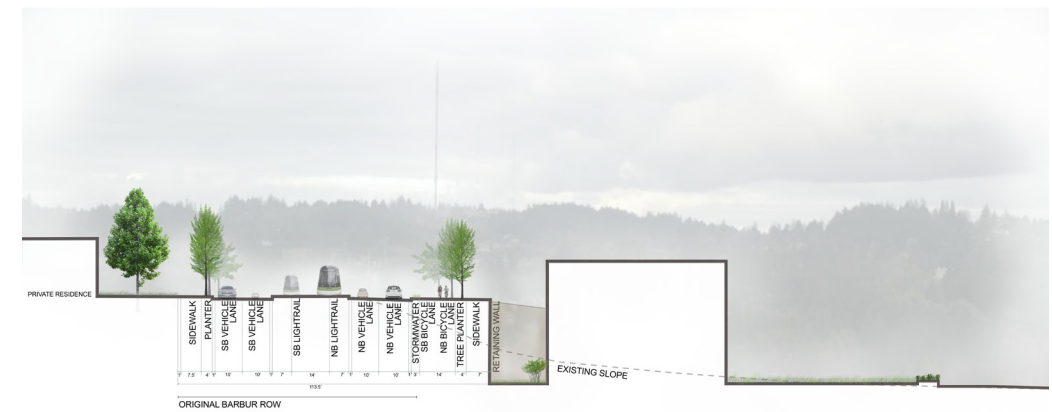
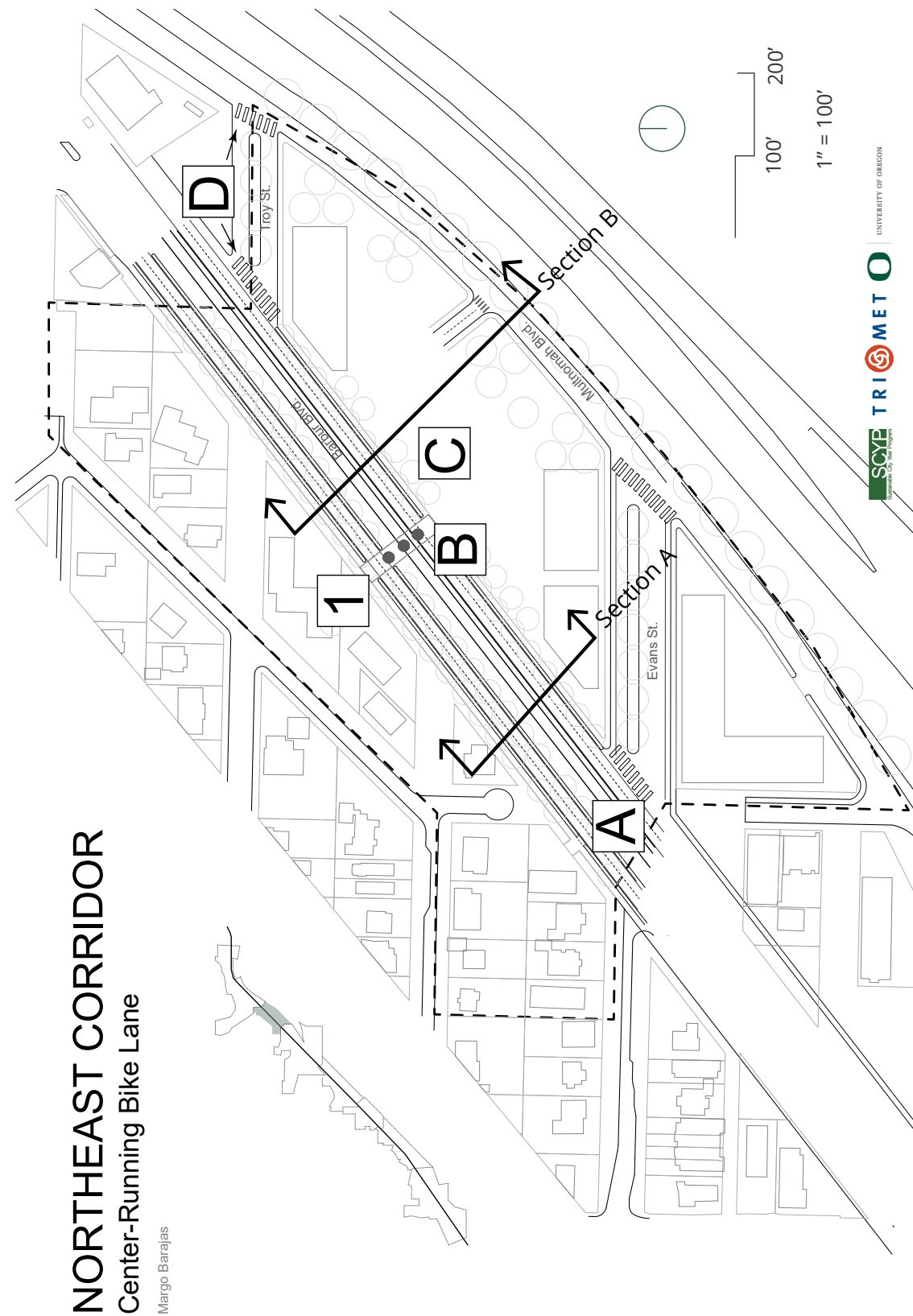


Figure 41

Figures 39, 40, and 41: Cross sections with side-running bicycle lanes at multiple locations along Barbur Boulevard. Each location is referenced in Figure 38.



## NORTHEAST CORRIDOR Center-Running Bike Lane

### DEIS

- A** The connection of Evans Street was not completed in this design. Evans street is left open to Barbur Boulevard to allow for easier vehicular access from north-east bound traffic.
- B** The proposed cross-walk on Barbur Boulevard at the center of the corridor is aligned so that it leads to the center of the proposed open space in the heart of the development.
- C** Moss Street has been removed in this proposed design. This allows for one large development parcel in this location. Troy and Evans Streets provide additional access for vehicles.
- D** Additional cross walks have been proposed on Troy Street in this design because it is now a secondary access road to the proposed development.

### Access & Safety

- 1** Questions remain regarding the safety of the proposed crosswalk at the center of the corridor. It is uncertain if trains would have the right of way over pedestrians. Vehicles would be notified of a pedestrian with a blinking orange signal.

Figure 43: Descriptions of major design changes from the DEIS and remaining safety concerns for center-running street design.

## Sub-area Designs

### The Missing Middle

For the amount of proposed development along Barbur Boulevard, there is no additional open space in the new zoning code. Because this site is going to be used as a construction staging area it will create approximately two acres of empty land that could be converted to open space for the new Barbur Boulevard.

The site is situated at the base of the hills and edge of I-5, meaning it processes a lot of stormwater that currently goes under Multnomah Boulevard, into Tryon Creek and then to the Willamette River. Airborne pollutants from vehicles are also a concern due to the site's proximity to I-5 and Barbur Boulevard.

The overall spatial concept of the design uses the form of the boulevard bisecting the grid for circulation and the planting is meant to go from linear and formal to more naturalistic as it moves away from the boulevard. This design will mediate between the urban and natural environment with a balance of mid-density development and open space that provides environmental and social benefits, while masking and remediating the necessities of urban life.

Figure 42: Map of street design with center-running bicycle lanes. This map indicates the major design changes from the DEIS as well as the remaining safety concerns.



Figure 44: Street design for a small sub-area within the Northeast Corridor.

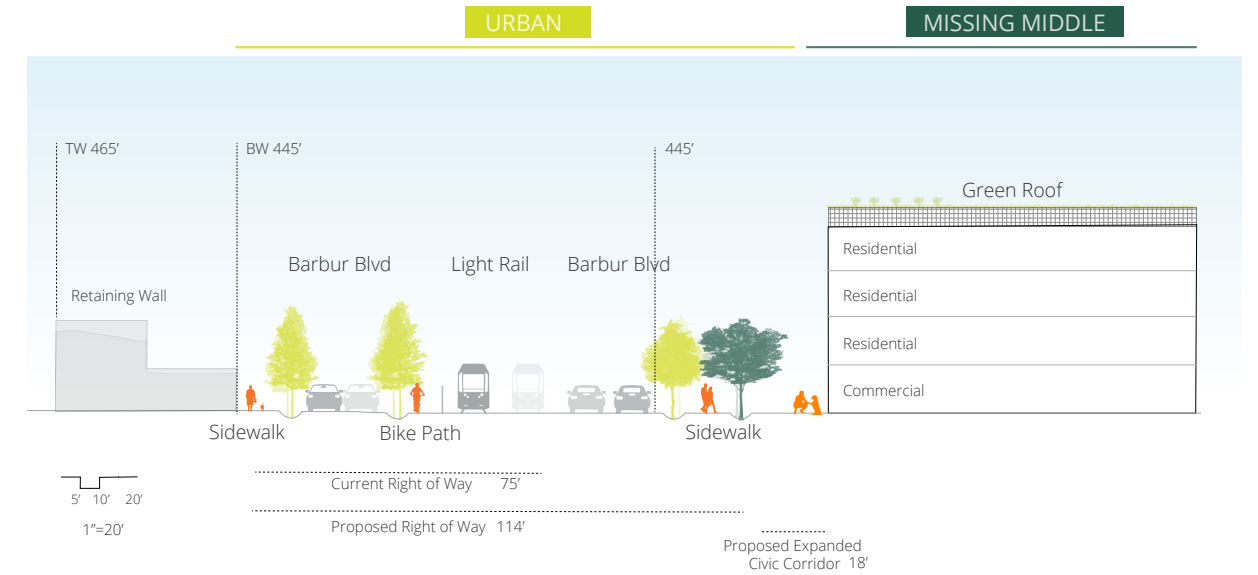


Figure 45: Cross section with center-running bicycle lanes along Barbur Boulevard. Cross section referenced in Figure 44.

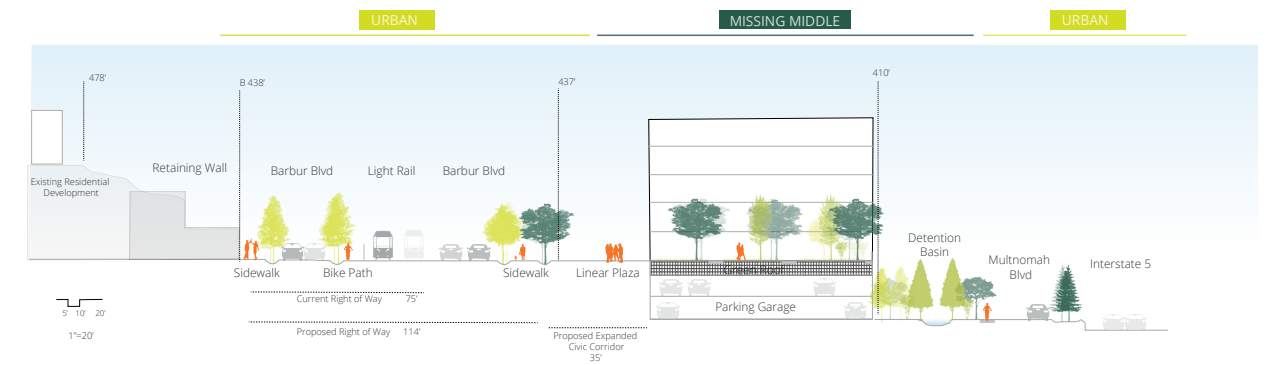


Figure 46: Cross section with center-running bicycle lanes along Barbur Boulevard. Cross section referenced in Figure 44.



Figure 47: Perspective of the plaza in Figure 44.

## The Garden Wall

The topography of the Northeast Corridor is the most dramatic element of the site. The steep cross-slope that Barbur Boulevard bisects limits the potentials for development in the area, but also provides opportunities to demarcate the northeast corridor as a unique moment along Barbur Boulevard. Currently, a large, cracked, and weedy retaining wall sits along the edge of Barbur Boulevard. This project proposes a new human-scale retaining wall that provides native bee habitat. The design also improves pedestrian connectivity to the residential neighborhood on the hill above Barbur Boulevard with a ramp that winds through the retaining wall.

The steep topography and residential settlement patterns in the Northeast Corridor necessitates a retaining wall on the north side of Barbur Boulevard. The current retaining wall will likely need to be replaced in the future, and with the amount of construction and change proposed along Barbur Boulevard in the coming years, there is an excellent opportunity to reimagine what a retaining wall could be along the street. The proposed design relies on a modular set of planter boxes that can be stacked on top of each other and offset from each other to provide space for vegetation. At four feet tall and 12 feet long, the blocks are massive but understandable at a human scale. The planter boxes are filled with swathes of plantings suitable for native bees. The plant palette was selected to ensure year-round food sources and habitat elements. After accounting for the spatial requirements of bees, like the preference for large swaths of a single species of vegetation, the flowering plants are arranged in aesthetically pleasing patterns.

Light rail construction will also disrupt the current automobile circulation between Barbur Boulevard and SW 17<sup>th</sup> Street. Departing from the set of stairs the proposed in the Draft Environmental Impact Statement, this project installs a winding ramp to provide a universally accessible connection between Barbur Boulevard and the residential neighborhood above. Taking advantage of the modular construction of the retaining wall, the ramp moves through the wall as its stacked layers are peeled back into the hillside. Surrounded by wildlife and flowering plants, residents and visitors are offered views across Barbur Boulevard to the rest of Portland and Mt. Hood.

The Northeast Corridor is a short stretch of a reimagined Barbur Boulevard, but its steep slopes can be emphasized through landscape-oriented interventions. Though small in area, the Garden Wall in the Northeast Corridor can become an iconic element of Barbur Boulevard, Portland, and Oregon.

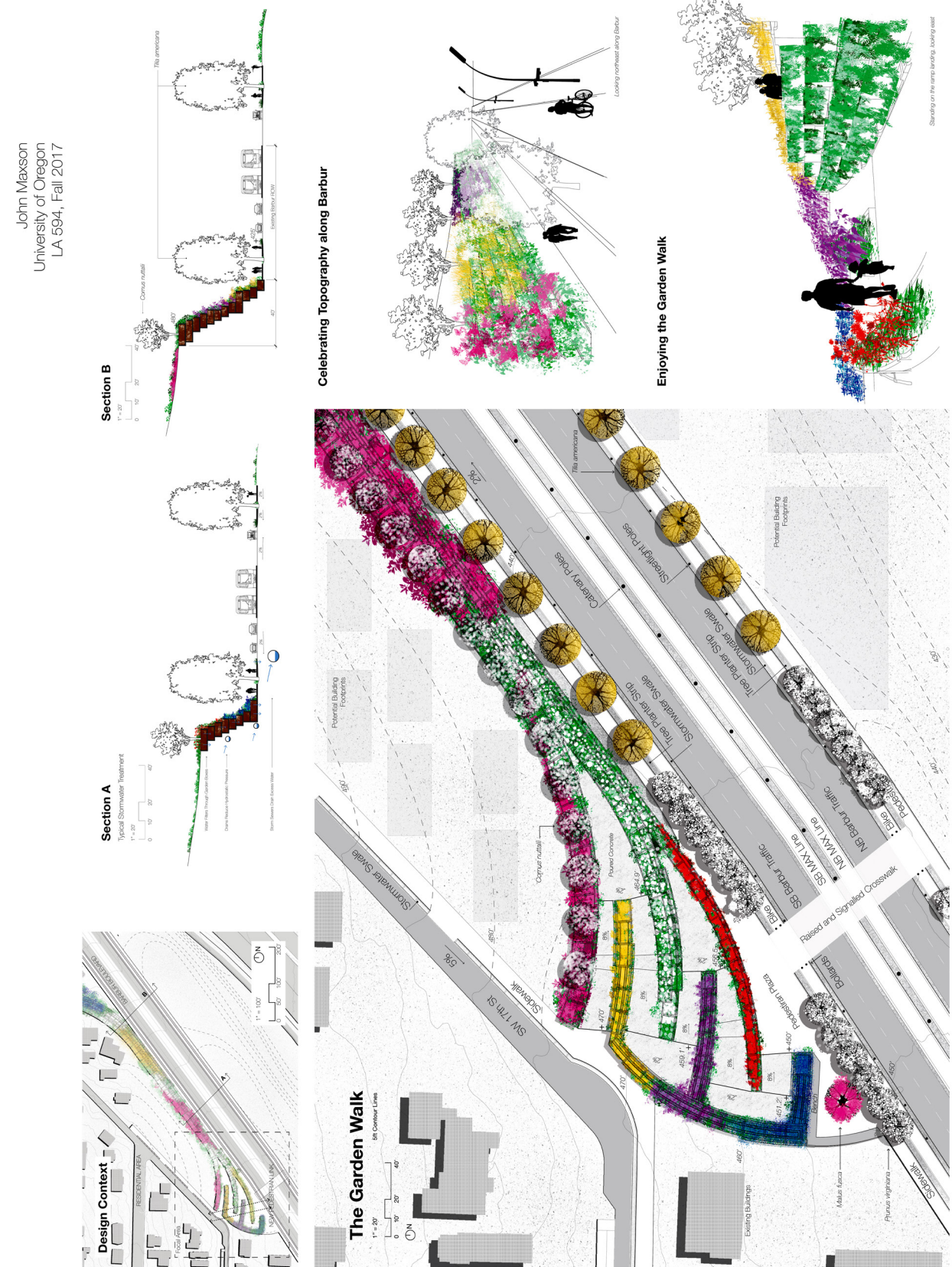


Figure 48: Plan, sections, and perspectives of the Garden Wall design.

## “Eddy Out” Design

This project aims to provide “eddy” spaces for pedestrians and cyclists in the area. Whether they work in the commercial or office space, or shop in the retail areas, this site will provide comfortable places to relax with potential views of Mt. Hood.

Eddy spaces will contain both covered and uncovered benches for year-round seating for protection from the rain in the winter and from the hot summer sun. These spaces pull people in from the main Barbur Boulevard walkway with strong axes that intersect at a sunken stormwater garden with a plexiglass walkway. Cantilevered plaza viewpoints extend out over Multnomah Boulevard and feature sound-dampening plexiglass etched with the locations of points of interest in the view.

Stormwater from rooftops is filtered through planters along the south side of each building. Pedestrian walkways cross the planters to provide retail access. These planters will ultimately drain into the sunken stormwater garden, where water is further filtered, and then captured in a cistern for summer irrigation. Overflow water is conveyed down to the stormwater ponds at the L-shaped building, where it will be retained and slowly allowed to percolate back into the ground. Trees, shrubs, and other vegetation will be generously planted to soften the adjacent hardscape. Plant species have been selected for drought tolerance, stormwater filtration capacity, provisioning of habitat and food for pollinators, and year-round aesthetic interest. Buildings are situated to prioritize frontage to Barbur Boulevard as well as solar orientation. They are built at grade with Barbur Boulevard so universal access is uncompromised. Parking, loading and unloading, and garbage facilities are provided underground.



Figure 50: Perspective of the “Eddy Out” design.



Figure 51: Perspective of the “Eddy Out” design.



Figure 49: Plan view of the “Eddy Out” design.

## Study Area 3: 19<sup>th</sup> Avenue Node

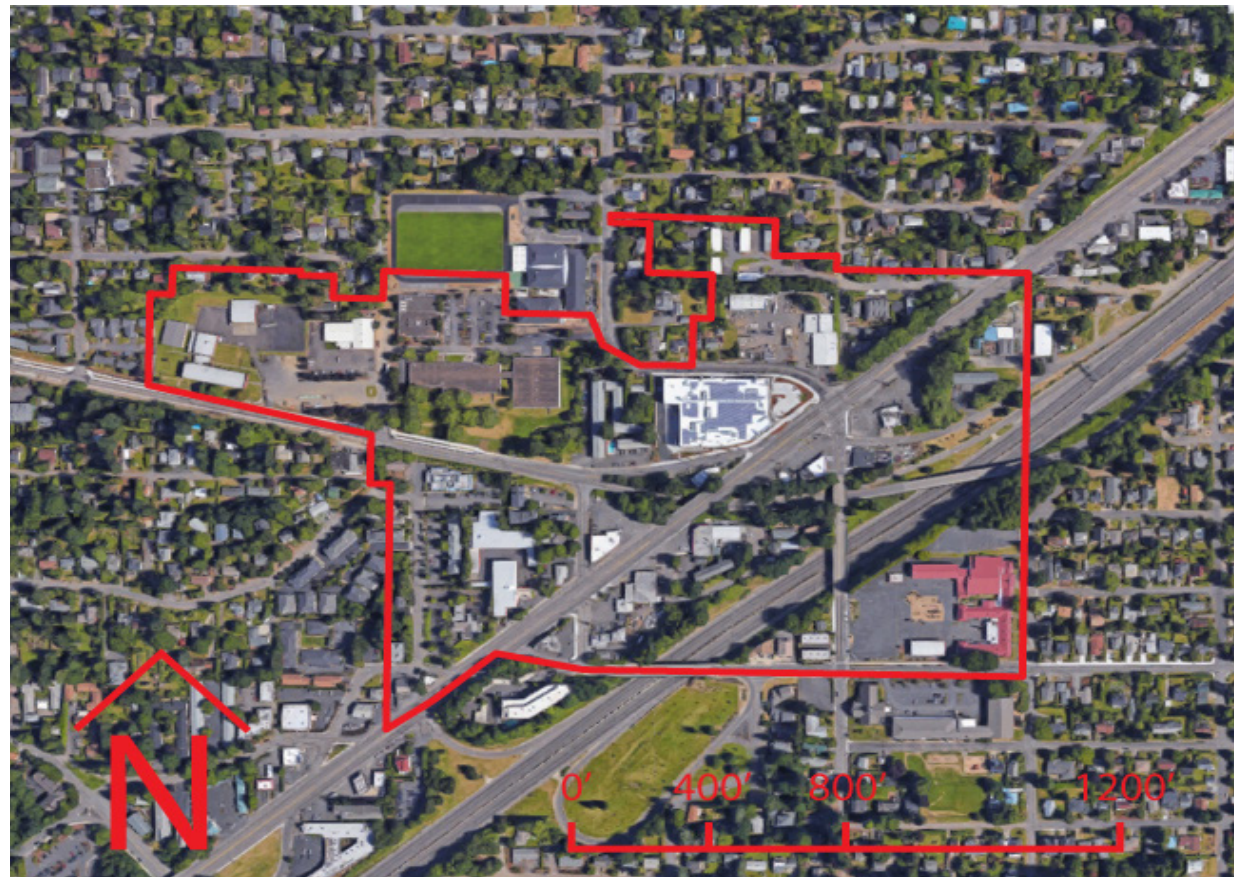


Figure 52: 19<sup>th</sup> Avenue node overview map.

### Street Design Plans

#### Goal I: Increase Pedestrian and Bicycle Safety

- Widen sidewalks along arterials and adjacent roads with frequent crosswalks
- Add protected bike lanes with buffer from cars
- Minimize opportunity for cars to turn through bike lanes

#### Goal II: Easy and Efficient Access to Buildings from Barbur Boulevard and Light Rail Line

- Minimal setbacks along Barbur Boulevard

#### Goal III: Maximize Circulation to and from Barbur Boulevard and Surrounding Neighborhoods

#### Goal IV: Create Opportunity of Economic Growth

- Develop up to new zoning as much as possible

#### Goal V: Create an Area that is Easy and Enjoyable to Live In

- Maximize convenience for residents and for those who visit the area

## MASSING STUDY REDEVELOPMENT TIMELINE

Lilacaps  
University of Oregon: Landscape Architecture 4/594, Fall 2017  
19th Node, Barbur Blvd.  
Robert Ribe and Yekang Ko



Figure 53: Project phases of redevelopment.

## 2050 Land Use for 19th Node

Lilacaps  
University of Oregon: Landscape Architecture 4/594, Fall 2017  
19th Node, Barbur Blvd.  
Robert Ribe and Yekang Ko



Figure 54: Land use projection for 2050.

# 19TH AVENUE NODE: Standard Running Bike Lane

Beau Black  
University of Oregon  
Landscape Architecture 4/594, Fall 2017



Figure 55: Street design with standard-running bicycle lanes.

## 19TH AVE NODE STANDARD RUNNING LANE CHANGES FROM DEIS

BEAU BLACK  
LA 4/594  
RIBE & KO

**A. EXPANDED RIGHT OF WAY:** TO ACCOMMODATE FOR HIGHER RATES OF FOOT-TRAFFIC AND BICYCLE USERS THE SIDEWALKS AND BIKE LANES HAVE BEEN EXTENDED (SIDEWALKS FROM 11' TO 14' AND BIKE LANES 4' TO 5'). THIS WILL ALSO INCREASE ENGAGEMENT WITH BUILDING FRONTAGES ADJACENT TO BARBUR.

**B. 6' PLANTERS BETWEEN CAR LANE AND BIKE LANE WITH 4' PLANTERS BETWEEN BIKE LANE AND SIDEWALK:** IN ORDER TO ENSURE BICYCLE SAFETY AND PROMOTE SCENIC STREET-SCAPE, A VARIETY OF DROUGHT TOLERANT TREES INCLUDING LONDON PLANE-TREE, GINKGO, WHITE OAK AND EUROPEAN HORNBEAM WILL BE PLANTED WITHIN THE 6' PLANTERS WHILE NATIVE SHRUBS AND SEDGES WILL BE PLANTED WITHIN THE 4' PLANTERS TO ACT AS A STORM WATER BASIN/BIOSWALE.

**C. INCREASE PEDESTRIAN AND BICYCLIST ACCESS TO MULTNOMAH BLVD:** CURRENTLY MULTNOMAH HAS AN OVERLY WIDE CAR LANE. IT CAN BE CONDENSED MAKING ROOM FOR AN EXTENDED AND PROTECTED BIKE LANE AND WIDER SIDEWALKS.

**D. CREATE OUTSIDE ROOMS FOR BUSINESSES NEAR THE MAX STOPS:** SIDEWALKS WILL BE ESPECIALLY WIDENED NEAR STOPS TO ENCOURAGE COMMERCIAL BUSINESS PROSPERITY AND SOCIAL COLLABORATION.

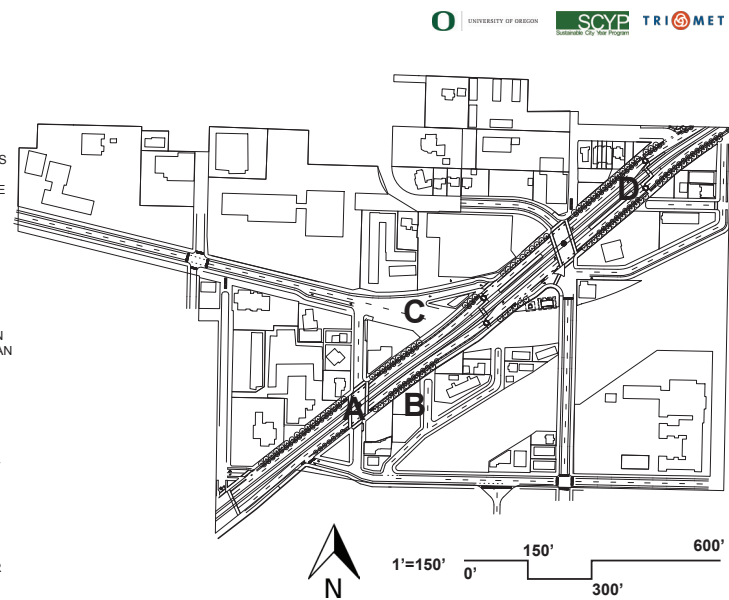


Figure 56: This map depicts the same street design as Figure 55 and indicates the major design changes from the DEIS.

## SECTION THROUGH BARBUR BLVD LOOKING NORTH

BEAU BLACK  
LANDSCAPE ARCHITECTURE 4/594  
ROB RIBE & YEKANG KO

### CONTEXT OF SECTION

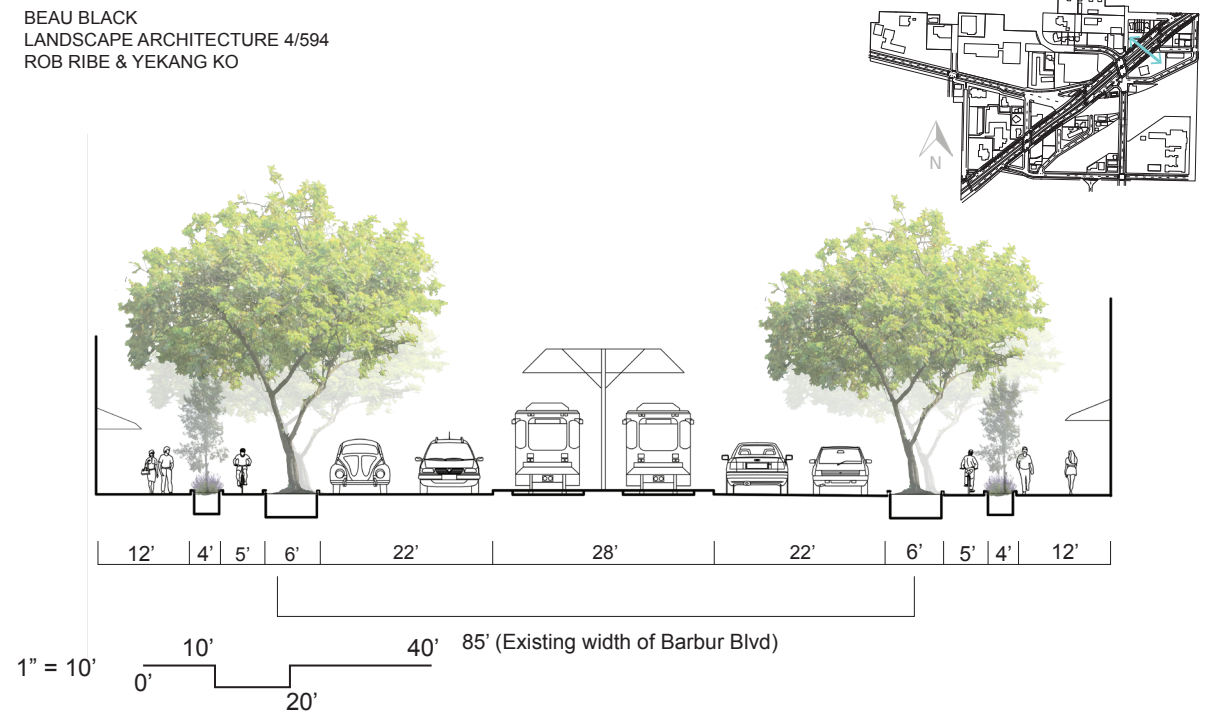


Figure 57: This map shows the same street design as Figure 55, but instead highlights the remaining accessibility and safety concerns.

## SECTION THROUGH BARBUR BLVD LOOKING NORTH

BEAU BLACK  
LANDSCAPE ARCHITECTURE 4/594  
ROB RIBE & YEKANG KO

### CONTEXT OF SECTION

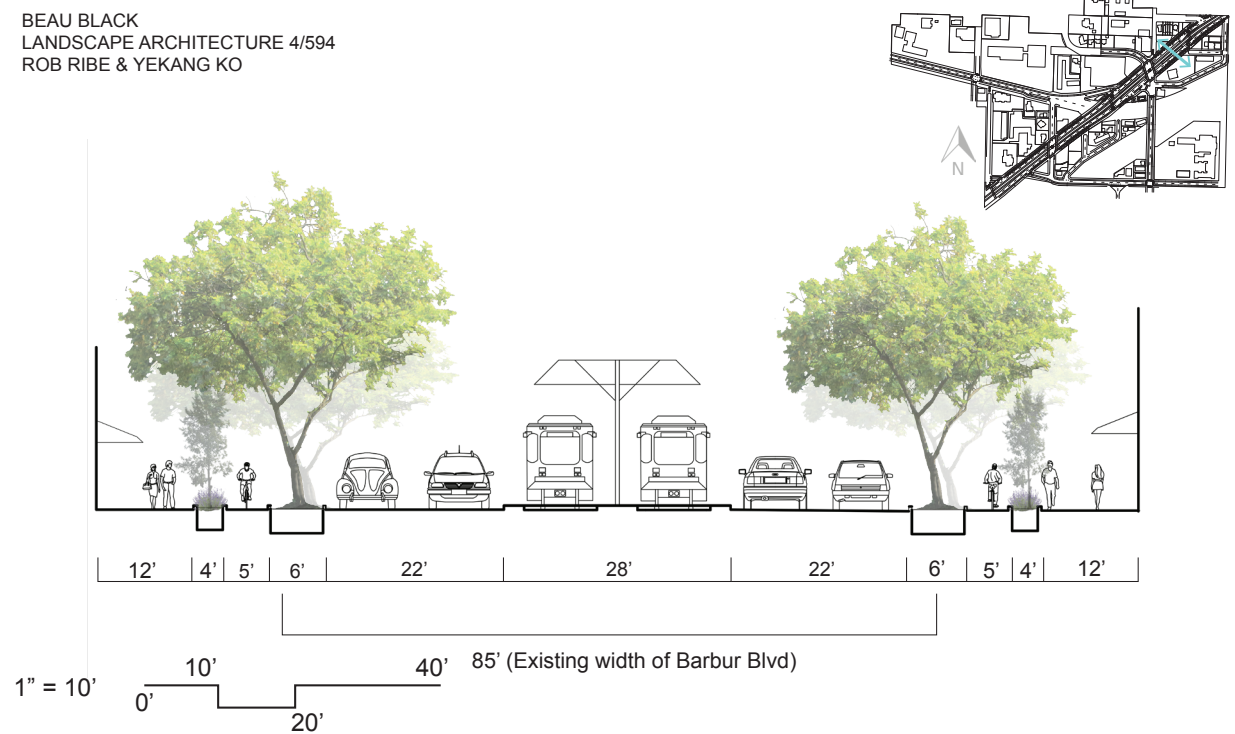


Figure 58: Cross section with standard-running bicycle lanes.

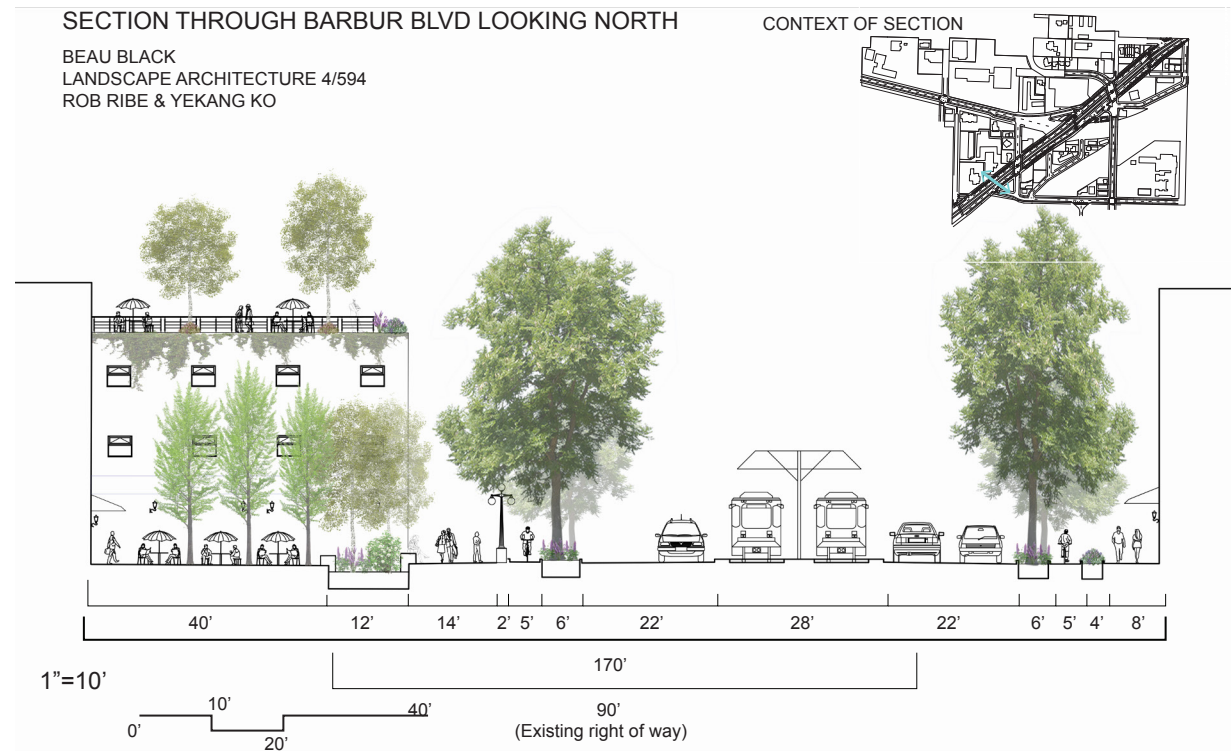


Figure 59: Cross section with standard-running bicycle lanes.

### 19TH AVENUE NODE MAJOR CHANGES TO DEIS SIDE RUNNING BIKE LANE

BEN LUCKE  
 LANDSCAPE ARCHITECTURE 4/594  
 ROBERT RIBE AND YEKANG KO

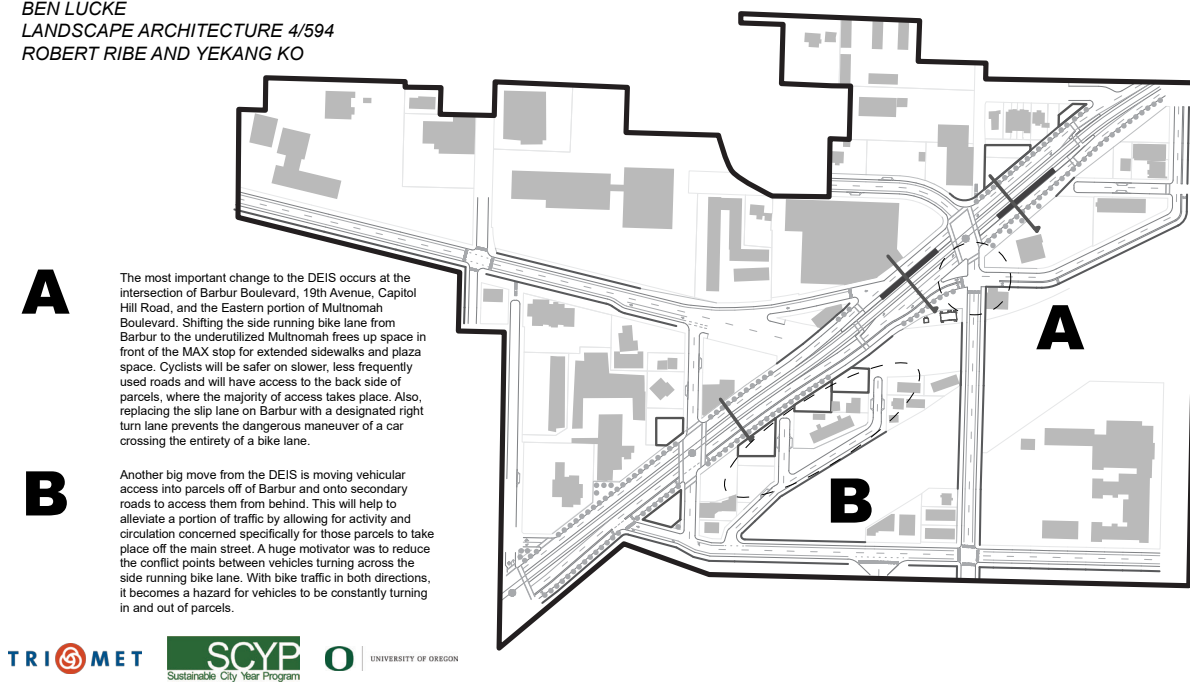


Figure 60: Map of street design with side-running bicycle lanes. This map describes the major design changes from the DEIS.

### 19TH AVENUE NODE REMAINING SAFETY CONCERNS SIDE RUNNING BIKE LANE

BEN LUCKE  
 LANDSCAPE ARCHITECTURE 4/594  
 ROBERT RIBE AND YEKANG KO

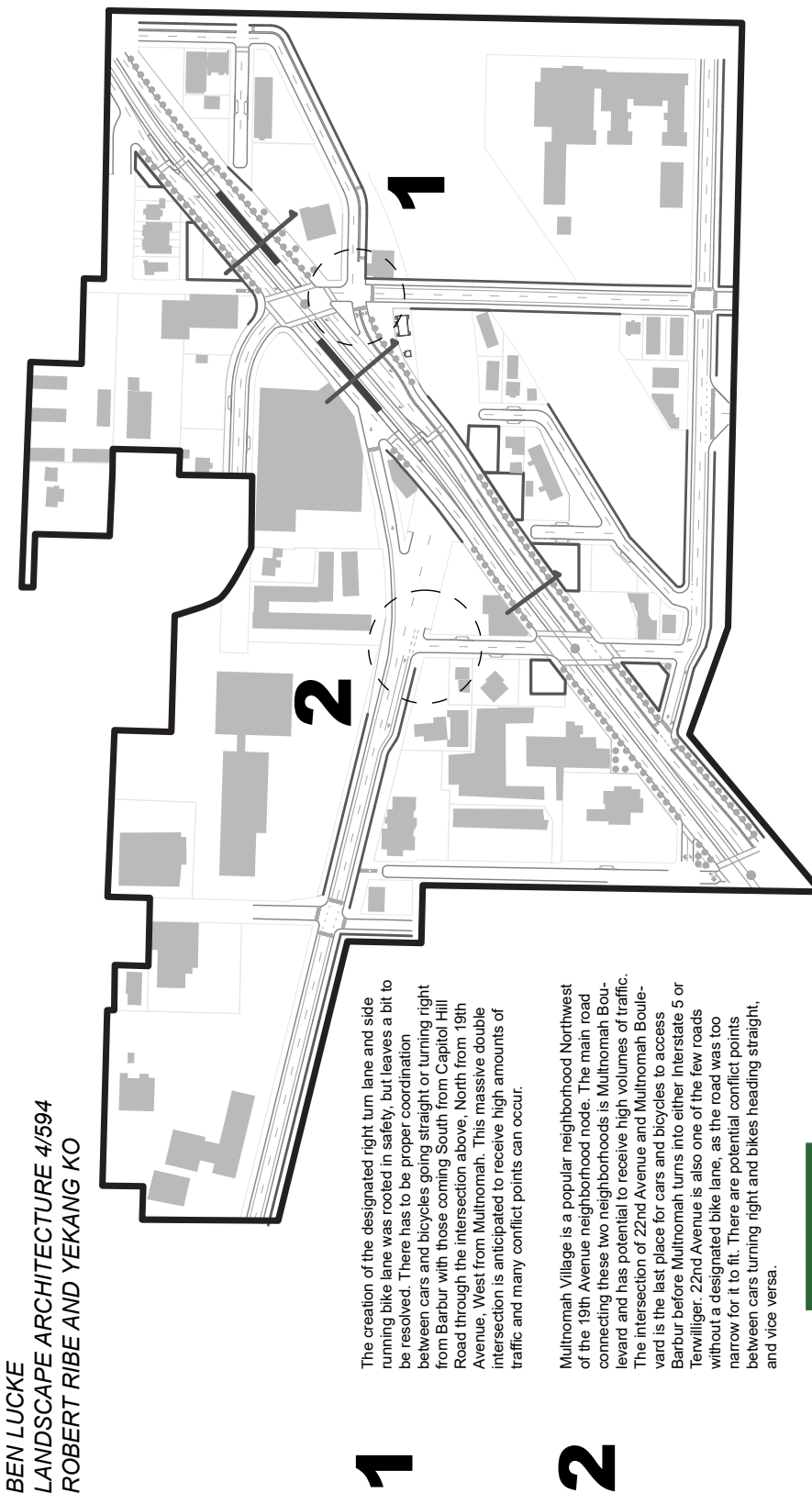


Figure 61: This map shows the same street design as Figure 60, but instead highlights the remaining accessibility and safety concerns.

# 19TH AVENUE NODE STREET DESIGN SIDE RUNNING BIKE LANE

BEN LUCKE  
LANDSCAPE ARCHITECTURE 4/594  
ROBERT RIBE AND YEKANG KO

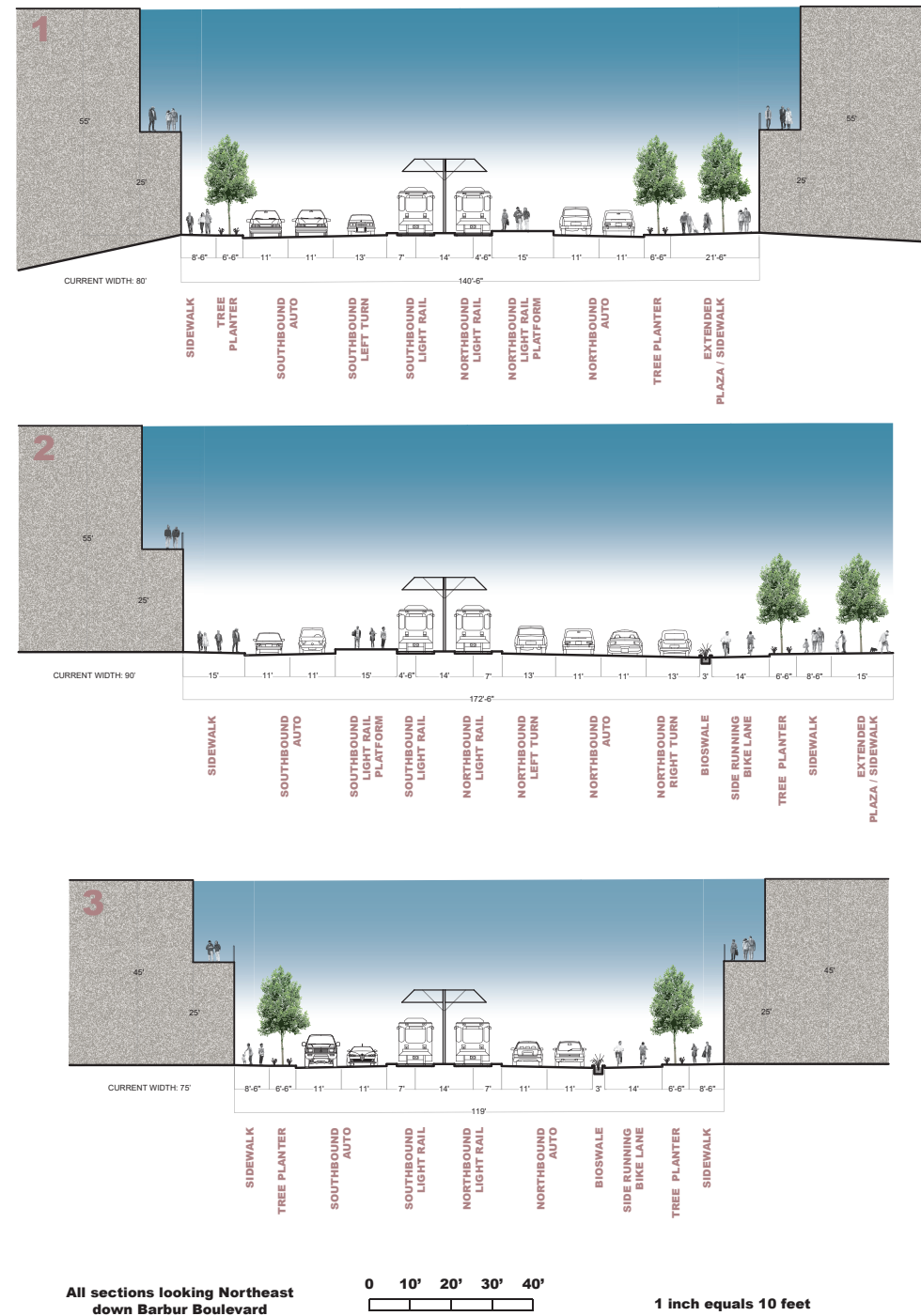


Figure 62: Cross section with side-running bicycle lanes. Cross section lines are shown in Figure 60 and 61.

# 19TH AVENUE NODE CENTER RUNNING CHANGES FROM DEIS

RYAN NICHOLSON  
LANDSCAPE ARCHITECTURE 4/594  
ROBERT RIBE AND YEKANG KO

**NOTE:** The DEIS does not show a center running bike lane on Barbur, this is a major change throughout this design.

In order to create a greener and more comfortable streetscape, significantly more planting areas were added to this design. Particularly on either side of the center running bike lane. These plantings help to shield bikers and pedestrians from traffic lanes.

This intersection has been widened significantly in comparison to the DEIS in order to accommodate turn lanes, more plantings, the Max stop and the center running bike lane. The properties on the South side of this intersection would already need to be acquired, so no extra investment is required.

This design focused partially on integrating Barbur Blvd. with surrounding neighborhoods. The DEIS does little to integrate Multnomah St. into the new development along Barbur, despite the large and popular neighborhood that Multnomah St. serves. Here, Multnomah has been modified for bike/ped safety.

This design limits instances of vehicle traffic crossing bike lanes and sidewalks. One action taken to achieve this is removing driveways from Barbur. Access to the lots previously serviced via driveway are now accessed from behind by way of new side streets.

A center running bike lane creates spatial conflicts with traffic lanes and with the light rail line. At this location, the bike lanes have to navigate around the Southbound Max stop, and the left hand turn lane from Barbur to 19th, requiring reorganization of lane layout and geometries.

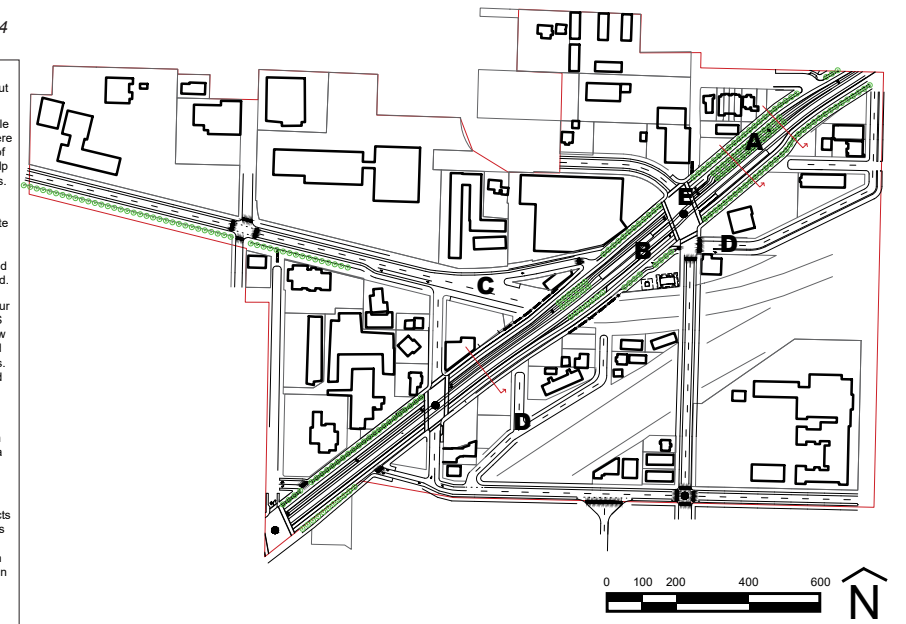


Figure 63: Map of street design with center-running bicycle lanes. This map describes the major design changes from the DEIS.

# 19TH AVENUE NODE CENTER RUNNING SAFETY AND ACCESS ISSUES

RYAN NICHOLSON  
LANDSCAPE ARCHITECTURE 4/594  
ROBERT RIBE AND YEKANG KO

The 19th Ave. Bridge over I-5 and Multnomah is extremely dangerous for pedestrians and bikers. The sidewalk is almost non-existent, and with a large increase in foot traffic around the new light rail line, this could prove problematic.

At every 4-way intersection, bikers turning from the center running bike lane face a high number of conflict points, from turning vehicles, the light rail, and pedestrians. Furthermore, the rarity of center running bike lanes may confuse many drivers, this is only amplified by the addition of the Max line.

In order to minimize conflict points between vehicles and pedestrians, driveways on Barbur were replaced with rear access side streets. These streets sometimes create dead ends, which is both confusing and stressful for drivers, especially if they are lost or in a hurry.

These lots have no direct access from Multnomah St.. This creates an access issue for current as well as future owners. When traffic volume is increased by new development, this may become a hassle, as well as increase traffic strain on both Multnomah and Capitol Hill.

These one way exits from Barbur may be confusing for drivers, especially those not familiar with the area. They also rapidly contact bike lanes that will likely be used to access the new max stops, creating a possible high risk location for bike/car accidents. Drivers here will also likely be traveling much faster than the speed limit, as they have just turned off a busier road.

These side streets can only be accessed from Barbur by drivers going one direction. This may become extremely frustrating for drivers who need to do a loop in order to access these streets, particularly for those who live or work there, and frequently arrive from the "wrong" direction.

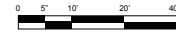


Figure 64: This map shows the same street design as Figure 63, but instead highlights the remaining accessibility and safety concerns.

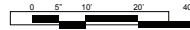
# 19TH AVENUE NODE CENTER RUNNING SECTIONS

RYAN NICHOLSON  
LANDSCAPE ARCHITECTURE 4/594  
ROBERT RIBE AND YEKANG KO

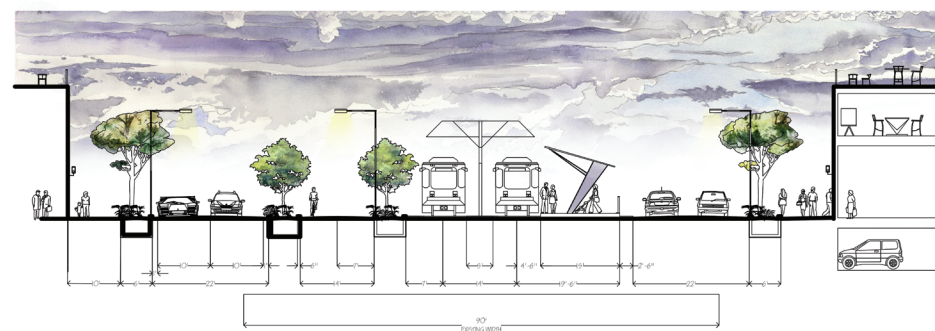
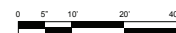
NARROW SECTION



OPTIMAL SECTION



SECTION WITH STOP



## Sub-area Designs

### Multnomah Bridge Park

The Multnomah Bridge Park (Figure 66 and 67) sits at the center of the 19<sup>th</sup> Avenue Node and acts as the heart of this transit-oriented development. The park is heavily focused on social interaction and activity. Bicycles and pedestrians engage and move throughout Multnomah Bridge Park during all parts of the day, including circulation from the southern neighborhood up into the MAX stop and vice versa. After work, the park becomes a spot in which local employees and employers can get together to interact and unwind.

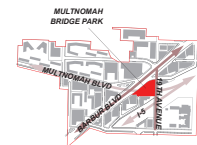
The fundamental design concept for this park comes from the convergence of two main arterials, Barbur Boulevard and 19<sup>th</sup> Avenue. Currently, both Barbur Boulevard and 19<sup>th</sup> Avenue cross over Multnomah Boulevard, fragmenting this neighborhood center into two narrow corridors. This design proposes the convergence of the 19<sup>th</sup> Avenue and Barbur Boulevard bridges, which will create one structure over Multnomah Boulevard where a rooftop garden will emerge. This confluence creates a landmark that serves as a regional destination while accommodating the needs of the surrounding neighborhood.

The essential design geometry that drives the spatial composition relates back to the concept of merging Barbur Boulevard and 19<sup>th</sup> Avenue together into one. This geometry creates spaces as perpendicular lines emanating from both streets towards each other to create an obtuse angle, which becomes the foundation for the geometric spaces. A series of descending terraces and plaza spaces are necessary in order to accommodate the grade change from north to south. The first terrace features a cafe with covered outdoor seating, creating a hub of energy and activity. Each terrace invites users to either sit and stay or continue walking down into the larger open plaza space, which includes moveable tables and chairs, public art, grass lawn, large event spaces, covered seating, and space programmed by the adjacent businesses. The terraces repeat in form, but the placement of stairs creates a zig-zag circulation pattern in order to increase movement through a series of expanding landscape rooms.

Figure 65: Cross section with center-running bicycle lanes. Cross section lines are shown in Figures 63 and 64.

**19TH AVENUE NODE FOCAL SCALE DESIGN  
MULTNOMAH BRIDGE PARK**

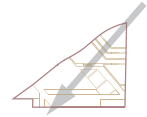
BEN LUCKE  
LANDSCAPE ARCHITECTURE 4/594  
ROBERT RIBE AND YEKANG KO



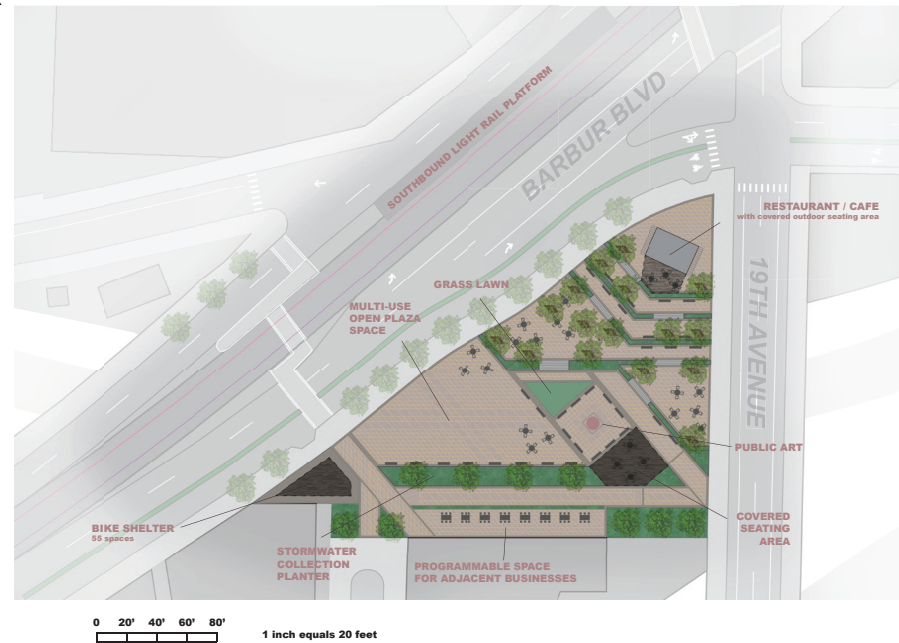
Multnomah Bridge Park is the confluence of the Barbur Boulevard and 19th Avenue bridges as they cross over Multnomah Boulevard.



Perpendicular lines taken from Barbur and 19th merge together to create the fundamental geometry in this design.



Terraces and plaza spaces were created to accommodate for the grade change down the southwest side.



0 20' 40' 60' 80' 1 inch equals 20 feet

Figure 66: Master plan for Multnomah Bridge Park.

**Study Area 4: Tryon Crossing**



Figure 68: Tryon Crossing overview map.

**MULTNOMAH BRIDGE PARK  
TERRACE CONCEPT**

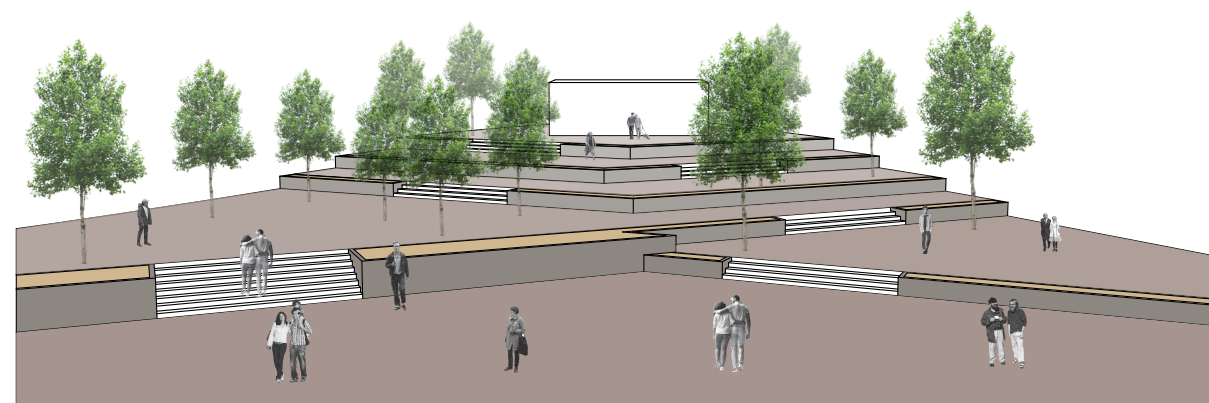


Figure 67: Perspective of Multnomah Bridge Park.



Figure 69: Projected phases of redevelopment.



Figure 70 Land use projection for 2050.

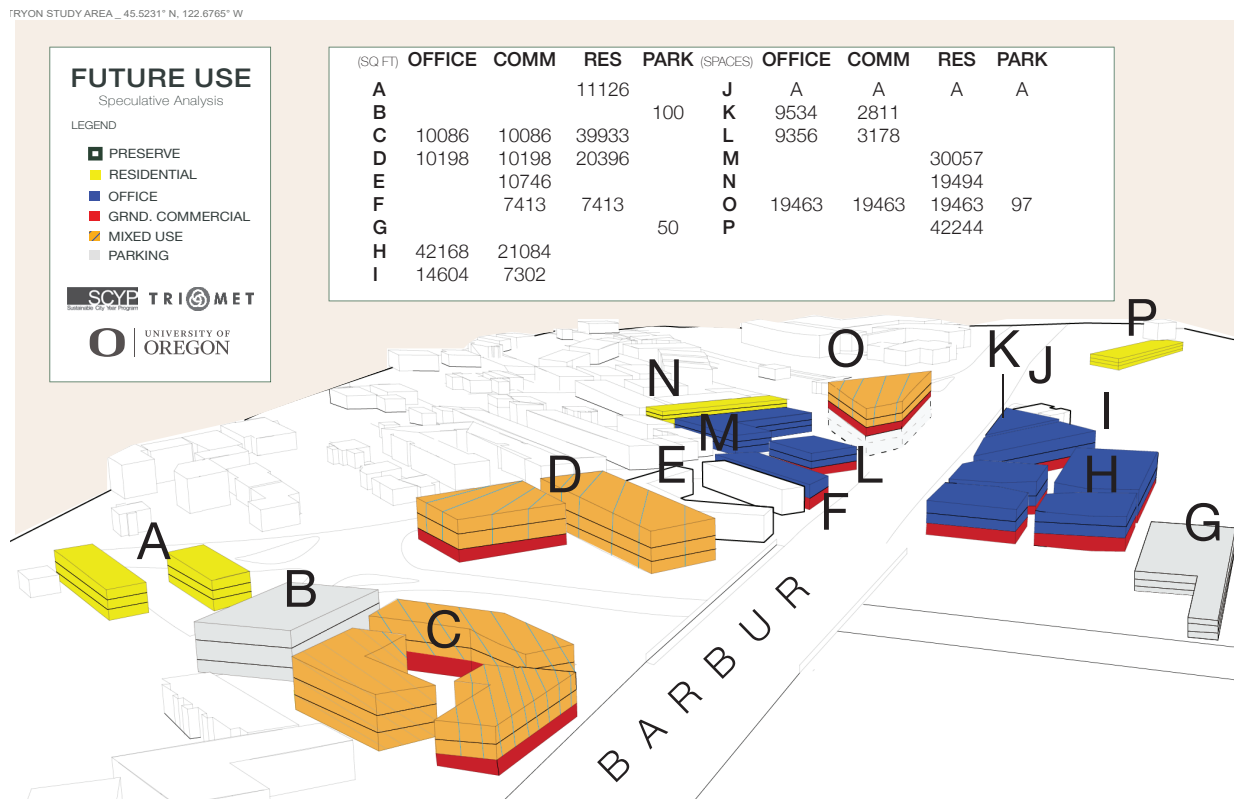


Figure 71: Massing study depicts speculative three-dimensional representation of buildings for 2050.

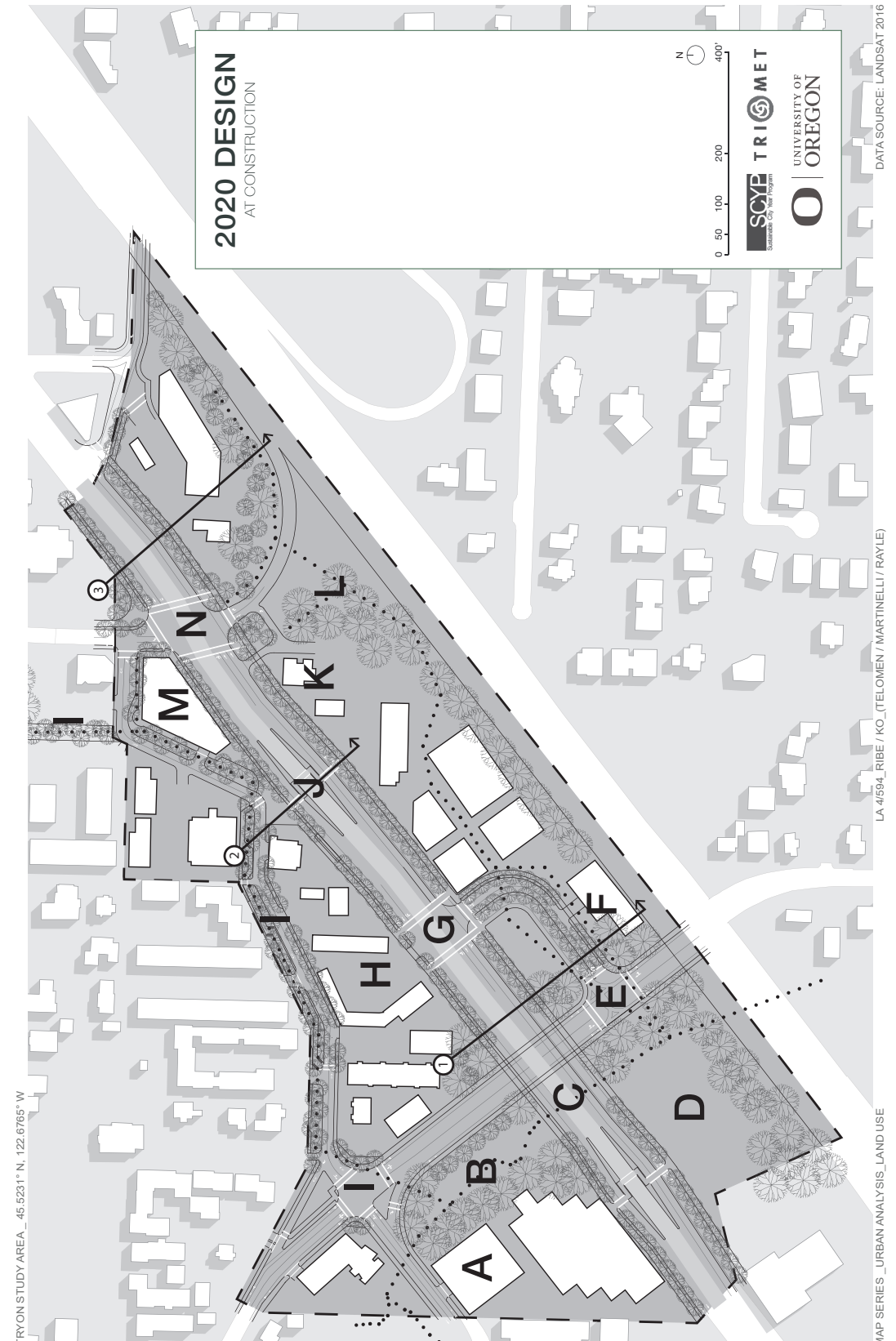


Figure 72: Map of street design with side-running bicycle lanes. This map describes the major design changes from the DEIS.

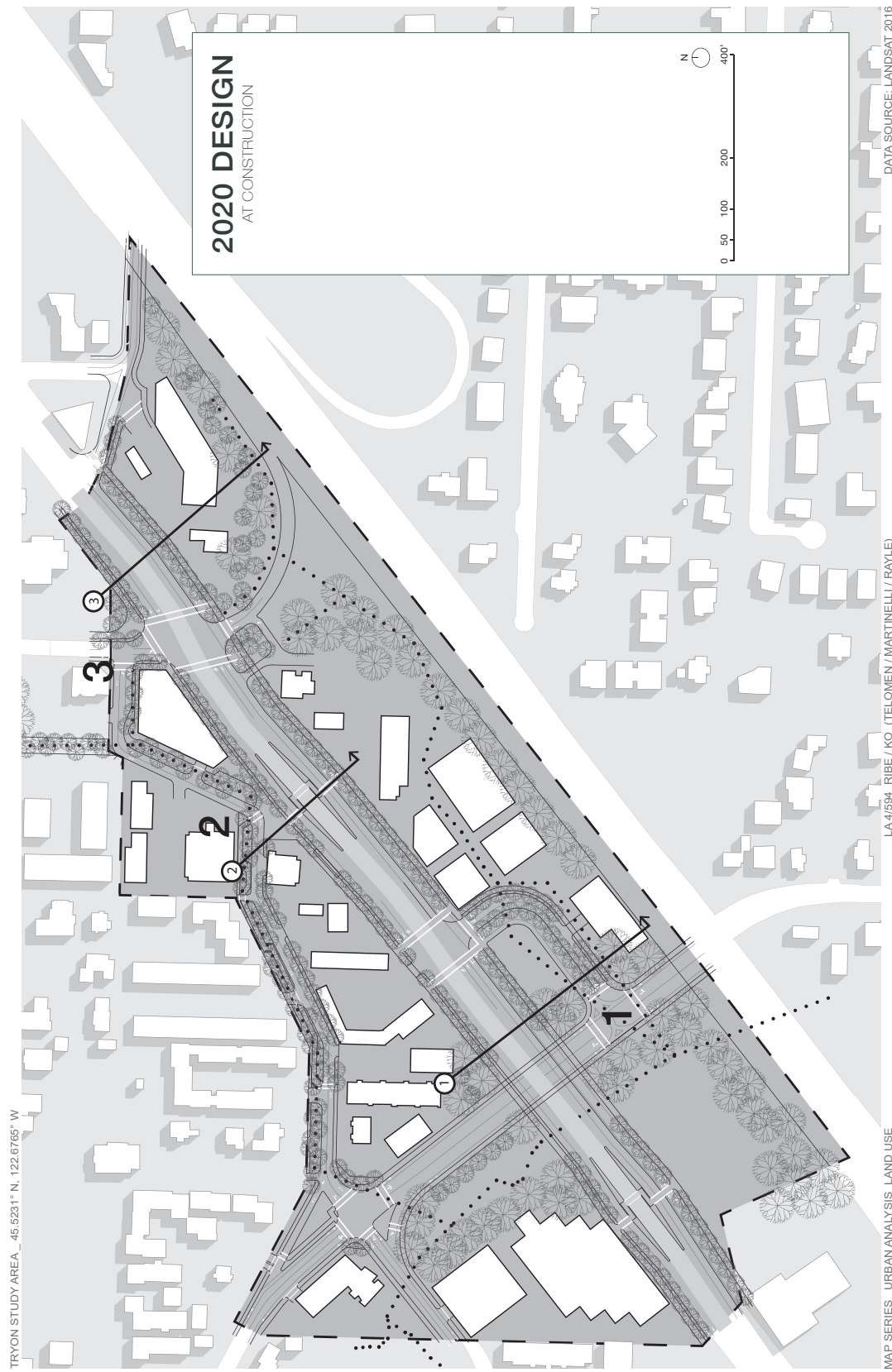


Figure 73: This map shows the same street design as Figure 72, but instead highlights the remaining accessibility and safety concerns.

#### SIGNIFICANT CHANGES TO DEIS

- A. New Parking structure to be added at 2020 to account for lost parking spaces due to the stream daylighting project (B). 3 stories tall, this structure stays until 2050.
- B. Tryon Creek Stream Restoration includes play areas and community gathering space. Design by Derek Rayle at 2050.
- C. New Bridge is widened over the street below to allow daylit stream to pass beneath. New bridge is required for civic corridor anyways.
- D. New stormwater management site to treat runoff from surrounding watershed. Existing stormwater site is impacted by the new civic corridor right of way. Design by Russell Martinelli.
- E. New intersection exchange eliminates highway ramps, incorporates new bikes lanes and two-way traffic.
- F. New Parking structure to allow more dense building on surrounding properties, as well as provide access to new stormwater treatment park.
- G. New intersection and stop light provides access to lower streets, as well as gives a rest to drivers and pedestrians as in the city. Spacing to closest pedestrian crossing is 200'.
- H. Budget Lodge Motel is preserved due to historic character along the Historic Highway section.
- I. New stream restoration un-pipes the headwater of Tryon Creek. Runs in a 25' buffer from the northeast to Derek Rayle's daylighting project, ultimately meeting Russell Martinelli's stormwater design. Incorporates boardwalk and allows for 100-yr flooding event, while providing shade and low gradients for salmon spawning.
- J. New mid-block crossing at 200' to provide city-like sequence for pedestrians and cyclists. Turns are designed to prevent unsafe crossing across multiple types of vehicles or directions. Also removes troublesome triangular block in order to provide a small public plaza.
- K. Original Pancake House is preserved due to its historic character.
- L. New stormwater retention site to be designed. Will treat runoff from the 2222 Apartments and the highway before flowing to Tryon Creek.
- M. New mixed-use development with underground parking structure. Provides hub to surrounding activity and is created out of the acquisition of 4 plots from 3 owners at-construction. Includes boardwalk viewing along the new stream restoration (ideally) and rooftop stormwater systems to prevent dirty runoff in the creek headwaters.
- N. New intersection removes troublesome triangle block while still allowing for the same access to residences and businesses.

#### TRAFFIC HAZARDS

1. Intersection has multiple modes of transportation crossing and attempts to convert 2-way cycle track into two 1-way tracks along SW 26<sup>th</sup> Way. Left and right turns are hazardous for all parties.
2. Crosswalk is at a blind corner, likely requiring a stop sign. This also beneficially might slow traffic.
3. Turning onto Spring Garden Street is hazardous from Barbur due to no space for a left-turn lane, both in width and length. Traffic would back up into Barbur after 2 vehicles.

Figure 74: Description of major design changes from the DEIS and remaining safety concerns for the street design with side-running bicycle lanes.

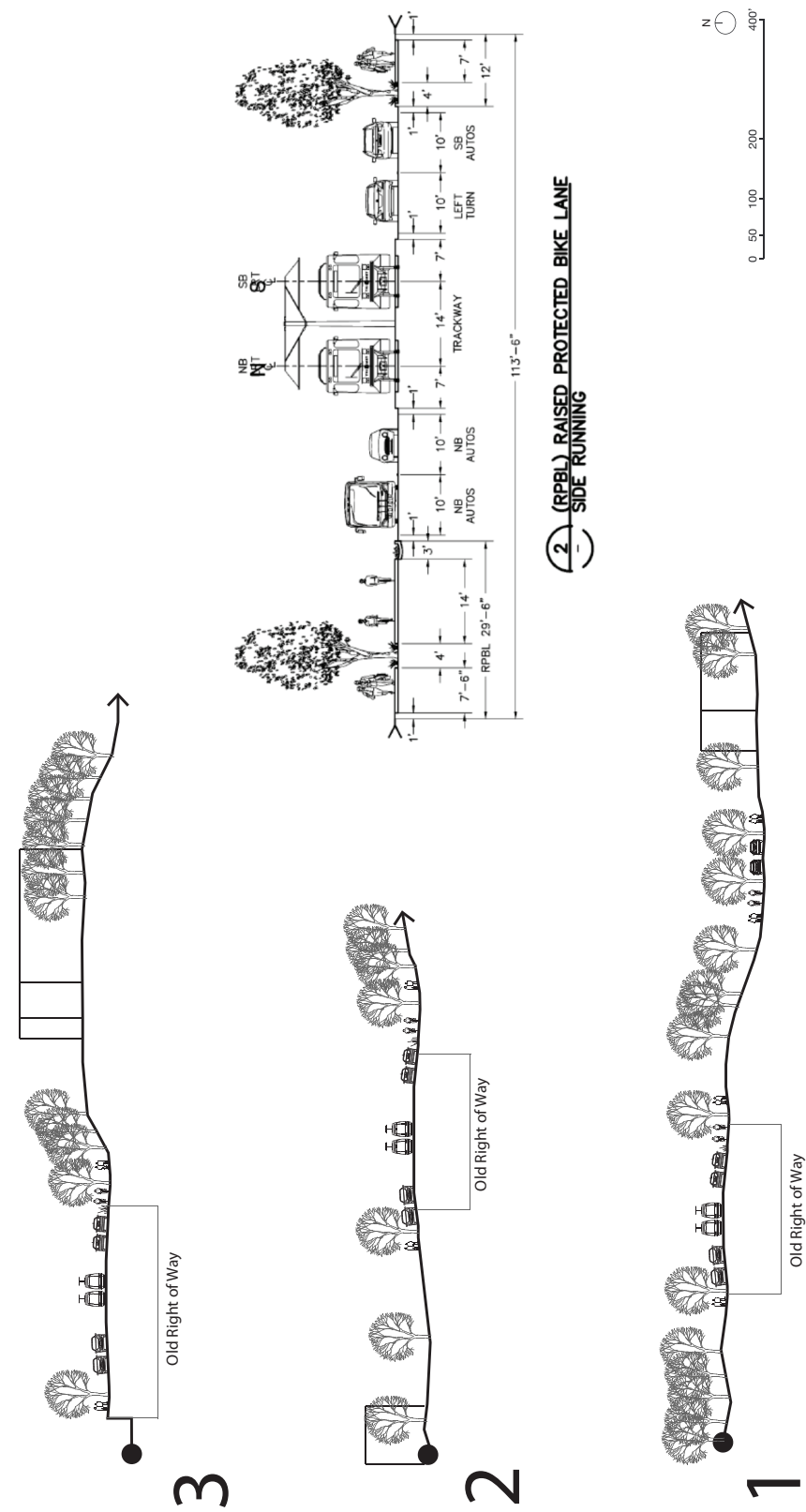


Figure 75: Cross sections with side-running bicycle lanes at multiple locations along Barbur Boulevard. Each location is referenced in Figures 72 and 73.

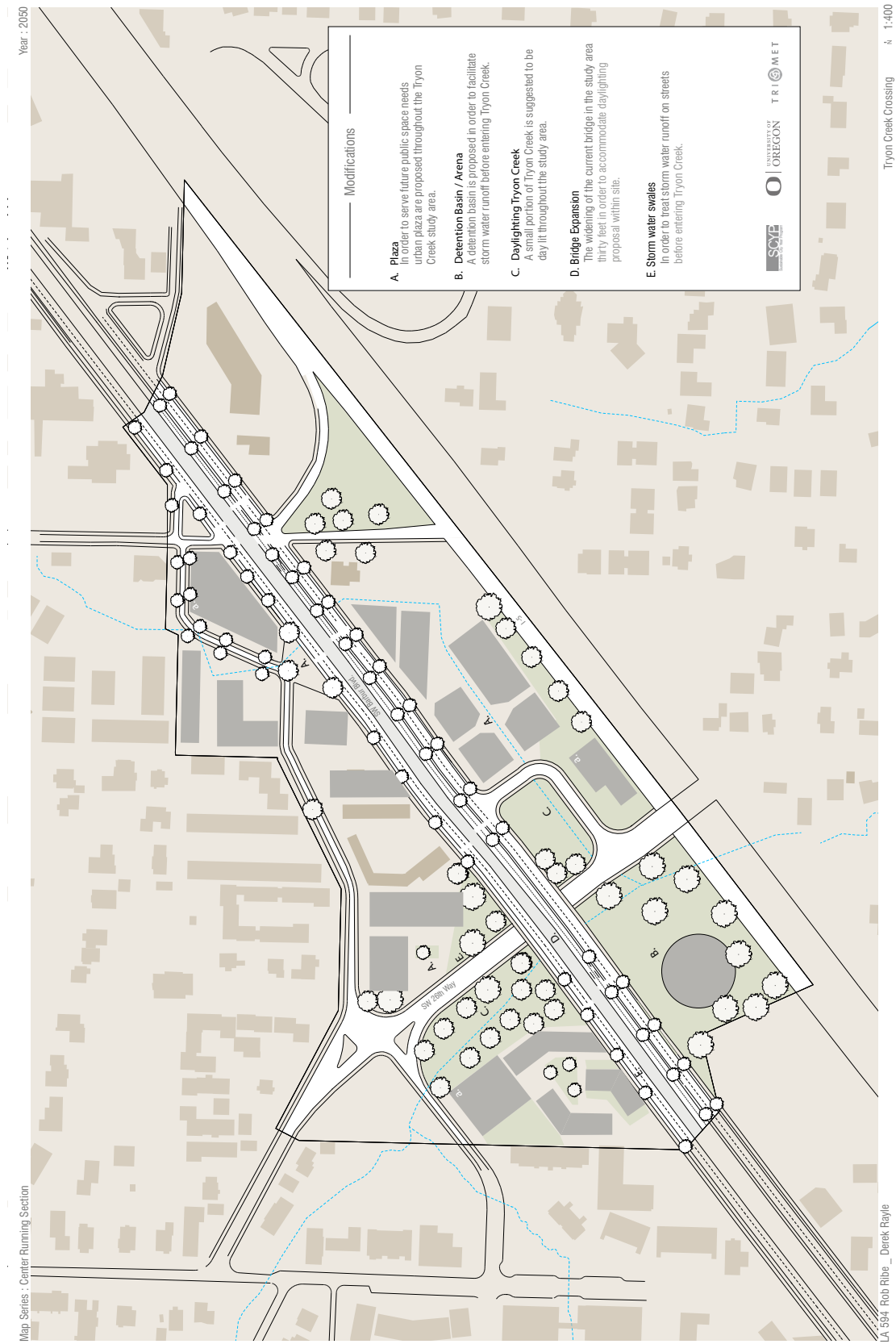


Figure 76: Map of street design with center-running bicycle lanes. This map indicates the major design changes from the DEIS.

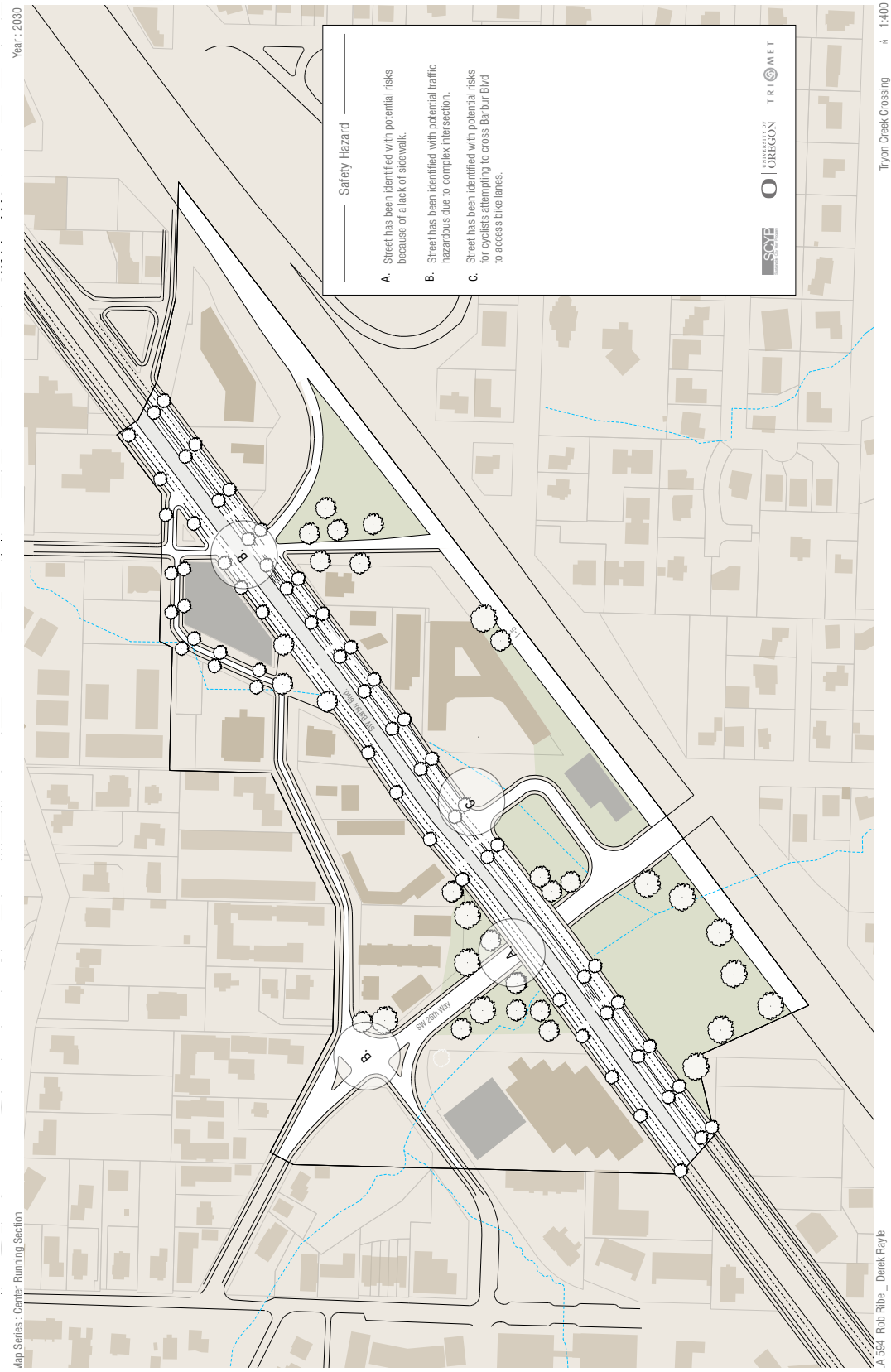


Figure 77: Maps of street design with center-running bicycle lanes. This map describes remaining accessibility and safety concerns.



Figure 78: Cross section representation with center-running bicycle lanes along Barbur Boulevard.

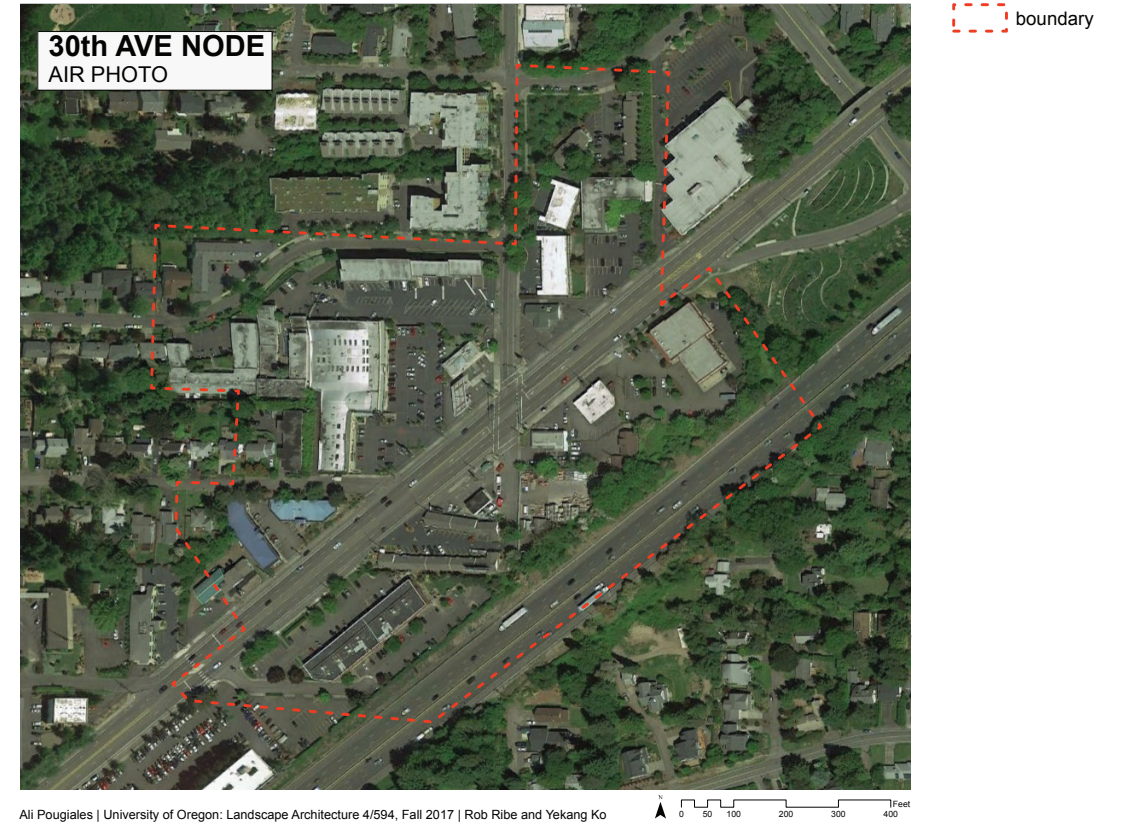


Figure 79: 30<sup>th</sup> Avenue node overview map.

## Street Design Plans

### Goal I: Design a Variety of Outdoor Spaces for People to Interact Passively and Actively

- Design public restrooms
- Design paved public spaces with benches and planters that act as walls
- Design small pervious public spaces with mowed grass
- Design lighting for 24/7 access

### Goal II: Create Safe Access for Bicyclists, Pedestrians, and Light Rail Commuters

- Design safe crosswalks from business fronts to commute paths
- Separate traffic from pedestrians and bikes by a raised median
- Provide bicycle parking
- Slow traffic
- Design lighting for pedestrian and bike paths

### Goal III: Use Public Art and Place-making Details Within the Build Landscape So People Feel Like They're in a Special Place

- Have a different sculpture at each transit station
- Allow space for banners and signs to advertise local happenings and events
- Integrate specific way-finding details in the landscape such as unique paving patterns, building materials, score joint directions, shapes of planters, and style of benches

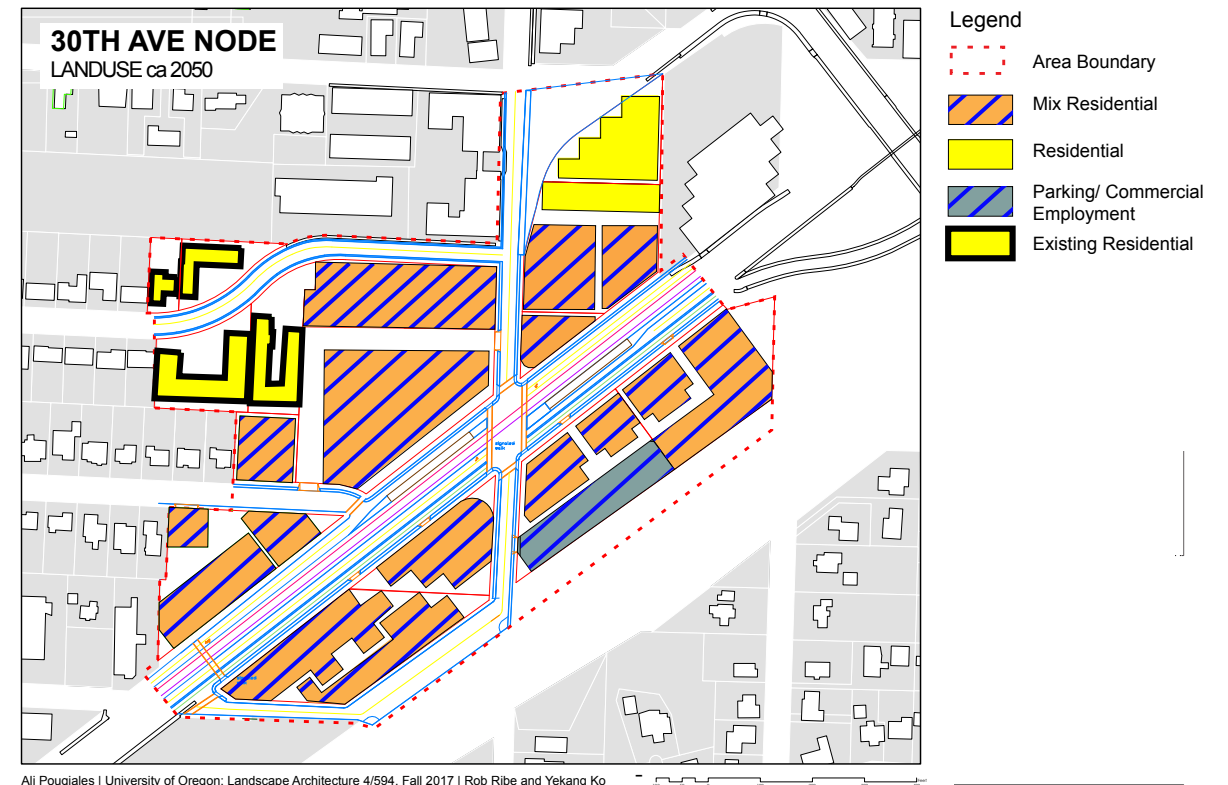


Figure 80: Land use projection for 2050.

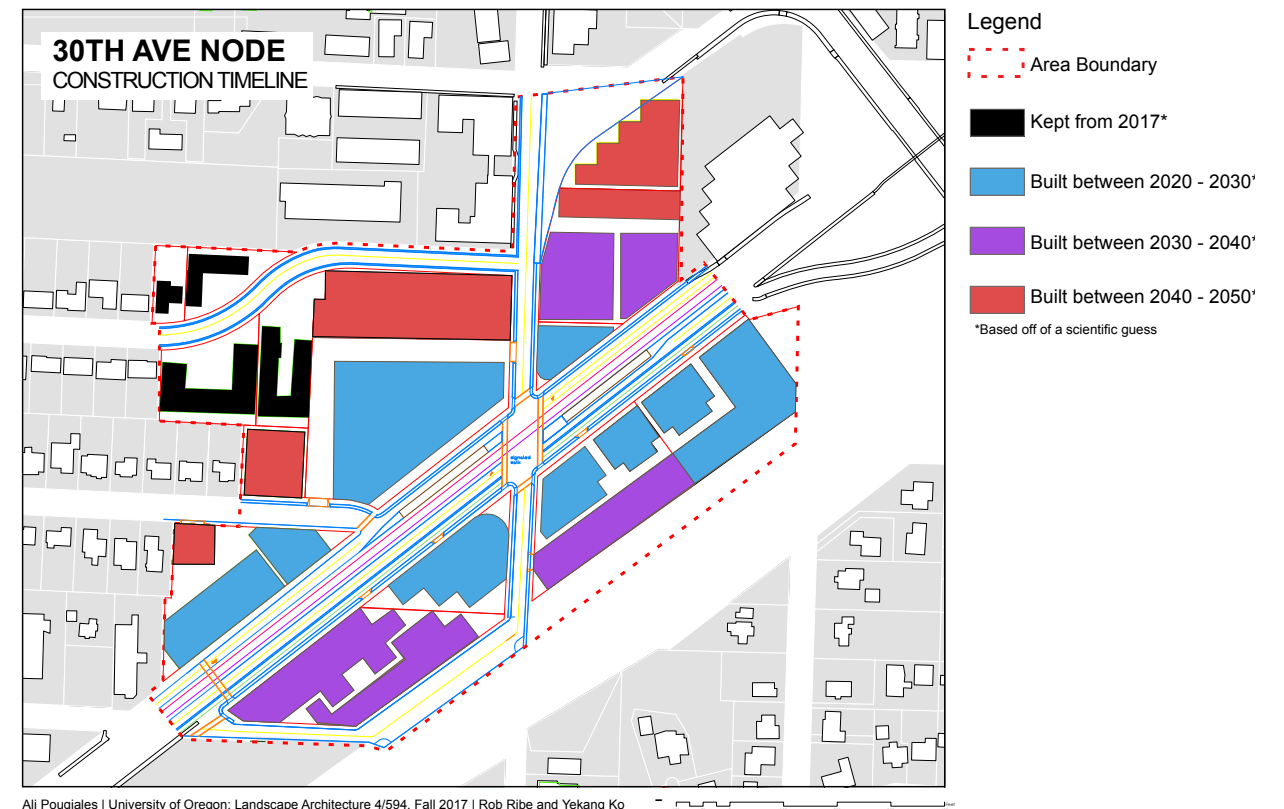


Figure 81: Projected phases of redevelopment.

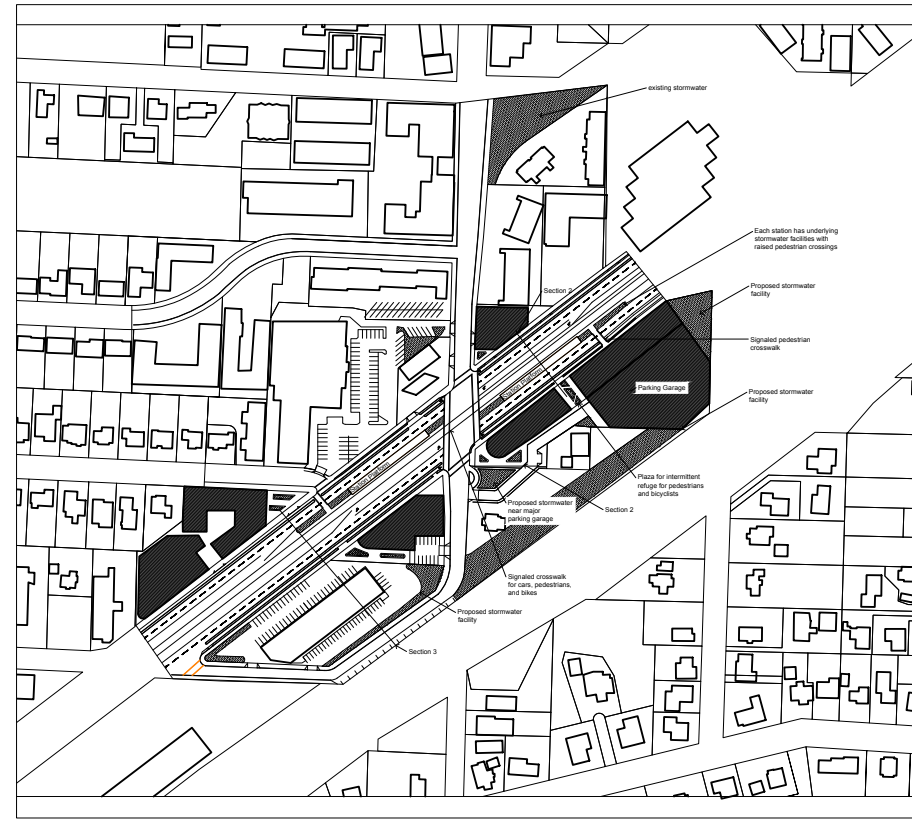


Figure 82: Massing study depicts speculative three-dimensional representation of buildings for 2050.

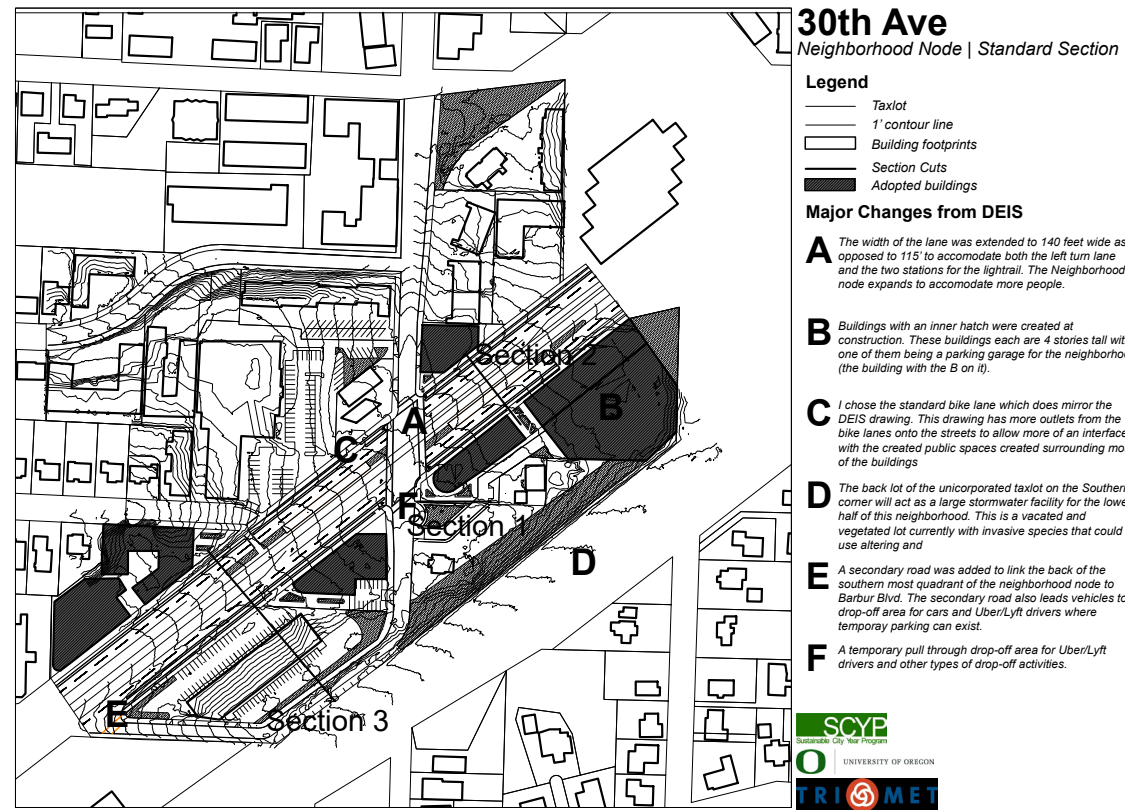


Figure 83: Street design with standard-running bicycle lanes.

**30th Ave**  
Neighborhood Node | Standard Section

- Legend**
- Taxlot
  - 1' contour line
  - Building footprints
  - Section Cuts
  - Adopted buildings
- Major Changes from DEIS**
- A** The width of the lane was extended to 140 feet wide as opposed to 115' to accommodate both the left turn lane and the two stations for the light rail. The Neighborhood node expands to accommodate more people.
- B** Buildings with an inner hatch were created at construction. These buildings each are 4 stories tall with one of them being a parking garage for the neighborhood (the building with the B on it).
- C** I chose the standard bike lane which does mirror the DEIS drawing. This drawing has more outlets from the bike lanes onto the streets to allow more of an interface with the created public spaces created surrounding most of the buildings
- D** The back lot of the unincorporated taxlot on the Southern corner will act as a large stormwater facility for the lower half of this neighborhood. This is a vacated and vegetated lot currently with invasive species that could use altering and
- E** A secondary road was added to link the back of the southern most quadrant of the neighborhood node to Barbur Blvd. The secondary road also leads vehicles to a drop-off area for cars and Uber/Lyft drivers where temporary parking can exist.
- F** A temporary pull through drop-off area for Uber/Lyft drivers and other types of drop-off activities.

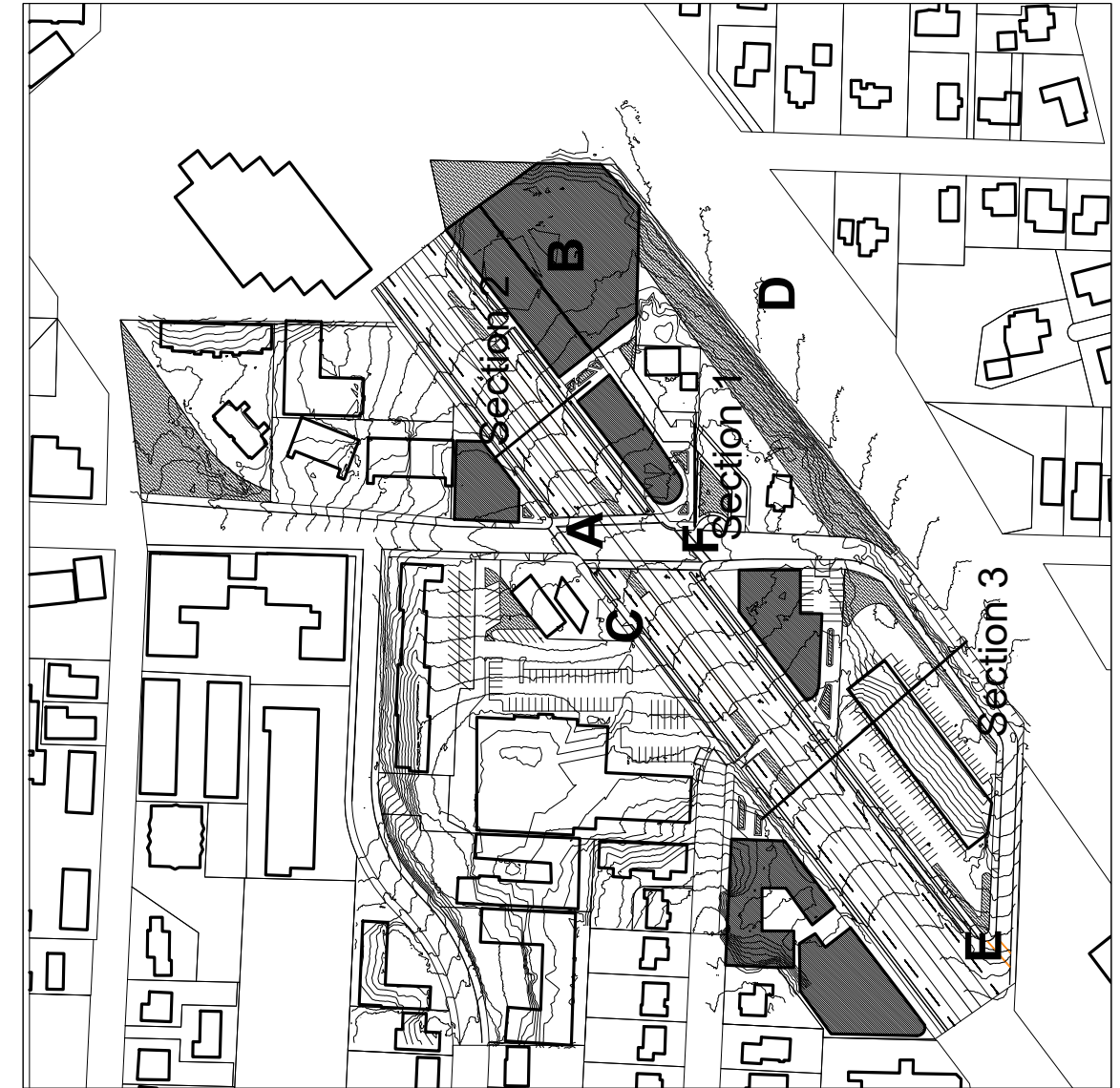


Figure 84: This map shows the same street design as Figure 83 with major design changes from the DEIS.

LA 4/594 | Alexis Griffin | Rob Ribe & Yekang Ko

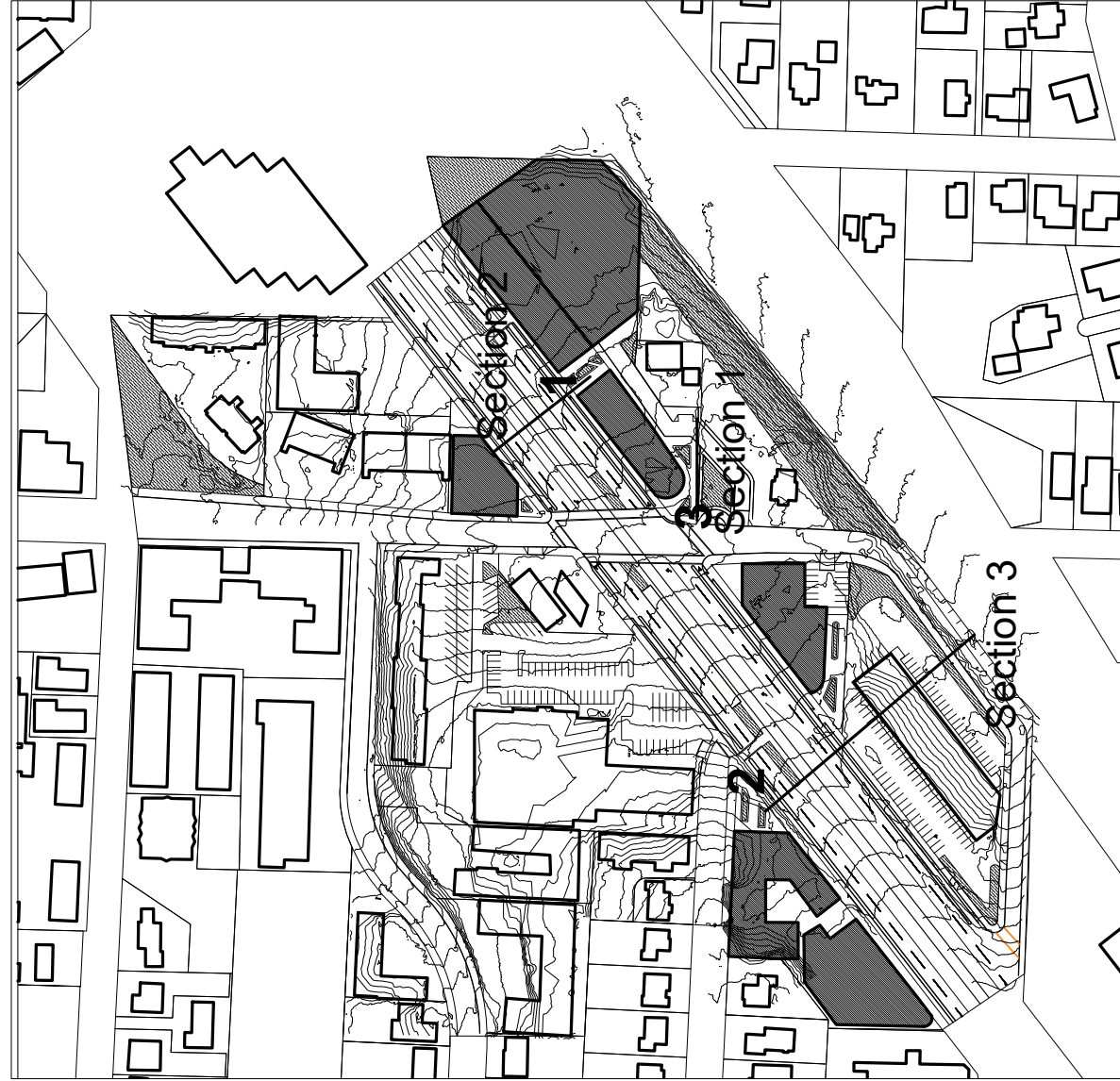
# 30th Ave Neighborhood Node | Standard Section

## Legend

- Taxlot
- 1' contour line
- Building footprints
- Section Cuts
- Adopted buildings

## Traffic Conflicts

- 1** Where the bike lanes open onto the sidewalk with a curb cut additional safety precautions will be required. Signs at these junctions will be needed to warn pedestrians and bikes of the coming confluence, where bikes must dismount and pedestrians must be more cautious.
- 2** The bike lane no longer has a vegetated buffer between itself and the sidewalk to guard pedestrians from bikers. The colored bike lane, and painted bike on the ground, will come into play here to differentiate the bike lane to the sidewalk for the pedestrians benefit.
- 3** At this intersection a tertiary road merges with a drop-off/turn around zone. This drop-off will be somewhat difficult to have next to a tertiary road, but will have signage and painted stripes to show where outgoing cars exiting the road should stop in order to prepare for cars using the dropoff area.



LA 4/594 | Alexis Griffin | Rob Ribe & Yekang Ko



Figure 85: This map shows the same street design as Figure 83 with remaining safety and accessibility concerns.

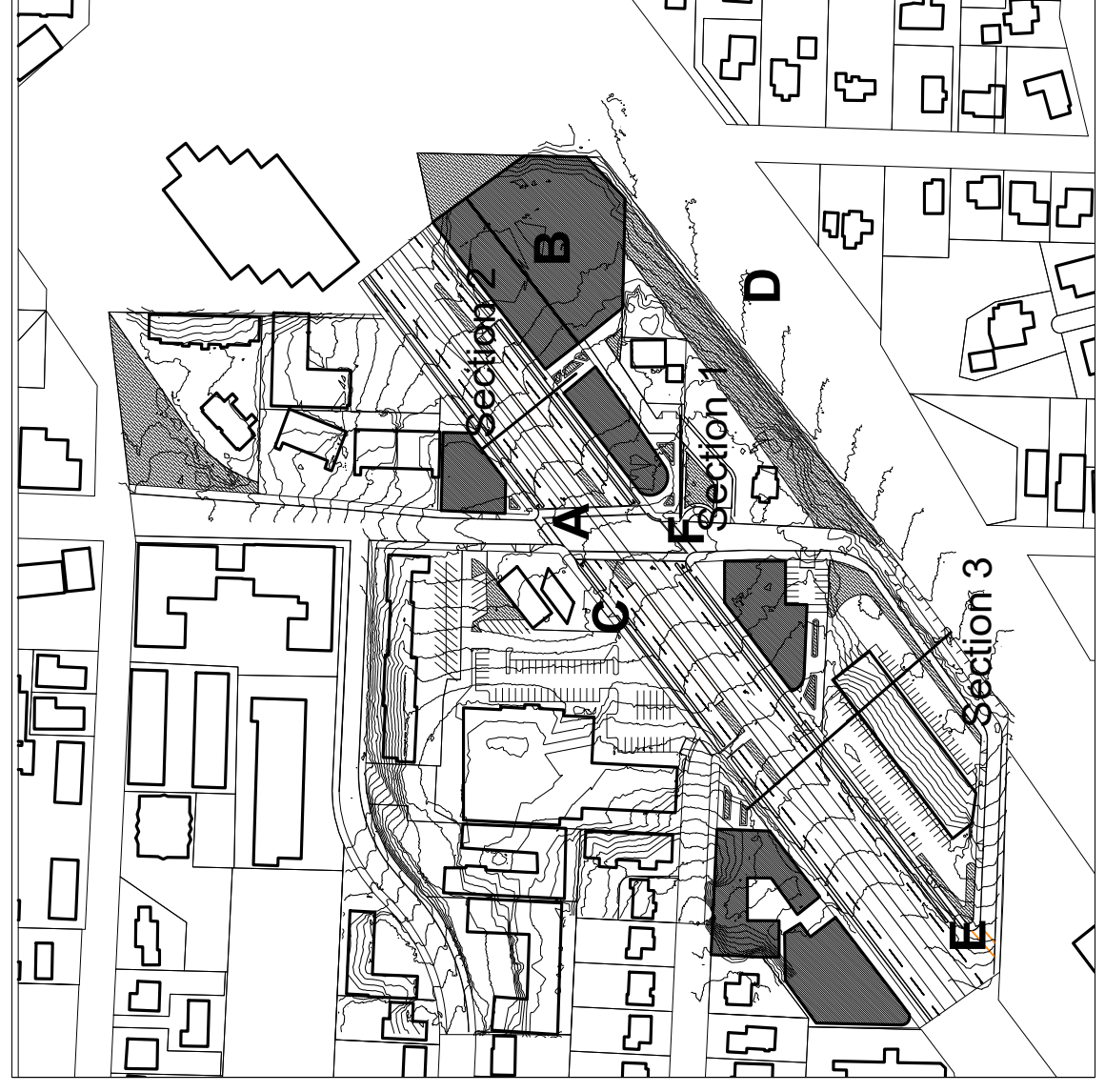
# 30th Ave Neighborhood Node | Standard Section

## Legend

- Taxlot
- 1' contour line
- Building footprints
- Section Cuts
- Adopted buildings

## Major Changes from DEIS

- A** The width of the lane was extended to 140 feet wide as opposed to 115' to accommodate both the left turn lane and the two stations for the light rail. The Neighborhood node expands to accommodate more people.
- B** Buildings with an inner hatch were created at construction. These buildings each are 4 stories tall with one of them being a parking garage for the neighborhood (the building with the B on it).
- C** I chose the standard bike lane which does mirror the DEIS drawing. This drawing has more outlets from the bike lanes onto the streets to allow more of an interface with the created public spaces created surrounding most of the buildings
- D** The back lot of the unincorporated taxlot on the Southern corner will act as a large stormwater facility for the lower half of this neighborhood. This is a vacated and vegetated lot currently with invasive species that could use altering and
- E** A secondary road was added to link the back of the southern most quadrant of the neighborhood node to Barbur Blvd. The secondary road also leads vehicles to a drop-off area for cars and Uber/Lyft drivers where temporary parking can exist.
- F** A temporary pull through drop-off area for Uber/Lyft drivers and other types of drop-off activities.



LA 4/594 | Alexis Griffin | Rob Ribe & Yekang Ko



Figure 86: Cross sections with standard-running bicycle lanes at multiple locations along Barbur Boulevard. Each cross section is referenced in Figures 83, 84, and 85.

## 30th Ave Neighborhood Node | Side Running Section

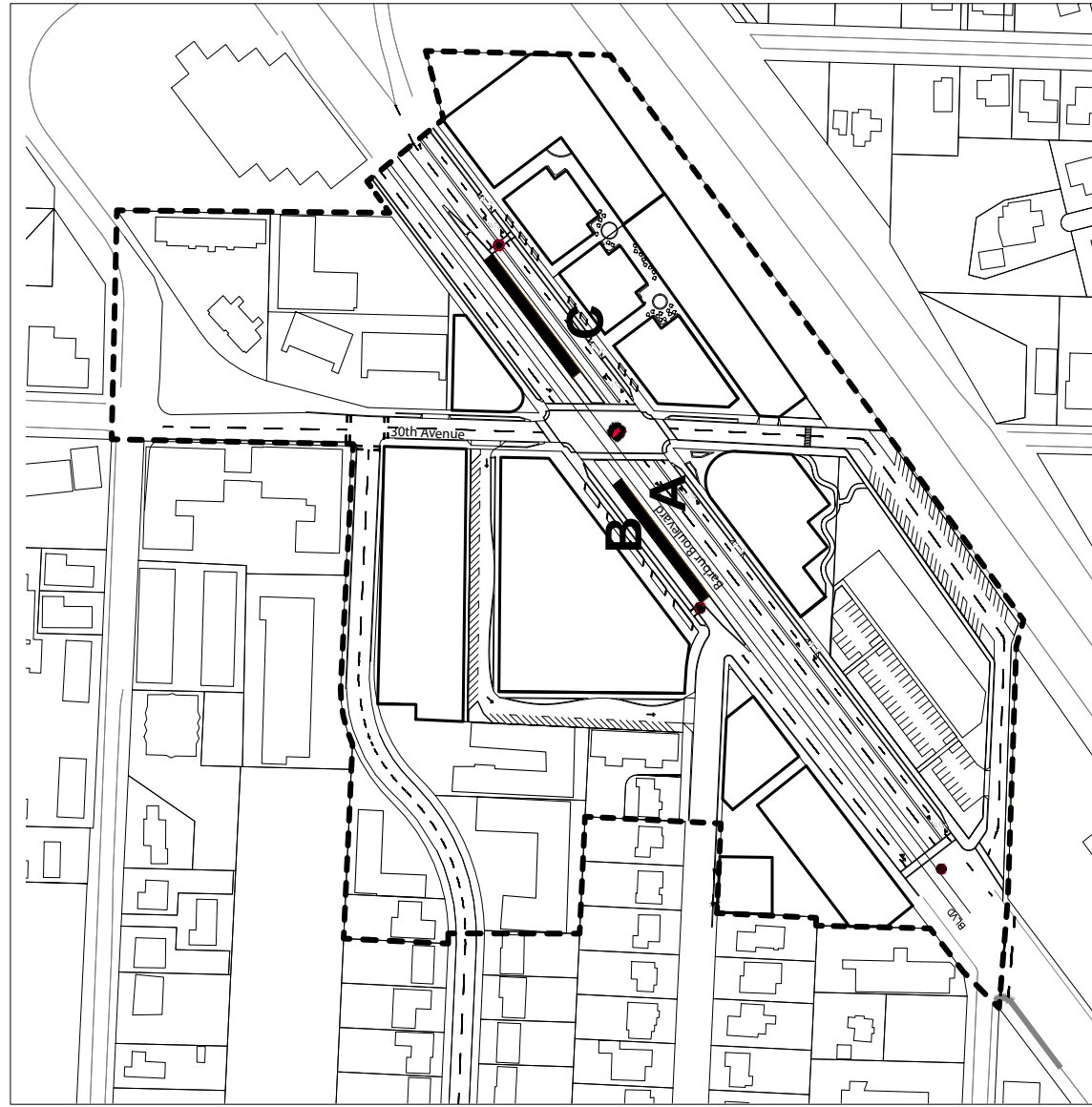
- Legend**
- Study Area Boundary
  - - - Taxiway
  - ▭ New Building Footprints
  - ▭ Old Building Footprints
  - ▭ Building Footprints Outside Study Area
  - ▬ Light Rail Station

### Major Changes from DEIS

**A** Width of Barbur Boulevard right of way increased from X' to X' for reasons listed below. These changes were made to improve safety for pedestrians, establish an identity and improve green infrastructure.

**B** One lane of automobile traffic was removed along both of the light rail stations to accommodate a larger platform with a planted barrier. The larger platform will be more comfortable for people loading and unloading with bikes, children, groceries etc.; The planted barrier provides extra pervious surface to catch storm water from the street and light rail and it also improves the experience for people waiting to board the train as it blocks the commotion of automobile traffic.

**C** Sidewalks increased from 7'6" to 20' from bios wale edge to store front along Barbur Boulevard. The larger sidewalk provides outdoor space for restaurants and retail stores. Sidewalk space not taken by commercial folks can be used for thorough traffic, small street events, street vendors, sitting, napping and running etc.;



LA 4/594 | Ali Pougiales | Rob Ribe & Yekang Ko

Figure 87: Map of street design with side-running bicycle lanes. This map describes the major design changes from the DEIS.

## 30th Ave Neighborhood Node | Side Running Section

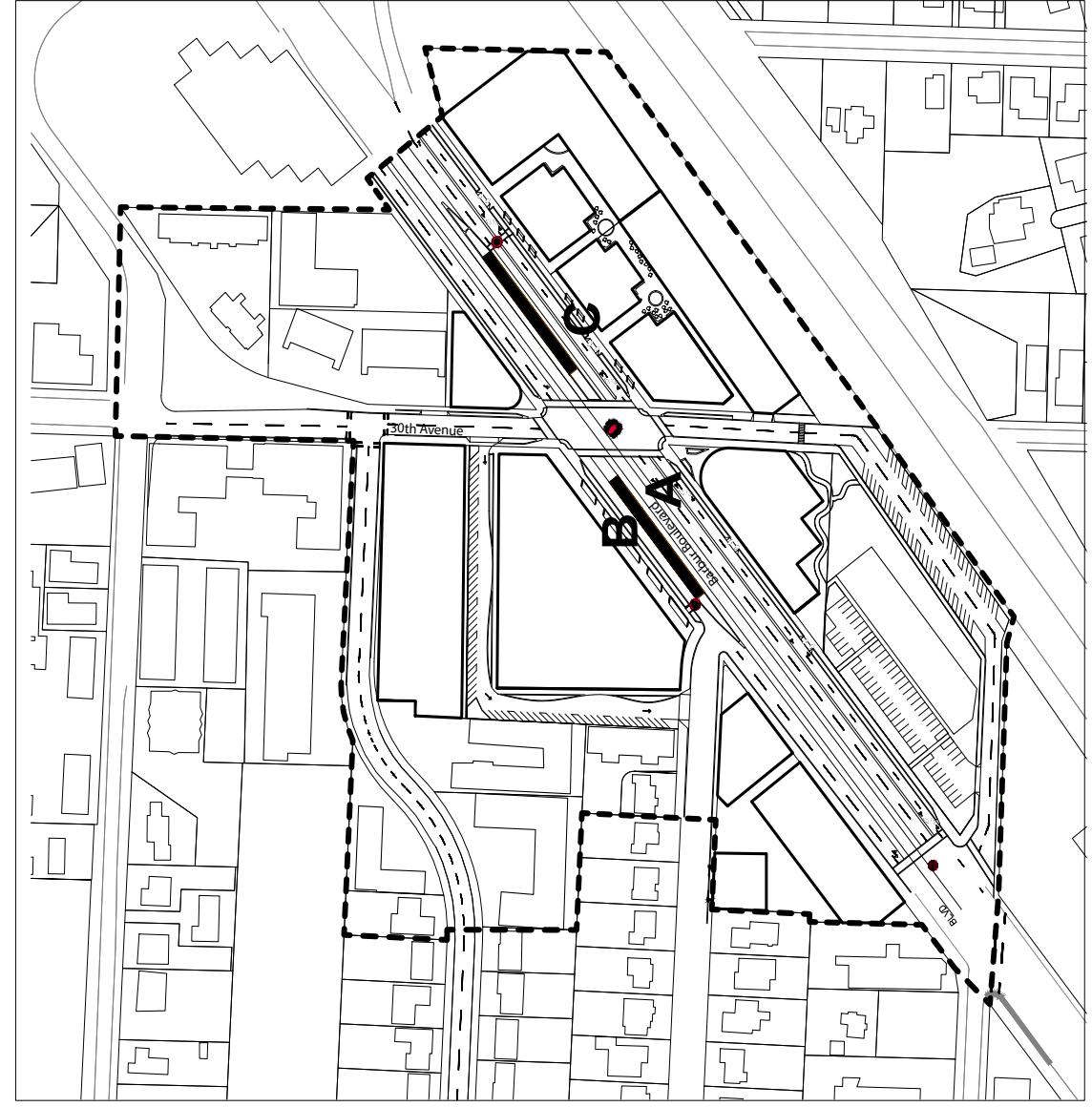
- Legend**
- Study Area Boundary
  - - - Taxiway
  - ▭ New Building Footprints
  - ▭ Old Building Footprints
  - ▭ Building Footprints Outside Study Area
  - ▬ Light Rail Station

### Major Changes from DEIS

**A** Width of Barbur Boulevard right of way increased from X' to X' for reasons listed below. These changes were made to improve safety for pedestrians, establish an identity and improve green infrastructure.

**B** One lane of automobile traffic was removed along both of the light rail stations to accommodate a larger platform with a planted barrier. The larger platform will be more comfortable for people loading and unloading with bikes, children, groceries etc.; The planted barrier provides extra pervious surface to catch storm water from the street and light rail and it also improves the experience for people waiting to board the train as it blocks the commotion of automobile traffic.

**C** Sidewalks increased from 7'6" to 20' from bios wale edge to store front along Barbur Boulevard. The larger sidewalk provides outdoor space for restaurants and retail stores. Sidewalk space not taken by commercial folks can be used for thorough traffic, small street events, street vendors, sitting, napping and running etc.;



LA 4/594 | Ali Pougiales | Rob Ribe & Yekang Ko

Figure 88: This map shows the same street design as Figure 87, but instead highlights the remaining accessibility and safety concerns.

# 30th Ave

Neighborhood Node | Side Running Section

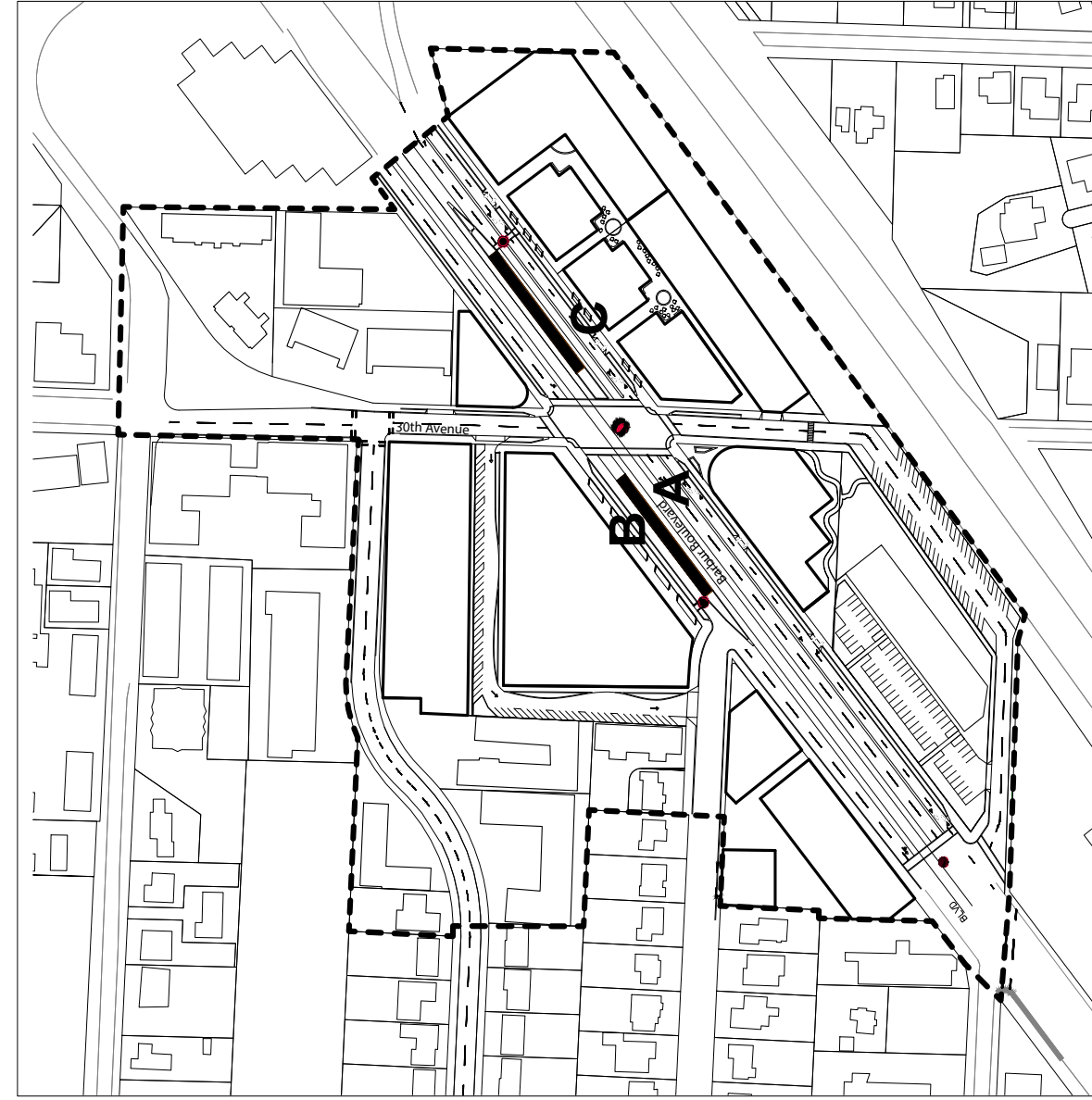


Figure 89: Map provides design details and cross section lines for side-running street design.

## Major Changes from DEIS

**A** Width of Barbur Boulevard right of way increased from X' to X' for reasons listed below. These changes were made to improve safety for pedestrians, establish an identity and improve green infrastructure.

**B** One lane of automobile traffic was removed along both of the light rail stations to accommodate a larger platform with a planted barrier. The larger platform will be more comfortable for people loading and unloading with bikes, children, groceries etc.. The planted barrier provides extra pervious surface to catch storm water from the street and light rail and it also improves the experience for people waiting to board the train as it blocks the commotion of automobile traffic.

**C** Sidewalks increased from 7'6" to 20' from bios wale edge to store front along Barbur Boulevard. The larger sidewalk provides outdoor space for restaurants and retail stores. Sidewalk space not taken by commercial folks can be used for thorough traffic, small street events, street vendors, sitting, napping and running etc.;



LA 4/594 | Ali Pougiales | Rob Ribe & Yekang Ko

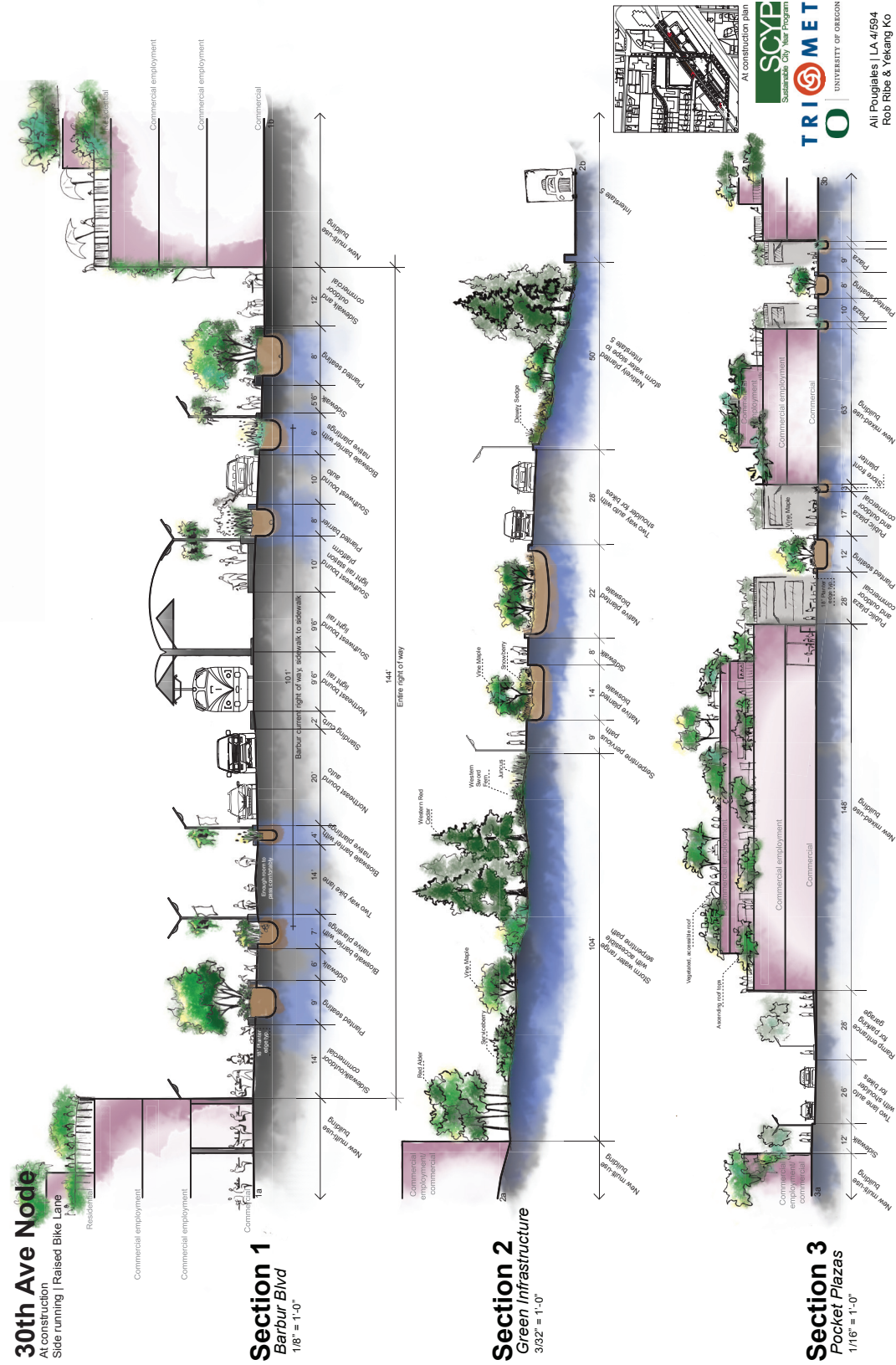
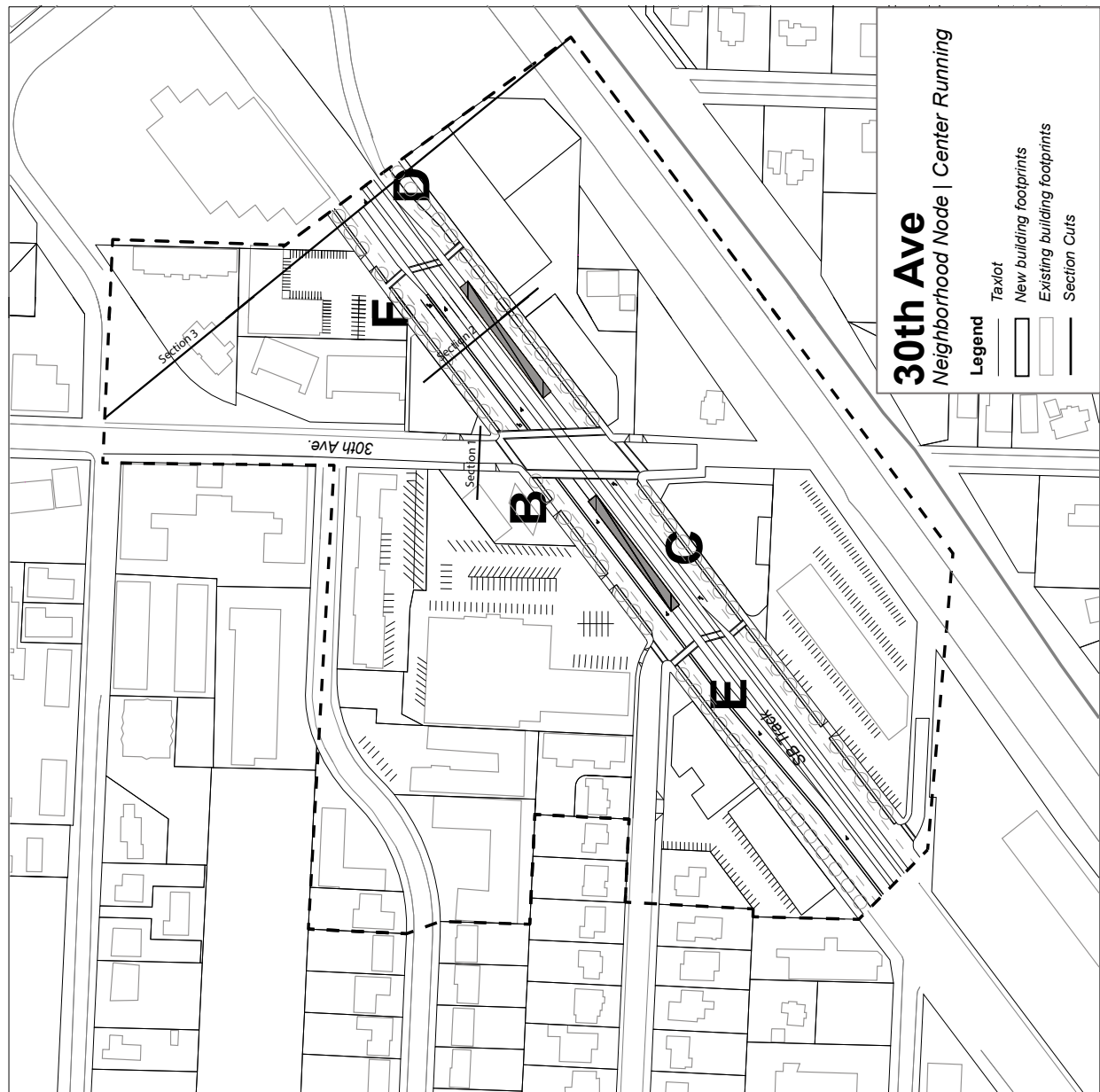


Figure 90: Cross sections with side-running bicycle lanes at multiple locations along Barbur Boulevard. Each location is referenced in Figure 89.



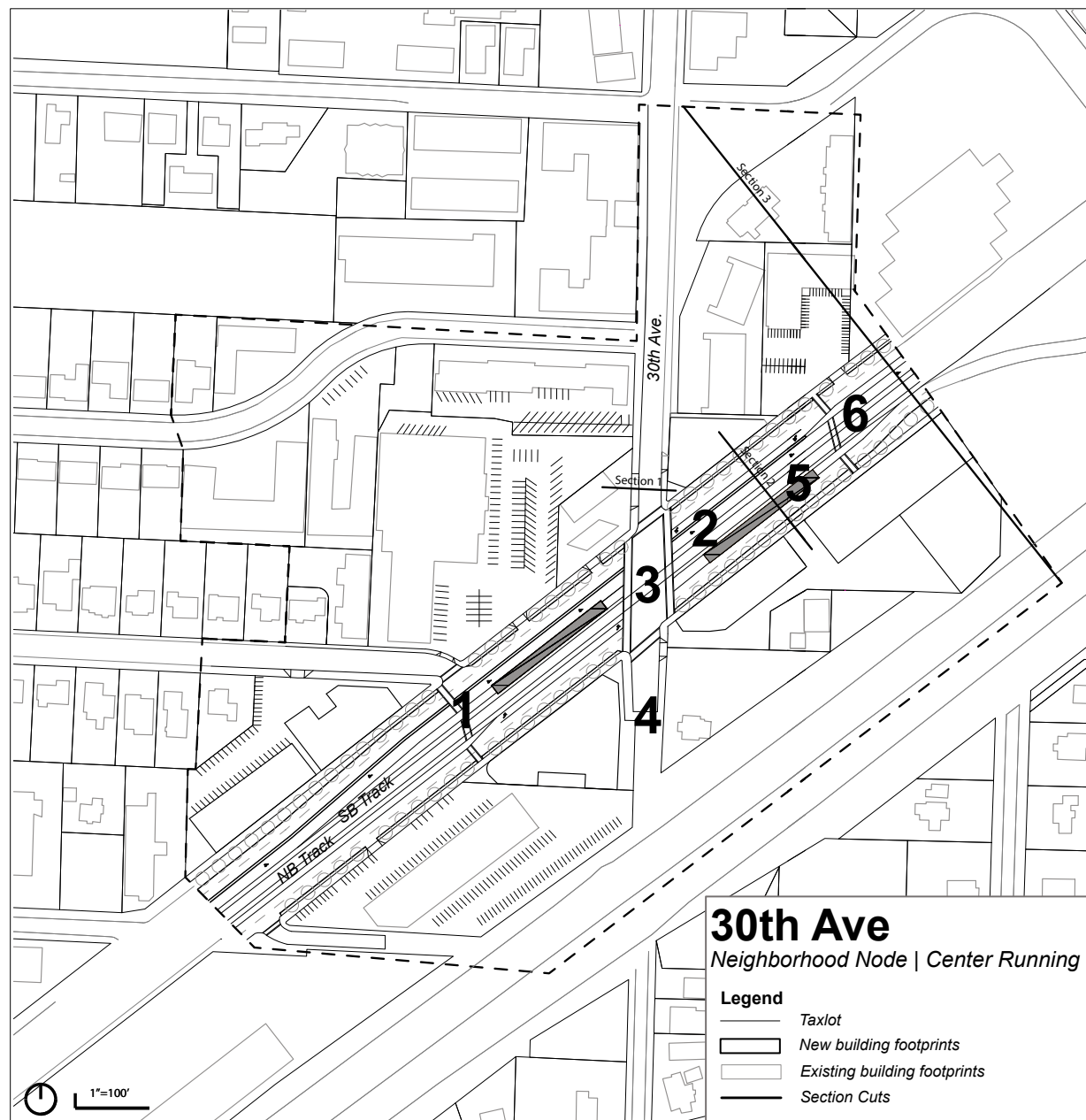
LA 4/594 | Jill Stone | Rob Ribe & Yekang Ko

Figure 91: Map of street design with center-running bicycle lanes. This map indicates the major design changes from the DEIS.

## Major Changes

- A** The new ROW for Barbur boulevard is 142', approximately 28' wider than the DEIS plan. The majority of this expansion comes from larger sidewalks, extra stormwater facilities, and no fluctuation in the ROW for the 30th Ave. station. By not varying the width of the road, the long allée of trees and straightaway help promote the civic corridor feel.
- B** The gas station at the corner of 30th Ave and Barbur Blvd will remain at construction. Though the new ROW hits the pumphouse of the current gas station, the station will be redeveloped and flipped in order to accommodate the wider ROW. I believe Barbur Blvd will still serve a major population of drivers and the gas station is an important
- C** The sidewalk on both the north and south sides of Barbur Blvd have been expanded to 10'. A larger sidewalk inspires a more engaged public space with surrounding businesses. People will be encouraged to linger and spend time in the neighborhood, rather than just move through it.
- D** Because of the wider ROW than the DEIS plan, the road outside of the stations can be expanded for other purposes. In this area, the planting strip on the south side of the road has been expanded from 4' to 17', where a stormwater facility has been installed. This area will be able to handle a large amount of the water running off of the south lanes of Barbur blvd. while adding a more diverse green space to the neighborhood.
- E** The bike path has been moved to a raised center running alignment. This allows for safer cycling that is more oriented towards commuting, as there are less opportunities for the bikes to get off of Barbur and onto surrounding streets. There are also a couple of jogs in the bike path to slow bikes when the path approaches pedestrian crosswalks.
- F** Both sides of Barbur have been outfitted with silvacells underneath the 10 ft sidewalk. This will encourage soil health and aid in keeping the two tree allées healthy.

Figure 92 Descriptions of major design changes mapped in Figure 91.



LA 4/594 | Jill Stone | Rob Ribe & Yekang Ko

Figure 93: Maps of street design with center-running bicycle lanes. This map shows locations of remaining accessibility and safety concerns

## Safety & Accessibility Issues

- 1** *There are two cross walks besides the signaled main intersection. The crosswalks will have a blinking pedestrian light but cars and bikes will still be moving fast through the area. Furthermore, these crosswalks could cause some traffic issues by slowing the cars on Barbur down.*
- 2** *The cyclists can only access either side of Barbur boulevard at the two crosswalks. This limited accessibility might upset certain local residents, or deter commuters from stopping in this neighborhood.*
- 3** *This intersection has a lot of moving parts. There needs to be separate light signals for the bikes to turn off of Barbur and onto 30th, as well as time for turn signals and pedestrian crossings. The light to accommodate all of the different users of Barbur Blvd could be long, which might increase traffic congestion.*
- 4** *This access road towards the parking garage is currently pretty small. Some congestion might occur when cars are entering and leaving the parking garage.*
- 5** *The south side of this station platform does not have any protection from the road. It sits only 1 ft above Barbur and may need a safety railing, etc, to keep people from accidentally stepping onto a busy street.*
- 6** *The two crosswalks that intersect Barbur Blvd away from the main intersection are shared by cyclists and pedestrians. Two user types in a small space could result in accessibility issues.*

Figure 94: Description of remaining safety and accessibility issues mapped in Figure 93.

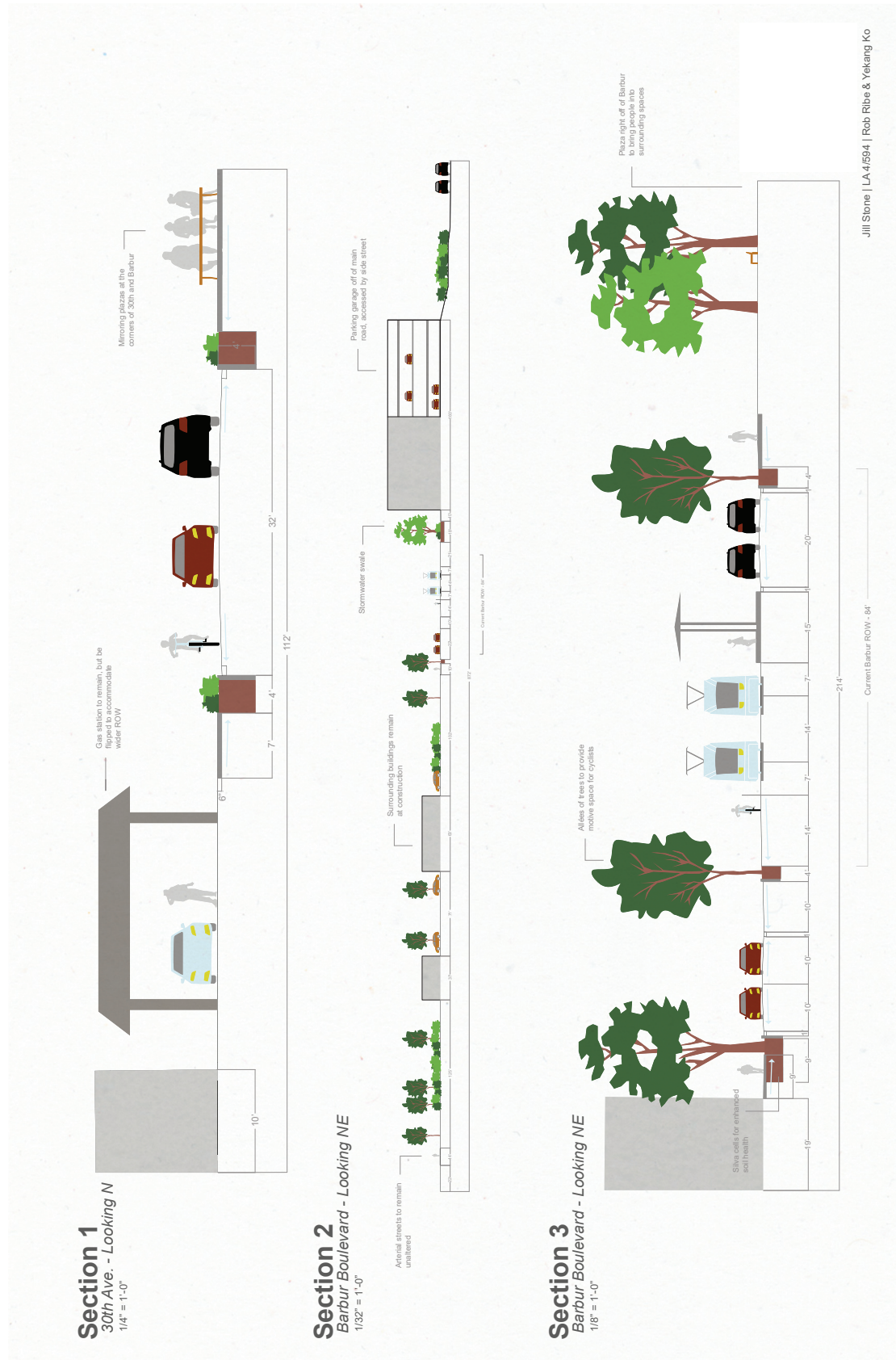


Figure 95: Cross sections with center-running bicycle lanes at multiple locations along Barbur Boulevard. Each location is referenced in Figure 93.

## Study Area 6: Southwest Corridor

### Street Design Plans

#### Goal I: Create opportunities for a variety of transportation modes

- Design well-configured bicycle lanes and safe pedestrian crossings

#### Goal II: Increase connectivity between Barbur Boulevard and adjacent urban centers

- Design pedestrian-oriented arterial streets
- Develop an increased network of open spaces on both public and private property

#### Goal III: Capture, treat, and recirculate stormwater onsite

- Integrate stormwater facilities into streetscape
- Reduce amount of impermeable surfaces

### BARBUR BOULEVARD AS CIVIC CORRIDOR:

Photo context map:



Figure 96 Southwest Corridor overview map.

**SOUTHWEST CORRIDOR: 50-YEAR DEVELOPMENT PLAN**

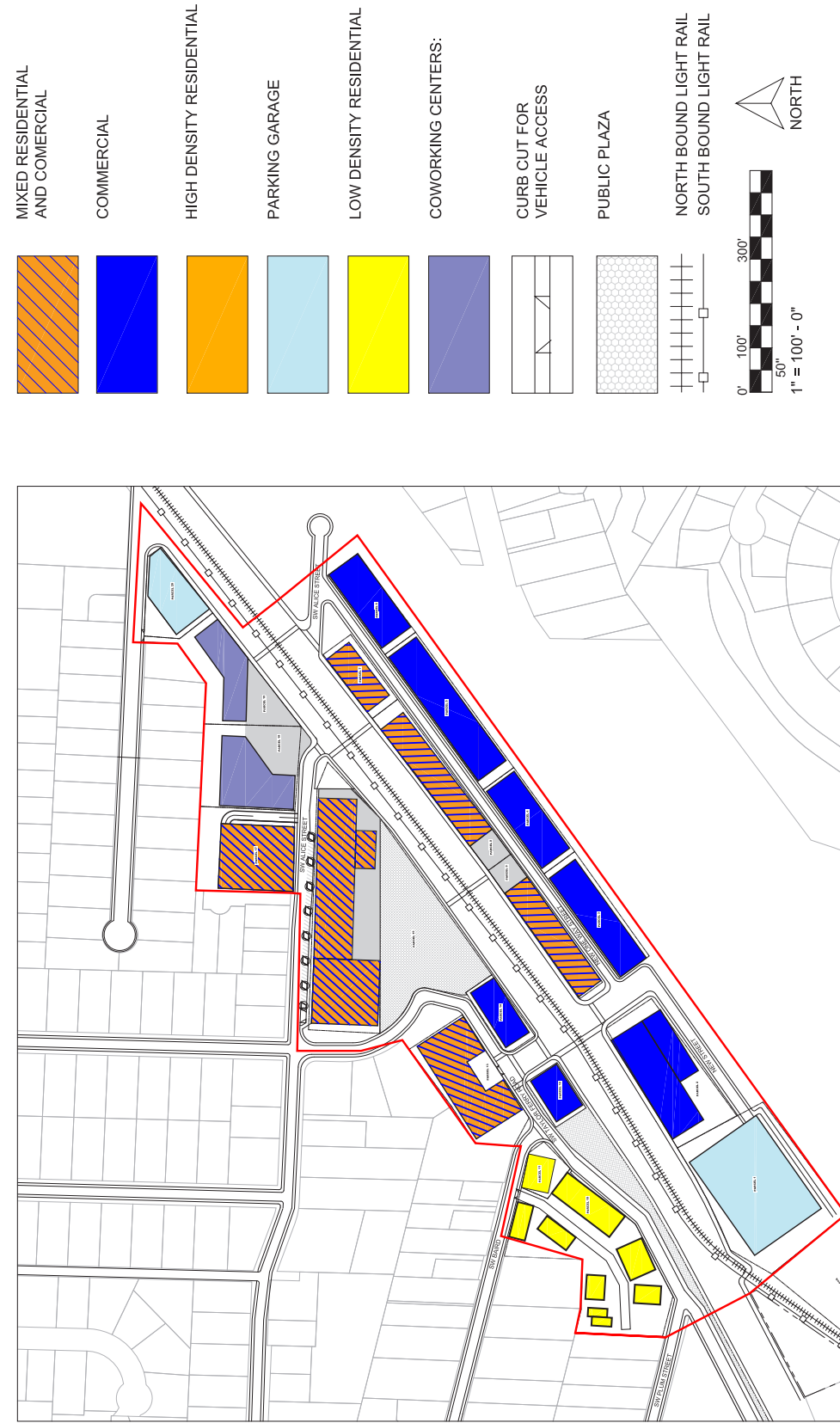


Figure 97: Land use projection for 2050.

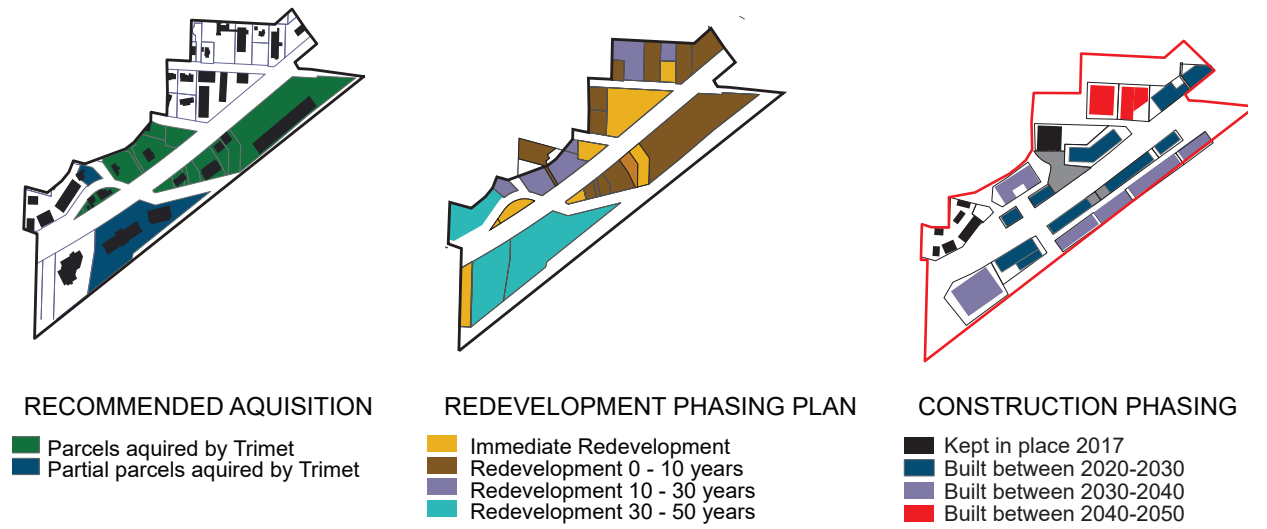


Figure 98: Projected phases of redevelopment.

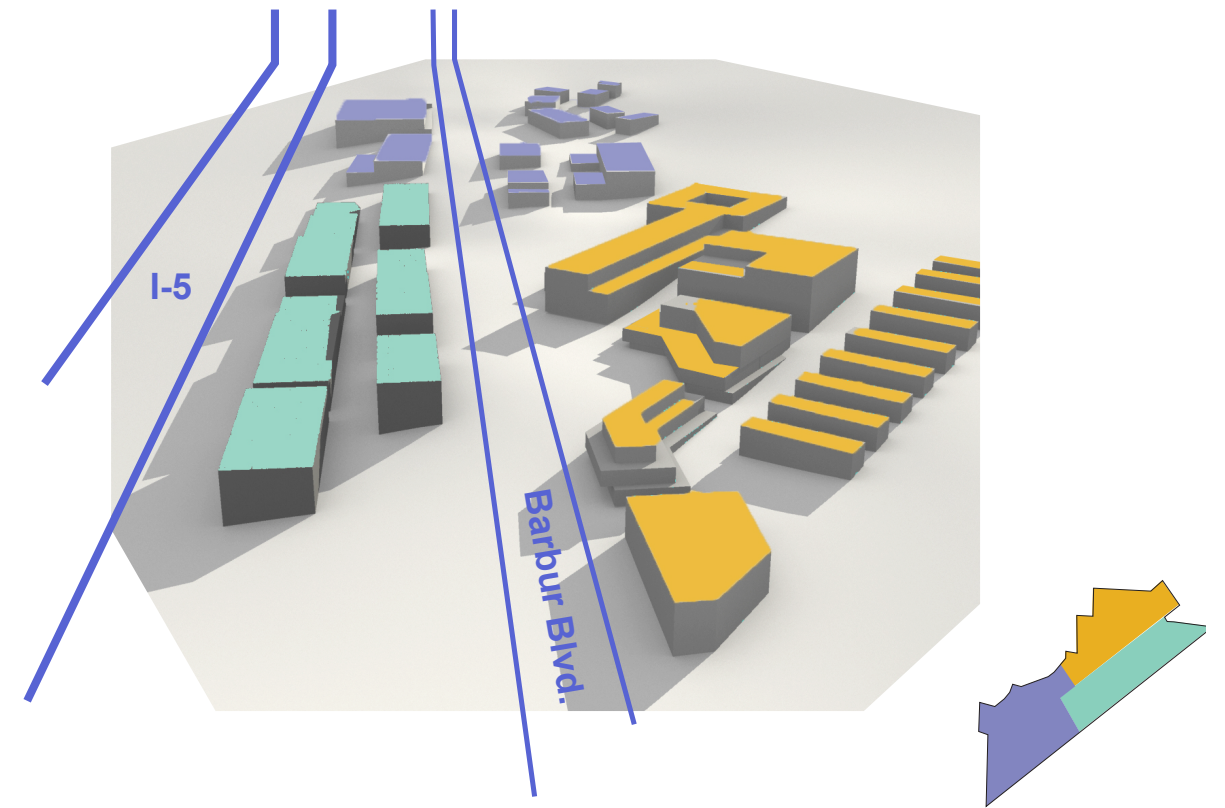
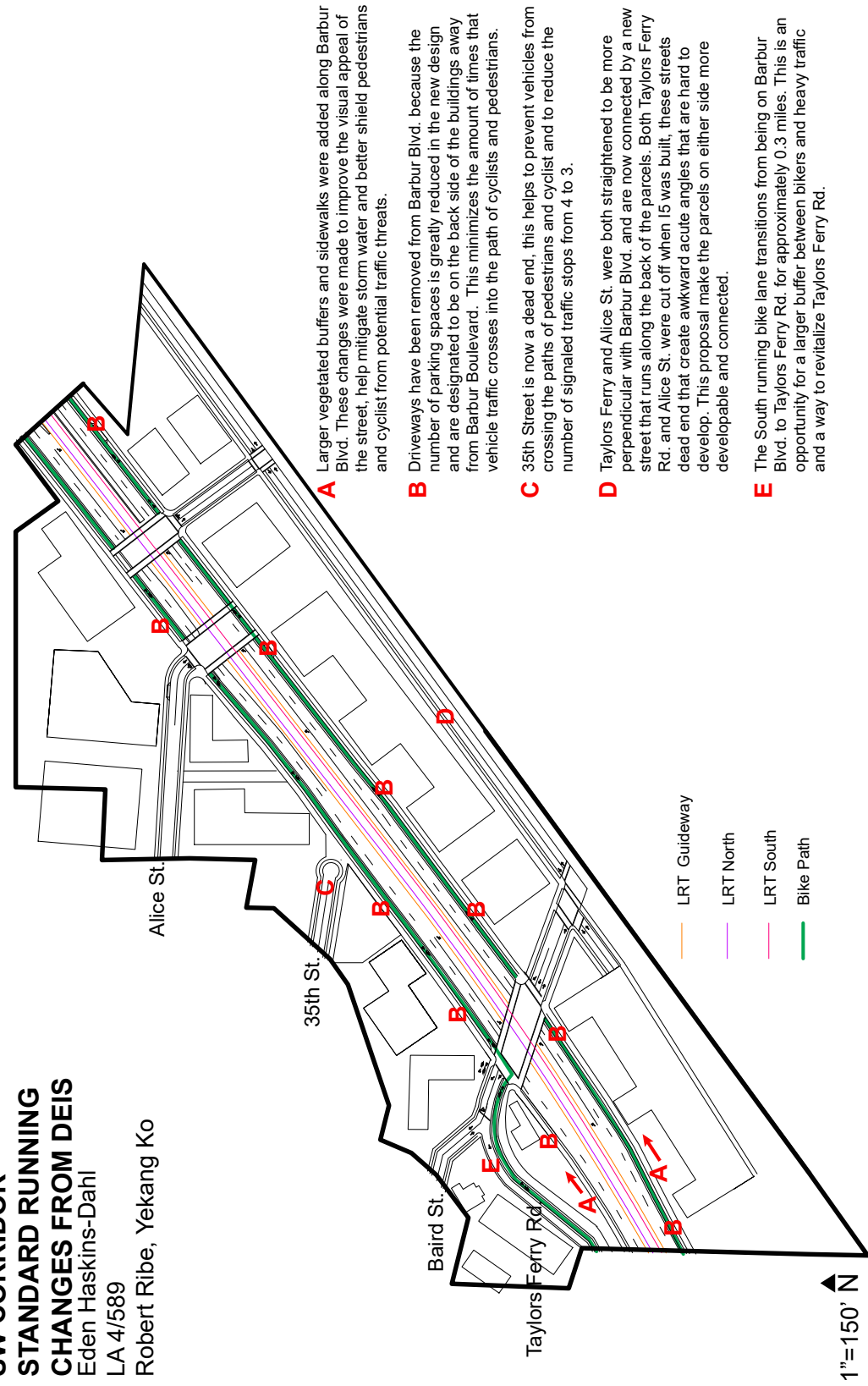


Figure 99: Massing study depicts speculative three-dimensional representation of buildings for 2050.

**SW CORRIDOR  
STANDARD RUNNING  
CHANGES FROM DEIS**

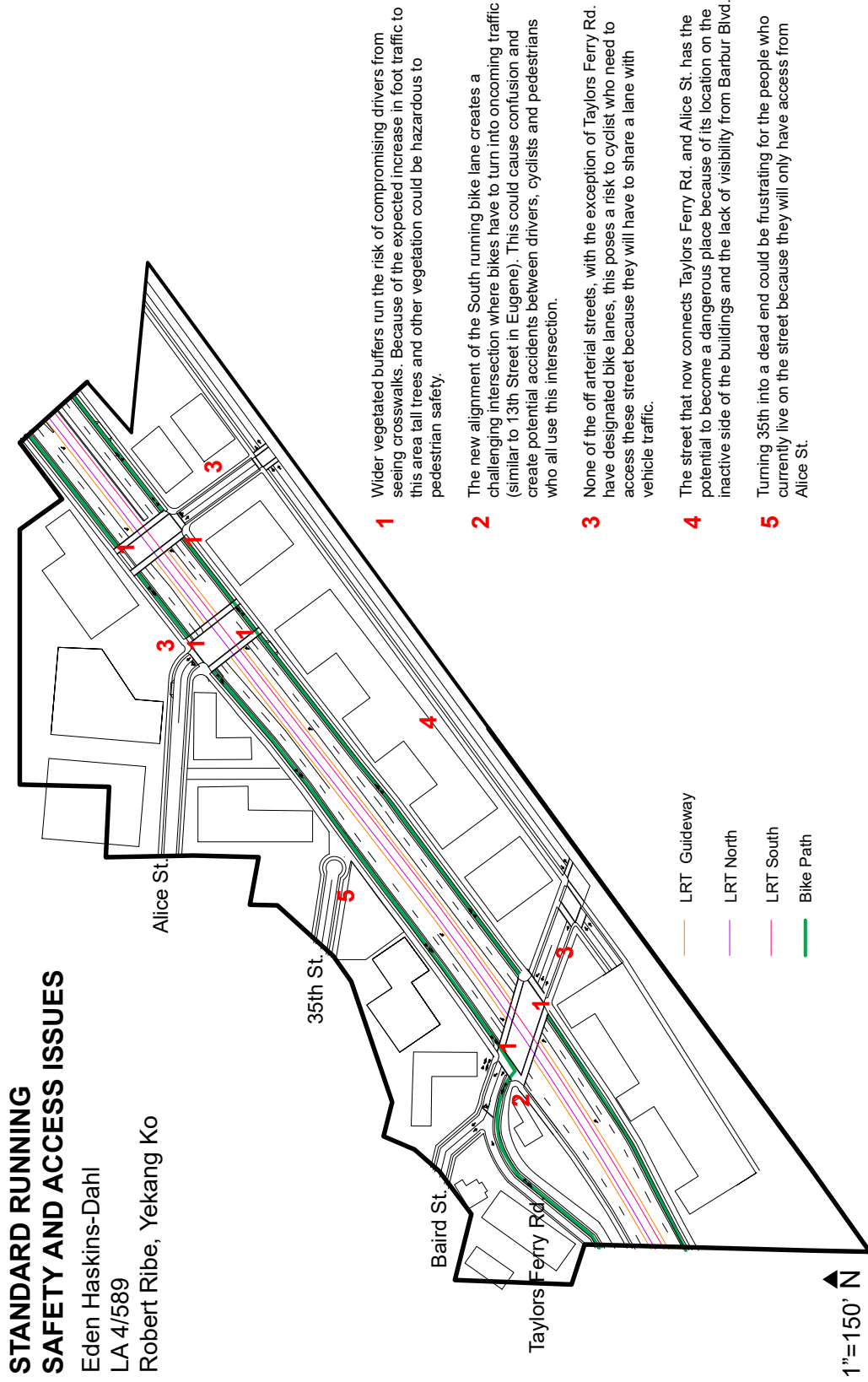
Eden Haskins-Dahl  
LA 4/589  
Robert Ribe, Yekang Ko



- A** Larger vegetated buffers and sidewalks were added along Barbur Blvd. These changes were made to improve the visual appeal of the street, help mitigate storm water, and better shield pedestrians and cyclist from potential traffic threats.
- B** Driveways have been removed from Barbur Blvd. because the number of parking spaces is greatly reduced in the new design and are designated to be on the back side of the buildings away from Barbur Boulevard. This minimizes the amount of times that vehicle traffic crosses into the path of cyclists and pedestrians.
- C** 35th Street is now a dead end, this helps to prevent vehicles from crossing the paths of pedestrians and cyclist and to reduce the number of signaled traffic stops from 4 to 3.
- D** Taylors Ferry and Alice St. were both straightened to be more perpendicular with Barbur Blvd. and are now connected by a new street that runs along the back of the parcels. Both Taylors Ferry Rd. and Alice St. were cut off when I5 was built, these streets dead end that create awkward acute angles that are hard to develop. This proposal make the parcels on either side more developable and connected.
- E** The South running bike lane transitions from being on Barbur Blvd. to Taylors Ferry Rd. for approximately 0.3 miles. This is an opportunity for a larger buffer between bikers and heavy traffic and a way to revitalize Taylors Ferry Rd.

**SW CORRIDOR  
STANDARD RUNNING  
SAFETY AND ACCESS ISSUES**

Eden Haskins-Dahl  
LA 4/589  
Robert Ribe, Yekang Ko



- 1** Wider vegetated buffers run the risk of compromising drivers from seeing crosswalks. Because of the expected increase in foot traffic to this area tall trees and other vegetation could be hazardous to pedestrian safety.
- 2** The new alignment of the South running bike lane creates a challenging intersection where bikes have to turn into oncoming traffic (similar to 13th Street in Eugene). This could cause confusion and create potential accidents between drivers, cyclists and pedestrians who all use this intersection.
- 3** None of the off arterial streets, with the exception of Taylors Ferry Rd. have designated bike lanes, this poses a risk to cyclist who need to access these street because they will have to share a lane with vehicle traffic.
- 4** The street that now connects Taylors Ferry Rd. and Alice St. has the potential to become a dangerous place because of its location on the inactive side of the buildings and the lack of visibility from Barbur Blvd.
- 5** Turning 35th into a dead end could be frustrating for the people who currently live on the street because they will only have access from Alice St.

Figure 100: Map of street design with standard-running bicycle lanes. This map describes the major design changes from the DEIS.

Figure 101: This map shows the same street design as Figure 100, but depicts remaining safety and accessibility concerns.

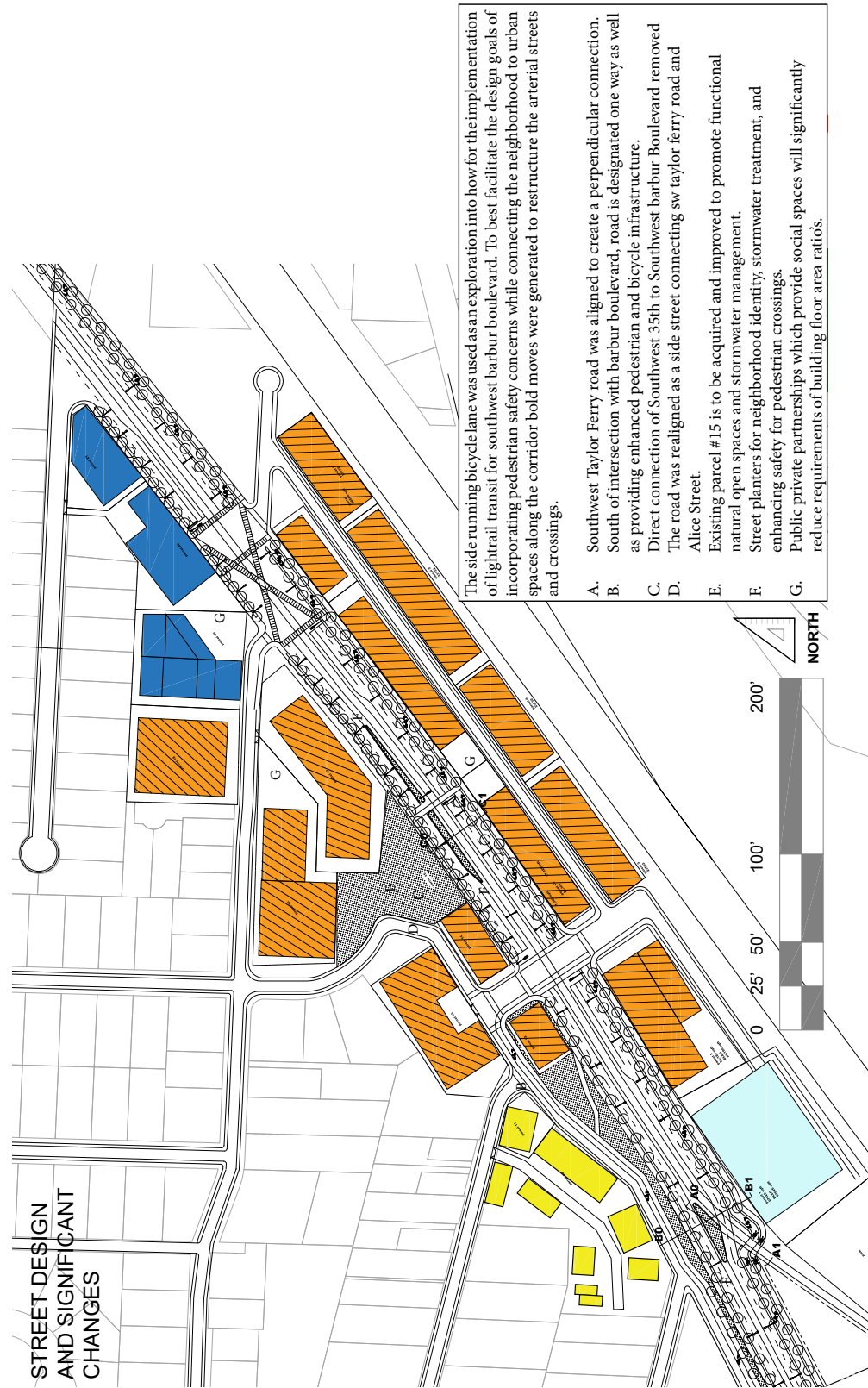


Figure 102: Map of street design with side-running bicycle lanes. This map describes the major design changes from the DEIS.

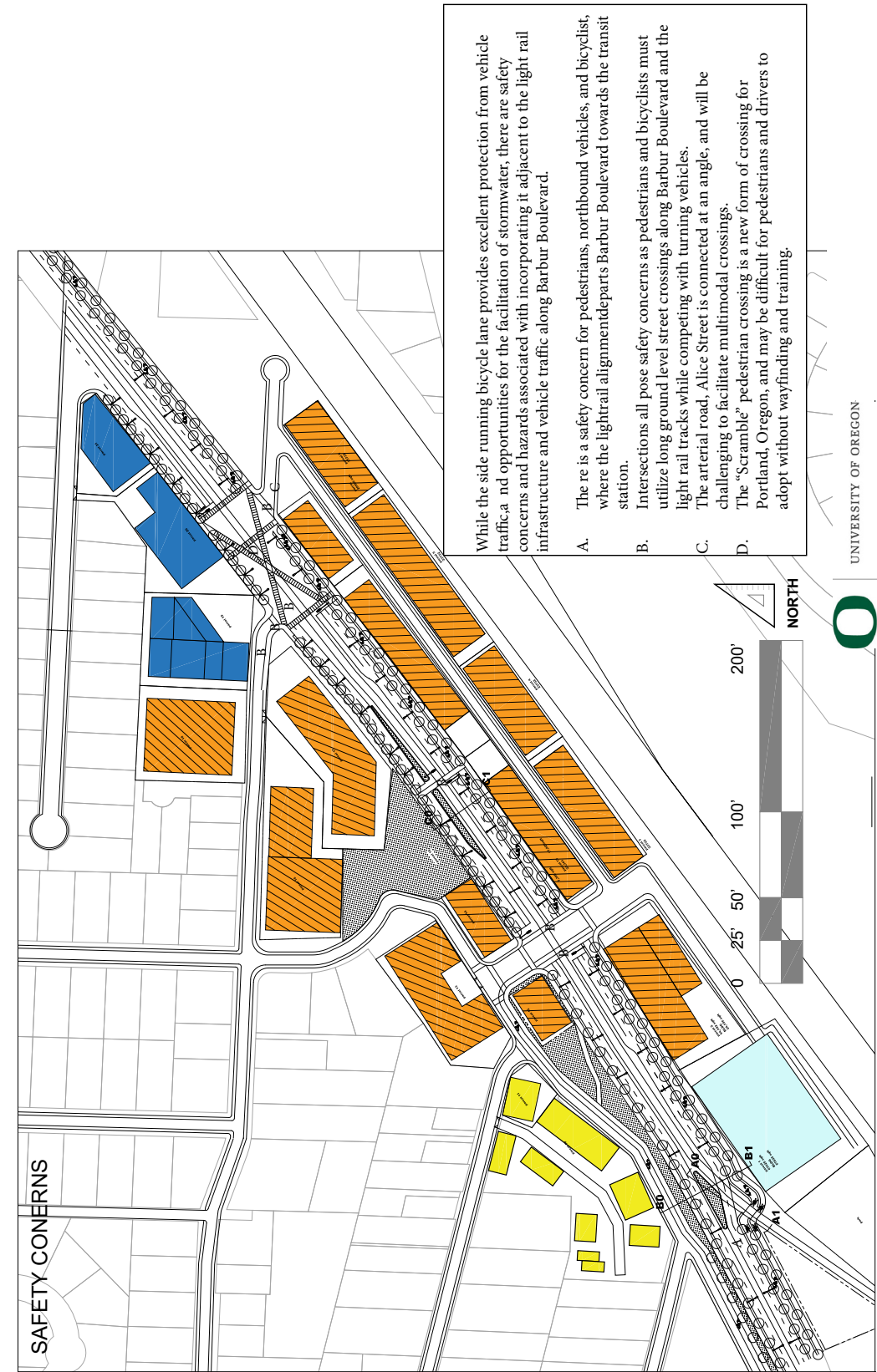


Figure 103: This map shows the same street design as Figure 102, but instead highlights the remaining accessibility and safety concerns.

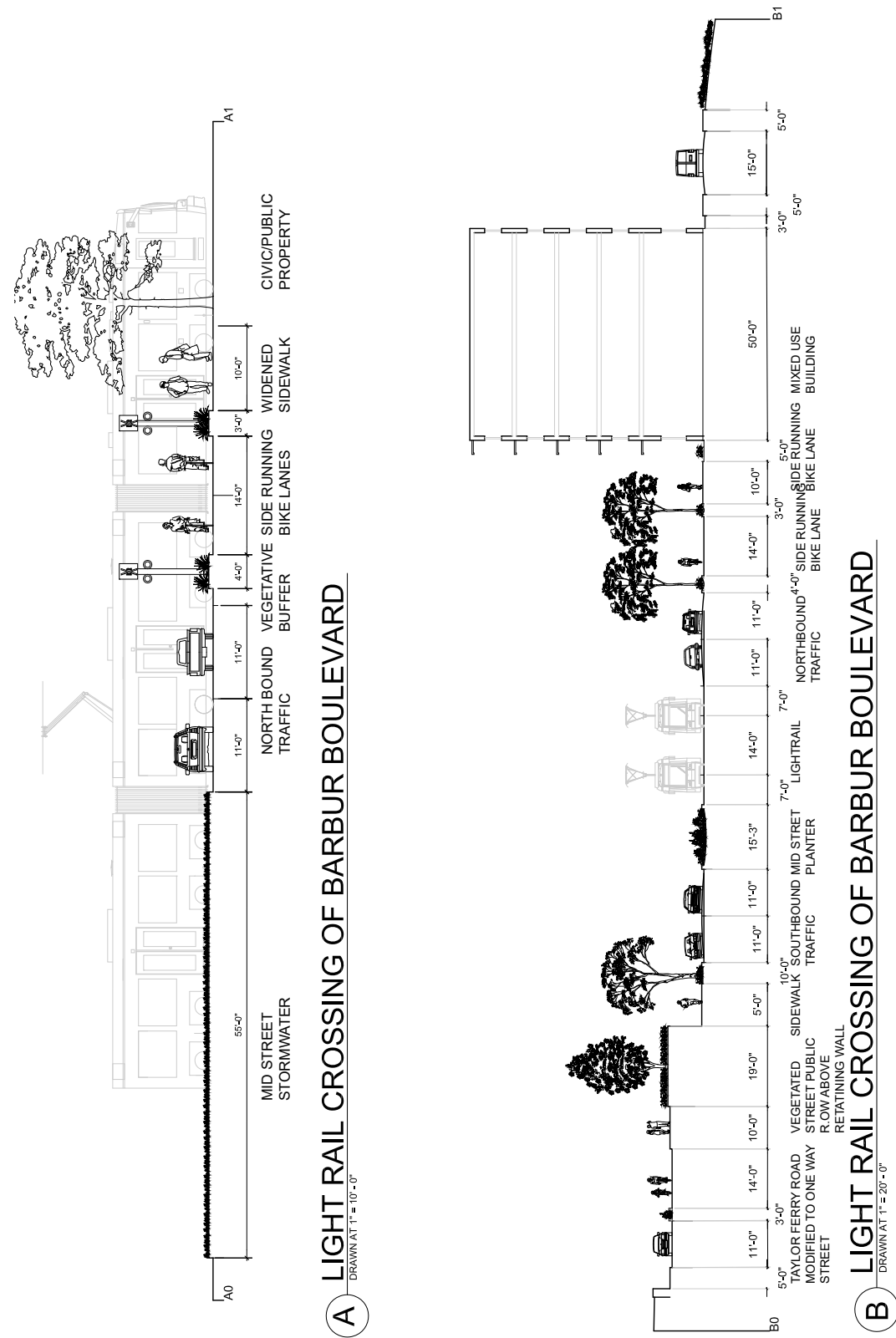


Figure 104: Cross sections with side-running bicycle lanes at multiple locations along Barbur Boulevard. Each location is referenced in Figure 103.

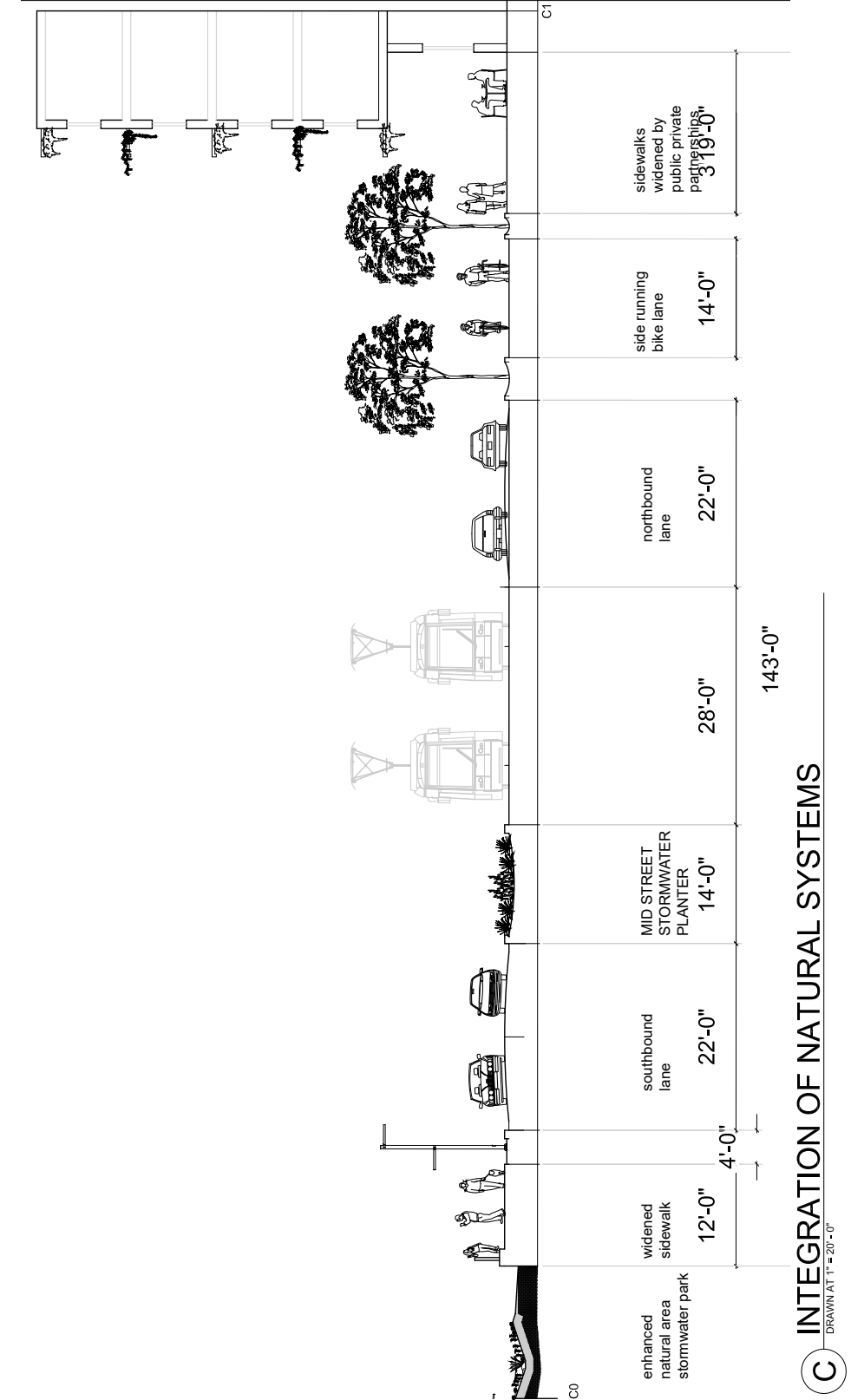


Figure 105: Cross sections with side-running bicycle lanes at multiple locations along Barbur Boulevard. Each location is referenced in Figure 103.

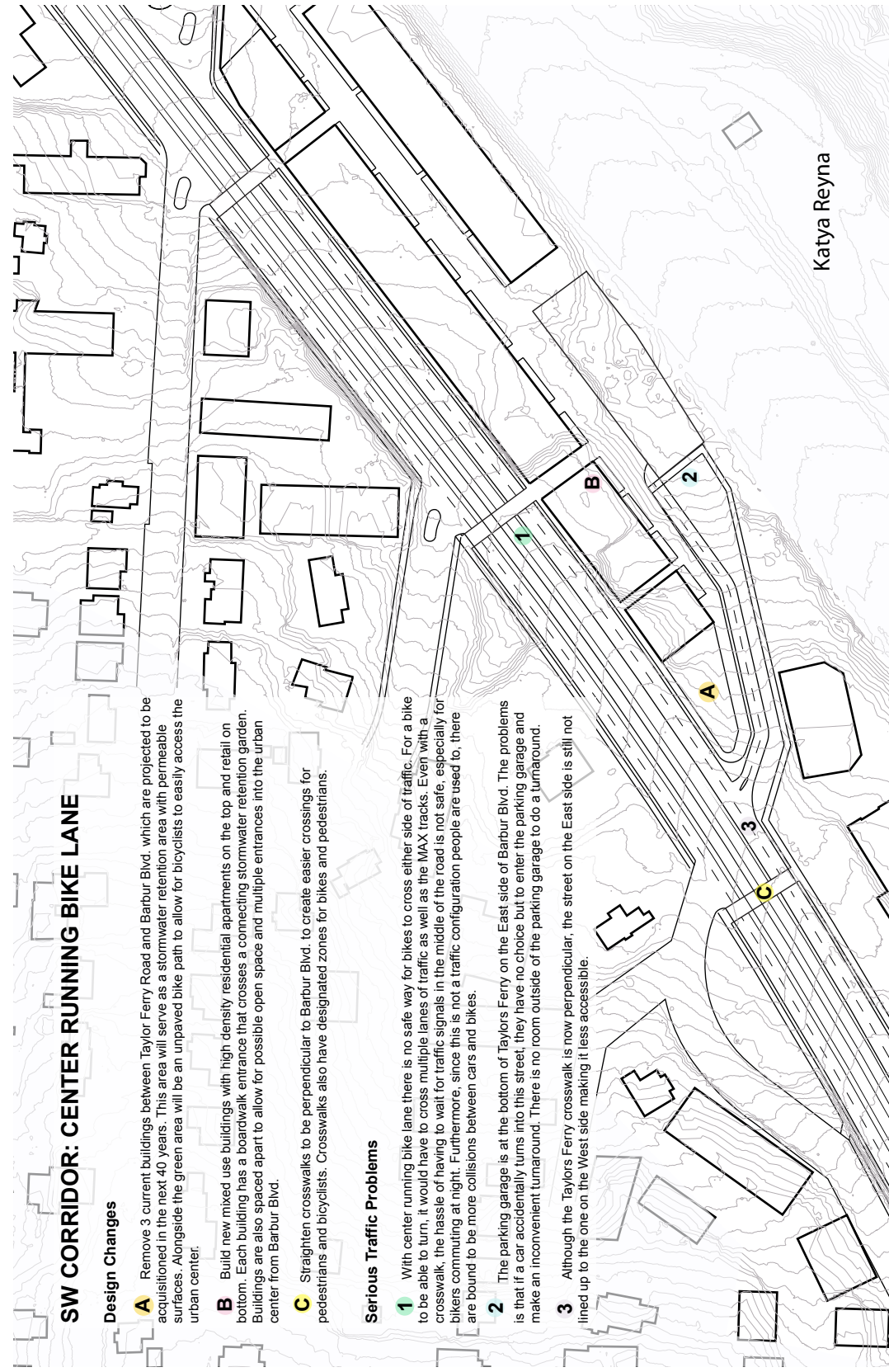


Figure 106: Map of street design with center-running bicycle lanes. This map describes the major design changes from the DEIS as well as remaining accessibility and safety concerns.



Figure 107: This map depicts a sub-area design that aims to revitalize Taylor's Ferry Road.

## Sub-area Designs

The overarching goal of this design implementation within the Southwest Corridor is to contribute to the redevelopment of Barbur Boulevard as a vibrant urban corridor. This design specifically aims to address stormwater mitigation, safety for daily commuters, and the creation of space that fosters community. The stormwater infiltration garden, community plaza, and cyclist thoroughfare begin to achieve these goals.

The existing slope of this site and the land that lies to the northwest of the site provide an excellent opportunity for channeling stormwater. The terraced stormwater gardens and street swales are facilities aimed to capture and filter stormwater. The incorporation of vegetated planters in the design allows for increased water permeability into the site.

The new configuration of the bicycle lane that runs through the site connecting Barbur Boulevard to Taylors Ferry Road creates the safest possible biking route for commuters. This realignment of the bicycle lane brings life back into the neighborhood and utility back to Taylors Ferry Road.

The plaza is a space for commuters who are biking or using the light rail, and community members who walked from their houses, to come enjoy the new urban corridor. This public outdoor space acts as a relief for those trying to rest or sit in the new highly dense commercial area.



Figure 108: West Portland Town Center overview map.

## Study Area 7: West Portland Town Center

### Street Design Plans

#### Goal I: Refocus Transportation Emphasis

- Design pedestrian- and bicycle-centric town center
- Slow automobile traffic
- Increase sense of safety

#### Goal II: Create Vibrant Town Center

- Provide space for a diversity of jobs
- Encourage civic amenities
- Create cohesive new identity





#### Goal III: Promote Open Space

- Connect green infrastructure
- Incorporate stormwater management
- Design open spaces at multiple scales

## West Portland Town Center

Light Rail on I-5 Option

### Land Use

-  Mixed Residential + Commercial
-  Commercial
-  Residential
-  Kept in Place from 2017

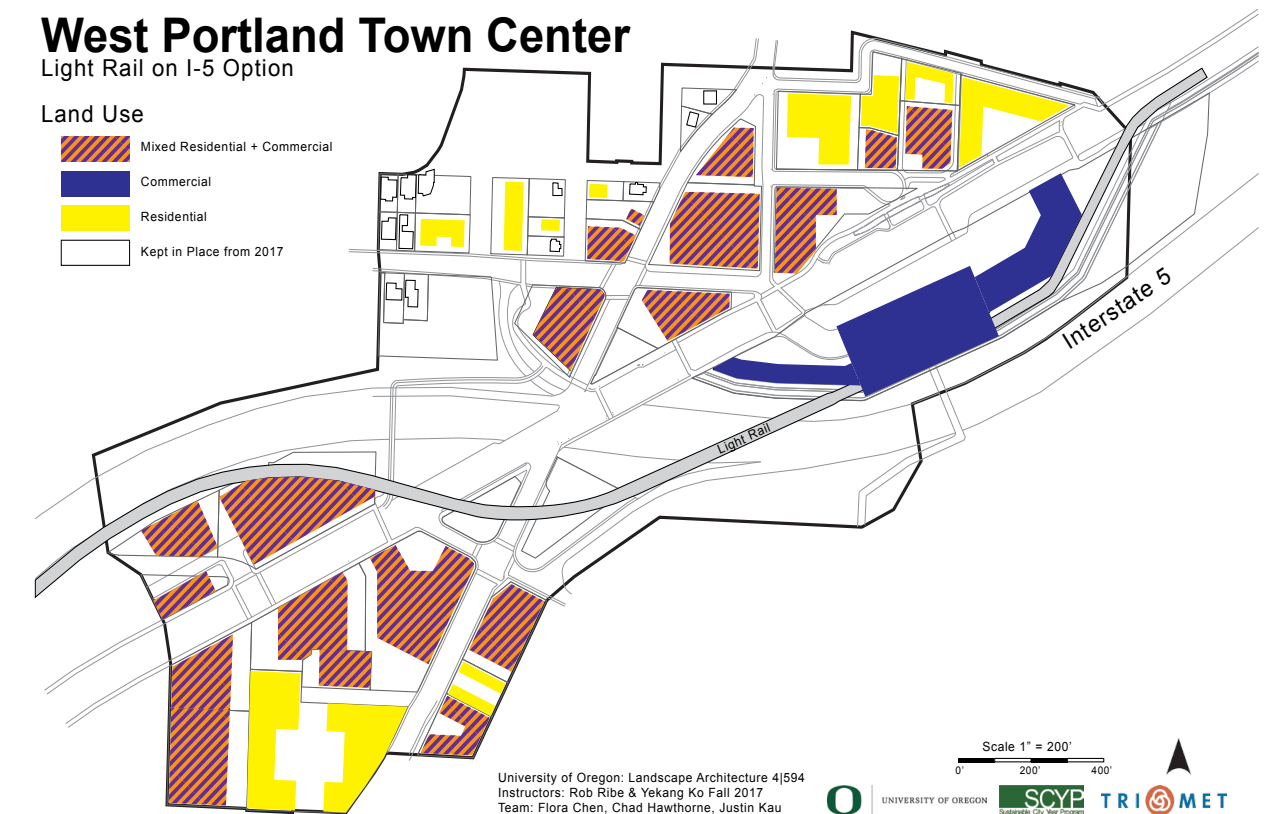
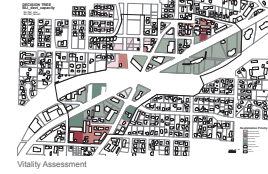


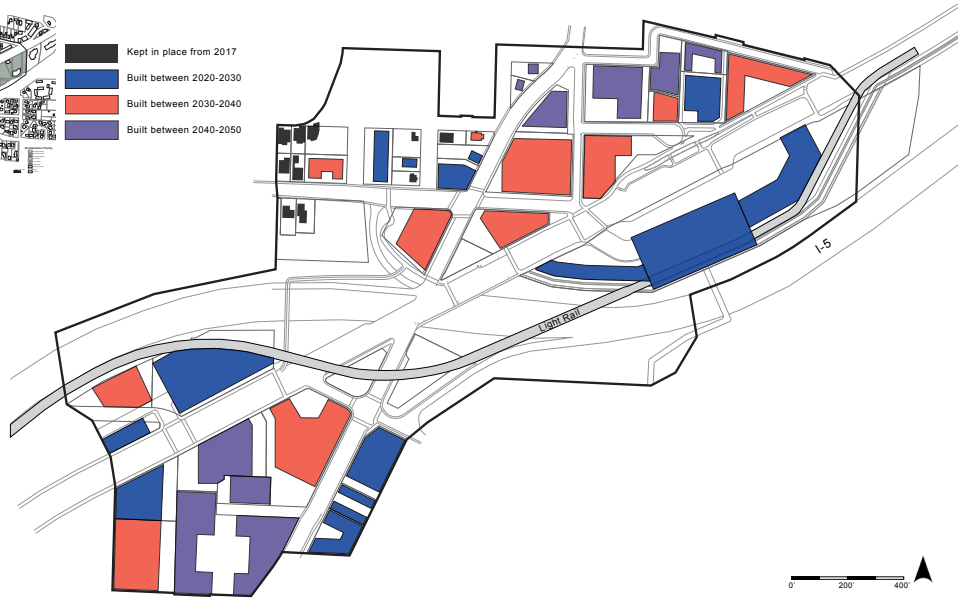
Figure 109: Land use projection for 2050.

# West Portland Town Center Vitality Figure Ground

map by Justin Kau



- Kept in place from 2017
- Built between 2020-2030
- Built between 2030-2040
- Built between 2040-2050



**Data Source**  
 • GIS: Portland, "land use, urban", "activity", "building", "population", "sa\_dens", "density"  
 • GIS: GIS Plan  
 • City of Portland Sector Concept Plan  
 • City of Portland 2035 Comprehensive Plan  
 TRIMET

Figure 110: Projected phases of redevelopment.

## West Portland Town Center Massing Study

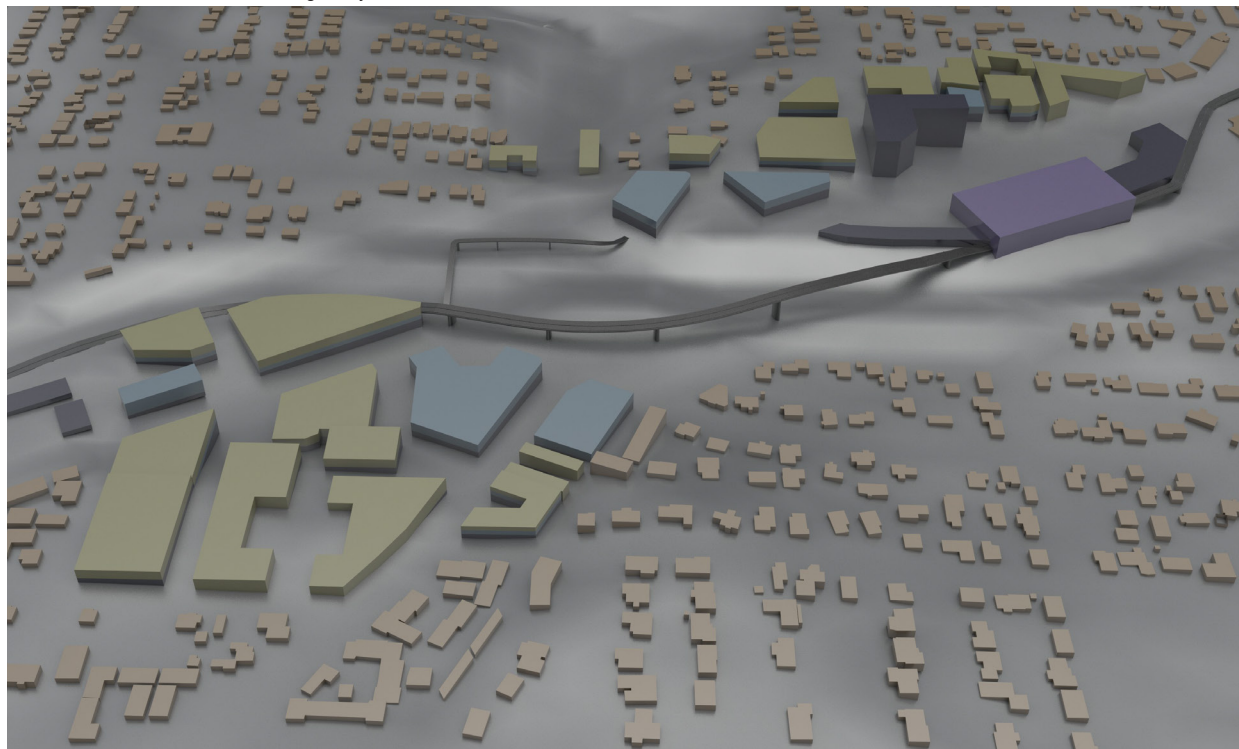


Figure 111: Massing study depicts speculative three-dimensional representation of buildings for 2050.



Figure 112: Master plan for West Portland Town Center with the light rail leaving Barbur Boulevard.

# West Portland Town Center

## Light Rail on I-5 Option

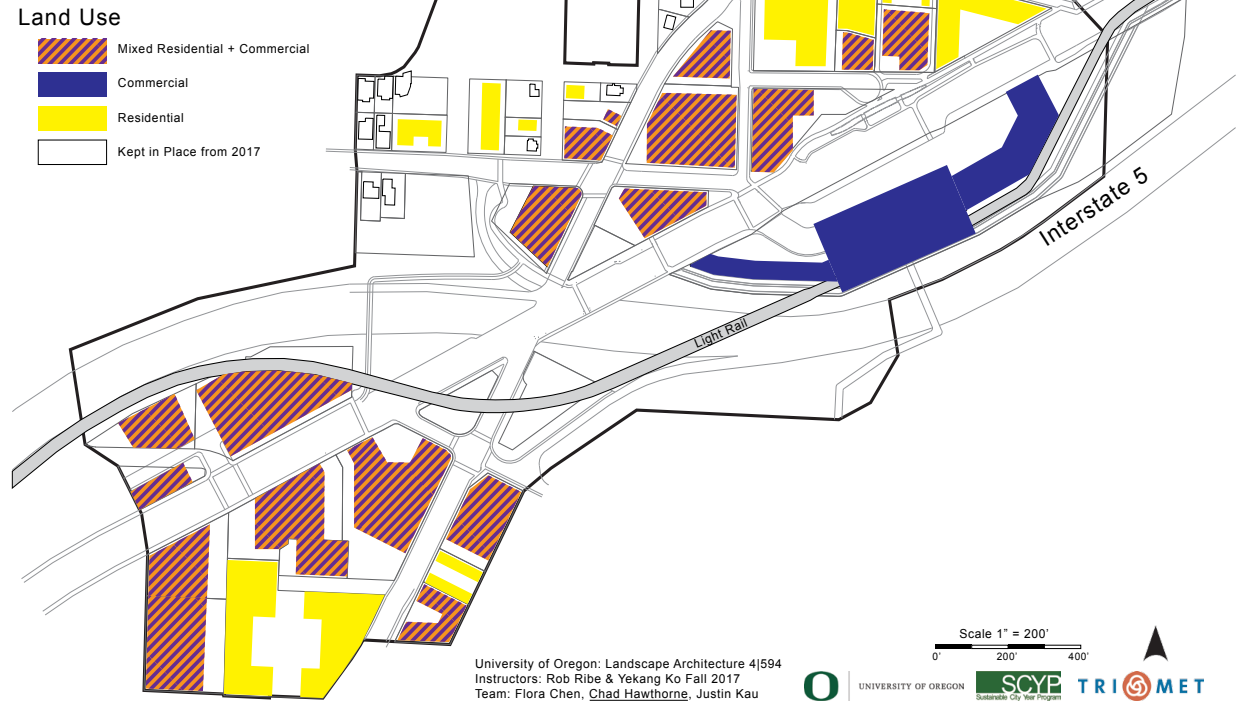


Figure 113: Map of potential stormwater facilities and calculations of water storage potential.

# West Portland Town Center

## Open Space

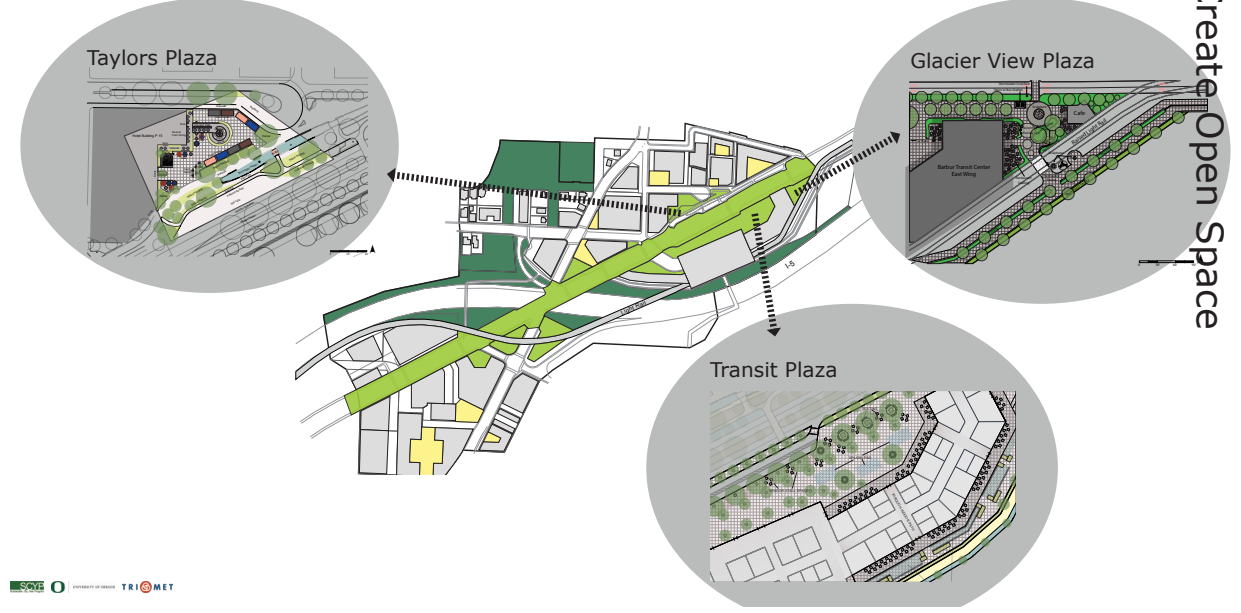


Figure 114: Overview map for sub-area design projects.

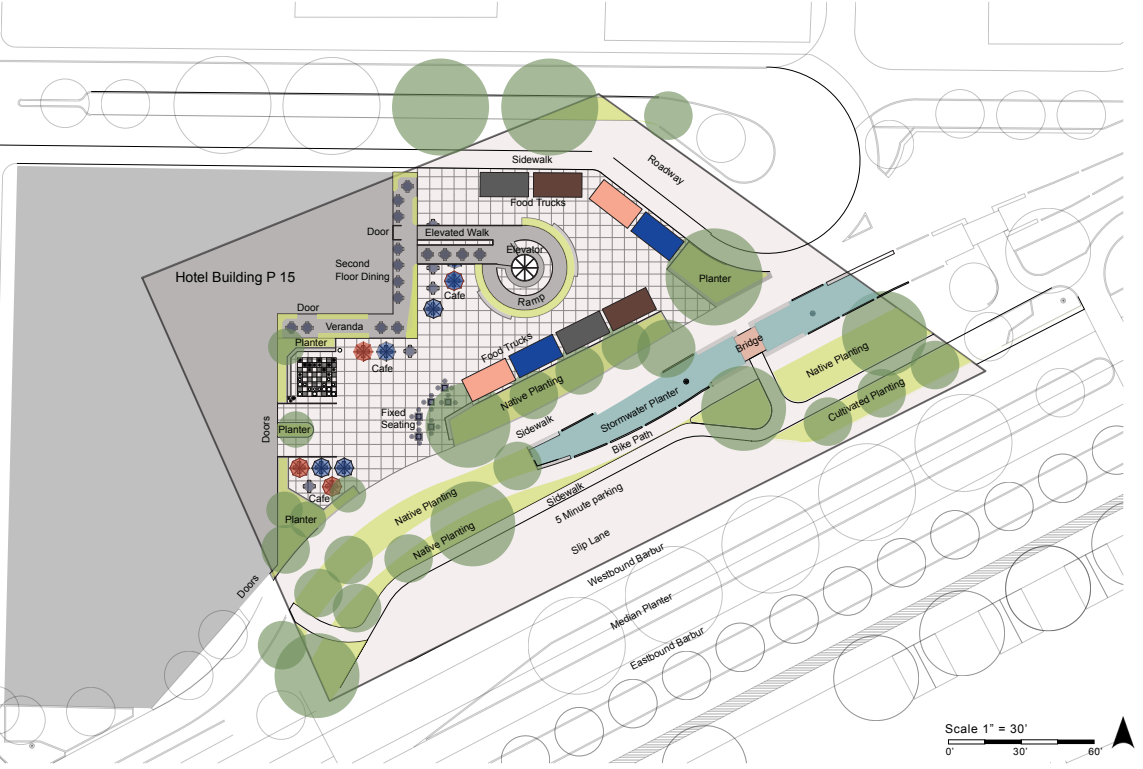


Figure 115: Detailed design plans for Taylor's Plaza.

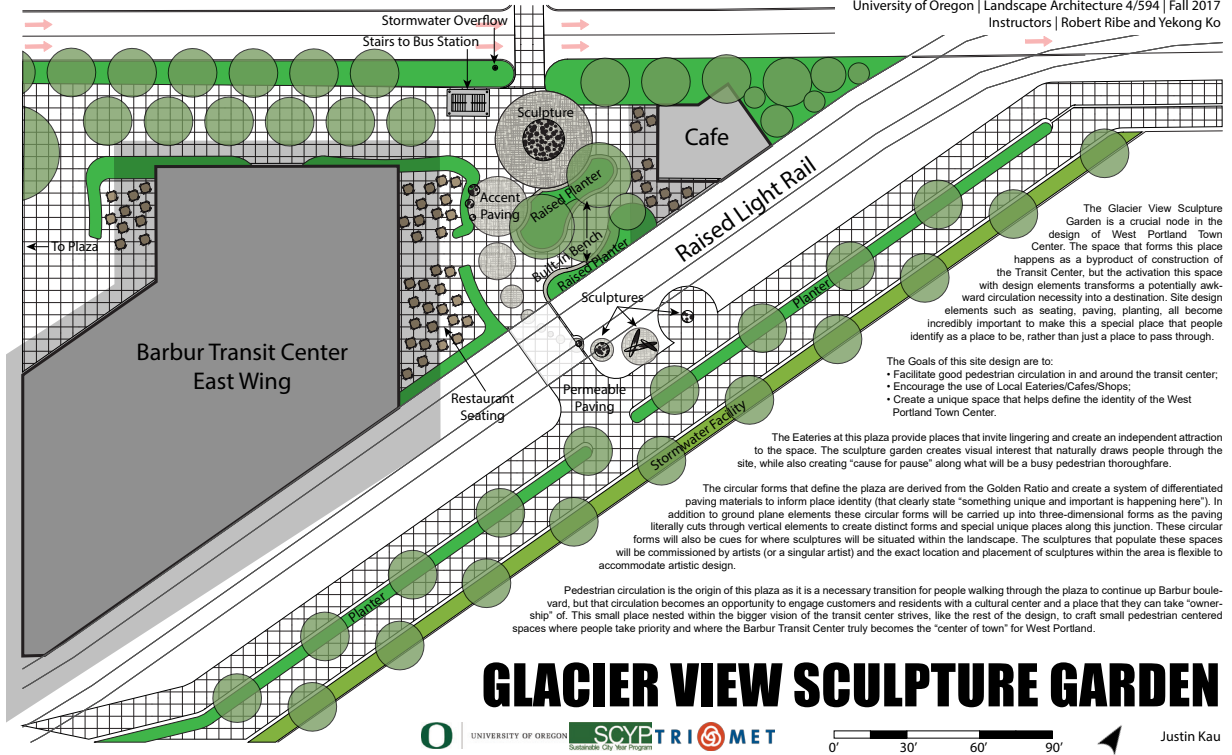


Figure 116: Detailed design plans for transit plaza.

## Sub-area Designs

### Taylor's Plaza

The conversion of the existing Taylors Ferry Road from an auto-dominated frontage road to a meandering pedestrian-centric pathway is an important component of the overarching goals. Distancing pedestrians from automobile traffic on Barbur Boulevard will increase their safety. Closing this section of road to vehicular traffic allows for the increased population density to gain access to the much-needed public open space campaign.

The individual site design embraces these goals through the recrafting of Taylors Ferry Road between Plum Street and Barbur Boulevard from an automobile-centric frontage road into a people-centric promenade (Figure 115). The closure of auto traffic at Plum Street allows the design to bring both bike and pedestrian circulation off Barbur Boulevard and provide a safe and more meandering bike path and walk. This walk will traverse through a series of reclaimed native, cultivated, and stormwater plantings and elements. Eventually the tree-lined promenade arrives at Taylor's Plaza. The plaza is a place of leisure and pause. Eight food trucks enjoy a permanent locale at the base of a new ten story hotel and complement the restaurants and specialty shops that reside within the first two floors of the hotel.

The design of the plaza echoes the Transit Plaza and Glacier View Sculpture Garden, found directly across Barbur Boulevard, through repeated materials, especially in the ground plane of permeable paver tiles. Ample fixed and movable seating in various locations line the plaza so that patrons of the food trucks can remain within the plaza and enjoy the social atmosphere or tuck away into the more private and quiet spaces along the pathways. Within the center of the plaza is a large spiral ramp and glass elevator. The ramp and elevator bring you up one story to a dining catwalk and veranda. Viewsheds are a vital consideration to the upper level veranda, where café and restaurant goers are rewarded with a stunning view of Mt. Hood to the southeast.

Stormwater is an important feature within the plaza and promenade as the topography forms a natural sink, draining both the promenade and the higher elevations north of the plaza.

The stormwater planters are also a statement of design and are created to allow people to experience these planters through educational signage, walking bridges, and seating.

The planting plan largely consists of native trees, shrubs, and perennials. These plants anchor the promenade to a sense of place, providing potential homes for insects, birds, and mammals. Selected cultivated plantings complement the native plantings that blend in with the street design.

Both pedestrians and bicyclists can access the amenities of the transit center through designated raised crosswalks that allow direct access to the many residential dwellings found north of Barbur Boulevard as well, without requiring people to walk along two busy streets.

### Glacier View Sculpture Garden

The Glacier View Sculpture Garden (Figure 116) is a crucial node in the design of West Portland Town Center. The space that forms this place happens as a byproduct of construction of the transit center, but the activation of this space with design elements transforms a potentially awkward circulation necessity into a destination. Site design elements such as seating, paving, and planting all become incredibly important to make this a special place that people identify as a place to be, rather than just a place to pass through.

The eateries at this plaza provide places that invite lingering and create an independent attraction to the space. The sculpture garden creates visual interest that naturally draws people through the site, while also creating "cause for pause" along what will be a busy pedestrian thoroughfare.

The circular forms that define the plaza are derived from the Golden Ratio and create a

system of differentiated paving materials to inform place identity (that clearly state "something unique and important is happening here"). In addition to ground plane elements these circular forms will be carried up into three-dimensional forms as the paving literally cuts through vertical elements to create distinct forms and special unique places along this junction. These circular forms will also be cues for where sculptures will be situated within the landscape. The sculptures that populate these spaces will be commissioned by artists (or a singular artist) and the exact location and placement of sculptures within the area is flexible to accommodate artistic design.

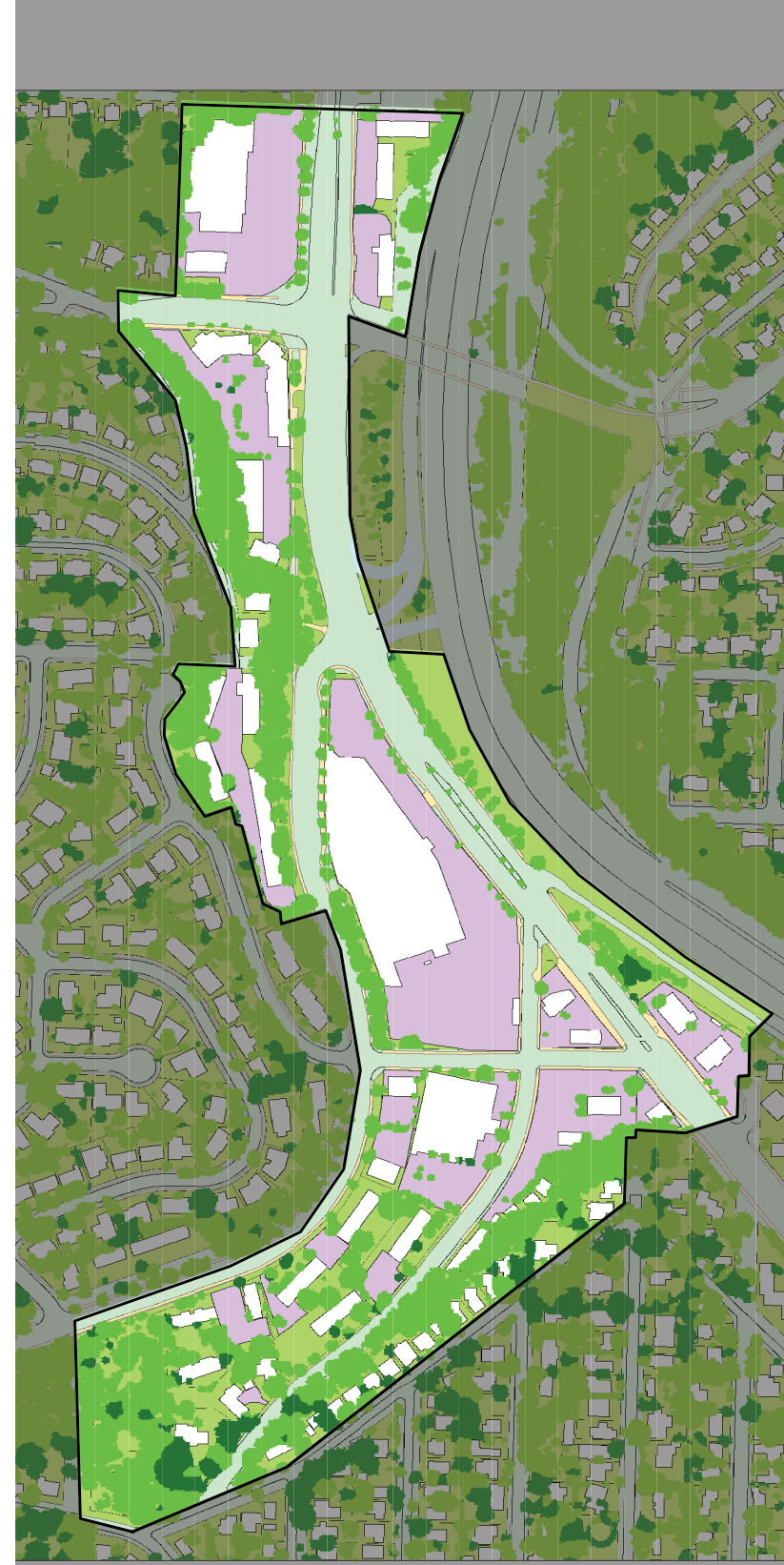
This small place nested within the bigger vision of the transit center strives, like the rest of the design, to craft small pedestrian-centered spaces where people take priority and where the Barbur Transit Center truly becomes the "center of town" for west Portland.

## Conclusion

The current transit infrastructure in place along Barbur Boulevard creates significant safety hazards for pedestrians and cyclists alike. The city of Portland, Metro, and TriMet continue to develop plans for a safe and reliable network of transportation options along Barbur Boulevard including high capacity public transit, protected bicycle lanes, and continuous sidewalks. This redevelopment along Barbur Boulevard has the potential to reduce automobile congestion; minimize conflicts between all modes of transportation; improve connectivity between Barbur Boulevard, adjacent neighborhoods, and downtown Portland; promote a diversity of employment opportunities, mixed income housing, and abundant urban amenities; and integrate stormwater facilities, street trees, and public green spaces into the streetscape.

This extensive proposal for a transit-oriented civic corridor provides street designs for all three template cross sections given by TriMet, as well as inspiration for open spaces integrally linked to the social and environmental context of Barbur Boulevard. The street and open space designs were a product of comprehensive site analysis, professional review and feedback, and iterative design processes. The landscape architecture students from this planning studio hope that their products are integral to improving and expanding the multimodal transportation along Barbur Boulevard as well as nourishing the rich history and sense of place for adjacent neighborhoods and Portland as a whole.

# Appendix A: Custer Node Analysis Maps



**Land Cover**

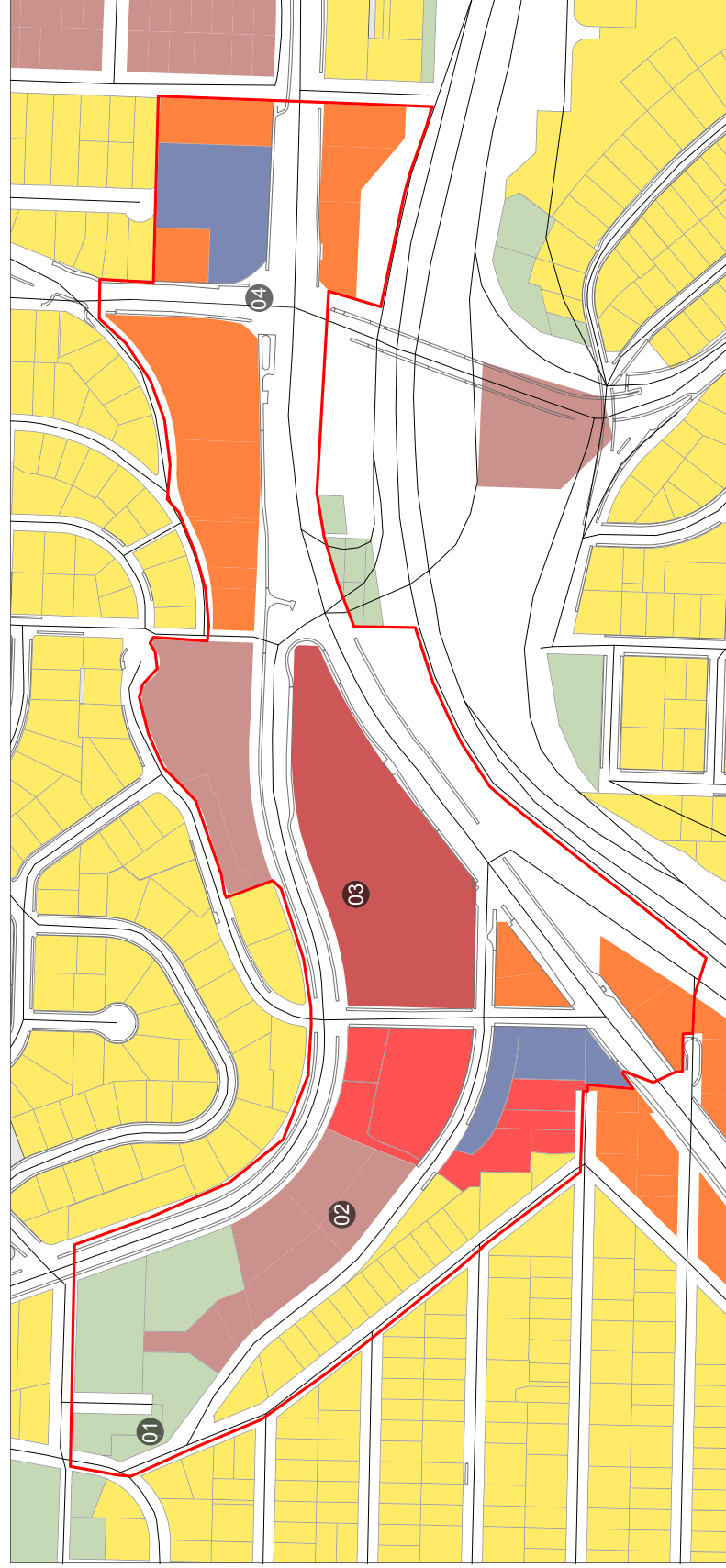
- deciduous trees
- coniferous trees
- building footprints
- parking lots
- sidewalks
- grass/lawns
- streets

**Fred Meyer Custer Node**

Nadja Quiroz, Brittany Murphy, & Rachel Spencer  
 Map Author: Brittany Murphy  
 University of Oregon: Landscape Architecture 4/594,

**CUSTER NODE**

**LAND USE ANALYSIS: LAND USE BY PARCEL**



**LEGEND**

*Land Use By Parcel*

- open space
- supermarket
- retail/office
- multi dwelling residential
- single dwelling residential
- retail
- vacant/ parking
- building\_footprints
- taxlots
- bounds

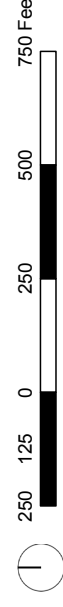
- sidewalks

- 01 Stephens Creek Natural Area

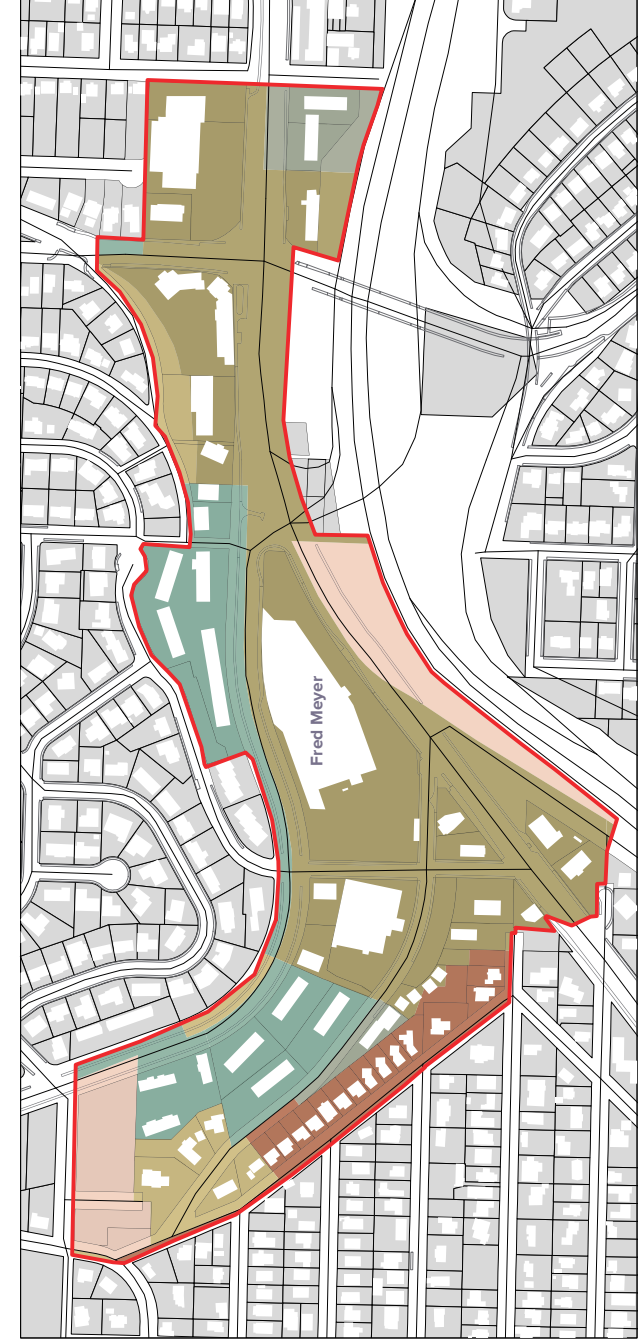
- 02 Low Density Apartments

- 03 Fred Meyer

- 04 Auto-Accommodating Retail/ Commercial



**existing zoning**

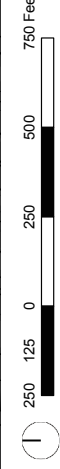


**LEGEND**

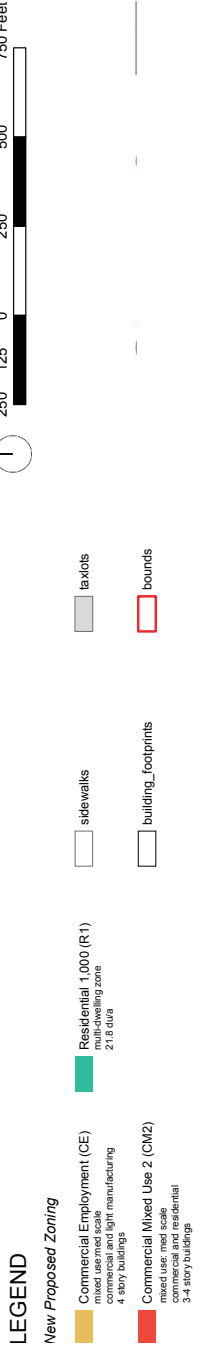
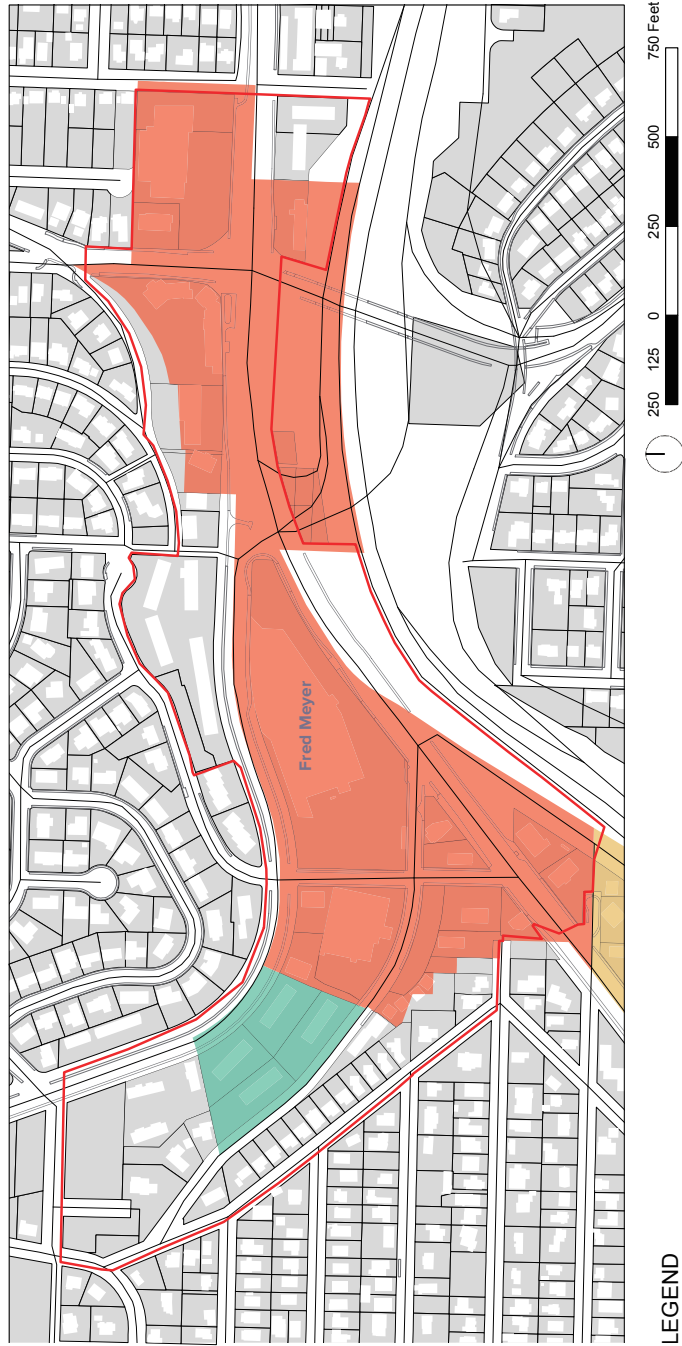
*Existing Zoning*

- Residential 1,000 med density multi-dwelling zone:
- Residential 7,000 single dwelling zone density: 1 unit per 7,000 sq ft
- Residential 2,000 low density multi-dwelling zone:
- Residential 5,000 single dwelling zone density: 1 unit per 5,000 sq ft
- Open Space public/private natural and recreation areas
- General Commercial auto-accommodating retail to service business limited industrial use

- sidewalks
- taxlots
- building\_footprints
- bounds
- streets



proposed zoning



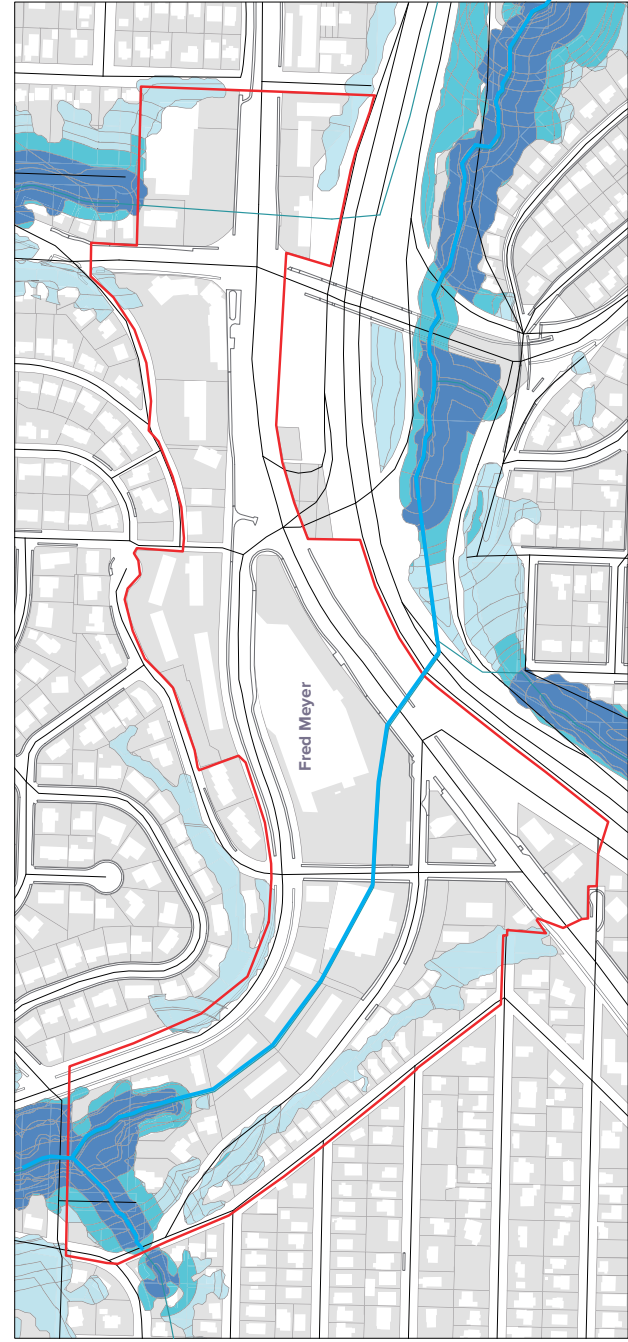
CLUSTER NODE // LA 439

canopy cover



CLUSTER NODE // LA 439

riparian value



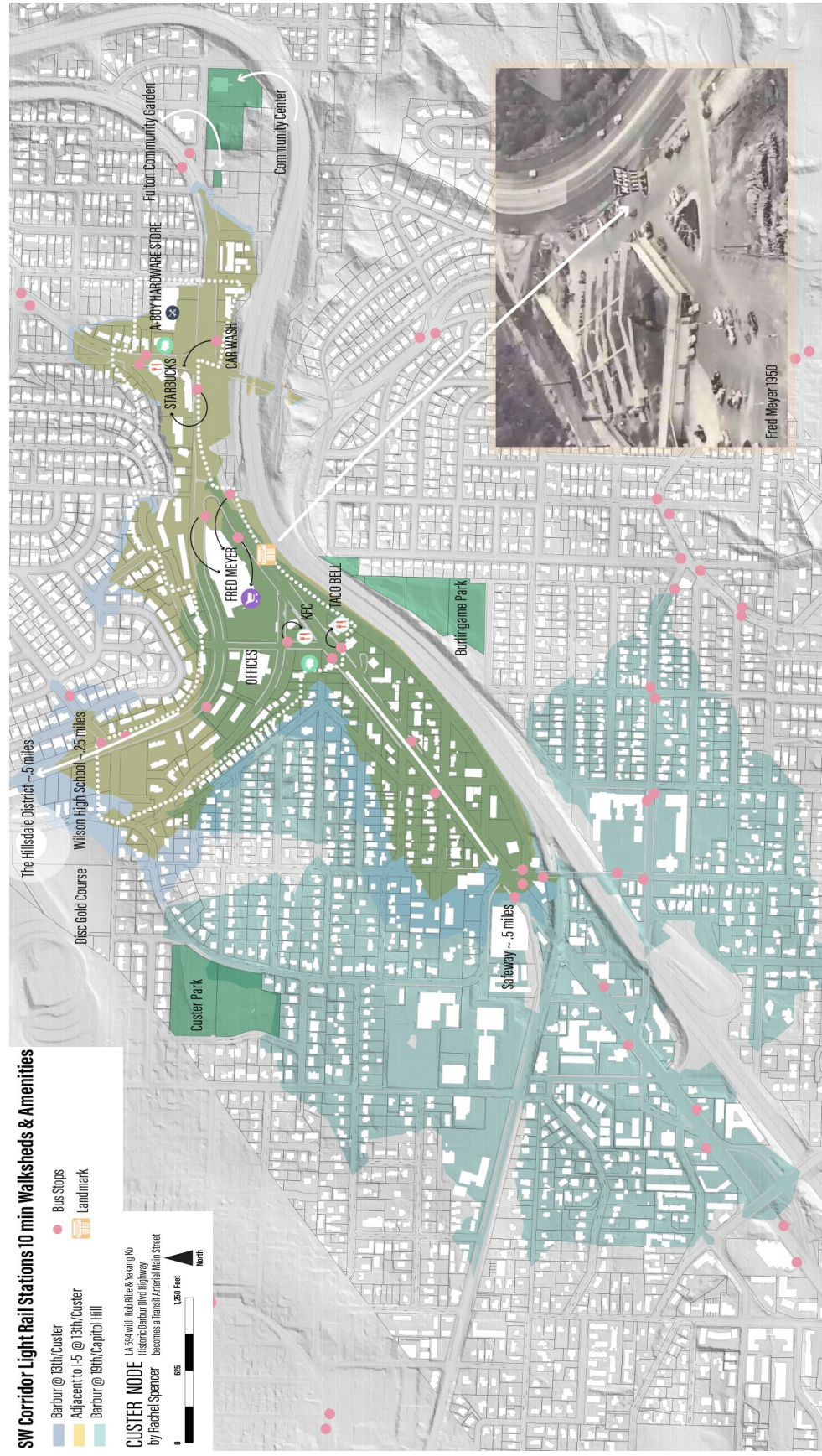
- LEGEND**
- METRO Riparian Value**
- HIGH
  - MEDIUM
  - LOW
  - streams
- sidewalks
  - building\_footprints
  - taxlots
  - bounds
  - streets

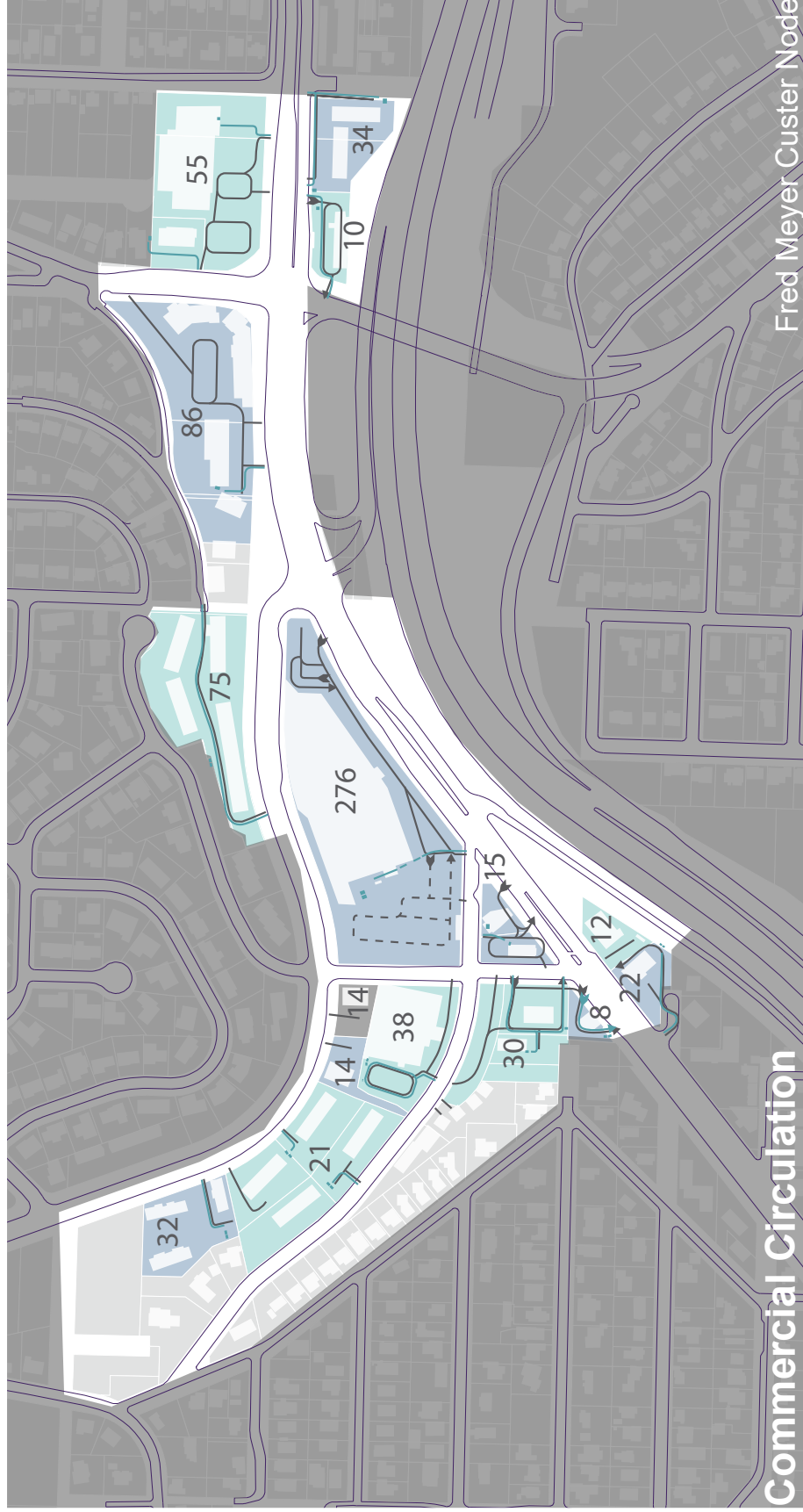
**CUSTER NODE // LA 439**

**SW Corridor Light Rail Stations 10 min Walksheds & Amenities**

- Barbur @ 83th/Custer
- Adjacent to I-5 @ 13th/Custer
- Barbur @ 89th/Capitol Hill
- Bus Stops
- Landmark

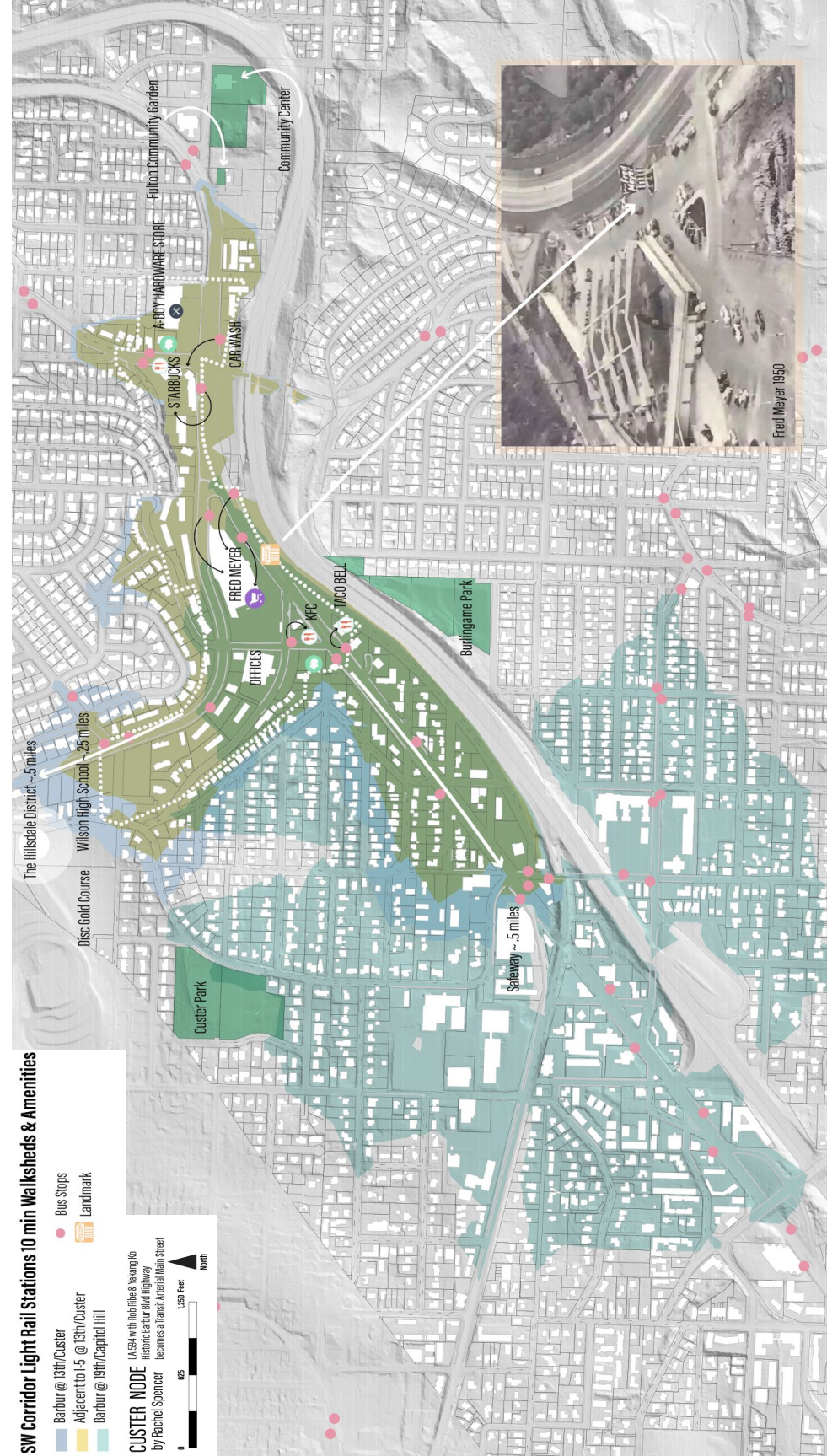
**CUSTER NODE**  
 LA 439 with Robi Ribes & Yelena Ko  
 by Rachel Spencer  
 Historic Barbur Blvd Highway  
 becomes a Transit Arterial Main Street





- garbage route
- parking route
- ← one-way garbage route
- ← one-way parking route
- dumpsters
- belowground parking
- 15 parking lot capacity

Nadja Quiroz, Brittany Murphy, & Rachel Spencer  
 Map Author: Nadja Quiroz  
 University of Oregon: Landscape Architecture 4/594,  
 Fall 2017

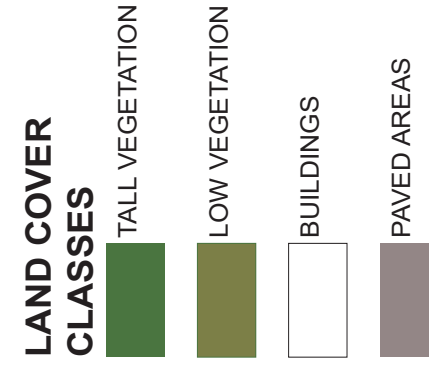


## Appendix B: Northeast Corridor Analysis Maps



## NE CORRIDOR LAND COVER

Team: Margo Barajas, John Maxson, Jamie Willeke  
 Poster By: Jamie Willeke  
 University of Oregon, Landscape Architecture 594, Fall 2017  
 Professors: Rob Rhee & Yekang Ko



# NE CORRIDOR LAND USE BY PARCEL

Team: Margo Barajas, John Maxson, Jamie Willeke  
 Poster By: Jamie Willeke  
 University of Oregon, Landscape Architecture 594, Fall 2017  
 Professors: Rob Ritbe & Yekang Ko



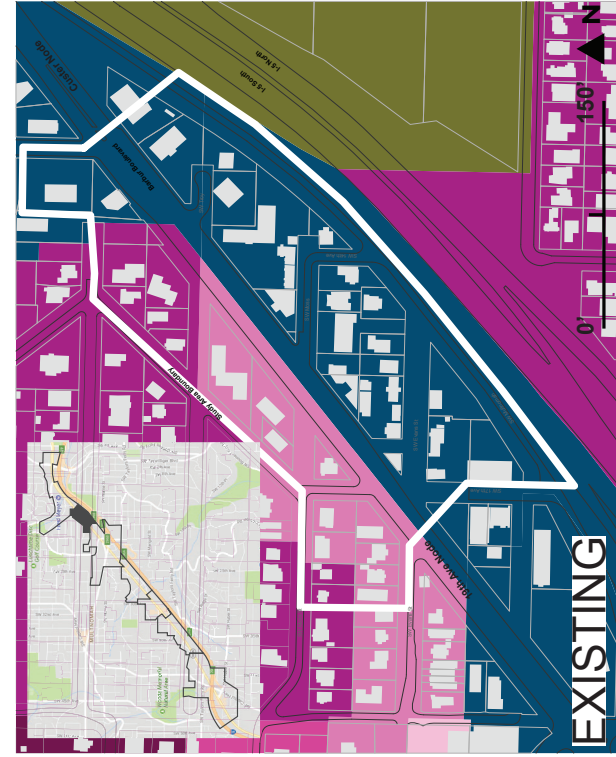
- LAND USES**  
 Data from the "Portland Buildable Land Inventory  
 Land-Use" Categories
- RESIDENTIAL GENERAL
  - 2-4 UNIT MULTI-FAMILY / BLDG
  - 5-8 UNIT MULTI-FAMILY / BLDG
  - 9-20 UNIT MULTI-FAMILY / BLDG
  - RESIDENTIAL CONDOMINIA
  - RESIDENTIAL IMPROVED
  - GENERIC COMMERCIAL USE
  - GENERIC SHOP/GARAGE USE
  - MISC IMPROVEMENTS
  - OFFICE BANK
  - OFFICE LOW RISE
  - OFFICE SMALL
  - RESTAURANT FAST FOOD
  - RESTAURANT GENERAL
  - STORE STRIP/CONVENIENCE CENTER
  - STOREFRONT
  - WHSE GENERAL/MISC
  - AUTO SERVICE CENTER
  - VACANT LAND / PARKING LOTS
  - PUBLIC BLDG



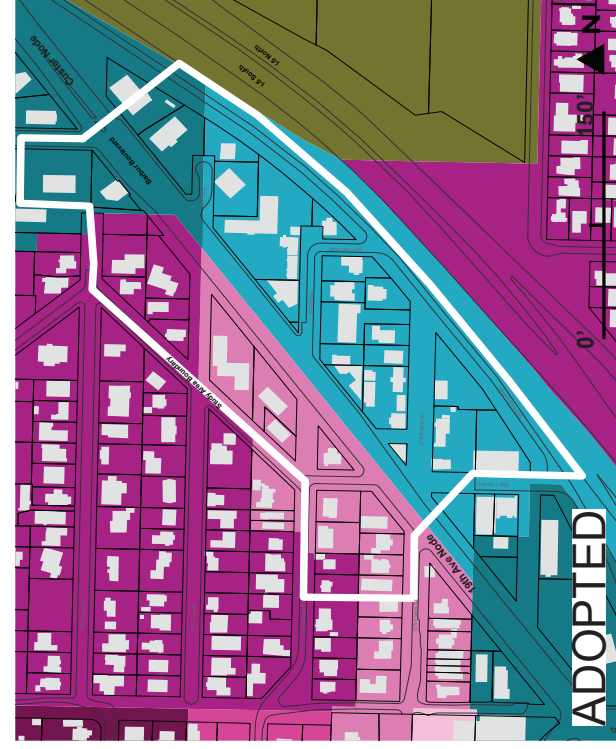
# NE CORRIDOR ZONING: EXISTING VS. ADOPTED

Team: Margo Barajas, John Maxson, Jamie Willeke  
 Poster By: Jamie Willeke  
 University of Oregon, Landscape Architecture 594, Fall 2017  
 Professors: Rob Ritbe & Yekang Ko

- Zones**
- CE
  - CM2
  - CG
  - OS
  - R1
  - R2
  - R2.5
  - R5
  - R7



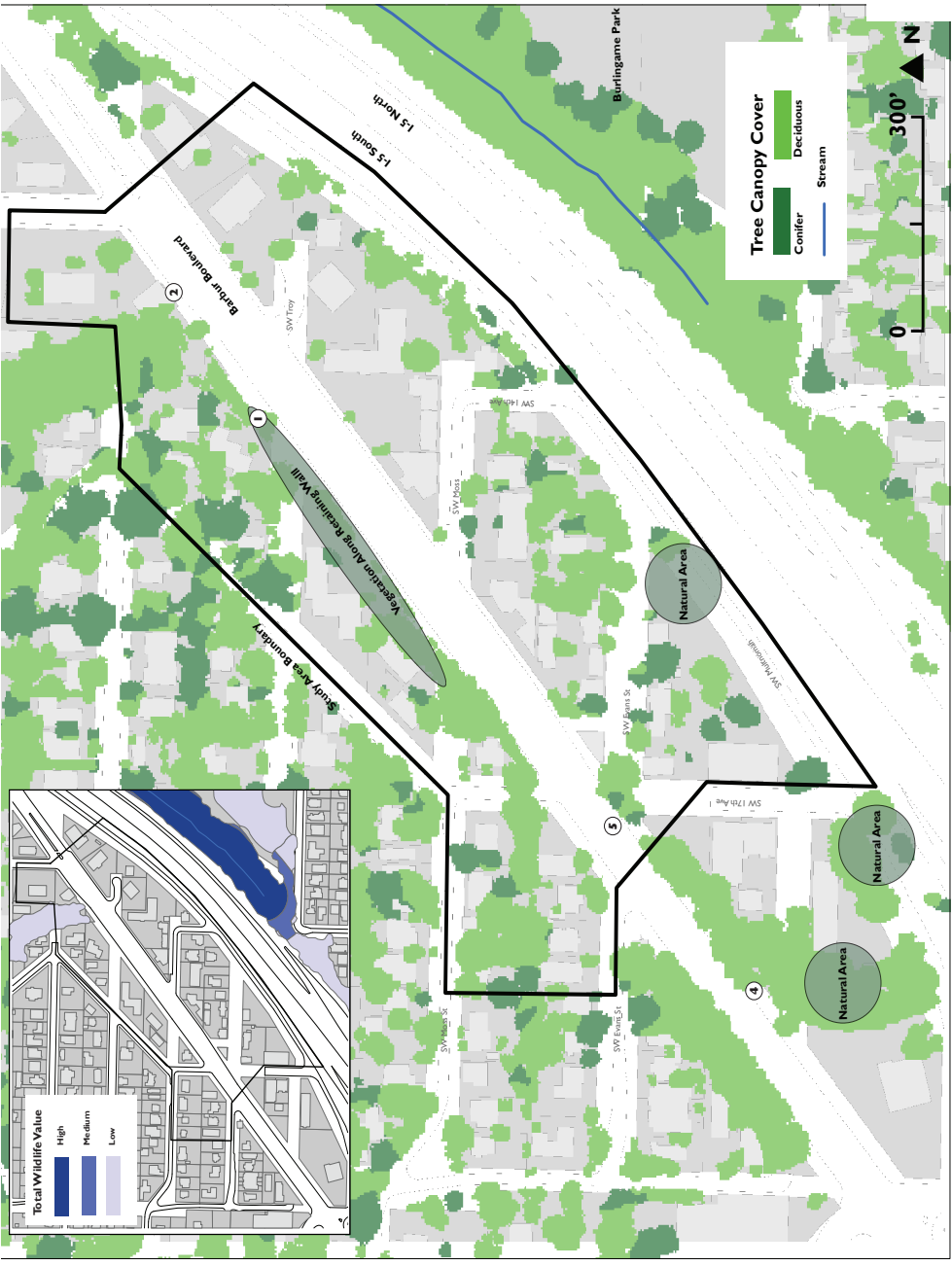
- EXISTING ZONING DESCRIPTIONS:**
- CG: General Commercial:** Provide pleasant shopping experience and easily accessed by vehicles. Max building height: 45'; max FAR: 3.5:1, 10' minimum pedestrian setback, 0' minimum street setback.
  - OS: Open Space:** Preserves and enhances public and private spaces as per the Comprehensive Plan
  - R1: Residential 1000:** Multi-Dwelling Zone allowing ~43 units/acre; max. building height is 45'; FAR: 3.5; Setbacks (minimum): Front: 3'; Side: dependent upon building size; Rear: dependent upon building size; Street building: 3'
  - R2: Residential 2000:** Multi-Dwelling Zone allowing approximately 21.8 units/acre; Setbacks (minimum): Front: 10'; Side: dependent upon building size; Rear: dependent upon building size; Street building: 3'
  - R2.5: Residential 2500:** Single-Dwelling Zone allowing 1 unit/5,000 sq.ft.; 35' max. building height; Setbacks: Front: 10'; Side: 6'; Rear: 5'
  - R5: Residential 5000:** Single-Dwelling Zone allowing 1 unit/15,000 sq.ft.; 30' max. building height; Setbacks: Front: 10'; Side: 6'; Rear: 5'
  - R7: Residential 7000:** Single-Dwelling Zone allowing 1 unit/7,000 sq.ft.; 30' max. building height; Setbacks: Front: 15'; Side: 6'; Rear: 5'



- ADOPTED ZONING DESCRIPTIONS:**
- CE: Commercial Employment:** Mix of commercial uses including manufacturing and industrial, drive-through developments that make vehicle access easy; buildings can reach 45' tall; 2.5 : 1 FAR; building setbacks vary based on adjacent parcel zones
  - CM2: Commercial Mixed-Use:** Mix of residential and commercial with buildings up to 48' tall; 2.5 : 1 FAR; building setbacks vary based on adjacent parcel zones
  - OS: Open Space:** Preserves and enhances public and private spaces as per the Comprehensive Plan
  - R1: Residential 1000:** Multi-Dwelling Zone allowing ~43 units/acre; max. building height is 45'; FAR: 3.5; Setbacks (minimum): Front: 3'; Side: dependent upon building size; Rear: dependent upon building size; Street building: 3'
  - R2: Residential 2000:** Multi-Dwelling Zone allowing approximately 21.8 units/acre; Setbacks (minimum): Front: 10'; Side: dependent upon building size; Rear: dependent upon building size; Street building: 3'
  - R2.5: Residential 2500:** Single-Dwelling Zone allowing 1 unit/5,000 sq.ft.; 35' max. building height; Setbacks: Front: 10'; Side: 6'; Rear: 5'
  - R5: Residential 5000:** Single-Dwelling Zone allowing 1 unit/15,000 sq.ft.; 30' max. building height; Setbacks: Front: 10'; Side: 6'; Rear: 5'
  - R7: Residential 7000:** Single-Dwelling Zone allowing 1 unit/7,000 sq.ft.; 30' max. building height; Setbacks: Front: 15'; Side: 6'; Rear: 5'

# NE CORRIDOR Natural Areas and Natural Resources

Team: Margo Barajas, John Maxson, Jamie Willeke  
Poster By: John Maxson  
University of Oregon. Landscape Architecture 594, Fall 2017  
Professors: Rob Ribe & Yekang Ko



T

# NE CORRIDOR AMENITIES WITHIN WALKING DISTANCE

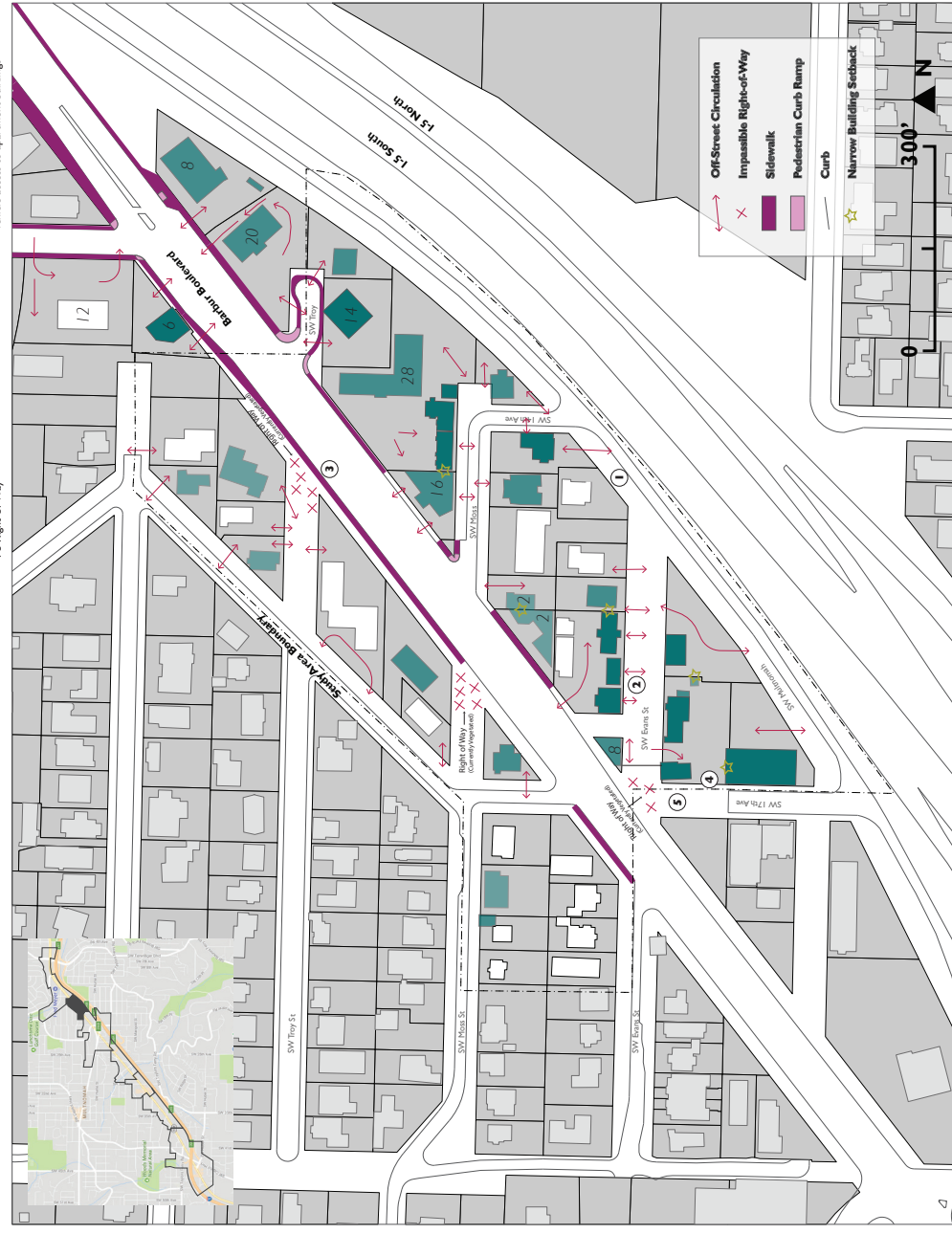
Team: Margo Barajas, John Maxson, Jamie Willeke  
Poster By: Jamie Willeke  
University of Oregon. Landscape Architecture 594, Fall 2017  
Professors: Rob Ribe & Yekang Ko



0 1,200' N  
Para Escala: 0.5M (Por 1:20) abstrakte waldkarte 1:10m

# NE CORRIDOR OFF-ARTERIAL VEHICULAR CIRCULATION

Team: Margo Barajas, John Maxson, Jamie Willeke  
 Poster By: Margo Barajas  
 University of Oregon, Landscape Architecture 594, Fall 2017  
 Professors: Rob Ribe & Yekang Ko



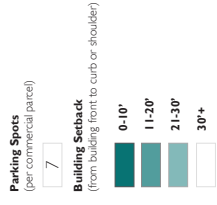
Remaining Wall Cutting off Circulation



Commercial buildings with vehicle access



Un-paved area of road



Parking Spots (per commercial parcel)

7

Building Setback (from building front to curb or shoulder)

0-10'

11-20'

21-30'

30'+

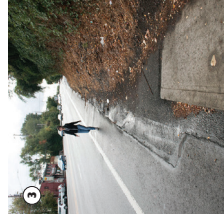
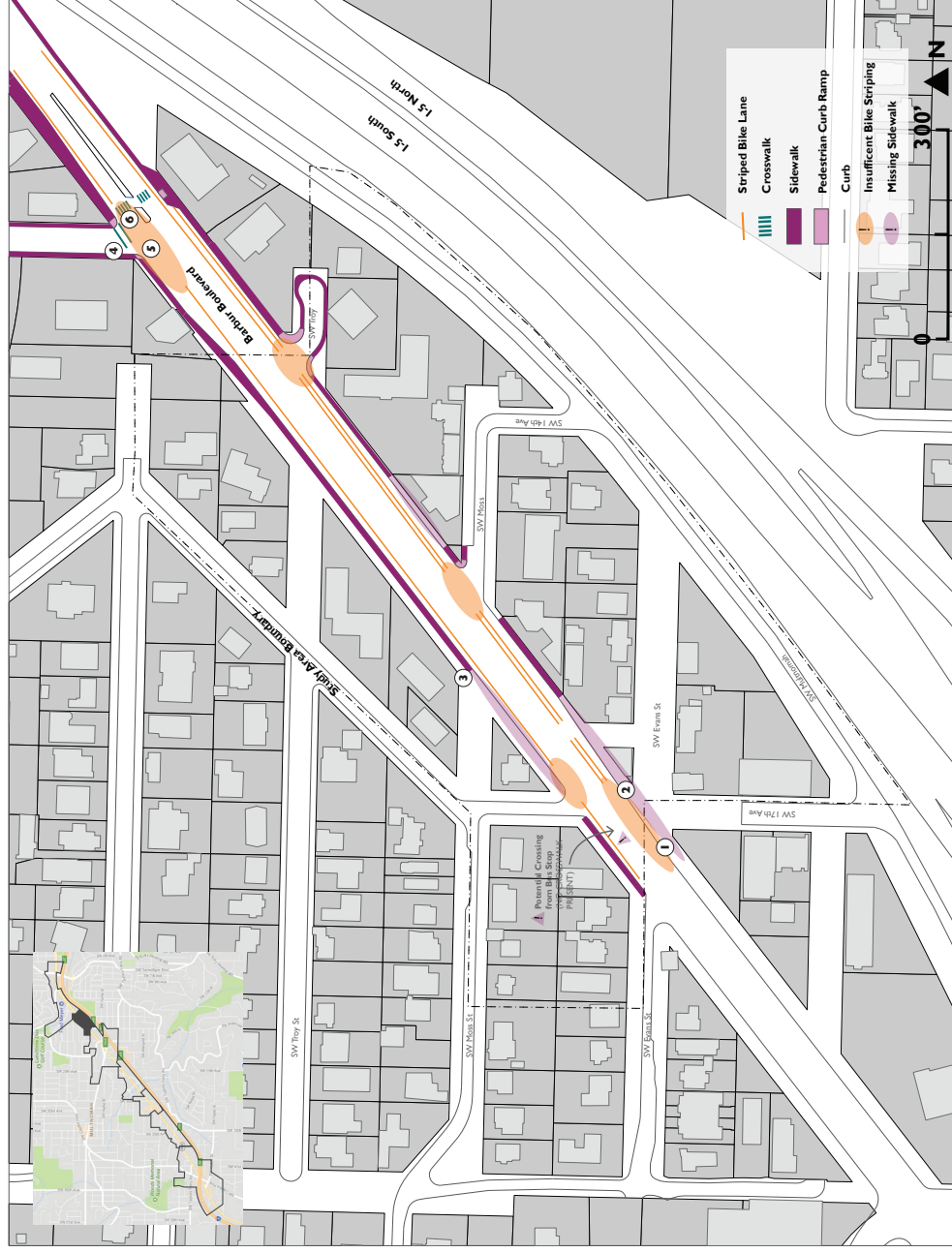
# NE CORRIDOR PEDESTRIAN & BICYCLE SAFETY

Team: Margo Barajas, John Maxson, Jamie Willeke  
 Poster By: Margo Barajas  
 University of Oregon, Landscape Architecture 594, Fall 2017  
 Professors: Rob Ribe & Yekang Ko



Missing bike lane and sidewalk

Missing sidewalk and insufficient bike lane



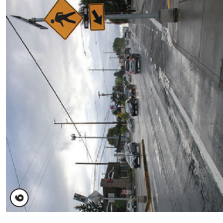
Sidewalk ends abruptly



Blue lane missing from SW 13th



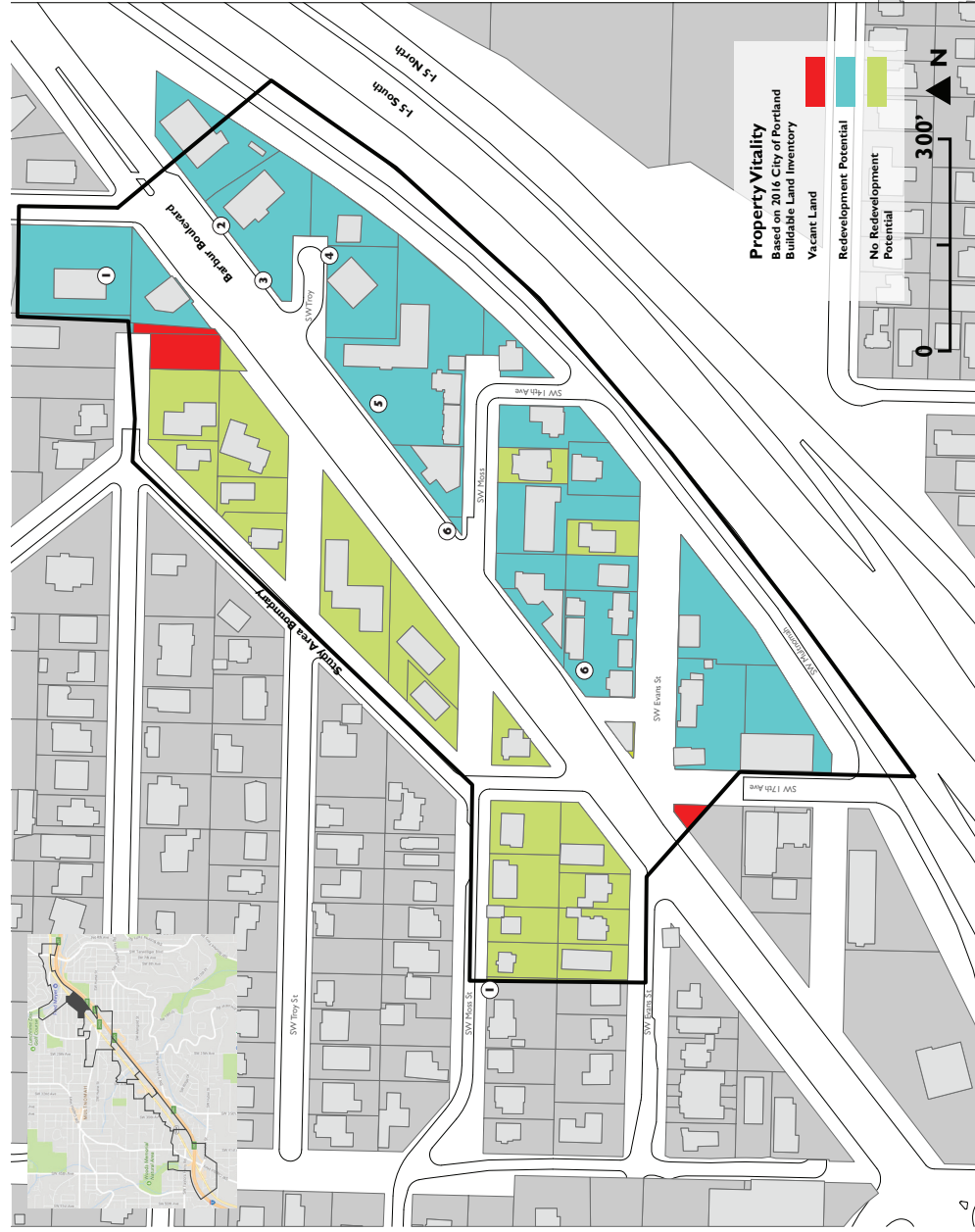
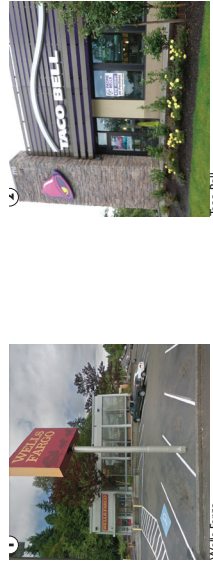
Blue and pedestrian striping missing or insufficient



Well-marked pedestrian crossing

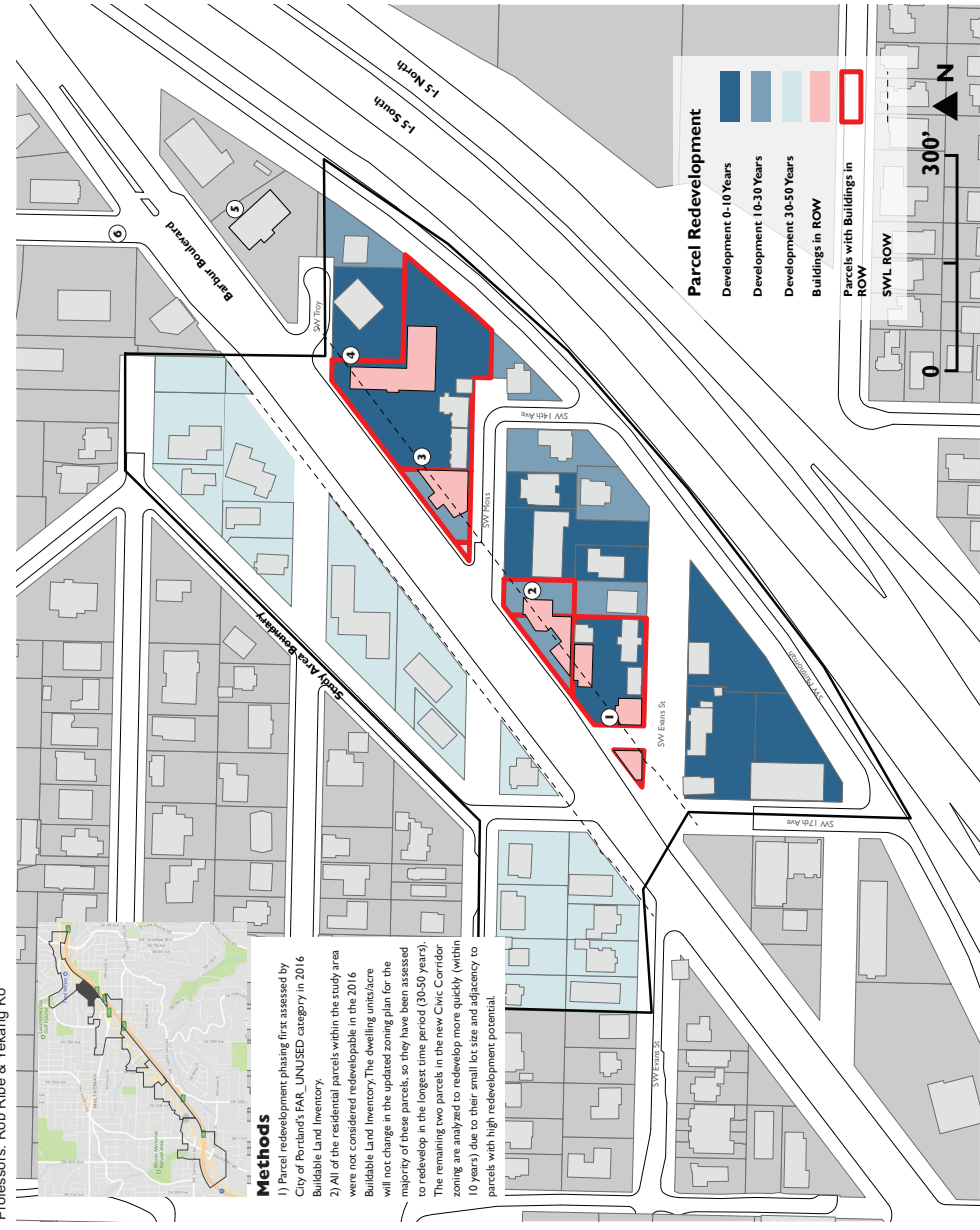
# NE CORRIDOR Property Vitality Analysis

Team: Margo Barajas, John Maxson, Jamie Willeke  
 Poster By: John Maxson  
 University of Oregon, Landscape Architecture 594, Fall 2017  
 Professors: Rob Ribe & Yekang Ko



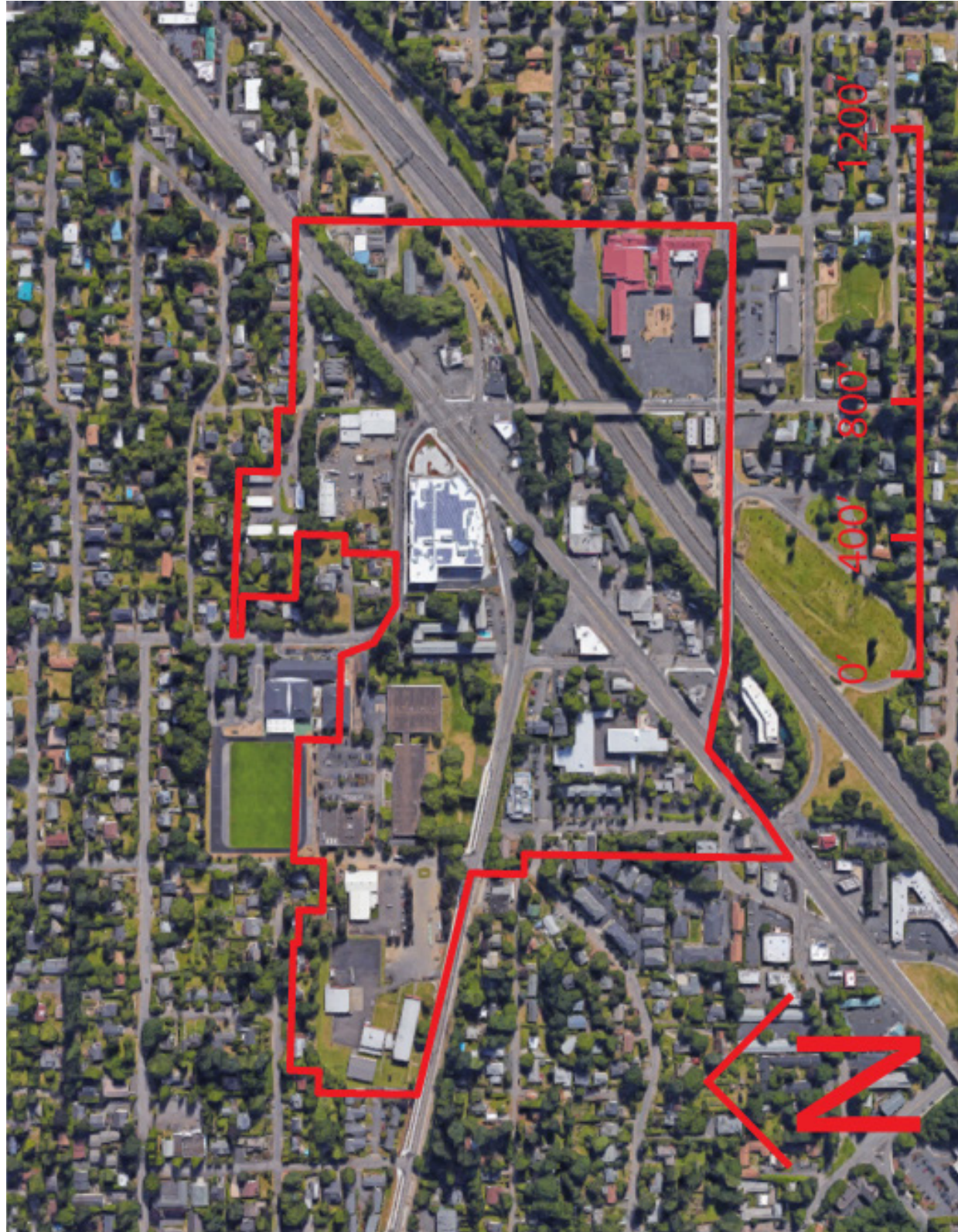
# NE CORRIDOR Parcel Redevelopment Analysis

Team: Margo Barajas, John Maxson, Jamie Willeke  
 Poster By: John Maxson  
 University of Oregon, Landscape Architecture 594, Fall 2017  
 Professors: Rob Ribe & Yekang Ko

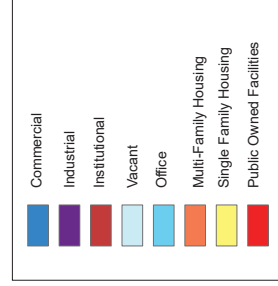
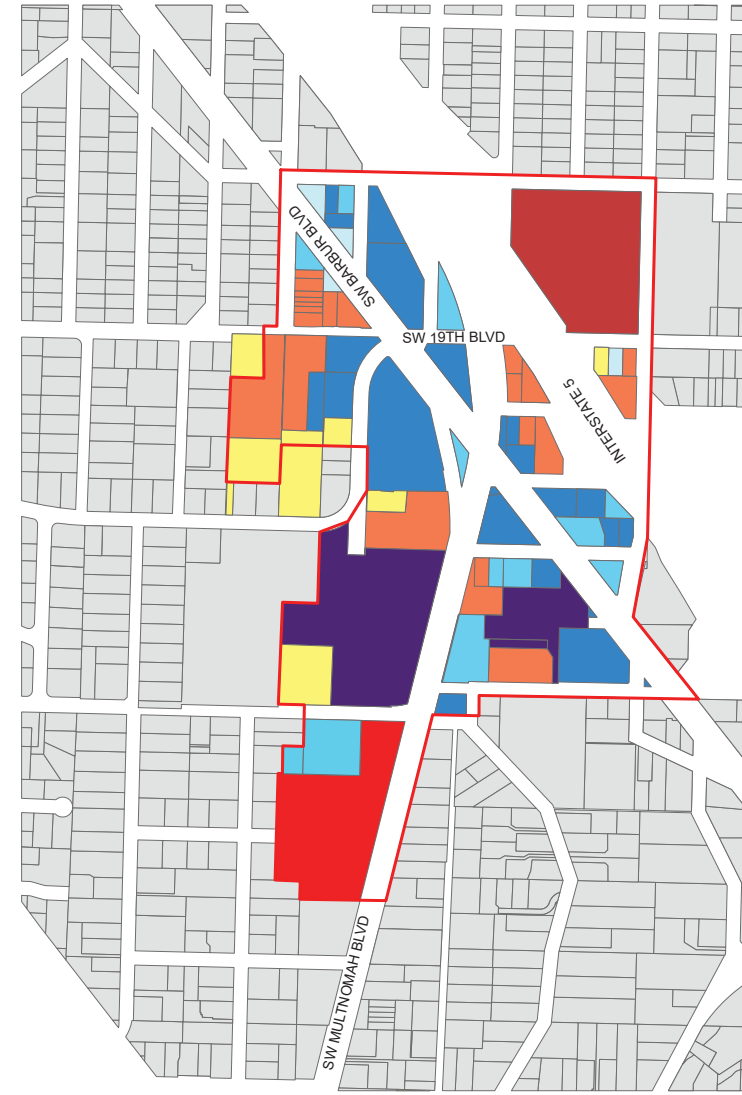


**Methods**  
 1) Parcel redevelopment phasing first assessed by City of Portland's PAR\_LINUSED category in 2016 Buildable Land Inventory.  
 2) All of the residential parcels within the study area were not considered redevelopable in the 2016 Buildable Land Inventory. The dwelling unit/acre will not change in the updated zoning plan for the majority of these parcels, so they have been assessed to redevelop in the longest time period (30-50 years). The remaining two parcels in the new Civic Corridor zoning are analyzed to redevelop more quickly (within 10 years) due to their small lot size and adjacency to parcels with high redevelopment potential.

# Appendix C: 19<sup>th</sup> Avenue Analysis Maps



## 19th Node Current Land Use

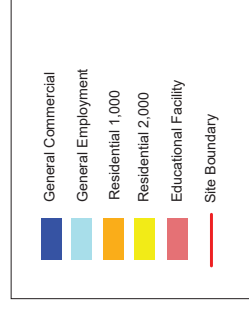
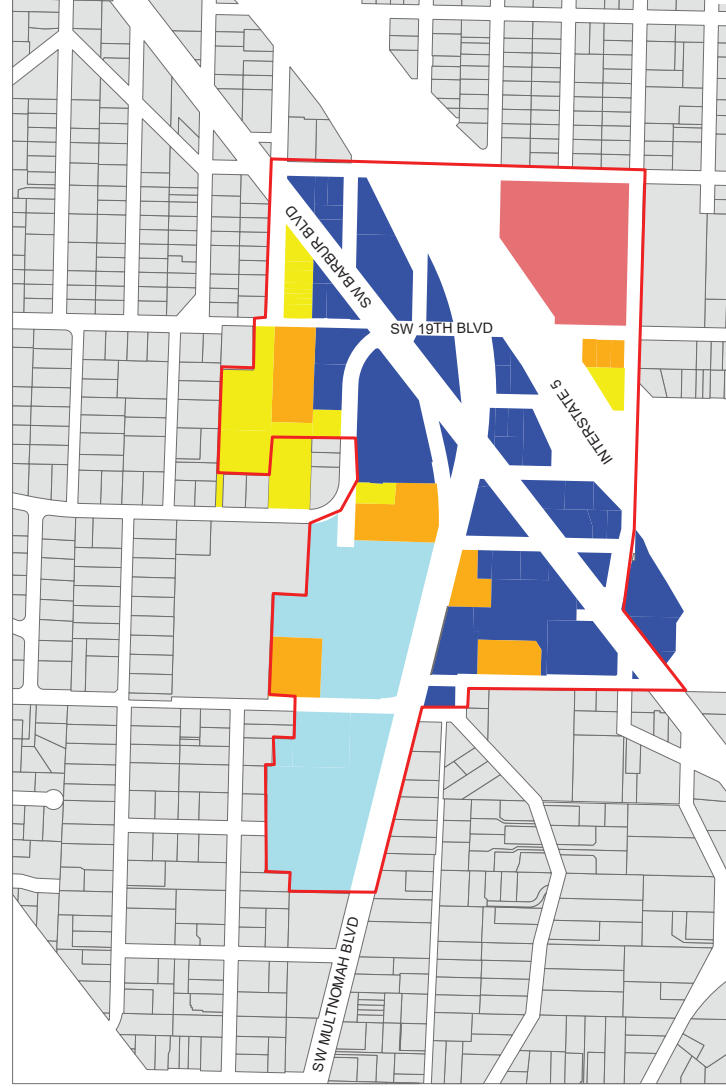


Beau Black  
 University of Oregon: Landscape Architecture 4/594, Fall 2017  
 19th Node, Barbur Blvd.  
 Robert Rhee and Yekang Ko

Sustainable City Year Program

# 19th Node Current Zoning

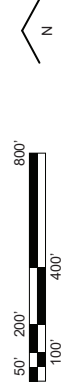
Beau Black  
 University of Oregon: Landscape Architecture 4/594, Fall 2017  
 19th Node, Barbur Blvd.  
 Robert Rbe and Yekang Ko



**Residential 1,000-**  
 Max. density: 1 unit per 1,000 sq. ft. of site area  
 Min. density: 1 unit per 1,450 sq. ft. of site area  
 Max. height: 25/45 ft.  
 Min. building coverage: 60% of the site  
 Min. landscape coverage: 20% of the site

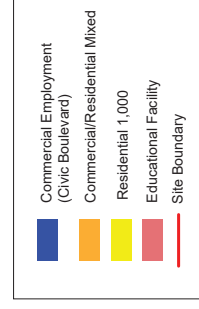
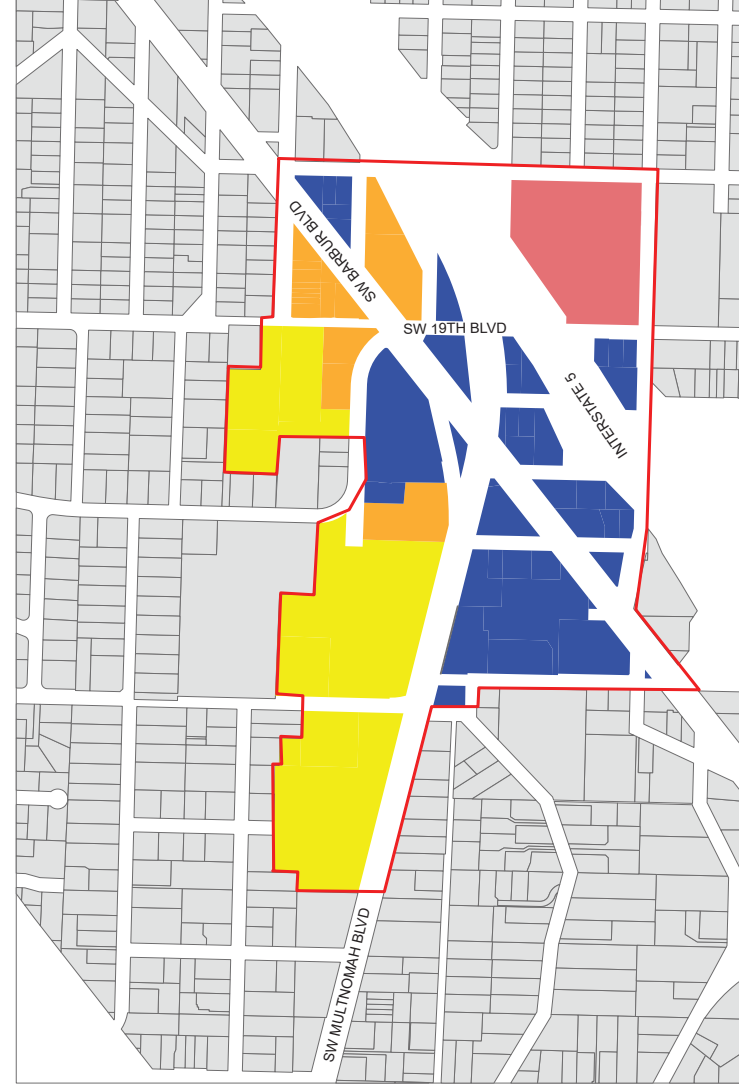
**Residential 2,000-**  
 Max. density: 1 unit per 2,000 sq. ft. of site area  
 Min. density: 1 unit per 2,500 sq. ft. of site area  
 Max. height: 40 ft  
 Max building coverage: 50% of the site  
 Min. landscape coverage: 30% of the site

<https://www.portlandoregon.gov/ps/enr/article/63296>  
 Map source: BLI\_Dev\_Caps.shp > Gen\_Zone



# 19th Node Adopted Zoning

Beau Black  
 University of Oregon: Landscape Architecture 4/594, Fall 2017  
 19th Node, Barbur Blvd.  
 Robert Rbe and Yekang Ko

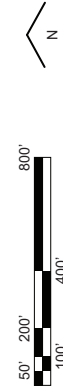


**Commercial/Residential Mixed Use (CM1)-**  
 This small-scale commercial mixed use zone is intended for sites in smaller mixed use nodes within lower density residential areas, as well as on neighborhood corridors. Buildings in this zone are generally expected to be up to three stories. Development is intended to be pedestrian-oriented and generally compatible with the scale of surrounding residentially zoned areas.

<https://www.portlandoregon.gov/ps/enr/article/632460>

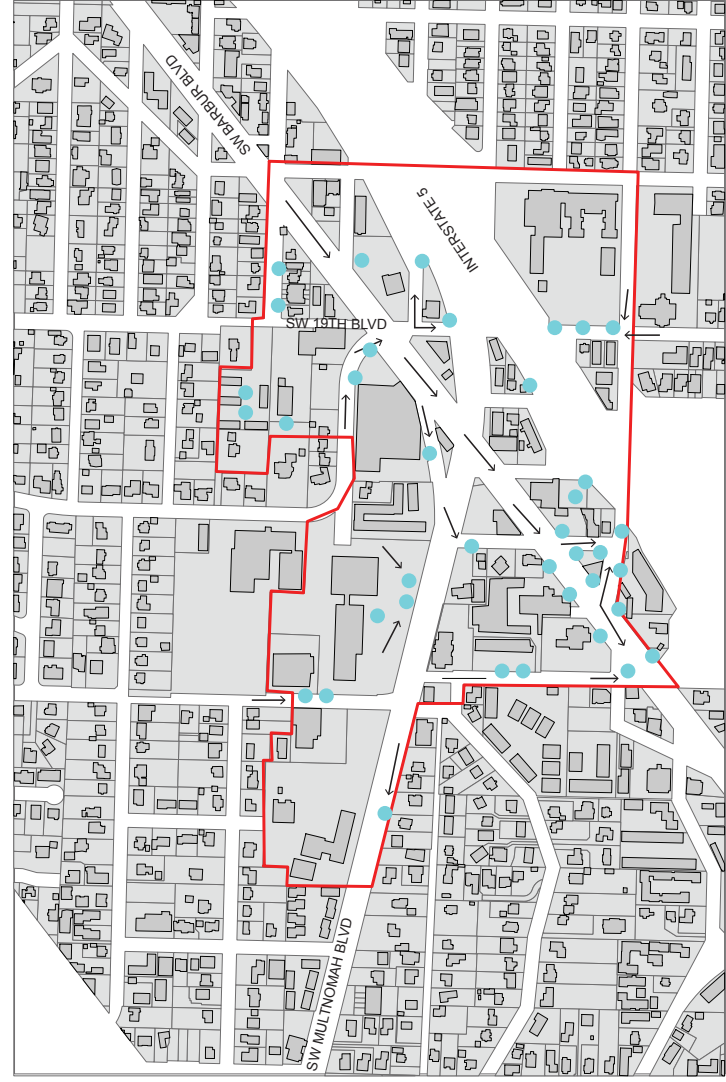
**Residential 1,000-**  
 Max. density: 1 unit per 1,000 sq. ft. of site area  
 Min. density: 1 unit per 1,450 sq. ft. of site area  
 Max. height: 25/45 ft.  
 Min. building coverage: 60% of the site  
 Min. landscape coverage: 20% of the site

Map Source: BLI\_Dev\_Cap.shp > NEWZONE



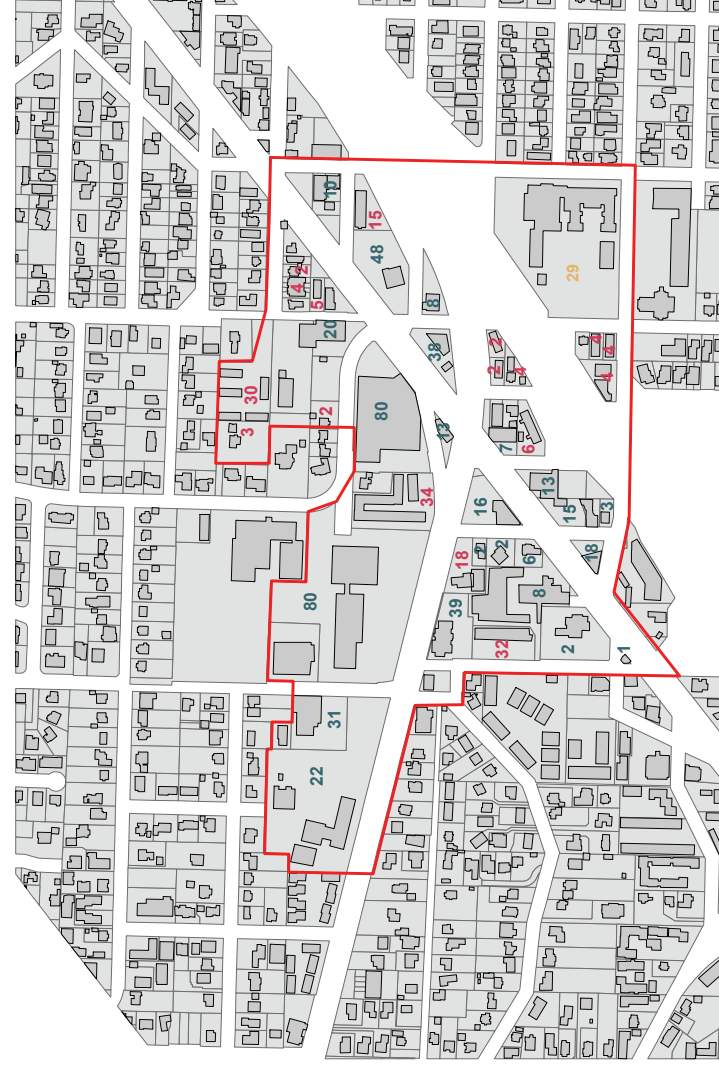
# 19th Node Stormwater Flow

Beau Black  
 University of Oregon: Landscape Architecture 4/594, Fall 2017  
 19th Node, Barbur Blvd.  
 Robert Ribe and Yekang Ko



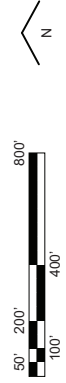
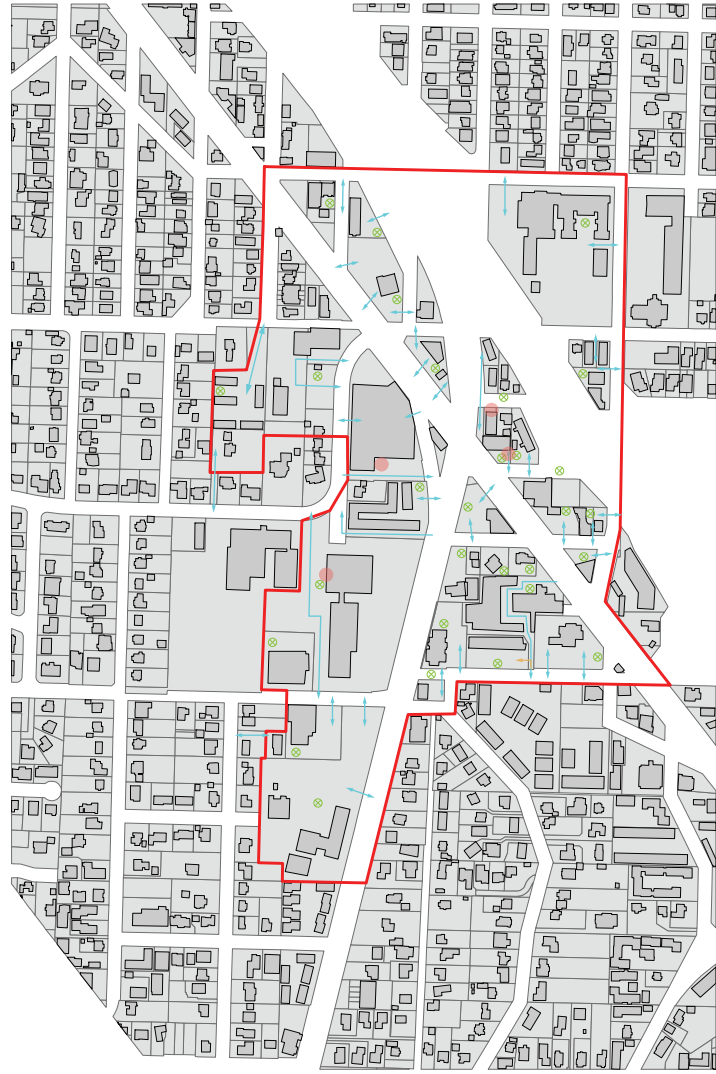
# PARKING COUNT PER PARCEL

Lilscapes  
 University of Oregon: Landscape Architecture 4/594, Fall 2017  
 19th Node, Barbur Blvd.  
 Ben Lucke  
 Robert Ribe and Yekang Ko



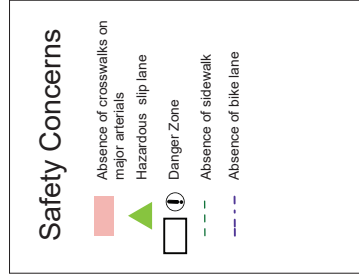
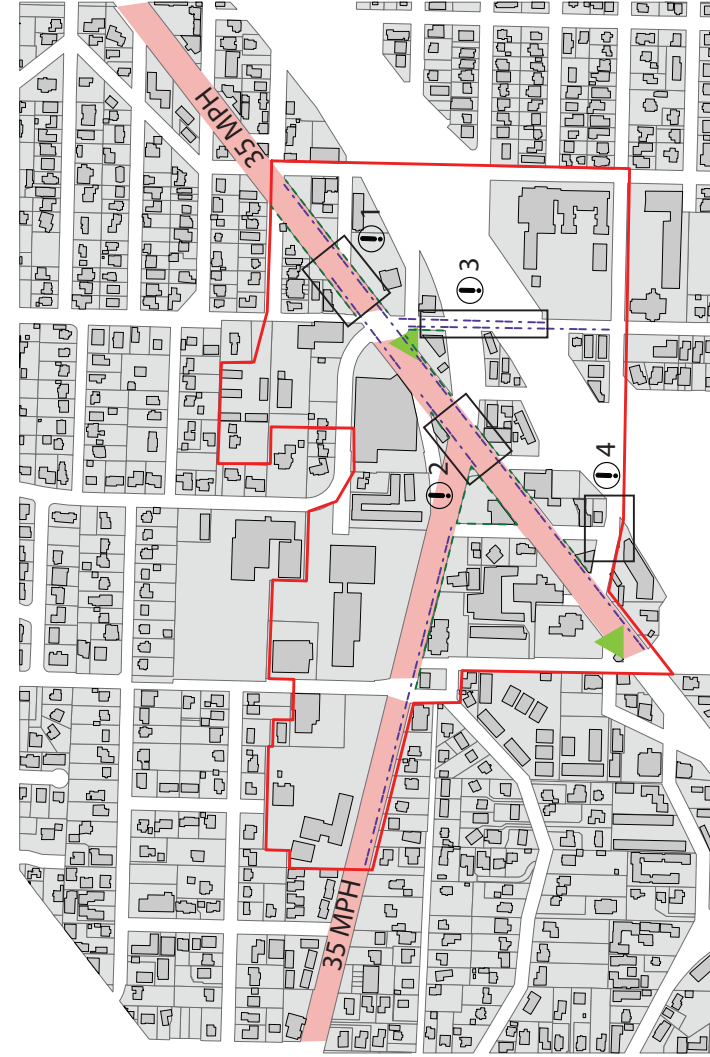
# OFF STREET VEHICULAR CIRCULATION

Lisescapes  
University of Oregon: Landscape Architecture 4/594, Fall 2017  
19th Node, Barbur Blvd,  
Ben Locke  
Robert Ribe and Yekang Ko

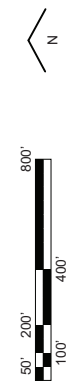


# BIKE AND PEDESTRIAN SAFETY CONCERNS

Lisescapes  
University of Oregon: Landscape Architecture 4/594, Fall 2017  
19th Node, Barbur Blvd,  
Ben Locke  
Robert Ribe and Yekang Ko

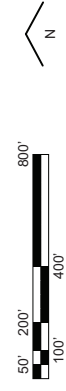
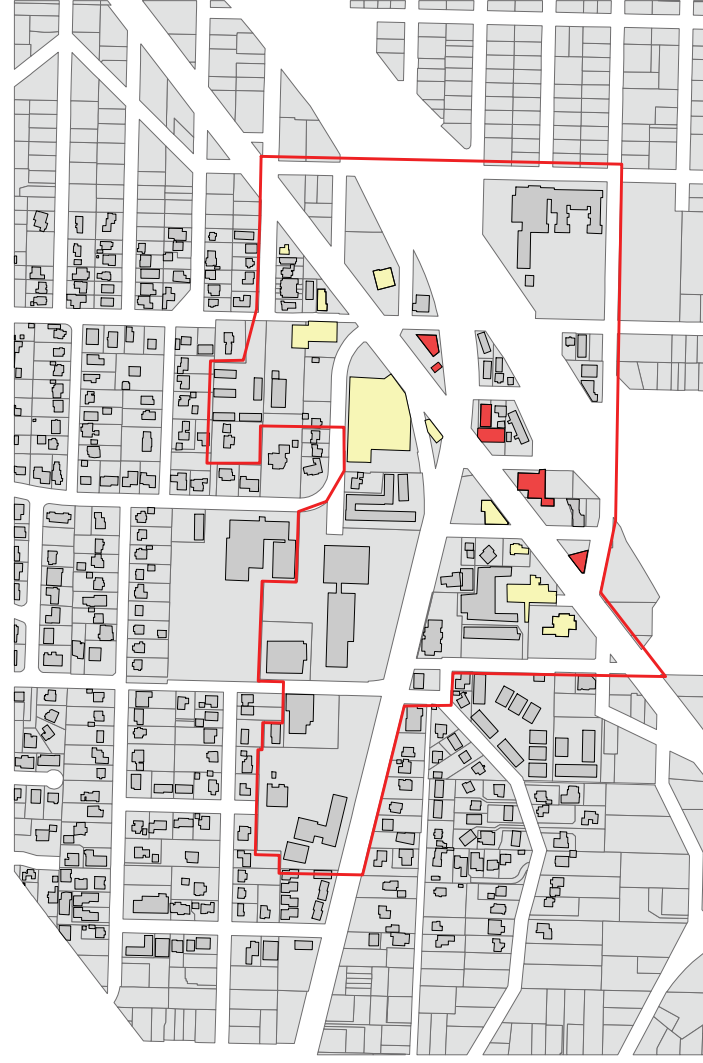


- 1, 2. Absence of bike lane on narrow road causes bikes and cars to fight for space.
3. Bike lane comes to an abrupt stop and cyclists are forced to merge into traffic on narrow bridge.
4. Bike lane makes a sharp turn around a corner with little room between car and cyclist.



# PROPERTIES WITHIN NEW RIGHT OF WAY

Litescapes  
University of Oregon: Landscape Architecture 4/594, Fall 2017  
19th Node, Barbur Blvd.  
Ryan Nicholson  
Robert Rhee and Yekang Ko



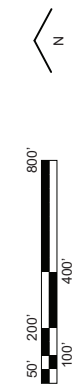
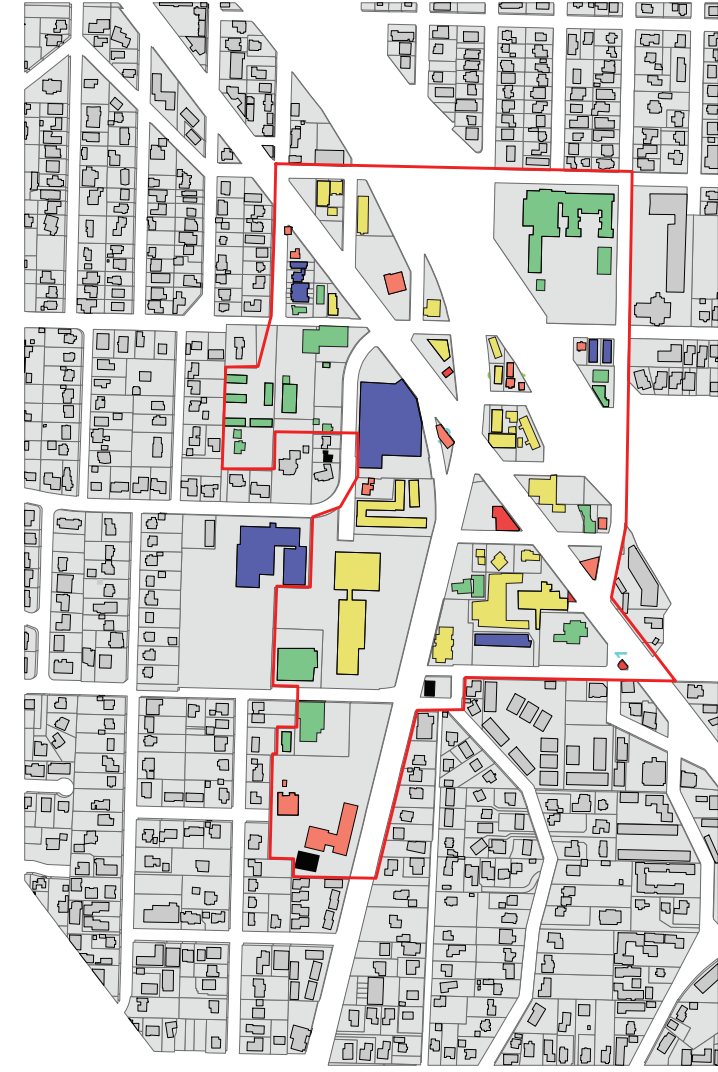
**PROPERTIES IMMEDIATELY IMPACTED**

- Likely to be condemned by SWL
- Easement may be necessary



# PROPERTY VITALITY ASSESSMENT

Litescapes  
University of Oregon: Landscape Architecture 4/594, Fall 2017  
19th Node, Barbur Blvd.  
Ryan Nicholson  
Robert Rhee and Yekang Ko



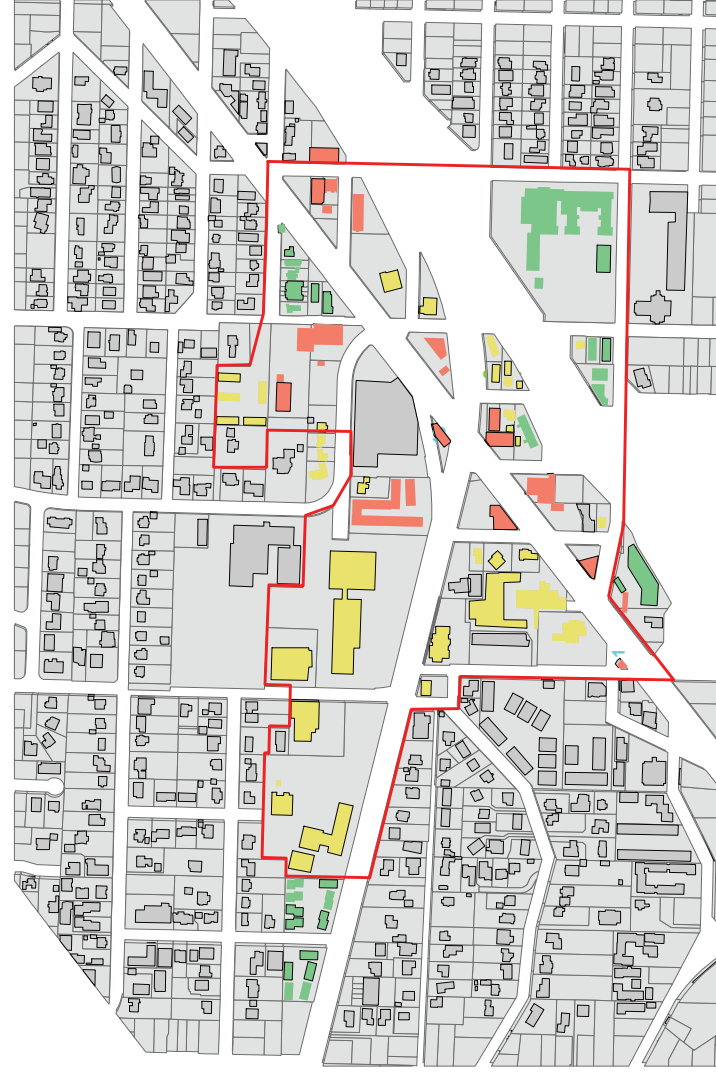
**VITALITY**

- High Vitality
- Mid-high Vitality
- Medium Vitality
- Mid-Low Vitality
- Low Vitality
- Amortized, Outside Boundary

Note: See Flow Chart 'B' for derivation of vitality levels.

# REDEVELOPMENT TIMELINE

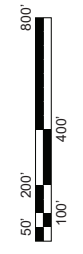
University of Oregon: Landscape Architecture 4/594, Fall 2017  
 19th Node, Barbur Blvd.  
 Ryan Nicholson  
 Robert Ribe and Tekang Ko



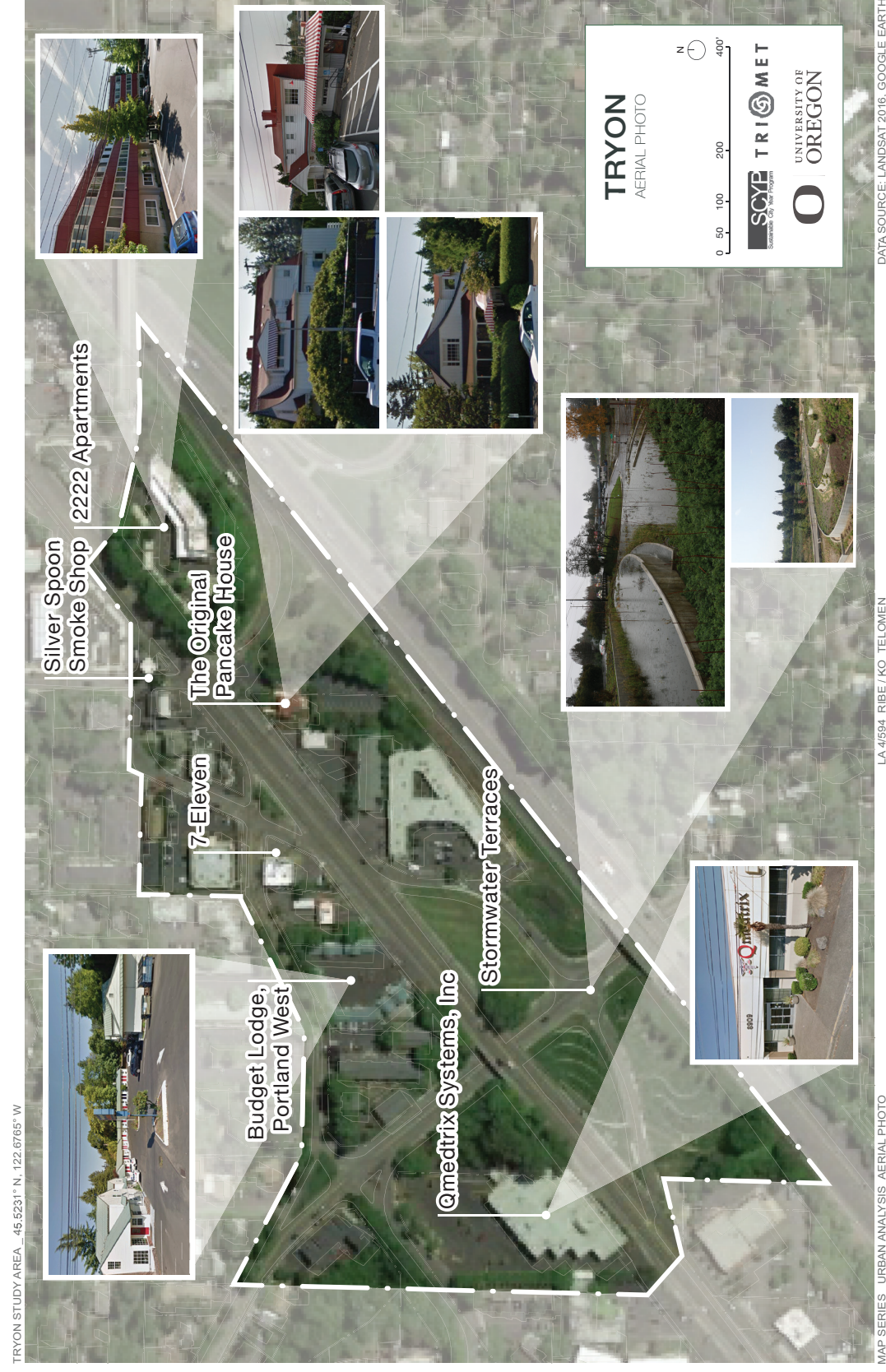
**REDEVELOPMENT TIMELINE**

- 0 - 10 Years
- 10 - 30 Years
- 30 - 50 Years

Note: See Flow Chart "A" for description of development periods and variables involved



# Appendix D: Tryon Crossing Analysis Maps



TRYON STUDY AREA - 45.5231° N, 122.6765° W

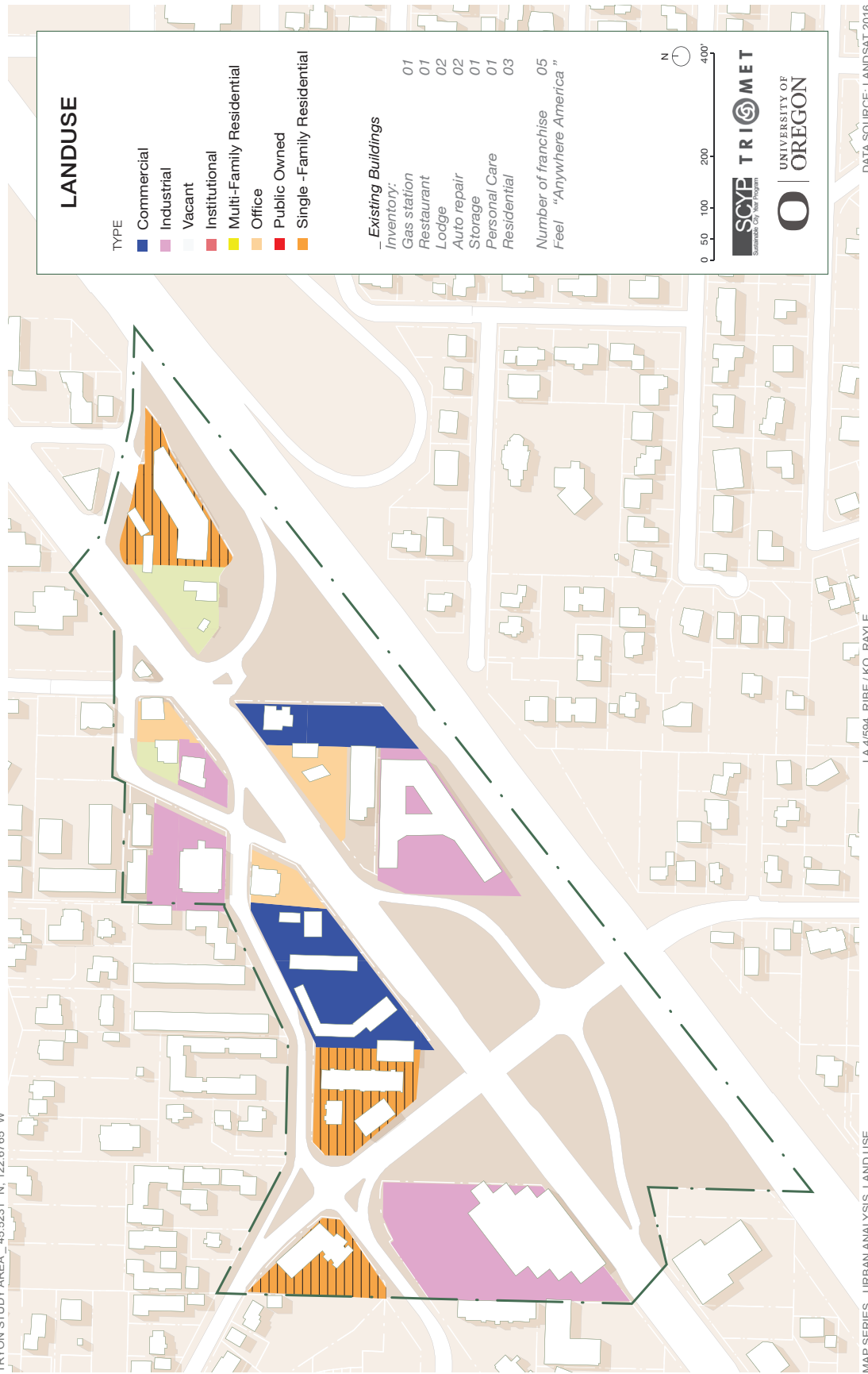


MAP SERIES \_URBAN ANALYSIS\_LAND COVER

LA 4/594\_RIBE / KO\_RAYLE

DATA SOURCE: LANDSAT 2016

TRYON STUDY AREA - 45.5231° N, 122.6765° W

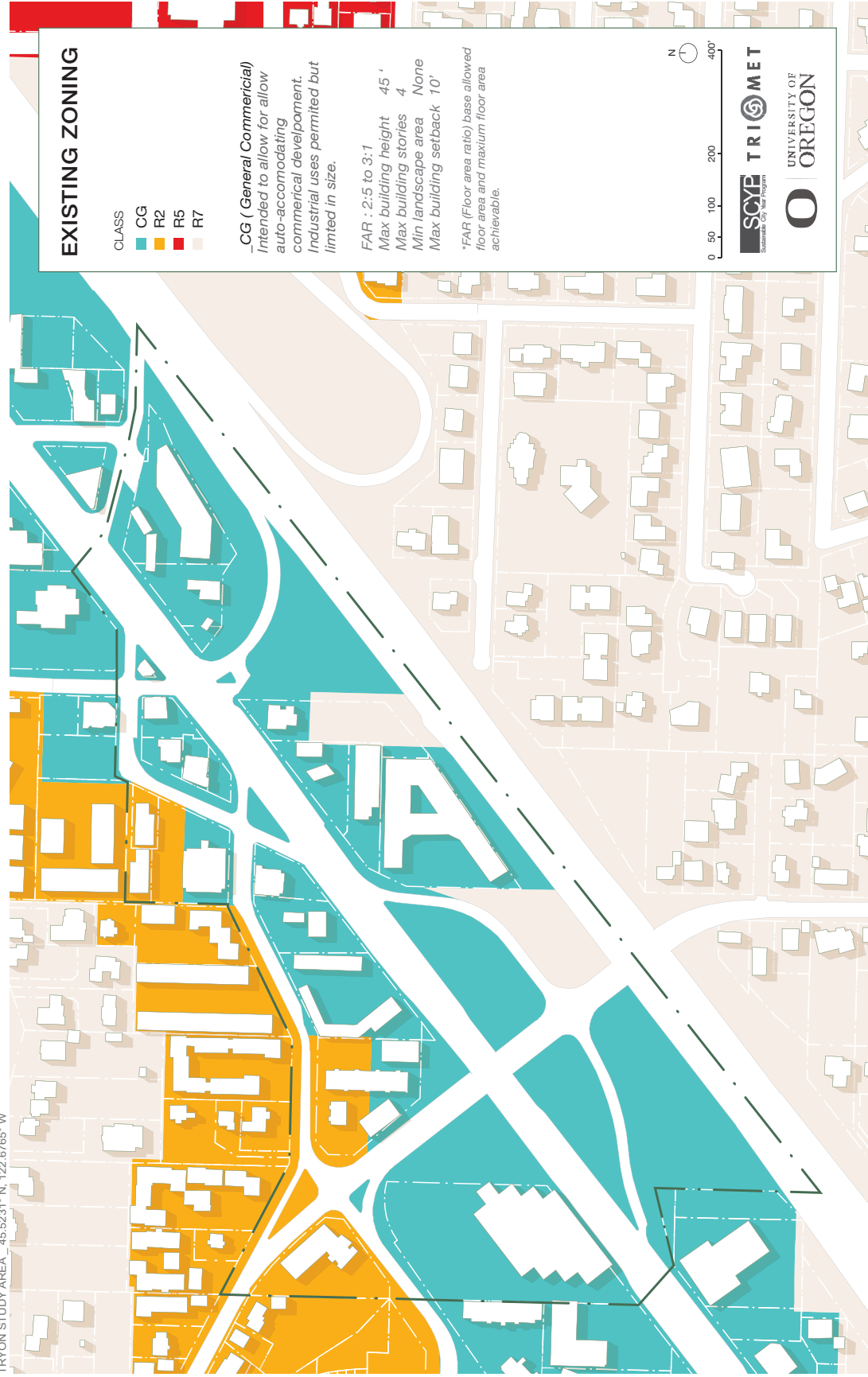


MAP SERIES \_URBAN ANALYSIS\_LAND USE

LA 4/594\_RIBE / KO\_RAYLE

DATA SOURCE: LANDSAT 2016

TRYON STUDY AREA - 45.5231° N, 122.6765° W

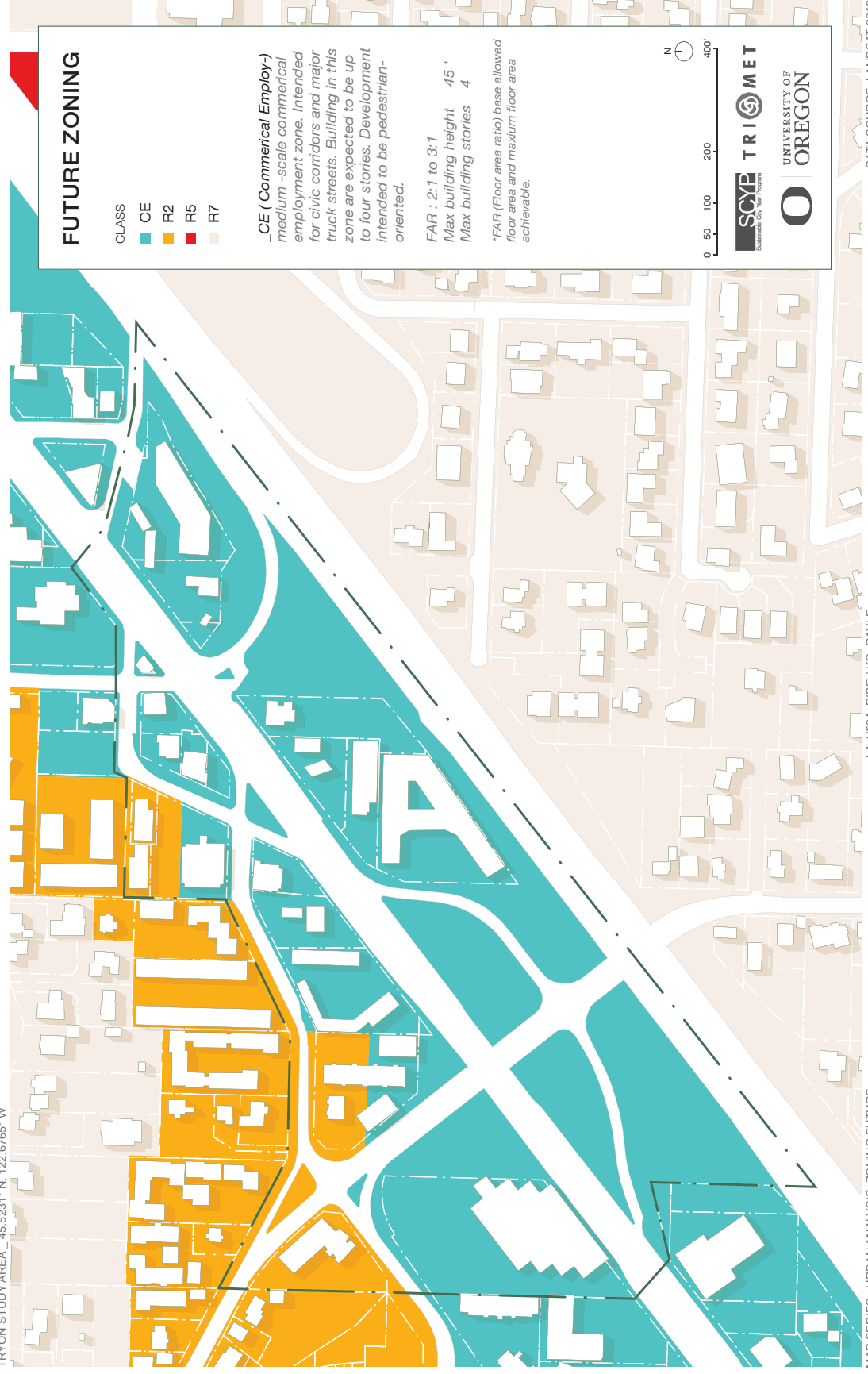


MAP SERIES - URBAN ANALYSIS\_ZONING EXISTING

LA 4/594\_RIBE / KO\_RAYLE

DATA SOURCE: LANDSAT 2016

TRYON STUDY AREA - 45.5231° N, 122.6765° W



MAP SERIES - URBAN ANALYSIS\_ZONING FUTURE

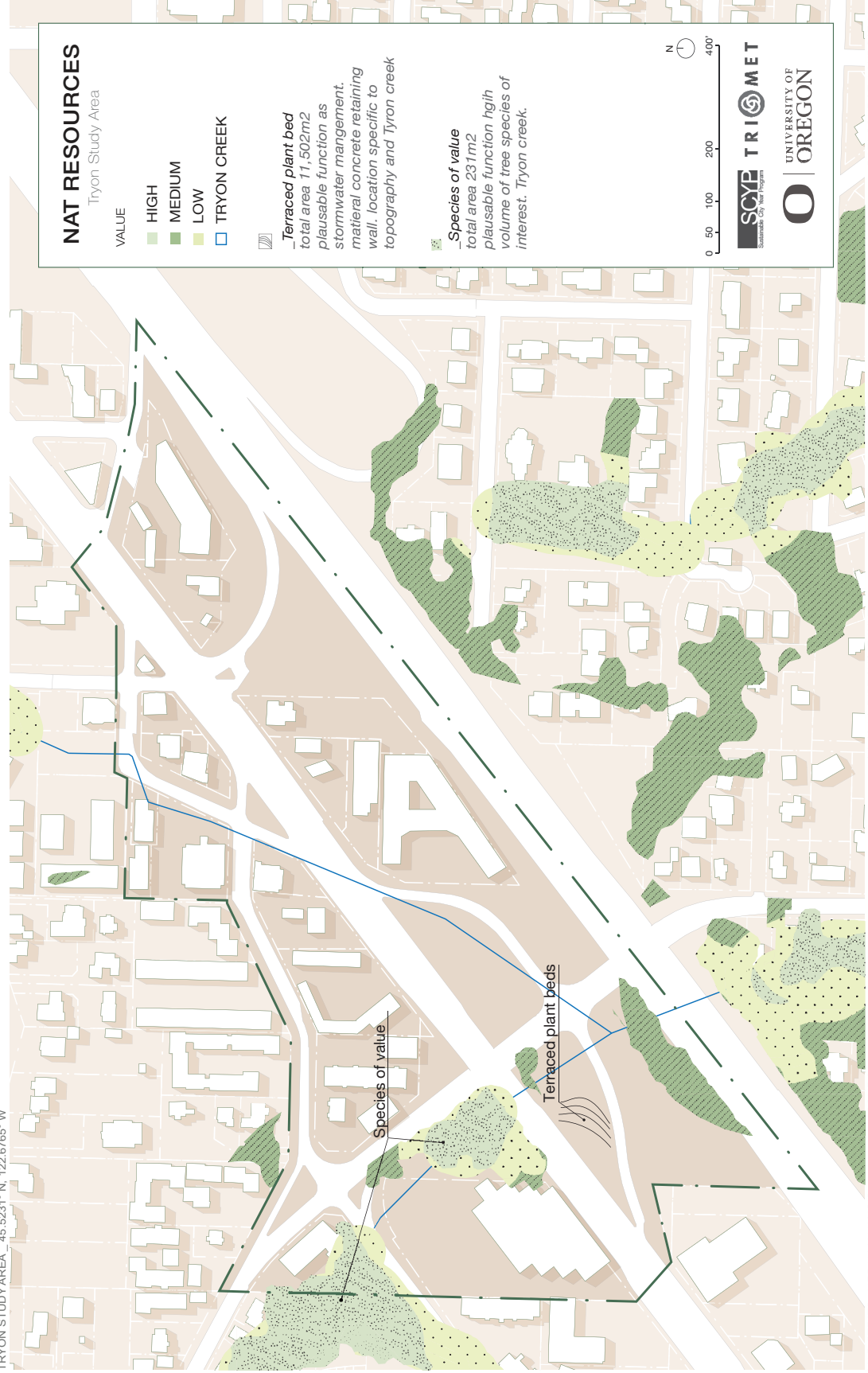
LA 4/594\_RIBE / KO\_RAYLE

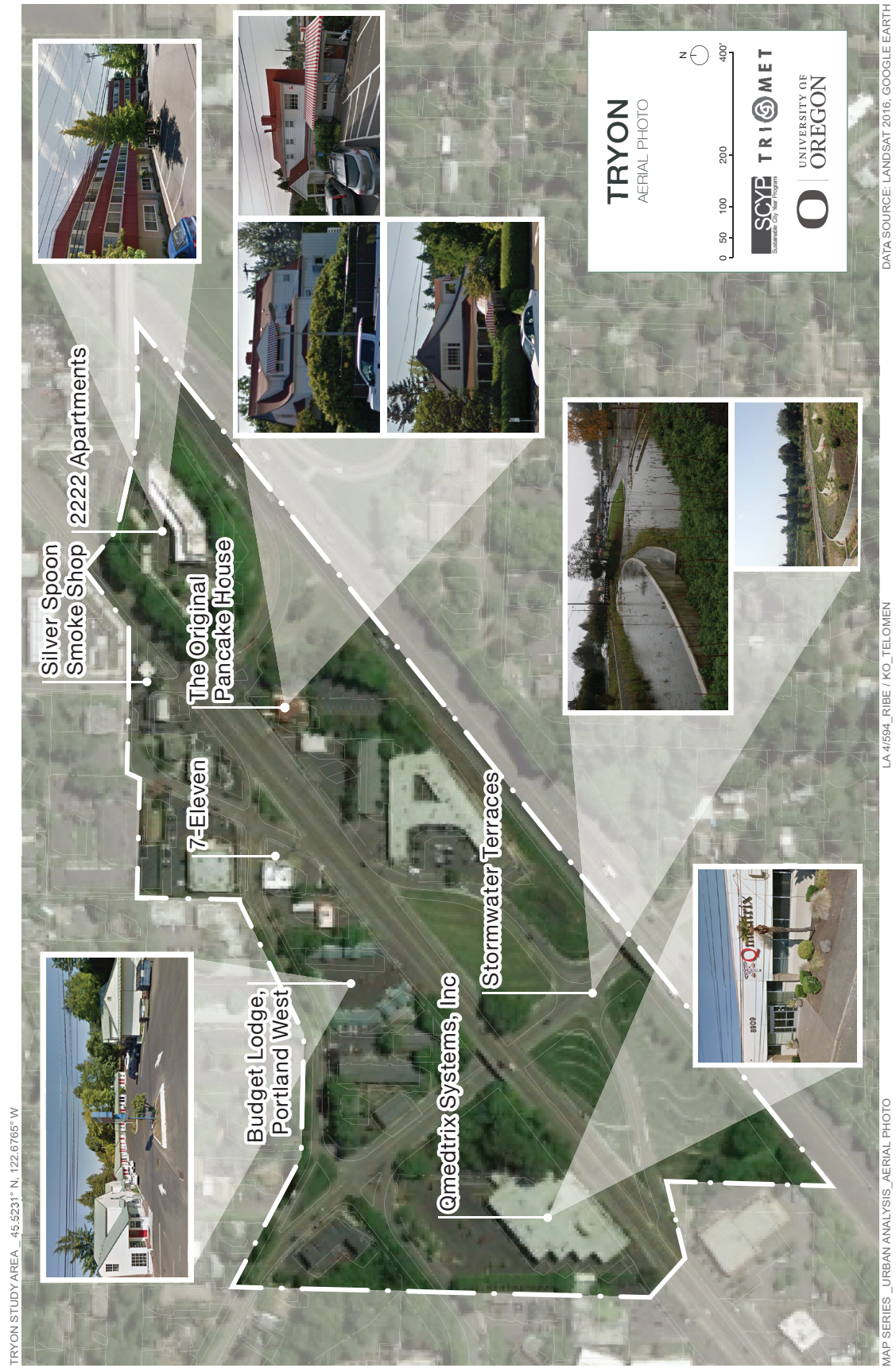
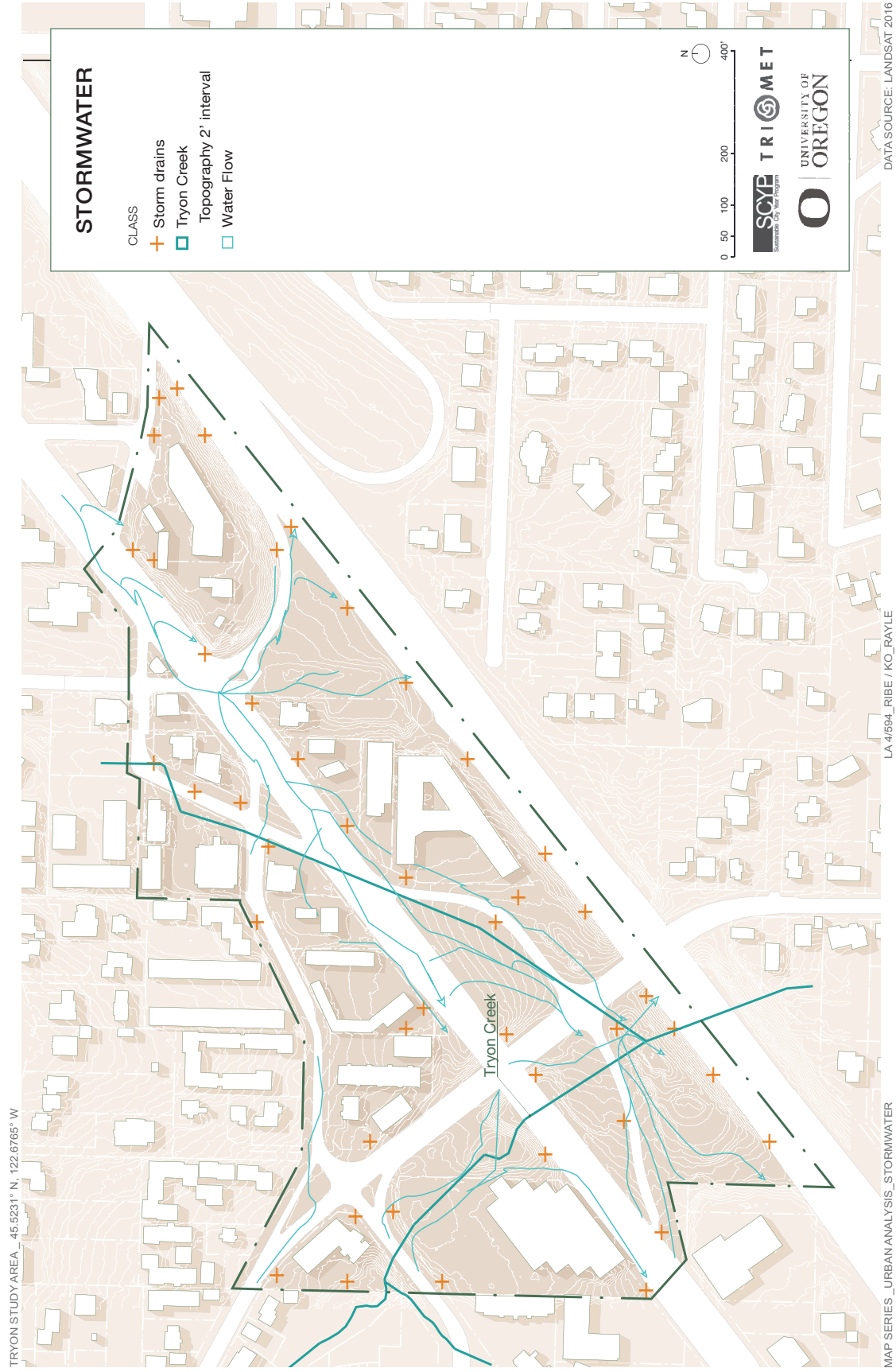
DATA SOURCE: LANDSAT 2016

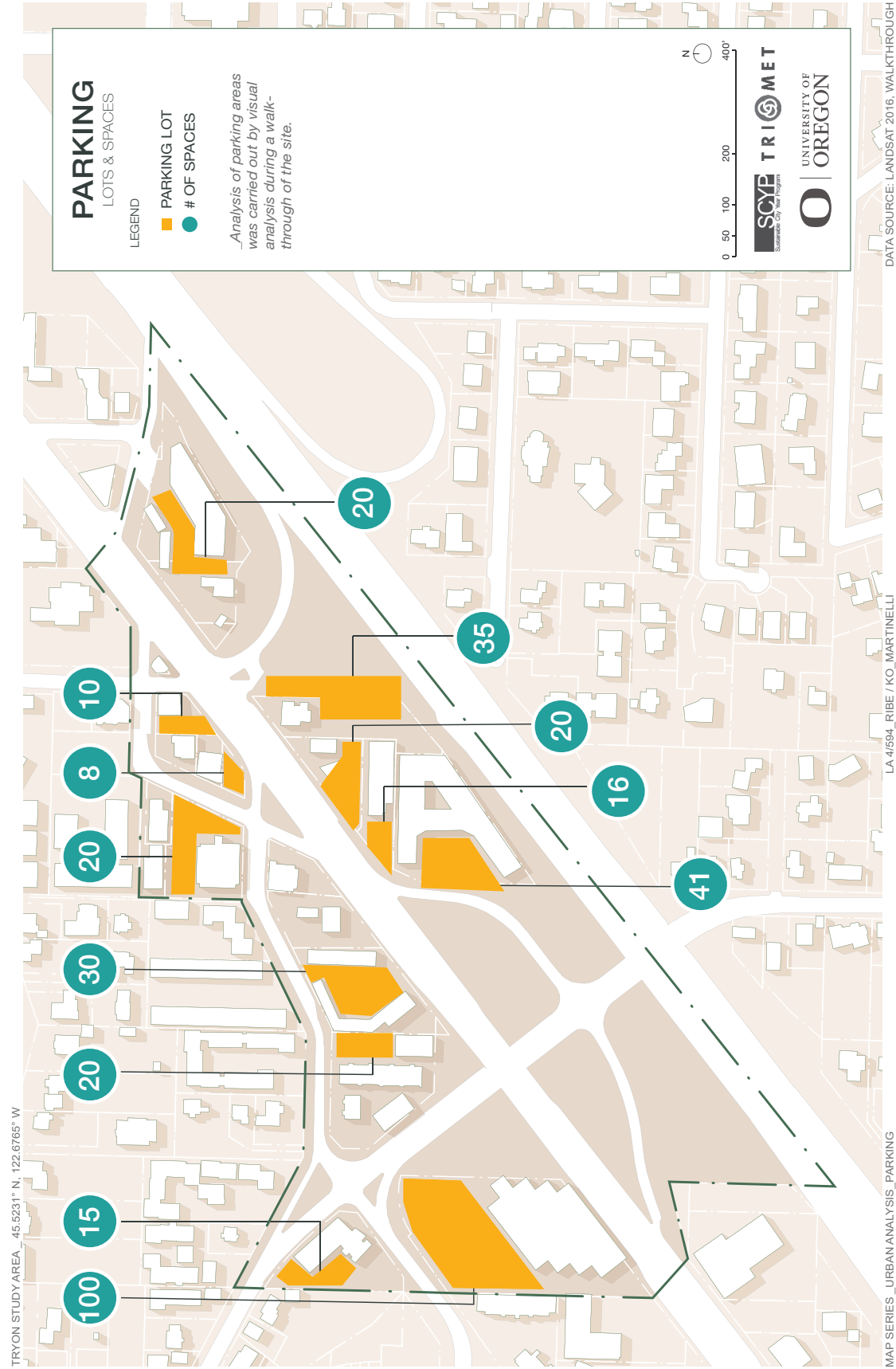
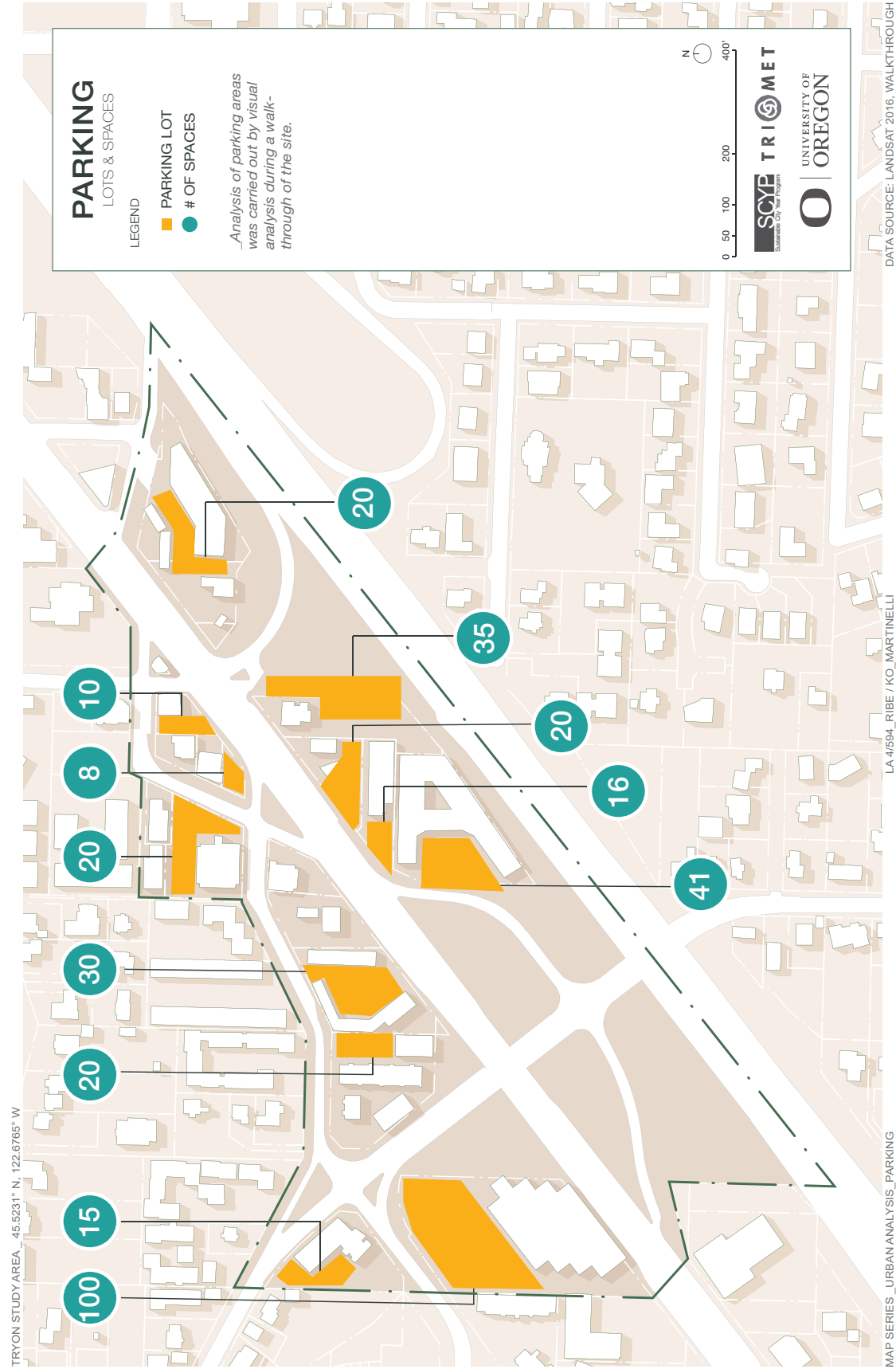
TRYON STUDY AREA \_ 45.5231° N, 122.6765° W

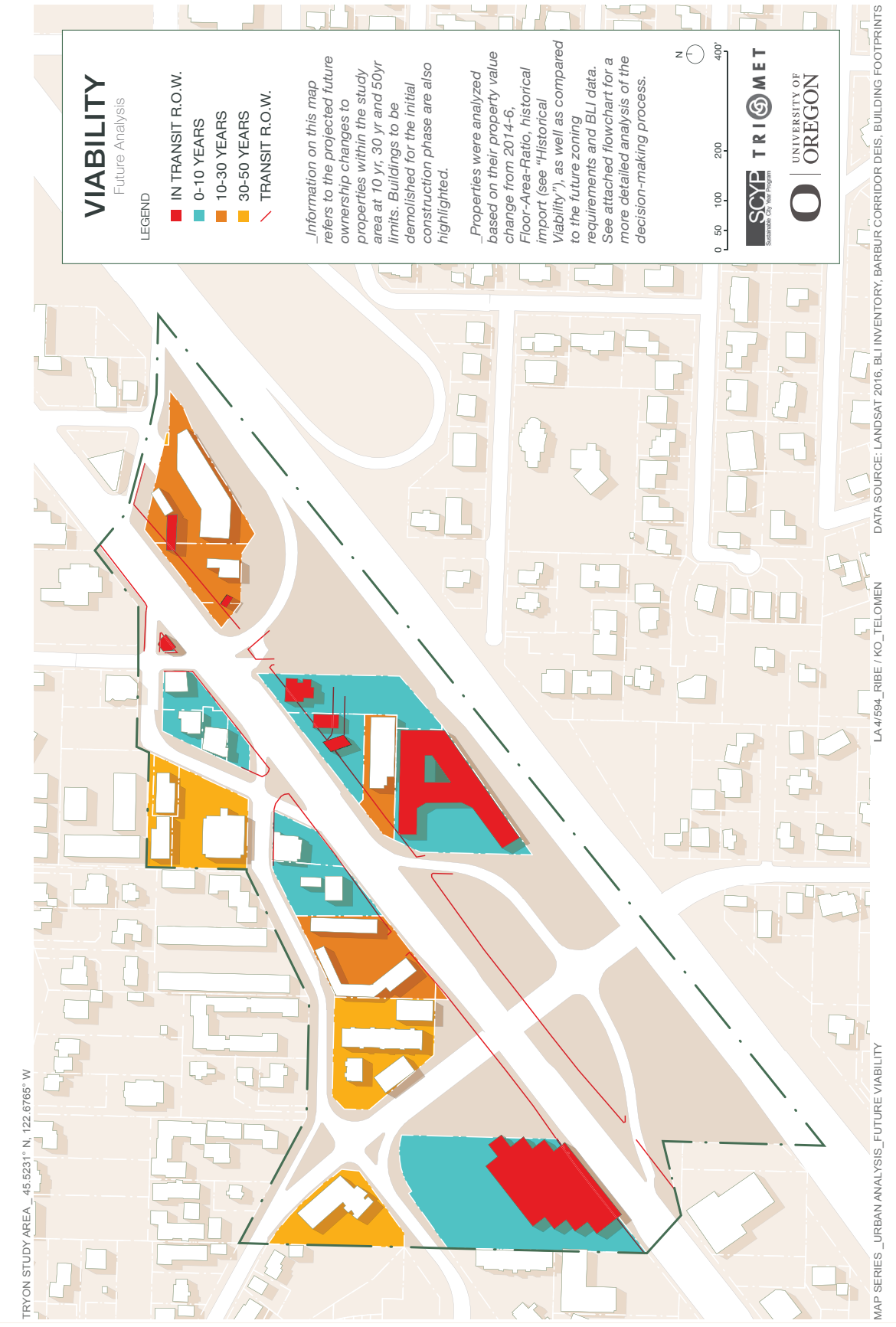
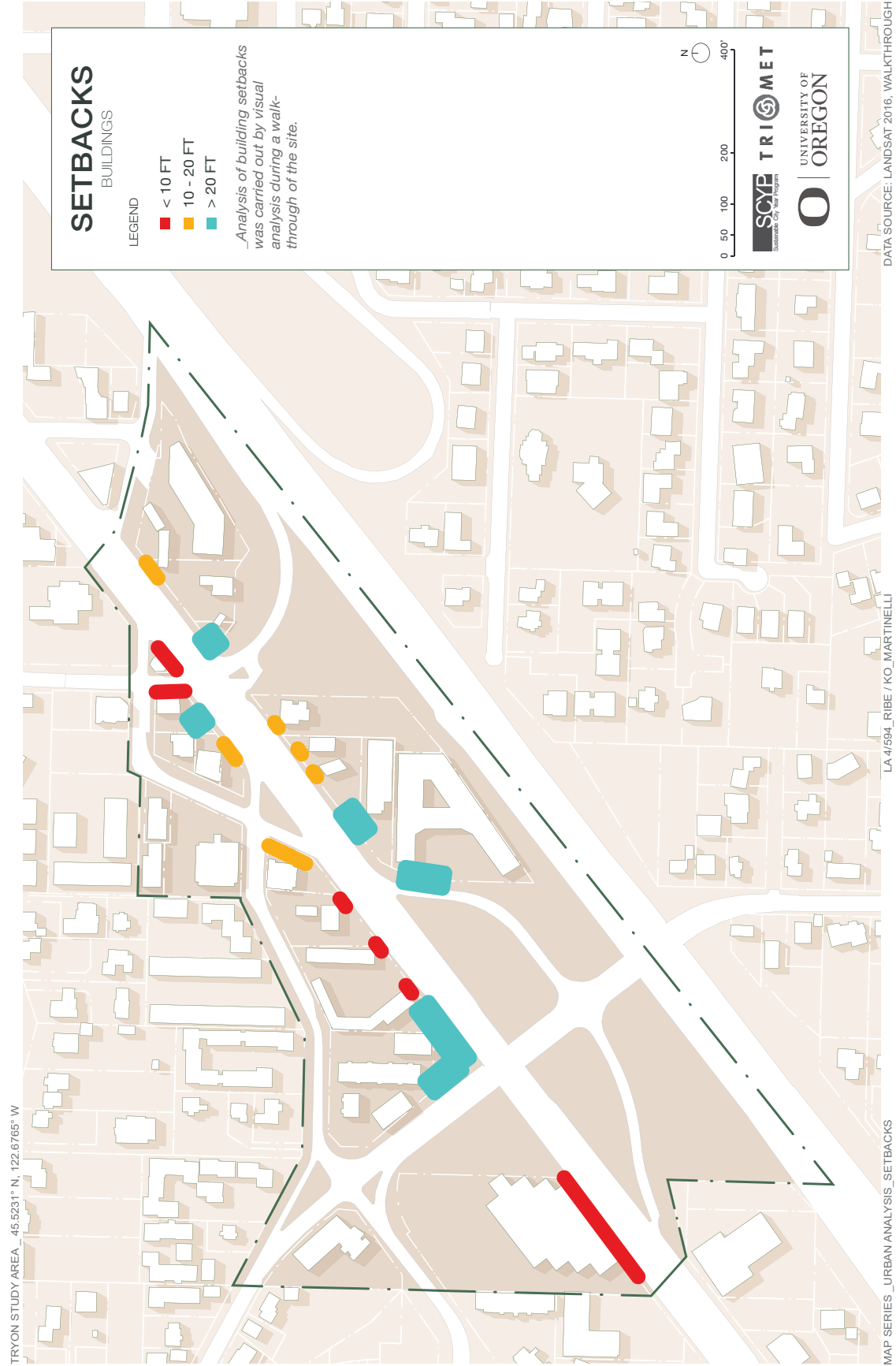


TRYON STUDY AREA \_ 45.5231° N, 122.6765° W



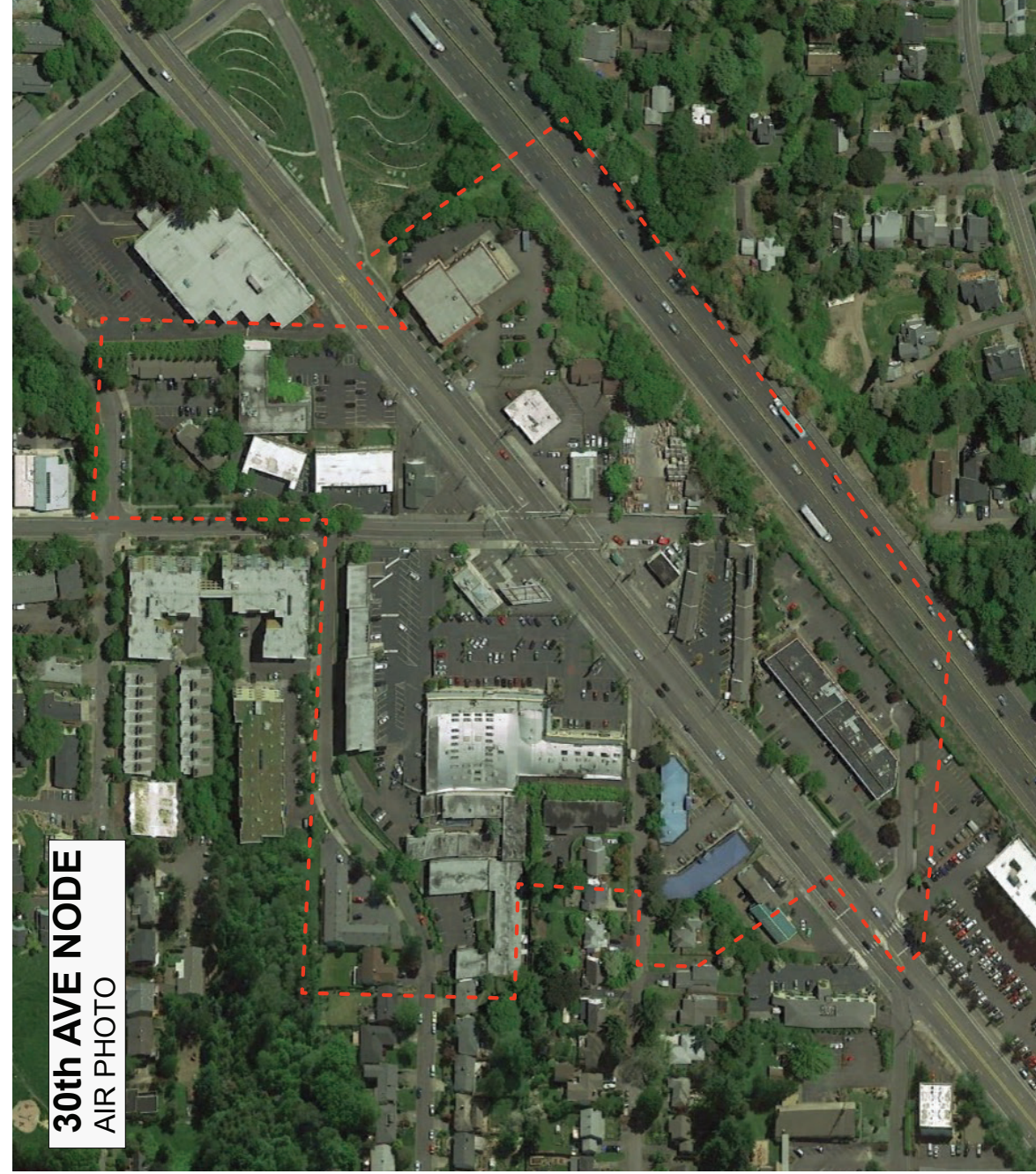






# Appendix E: 30<sup>th</sup> Avenue Node Analysis Maps

boundary



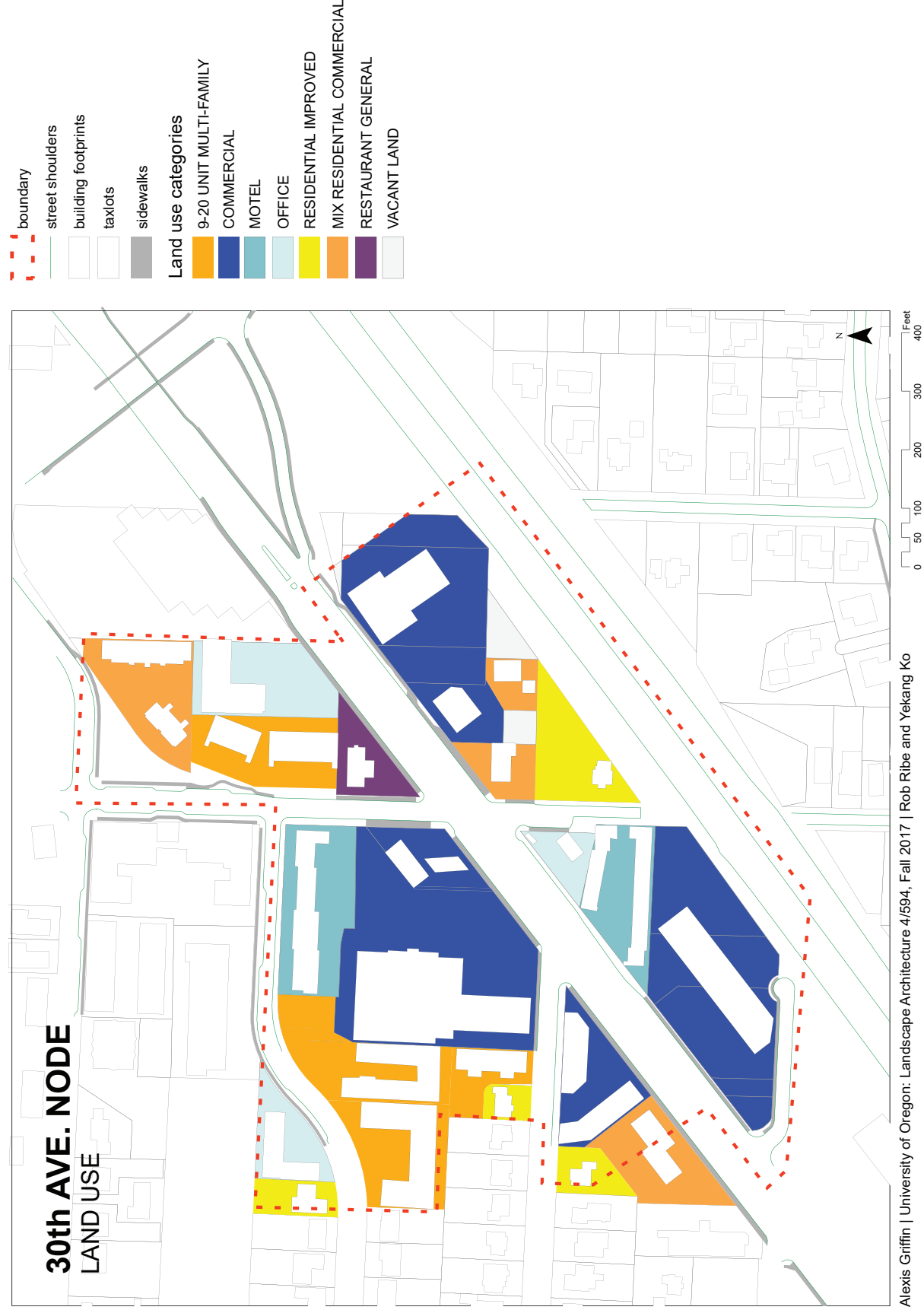
Ali Pougiales | University of Oregon: Landscape Architecture 4/594, Fall 2017 | Rob Ribe and Yekang Ko

- boundary
- building\_footprints
- streams
- curbs\_shoulders
- Citations
- tall vegetation
- short vegetation
- paved passive areas
- paved motive areas

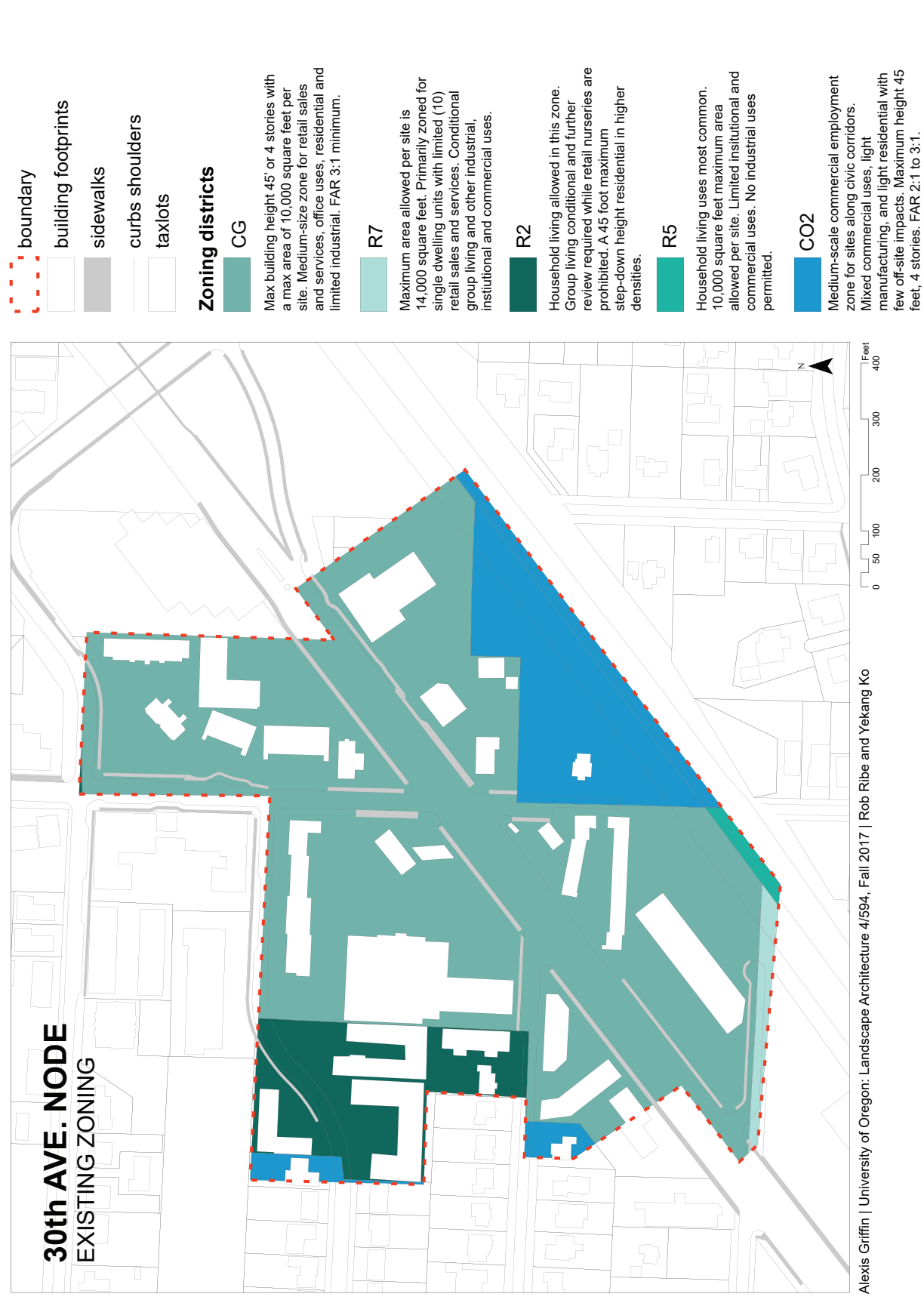


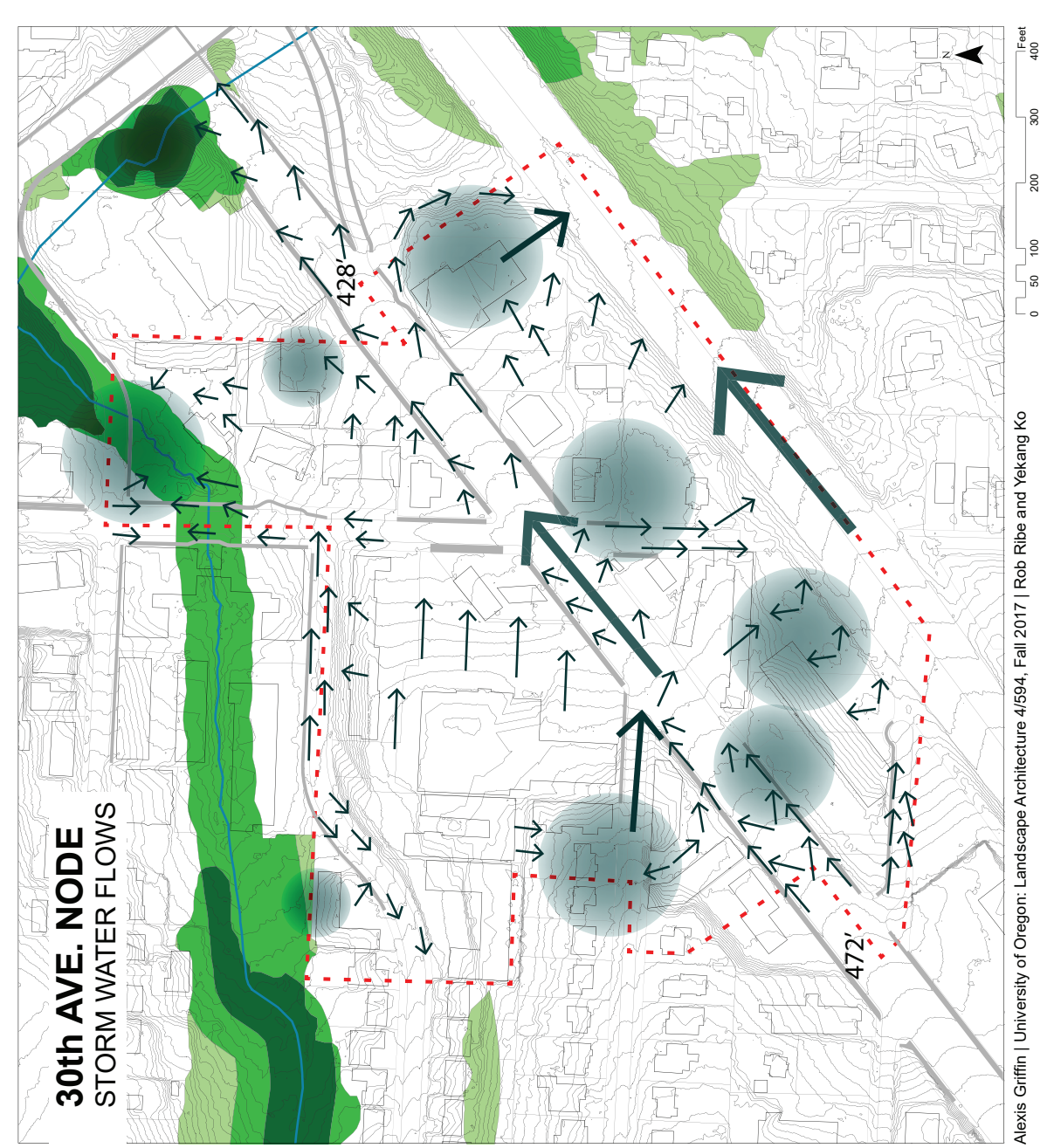
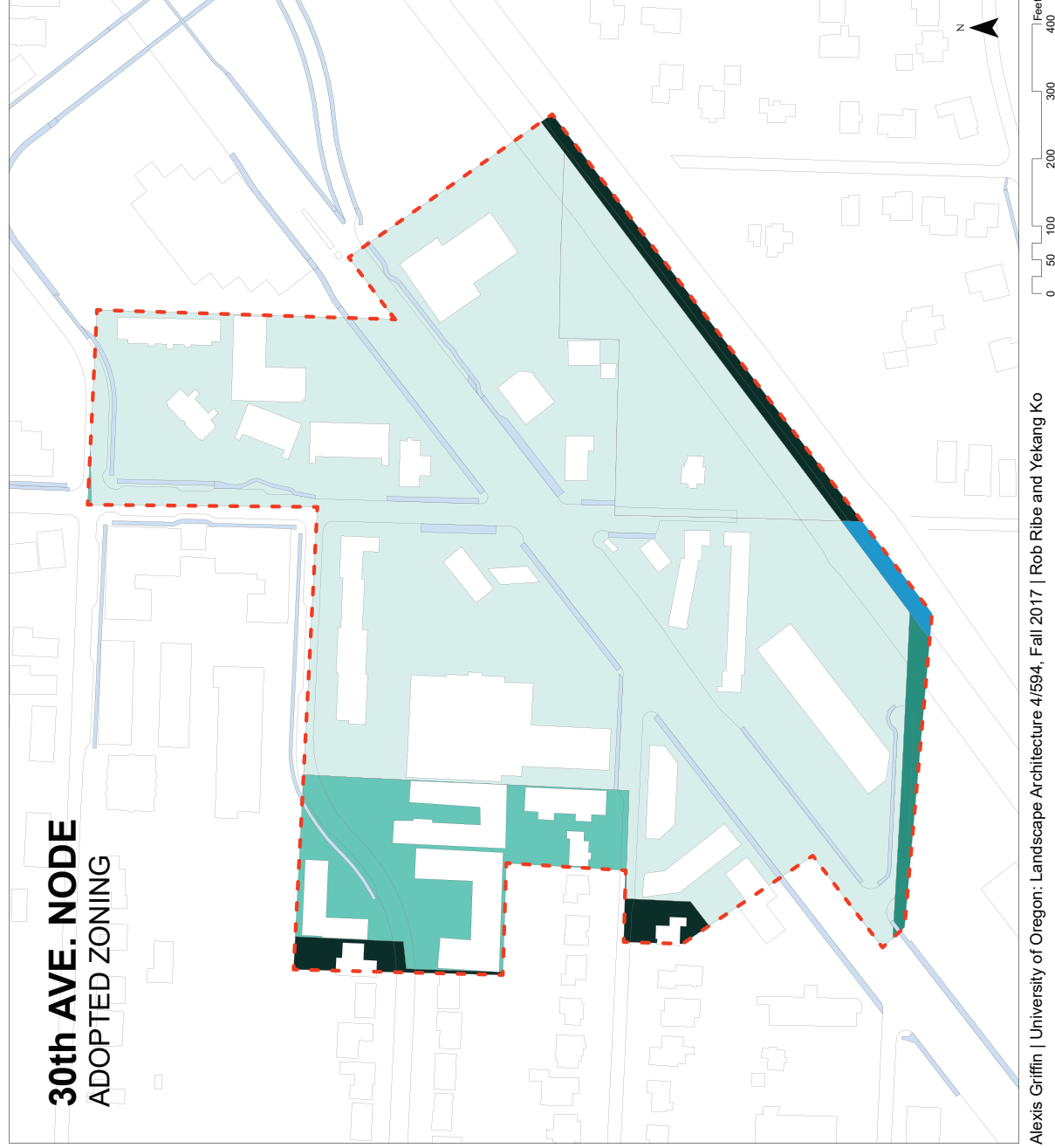
Alexis Griffin | University of Oregon: Landscape Architecture 4/594, Fall 2017 | Rob Ribe and Yekang Ko

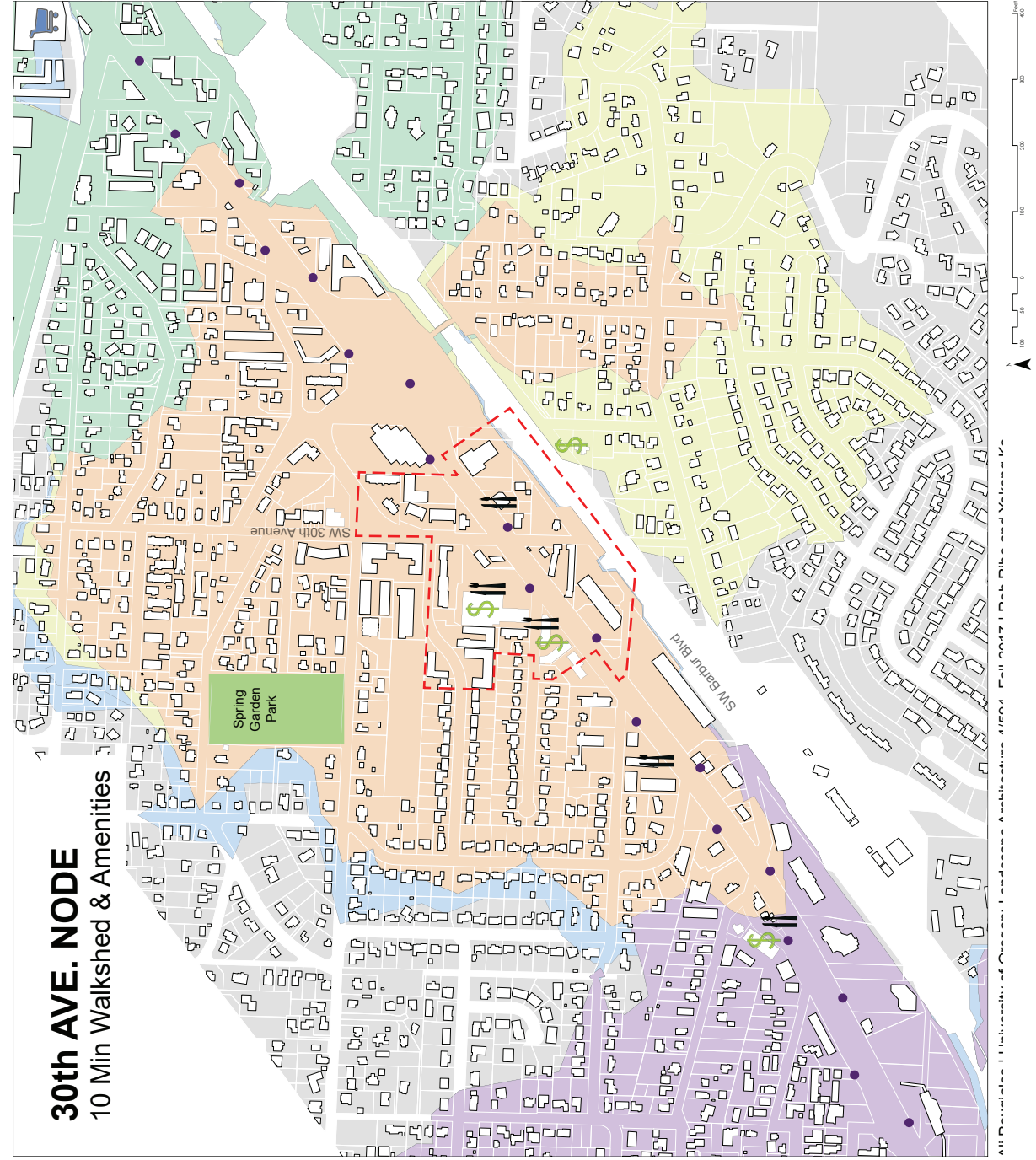
### 30th AVE. NODE LAND USE



### 30th AVE. NODE EXISTING ZONING

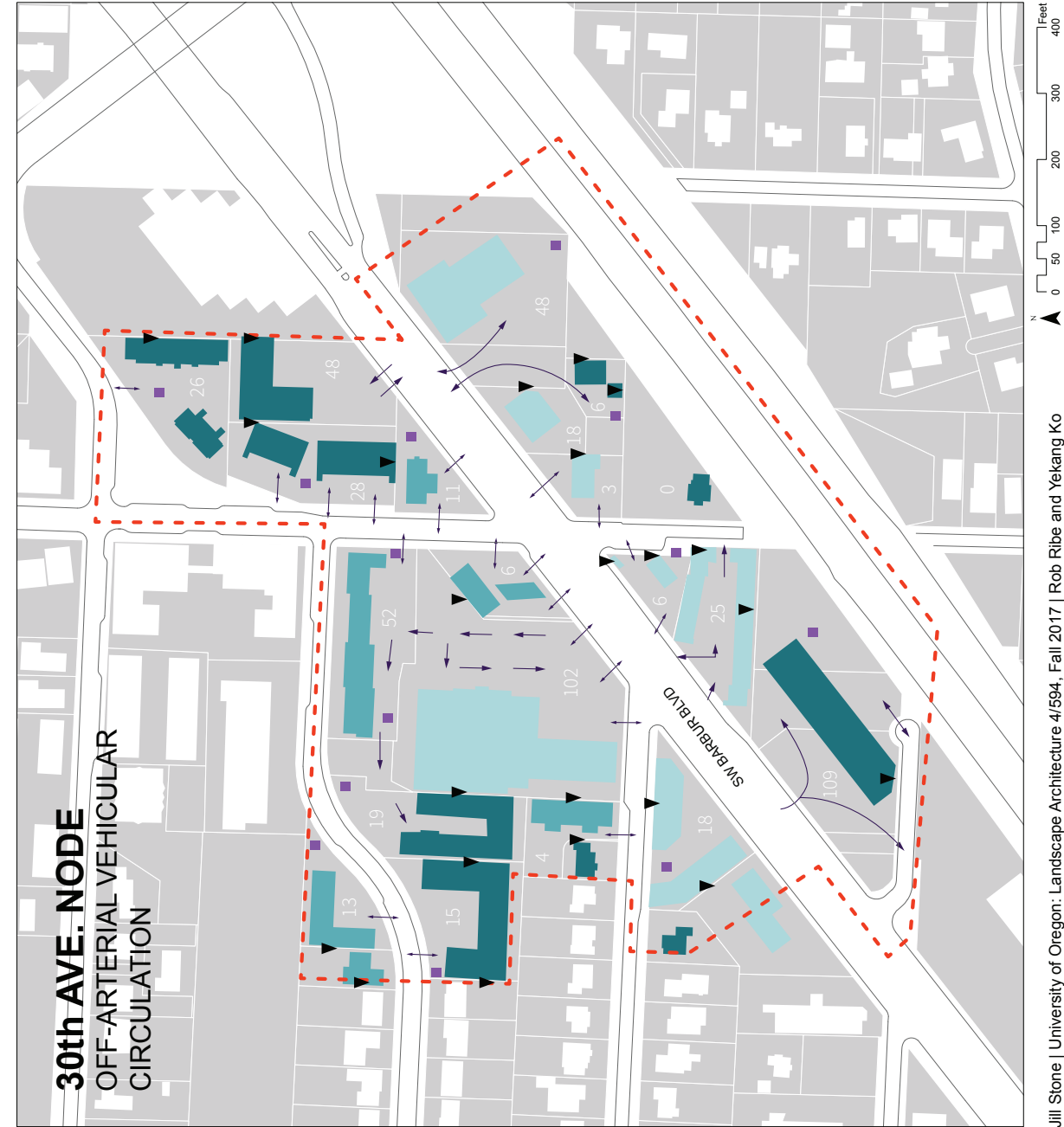






AP Parcel Data | University of Oregon | Landscape Architecture 4/594 | Fall 2017 | Rob Ribe and Yekang Ko

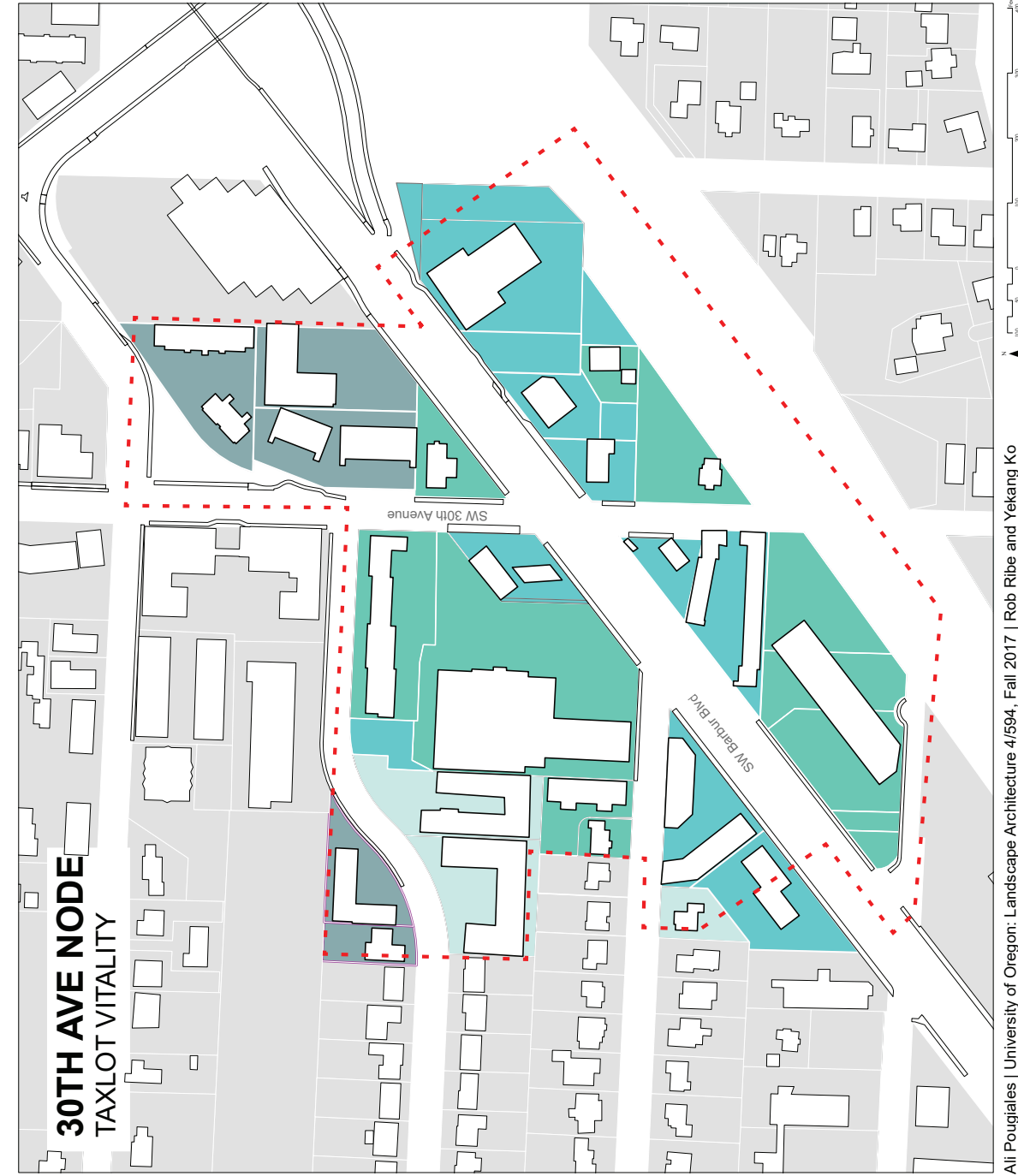
Jill Stone | University of Oregon | Landscape Architecture 4/594, Fall 2017 | Rob Ribe and Yekang Ko



AP Parcel Data | University of Oregon | Landscape Architecture 4/594 | Fall 2017 | Rob Ribe and Yekang Ko



Jill Stone | University of Oregon: Landscape Architecture 4/594, Fall 2017 | Rob Ribe and Yekang Ko



Ali Pougiales | University of Oregon: Landscape Architecture 4/594, Fall 2017 | Rob Ribe and Yekang Ko

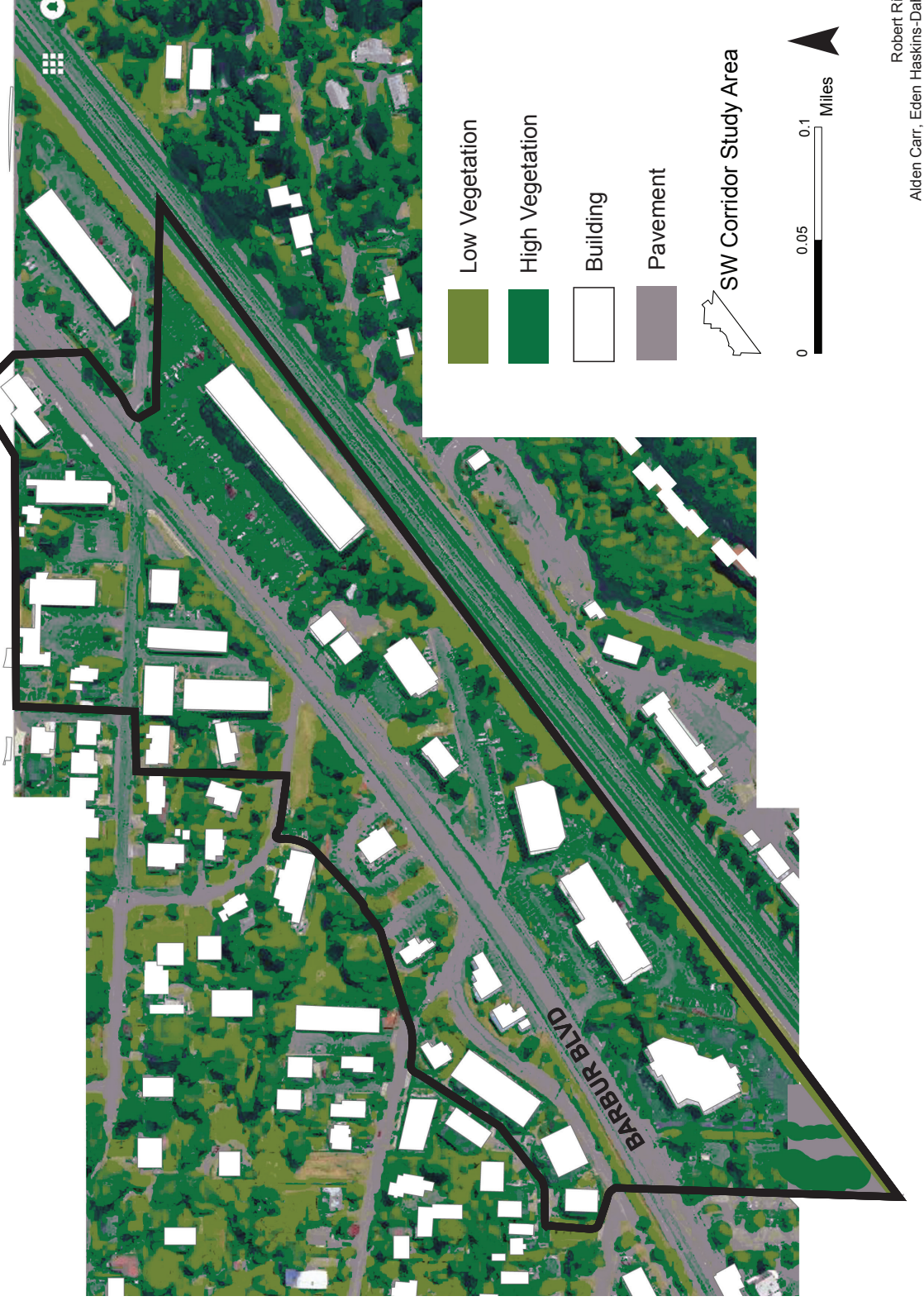
# Appendix F: Southwest Corridor Analysis Maps

## BARBUR BOULEVARD AS CIVIC CORRIDOR: Photo context map:



Alden Carr, Eden Haskins-Dahl, Katya Reyna  
Robert Ribe, Yekang Ko

## SW CORRIDOR: LAND COVER

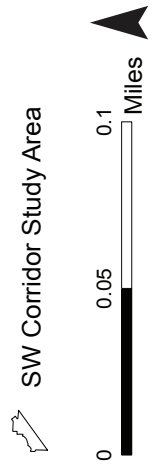


Alden Carr, Eden Haskins-Dahl, Katya Reyna  
Robert Ribe, Yekang Ko

# SW CORRIDOR: LAND USE BY PARCEL

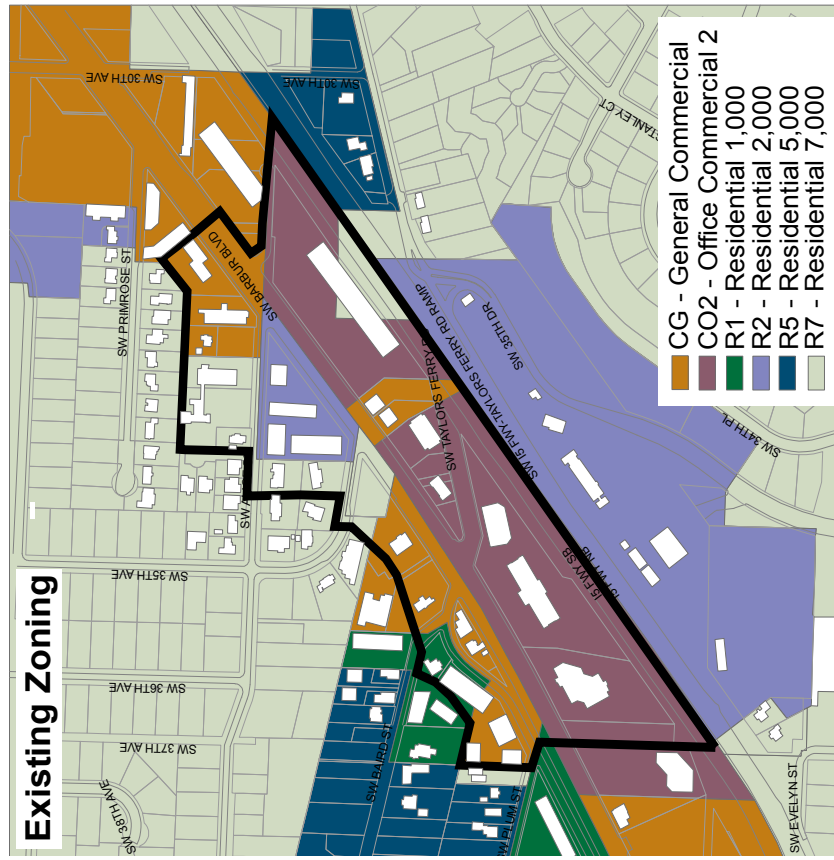


- Residential Multi-Family
- Parking Lot
- Residential Single Family
- Church
- Nursing Home - Retirement Care
- Office Low Rise
- Residential Condo
- Residential Improved
- Residential, Commercial Use
- Restaurant / Fast Food
- Store Strip/ Convenience Center
- Vacant Land

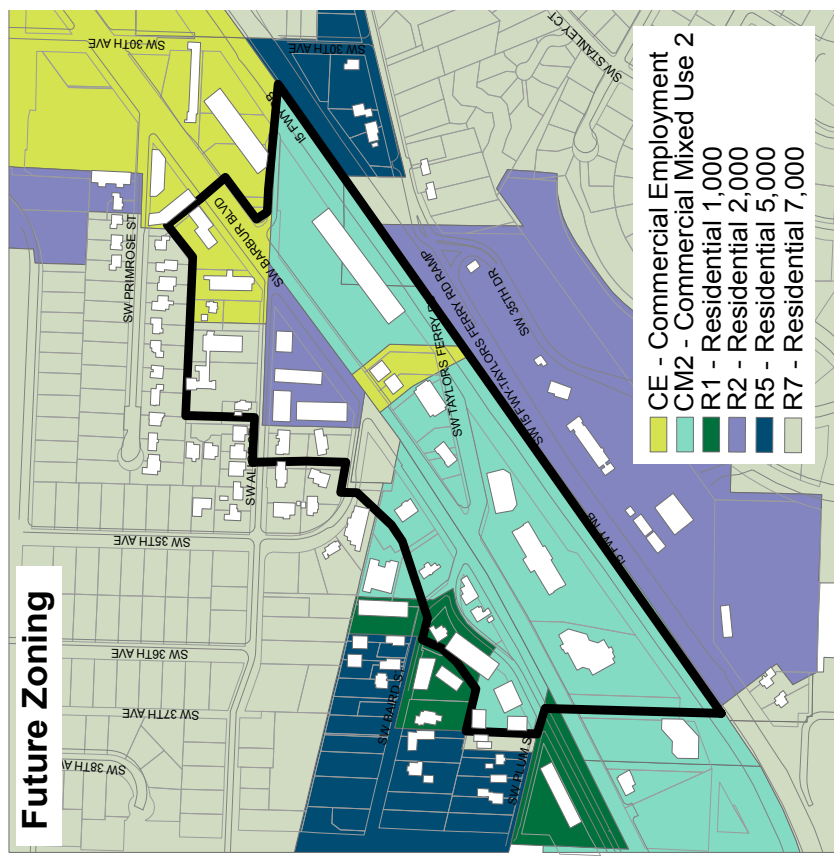


Robert Ribe, Yekang Ko  
Alden Carr, Eden Haskins-Dahl, Katya Reyna

# SW CORRIDOR: ZONING



- CG - General Commercial
- CO2 - Office Commercial 2
- R1 - Residential 1,000
- R2 - Residential 2,000
- R5 - Residential 5,000
- R7 - Residential 7,000



- CE - Commercial Employment
- CM2 - Commercial Mixed Use 2
- R1 - Residential 1,000
- R2 - Residential 2,000
- R5 - Residential 5,000
- R7 - Residential 7,000

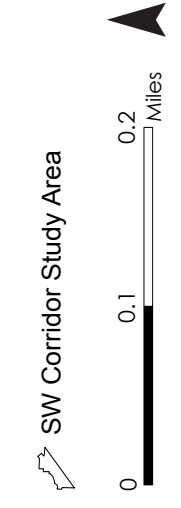
**New Zones:**

**Commercial Employment**  
Medium-scale commercial, Limited residential uses; light manufacturing, distribution uses; up to 4 stories tall

**Commercial Mixed Use 2**  
Medium-scale commercial/ residential uses; 3-4 stories tall; Pedestrian-oriented

**Residential Zones**  
number denotes square footage per one unit

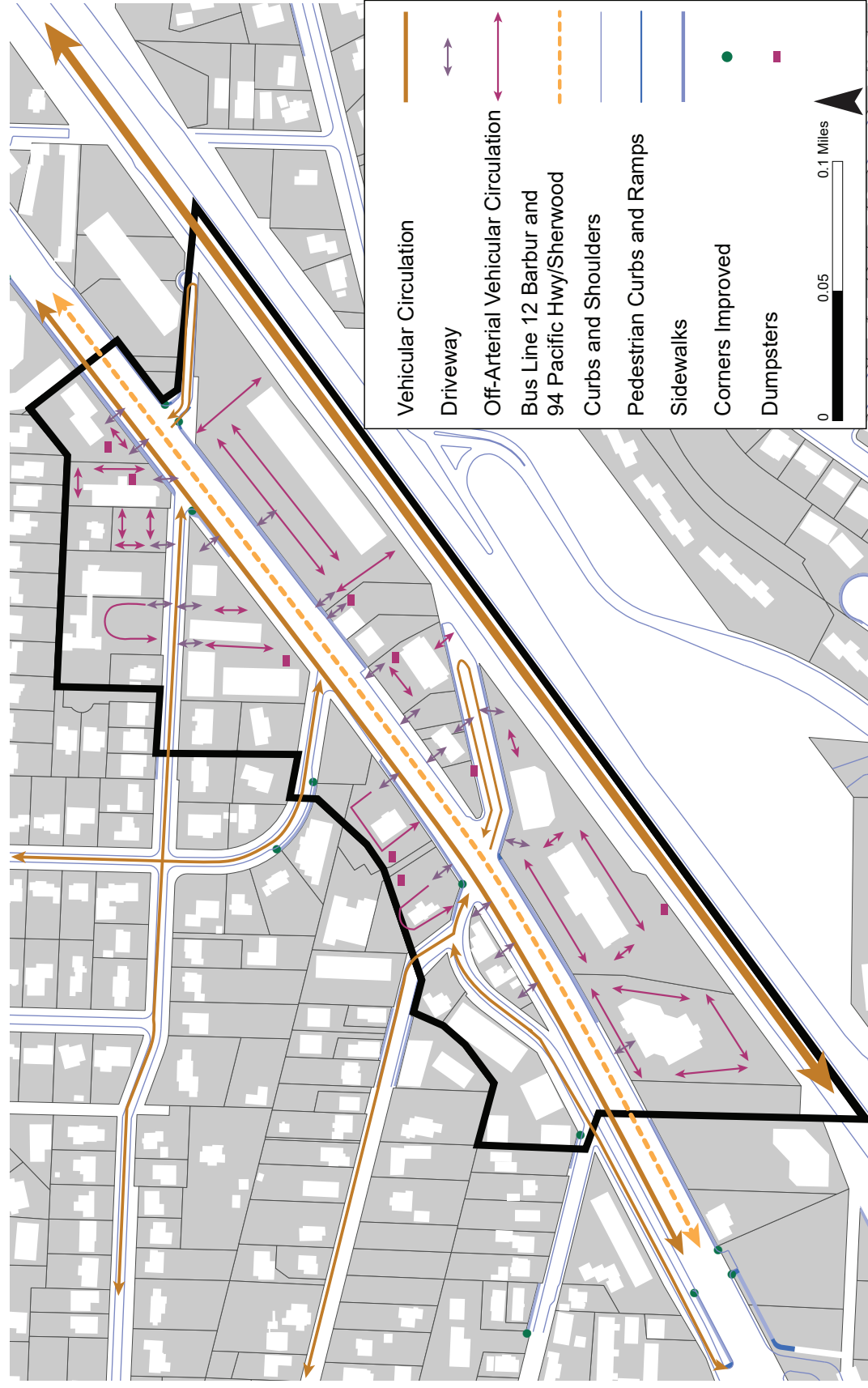
Existing: CG, CO2, R1, R2, R5, R7  
New: CE, CM2



Robert Ribe, Yekang Ko  
Alden Carr, Eden Haskins-Dahl, Katya Reyna

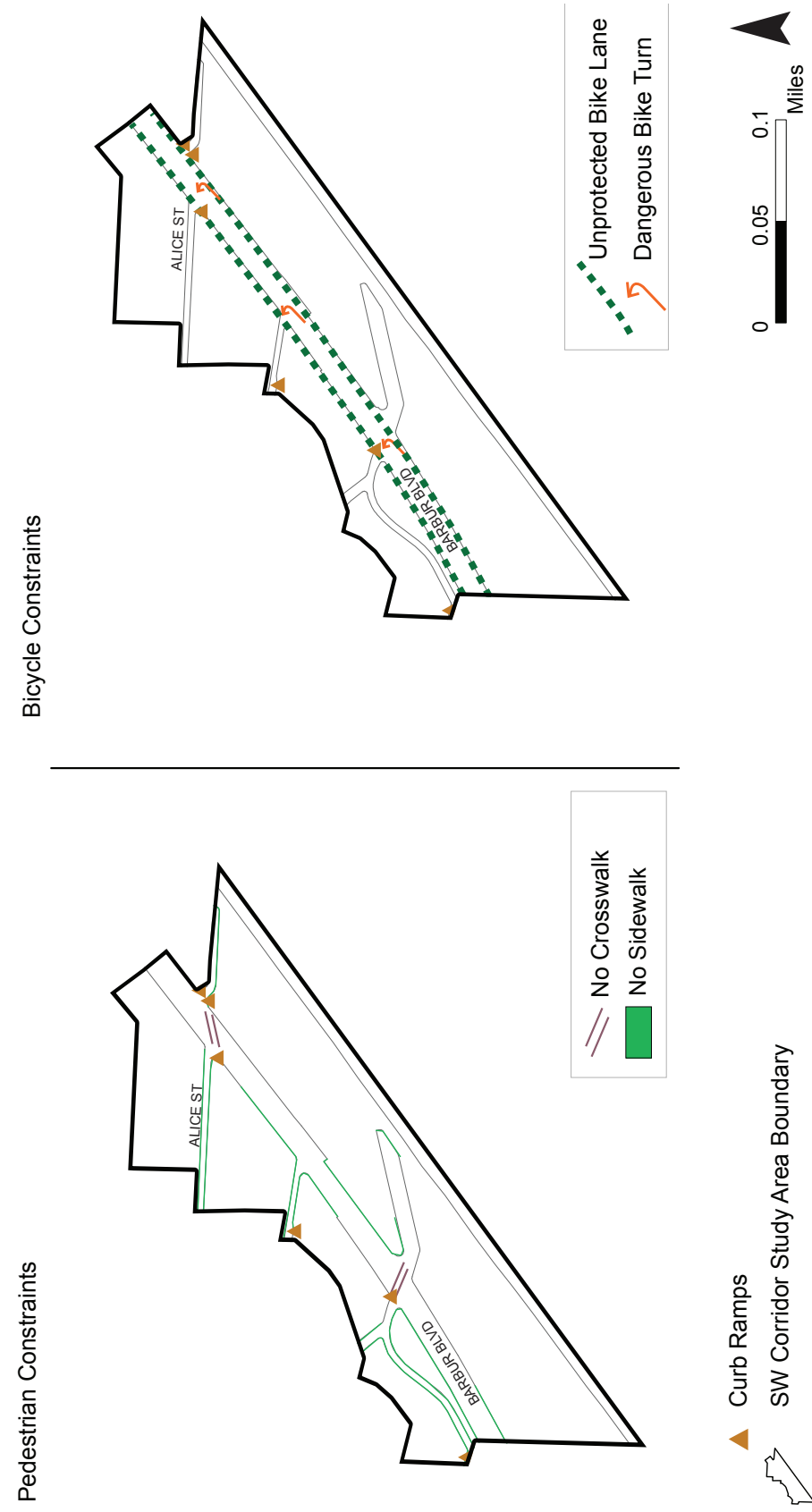


# SW CORRIDOR: OFF-ARTERIAL VEHICULAR CIRCULATION



Robert Ribe, Yekang Ko LA 4/594  
Alden Carr, Eden Haskins-Dahl, Katya Revna

# SW CORRIDOR: PEDESTRIAN AND BICYCLE SAFETY AND CIRCULATION



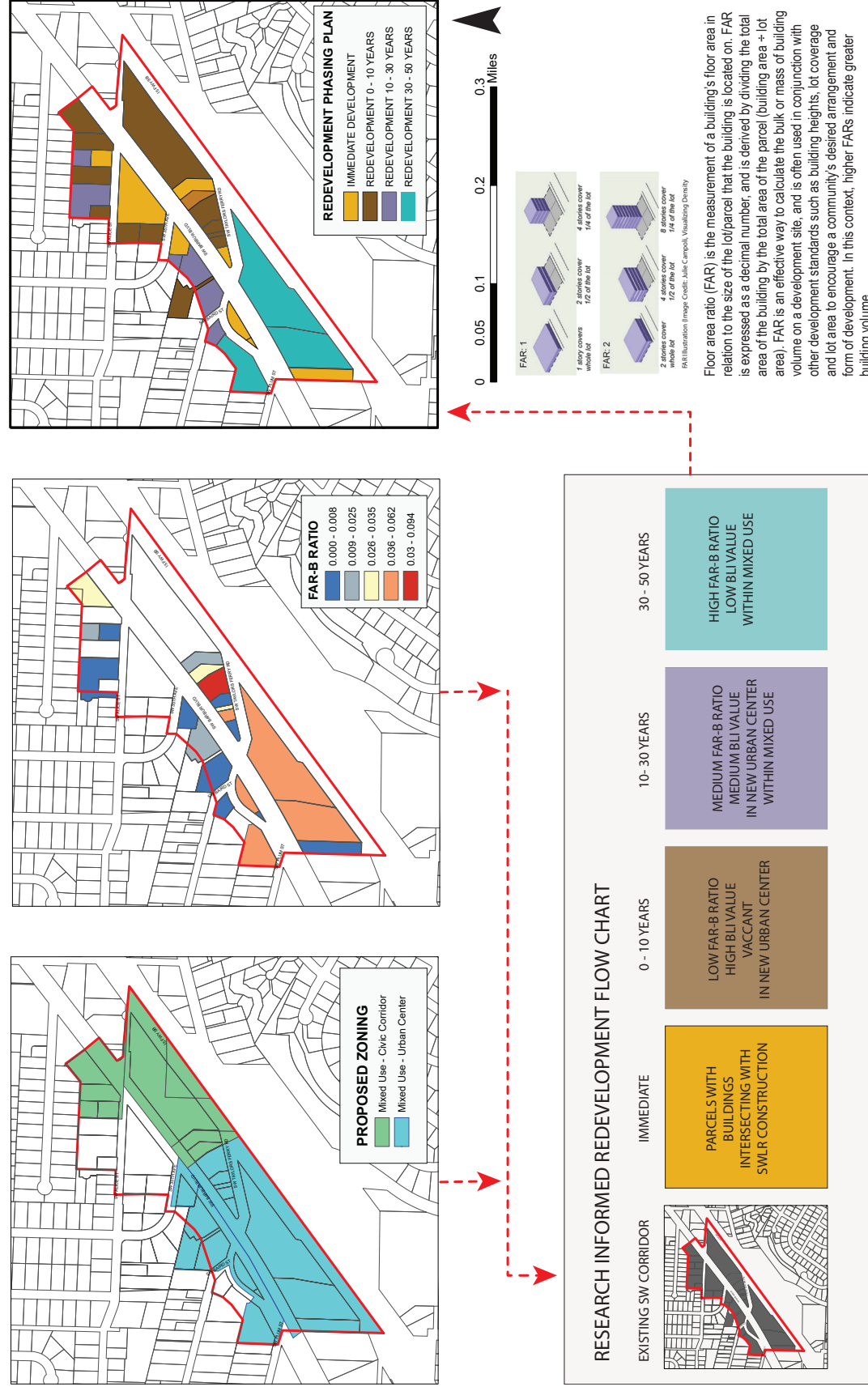
Robert Ribe, Yekang Ko  
Alden Carr, Eden Haskins-Dahl, Katya Revna

# SW CORRIDOR: PARKING AND BUILDING SETBACK



Robert Ribe, Yekang Ko LA 4/594  
Alden Carr, Eden Haskins-Dahl, Katya Reyna

# SW CORRIDOR: PROPERTY VIABILITY



Robert Ribe, Yekang Ko  
Alden Carr, Eden Haskins-Dahl, Katya Reyna

# Appendix G: West Portland Town Center Analysis Maps

## West Portland Town Center Site Boundary

University of Oregon | Landscape Architecture 4094 | Fall 2017 | Robert Rose & Victoria Ko  
Flora Chen  
Chad Hawthorne  
Justin Kau

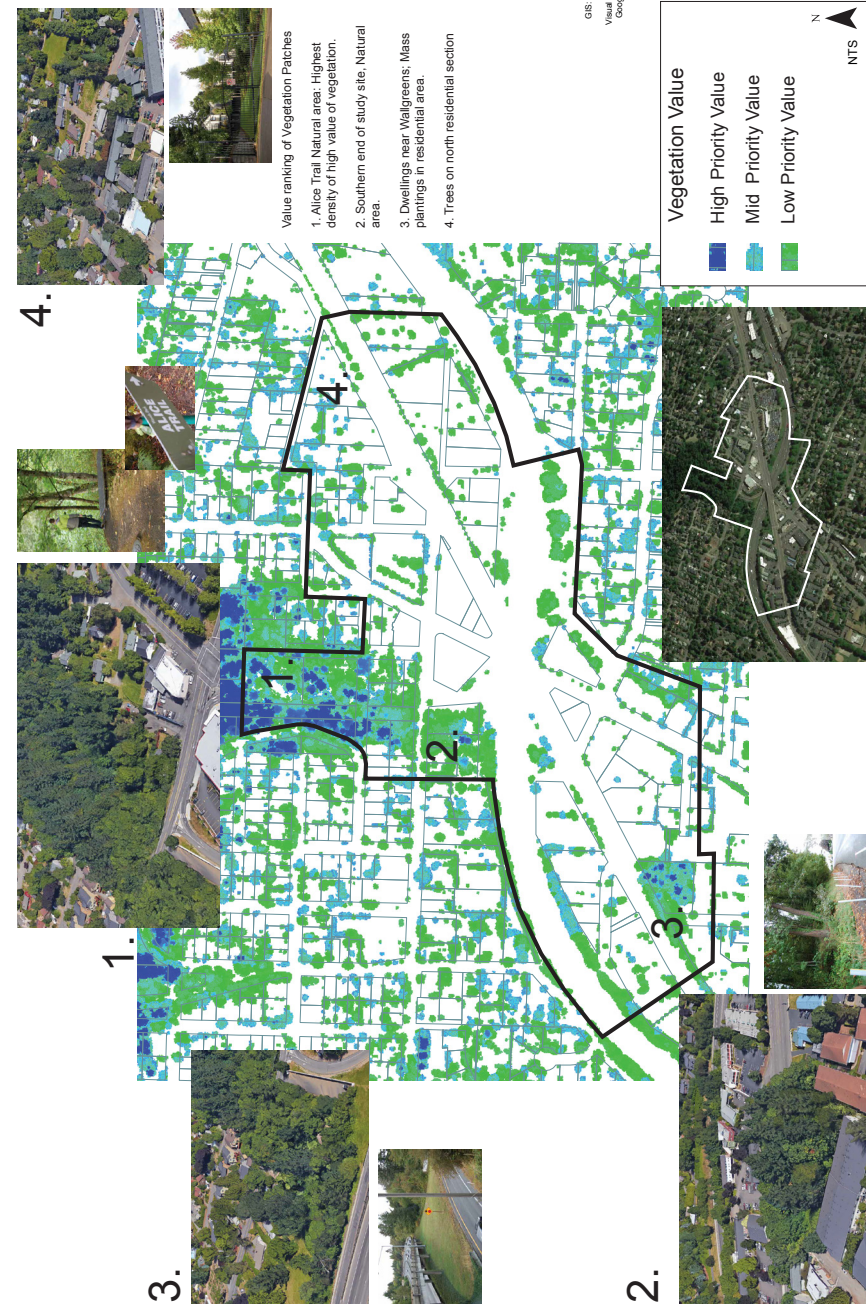


Note: Site boundary is relative to context.  
SCIP O UNIVERSITY OF OREGON TRIOMET

## West Portland Town Center Existing Tree Values

map by Chad Hawthorne

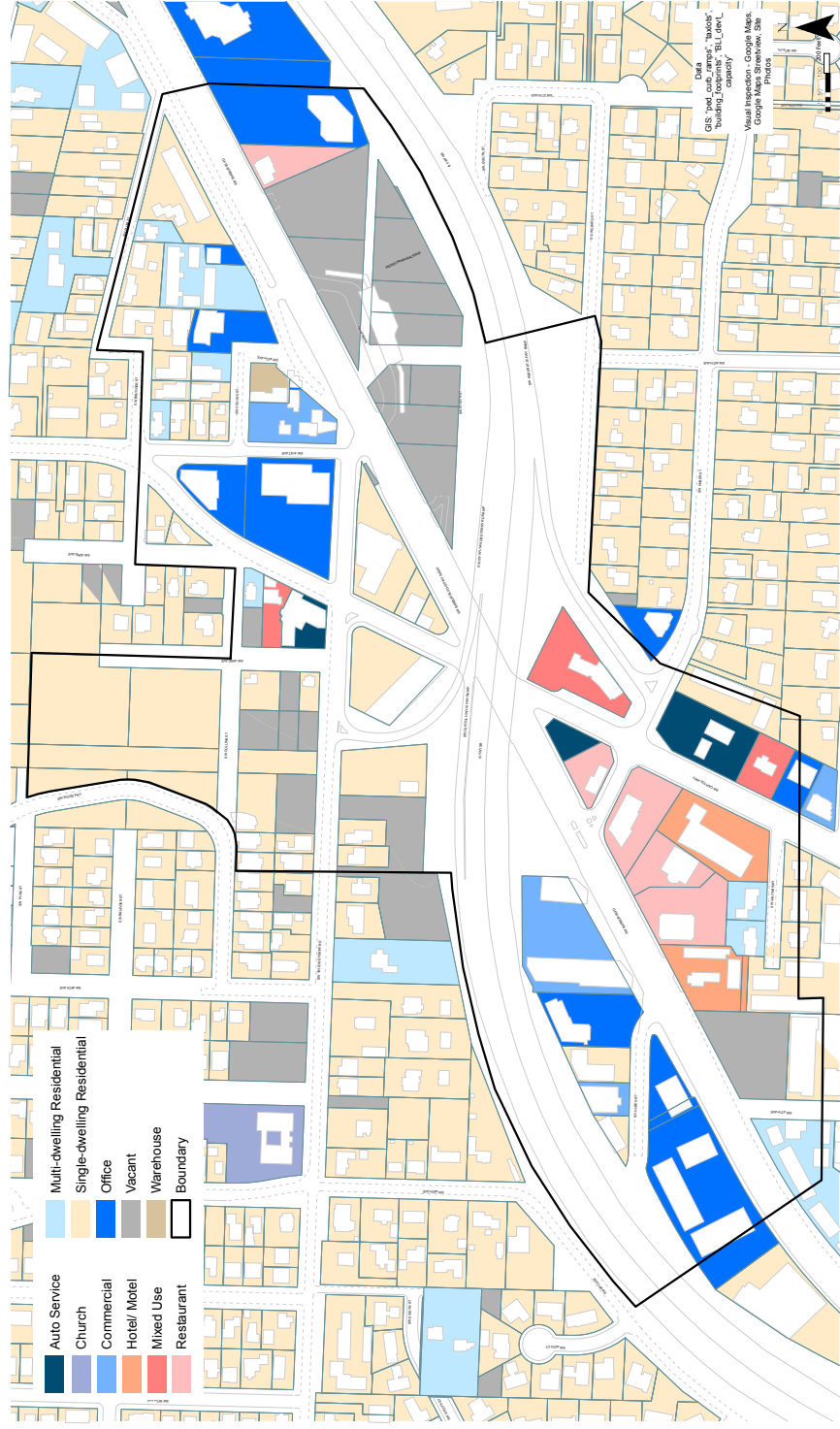
University of Oregon | Landscape Architecture 4094 | Fall 2017 | Robert Rose & Victoria Ko  
Flora Chen  
Chad Hawthorne  
Justin Kau



# West Portland Town Center

Existing Land Use  
map by Flora Chen

University of Oregon | Landscape Architecture 4594, Fall 2017 | Robert Bae & Yeung Ko  
Flora Chen  
Chad Hawthorne  
Justin Kau



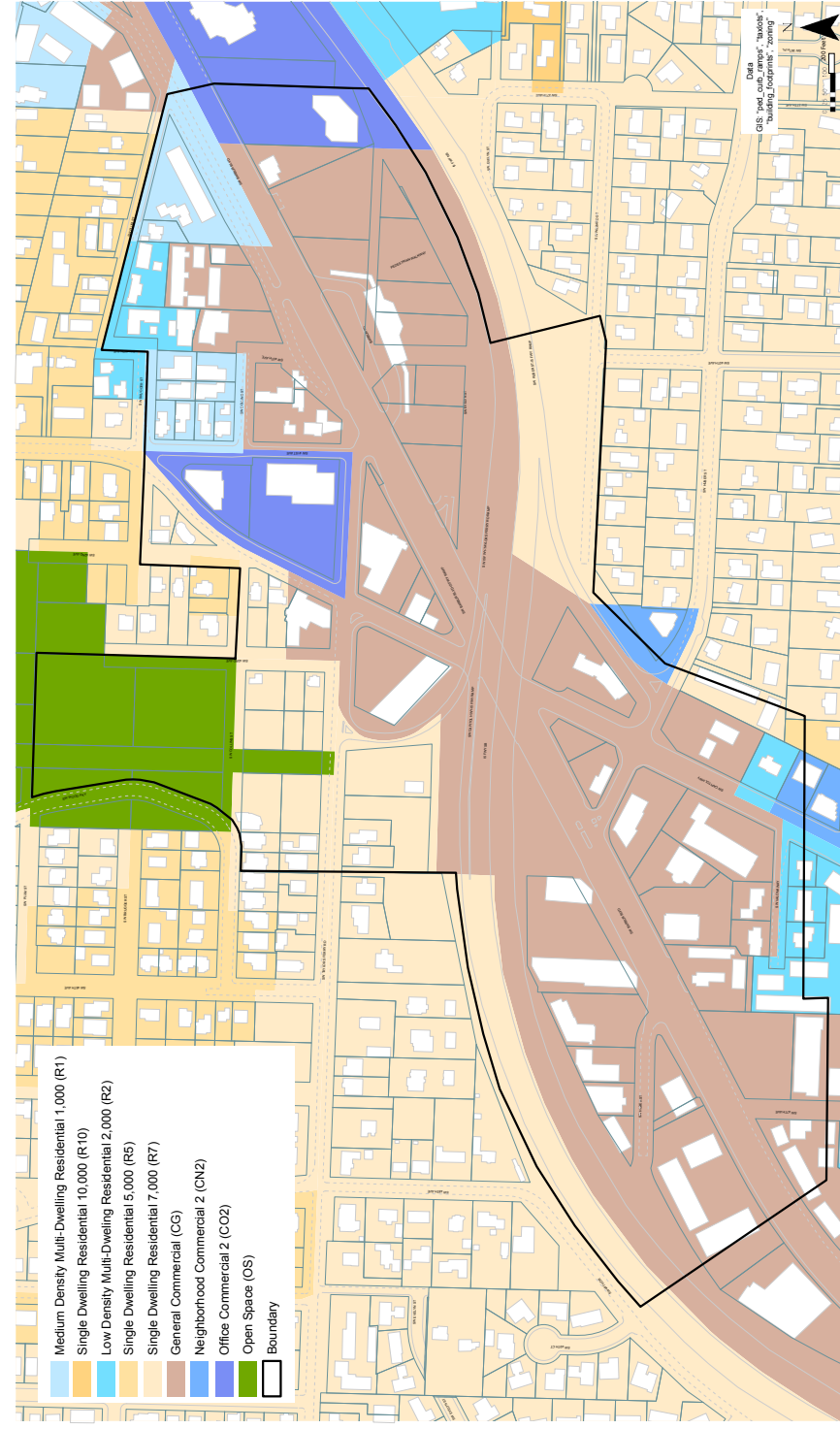
Note: Site boundary is alternative to change  
SCIP O UNIVERSITY OF OREGON TRIOMET

Data  
GIS: "poi\_sub\_areas", "blocks",  
"building\_footprint", "Bill\_Cover",  
"Vacant\_Land",  
"Map\_Inventory", "Census\_Map",  
"Google\_Maps\_StreetView\_360",  
Photos

# West Portland Town Center

Existing Zoning  
map by Flora Chen

University of Oregon | Landscape Architecture 4594, Fall 2017 | Robert Bae & Yeung Ko  
Flora Chen  
Chad Hawthorne  
Justin Kau



Note: Site boundary is alternative to change  
SCIP O UNIVERSITY OF OREGON TRIOMET

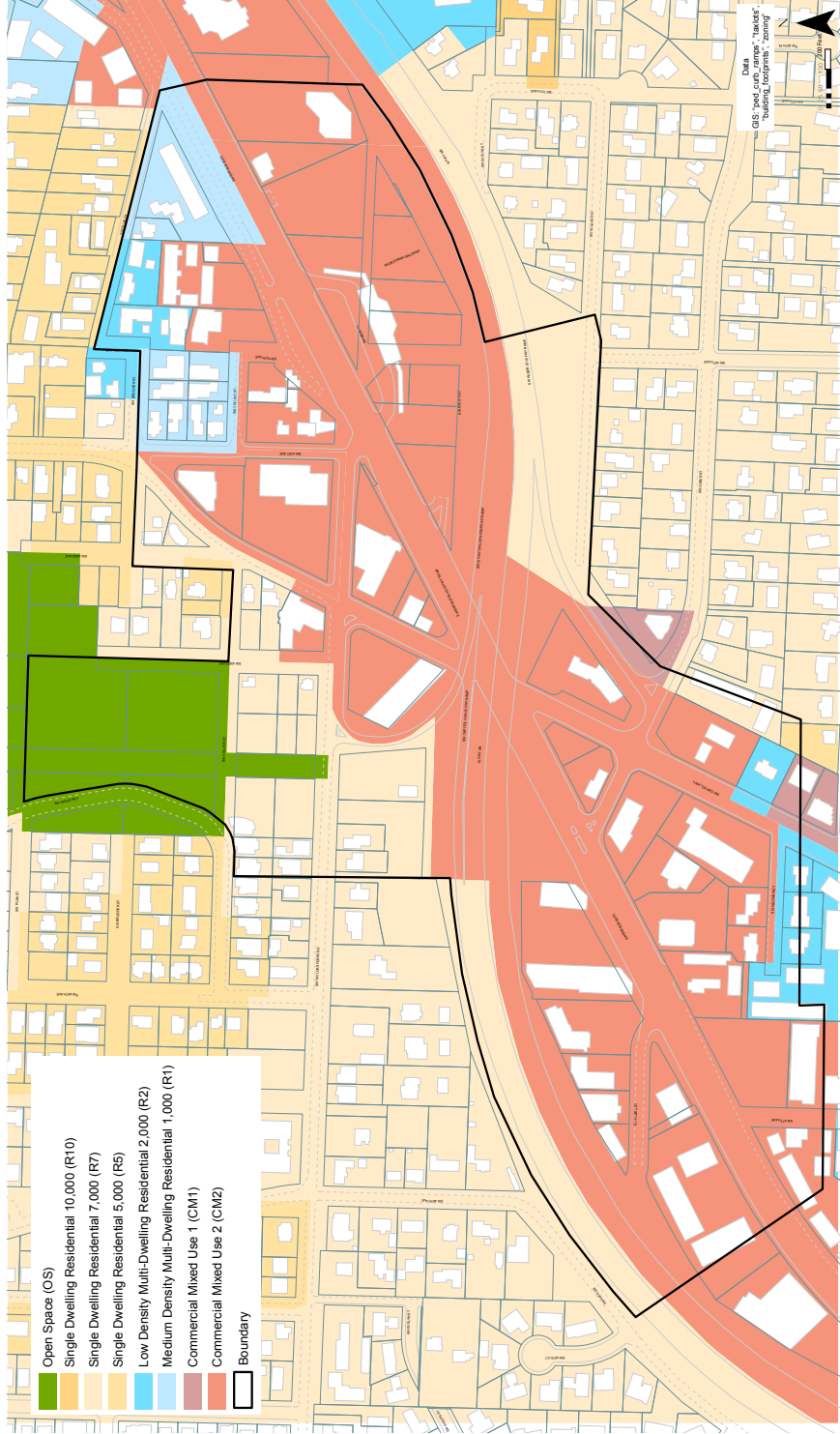
Data  
GIS: "poi\_sub\_areas", "blocks",  
"building\_footprint", " zoning"

# West Portland Town Center

Proposed Zoning

map by Flora Chen

University of Oregon | Landscape Architecture 459A, Fall 2017 | Robert Riba & Waiwei Ko  
Flora Chen  
Chad Hawthorne  
Justin Kau



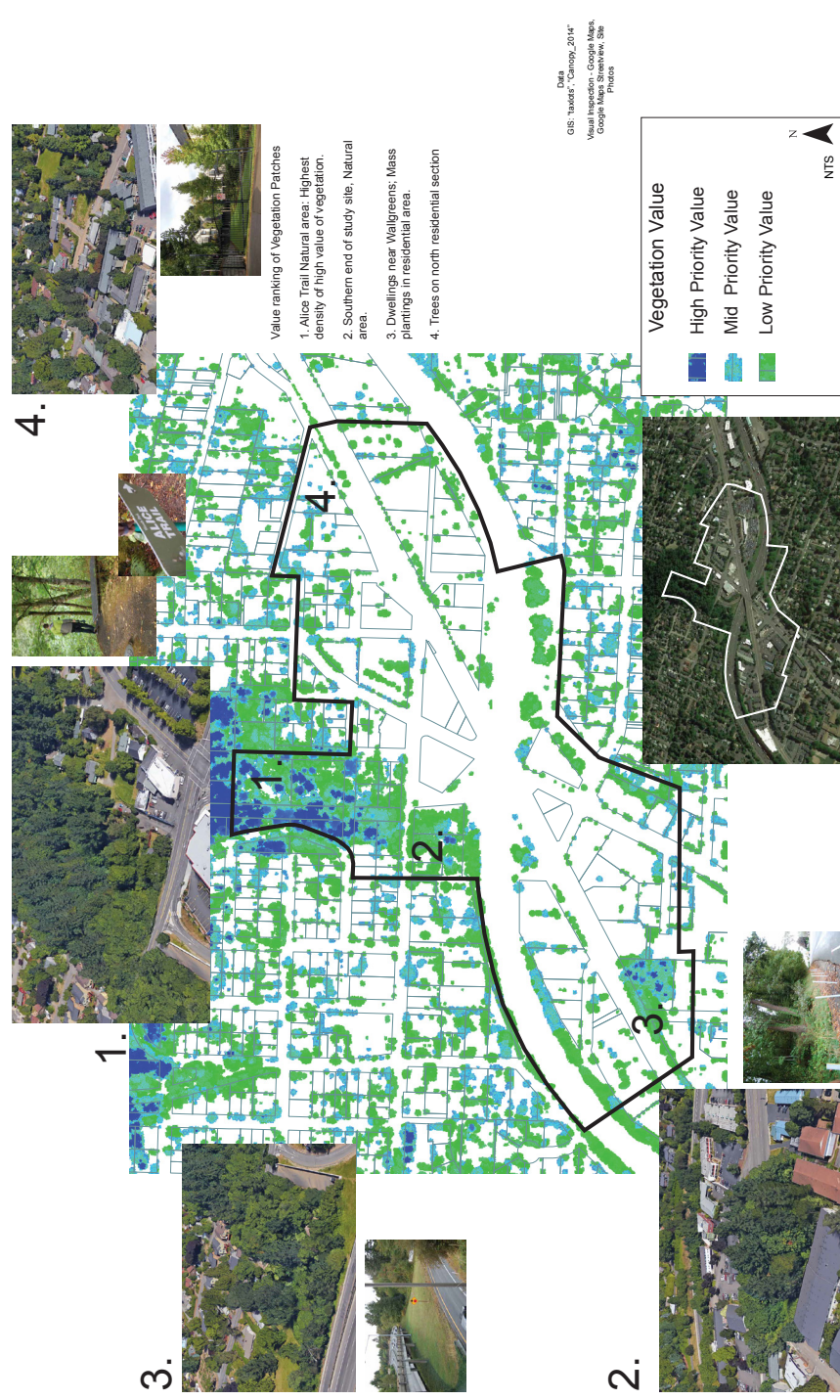
Note: Site boundary is tentative to change.  
SCYP UNIVERSITY OF OREGON TRIOMET

# West Portland Town Center

Existing Tree Values

map by Chad Hawthorne

University of Oregon | Landscape Architecture 459A, Fall 2017 | Robert Riba & Waiwei Ko  
Flora Chen  
Chad Hawthorne  
Justin Kau



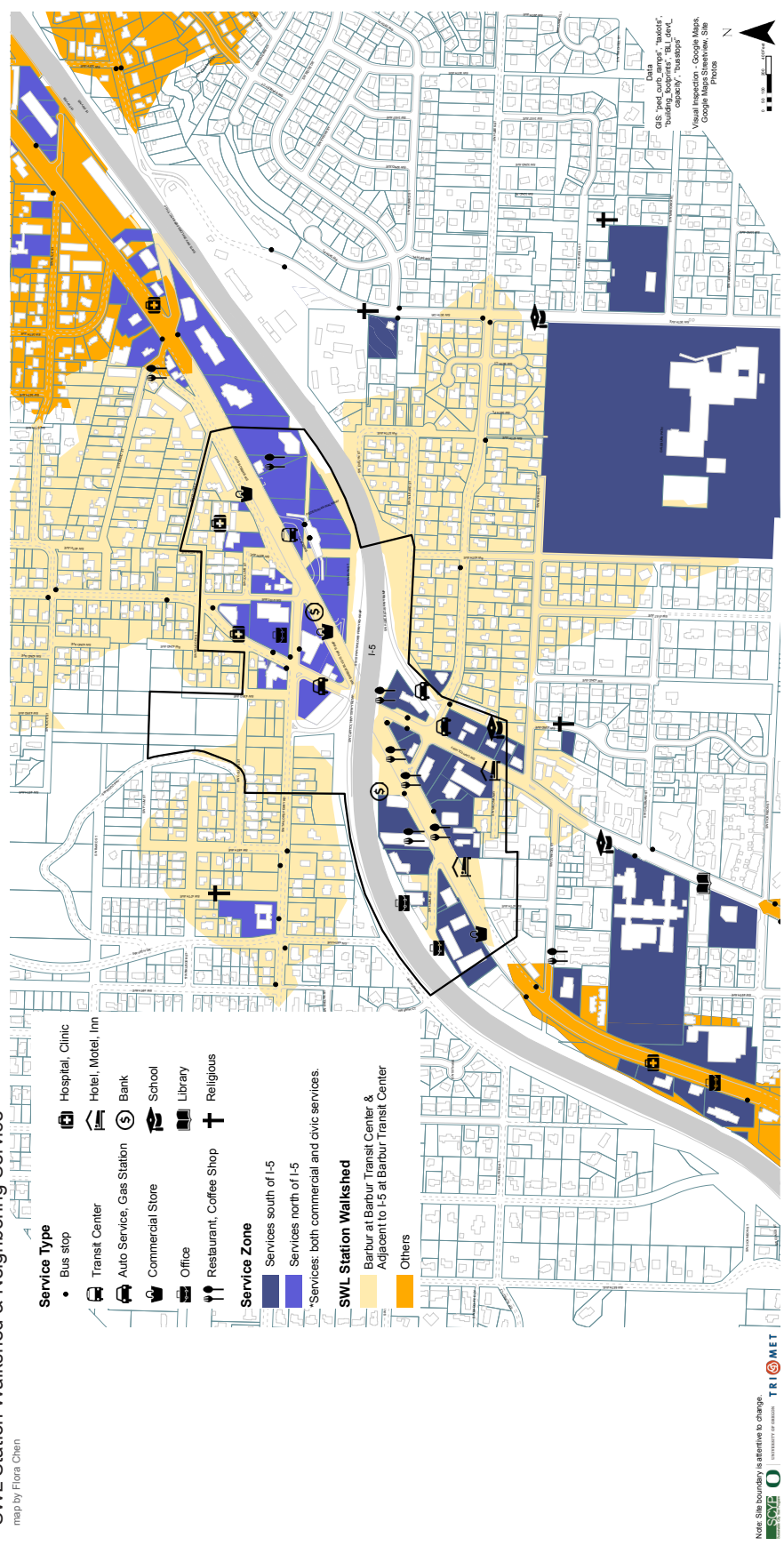
Note: Site boundary is tentative to change.  
SCYP UNIVERSITY OF OREGON TRIOMET

# West Portland Town Center

## SWL Station Walkshed & Neighboring Service

map by Flora Chen

University of Oregon | Landscape Architecture 4.694, Fall 2017 | Robert Rhee & Yeung Ko  
Flora Chen  
Chad Hawthorne  
Justin Kau

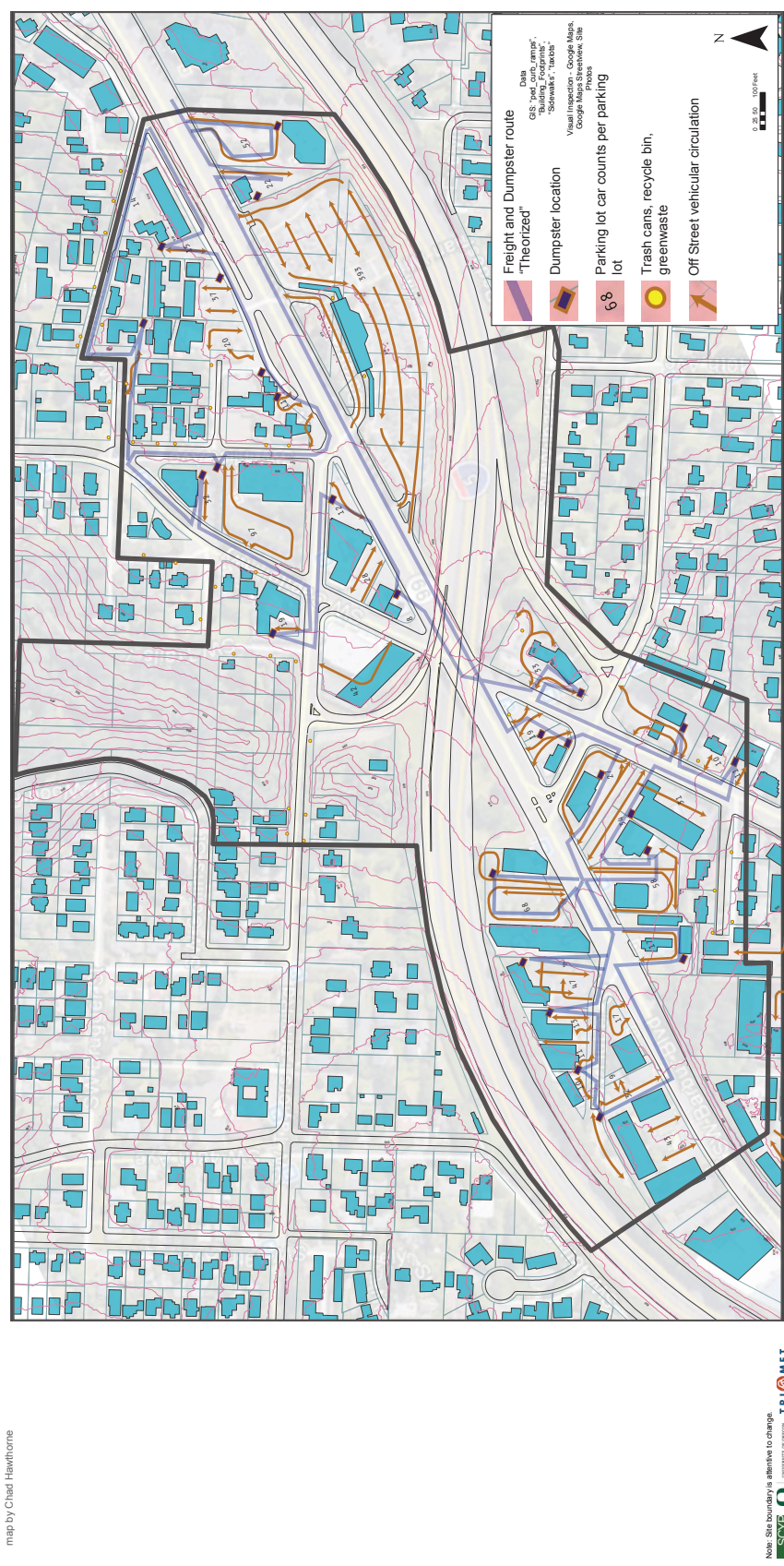


# West Portland Town Center

## Parking Spaces, Vehicular Circulation

map by Chad Hawthorne

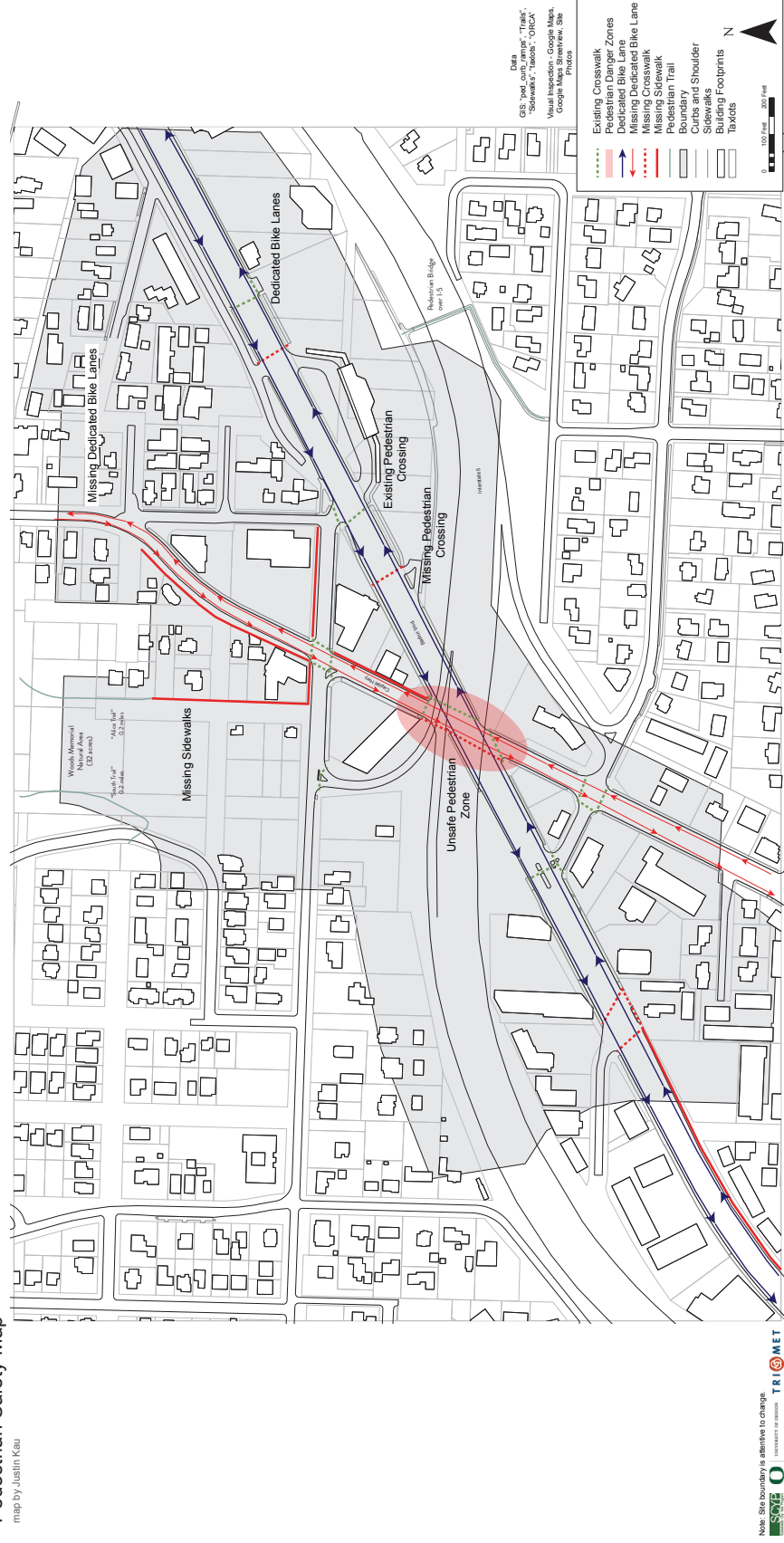
University of Oregon | Landscape Architecture 4.694, Fall 2017 | Robert Rhee & Yeung Ko  
Flora Chen  
Chad Hawthorne  
Justin Kau



# West Portland Town Center Pedestrian Safety Map

map by Justin Kau

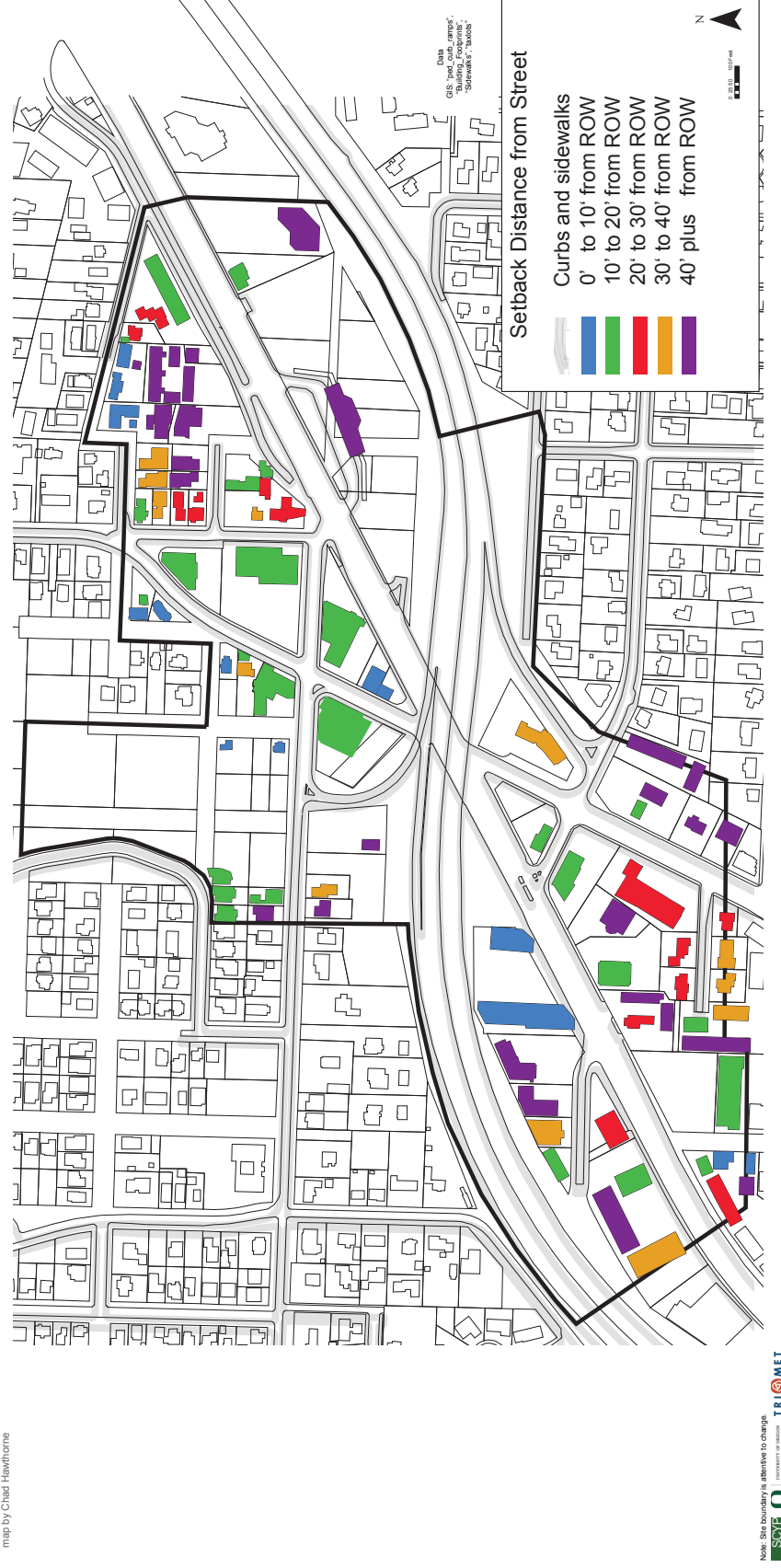
University of Oregon | Landscape Architecture 4.656, Fall 2017 | Robert Biss & Yvonne Ko  
Felix Chen  
Chad Hawthorne  
Justin Kau



# West Portland Town Center Building Setbacks and Boundaries

map by Chad Hawthorne

University of Oregon | Landscape Architecture 4.656, Fall 2017 | Robert Biss & Yvonne Ko  
Felix Chen  
Chad Hawthorne  
Justin Kau

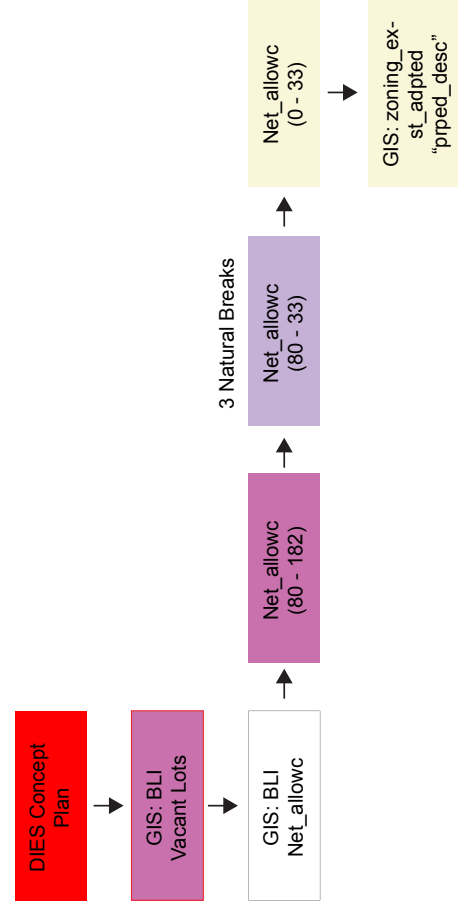


# West Portland Town Center

Property Vitality Decision Chart  
map by Justin Kau

University of Oregon | Landscape Architecture 4.694, Fall 2017 | Robert Rhee & Yeung Ko  
Flora Chen  
Chad Hawthorne  
Justin Kau

## Property Vitality Decision Chart



## Predicted Redevelopment Timeline



### Portland Maps MetaData:

**NET\_ALLOWC:**  
"The net capacity (allowed less existing less con- strained deduction) of potential residential (SFR and MFR) units for a lot or portion of a lot. Formula :[NET\_ALLOW]\*[Rate\_Res\_Adj]. Must be summarized by \*Lot ID\* to get a total count of individual lot."

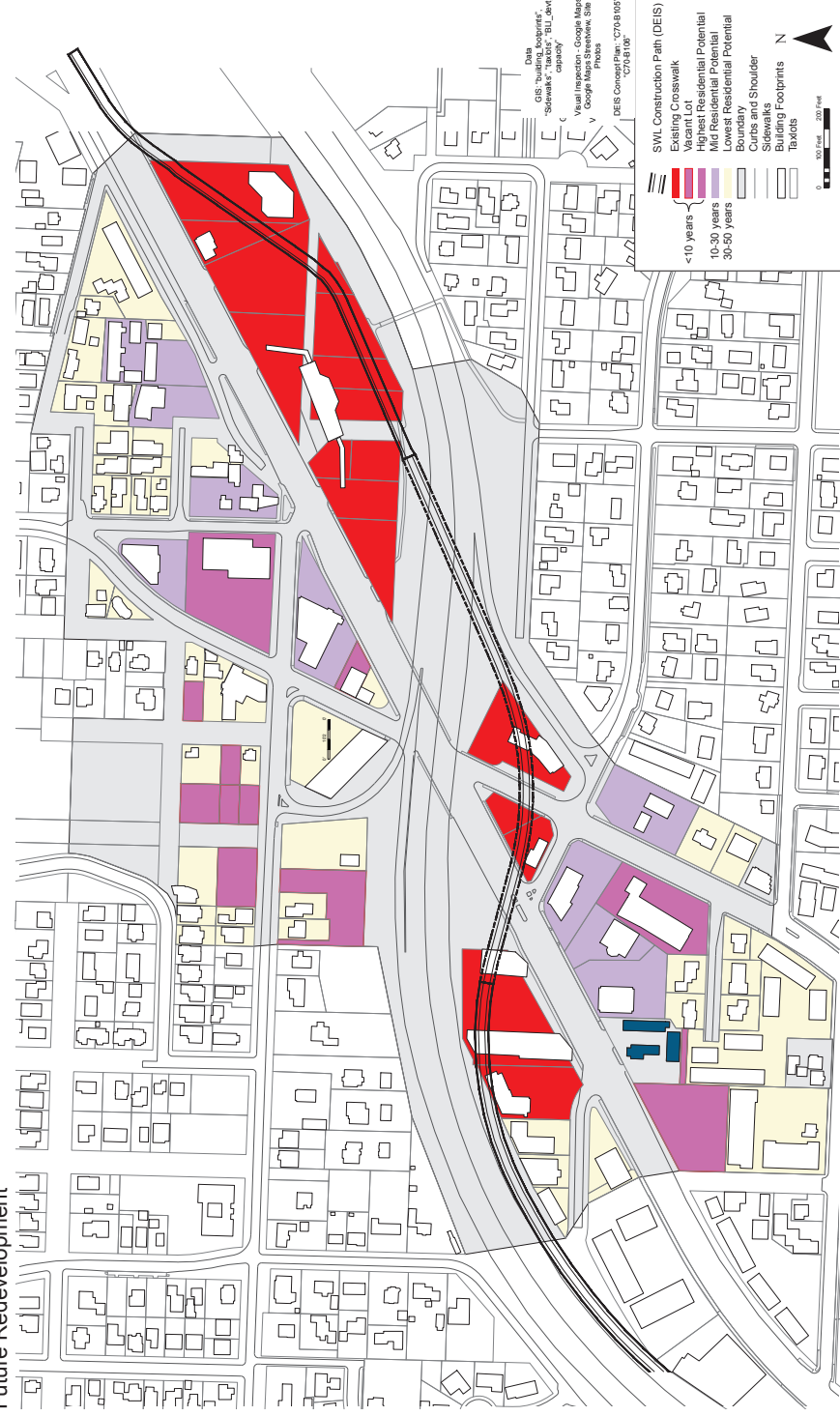
Data  
GIS: BLI\_Lot\_Capacity  
"vacant\_lot\_capacity"  
"net\_allow\_desc"  
Title: DIES Concept Plan

Note: Site boundary is alternative to change.  
SCIP  
UNIVERSITY OF OREGON  
TRIOMET

# West Portland Town Center

Property Viability and Future Redevelopment  
map by Justin Kau

University of Oregon | Landscape Architecture 4.694, Fall 2017 | Robert Rhee & Yeung Ko  
Flora Chen  
Chad Hawthorne  
Justin Kau



Note: Site boundary is alternative to change.  
SCIP  
UNIVERSITY OF OREGON  
TRIOMET

# REDEVELOPMENT



## West Portland Town Center Vitality Assessment

map by Justin Kau

University of Oregon | Landscape Architecture 4594, Fall 2017 | Robert Rhee & Young Ko  
Flora Chen  
Chad Hawthorne  
Justin Kau

