A Multi-Way Boulevard for Redmond, Oregon

Fall 2015 • Landscape Architecture

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UNIVERSITY OF OREGON

SCI
Sustainable Cities Initiative

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Virginia Piercy, UO Adjunct Instructor
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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 one city in Oregon, in which students and faculty in courses from across the university collaborate with the partner city on sustainability and livability projects. SCYP faculty and students work in collaboration with staff from the partner city 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

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About Redmond, Oregon

Redmond, located in Deschutes County on the eastern side of Oregon's Cascade Range, has a population of 27,427 and is one of Oregon's fastest growing cities. The City's administration consists of an elected mayor and city council who appoint a City Manager. A number of Citizen Advisory Groups advise the City Manager, mayor, and city council.

From its inception, Redmond has had its eyes set firmly on the future. Redmond was initially founded in 1905 in anticipation of a canal irrigation project and proposed railway line. Redmond is on the western side of the High Desert Plateau and on the eastern edge of the Cascade mountain range. Redmond lies in the geographic heart of Oregon. Redmond focuses on its natural beauty, reveling in the outdoor recreational opportunities (camping, hiking, skiing) offered by the Cascade mountain range, four seasons climate, and 300+ days of sunshine annually.

Redmond has been focused on innovative, sustainable growth and revitalization while preserving the city's unique history and culture. In 1995, the City of Redmond began to make critical investments in revitalizing its downtown core. The initial phase of renovations strove to balance growth, livability and historic preservation by rerouting Oregon State Highway 97, improving critical infrastructure, and improving the facades of over 100 buildings in the historic center. The City of Redmond has worked with local businesses to revitalize retail, job creation and housing. To facilitate private sector buy-in, Redmond offers innovative incentive programs such as the Façade Rehabilitation and Reimbursement Grant and the "Downtown Jumpstart" loan competition, as well as Design Assistance.

Often referred to as "The Hub" of Central Oregon, Redmond is situated at the crossroads of US Highway 97 and US Highway 126. It is served by the Burlington Northern Sante Fe Railway, Cascades East Transit Regional Public Transportation Service, as well as a state of the art regional airport served by multiple commercial airlines and FedEx and UPS. In addition to its geographic location, Redmond is viewed as central to business growth in the region. In 2014, Central Oregon Community College opened a 34,300 square foot Technology Education Center to recruit new businesses and expand existing businesses in Central Oregon. Above all, Redmond prides itself on being a family-friendly city which was the motivation for the work presented in this report.

Course Participants

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Executive Summary

The City of Redmond wants to improve U.S. 97, the main north-south corridor used heavily by through traffic, regional freight traffic, and local traffic. The city partnered with the University of Oregon's Sustainable City Year Program and an upper-level planning studio of undergraduate and graduate landscape architecture students to explore possible improvements of the corridor in conjunction with the creation of a multi-way boulevard. This report documents the studio's process, analysis, designs, and recommendations.

The studio process included site visits, interviews, code review, design charrettes, seminars, and critiques. Students split into six groups and each group did an in-depth study on one extended site on one side of the highway. Each student then produced an individual plan for his or her assigned area.

U.S. 97 runs north-south through the center of Redmond slightly east of downtown. Students explored six study areas within the corridor: South Downtown, Village Commercial East, Village Commercial West, Urban Commercial East, Urban Commercial West, and the Gateway District – extending all the way south to the urban growth boundary. Each student groups analyzed their own single study area based on general observations during site visits, interviews with stakeholders, city codes, zoning maps, and aerial photographs. Students learned about stakeholder needs through meetings with city officials, business owners, and staff members from the Oregon Department of Transportation.

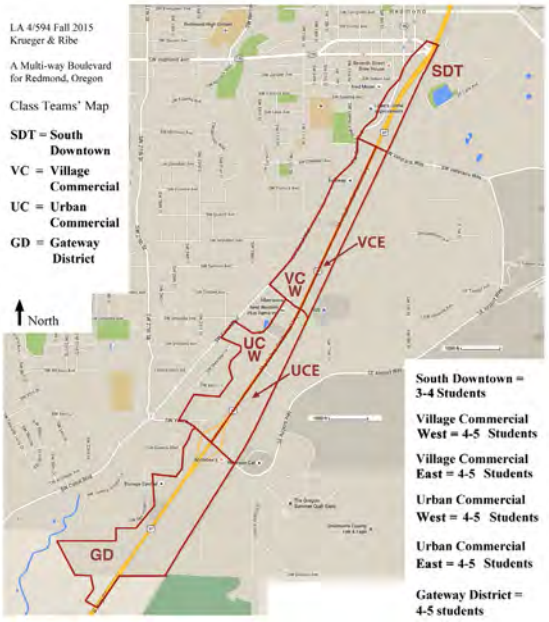
Following the site analyses, students participated in seminars and design charrettes on multi-way boulevards. During the charrettes, students learned about generic boulevard designs and examples from elsewhere and applied them to the site in Redmond. Their many conceptual design proposals developed overall corridor design suggestions to allow for highway safety and efficiency improvements while promoting redevelopment, as many business owners are ready for change. This studio recommends three approaches for the city to improve this corridor: build a multi-way boulevard, purchase land for the city to build access/frontage roads and new cross-access roads, and utilize form-based code approaches for future development.

Introduction

The City of Redmond is located in central Oregon fifteen miles northeast of Bend. Highway U.S. 97 plays a pivotal transportation role as the main thoroughfare through central Oregon. The city's goal is to address the safety, efficiency, aesthetics, and future growth of the U.S. 97 corridor.

Under the instruction of Rob Ribe and Jeff Krueger, landscape architecture students explored how the city can best reach their goals to improve U.S. 97. This process included initial study area research in order to provide a suitable foundation for later design proposals. Students researched demographics in Redmond, local and statewide transportation policies and plans, and local context, such as sidewalk conditions, the locations of vista points, transmission lines, rights-of-ways, circulation patterns, among other considerations. Other relevant information research included: parking lot design, multi-way boulevard precedents, Oregon Department of Transportation (ODOT) codes and guidelines, among other information.

Figure 1: Class team map



The studio divided the study area into six sites to best manage the scale of the study area.

Team 1: South Downtown

Team 2: Village Commercial East

Team 3: Village Commercial West

Team 4: Urban Commercial East

Team 5: Urban Commercial West

Team 6: Gateway District

Each team conducted a site analysis of several factors, assessing redevelopment potential and exploring several generic multi-way boulevard designs. Teams then chose one preferred generic design and further developed it by considering circulation problems for a variety of movement modes and wayfinding system suggestions. Additionally, students explored form-based codes for future nodal development at a few key places within their study areas. Finally, students created graphic simulations of their proposed highway changes and land use developments as projected over the next 20 years.

Goals and Objectives

The City of Redmond has historically been served in complex, challenging ways by the U.S. 97 corridor. Challenges include unsafe driving, business access issues, poor walking and bicycling conditions, declining vibrancy of businesses, and a lack of stakeholder approval for improvement proposals to the corridor. According to the city, “due to traffic conflicts and the recession, the frontage along U.S. 97…has become disinvested and blighted.”

Students worked with the city to create goals for U.S. 97. This process included meetings with stakeholders and with City of Redmond officials, Oregon Department of Transportation (ODOT) planners, and local business owners. Many stakeholders would like the city and ODOT to increase the efficiency and safety of the corridor while maintaining high-quality visible and physical access to their businesses. These conversations contributed to the formulation of the project goals.

Each team defined specific goals, however, there were five overarching goals that applied to every project:

- To explore multi-way boulevard solutions along the U.S. 97 corridor in order to increase traffic through-put efficiency, provide ready access to businesses, and decrease the likelihood of accidents
- To include the various stakeholder groups when drafting new proposals for the corridor
- To propose recommendations about how the corridor can thoughtfully grow and change over the next 20 years
- To suggest ways in which the U.S. 97 corridor can be aesthetically and economically improved
- To suggest ways to extend highway improvements further south to support strong development all the way to the urban growth boundary

Each studio team worked to reach these goals through a range of methods including a general review of the city’s planning problems, goals, and a careful site analysis. The resulting design proposals for this project include multi-way boulevard suggestions that fulfill the city’s goal to revitalize the corridor.

Process

Completed in two parts, the studio teams first analyzed each site and then prescribed a design-based application for each site. In the first phase, students conducted a site analysis, assessed redevelopment potential, explored generic multi-way boulevard designs, and researched precedent studies. In the second phase, students created multi-way boulevard proposals, researched potential landscape design guidelines, proposed streetscape designs, explored form-based codes for nodal development and produced photo-simulations.

Part One:

During part one of the course, students researched and analyzed current site conditions and explored generic multi-way boulevard options.

Site Analysis:

Each team analyzed and assessed the current site conditions in terms of opportunities and constraints. Students mapped current site conditions including level of pedestrian and vehicular safety, vista points, transmission line locations, rights-of-way, and sidewalk conditions. Mapped site characteristics varied per team depending on the site condition.

Redevelopment Potential:

Each group used different but similar methods to classify each privately owned tax lot over 1/8 of an acre within their site. The classifications estimated the comparative probability of redevelopment to some new land use or structure in the next 20 and 50 years as very high, moderately high, intermediate, moderately low, low, and very low.

Generic Multi-Way Boulevard Designs:

Six generic multi-way boulevard designs were applied to each study area as best as possible, given its unique conditions, constraints, and opportunities. The six generic designs included:

A. Angled parking on frontage road only

B. Angled parking on frontage road and backage road

C. No angled parking on frontage road

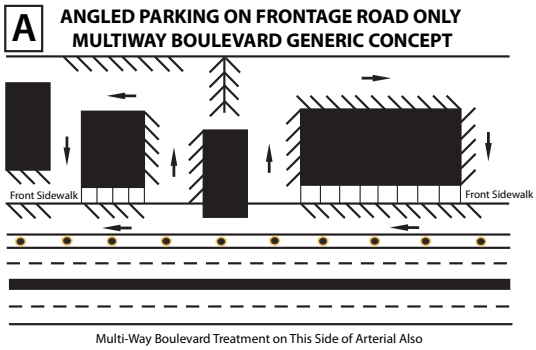
D. No angled parking on frontage road and backage road

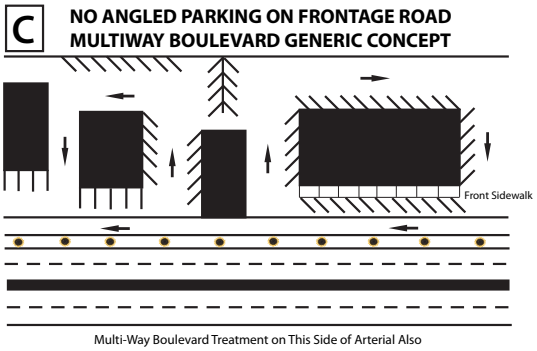
E. Angled parking on frontage road with porches/parklets

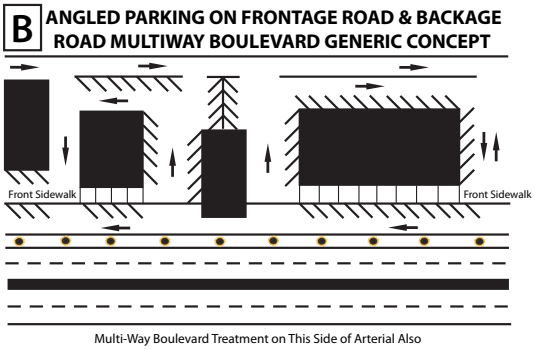
F. No angled parking on frontage road with porches/parklets

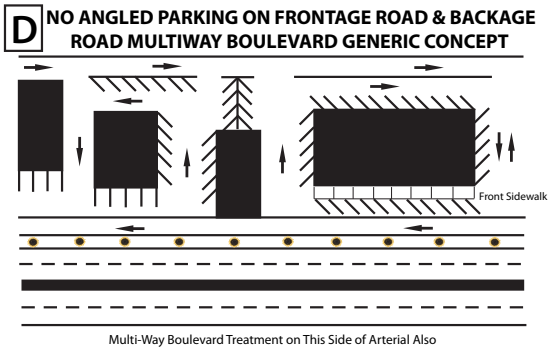
G. Two-way frontage road multiway/grand boulevard

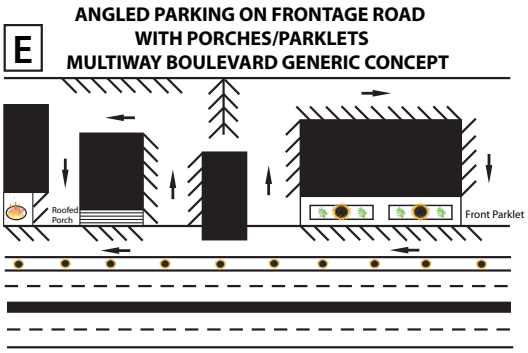
Figure 2: Multiway boulevard generic concept A-G

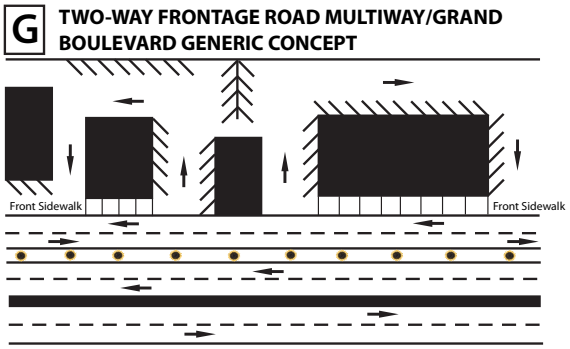


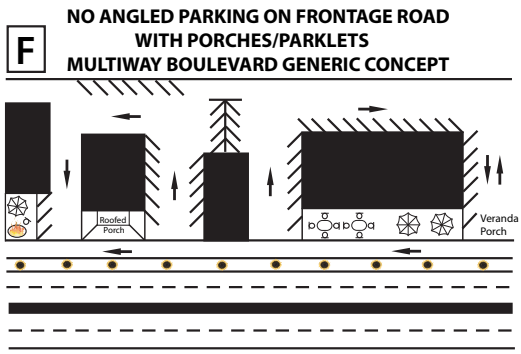












See the next page for the two options of this generic concept to be developed by each team -- as applicable.

Precedent Studies:

Students studied a series of installed multi-way boulevards around the United States to better understand their function, opportunities for improvement and challenges. Each of these precedent studies employed a different multi-way boulevard design concept to incorporate a heavily trafficked area in the middle with a desire for higher density and increased walkability along the edges.

Students studied each multi-way boulevard project including plans and/or sections to show widths of sidewalks, streets, planted buffers, and photos of the facility in use.

The main precedent studies included: Berkley, CA – Shattuck Avenue; Washington, D.C. - K Street; San Francisco, CA – Octavia Boulevard; Chico, CA – The Esplanade; and Fort Lewis, WA – Pendleton Avenue.

Figure 3: Multiway boulevard precedent

Part Two:

During part two of the course students refined and combined their generic multi-way boulevard designs to best fit the unique characteristics of each site and made future development suggestions to complement their highway designs.

Multi-Way Boulevard Proposal:

Once the six generic multi-way boulevard designs were explored, each team decided on the design, or combination of designs, that best solved the challenges presented in each site. Each team drafted a circulation plan to include vehicular, freight, recycling/trash, and pedestrian and bicycle traffic for each site.

Corridor Design:

Students then proposed streetscape designs for the public right-of-way for each site. Some elements in the proposed designs included planting design, way-finding signage, pedestrian infrastructure including sidewalks and crosswalks, storm-water facilities, and site furnishings such as seating and lighting.

Elements included in the corridor design varied depending on the site and the designers prioritization of included elements.

Landscape Design Code:

An illustrated landscape design code proposed ways the city can consider signage, building façade treatments, planting standards, furnishing standards, and other elements to make US 97 feel contiguous and as a district. Walkability, or the ease in which a person can safely walk from one location to another, on-site comfort including the amount of shade and seating present, building height, sidewalk width, street width, visibility to business frontages, opportunities to enjoy open space and connectivity to greater Redmond were considered in these recommendations.

Form-Based Code for Selected Nodal Developments:

Form-based codes are one option for regulating the type of land development that is promoted within a jurisdiction. Students drafted sketches of illustrated form-based codes for future development based on their findings for key redevelopment nodes within their study areas. Students applied these concept plans to parcels estimated to be more likely altered in the next twenty years and of critical importance to the future vitality of the corridor. They often illustrated variations on development/redevelopment options at each node.

Photo Simulations:

Finally, students created photo-realistic renderings to help visualize their whole corridor design proposals in graphically illustrative phases. The renderings depict various subjects and may include: Current site conditions, relocation or burying of utilities, streetscape and hardscape installation, plant material installation and growth over time. Student groups determined the best means to show how form-based code regulations could impact U.S. 97 development over time.

Note:

Members of the Gateway and ONE Urban Commercial teams designed speculative gateway design proposals approaching Yew Avenue along U.S. 97. These were requested by the city to explore stronger and more extensive gateway installations to augment or elaborate upon the pillar and bridge design the city proposes to build at the Yew Avenue crossing. .

Corridor Design Proposals

The studio split into six teams and each team worked on one study area within the corridor. Each team followed the studio process outlined in the previous section, often with variations based on their own study area's needs and opportunities. This section provides an in-depth view of each team's process, key findings, and recommendations.

Team 1: South Downtown

Team 2: Village Commercial East

Team 3: Village Commercial West

Team 4: Urban Commercial East

Team 5: Urban Commercial West

Team 6: Gateway District

Team 1: South Downtown

Figure sd1: South Downtown study area

This site is located south of downtown and is bounded by Highway 26 to the north, the railroad tracks to the east, SW Veteran's Way to the south and SW Canal Boulevard to the west.

Figure sd2: Relationship to downtown Redmond

This team, driven by the proximity to downtown, focused on ways to draw the downtown aesthetic into their site and ways to make safe intersections and connections.

a. Site Analysis

This site has many opportunities and constraints that will affect future development. Future development could accommodate commercial redevelopment as well as future open space programming. Future development should utilize the scenic canal as an opportunity to connect with Redmond's sense of place. On the other hand, proximity to the railroad presents challenges in creating safe and/or easy access to businesses and street crossings.

Figure sd3: Experience analysis

5

Business Visibility

The planting along the highway maintains visual cues to the adjacent business while providing a buffer from the busy throughway.

2

Canal as Landmark

The canal creates an iconic sense of place that invites people to pause here and take refuge from the taxing heat.

10

Railroads

The sound volume generated by passing trains contributes to the experience of the eastern horizon of the South Downtown study area. The gradient of gravel size marking the railroad jurisdiction creates rough boundaries discouraging passerby to cross the tracks.

12

Redmond Entrance Landmark

This "Thoughts of Flight" sculpture marks a main artery for Redmond's central town. This statement installation demands the attention of highway users passing by. Jerry Werner, the artist, intended it to describe "everything humans go through in life," and aspired to inspire and encourage those who encounter it.

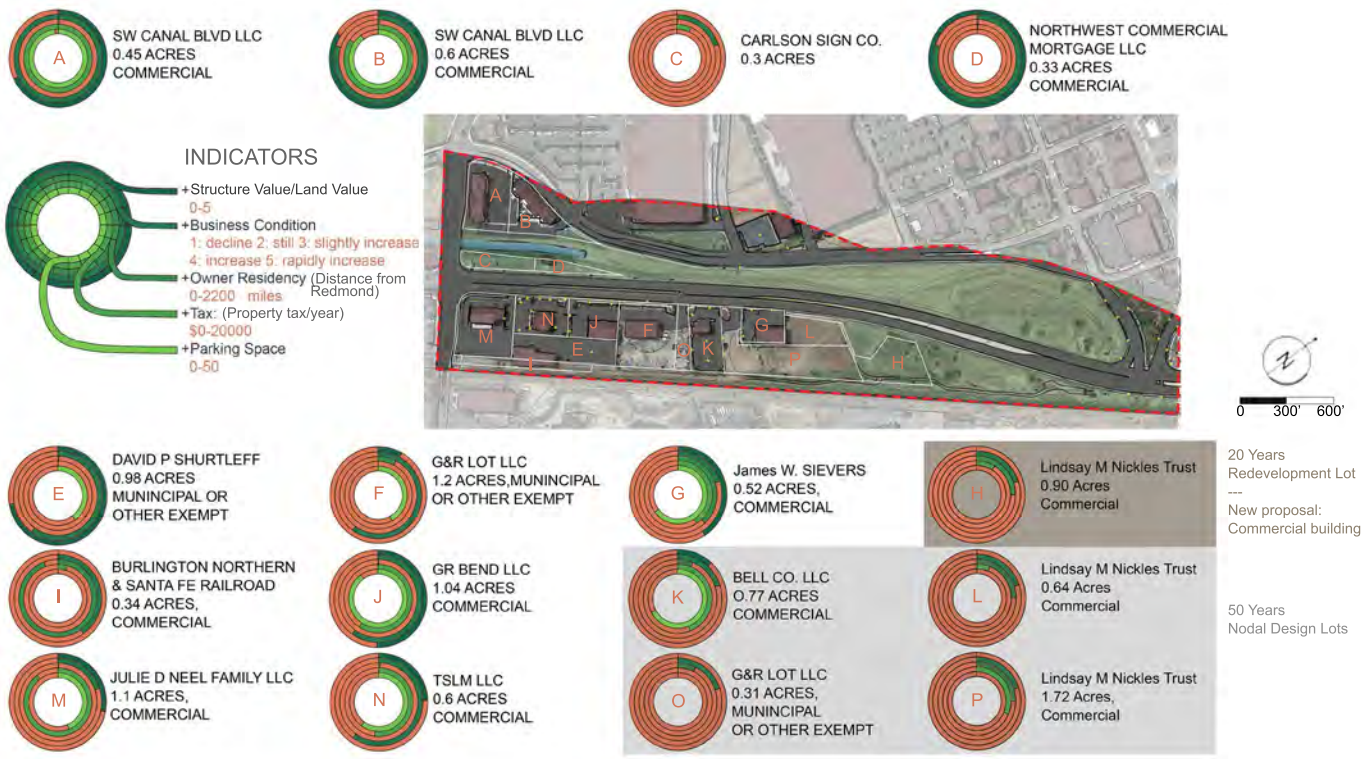
-"Redmond Celebrates New Public Artwork." KTVZ. Web. 29 Nov. 2015. <http://www.ktvz.com/news/Redmond-celebrates-new-public-artwork/16792362>.

South Downtown

Students analyzed 16 lots within the site for redevelopment potential. Assessment criteria included the following elements: Current value of structures and land, the condition of the property, distance from the owner's home, property taxes per year, and the number of parking spaces per lot. Many properties in this site have high redevelopment potential based on these assessment criteria.

Figure sd4: Redevelopment analysis

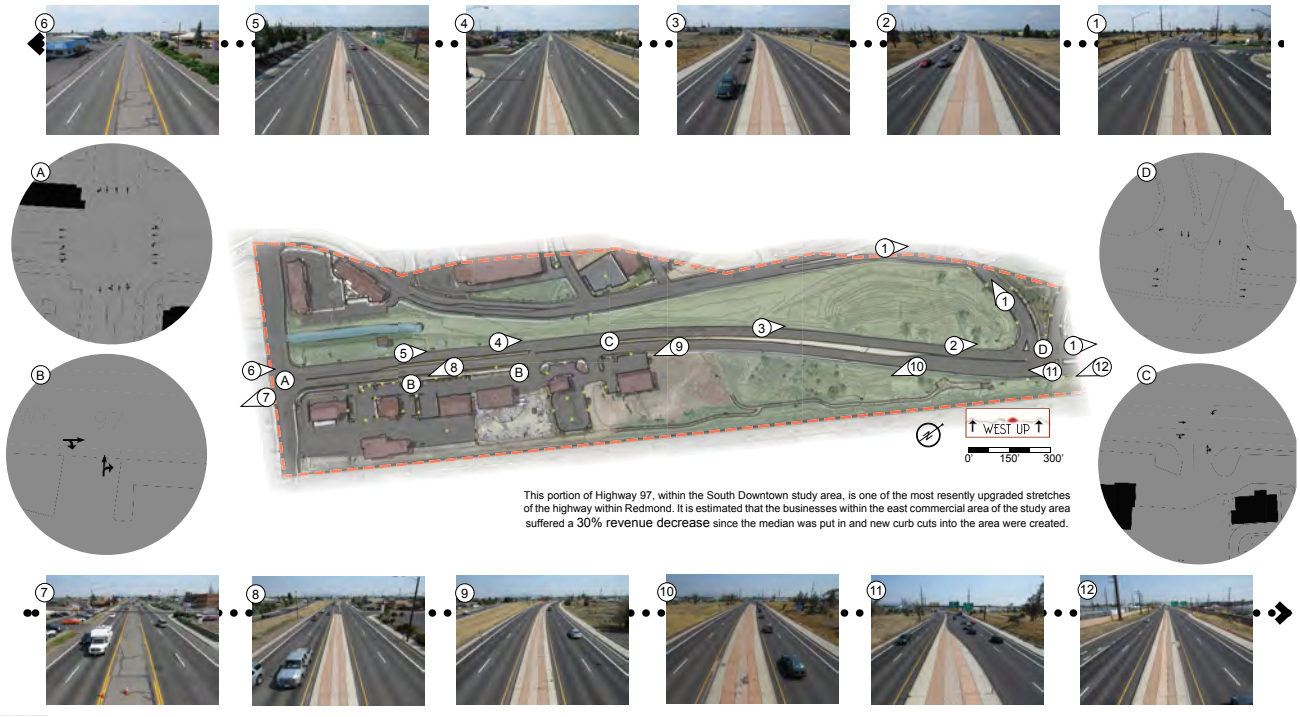
Red areas represent the redevelopment potential



South Downtown

Figure sd5: Opportunities and constraints analysis

Figure sd6: Highway 97 sequence and existing curb cuts



b. Overall Multi-Way Boulevard Design

This team suggests installing a one-way frontage road and a two-way backage road. This facility will increase the ease of access to businesses, safety, and the connection to both downtown and U.S. 97. Further, to increase pedestrian safety, a footbridge over the railroad track is proposed as a possible future way to increase access to Fireman's Park and Flag Memorial Park.

Figure sd7: Goals within South Downtown

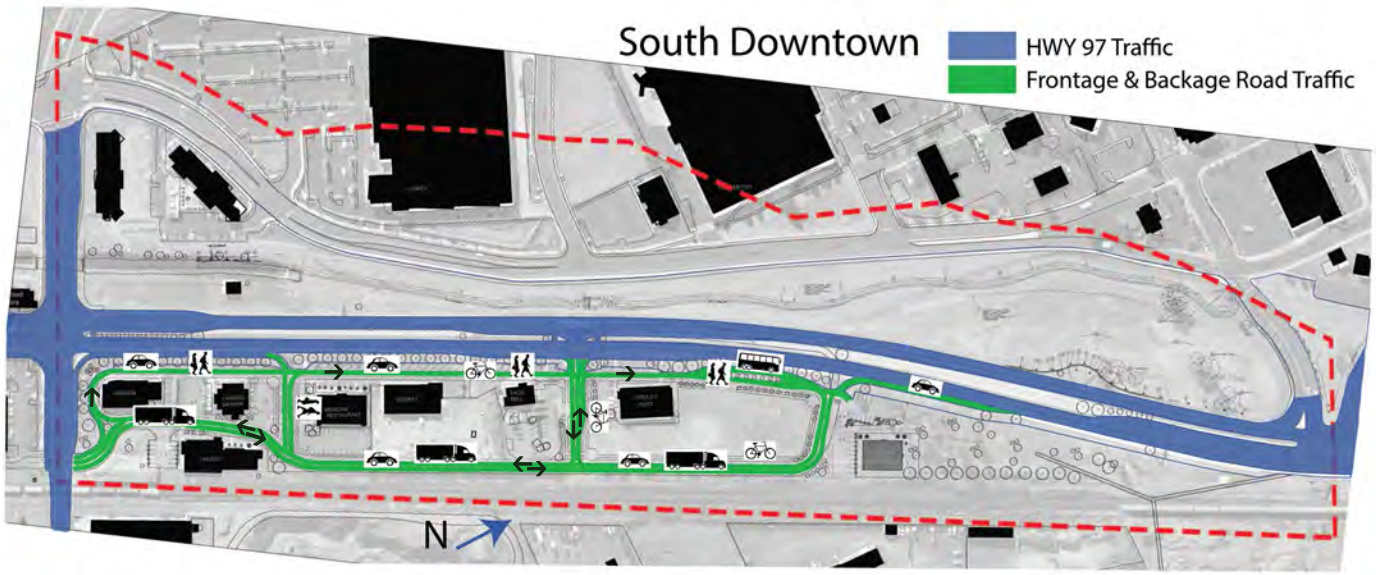


Figure sd8: Proposed multi-way boulevard

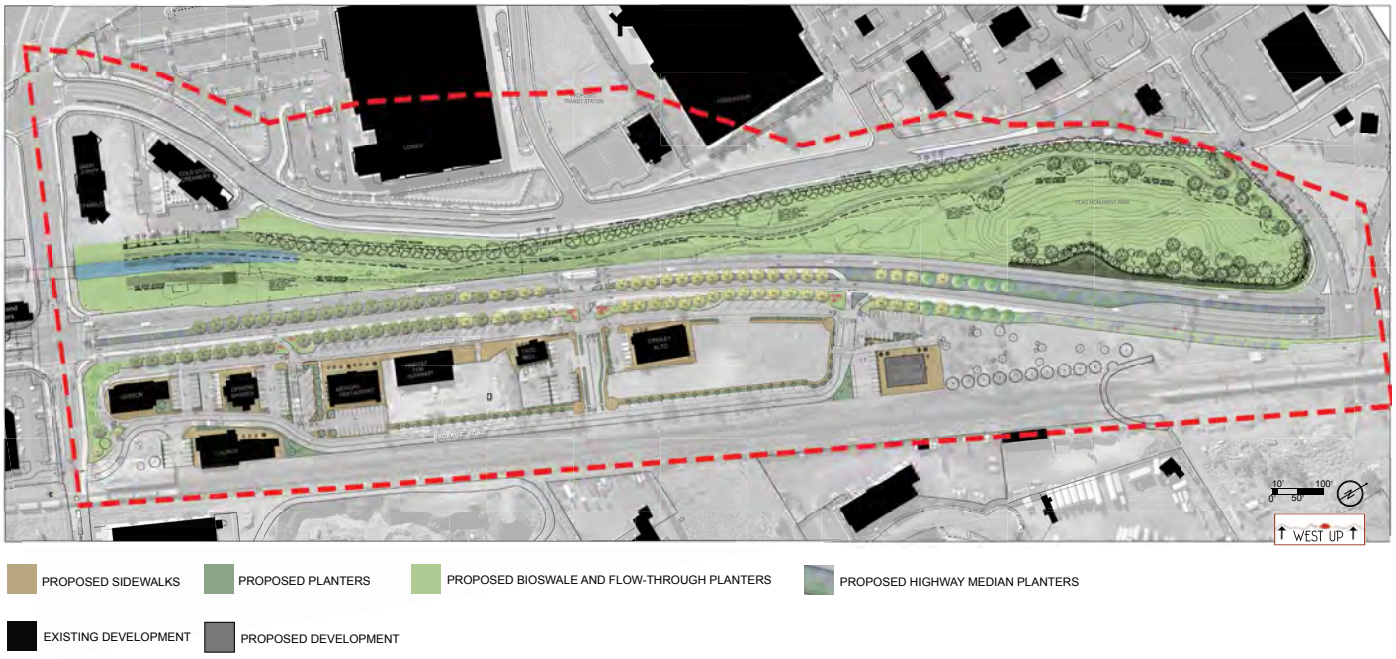
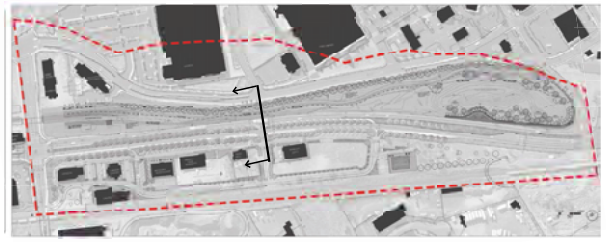
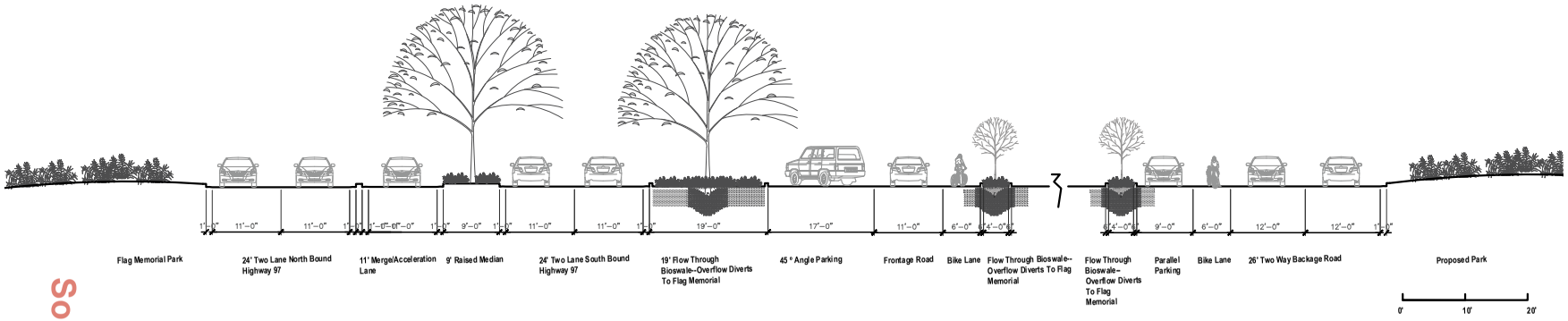


Figure sd9: Highway and proposed roads section





c. Corridor Design

Figure sd10: Overall corridor design

Suggested plant materials include low-growing plants for the medians and a combination of low and medium shrubs and groundcovers for lot plantings. Additionally, street trees that do not impair vision and larger trees should be used as accents.

Figure sd11: Planting palette-shrubs, perennials & groundcovers

Syringa vulgaris
Common Lilac

Perovskia atriplicifolia
Russian Sage

Teucrium chaemydrs
Germander

Pinus mugo
Mugo Pine

Calamagrostis acutiflora
Karl Forester

Deschampsia caespitosa
Tufted Hairgrass

Kinnikinnick
Kinnikinnick

Lavender angustifolia
Lavender, English

Sempervivum species
Hens and Chicks

Euonymous alatus 'Compactus'
Dwarf Burning Bush

Carex var.

Oriental Papaaver orientale
Poppies

South Downtown

Figure sd12: Planting palette-medium and small trees

MEDIUM 30-45’

Sorbus americana
Mountain Ash

Tsuga mertensiana
Mountain Hemlock

SMALL 25’ or Less

Cercis canadensis
Eastern Redbud

Malus var.
Flowering Crabapple

Figure sd13: Planting palette-street and large trees

VISION CLEARENCE STREET TREES 50’+

Acer rubrum
Red Maple

Acer saccharum
Sugar Maple

Fraxinus pennsylvanica
Green Ash

LARGE TREES 50’+

Populus tremuloides
Quaking Aspen

Pinus contorta
Lodgepole Pine

Pinus ponderosa
Ponderosa Pine

South Downtown

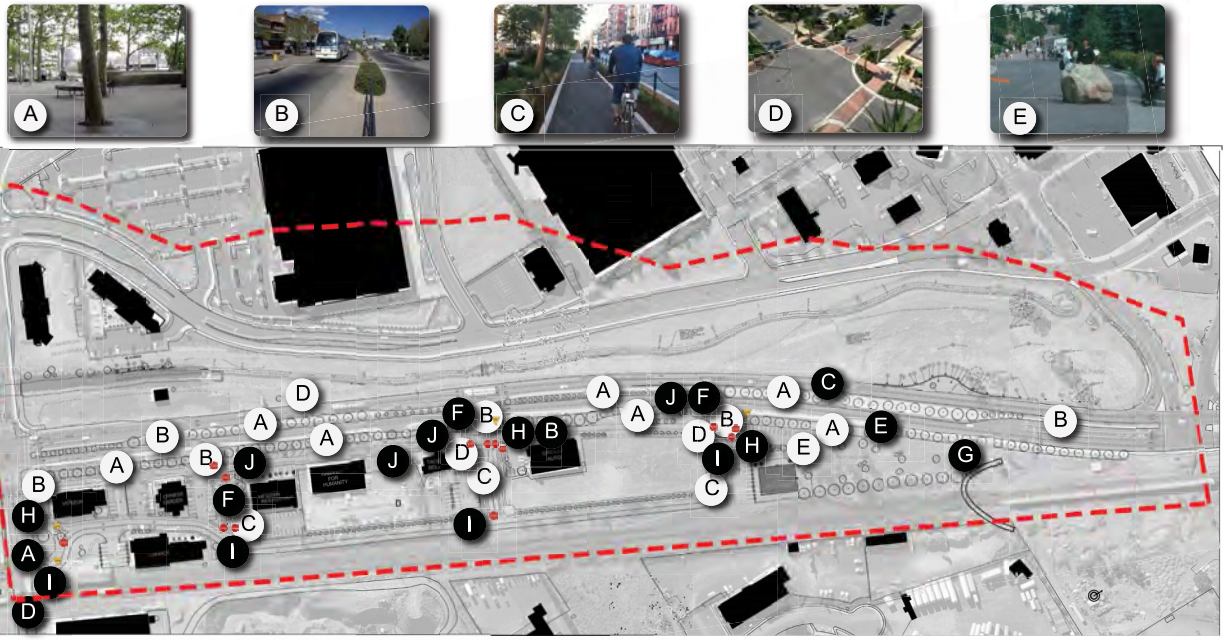
Figure sd14: Parking count diagram

Lot	Buisness	Current Parking	Proposed Parking	Difference
A	Starbucks	49	0	49
B	US Cellular	45	0	45
C	Empty Lot	0	0	0
D	Storage Building	0	0	0
E	Church	20	12	-6
F	St.Vincent DePaul	21	25	4
G	O'Reilly's Auto Parts	33	39	6
H	Empty Lot	0	0	0

Lot	Buisness	Current Parking	Proposed Parking	Difference
I	BNSF Railroad	0	0	0
J	Mazatlan Mexican Restaurant	45	40	-5
K	Taco Bell	35	46	11
L	Empty Lot	0	0	0
M	Verizon	0	0	0
N	Cindy's Chinese Garden Restaurant	30	32	2
O	Empty Lot	0	0	0
P	Empty Lot	0	0	0

Figure sd15: Landscape safety cues and way-finding diagram

Landscape Safety Cues:



Wayfinding:

d. Landscape and Architecture Design Standard

This team suggests specific approaches regarding safety, access and building facades.

Safety:

- Use of paving materials to indicate changes in streetscape
- Keep sidewalks wide to ensure pedestrian safety
- Keep frontage road widths narrow to discourage speeding
- Use bull-nosed sidewalks to imply pedestrian zones

Access to Businesses:

- Trees and plantings should be spaced far enough apart to ensure sightlines to business facades and signage
- Business entrances should have defining features including planters, awnings and/or lighting
- Signage should be clear and consistent.

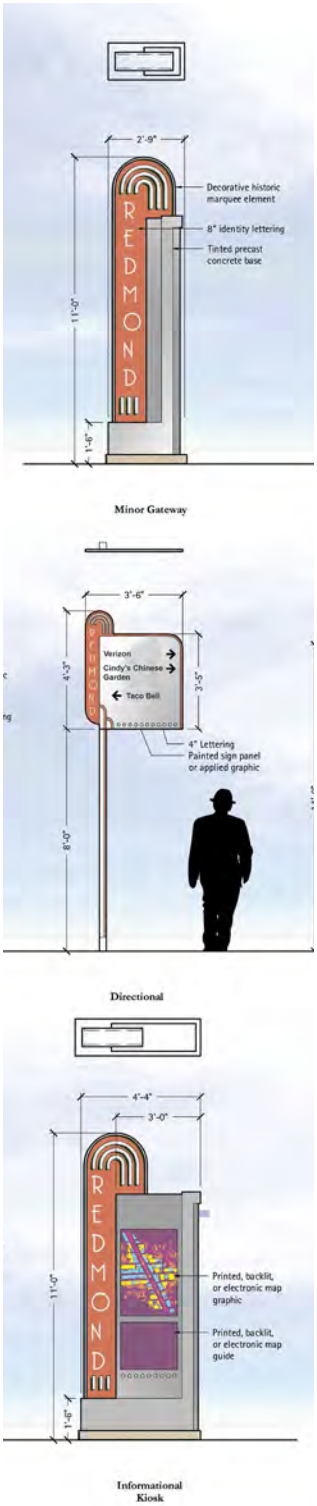
Building Facades:

- Building facades should resemble those of downtown Redmond using similar colors and materials as indicated in the Downtown Architectural Standards manual
- Focus on vertical architectural elements to increase visibility of the building
- Consider an art deco aesthetic crown for buildings to increase vertical interest and create a consistent aesthetic theme throughout the site

Landscape:

- Use planters to incorporate seasonal pops of color that will contrast with the surrounding landscape
- Use native inert materials, such a basalt rock, as landscape accents

Figure sd 16: Art deco signage



South Downtown

Figure sd17: Frontage road - Habitat for Humanity 20 year+ development

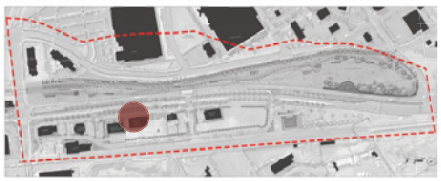
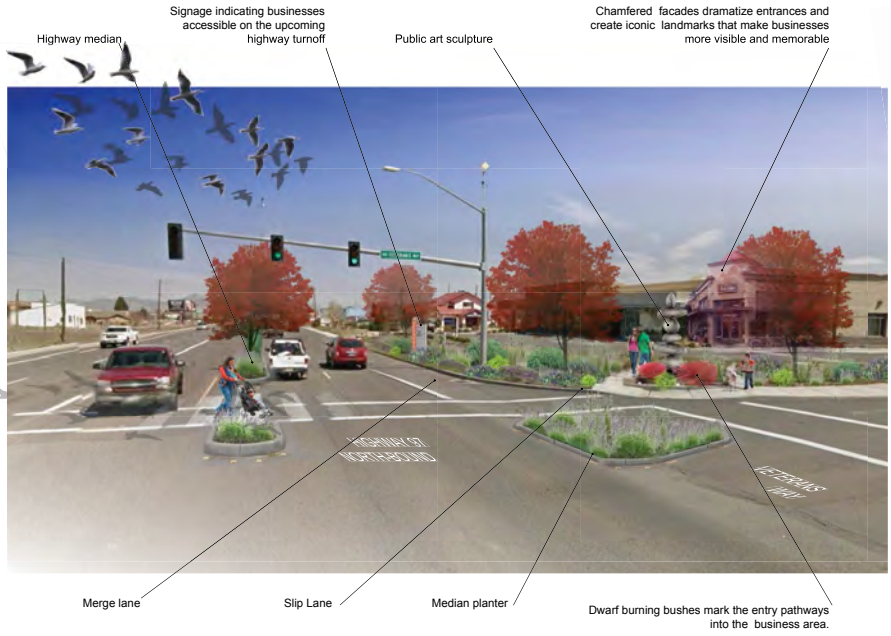
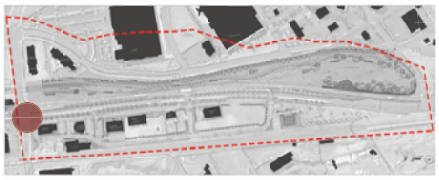


Figure sd18: Corner of Verizon and HWY at Veterans intersection





South Downtown

e. Form-Based Code for Nodal Development

It is important for the city to manage the character of infill development. The South Downtown team suggests a mixed-use, form-based code to ensure a sense of identity and cohesion that mimics downtown. Mixed use development in this setting utilizes 2-3 story buildings with commercial units on the lower level and apartments or offices above. The form-based code should restrict setback depths as either narrow or non-existent and parking should exist at the rear of structures and parks. Finally, parklets and courtyards should be included in the public space design.

CODE GUIDELINES

General Character: Shops mixed with offices
Building Placement: Shallow setbacks or none
Frontage types: Storefronts, awnings, sidewalk seating, umbrellas and planters
Typical building height: 2-3 story
Type of civic space: parks, parklets, courtyards
Parking: At the rear of buildings if possible, away from public spaces

Illustrative example

Precedents:

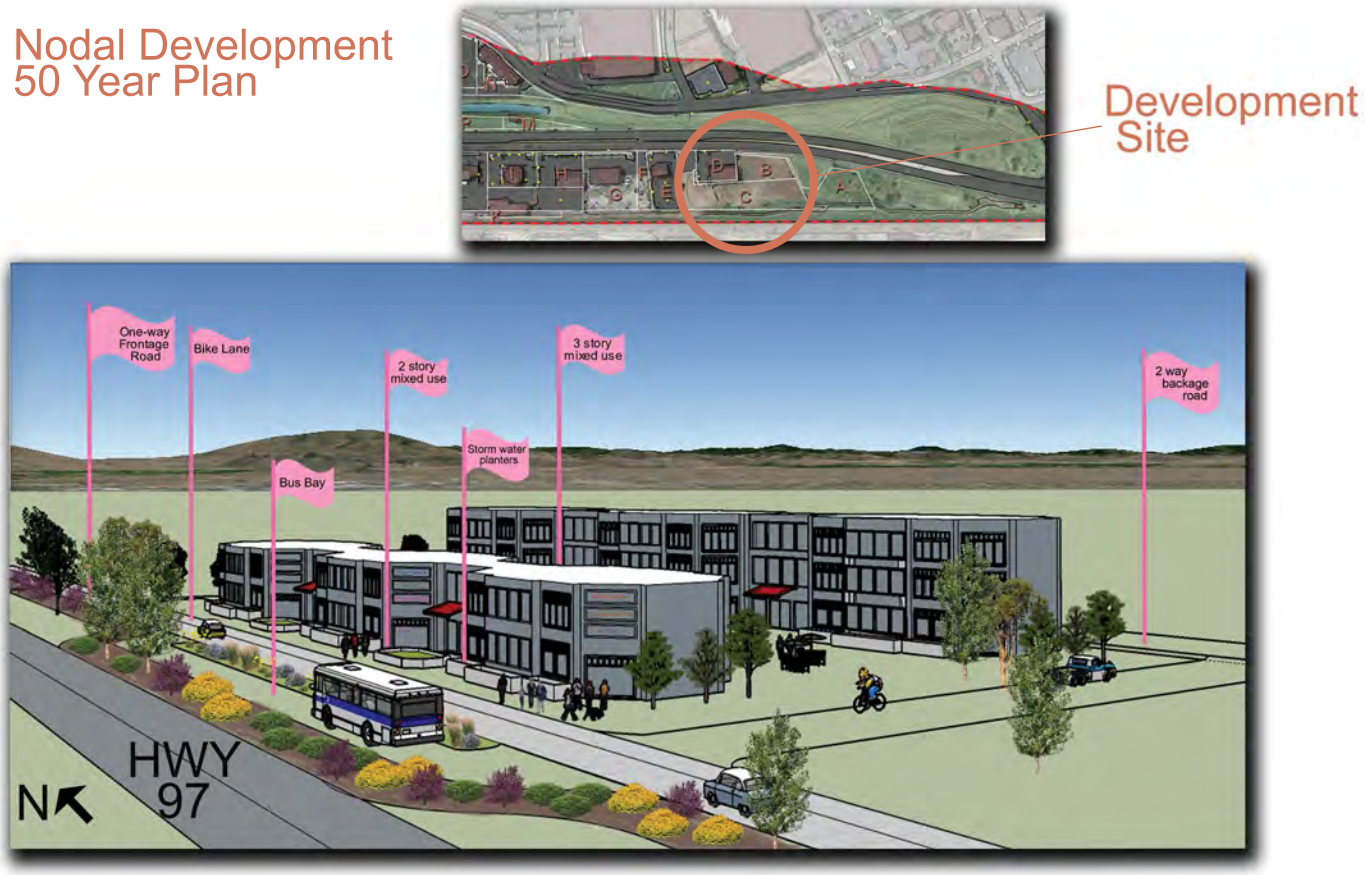
Example of mixed-use building on corner lot with articulated architecture.

June 17, 2008, Ordinance Number: 5112 61

Design standards for mixed-use, Downtown Development Code (2008), Village of Glenview, Illinois. Credit: The Lakota Group.

South Downtown

Figure 19: Nodal development 50 year plan



South Downtown

f. Photo Simulation

Current

Street Furnitures

South Downtown

Current

New Development

South Downtown

In conclusion, the south downtown site could be developed to increase connectivity and safety while reinforcing Redmond's character.

Key Takeaway Recommendations:

- Install a one-way frontage road and a two-way backage road to increase access to businesses and downtown Redmond.
- Maintain visibility to business frontages.
- Integrate the flag memorial park plans.
- Use the same characteristic elements from downtown to create a sense of connectivity.

Team 2: Village Commercial East

a. Site Analysis

The Village Commercial East study area is bounded by Veteran's Way to the north, the railroad tracks to the east, Odem Medo Way to the south and U.S. 97 to the west.

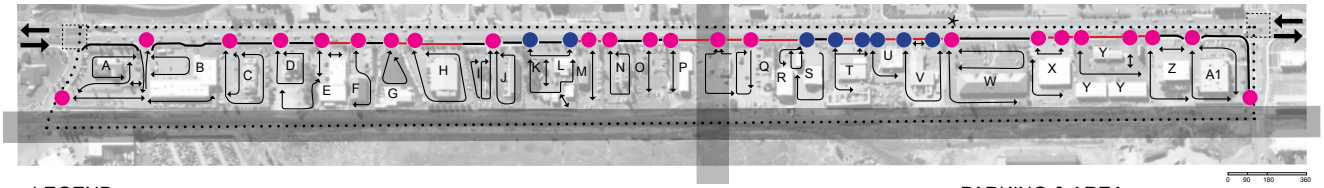
Figure ve1: Village commercial east study area

Stakeholder input from the City of Redmond, business owners, and ODOT strongly influenced this team's approach. The team focused on promoting east-west connectivity within the U.S. 97 corridor while planning for a dynamic mixed-use future condition. There are many opportunities to create comfortable, aesthetically appealing spaces that are also accessible and visible. Access and visibility are important for future development as well as the installation of ODOT-compliant traffic calming devices.

On-site analysis highlighted the opportunities and challenges of the designated area. The abundance of current business access points along U.S. 97 is a challenge because this increases the likelihood of accidents. Sidewalk conditions are also a challenge because they are inconsistent in some areas and nonexistent in others. Additionally, there is an abundance of visual clutter, including signs, lighting, and high- and low-voltage electrical utility lines. The railroad right-of-way is 50 feet from the center of the tracks in both directions. This highlights the spatial limitations of this very narrow site making the introduction of a frontage/access road more difficult than in other study areas. This is particularly challenging in providing 'back-track' access to travelers who notice a business they want to patronize after they have passed it by.

On the other hand, the site also has many opportunities, such as the distant view of the mountains, a significant amount of landscaping, and large trees. The city also approved a right-of-way continuation of Quartz Avenue.

Figure ve2: Landscape analysis



LEGEND

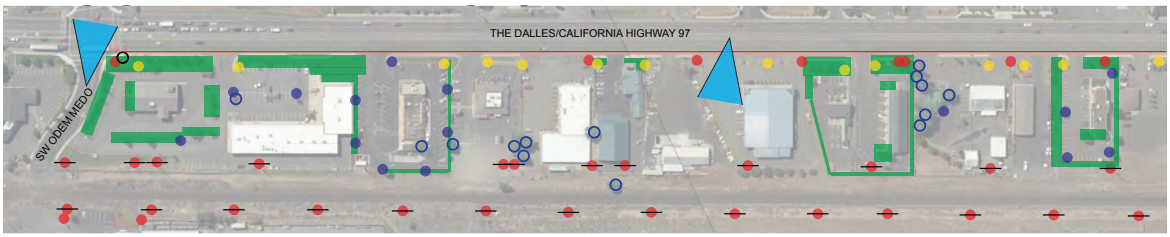
- Site Boundary
- Permitted Access Points
- Unpermitted Access Points
- Pedestrian Crosswalks
- Discontinuous Sidewalk
- Intact Sidewalk
- Quartz Ave. Right-of-Way
- Railroad Right-of-Way
- Lot Circulation
- Desired Pedestrian Crossing (As witnessed during site visit)
- Hwy 97 Through Traffic

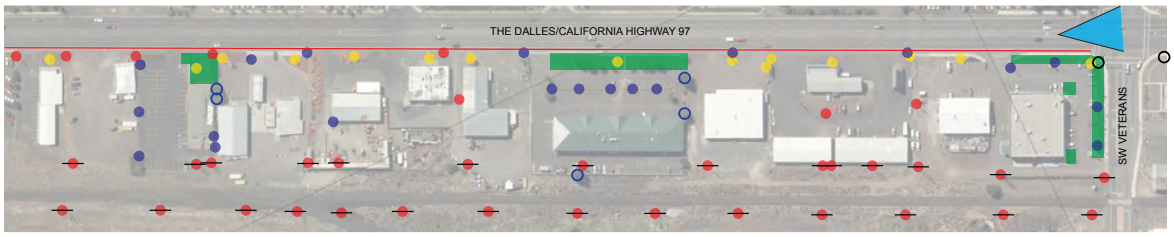
PARKING & AREA

	Lot	Area: Lot (Acres)	Area: Building (Sq. Ft.)	Current Parking Spaces
Dairy Queen	A	.86	3,852	33
Stores / Restaurants	B	1.86	17,790	95
McDonald's	C	1.07	5,701 / 385	62
Madaline's Grill	D	.8	3,711	61
Shopping Center	E	.52	11,583	31
La Frontera and Dance School	F	.34	5,088 / 2,652	13
Countertops	G	.84	3,200	29
Napa	H	1.09	19,000	38+
Oil Can Henry's	I	.42	1,316	15
Wet Willy's	J	.71	3,570	0
Gun Traders	K	.55	1,520	N/A
Auto Supply / Checks Cashed	L	.55	5,186	21+
Marshalls Automotive	M	.55	4,084	28
Arby's	N	.69	2,798	36
Truce Auto	O	.69	1,672	45+
Good Earth Ceramics Shoppe	P	.55	5,568	16
Abby's Pizza	Q	.94	5,849	63
Franz Bakery	R	.34	6,000	10
Arco	S	.72	4,130	11
Midstate Power Products	T	.88	5,000	15
Midstate Power Sports	U	.84	5,544	10
Ranch Supply	V	.83	10,996	22
Redmond Plaza	W	1.86	16,020	103
BrightSide Thrift Store	X	.99	11,919	54
Shopping Center	Y	??	20,020	62
Central OR Glass	Z	1.03	7,528	20
Walgreens	A1	1.26	15,118	57

SITE IMAGES AND EXAMPLES

Ped Crosswalk Conditions | Sidewalk Condition | Access and Sidewalk Example | Railroad Right-of-Way





Legend

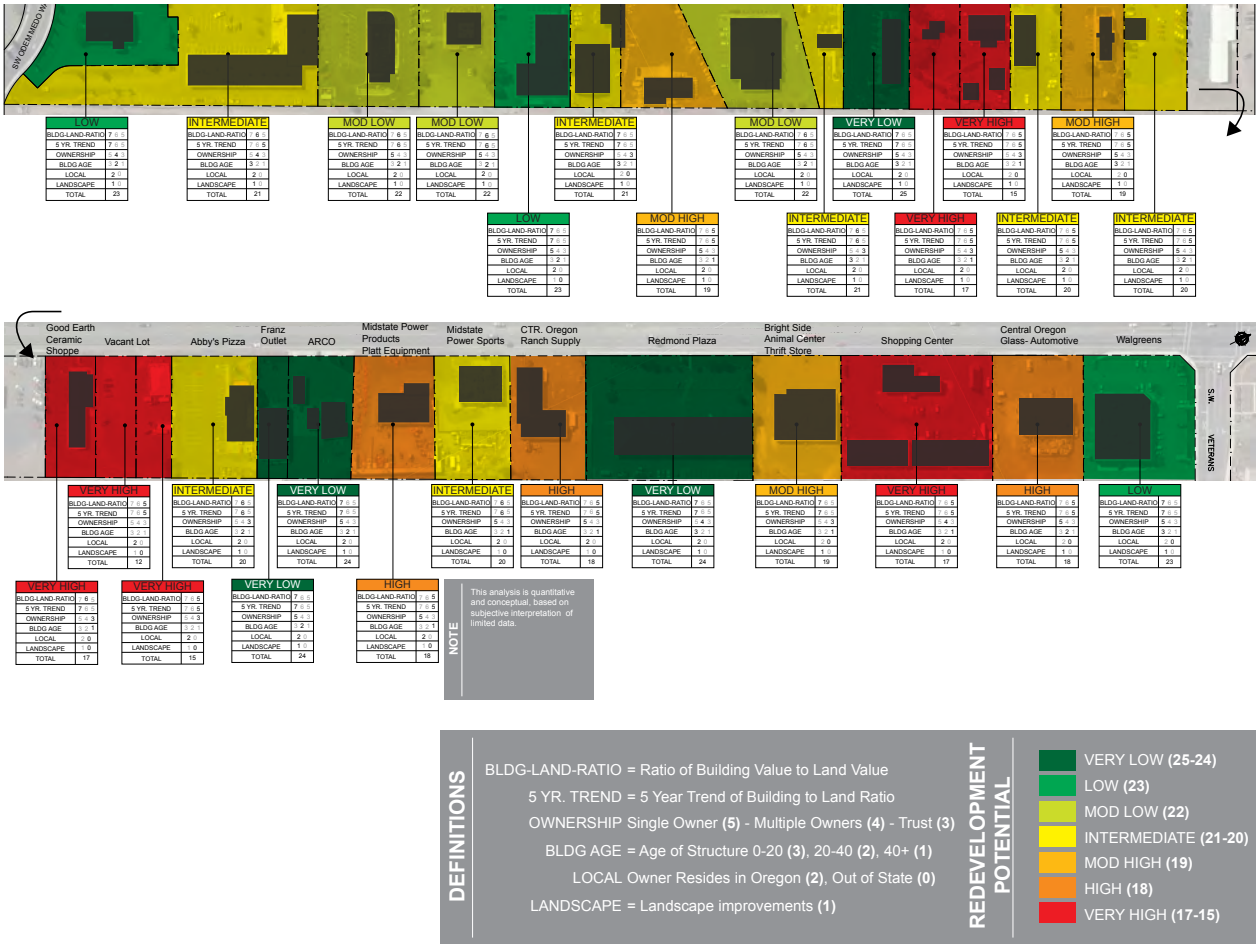
- High voltage utility pole
- Low voltage utility pole
- Signage
- Light pole
- Tree of significant size (not included in landscaping)
- Stoplight
- Significant landscaping
- Primary mountain views
- Bike lane

Site images and examples

Business Signage Example | Healthy Trees | Light and Stop Light Conditions | Utility Pole Example | Significant Landscaping | Bike Lane Conditions

Village Commercial East

Fig ve3: Redevelopment potential analysis



Students used an evaluative point system to estimate the redevelopment probability for each tax lot. Each lot's potential ranked as very low, low, moderately low, intermediate, moderately high, high, or very high. The evaluative criteria included building-to-land value ratios and trends, types of ownership, ages of structures, owners' residential locations, and recent landscape and capital improvements to the property. The team evaluated 24 properties and determined that nine lots are not likely to be redeveloped soon, six may be redeveloped, and nine are very likely to be redeveloped in the near future.

The above findings and the generic multi-way boulevard study indicated that a two-way frontage road separate from US 97 may be the best option to meet all stakeholder interests. This design would maintain business access points from the frontage road, would increase safety by only allowing for turns in and out of the facility at light-managed intersections, and would maintain on-site circulation for all types of vehicles, pedestrians, and bicyclists. Given this design, there

would be room for sidewalks, a speed low enough for bicycles and vehicles to share the frontage road, and also bus stops incorporated along US 97. Additionally, wayfinding signs should be incorporated to help travelers locate

b. Overall Multi-Way Boulevard Design

Figure ve4: Two-way frontage rd. design proposal

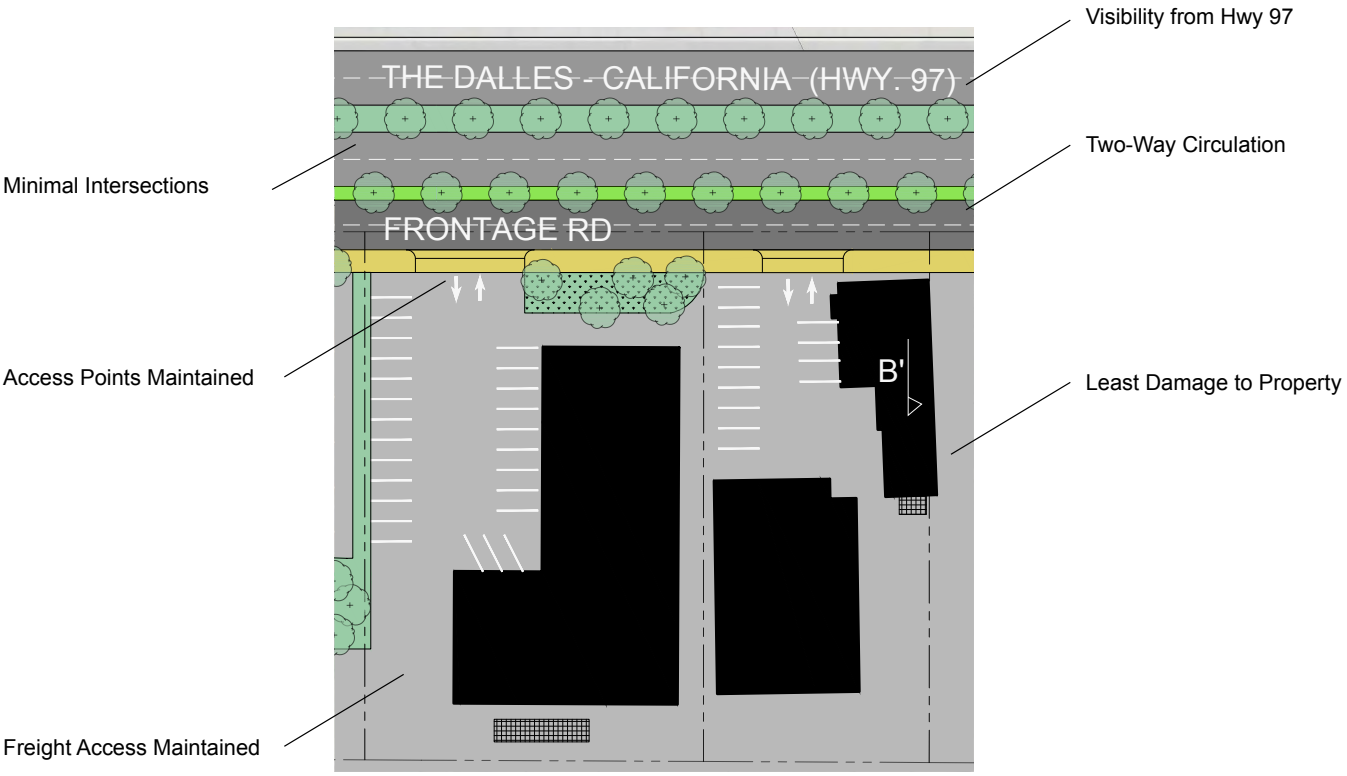
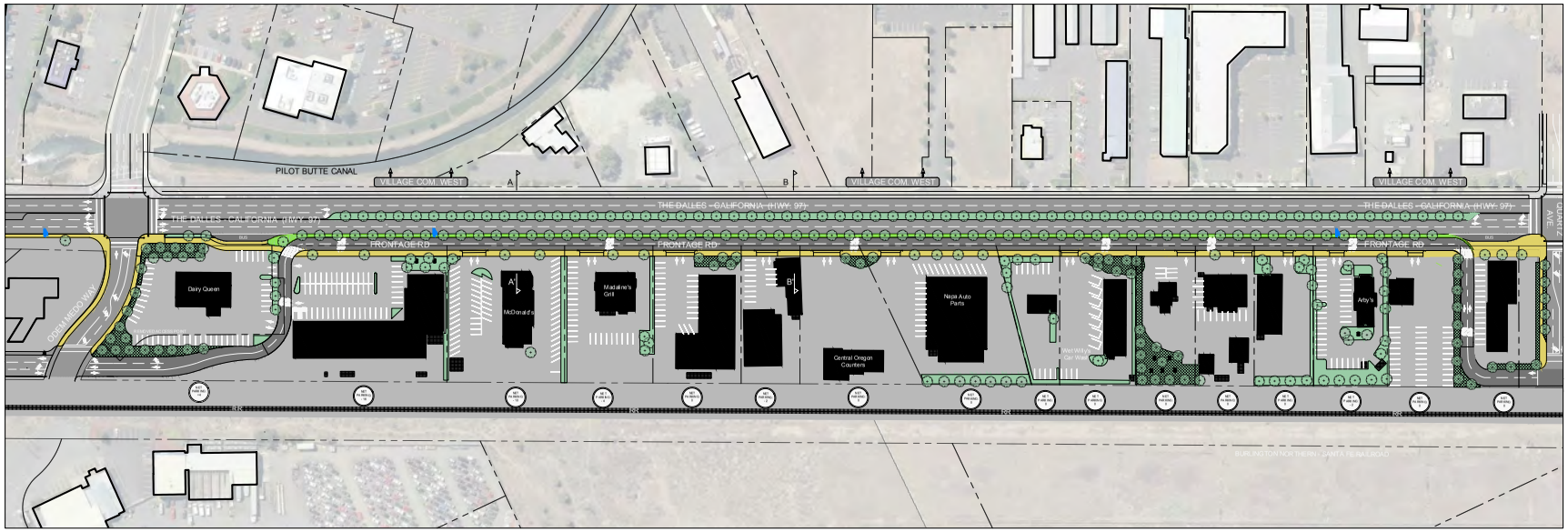


Figure ve5: Future concept plan 1

TWO-WAY FRONTAGE ROAD/MULTIWAY GRAND BLVD.



Village Commercial East

Figure ve6: Future concept plan 2

TWO-WAY FRONTAGE ROAD/MULTIWAY GRAND BLVD.

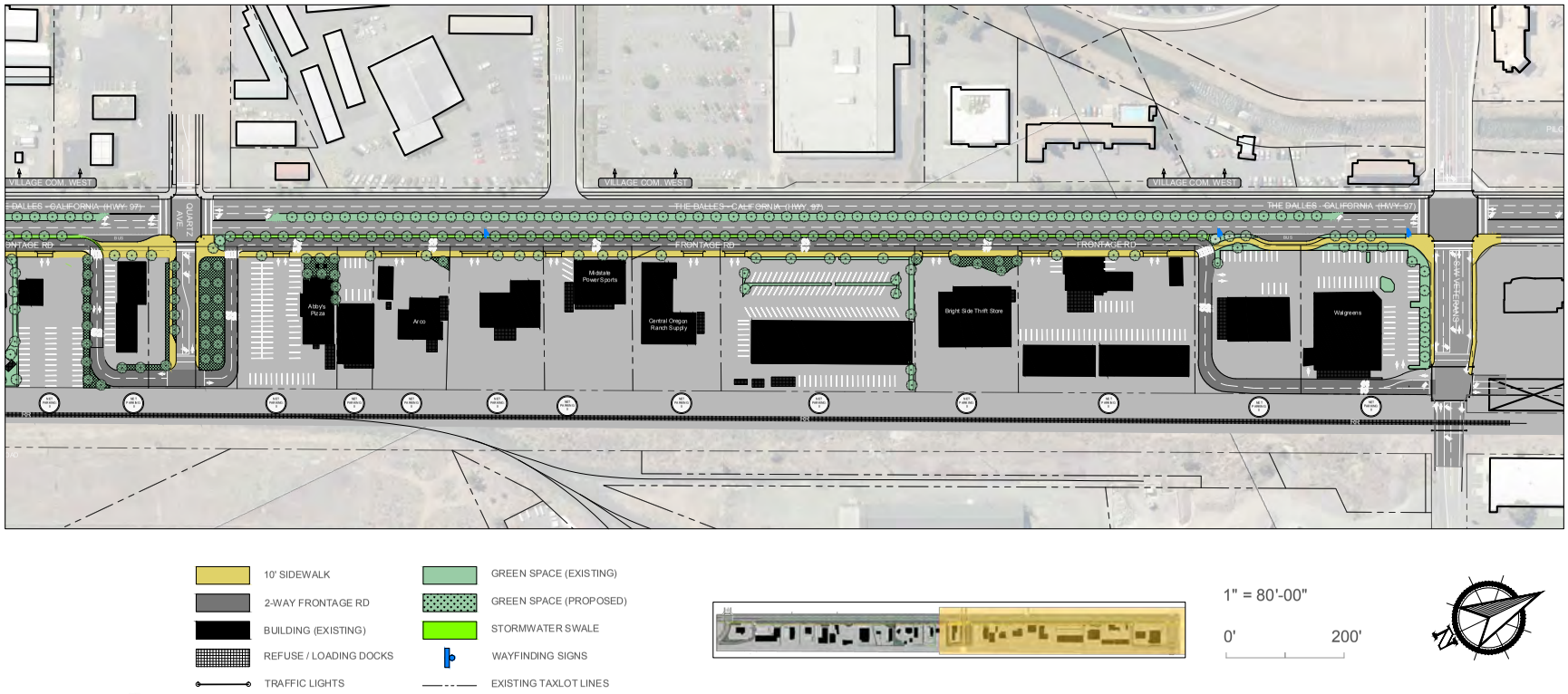


Figure ve7: Section - McDonald's

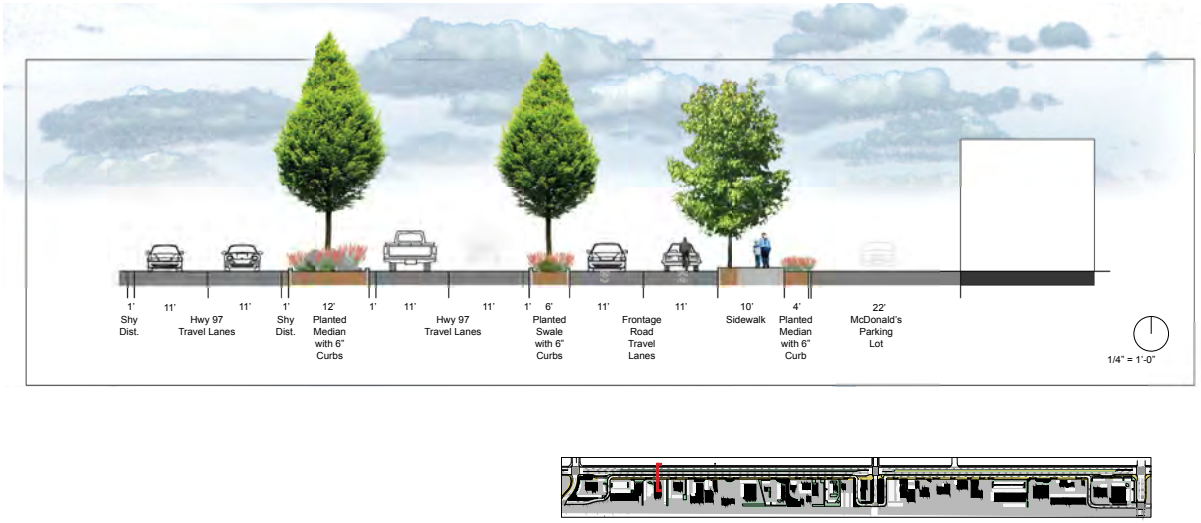
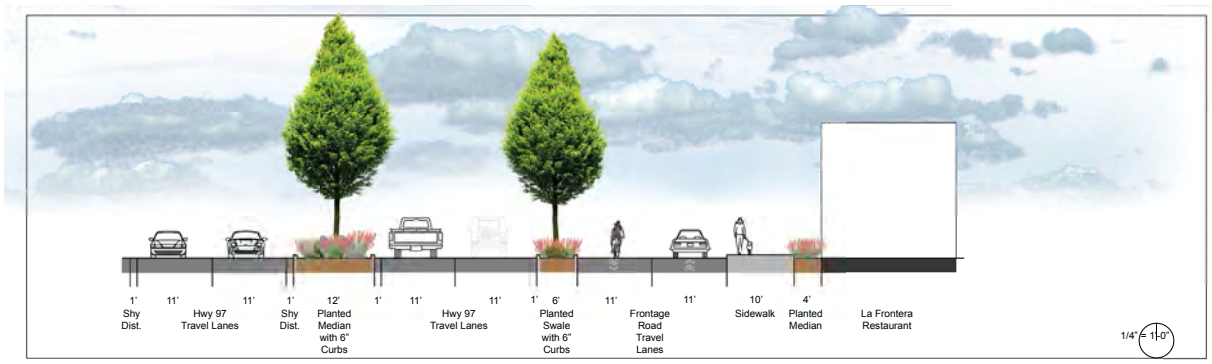


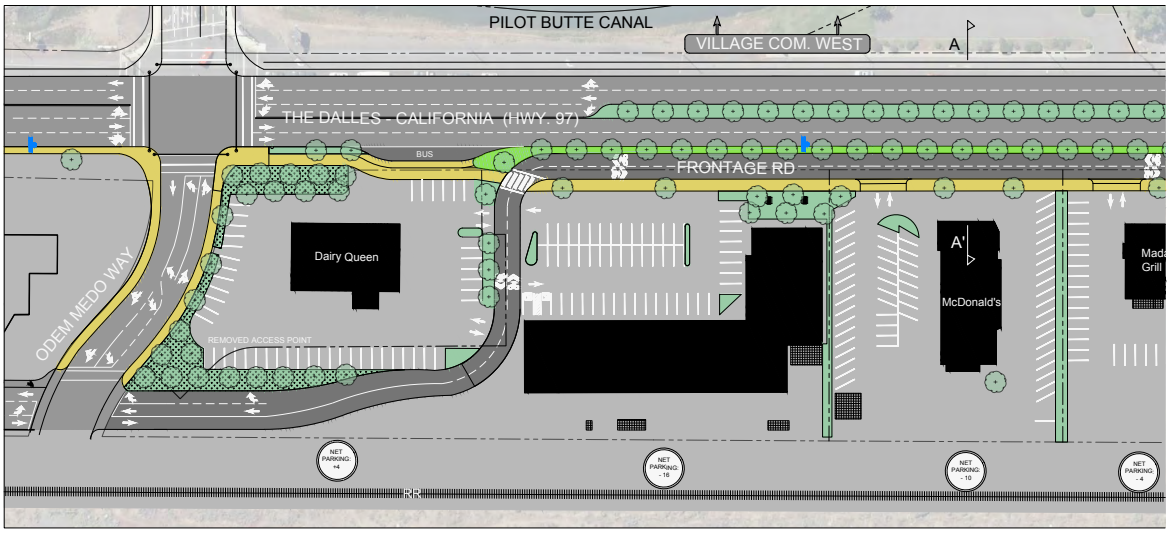
Figure ve8: Section - La Frontera



US HWY. 97 FUTURE CONCEPT PLAN

VILLAGE COMMERCIAL EAST

TWO-WAY FRONTAGE ROAD/MULTIWAY GRAND BLVD.

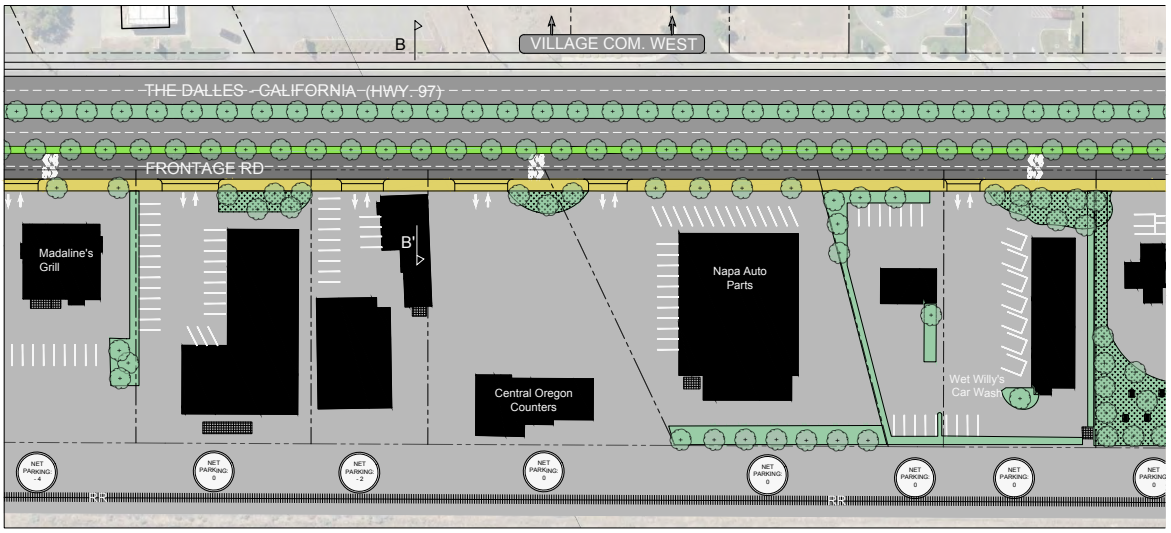


Kelly Stoecklein // Matt Jorgensen // Casey Howard // Krisztian Megyeri // Planning Studio // Professors Ribe and Krueger // LA594

US HWY. 97 FUTURE CONCEPT PLAN

VILLAGE COMMERCIAL EAST

TWO-WAY FRONTAGE ROAD/MULTIWAY GRAND BLVD.



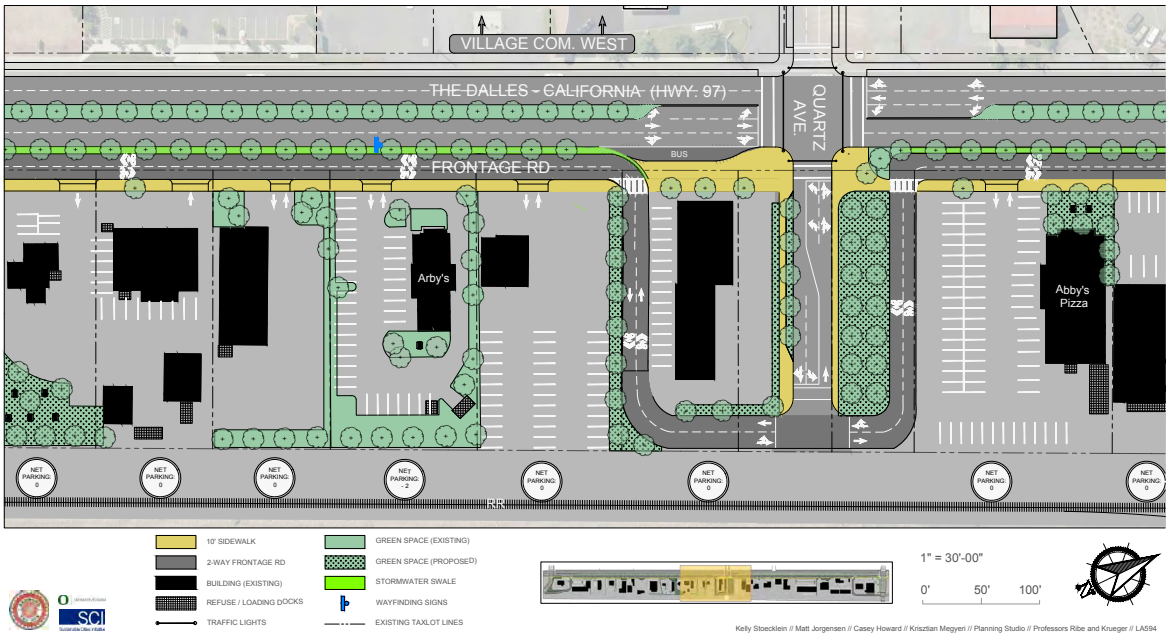
Kelly Stoecklein // Matt Jorgensen // Casey Howard // Krisztian Megyeri // Planning Studio // Professors Ribe and Krueger // LA594

Village Commercial East

US HWY. 97 FUTURE CONCEPT PLAN

VILLAGE COMMERCIAL EAST

TWO-WAY FRONTAGE ROAD/MULTIWAY GRAND BLVD.

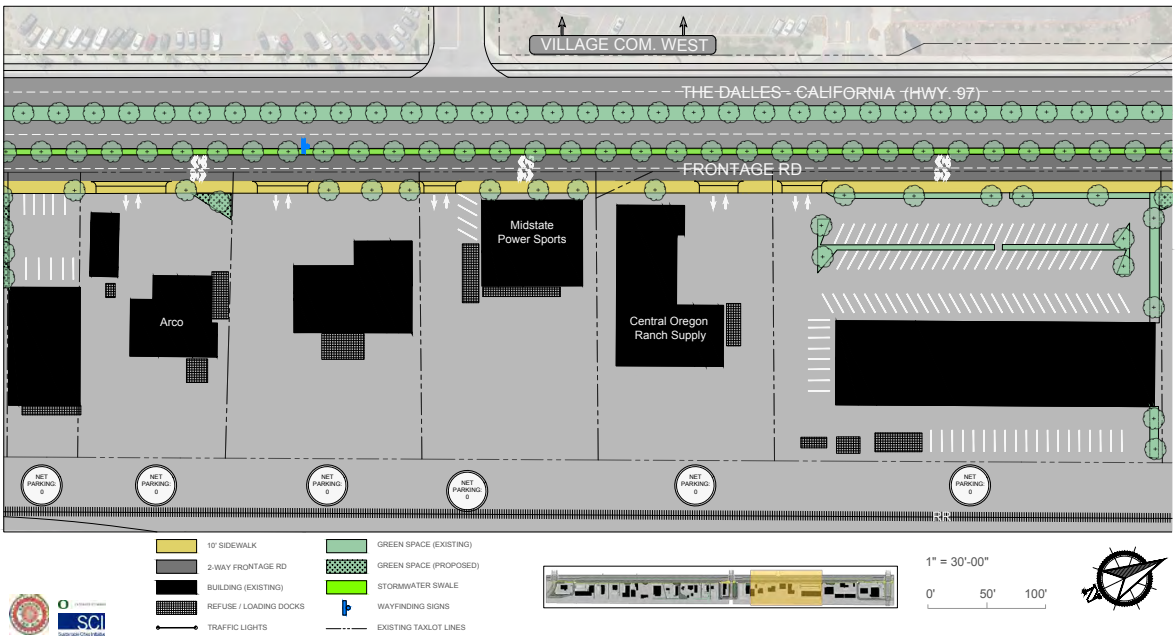


Kelly Stoecklein // Matt Jorgensen // Casey Howard // Krisztian Megyeri // Planning Studio // Professors Ribe and Krueger // LA594

US HWY. 97 FUTURE CONCEPT PLAN

VILLAGE COMMERCIAL EAST

TWO-WAY FRONTAGE ROAD/MULTIWAY GRAND BLVD.

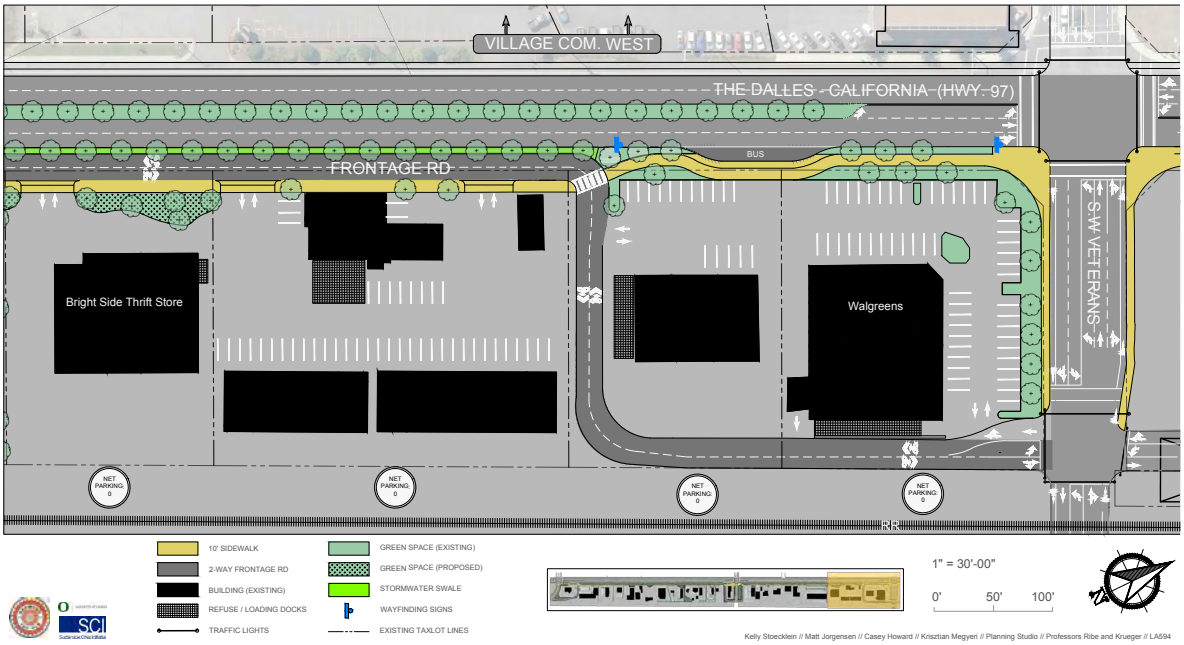


Village Commercial East

US HWY. 97 FUTURE CONCEPT PLAN

VILLAGE COMMERCIAL EAST

TWO-WAY FRONTAGE ROAD/MULTIWAY GRAND BLVD.



c. Corridor Design

access points to the frontage road and a landscape code could be incorporated to ensure a district identity.

This team recommends a right-of-way landscape approach that incorporates a plant palette of columnar trees, shrubs, and flowers infusing pops of color and low groundcover to maintain a structured ground plane. The incorporation of sidewalk and streetlight fixtures and furnishings such as benches, tables, trash bins, and bus shelters may also increase a sense of cohesion along the corridor

Planting Palette

Center Median		
Botanical Name	**Common Name**	**Height**
TREES		
Carpinus betulus 'Fastigiata'	Pyramidal European Hornbeam	30-50'
SHRUBS		
Pinus mugo 'Oregon Jade'	Oregon Jade Mugo Pine	to 4', slow growth
Potentilla 'Gold Drop'	Gold Drop Potentilla	2-3'
ANNUALS AND PERRENIALS		
Achillea millefolium 'Paprika'	Paprika Yarrow	1.5-2'
Aquilegia formosa	Western Columbine	1-3'
Coreopsis tinctoria	Plains Coreopsis	1-3'
Echinacea purpurea	Purple Coneflower	2-3'
Helianthemum nummularium 'Buttercup'	Buttercup Sun Rose	1'
Penstemon fruticosus	Shrubby Penstemon	1'
GROUNDCOVERS		
Cerastium tomentosum	Snow-In-Summer	1'
Mahonia repens	Creeping Oregon Grape	1.5-2'
Stormwater Swale Median		
TREES		
Acer saccharum 'Sentry'	Sentry Sugar Maple	60-75'
Carpinus betulus 'Fastigiata'	Pyramidal European Hornbeam	30-50'
Alternate: Alnus rubra	Red Alder	40-50'
SHRUBS		
Ilex crenata 'Helleri'	Helleri Holly	to 4', shears easily
Potentilla 'Gold Drop'	Gold Drop Potentilla	2-3'
ANNUALS AND PERRENIALS		
Aquilegia formosa	Western Columbine	1-3'
GROUNDCOVERS		
Arctostaphylos uva-ursi	Kinnickinnick	1'
Mahonia repens	Creeping Oregon Grape	1.5-2'
Sidewalk tree grates		
Cercis canadensis	Eastern Redbud	20-30'
Tilia tomentosa	Silver Linden	50-70'
Parklets/business planting	In addition to above:	
TREES		
Acer rubrum	Red Maple	60-75'
Pinus contorta var. latifolia	Lodgepole Pine	110'
Pinus ponderosa	Ponderosa Pine	60-100'
Populus tremuloides	Quaking Aspen	40-50'
Populus tremula 'Erecta'	Swedish Columnar Aspen	40'
Syringa reticulata	Japanese Lilac Tree	20-30'
Syringa vulgaris	Common Lilac	10-15'
SHRUBS		
Arctostaphylos patula	Green Manzanita	7'
Cornus stolonifera	Red-Osier / Redtwig Dogwood	7-9'
Cornus stolonifera 'Flaviramea'	Yellowtwig Dogwood	7-9'
GROUNDCOVERS		
Juniperus horizontalis 'Blue Chip'	Blue Chip Juniper	1.5'

Figure ve9: Planting palette-trees


Carpinus betulus 'Fastigiata'


Acer saccharum 'Sentry'


Tilia tomentosa


Populus tremuloides

Figure ve10: Planting palette-shrubs and groundcovers


Helianthemum


Archtostaphylos


Coreopsis


Aquilegia


Potentilla


Cercis


Cornus


Cornus


Ilex


Achillea


Cerastium


Echinacea


Mahonia


Penstemon


Pinus mugo

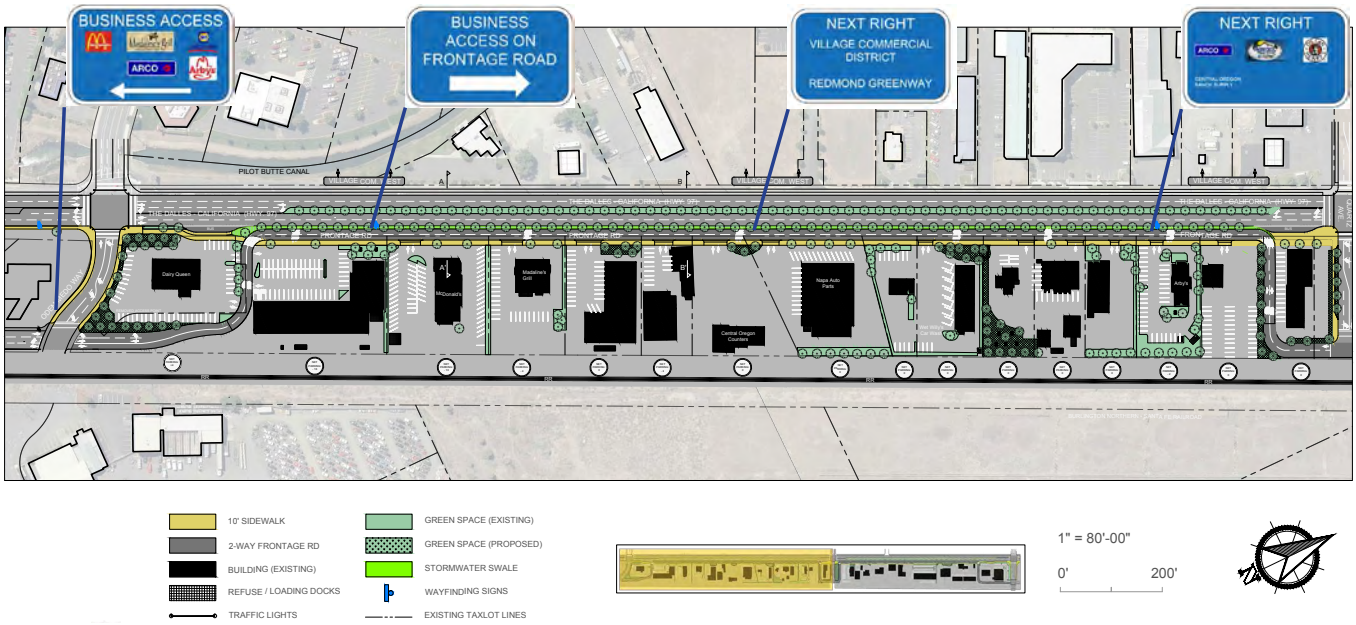
Figure ve11: Business wayfinding signage

Sign #1: Highway 97 Informational

Sign #2: Highway 97 District and Greenway

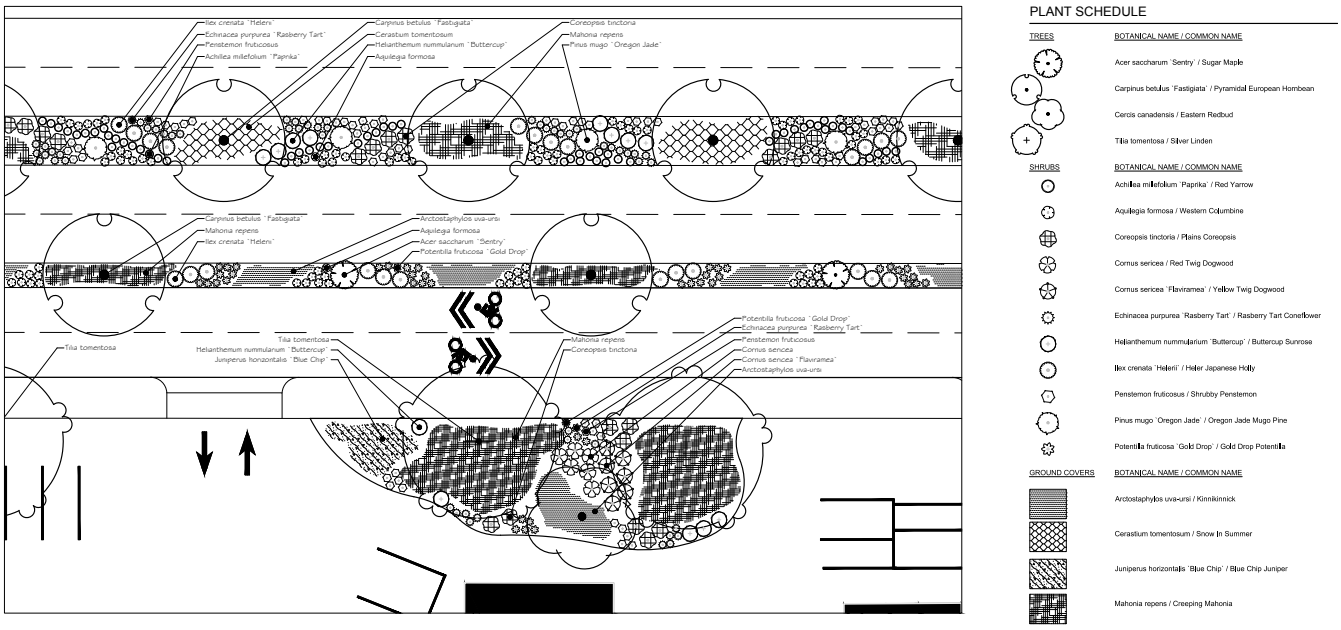
Sign #3: Business Callouts Approaching Highway 97 Intersection

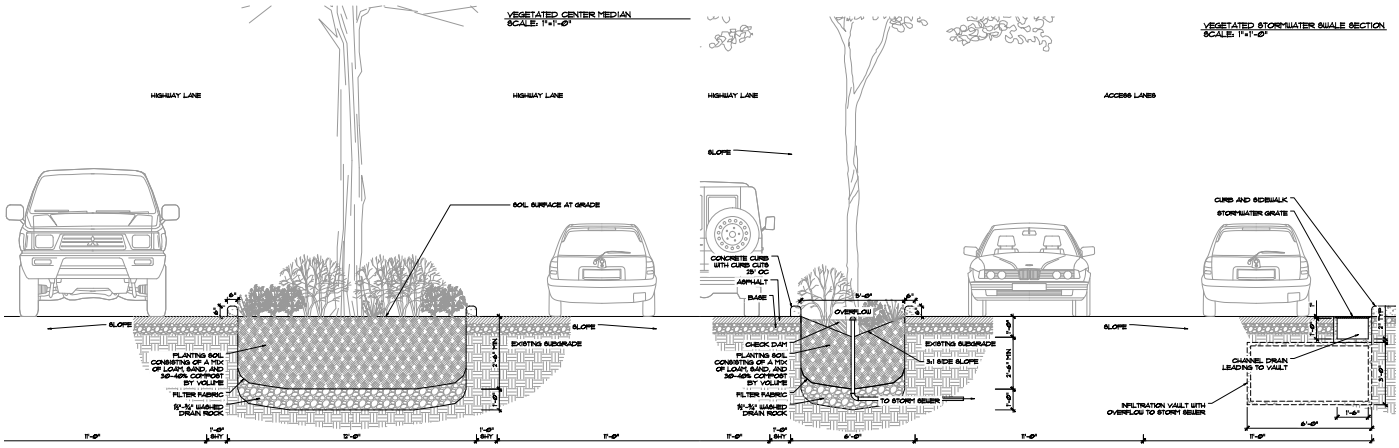
Sign #4: Specific Directional and Business Callouts at Frontage Road Entrance Intersection



Village Commercial East

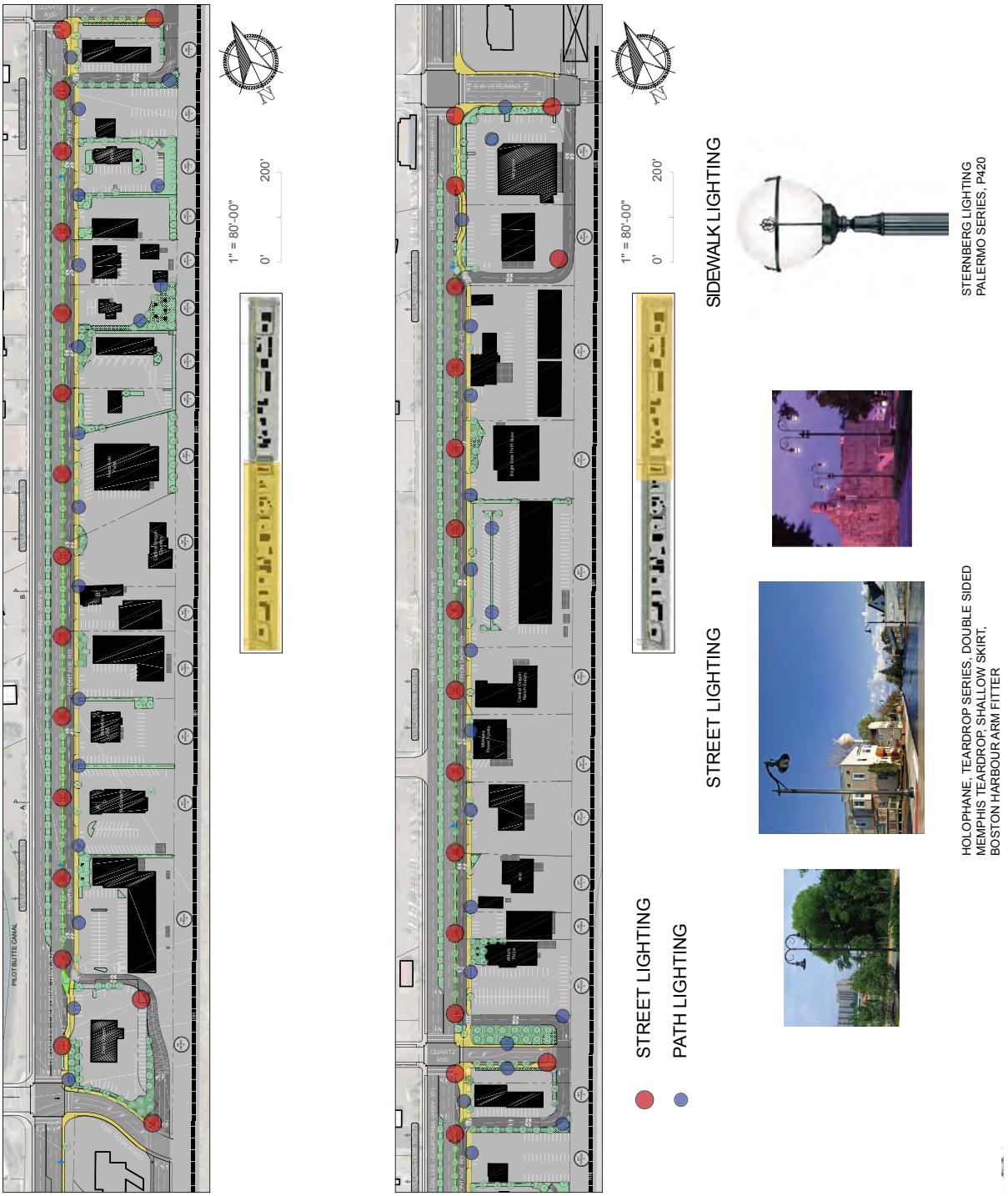
Figure ve12: Representative planning concept





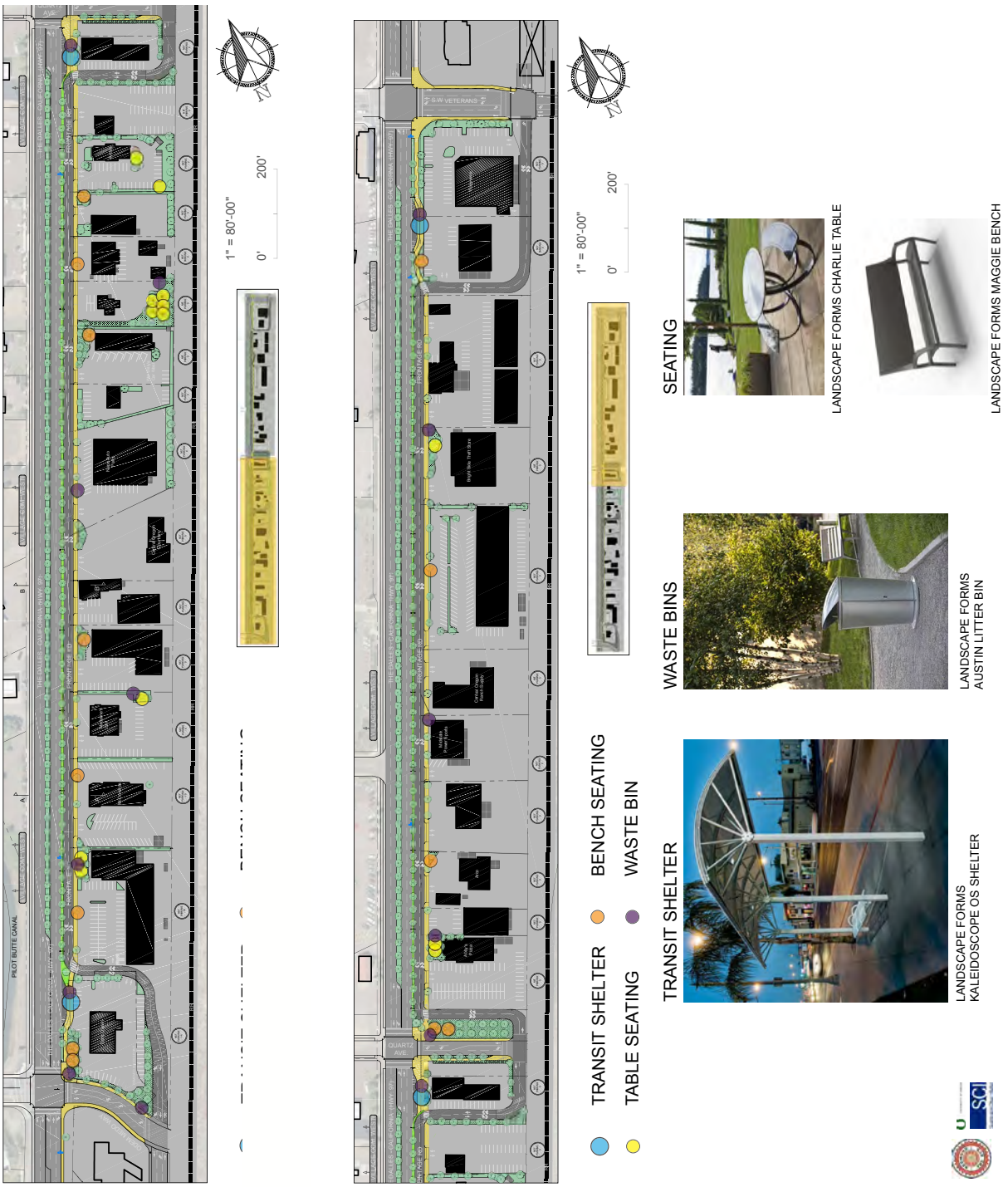
d. Landscape and Architecture Design Standard

Figure ve13: Lighting concept diagram



Village Commercial East

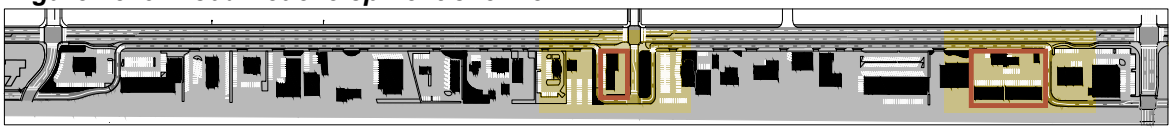
Figure ve14: Furnishing concept diagram



Village Commercial East

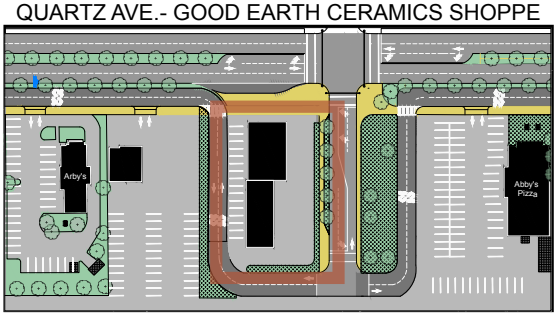
e. Form-Based Code For Nodal Development

Figure ve15: Nodal redevelopment overview

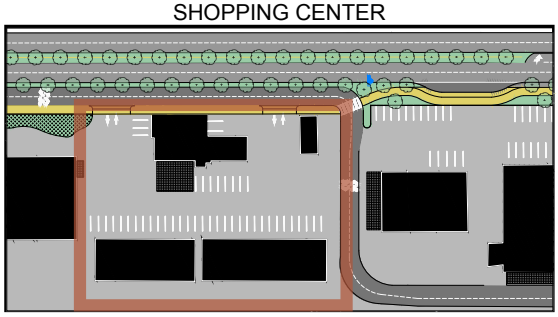


10 YEARS

QUARTZ AVE.- GOOD EARTH CERAMICS SHOPPE

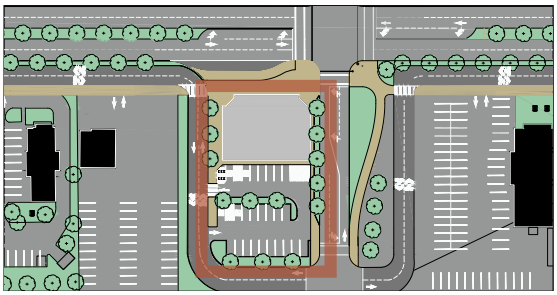


SHOPPING CENTER

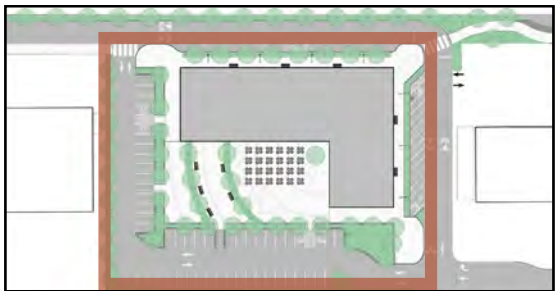


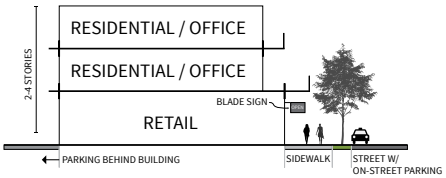
20+ YEARS

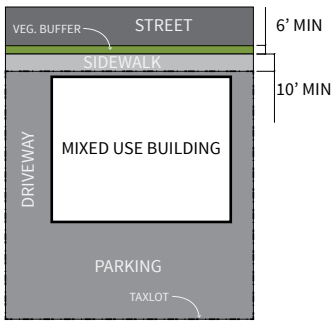
2 STORY MIXED USE WITH STREET FRONT



4 STORY MIXED USE WITH COURTYARD & STREET PARKING







OVERVIEW OF FORM BASED CODE

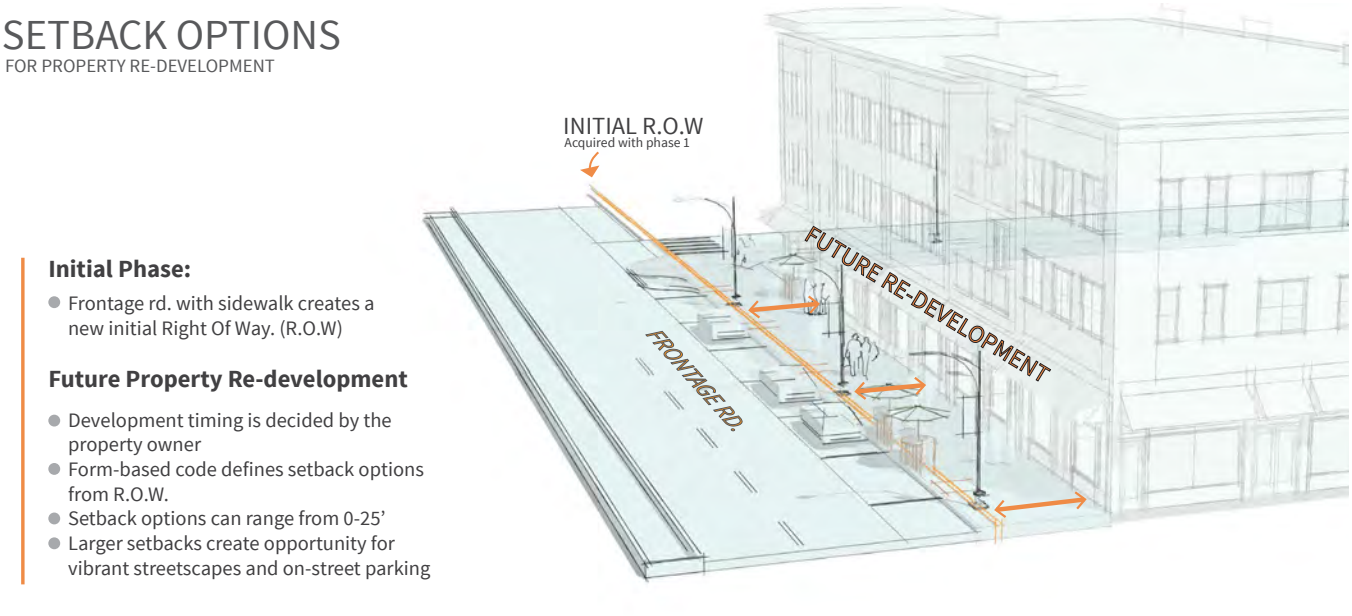
FORM	
Type of Settlement	Miixed use developments which accommodate retail, offices, and residential buildings
Level of Urbanization	Medium to High density
Zoning Districts	Commercial
Scale	Human scale, maximum 1/2 mile blocks, 20-50 acres total district
General Character	Medium scale freestanding commercial business intermixed with mixed use buildings accommodating shops on the ground floor, and offices or residential units on the 2nd floor or above
Orientation & Setbacks	Businesses oriented to street front with minimal to no setback (0-26' maximum) Parking lots located behind buildings, optional parallel or angled parking accommodated along street front
Building Height	1-4 story with some mixed use buildings
INFRASTRUCTURE	
Stormwater Management	Low impact watershed management at district level
Electricity and Communications	Standard voltage electric utility and communication lines along the street front portion of the district shall be buried or moved to the back of the property along the railroad corridor
SIGNAGE	
Character	No signs which are back-lit. Signs to be approved on case by case basis.
Scale Pedestrian	Signs above entrances, hanging signs or movable signs placed on sidewalk
Street	Large scale signs above businesses or grouped for multiple businesses will be visible from Highway 97
TRANSPORTATION	
Street Network	Two way multi-way boulevard with intersections a minimum of every half mile
Street Surface	Paved Transit
Transit	Plan for local and regional scale transit networks
Sidewalks	Minimum 10' width along street front, with tree grates incorporated where trees are planted in the sidewalk

Village Commercial East

and also make aesthetic improvements. The following page reflects this plant palette.

The city should also consider new structures set close to the suggested two-way access road with a variety of setback design options for nodal and phased development in order to accommodate growth. In the initial stage, new access rights-of way could be created when property owners are ready to develop their land. The form-based code should define setbacks that range from 0’ to

Figure ve16: Property re-development setback options



ADAPTED FROM: Long-Term Vision for the Character of South Willamette: Beyond the Travel Lanes. COE Planning Division

Figure ve17: Setback option 1

ADAPTED FROM: Long-Term Vision for the Character of South Willamette: Beyond the Travel Lanes. COE Planning Division

Figure ve18: Setback option 2

ADAPTED FROM: Long-Term Vision for the Character of South Willamette: Beyond the Travel Lanes. COE Planning Division

Village Commercial East

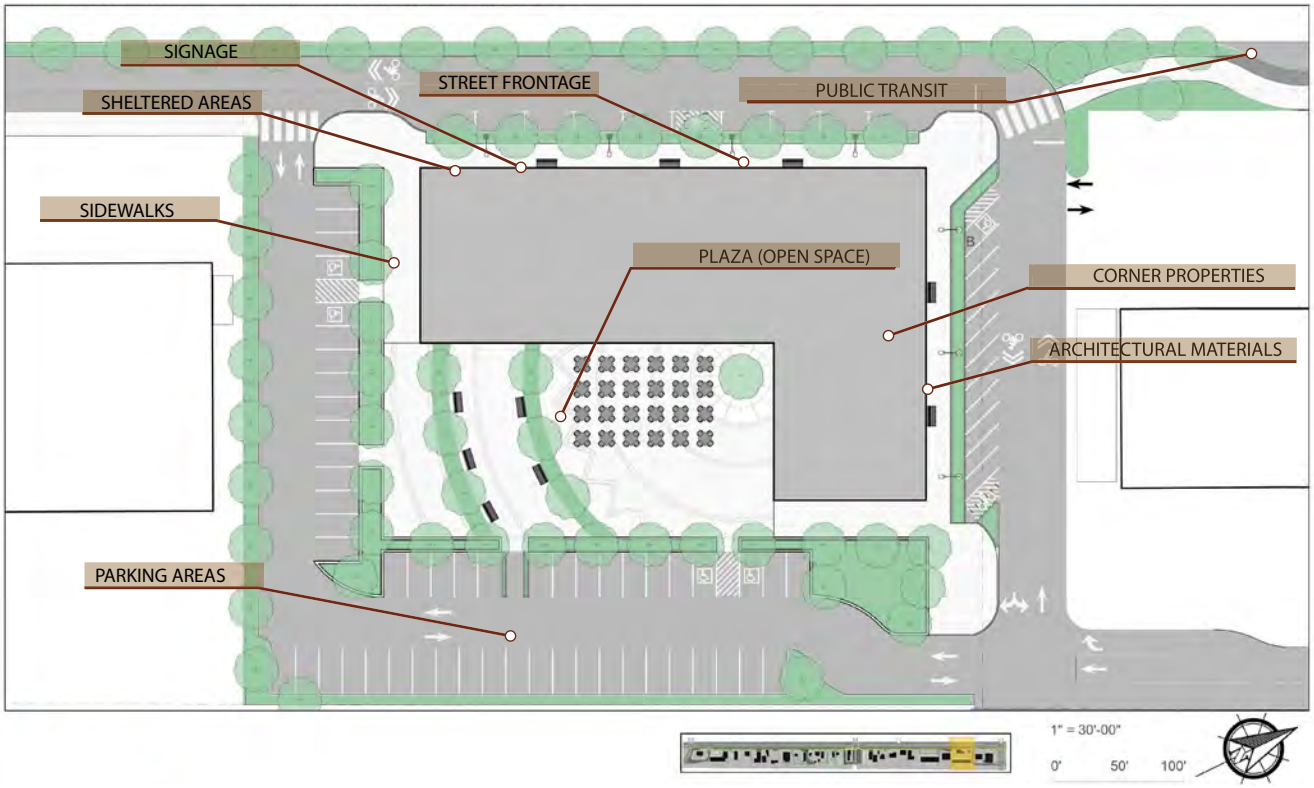
Figure ve19: Setback option 3

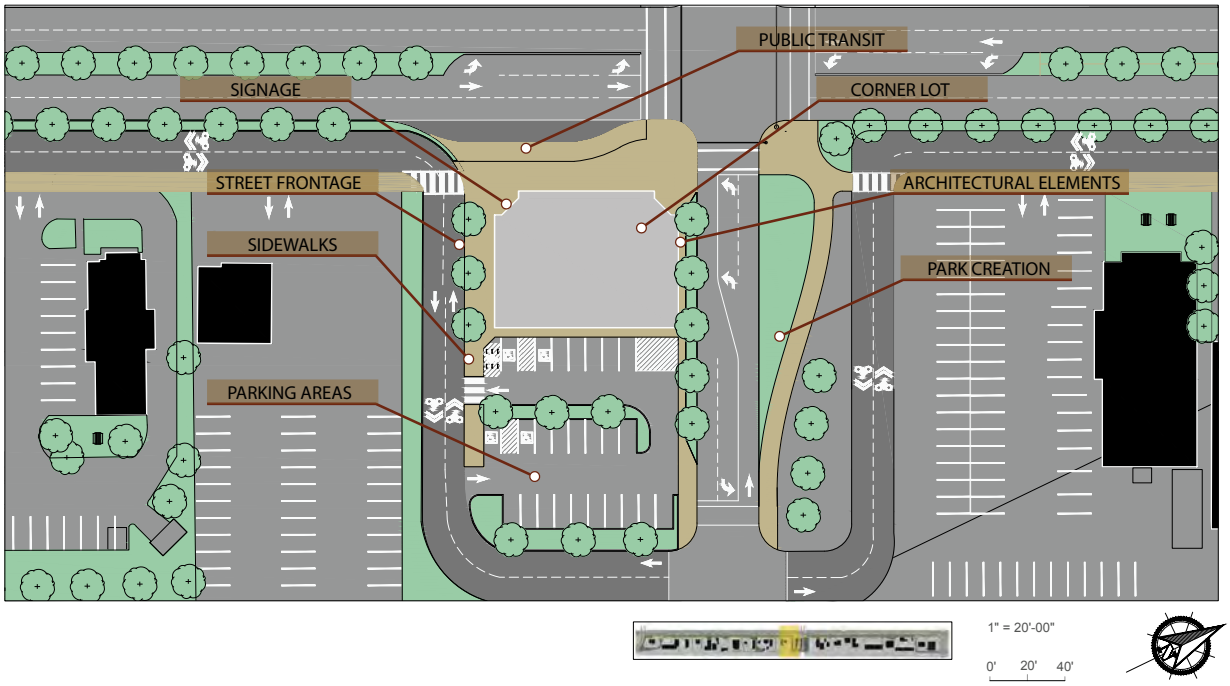
ADAPTED FROM: Long-Term Vision for the Character of South Willamette: Beyond the Travel Lanes. COE Planning Division

Figure ve20: Setback option 4

ADAPTED FROM: Long-Term Vision for the Character of South Willamette: Beyond the Travel Lanes. COE Planning Division

Figure ve21: Mixed-use development concepts





Village Commercial East

Figure ve22: Mixed-use development perspectives

Figure ve23: Mixed-use development section

Village Commercial East

f. Photo Simulation

Village Commercial East

Village Commercial East

CURRENT CONDITIONS

FUTURE PROJECTION

Village Commercial East

25’ from the new right-of-way. Teams found that larger setbacks create more opportunities for vibrant streetscapes and on-street parking.

In conclusion, this team hopes to create a more cohesive sense of district identity and connectivity to greater Redmond through this design.

Key Takeaway Recommendations:

- Install a two-way frontage road separate from U.S. 97
- Maintain as many access points to businesses as possible along the frontage road
- Maintain visibility to business frontages
- Maximize safety
- Maintain a sense of district identity.

Village Commercial East

Team 3: Village Commercial West

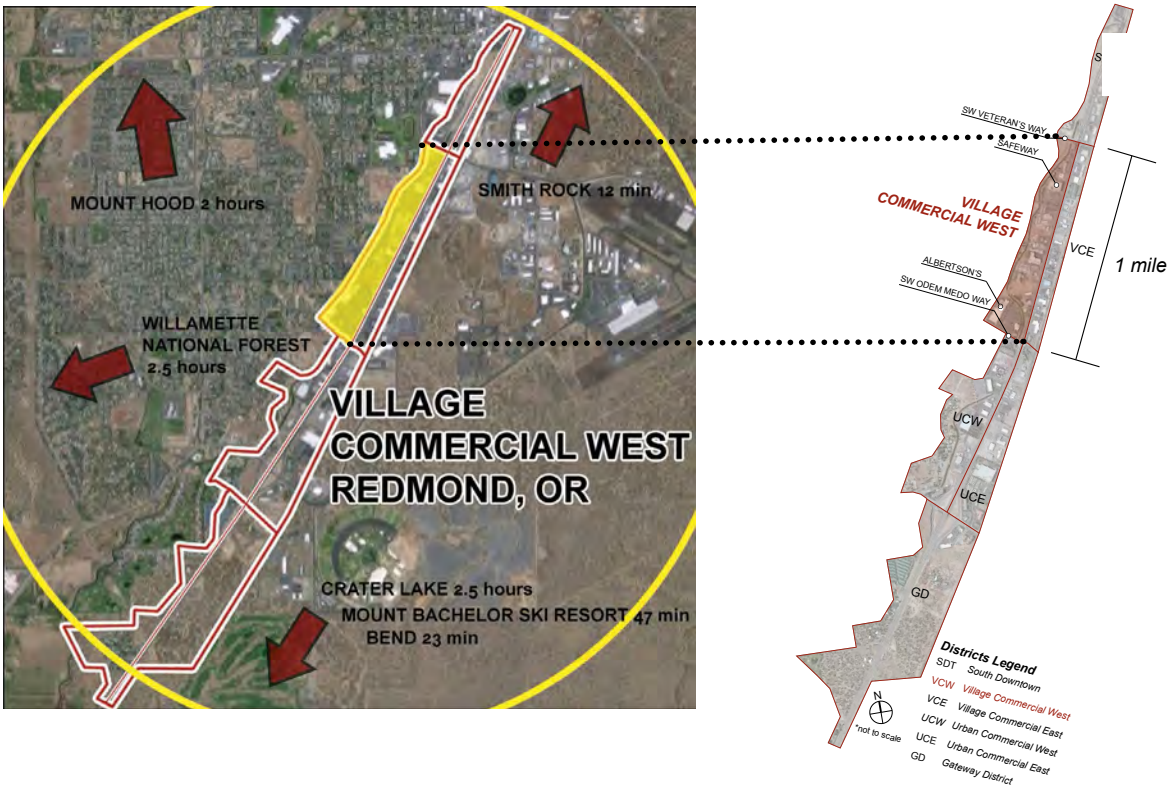
The Village Commercial West site is bounded by Veteran's Way to the north, U.S. 97 to the east, Odem Medo Way to the south and Canal Boulevard to the west.

The guiding principles recommended by this team were to chose a design that promotes:

- Walkability and pedestrian comfort
- Safe traffic speeds
- Access to businesses
- Community integration and interaction
- Sormwater management
- Multi-modal direct circulation patterns

This team did an in-depth analysis of on-site circulation for automobiles and pedestrians, including traffic speeds and volumes at intersections. The team also noted the location of visible utilities, business access points, and parking counts per business.

Figure vw1: Village Commercial West study area



a. Site Analysis

Figure vw2: Traffic speed and volumes analysis

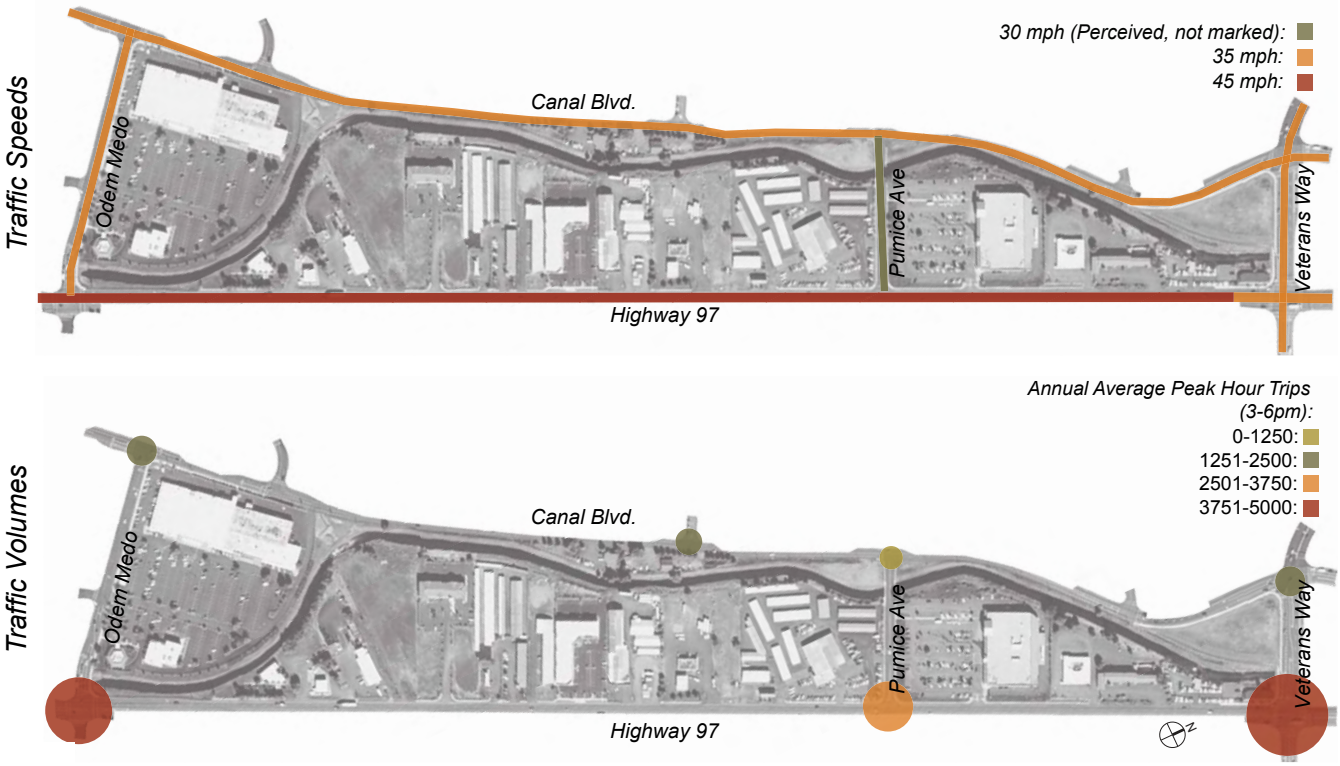


Figure vw3: Roads and visibility analysis

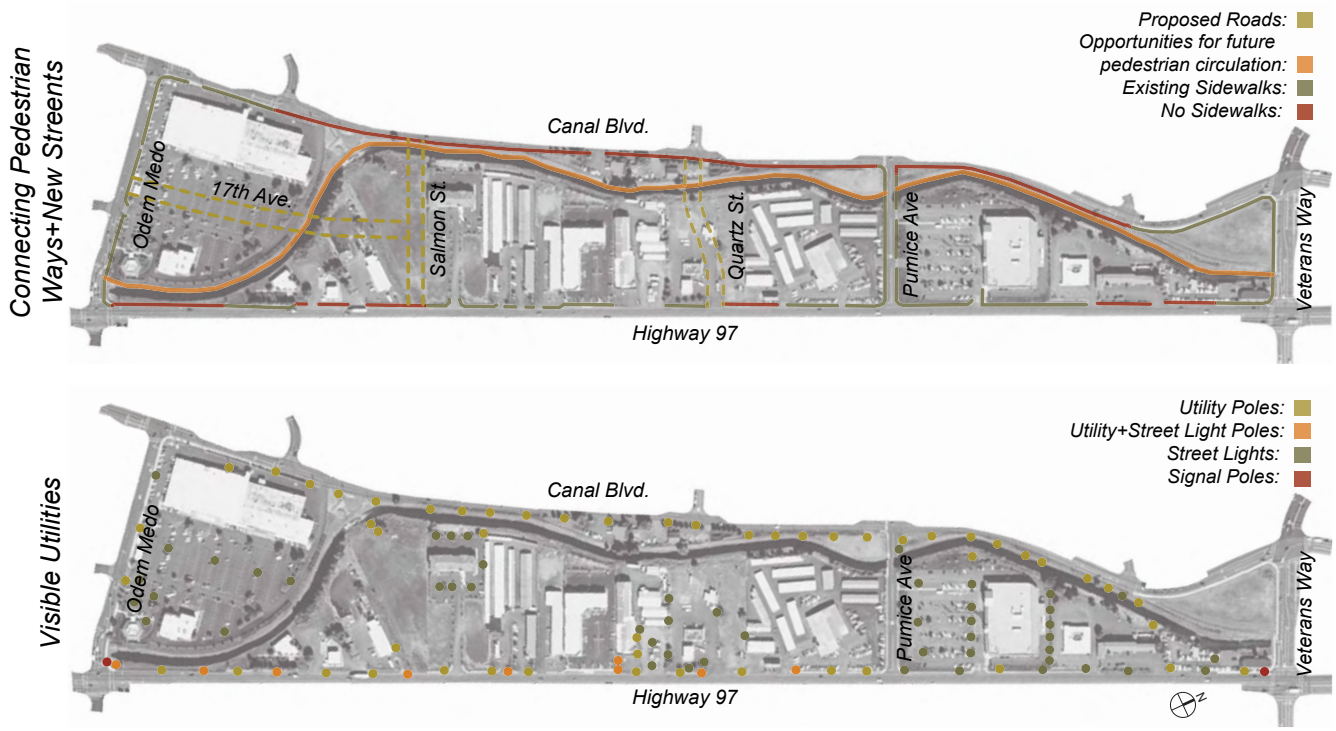
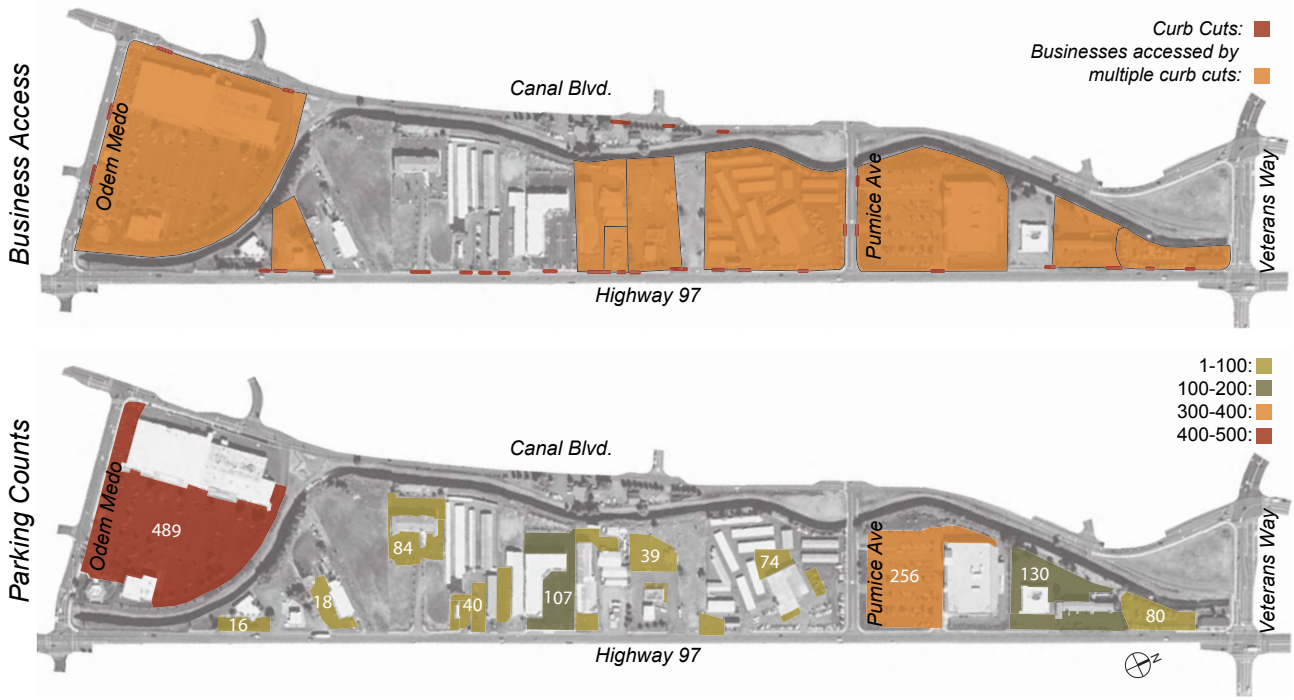


Figure vw4: Business access and parking analysis



Village Commercial West

To determine the redevelopment potential of each lot a point system evaluating lot condition, land value ratio and ownership status. The definition of terms as this team operationalized them are as follows.

- Lot Condition: Ranking of architectural style, condition of exteriors, and overall lot aesthetic
- Land Value Ratio: The division of the lot's improvement value by the land value using information from Deschutes County
- Ownership Type: Location where the owner resides

Figure vw5: Probability of redevelopment

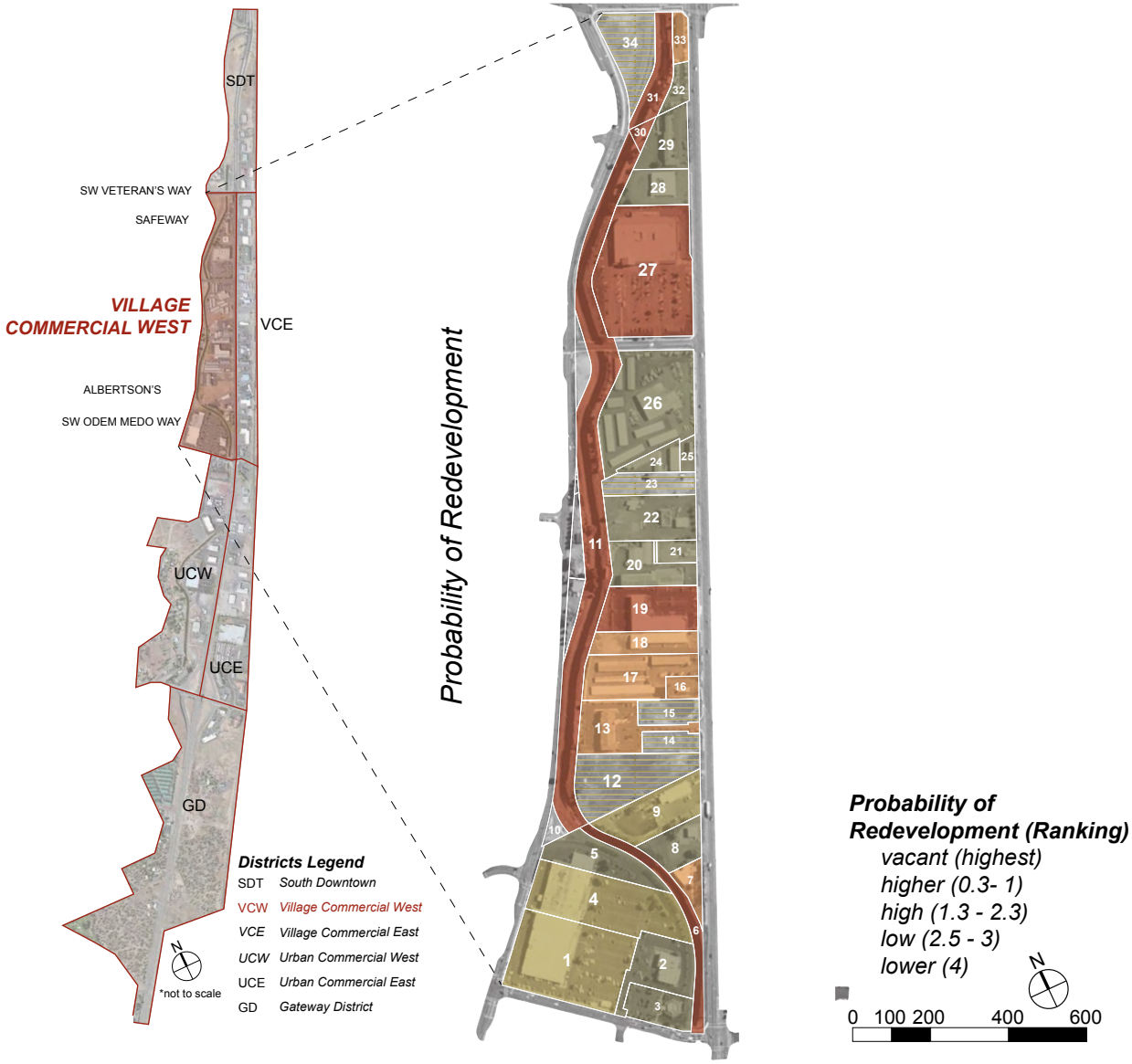


Figure vw6: Redevelopment analysis

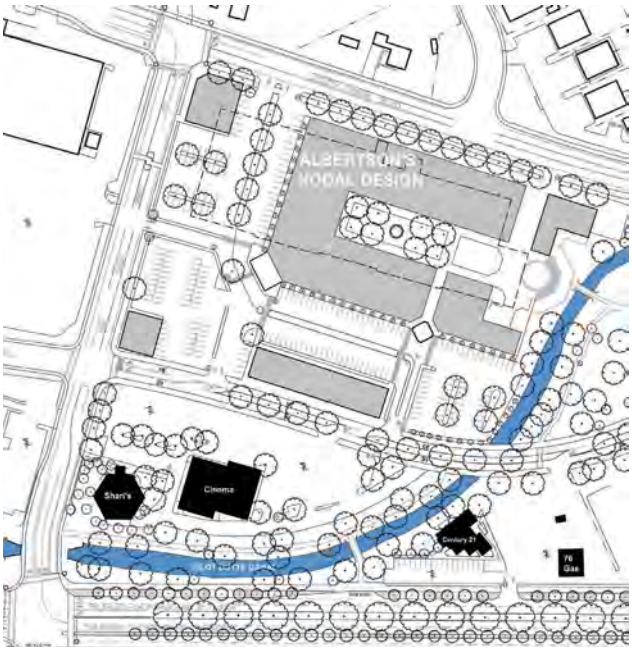
Village Commercial West

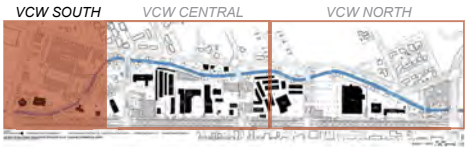
Sustainable Cities Initiative

b. Overall Multi-way Boulevard Design

This team developed their overall design proposal based on their site analysis, redevelopment evaluation, and study of generic multi-way boulevard options. They suggest a combination of a frontage road with angled parking and a frontage road without parking along the U.S. 97 corridor. Furthermore, they suggest a two-way road to connect U.S. 97 to Canal Boulevard and Odem Medo Way.

Figure vw7: Overall design proposal - South





The chosen multi-way boulevard design strategies should calm traffic and should keep many of the existing buildings intact. This design strategy allows for parking in the rear and alongside businesses and maintains visibility from the highway to the building facades. Parallel parking alongside businesses act as a buffer between moving vehicles and pedestrians.

This team also suggests locations for paths, open space, bus stops along U.S. 97, and way-finding signage.

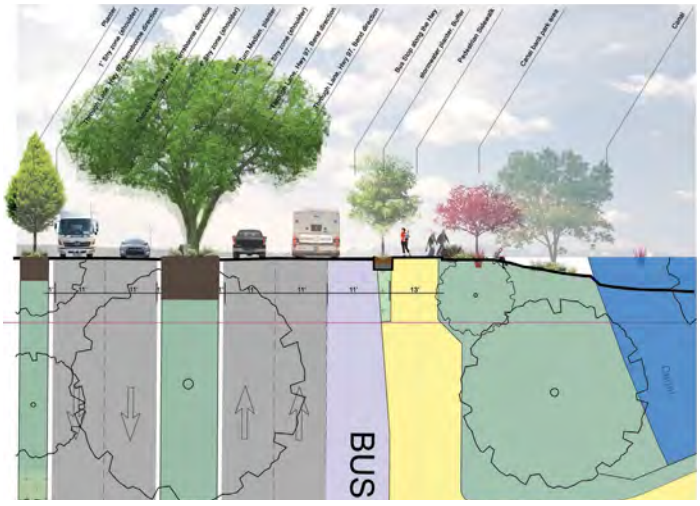
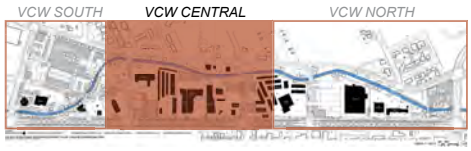
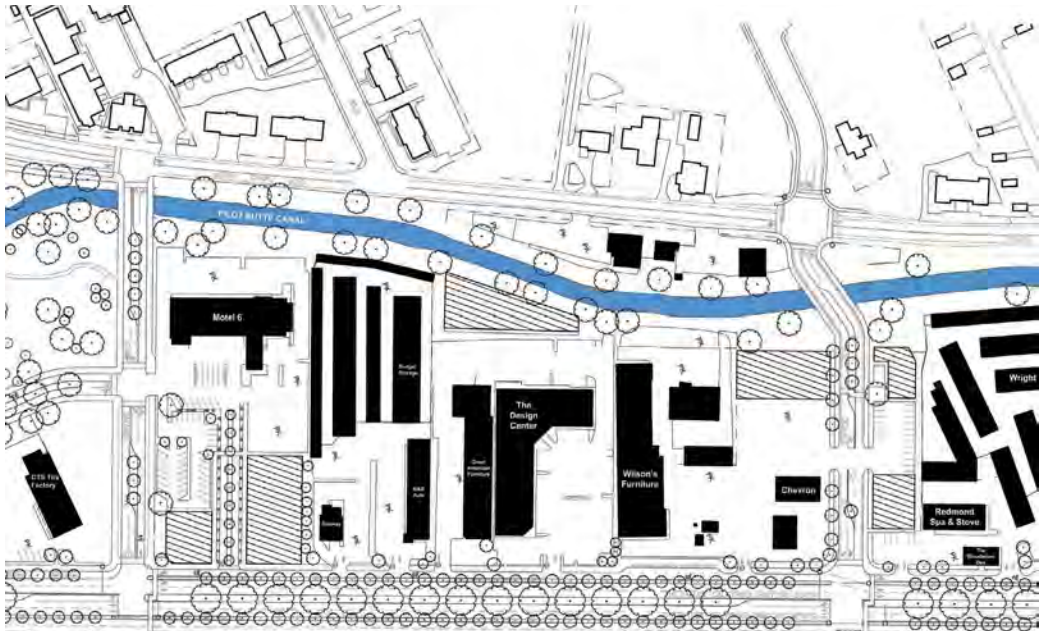


Figure vw8: Overall design proposal - Central

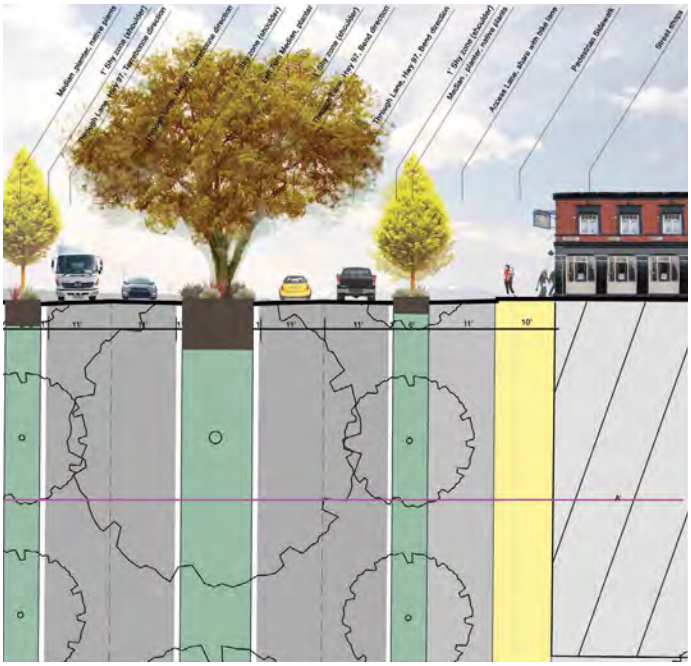




Section across Highway at Salmon Street

Figure vw9: Overall design proposal - North

Section across Highway



c. Corridor Design

Specific plant palette suggestions for the right-of-way reconstruction are determined by the type of landscape area: Stormwater planter, non-storm water planter, and storefront or pedestrian area. Stormwater planters could include trees with colorful fall color, structural shrubs, and low perennials with yellow and purple blooms. Non-stormwater locations can include a variety of trees, shrubs, grasses, and perennials with a softer texture but still in the yellow and purple palette. Pedestrian and storefront areas may incorporate showier and fragrant plant material still within the yellow and purple palette. Additionally, street lighting, path lighting and bollards, bus shelters, and site furniture should be consistent along the corridor.

Figure vw10: Vegetated areas

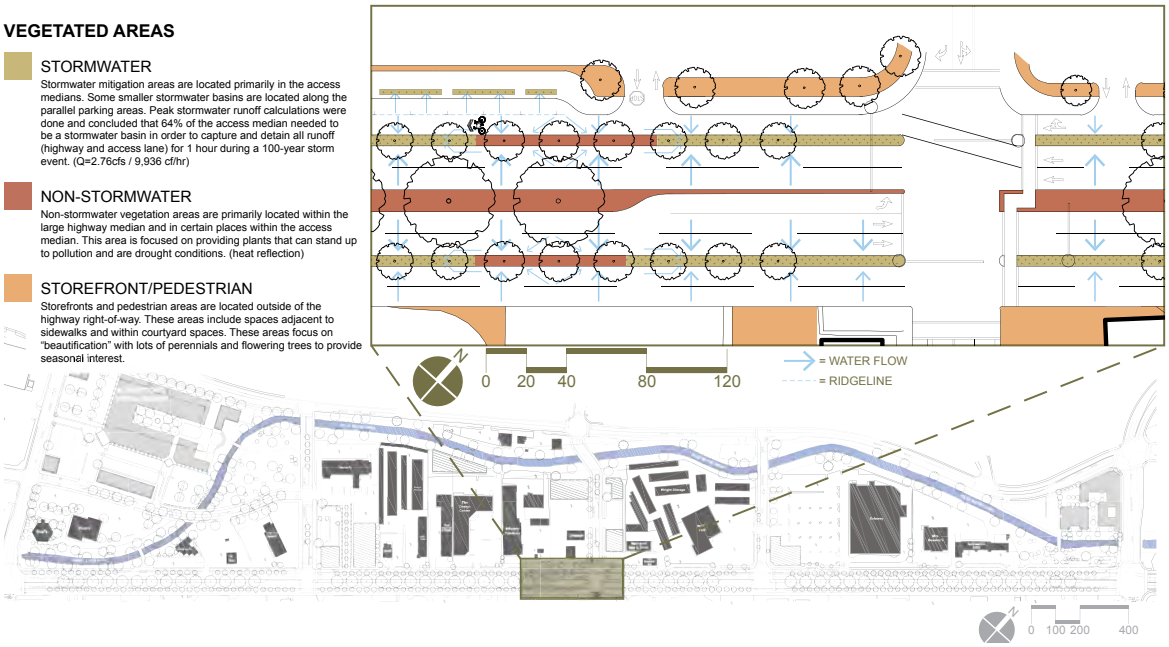
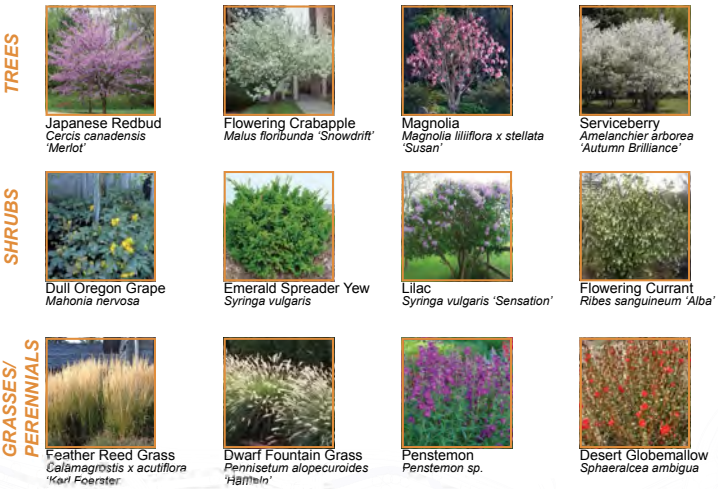


Figure vw11: Planting palette - stormwater

Figure vw12: Planting palette - non-stormwater

Figure vw13: Planting palette - pedestrian store front



Village Commercial West

Figure vw14: Materials palette

STREET LIGHTING

PATH LIGHTING

BOLLARDS

CROSSWALK PAVING

DRAMATIC PAVING

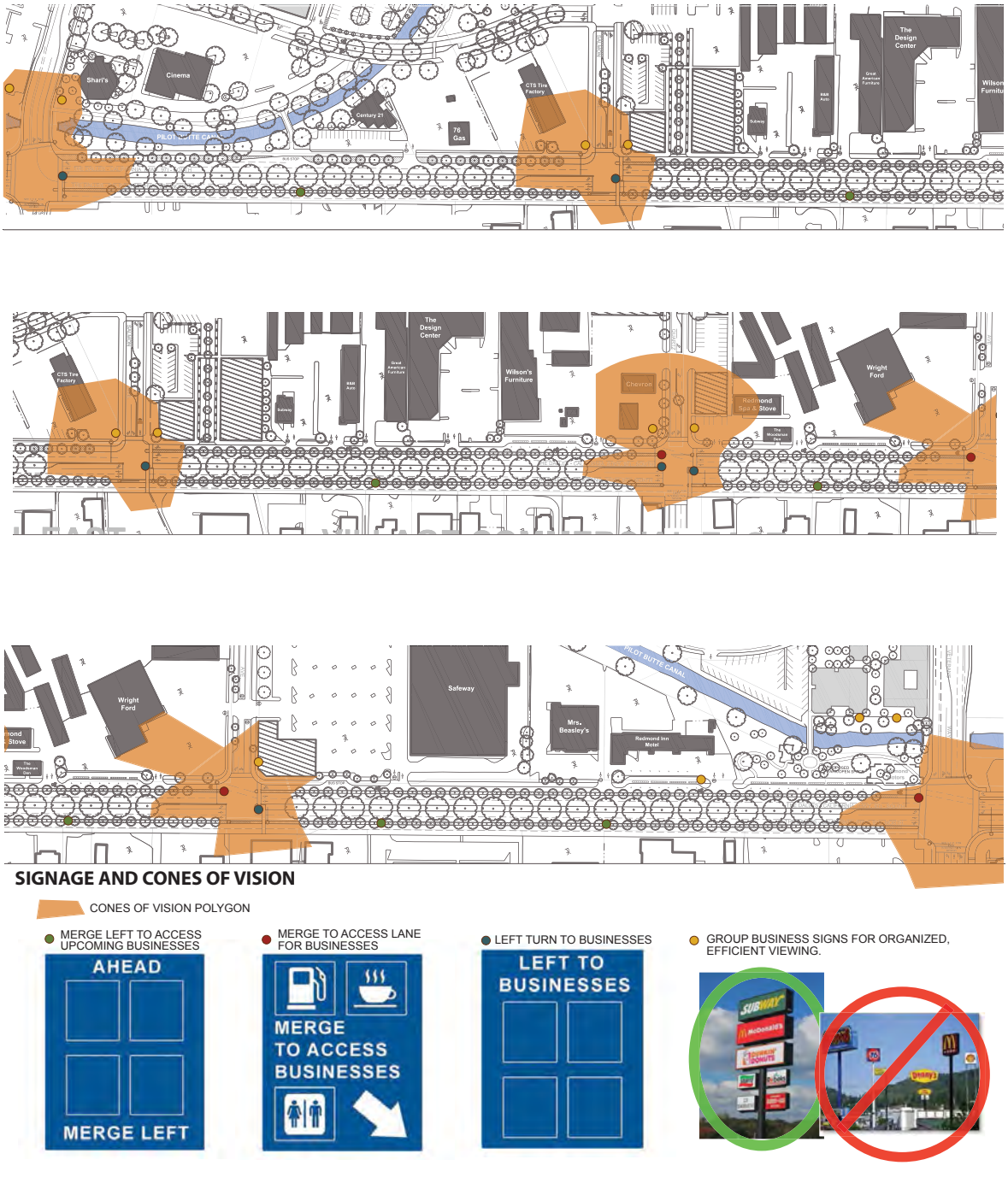
PARKING PAVERS

COVERED BUS STOPS

BACKLESS BENCH + RECEPTACLE

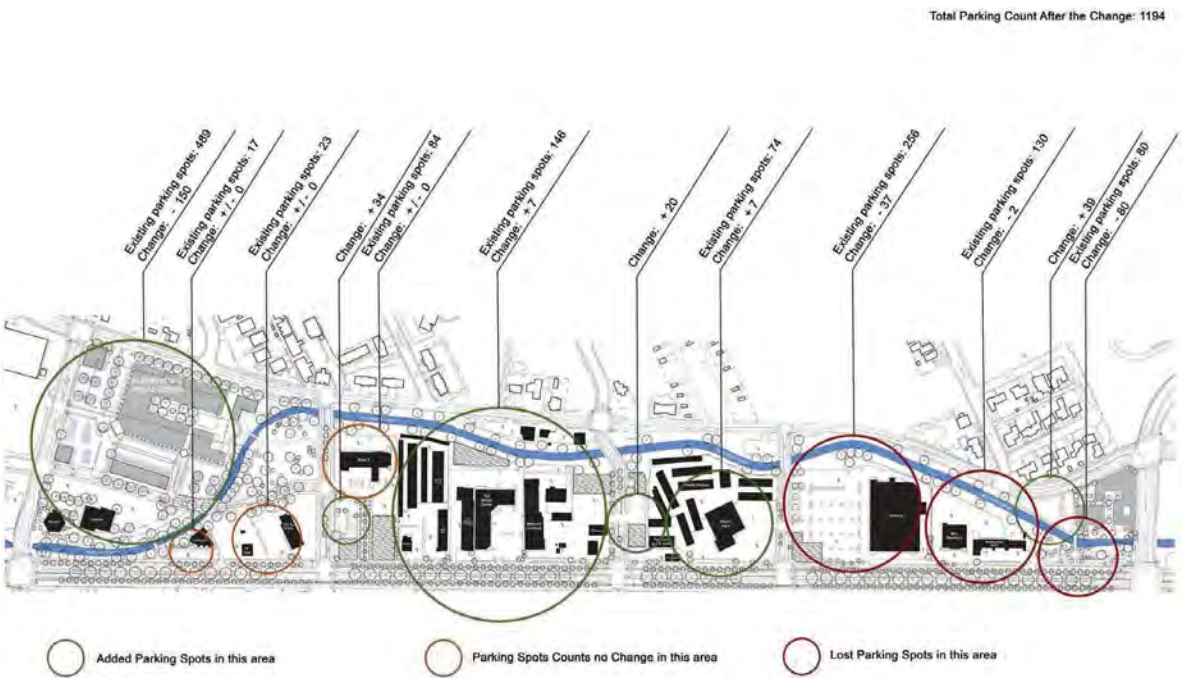
BACKED BENCH

Figure vw15: Signage and cones of vision



Village Commercial West

Figure vw16: Parking counts diagram



Overall, the Village Commercial West team suggests consistent features and site elements in order to maintain a thread of connectivity and a unified sense of place.

Key Takeaway Recommendations:

- Provide safe access to businesses
- Control traffic speeds and make the Highway 97 corridor safe for bikes and pedestrians
- Create new access roads from Highway 97 to Canal Boulevard
- Include bus infrastructure in projected designs
- Focus on a landscape standard to create a cohesive district feel

d. Photo Simulation

Village Commercial West

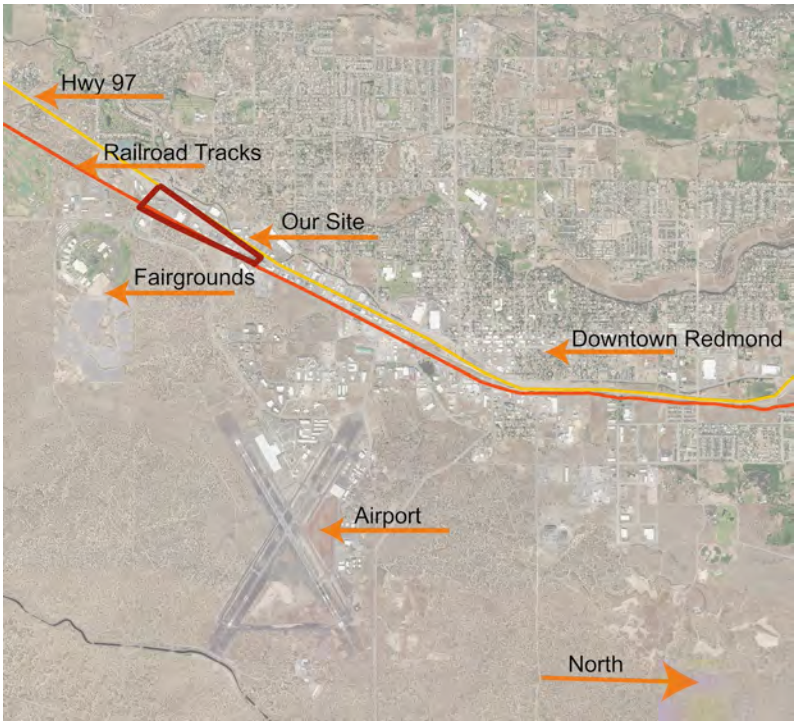
Village Commercial West

Village Commercial West

Team 4: Urban Commercial East

The Urban Commercial East site is bounded by Odem Medo Way to the north, railroad tracks to the east, Yew Avenue to the south and U.S. 97 to the west.

Figure ue1: Urban Commercial East study area



The goals and objectives of this team were to:

- Improve visual and physical business access
- Improve traffic flow and safety along U.S. 97
- Increase intersections
- Reduce conflict points where accidents are more likely to occur
- Support pedestrian safety and comfort
- Increase east/west pedestrian connections
- Create infrastructure for public transit

a. Site Analysis

Students observed both challenges and opportunities on the site. This study area lacks stormwater infrastructure and traffic is fast and noisy, however, there is an opportunity to install sidewalks. There are also opportunities to install measures to help facilitate vehicular circulation and safety, especially when merging on and off from U.S. 97. Students found that there is a railroad easement to the east with high voltage power lines. Students also noted that many businesses installed chain-link fencing along property lines and that the soils present on site include sandy loam, volcanic ash, and basalt.

Figure ue2:
Site Analysis : stormwater infrastructure, soils, noise, neighboring land use, amenities

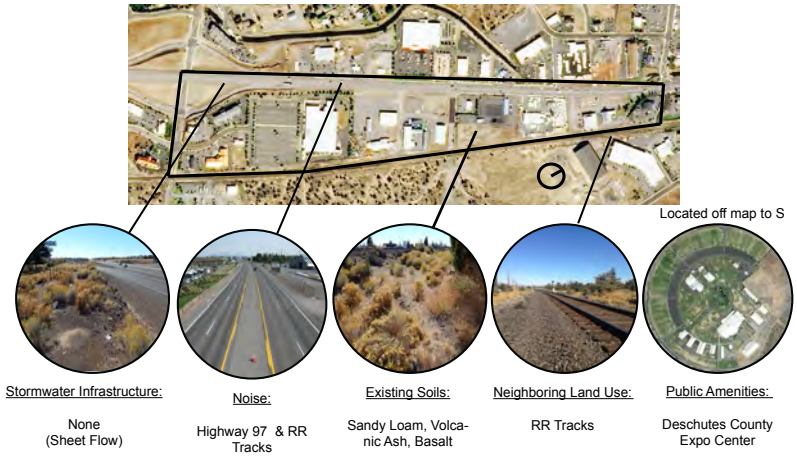


Figure ue3:
Site Analysis : Connectivity and Safety

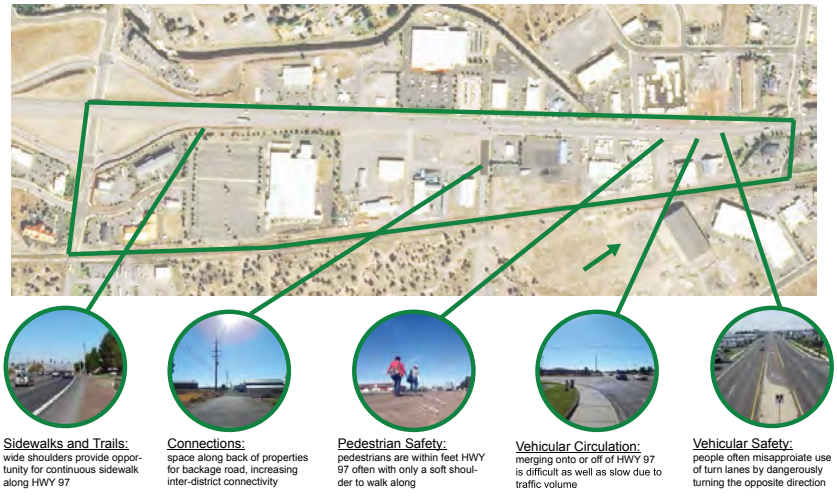


Figure ue4:
Site Analysis : existing features on site

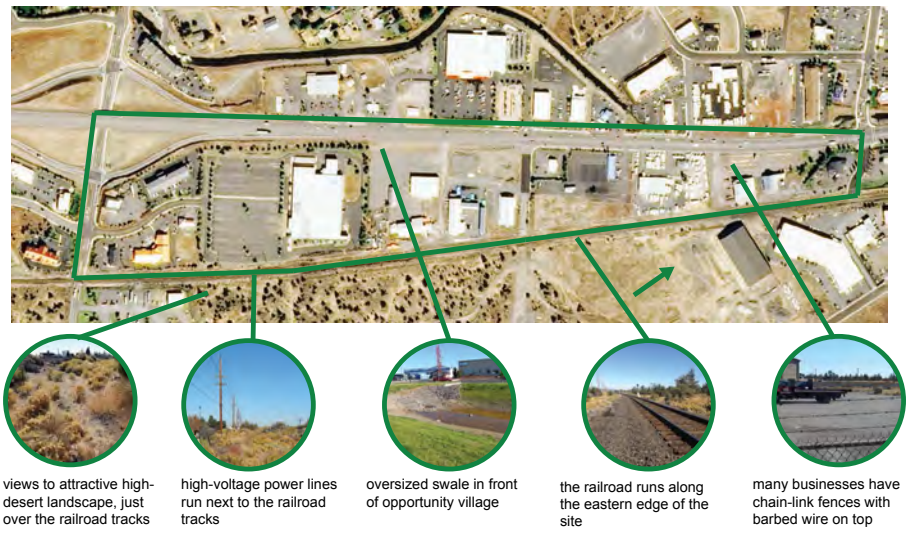
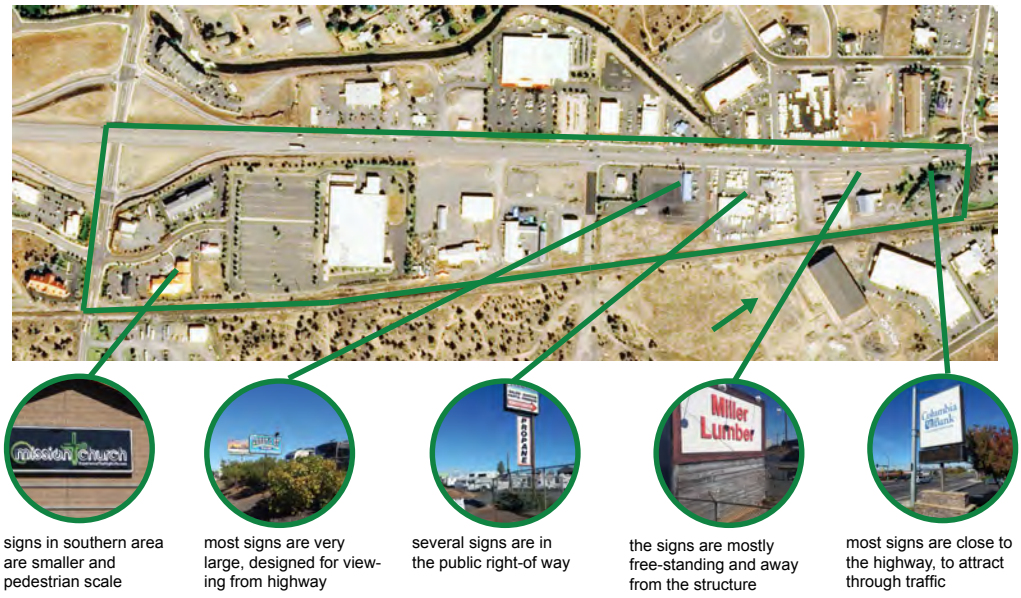


Figure ue5:
Site Analysis : existing signs on site

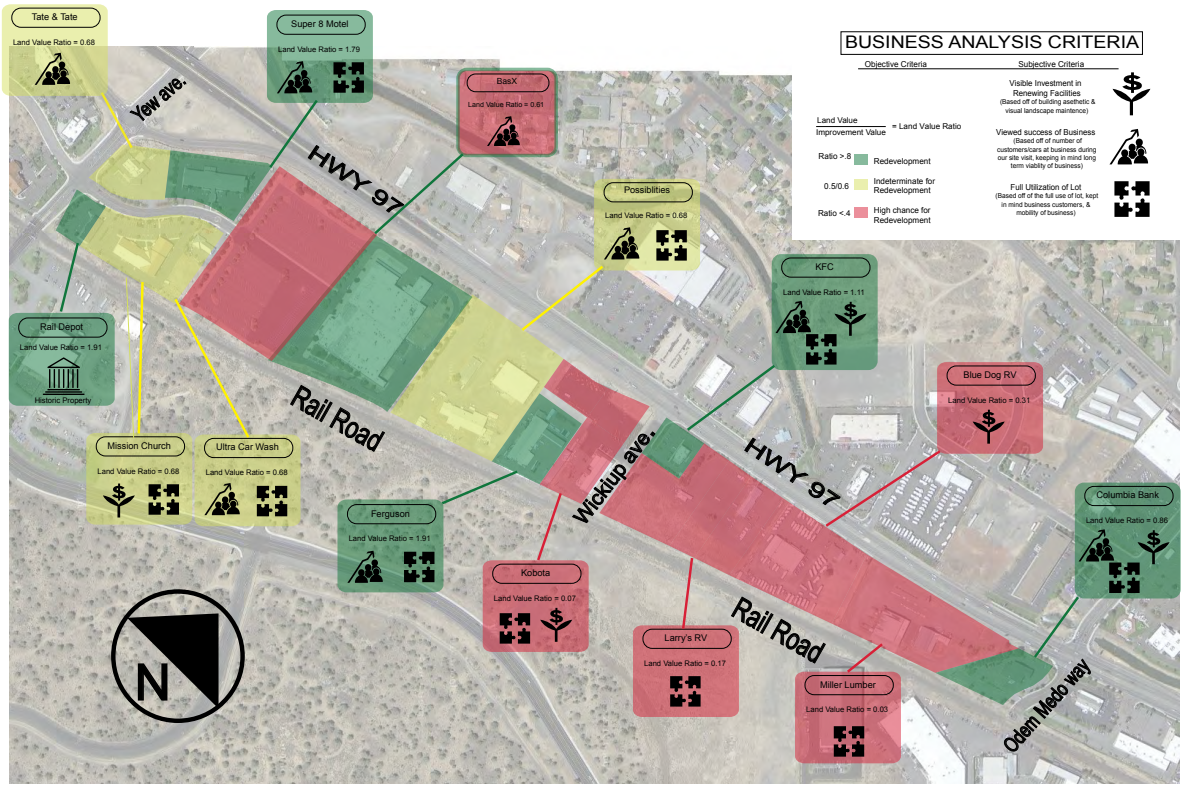


Urban Commercial East

This study area is the widest in corridor. It is better suited for extensive urban renewal as a new urban district set back from the highway, as opposed to the development of a multi-way boulevard with associated new businesses right near the highway.

The team used four criteria to evaluate the site for redevelopment potential: Visible investment in renewing facilities, perceived success of businesses, lot utilization, and land to improvement value ratio. Land value ratio was determined by dividing the land value by the improvement value. The combination of these criteria determined whether the tax lot had a high chance, intermediate chance, or low chance of redevelopment.

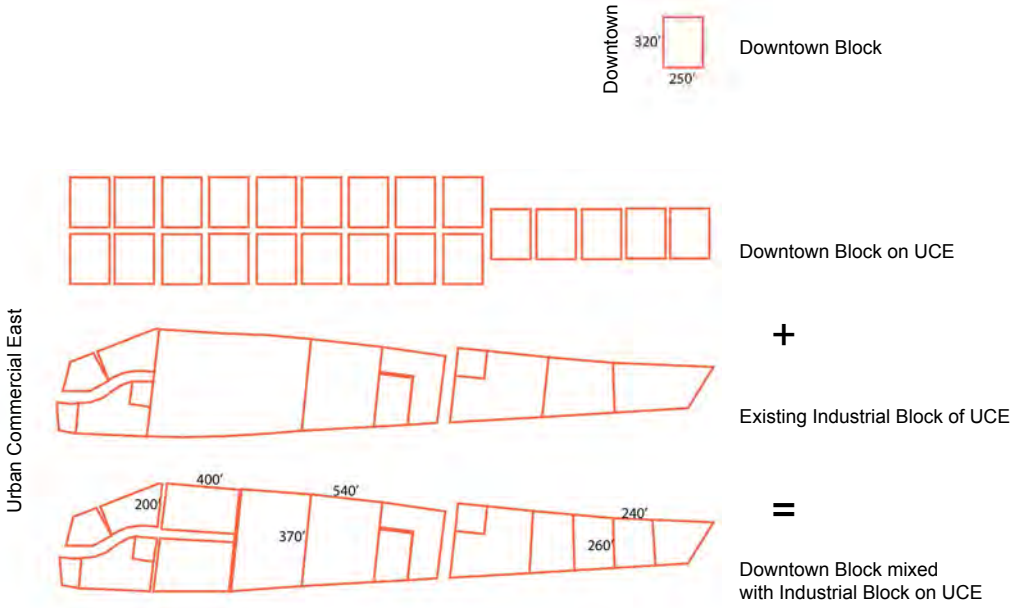
Figure ue6: Redevelopment prospects analysis



b. Overall Multi-way Boulevard Design

Figure ue7:

Conceptual Comparison of Standard Downtown to Urban Commercial East Block



One-way backage and frontage roads are the best option for the site based on the site analysis and the generic multi-way boulevard study. Students also recommended two T-intersections, one full intersection along U.S. 97, and two-way connection streets between large lots. There are two potential locations for a park.

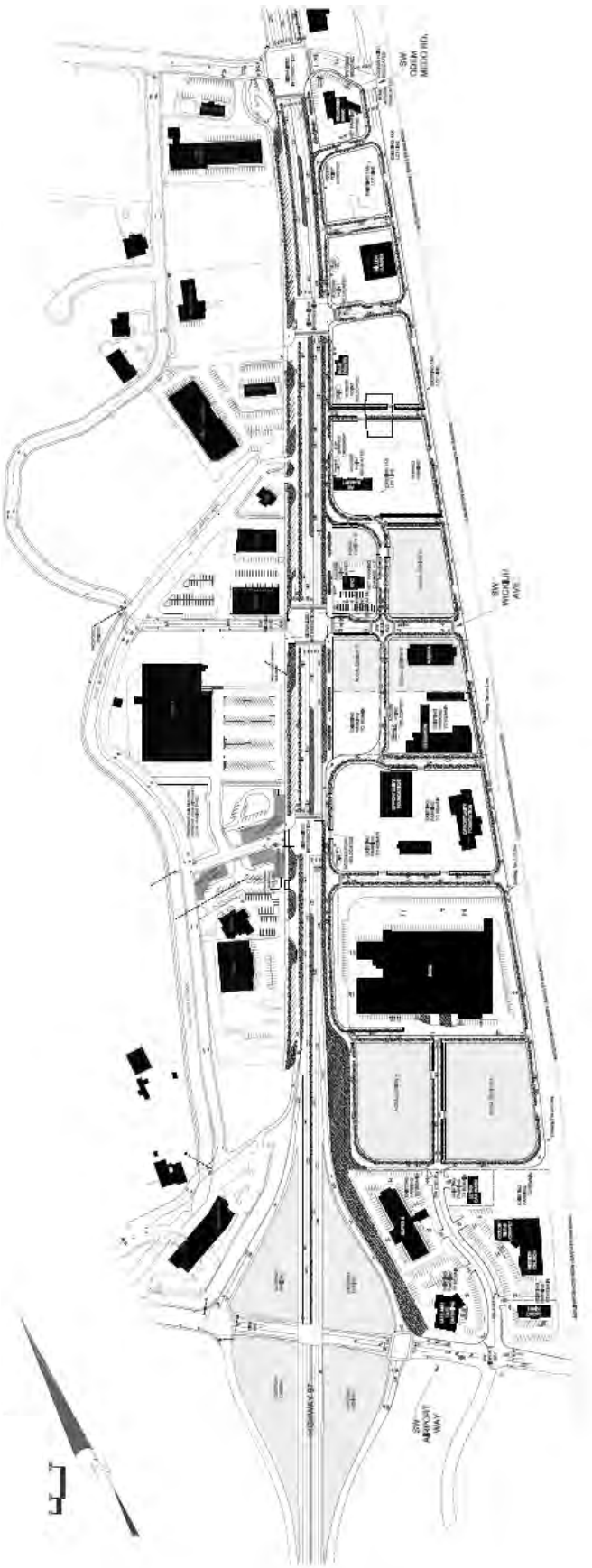


Figure ue8: Full site design

Urban Commercial East

c. Corridor Design

Three areas within the corridor should utilize a suggested plant palette: The gateway area, the center median, and the area between the access road and the highway. Suggested plant materials include trees, shrubs, perennials, grasses, groundcover, and stormwater specific plants. This plant palette is conducive for xeric environments and should survive without irrigation until the third season. Stormwater facilities should have 3” of mulch and 1-3” round rock.

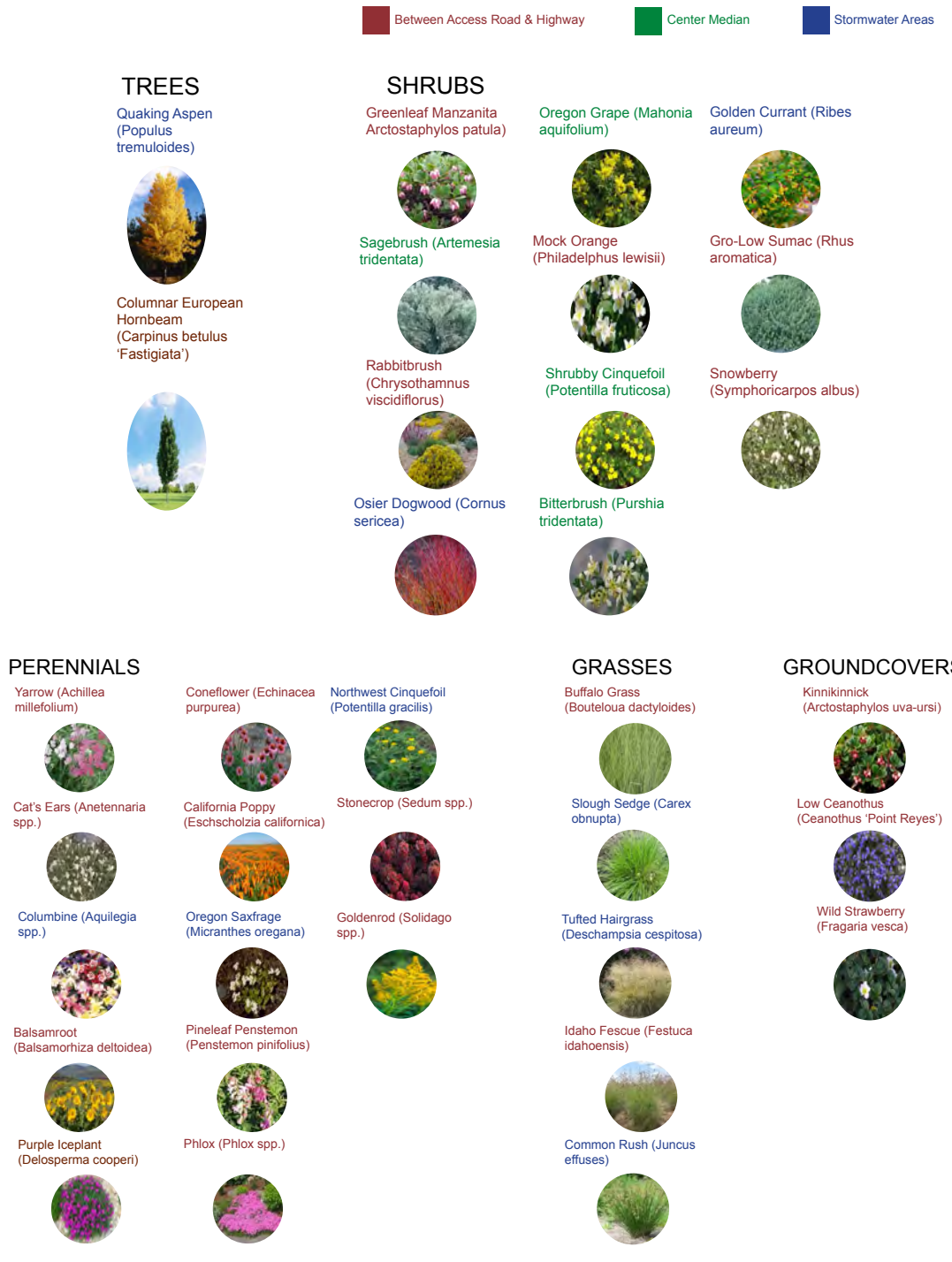
Figure ue9: Entire plant palette

TREES	SHRUBS	PERENNIALS	GRASSES	GROUNDCOVER	STORMWATER	ROCK
Quaking Aspen Carpinus Betula	Rabbit Bush Sagebrush Oregon Grape Snowberry Sumac Mock Orange Manzanita Ceanothus Golden Current Potentilla Bitterbrush	Yarrow Phlox Lupin Balsamorhiza Golden Rod Penstemon Columbine Coneflower California Poppy Iceplant, Purple Penstemon, Pine-leaf Cat’s Ears Stonecrop	Idaho Fescue Buffalo Grass Carex	Kinnickinick Ceanothus Strawberry	MIDDLE Osier Dogwood Tufted Hairgrass BOTTOM Slough Sedge Common Sedge Dwarf Buttercup Oregon Saxfrage Camas Northwest Cinquefoil Aspen	Basalt Welded Tuff

- Between Access and Highway
- Center Median
- Gateway

Urban Commercial East

Figure ue10: Highway plant palette 1



Urban Commercial East

Figure ue11: Street section

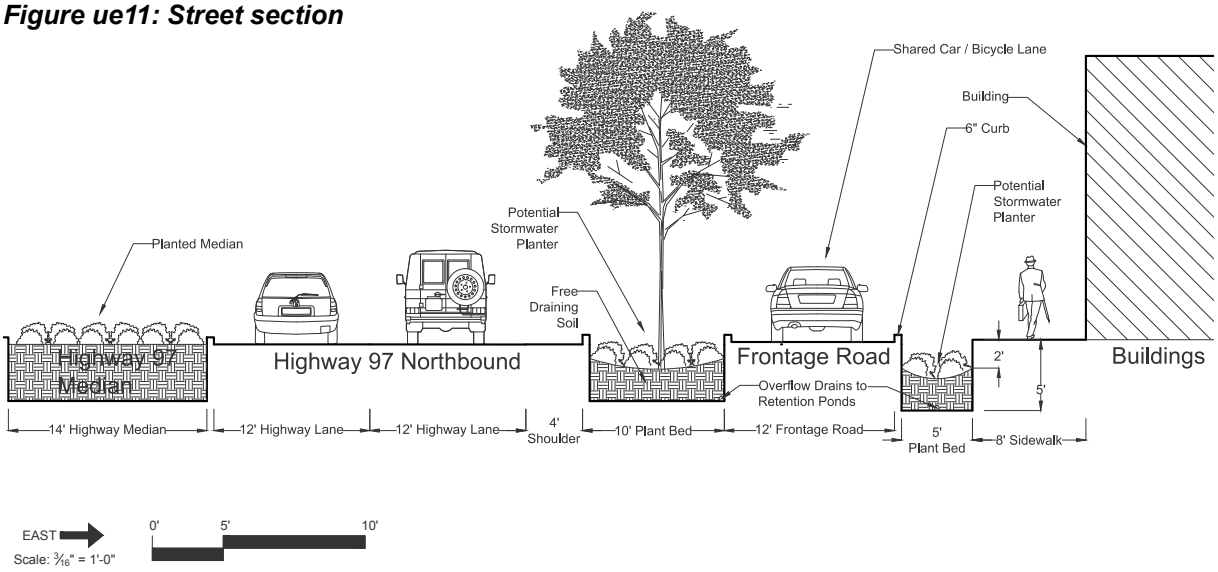
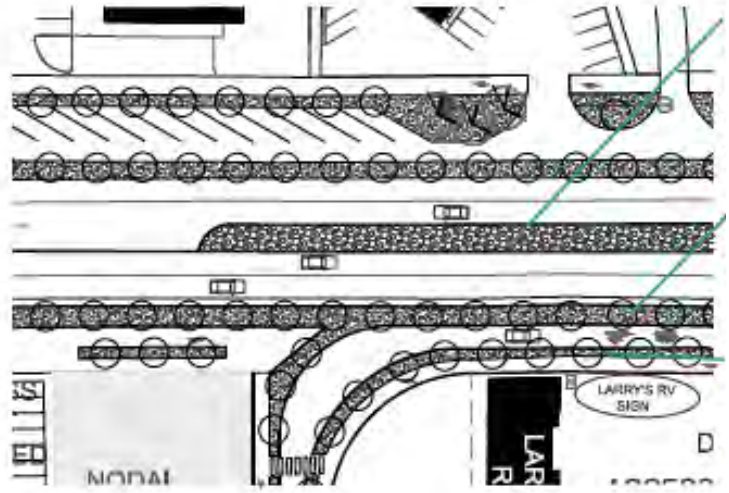


Figure ue12: Planting scheme



PLANTING SCHEME FOR HIGHWAY MEDIAN
Greenleaf Manzanita, Rabbitbrush, Mock Orange, Snowberry, Gro-Low Sumac, Yarrow, Cat's Ears, Balsamroot, Purple Iceplant, Coneflower, California Poppy, Pineleaf Penstemon, Phlox, Stonecrop, Goldenrod, Buffalo Grass, Idaho Fescue, Kinnikinnick, Low Ceanothus, Wild Strawberry

PLANTING SCHEME FOR STORMWATER SWALES
Quaking Aspen, Golden Currant, Osier Dogwood, Columbine, Oregon Saxfrage, Slough Sedge, Tufted Hairgrass, Common Rush

PLANTING SCHEME FOR BEDS WITHOUT STORMWATER SWALES
Columnar European Hornbeam, Sagebrush, Oregon Grape, Shrubby Cinquefoil, Bitterbrush,

NOTES - Shrubs and Perennials to be installed in groups of 3-15.

Figure ue13: Planting plan detail - Highway 97 median

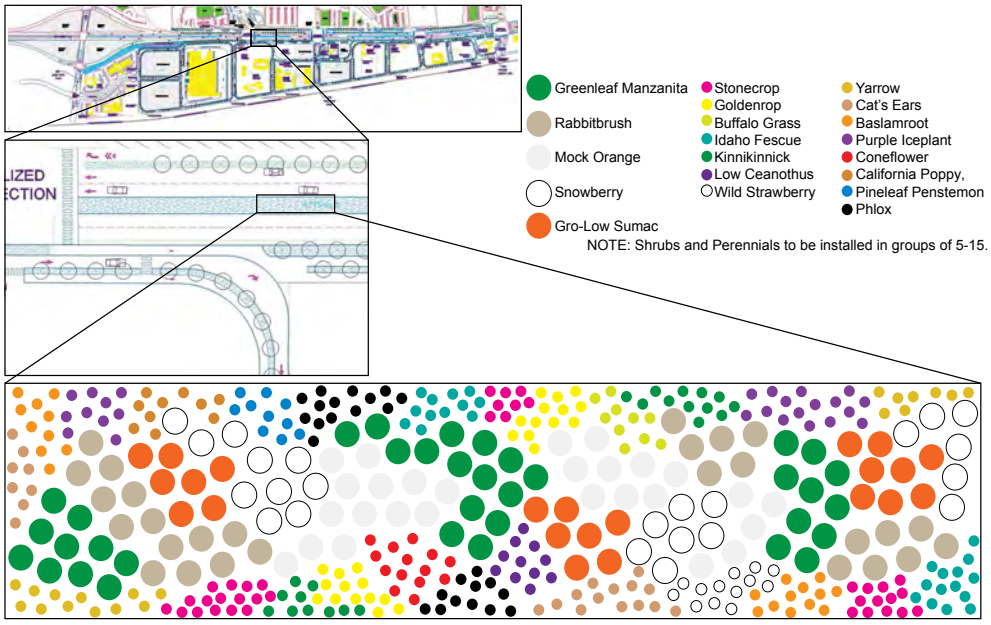
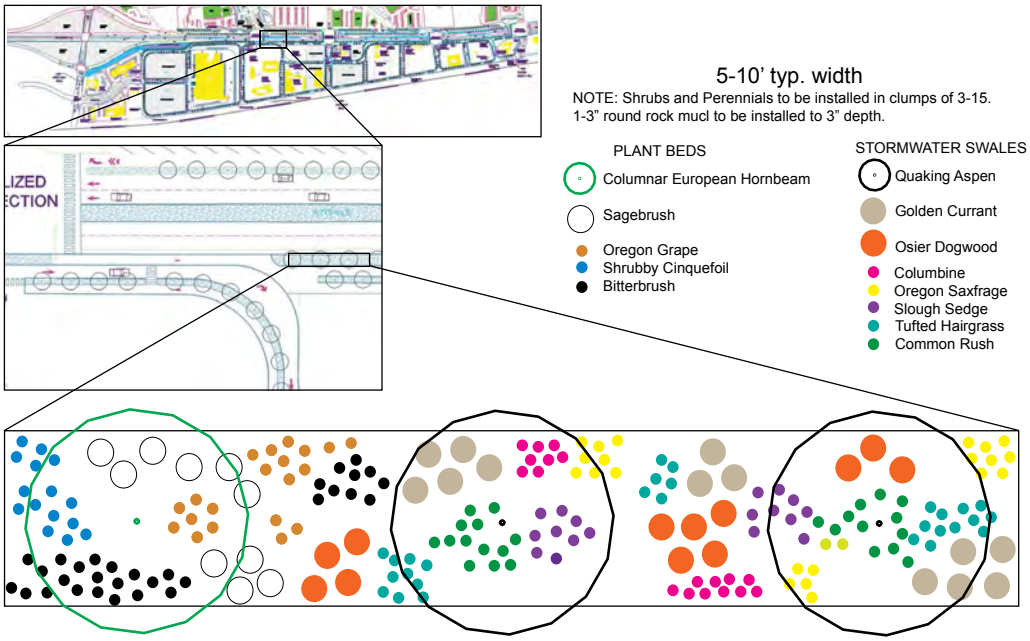


Figure ue14: Planting plan detail - stormwater and plant beds



d. Landscape and Architecture Design Standard

Stormwater Precedents

STORMWATER PRECEDENT
Cascade Avenue Sisters, Or

STORMWATER GOALS AND OBJECTIVES:

Install stormwater swales in all beds adjacent to frontage and backage roads, as well as any new connective roadways.

Account for stormwater runoff from all new roads and parking lots shown on plan.

Stormwater swales to accomodate 100 year storm events.

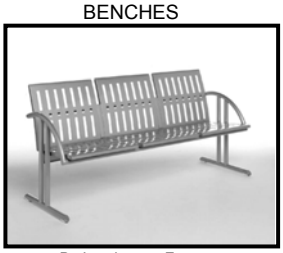
Hardscapes to be graded to bed curb cuts.

Site Furnishings

STREET LIGHTS

Russell St., Hastings, New Zealand

BENCHES

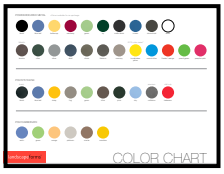


By Landscape Forms

TRASH RECEPTACLE

By Landscape Forms

Furnishinings reflect Art Deco asthetics with a common theme of strong, elegant lines and clearly defined geometric shapes.



Colors are available to match and enhance the chosen palette.

BIKE RACK

By Landscape Forms

DRINKING FOUNTAIN

By Landscape Forms

BUS SHELTER

By Landscape Forms

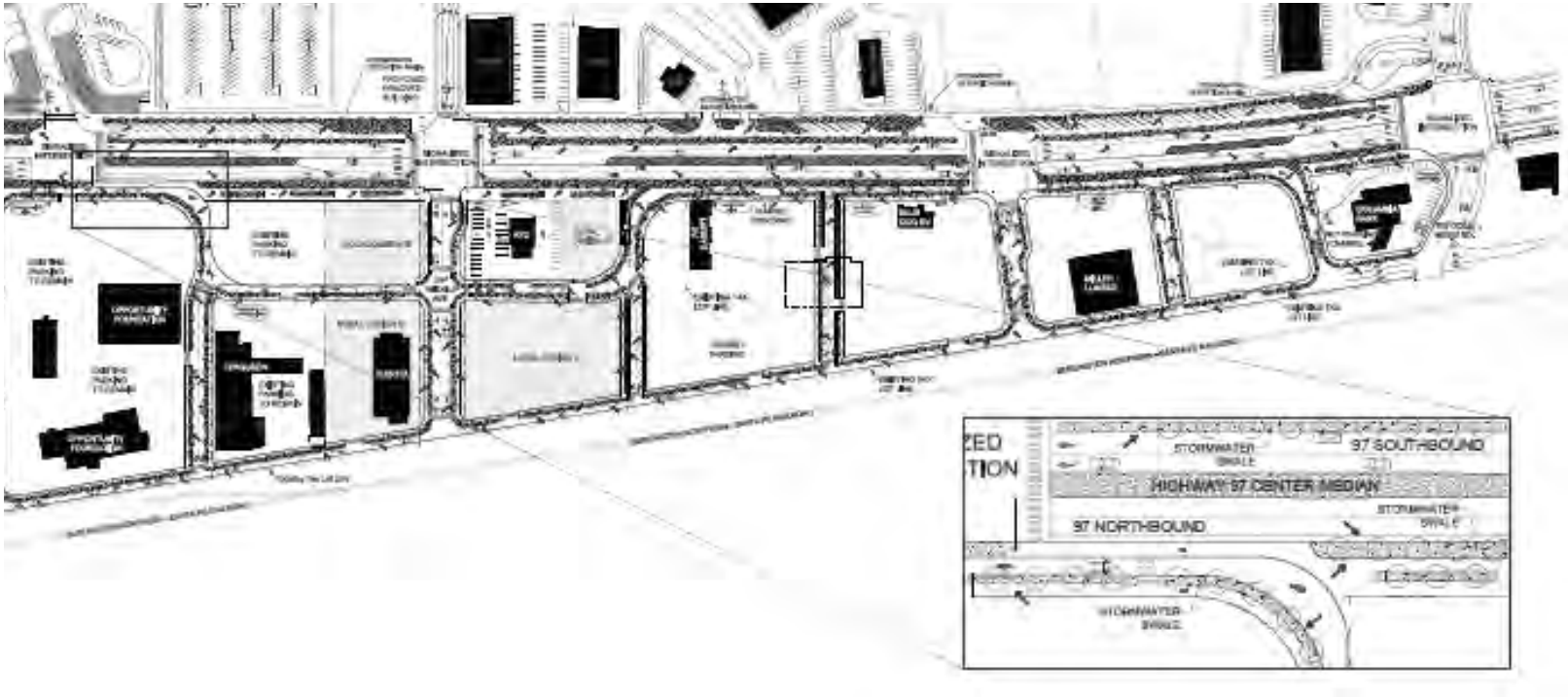
Urban Commercial East

Figure ue15: Stormwater grading

HIGHWAY 97, NEW ROADWAYS AND PARKING LOTS TO BE GRADED TO DRAIN INTO ADJACENT BEDS VIA CURB CUTS , AS SHOWN BY ↗.
STORMWATER SWALES TO UTILIZE APPROXIMATELY 45% OF BEDS SHOWN DURING 100 YEAR STORM EVENT.

EXISTING STORMWATER REMEDIATION TO REMAIN AS EXISTING AT GATEWAY.

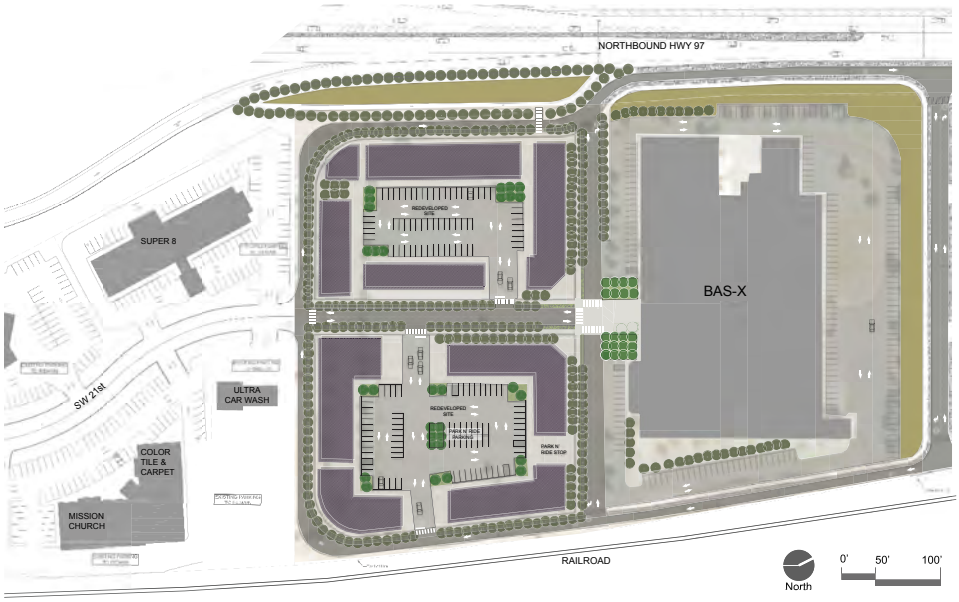
HIGHWAY 97 CENTER MEDIAN WILL NOT ACCEPT ANY STORMWATER.



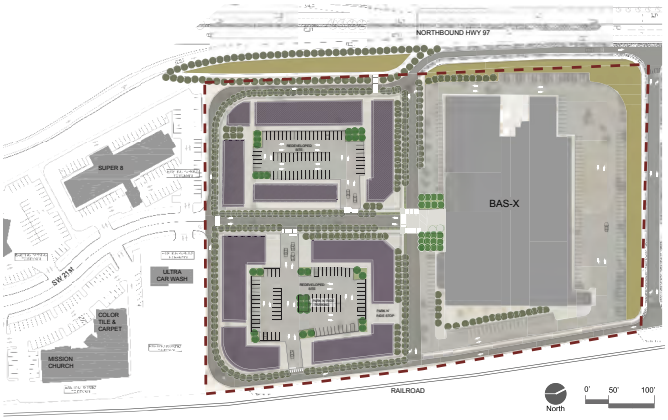
e. Form-based Code for Nodal Development

A sketched form-based code indicates ways in which this site can develop over time. It is recommended that the city consider scalable mixed-use structures set back from U.S. 97. Mixed-use small-scale commercial buildings can be oriented along U.S. 97 accompanied by large-scale commercial buildings in the rear. The structure and form of buildings can be unified through recommendations for building color, height, usage by floor, setback options, siting guidelines, parking, and signage. The code also involves energy, water, materials, and resources in hopes of LEED certification.

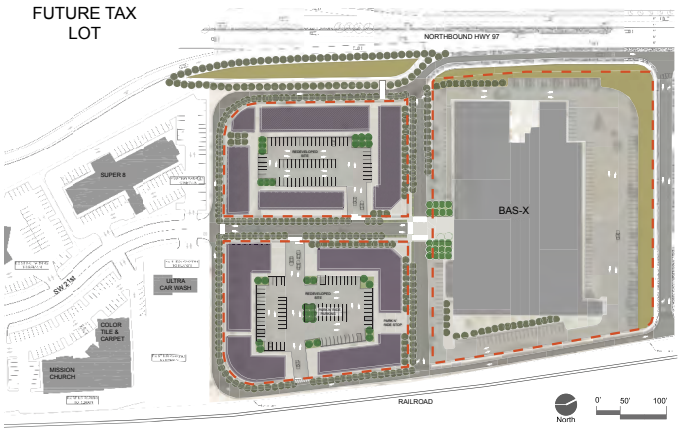
Figure ue16: Nodal design A - plan



Node Design A : Current Tax Lot



Node Design A : Future Tax Lots



Urban Commercial East

Figure ue17: Nodal design A - figure ground

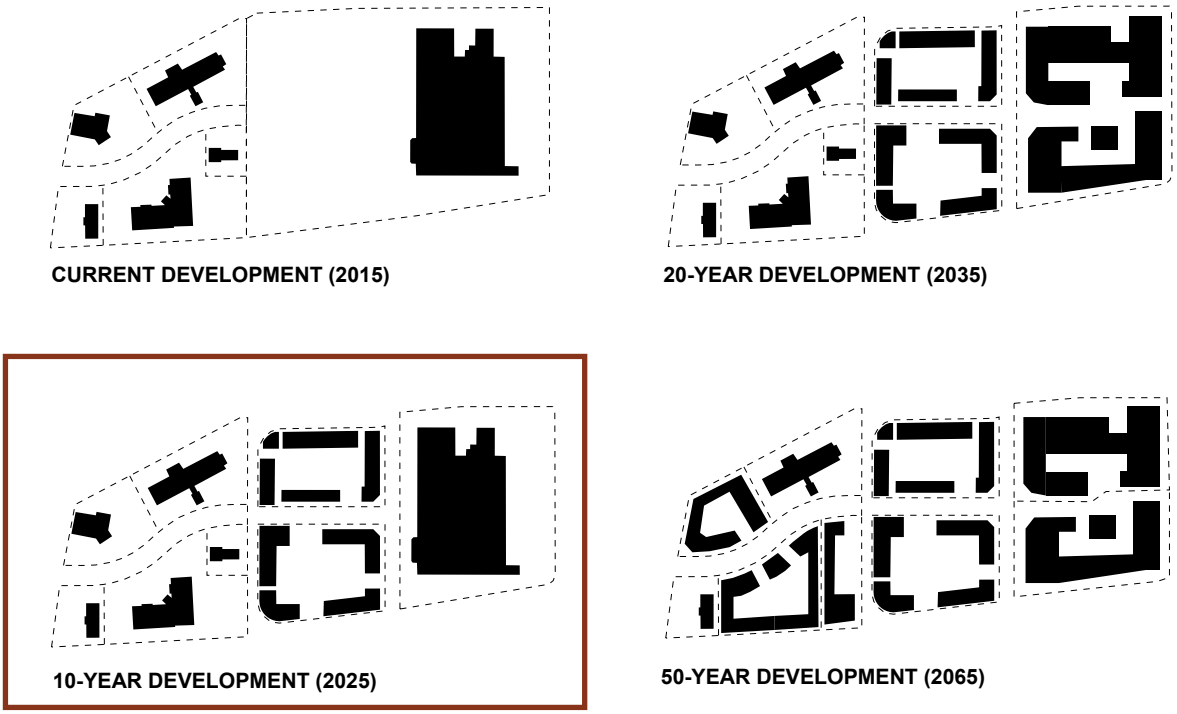


Figure ue18: Nodal design A - section location

Urban Commercial East

Figure ue19: Nodal design A - sections

Urban Commercial East

Figure ue20: Nodal design B - figure ground

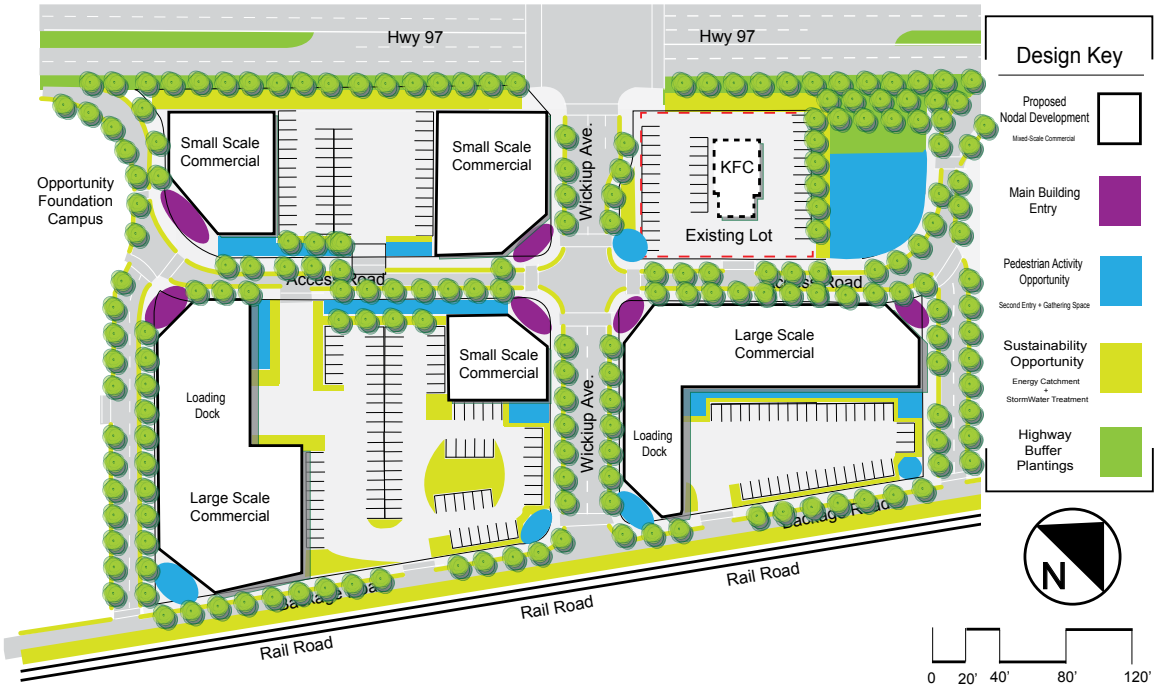
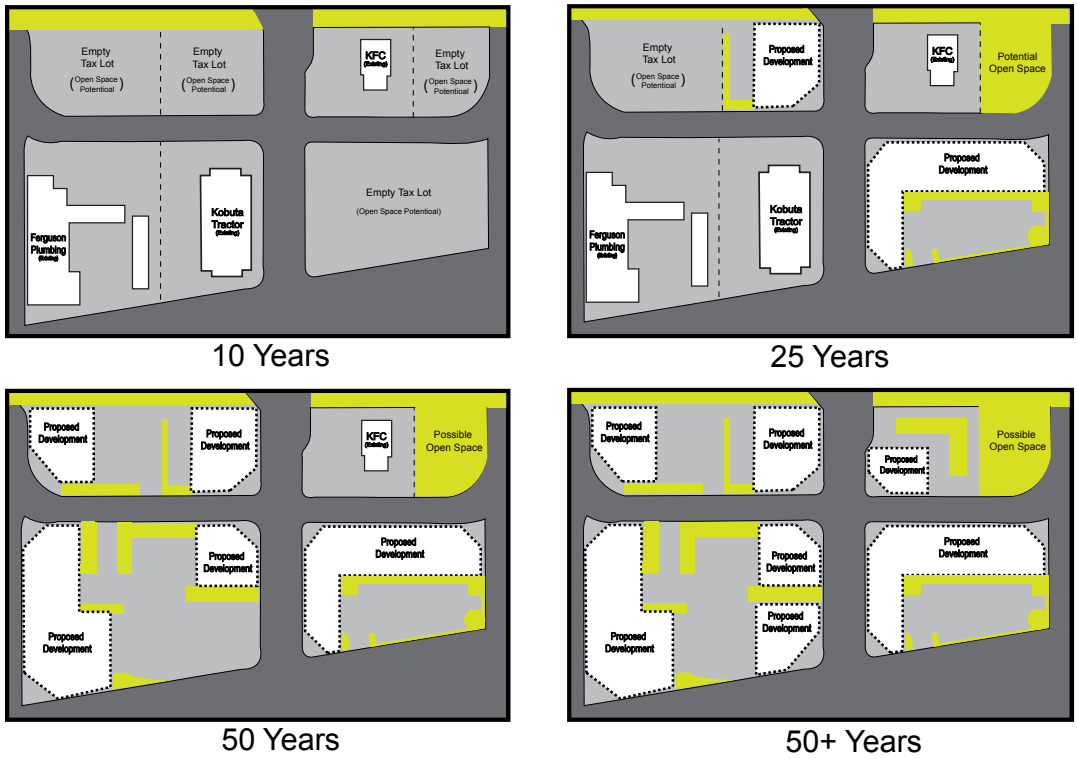


Figure ue21: Nodal design A - figure ground



Urban Commercial East

Figure ue22: Nodal design B - section

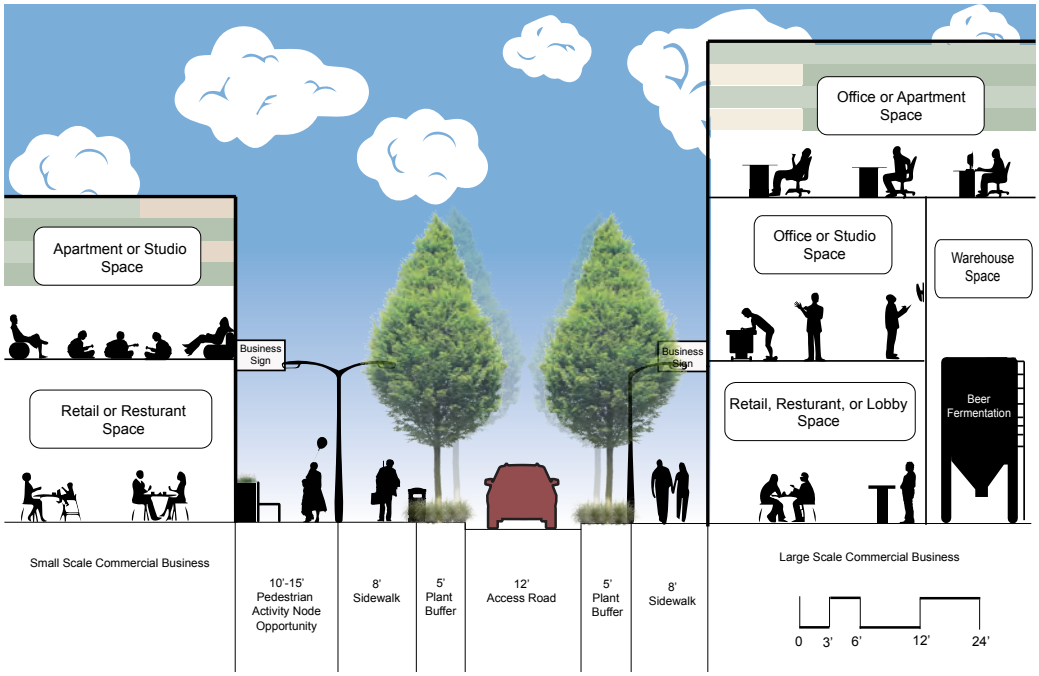
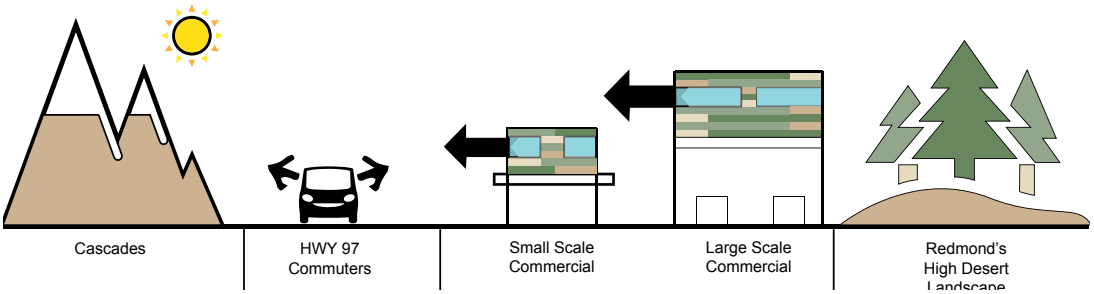


Figure ue23: Conceptual diagram on preserving views



Given the location of the site, this team created a design concept for a gateway into Redmond along U.S. 97. This proposal incorporated features include art deco inspired columns and flags in order to maintain consistency with the rest of the city. The plant palette should include a mix of purple, orange and yellow blooms, grasses, Ponderosa pines, basalt, and welded tuff for inert materials.

In conclusion, this can be used as a way to transfer from a high-speed, larger-scaled environment to a slower, smaller, pedestrian-friendly scale.

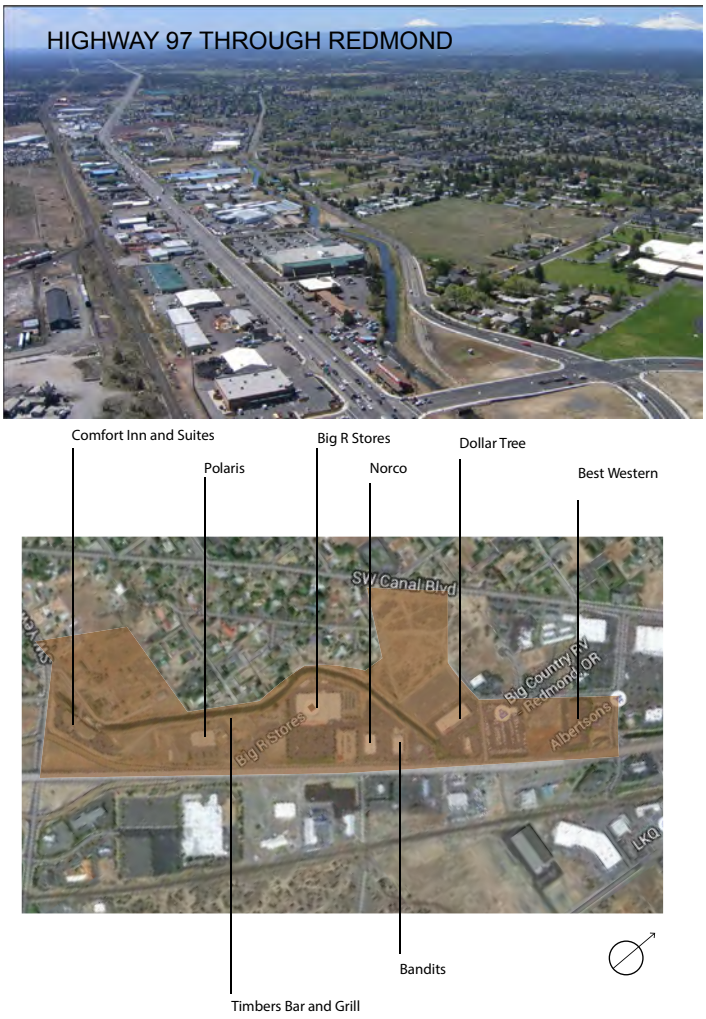
Key Takeaway Recommendations:

- Frontage and backage roads are essential for enhanced circulation and access
- A mixed-scale block structure supports multiple uses and creates a transition between the highway and the urban center
- Redmond sits at the heart of a beautiful landscape that should be highlighted through regional design

Team 5: Urban Commercial West

The Urban Commercial West site bounds include Odem Medo Way to the north, U.S. 97 to the east, Yew Aveune to the south and Canal Boulevard to the west.

Figure uw1: Urban Commercial West study area

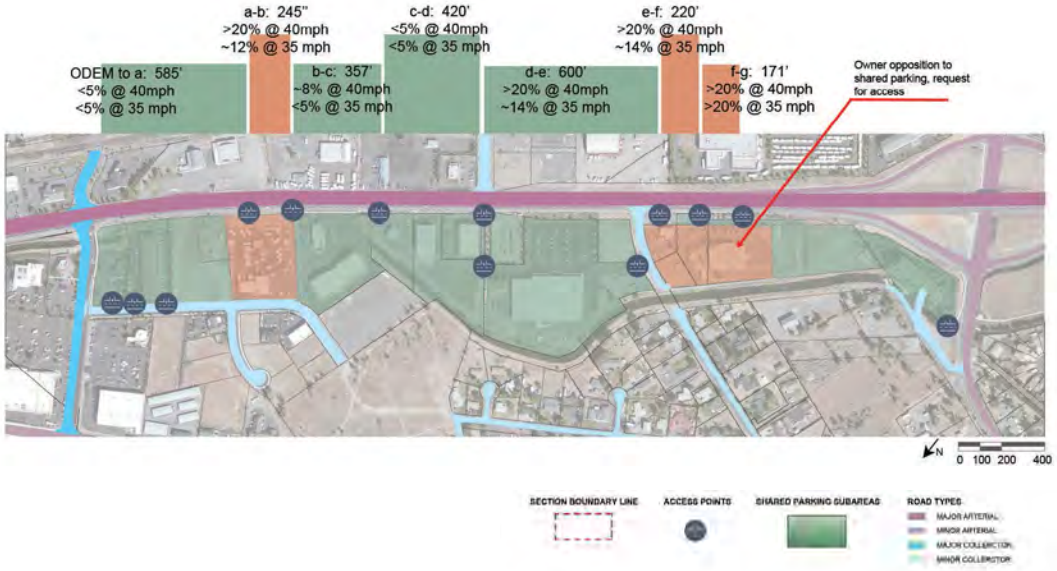


The overall goal for this site is to improve traffic flow, safety, aesthetics and accessibility for cars, bicycles and pedestrians. Specific objectives, as determined by the team, were to:

- Calm traffic
- Improve walkability
- Ensure traffic moves at a safe speed
- Inspire business-Community interaction
- Suggest places for pocket parks
- Consider phasing over 10 -50 years
- Suggest low-impact development
- Consider all stakeholder needs

a. Site Analysis

Figure uw2: Landscape analysis



The on-site analysis focused on traffic volumes and circulation patterns. Students identified the arterial and collector streets within the site, locations of shared parking lots, and the number of access points to businesses. U.S. 97 experiences high traffic volumes and has numerous access points that create unsafe conditions along the corridor. Reducing the number of access points from the highway that are less than 250 feet apart could help alleviate congestion.

(1) Angled parking on the frontage road only and
(5) Angled parking on the frontage road with porches and parklets:
These two designs were aesthetically pleasing with the porches and parklets, but not practical having no backage road option. Especially given that our sign has the space for a backage road, we decided to make this a priority. We also chose to include elements of the parklet design into our final project.

(2) Angled parking on frontage road with backage road.
This option is the most preferred as it incorporates both angled parking on the frontage road as well as a back road.

(3) No angled parking on frontage road
This diminishes our freedom going forward as we consider the 10, 20, and 50 year plans as it has no angled parking on the frontage road, Furthermore, it made it difficult to provide lost parking spaces caused by the frontage road cutting into existing parking lot real-estate.

(4) No angled parking on frontage road with backage road
This is a similar option to option (2) as it calls for a backage road, so there are many elements we incorporated into our final design. However, because there is no angled parking on the frontage road, the same reasoning applies from option (3) above and the design in its entirety was rejected.

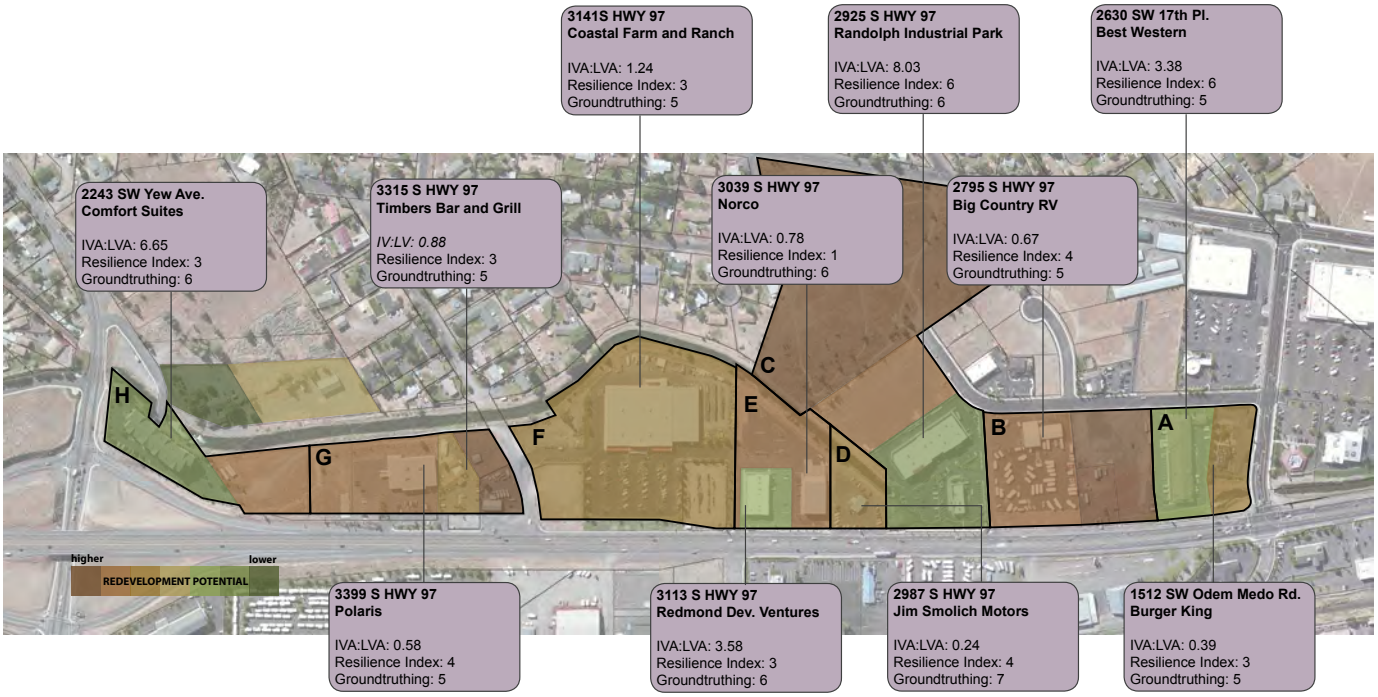
(6) No angled parking on frontage road with porches and parklets.
As with option (5), we incorporated porches and parklets into our final design but not having angled parking, as with option (4), made this less desirable.

(7) Two way frontage road
There are three main complications: 1. The amount of real-estate necessary to accommodate the width of this design would require the city to buy a large amount of land form existing property owners. 2. The number of parking spaces needed to compensate those lost from the road expansion. 3. The lengthy light sequences that would be necessary to get all directions of traffic through intersections safely.

Students determined redevelopment potential with three methods: Land to improvement value ratios, ground-truthing, and resilience index measures. The analysis started by determining the land-value ratios followed by ground-truthing. Ground-truthing is a quantitative method of assessment that requires an on-site evaluation. The Resilience Index included the following criteria:

- Owner location (local or not)
- Owner type (individual or developer)
- Business type (known for transience or stability)

Figure uw3: Redevelopment analysis



b. Overall Multi-way Boulevard Design

A two-way backage road and one-way frontage road is the optimal multi-way boulevard design option. This road should incorporate continuous sidewalks along both sides as well as a bike lane along the canal. This design meets all project goals, including fluid movement of vehicles, bicycles, and pedestrians.

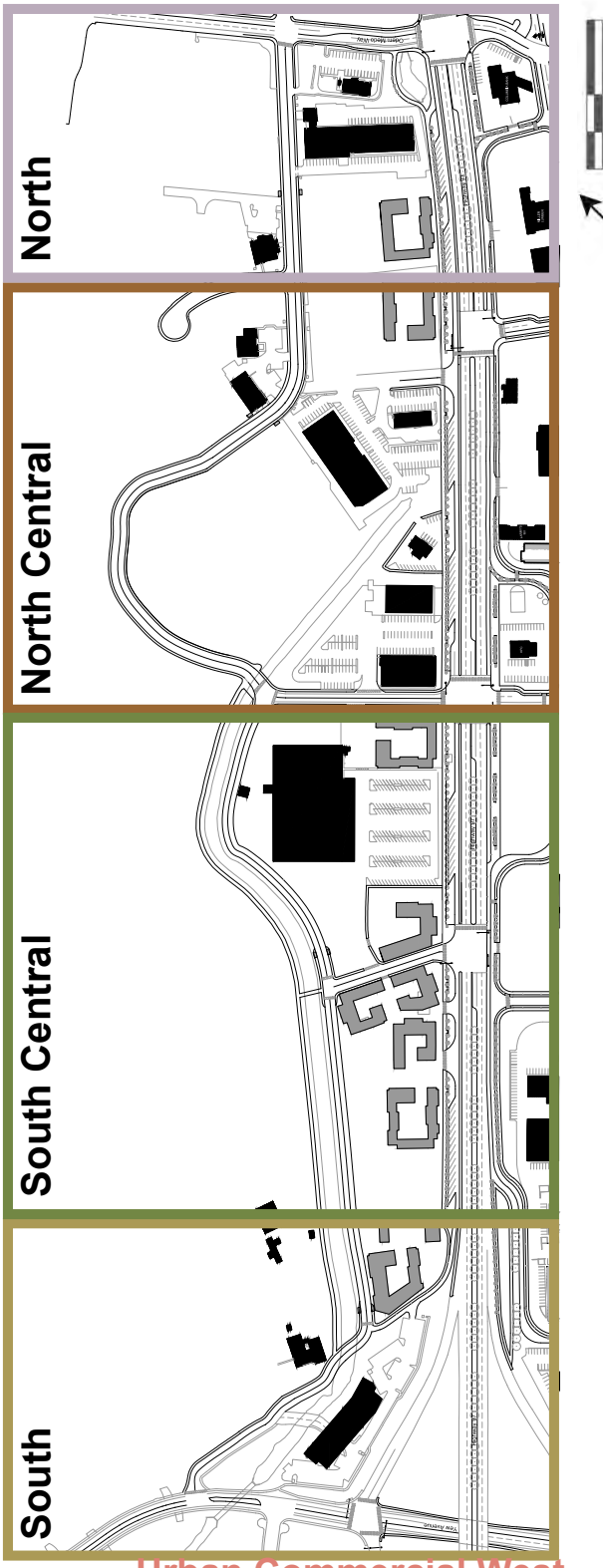
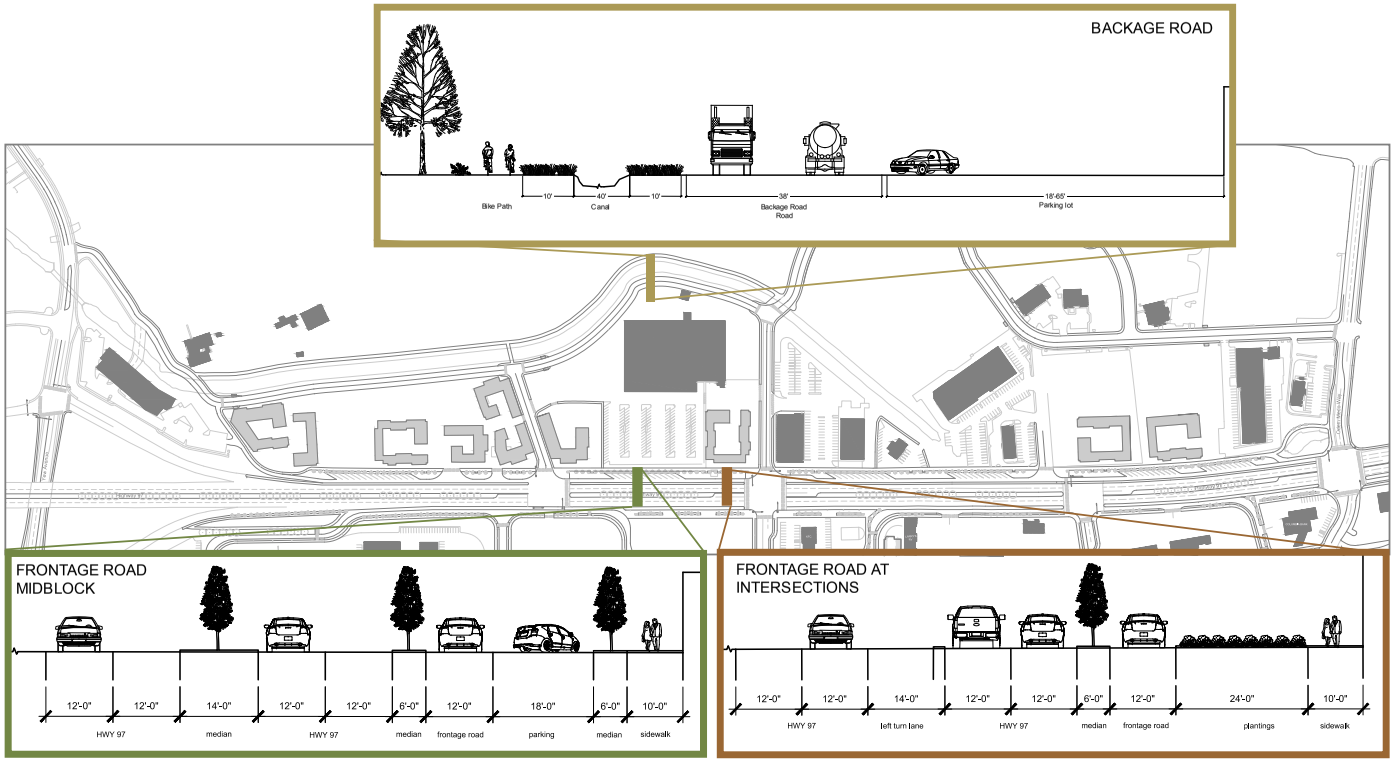


Figure uw4: Overall plan

Figure uw5: Overall section details

DESIGN OVERVIEW: SECTION DETAILS



c. Corridor Design

The overall corridor design emphasizes the user experience and sustainability. The user experience should focus on way-finding and aesthetics while honoring the desired city characteristics. The city aesthetic should be prevalent in all design aspects, and can incorporate art deco features, the high desert climate, and colorful landscapes. Furthermore, businesses should be visible and easily accessible. Finally, the city should increase impermeable surfaces and pay attention to stormwater and sustainability issues when choosing plants. Plant selections should include drought-resistant plants and other plants that require less maintenance.

Figure uw6: Landscape furniture

Figure uw7: Plant palette

Urban Commercial West

Figure uw8: Corridor planting plan

PLANTING TYPOLOGIES:

1 Planted Curb Strip

2 Median Plantings

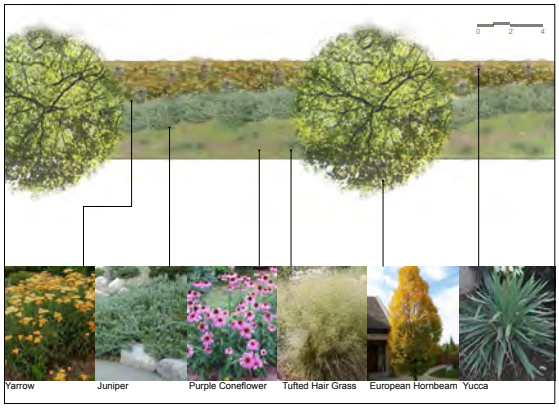
3 Xeriscaped Swale

4 Infiltration Planters

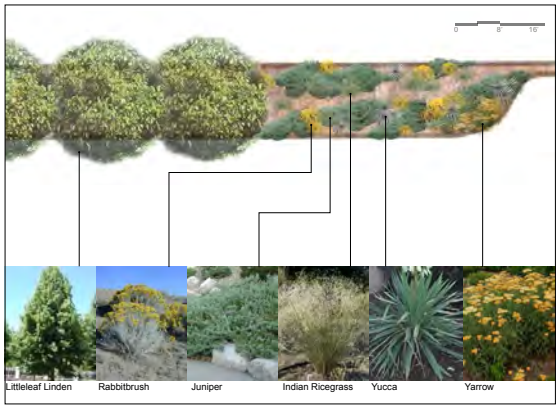
Four plant palettes may meet all planting needs of the site. These plantings include planted curb strips, median plantings, xeriscape plantings, and infiltration plantings.

Figure uw9: Plant typology

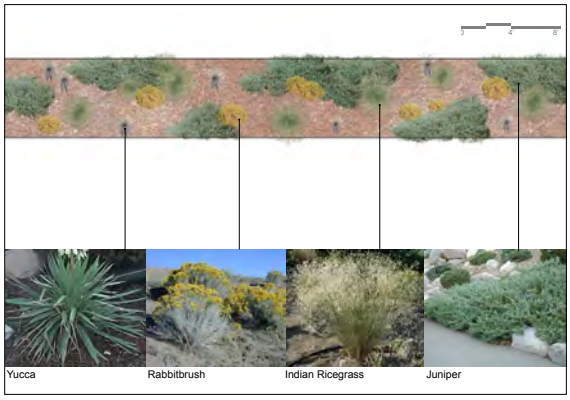
1 Planted Curb Strip



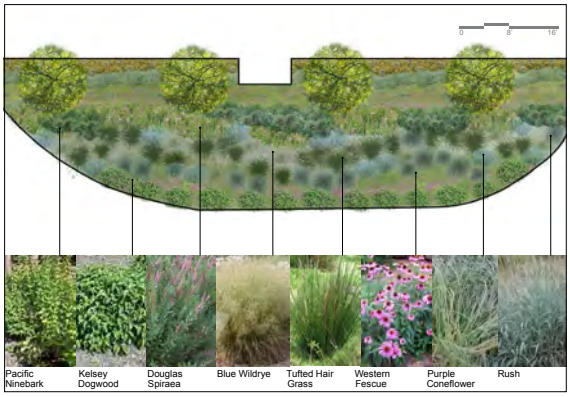
2 Median Plantings



3 Xeriscaped Swale



4 Infiltration Planters



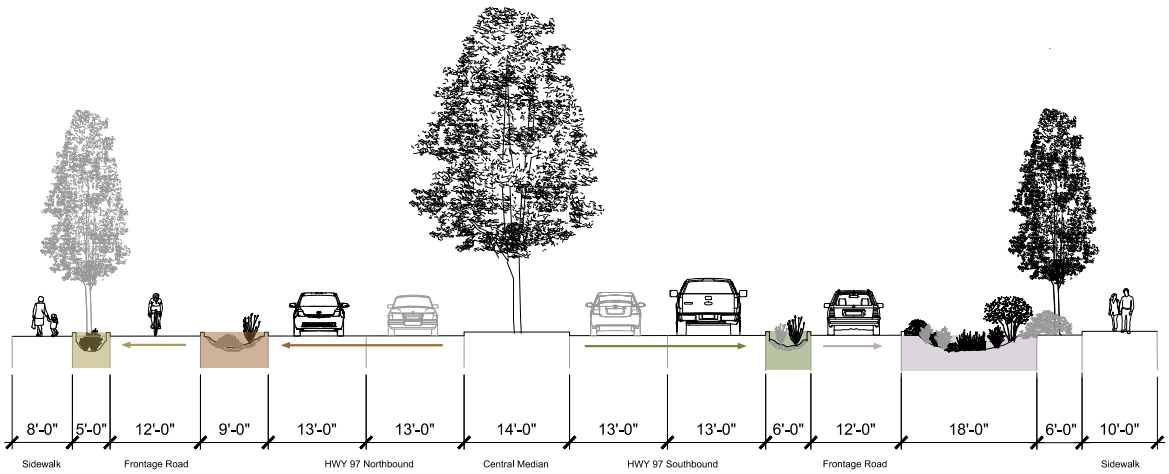
Urban Commercial West

The City of Redmond Downtown Architectural Design Standards Manual suggests methods to maintain a sense of continuity and cohesion in the site and throughout the city. Specific elements include ornamental trim or moulding between floors of a building, a sign frieze above the entry, transom windows, large, open display windows, pedestrian-scaled signs, and recessed entries.

Figure uw10: Corridor stormwater management plan

MANAGEMENT AREAS: 1 East Curb | 2 East Median | 3 West Median | 4 West Curb

Figure uw11: Corridor stormwater management section



MANAGEMENT AREAS: 1 East Curb | 2 East Median | 3 West Median | 4 West Curb

Urban Commercial West

Figure uw12: Corridor stormwater management facilities

INFILTRATION PLANTERS

Planter reservoirs should be a minimum of 1 foot deep. Stormwater calculations have been performed for facilities with a 2-foot deep reservoir.

Infiltration planters should be no less than 30 inches wide. All areas designed for such facilities exceed this minimum size.

Overflow spouts are located 2 inches below the top of planter walls. Overflow pipes are specified to drain to a planned detention basin, but could alternatively drain to vaults for use in irrigation, or be directed to the storm sewer.

No underdrain pipe is specified due to high soil permeability based on USDA soil data. If depth to bedrock is shallow or soil appears to have inadequate drainage, underdrain pipes should be used to further accommodate drainage.

Soil specifications are recommended as follows:
- 50-60% sand
- 20-30% topsoil
- 5-20% compost or peat

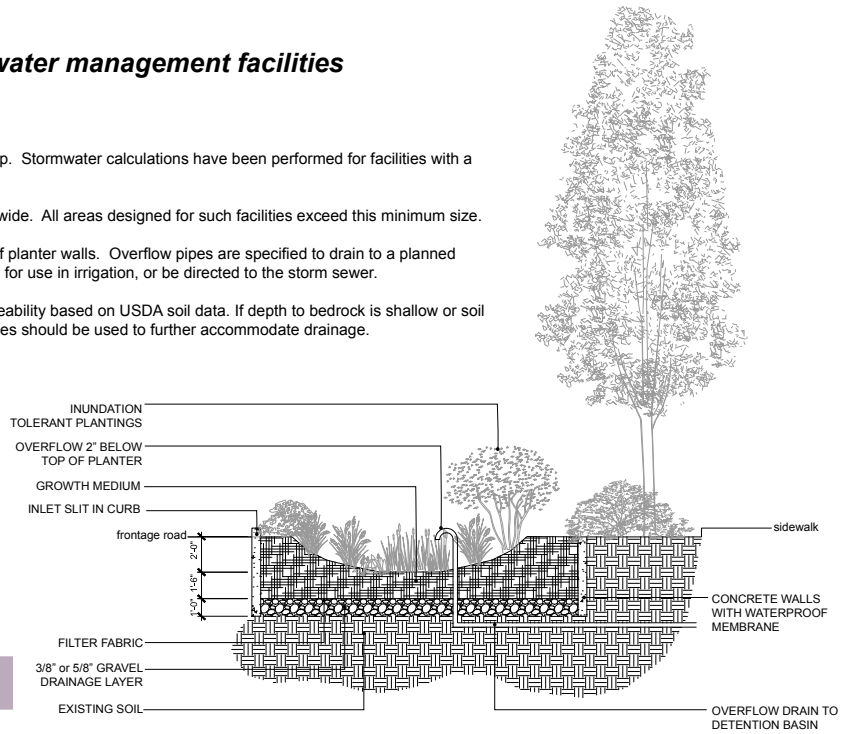
Growth medium should be a minimum of 18" deep (as shown).

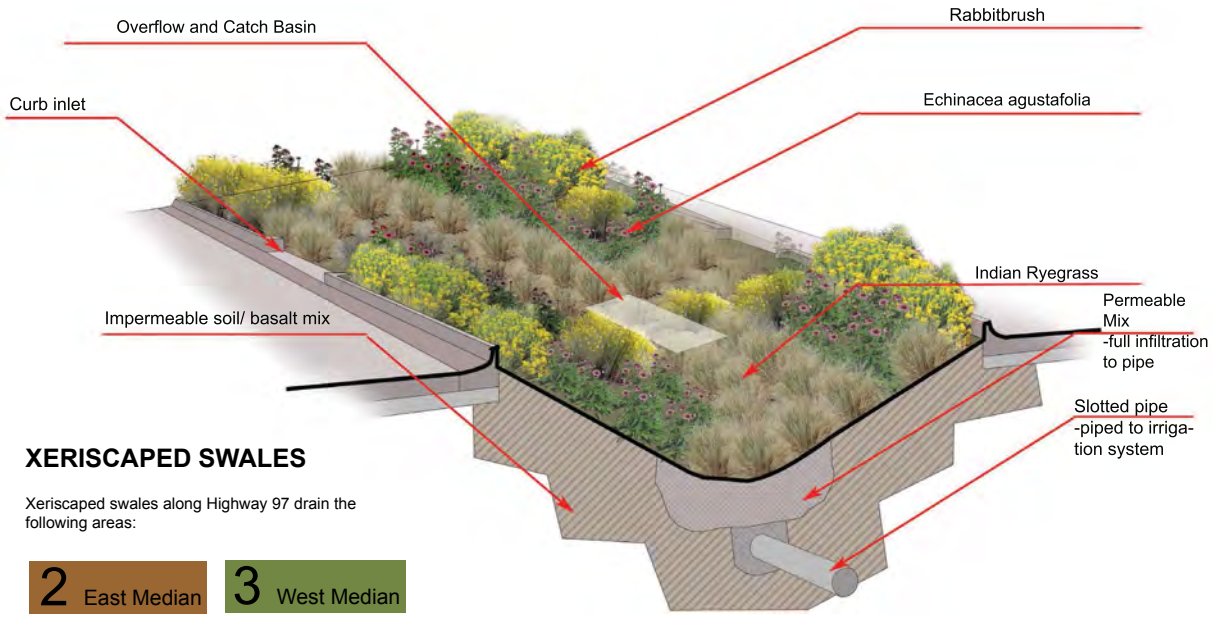
A drainage layer at least 1 foot deep should be located under growth medium. 3/8" or 5/8" gravel is recommended for use.

Infiltration planters along Highway 97 are located in the following areas:

1 East Curb

4 West Curb





XERISCAPED SWALES

Xeriscaped swales along Highway 97 drain the following areas:

2 East Median

3 West Median

DESIGN STORM:

Frequency: 50 year
Duration: 45 minutes
Rainfall: 1.17" (0.0975')

STORMWATER MANAGEMENT STRATEGY

Per Redmond's design standards, stormwater infrastructure was sized to accommodate expected rainfall for a 50 year storm event. When practical, stormwater facilities were oversized, to assure function even in larger storm events, or in storms with longer durations.

Stormwater on site is handled in two kinds of facilities, planted infiltration basins and xeriscaped swales. Planted infiltration basins are located along the western curb to manage stormwater from the western (southbound) frontage road, and along the eastern curb to manage stormwater from the eastern (northbound) frontage road. Xeriscaped swales are located between the highway and frontage roads and accommodate stormwater from the crowned highway. Stormwater from the eastern (northbound) frontage road is managed in planted

Highway 97 is crowned, to allow stormwater to drain to the eastern and western road edges. Frontage roads are graded to drain to infiltration planters along the curbs.

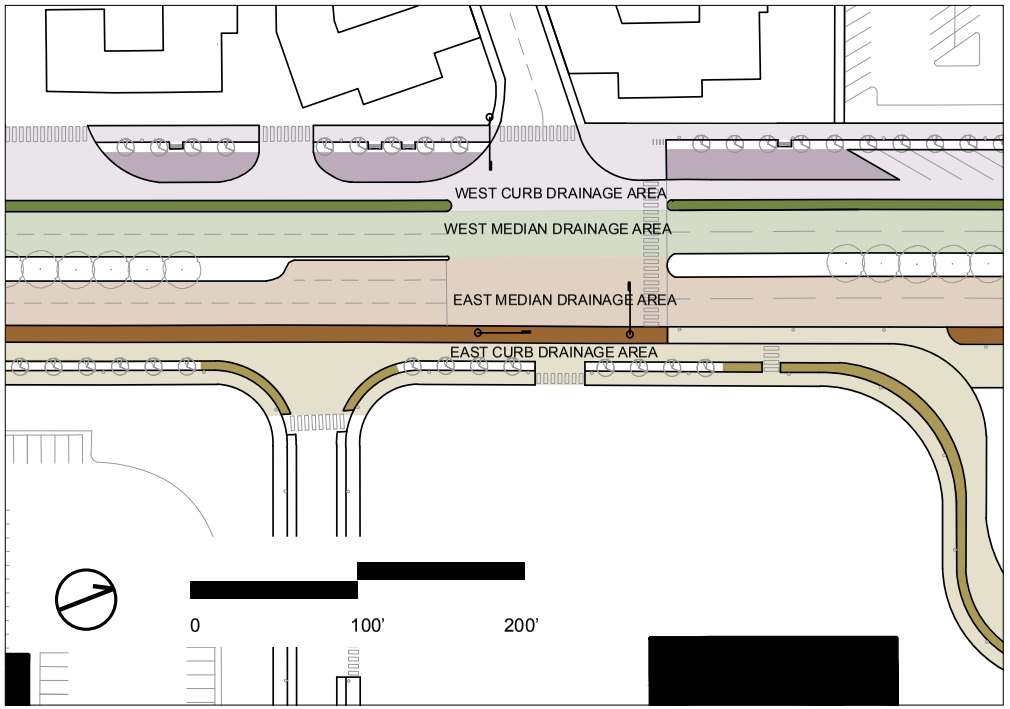
Stormwater facility design was developed from standards given in the *Portland Stormwater Manual*, the *Central Oregon Stormwater Manual*, and the *Truckee Meadows Regional Storm Water Quality Management Program Low Impact Development Handbook*.

FACILITY	CAPACITY	DRAINAGE VOLUME (50 YEAR STORM)	PERCENT ACCOMODATION
East Curb	2232 cu. ft.	1609 cu. ft.	139%
East Median	3729 cu. ft.	1935 cu. ft.	193%
West Curb	4692 cu. ft.	1991 cu. ft.	236%
West Median	2797 cu. ft	1566 cu. ft.	179%

STORMWATER STRATEGY APPLIED

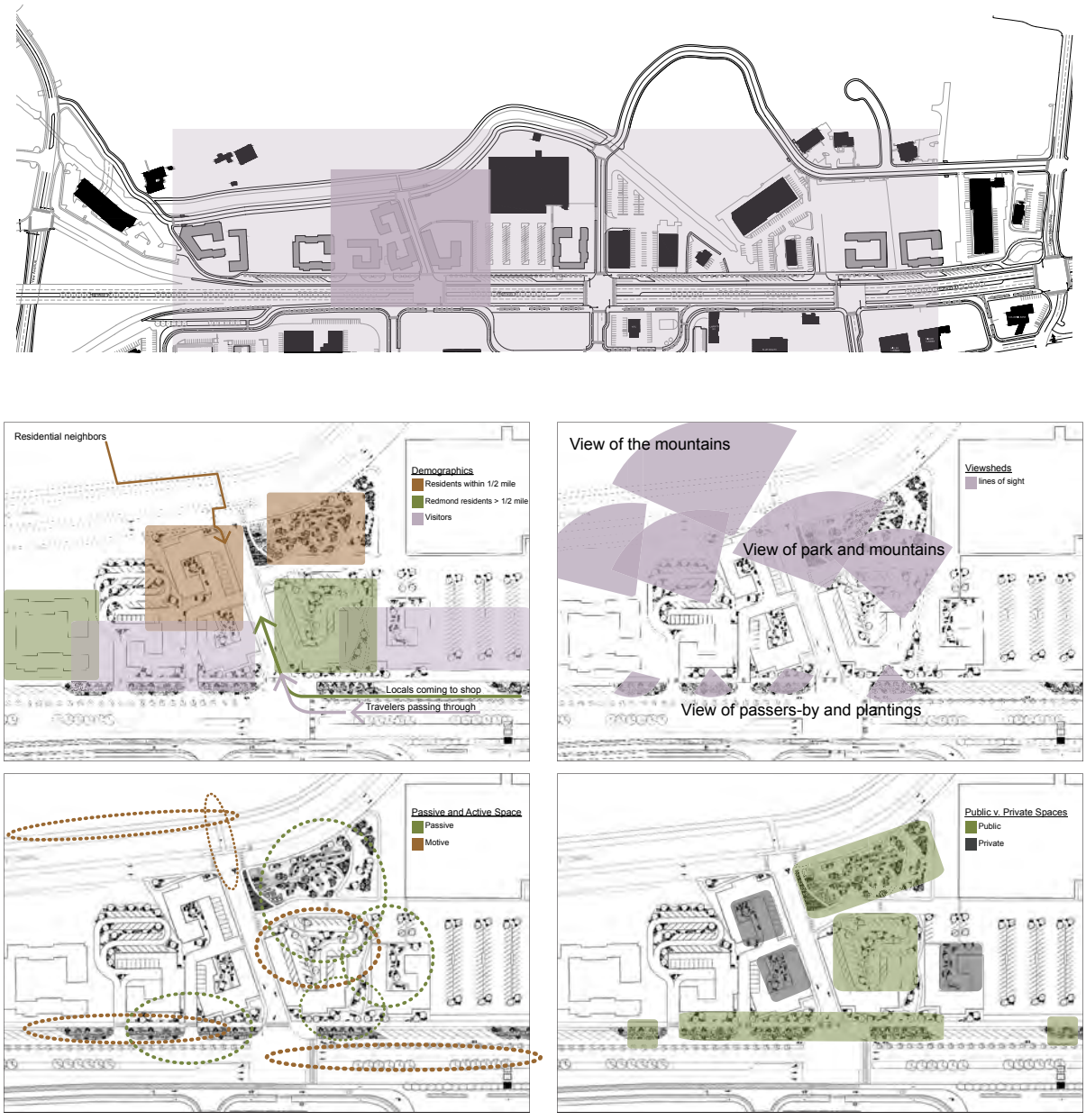
A representative section of Highway 97 displays the application of the designed stormwater strategy. For this 600 foot section, facility capacity is compared to stormwater volume in a 50 year storm lasting 45 minutes. Facility capacity was calculated for each of the four sections by multiplying planter area by depth (set at 2 feet) by 0.45 (to account for half-pipe shape). To calculate drainage volume, the area to be drained was multiplied by 0.0975 feet, the rainfall received in 45 minutes of a 50 year storm. These numbers were compared to assure that capacity exceeds the drainage volume. In all cases, designed facilities far exceed the rainfall expected in Redmond's design storm. Results of this analysis are shown in the table below.

Figure uw13: Corridor stormwater application map



d. Form-based Code for Nodal Development

Figure uw14: Nodal design investigations



Example nodal development projections for the next 10, 20, and 50 years include a mixed-use condition that takes into consideration user groups, active and passive spaces as well as private and public spaces.

It is suggested that a combination of amenities and utilities occur in the same structure. A multi-use structure includes all necessary resources for daily needs within one location.

Figure uw15: Example of multi-use structure

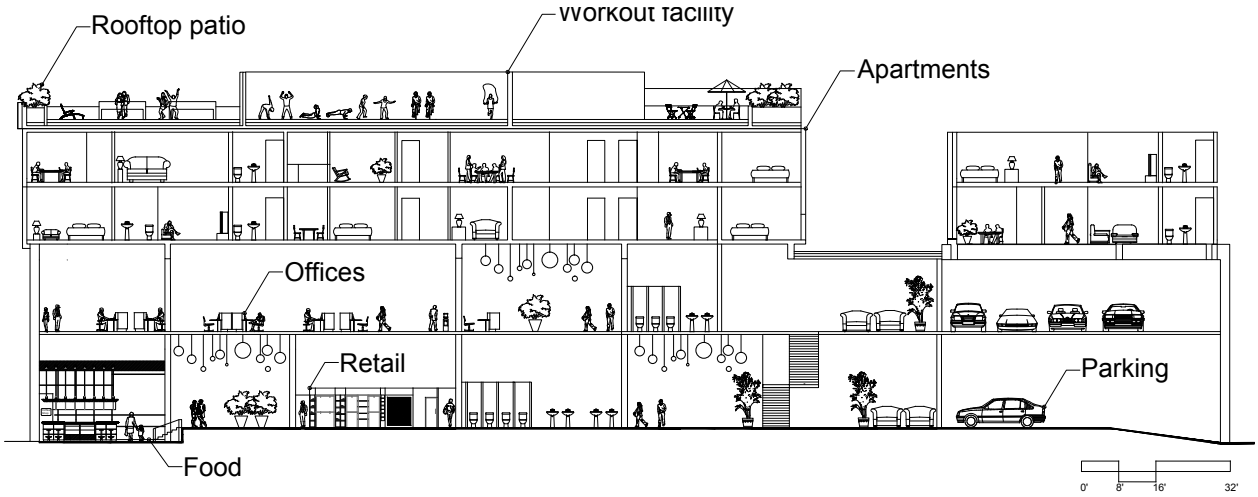
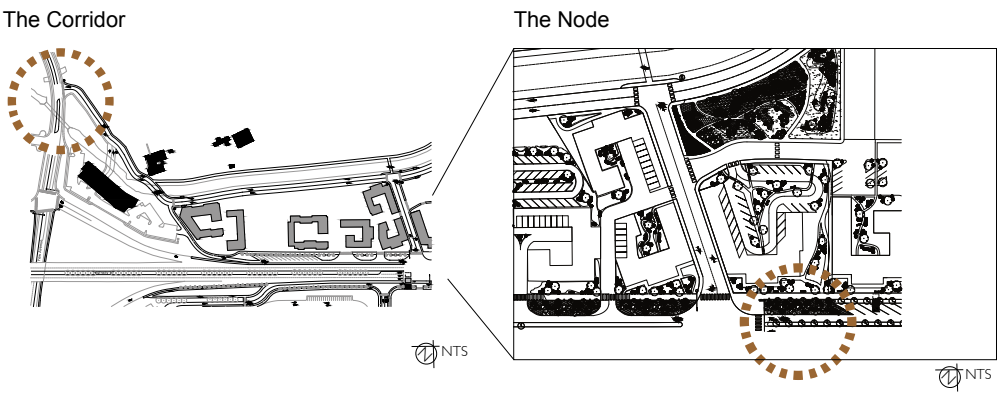


Figure uw16: Multi-use spaces with nodal design

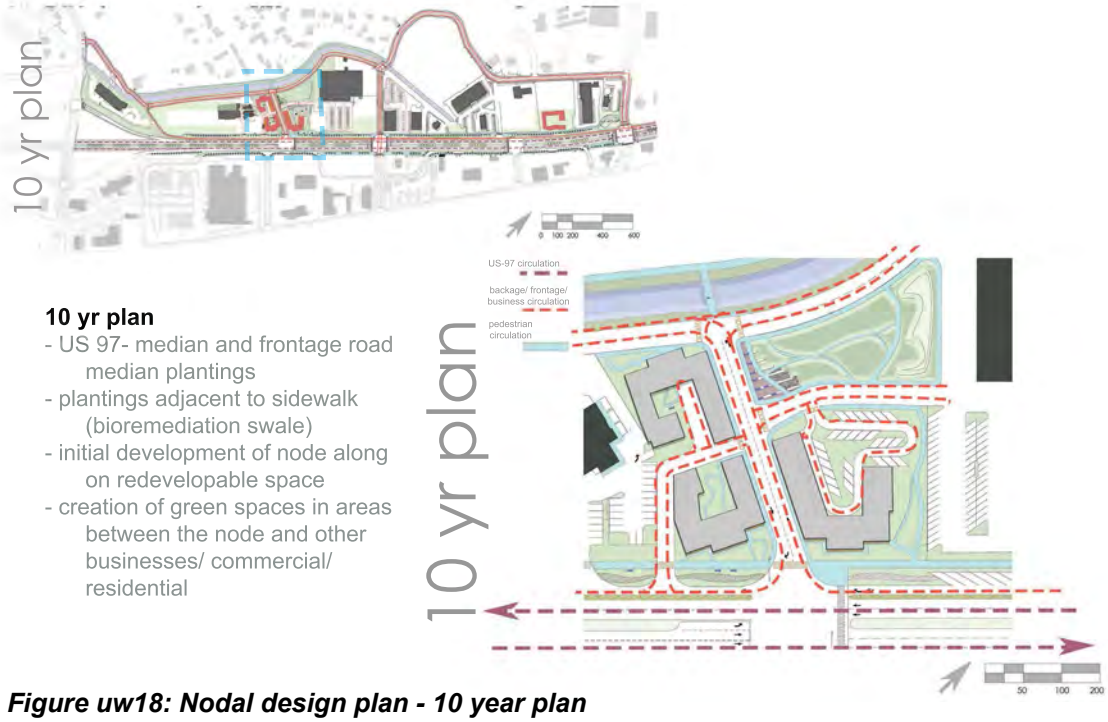


Mixed-use path along canal with backage road
(looking north)

Four-way intersection with frontage road
(looking south-west)

The first phase of development occurs within 10 years. In this timeframe, a mixed-use building can be constructed, parklets with seating can be installed, stormwater facilities can be located, and the frontage and backage roads can be installed with plantings. In the following 10 years these all can be improved along with specific park and courtyard spaces. As infill continues the focus on green spaces, connectivity and thoughtful siting of structures is important for a successful pedestrian-friendly and mixed-use environment.

Figure uw17: Nodal circulation and phasing - 10 year plan

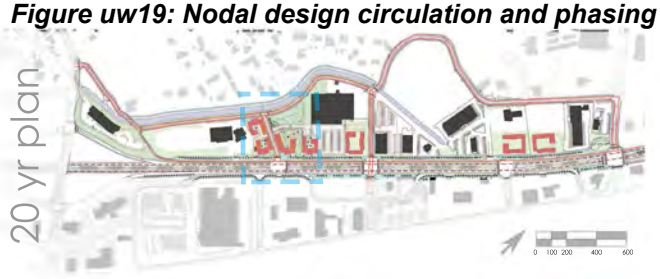


10 yr plan
- US 97- median and frontage road median plantings
- plantings adjacent to sidewalk (bioremediation swale)
- initial development of node along on redevelopable space
- creation of green spaces in areas between the node and other businesses/ commercial/ residential

Figure uw18: Nodal design plan - 10 year plan

Nodal Site Design -Urban Commercial West
- 10- year plan

Figure uw19: Nodal design circulation and phasing - 20 year plan



20 yr plan

- US 97- median and frontage road median plantings
- plantings adjacent to sidewalk (bioremediation swale)
- increased development of node utilizing plinth buildings with a green space between sidewalk and building front
- creation of green spaces in areas between the node and other businesses/ commercial/ residential

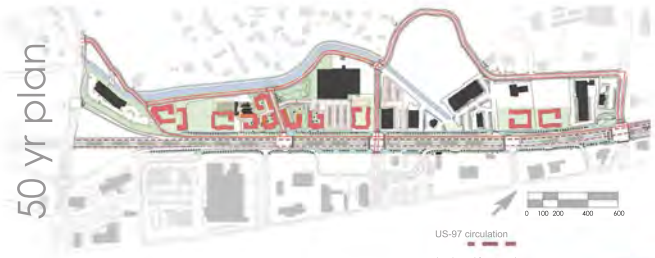
-development of park/ courtyard spaces

Figure uw20: Nodal design plan - 10 year plan

Nodal Site Design -Urban Commercial West
- 20- year plan

Urban Commercial West

Figure uw21: Nodal design circulation and phasing - 50 year plan



50 yr plan

- US 97- median and frontage road median plantings
- plantings adjacent to sidewalk (bioremediation swale)
- increased development of node utilizing plinth buildings with a green space between sidewalk and building front
- creation of green spaces in areas between the node and other businesses/ commercial/ residential

-development of park/ courtyard spaces

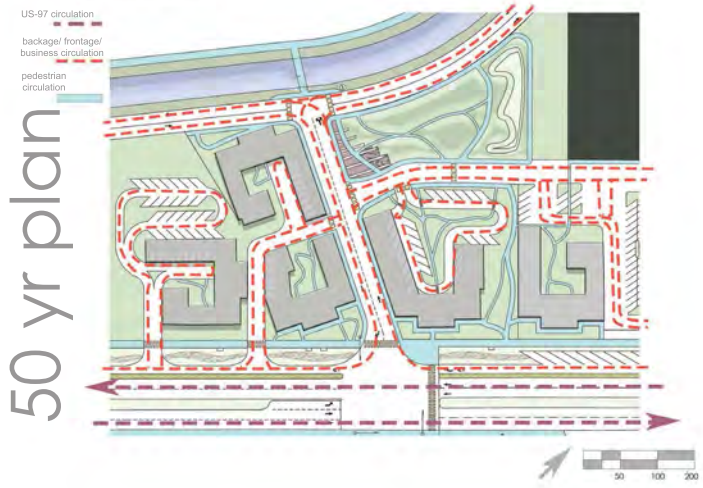
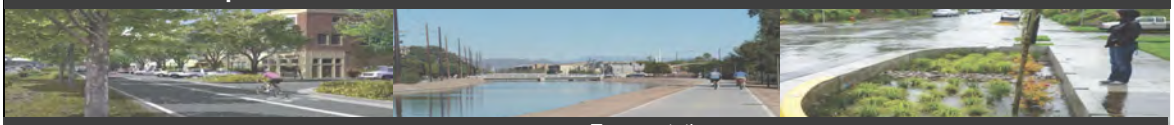


Figure uw22: Nodal design plan - 50 year plan

Nodal Site Design -Urban Commercial West - 50- year plan

A form-based code could assist with development over time. This code incorporates suggestions for form, infrastructure, transportation, common destinations, and private spaces within the site.

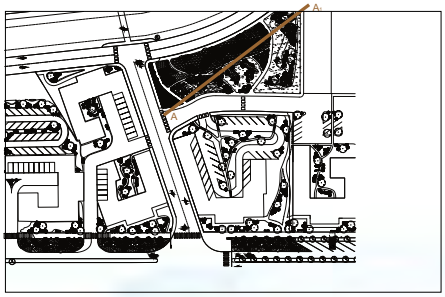
Mixed-use Development

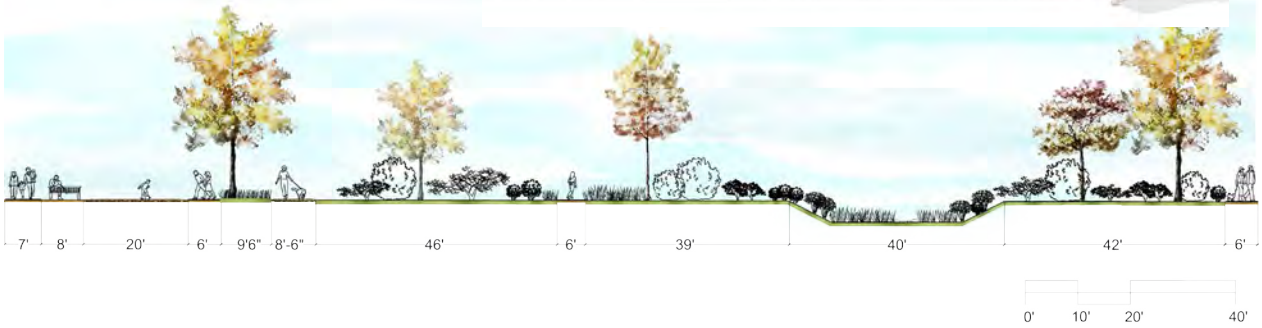


Form		Transportation	
Type of Settlement	Cluster of mixed-use developement that are interconnected by mixed-use streets.	Street Network	Multi-way boulevard with frontage road, backage road, shared use lanes and a bike lane.
Level of Urbanization	Medium to high. Enhanced services provide economies of agglomeration.	Street Surface	All streets and alleys are paved with predominately pervious surfaces for all other throughways.
Zoning Districts	Commercial		
Scale	Human scale. 1/4 mile pedestrian radius.	Transit	Plan for Regional and Local transit service.
Acreage	65 acres.	Civic Space	Pocket parks, greenways, greens, squares, plazas (to be used for events, such as concerts, farmers markets, craft shows, etc.)
Intensity of Settlement	118 to 120 dwelling units (2,000-5,000 square feet per unit).		
Type of Settlement	2-4 story attached and detached buildings appear residential or commercial in form.		
Infrastructure		**Common Destinations**	
Stormwater Management	55% percentage permeable surfaces. Bioswales and green roofs.	Food centric places	Markets, brew pubs, restaurants, cafes
Dynamic Parking Facilites	Angles and compact parking available, irregularly shaped parking lots and one way corridors through parking areas.	Retail	Shopping
Bike Parking	5 bike parking facilities with 8 bikes per facility, 2 facilities of which are covered.	Services	Hair salon, oil changes, bank, etc.
Signs	To aid wayfinding (and support commercial business), uniform signs will be visible from HWY 97	**Private Space**	
Continuous Sidewalks	Uniform and continuous sidewalks will support increased pedestrian traffic.	Courtyards	Shared use for residential and commercial
Utilities	All utilities will be underground.		

Figure uw23: Nodal design perspective and park section

The Node





Urban Commercial West

e. Photo Simulation

HIGHWAY 97: VISIONS OF THE FUTURE

Current

Future

Urban Commercial West

In conclusion, this team focuses on sustainability, multi-use spaces, user experience, and growth over time.

Key Takeaway Recommendations:

- Install a one-way access road with angled parking and a two-way backage road
- Construct small-scaled, mixed-use buildings with shallow setbacks acknowledge the commercial character of this part of Redmond
- Create a bike path along the canal that accommodates both bikes and pedestrians

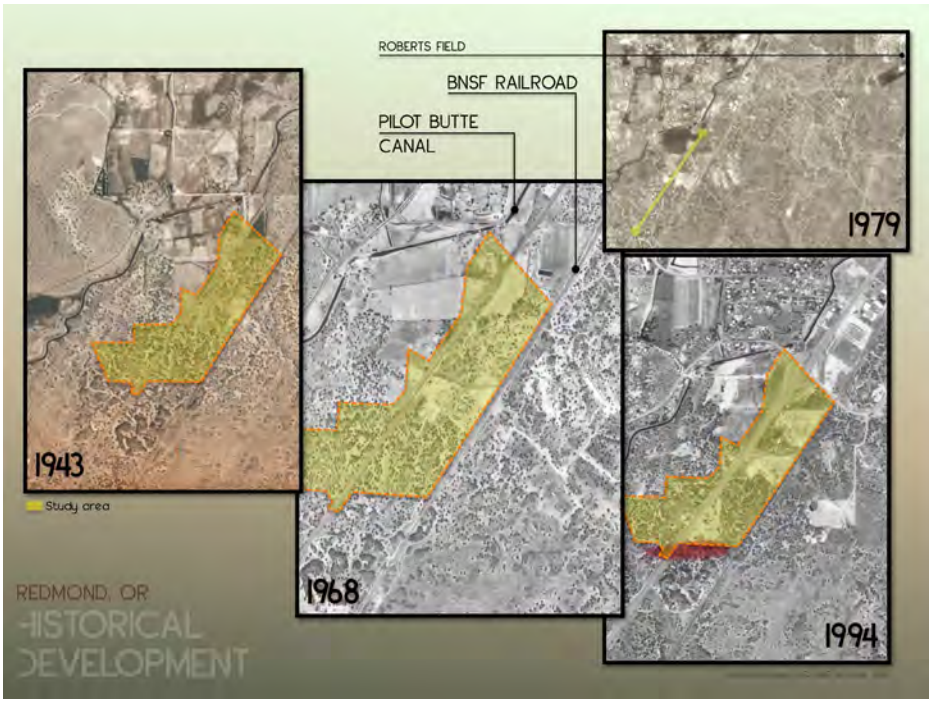
Urban Commercial West

Team 6: Gateway District

The Gateway District boundaries include Yew Avenue to the north, the railroad tracks to the east, the urban growth boundary to the south and tax lot designations to the west.

Figure gd1: Gateway District study area

Figure gd2: Gateway District history



The team received pivotal feedback from stakeholder groups. This drove the project goals. These stakeholder groups included the City of Redmond, business owners, residents, and ODOT. Specifically, these goals for each stakeholder group were to:

City of Redmond

- Enhance sense of city identity
- Shape framework for future urban growth
- Relieving local traffic congestion
- Reinforce transportation connectivity with surrounding towns and cities

Business Owners

- Amplify special sense of arrival
- Supporting opportunities for shared commercial prosperity
- Concentrate local consumer traffic

Residents

- Benefit local property values
- Extend pedestrian networks
- Guide opportunities for residential development
- Encourage neighborhood identity

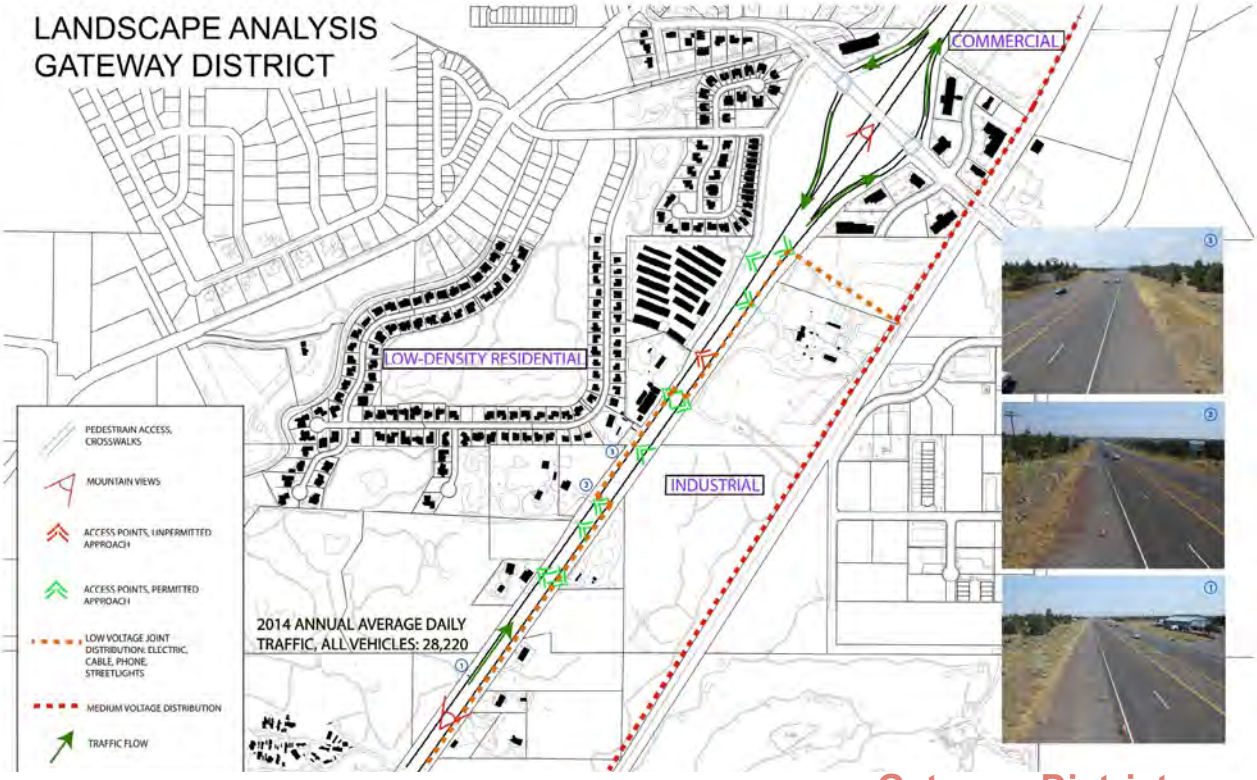
ODOT

- Control access points to expressway lane
- Reduce expressway traffic speeds between urban growth boundary and Yew Avenue
- Anticipate increased regional expressway traffic and transit

a. Site Analysis

The site analysis identified locations of sidewalks, mountain views, access points, low and medium voltage utilities, and land use. Annual average daily traffic was also found to be 28,220 vehicles in 2014.

Figure gd3: Landscape analysis



Gateway District

Students conducted a redevelopment prospect analysis using a statistical point-based model. This model incorporated land improvement investments, changes in real market value, zoning and ownership criteria. The results indicate that 10 lots are likely to be redeveloped, five lots have an increased likelihood of redevelopment, and 19 lots have a decreased likelihood of redevelopment.

Figure gd4: Redevelopment prospect analysis

Figure gd5: Property analysis

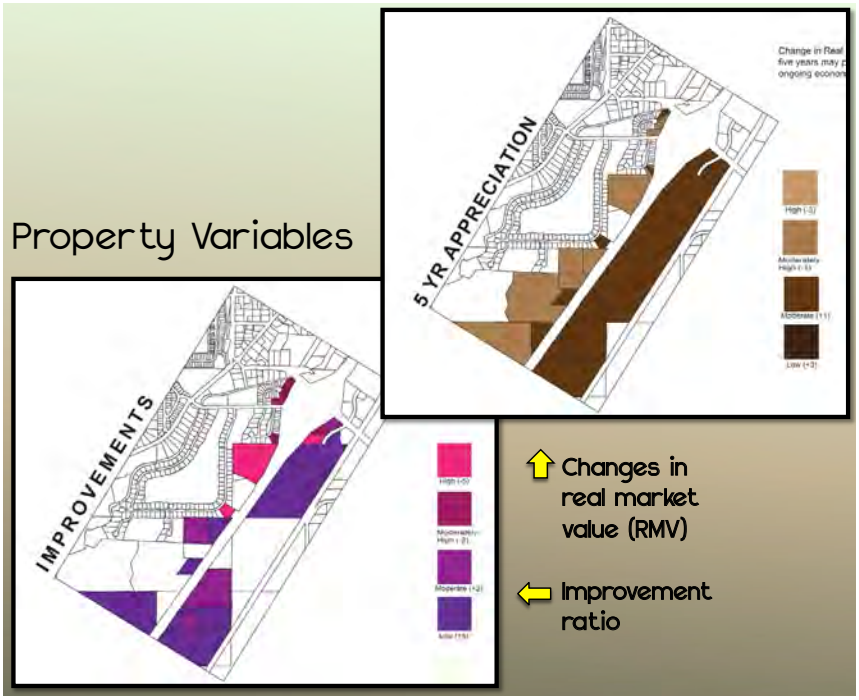
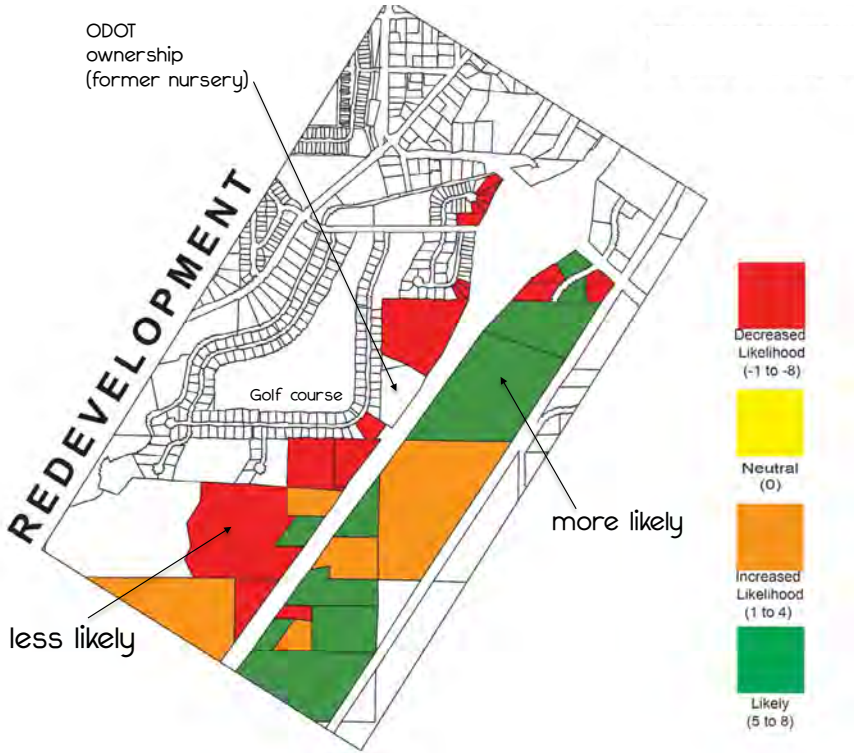


Figure gd6: Estimating redevelopment likelihood



Gateway District

b. Overall Multi-way Boulevard Design

This team suggests that a two-way frontage road be installed as a local arterial with minor collector streets connecting future developments. Students developed this recommendation based on research and a design charrette regarding multi-way boulevard design options.

Figure gd7: Overall design plan

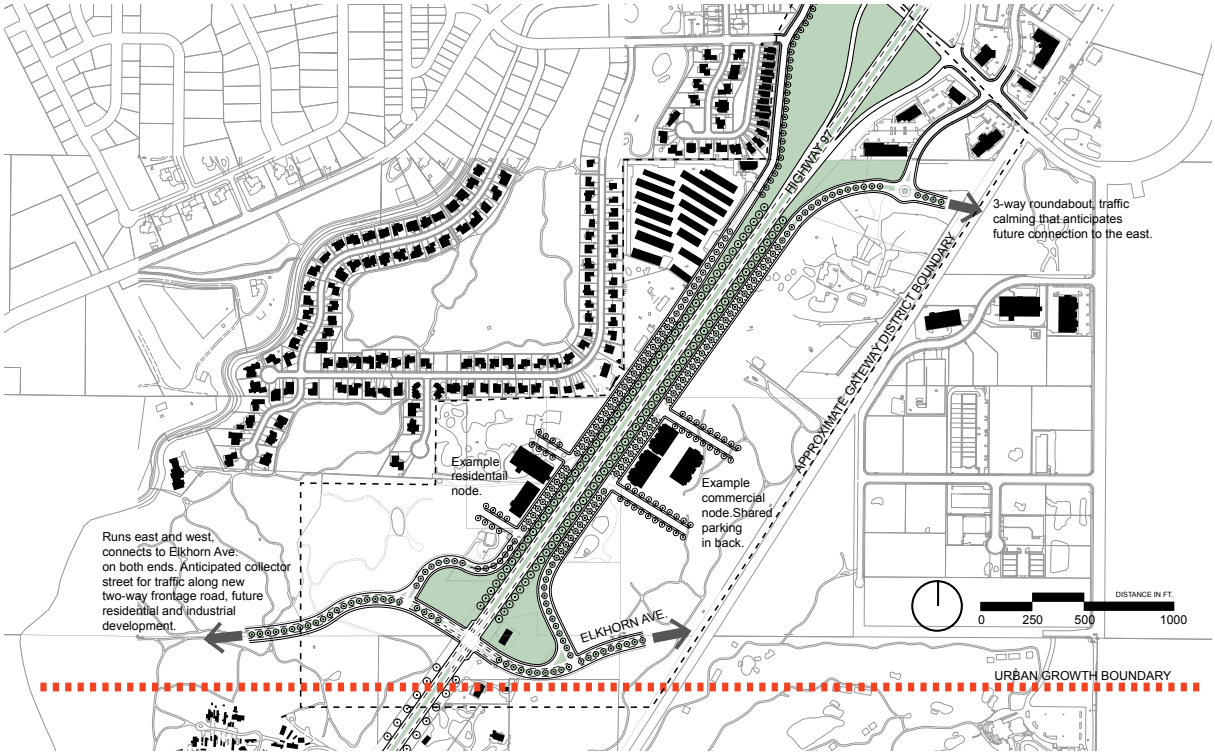


Figure gd8: Overall design section

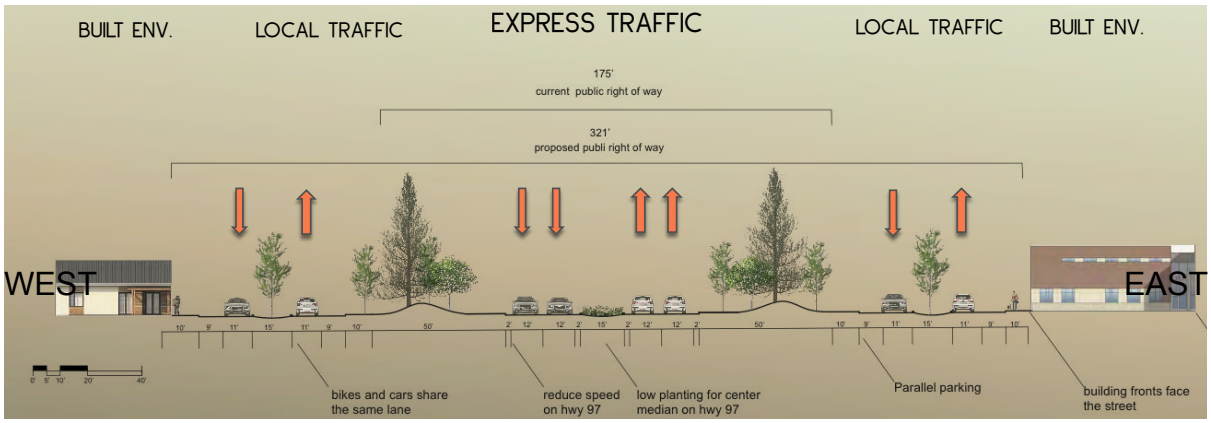


Figure gd9: Overall 50 year proposed plan

Gateway District

c. Corridor Design

Figure gd10: Speed limits

Traffic speed issues are unique to this site because it changes from 55 miles per hour to 40 miles per hour relatively quickly. The following measures could help to calm traffic as it reaches Redmond: A combination of high and low-density plantings, visual friction, framed views, and strategically located features that indicate arrival.

Three plant palette options and planting plan examples communicate how low and high density plantings can be incorporated in the overall design. Zone one plantings occur in the initial approach into the site, zone two as the middle planted section, and zone three at the major intersection with Yew Avenue.

Figure gd11: Planting recommendation zones

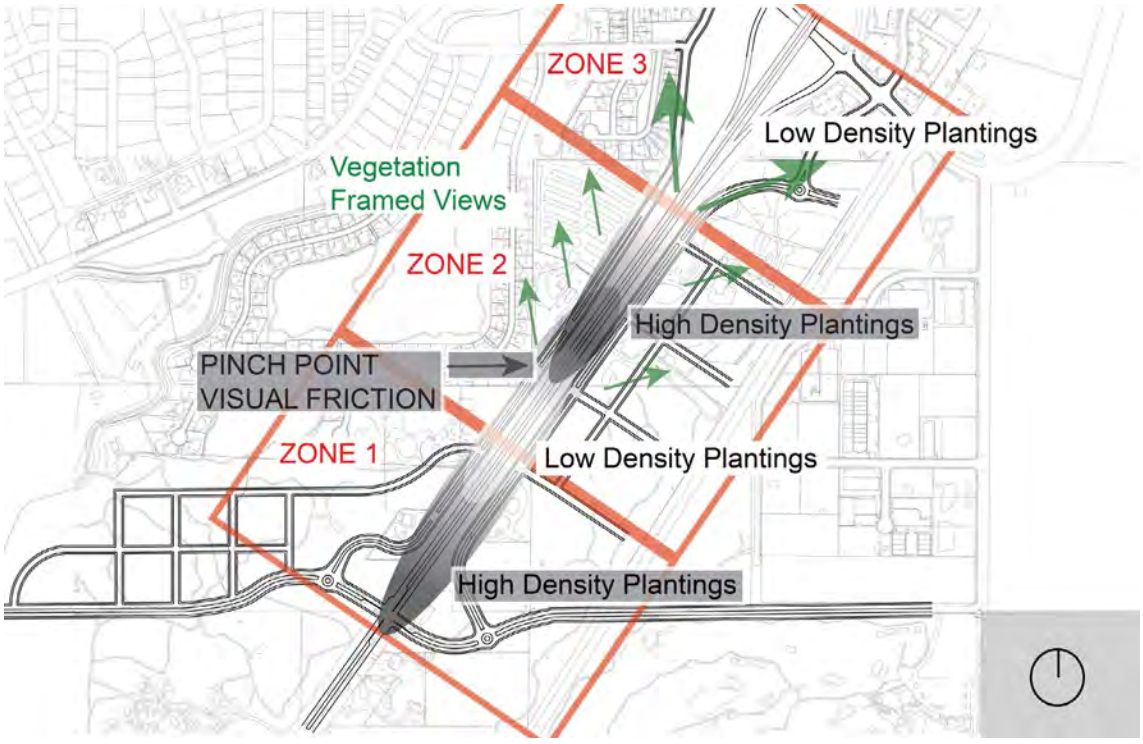
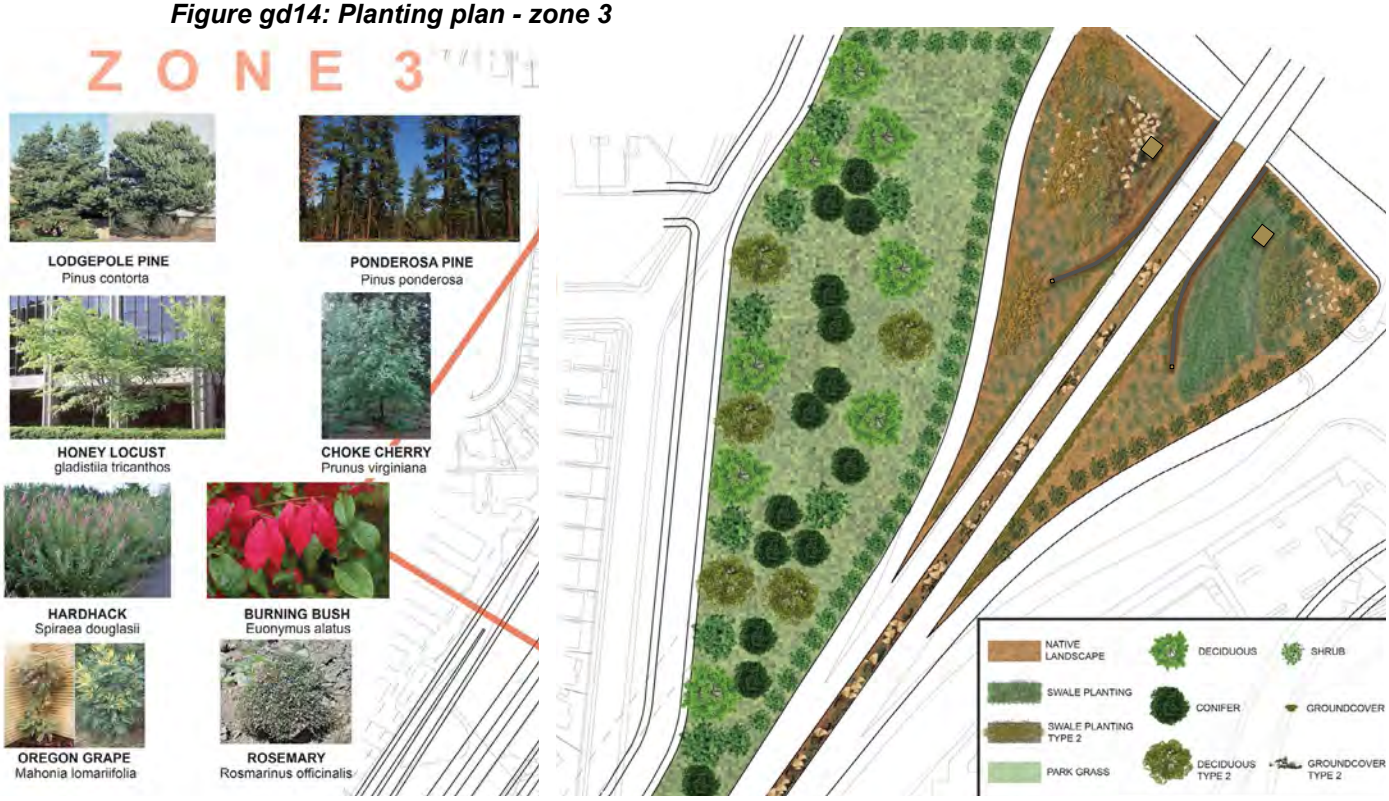


Figure gd12: Planting plan - zone 1

Figure gd13: Planting plan - zone 2

Gateway District

Figure gd14: Planting plan - zone 3



This team focused on generating a design proposal for the entry into Redmond. Consistent themes were referenced during this design process including: Art deco form and materials, usage of local colors and textures, incorporation of regional architectural elements and a nod to the 1940 activation legacy.

Figure gd15: Gateway design option 1 - Obelisk plan

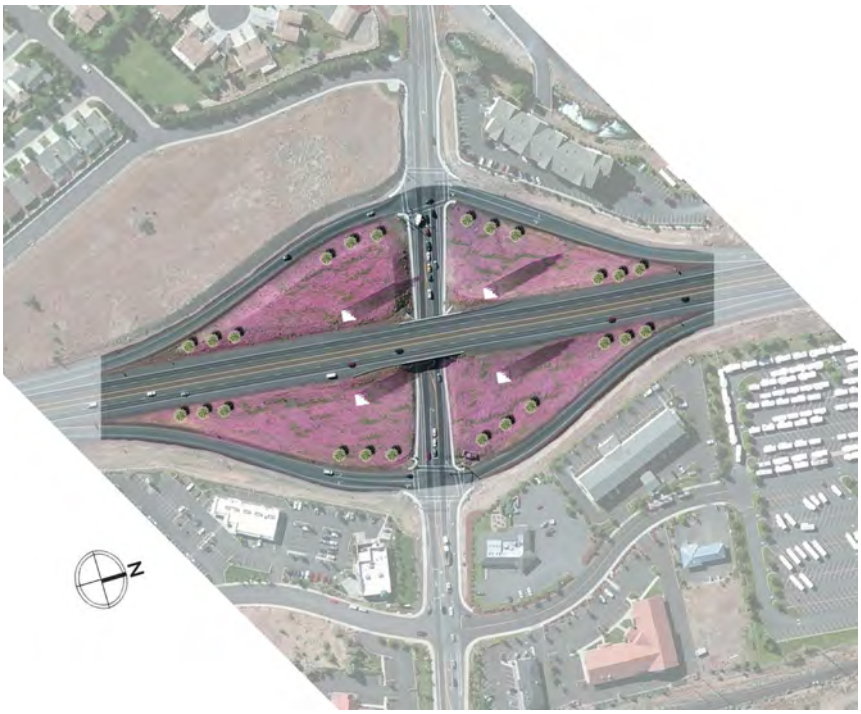


Figure gd16: Gateway design option 1 - Obelisk perspective

Figure gd17: Gateway design option 2 - Aviation sculpture plan

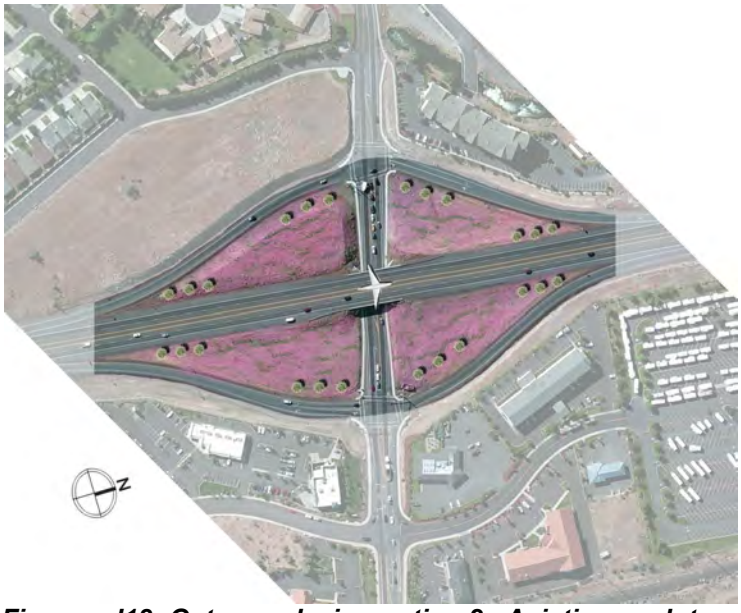


Figure gd18: Gateway design option 2 - Aviation sculpture perspective

Figure gd19: Gateway plant palette

Gateway District

d. Landscape and Architecture Design Standard

Overall, the Gateway District focused on ways in which the site could be a notable location along the US 97 corridor indicating the arrival into Redmond. Safety, circulation, and future infill were all highly important when considering what this area may look like in the next 50 years.

Figure gd20: Entry into Redmond

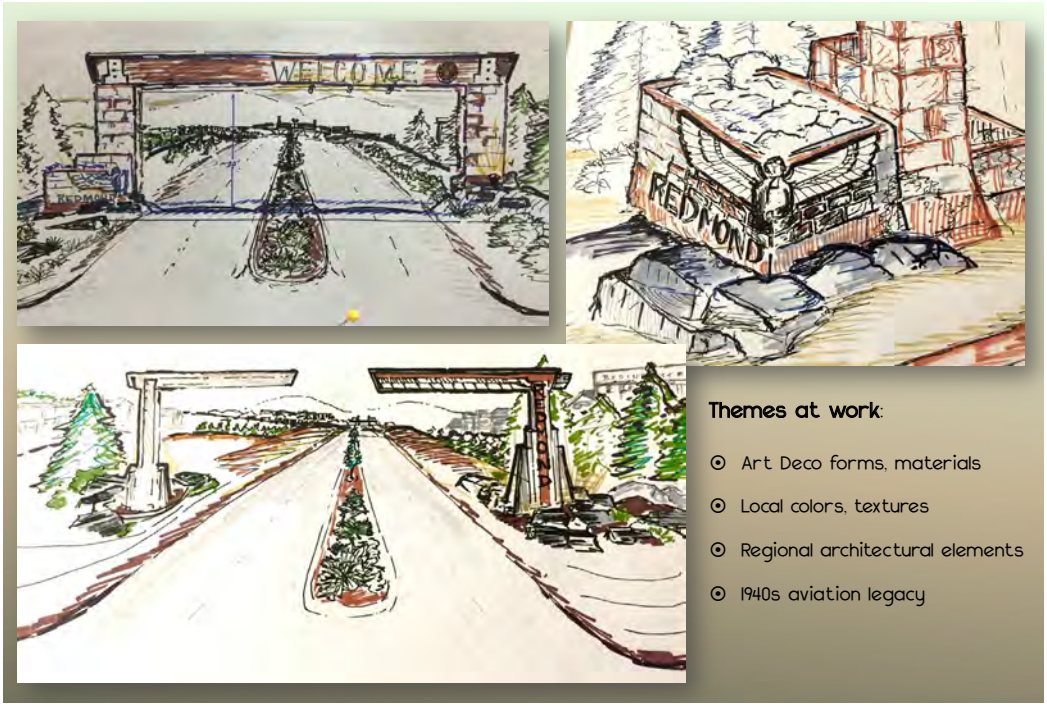


Figure gd21: Visual friction design

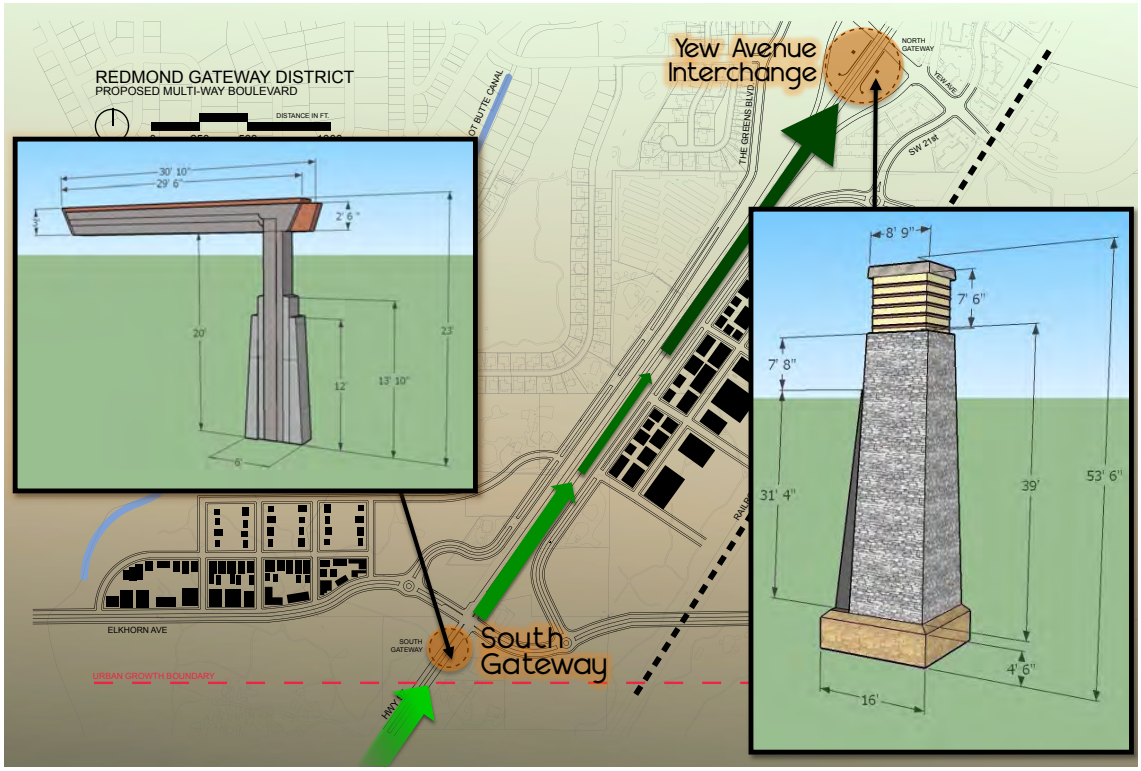


Figure gd22: View from current Urban Growth Boundary

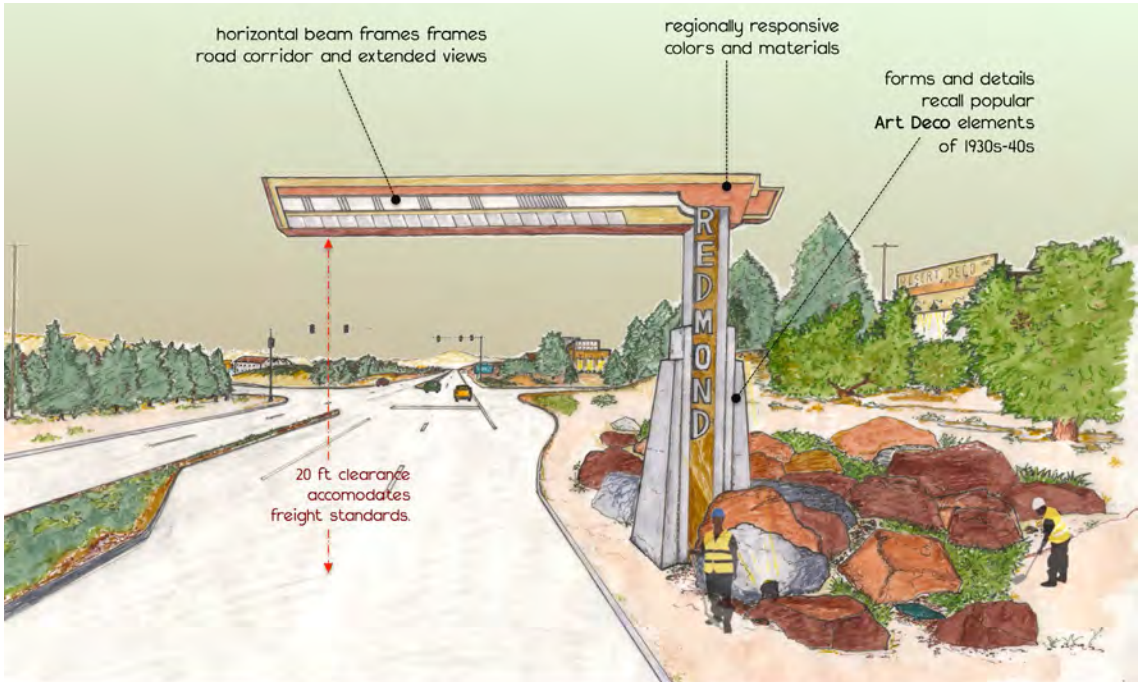
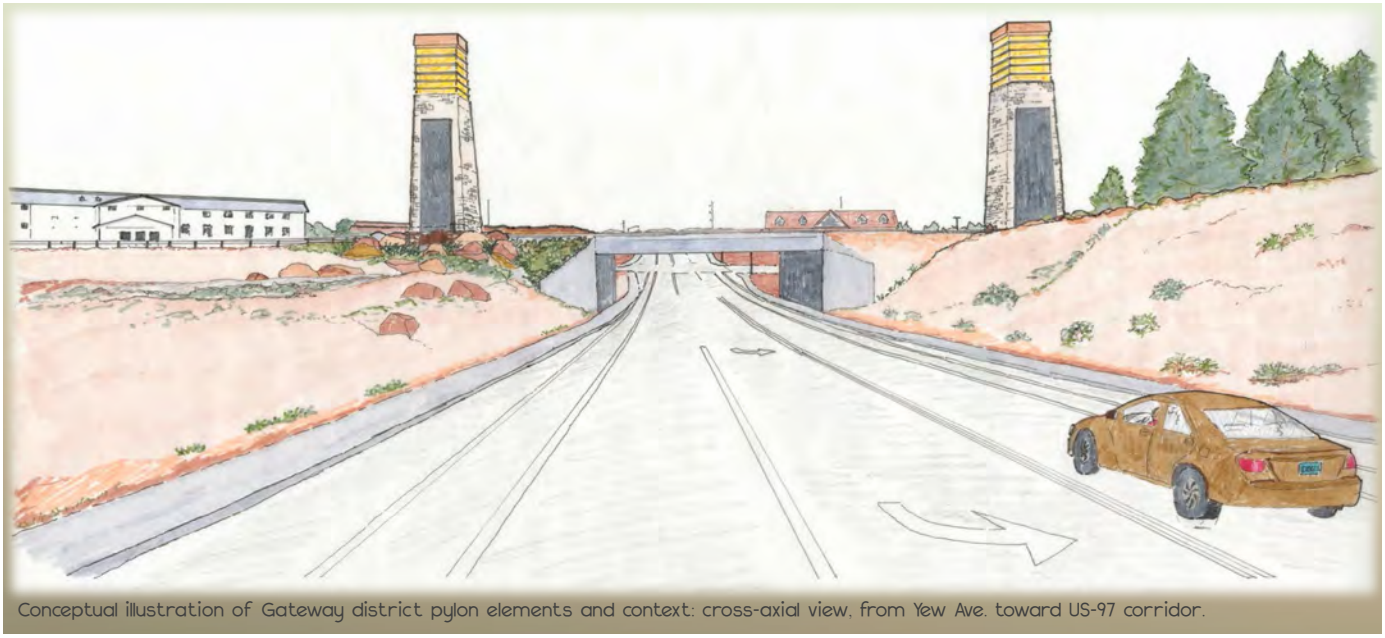


Figure gd23: Axial view along U.S.-97 across Yew Avenue

Figure gd24: Cross-axial view from Yew Avenue toward U.S. 97 corridor



Conceptual illustration of Gateway district pylon elements and context: cross-axial view, from Yew Ave. toward US-97 corridor.

e. Form-based Code for Nodal Development

Given the larger size of this study area and the multiple types of ownership and use, the site was divided into two parts, east and west, and further into three parts relating to form-based code suggestions. The resulting partitions were east 1, 2, and 3 and west 1, 2, and 3. East and West partitions, as they move from 1 to 3, relate to the degree of density, type of building use, and typologies for that designated area.

Figure gd25: 6 development parts

Figure gd26: Development plan - west

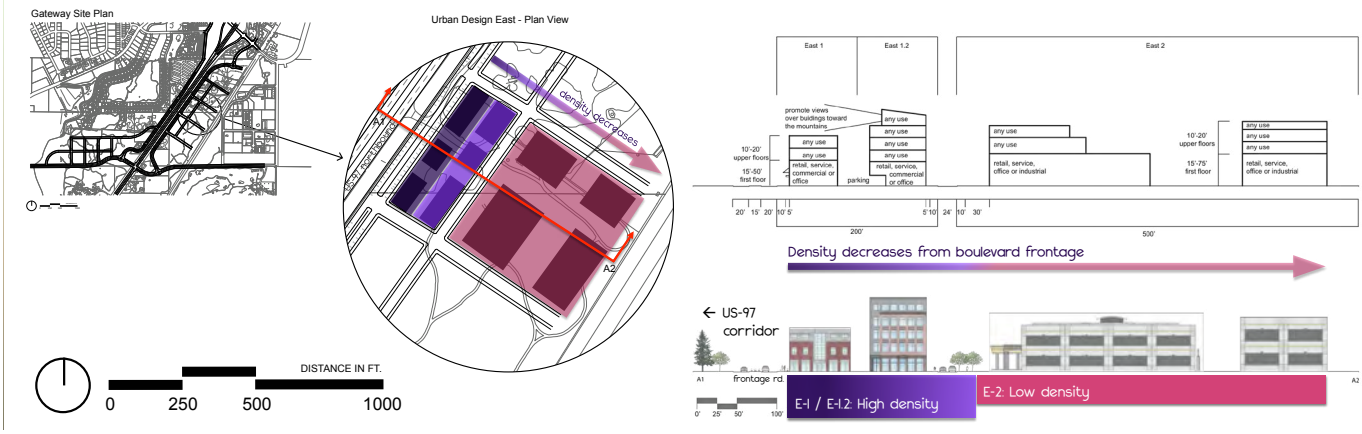
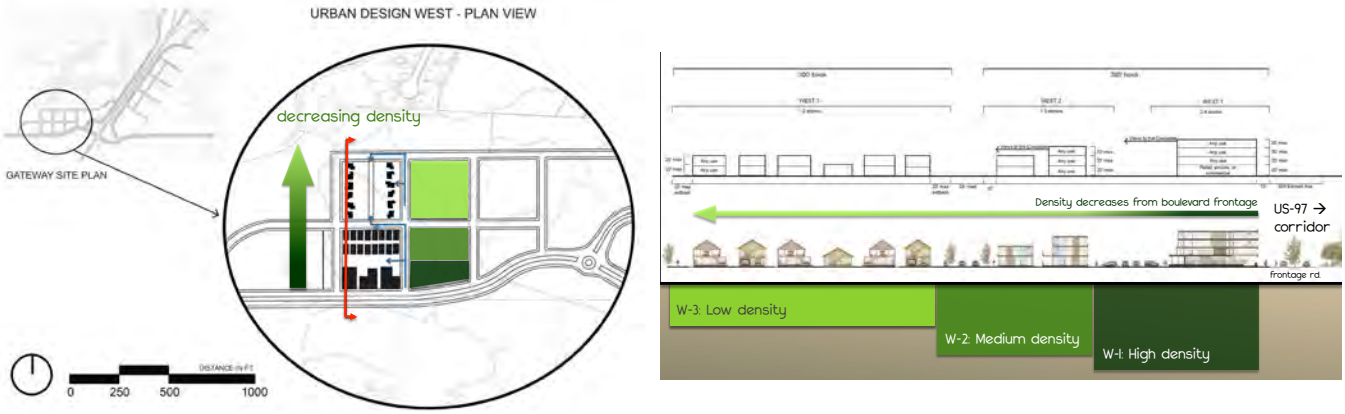


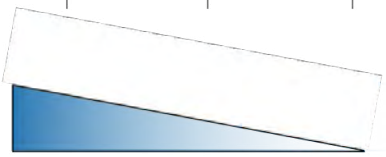
Figure gd27: Development plan - east



Gateway District

Figure gd28: Urban design - east

EAST 97 TYPOLOGIES		East 1	East 1.2	East 2
SITING	Front prop. coverage	90% setback 5'-10'	90% setback 5'-15'	Not required max setback 30'
	Vehicular access	1 entrance total from driveway, alley or street	1 entrance total from driveway, alley or street	alleyway, driveway or primary street minimizing curbcuts
	Parking	internal or rear 1 on primary street	internal or rear 1 on primary street	Rear or side 1 on primary street
HEIGHT	Max	2-4 stories max height of 75'	3-5 stories max height of 125'	1-4 max height of 75'
USE	Ground floor	Retail, service, commercial or office	Retail, service, commercial or office	retain, service, office or industrial
FACADE	Upper story	Any permitted	Any permitted	Any permitted
	Ground floor transparancy	70%	70%	50%
	Entrance position	On street	On street	On street or parking
	Vertical divisions	15'-50' on first floor 10'-20' on upper floors	15'-50' on first floor 10'-20' on upper floors	15'-75' on first floor 10'-20' on upper floors
	Greenspace lot coverage	10%	10%	20%



East 1

East 1.2

East 2

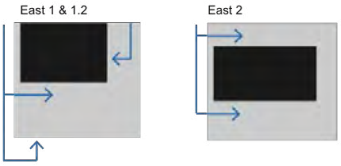
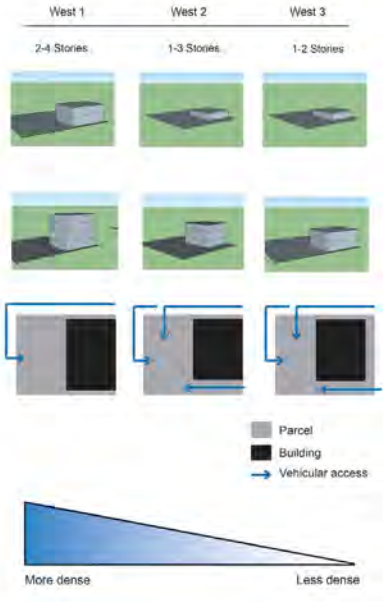


Figure gd29: Urban design - west

WEST 97 TYPOLOGIES		West 1	West 2	West 3
SITING	Front prop. coverage	90%	80%	10-20' max setback
	Vehicular access	Non- primary street	One entrance from primary street max	One entrance from primary street max
	Parking	Rear	Rear or side	Rear or side
HEIGHT	Max	2-4	1-3	1-2
USE	Ground floor	Retail, service, or office	Any permitted	Any permitted
	Upper story	Any permitted	Any permitted	Any permitted
FACADE	Ground floor transparancy	75%	65%	30-85%
	Entrance position	On street	On street or parking	On street or parking
	Vertical divisions	30'	30'	20'
	Greenspace lot coverage	10%, up to 5% plaza space	15%	30%
	Articulation	Changes in wall plane every 10-15 feet, minimum of 18"	Not required	Not required
	Utilities	No above-ground utilites	No above-ground utilites	No above-ground utilites



Gateway District

f. Photo Simulation

Key Takeaway Recommendations:

- Traffic calming and a hierarchy of street typologies
- Shaping development
- Highlighting arrival
- Create a district identity

Before


After

Before

After

Gateway District

Conclusion

The overall results and designs are a product of landscape analysis, feedback sessions with stakeholders, and design application. The planning studio students hope that the overall results and design proposals will be of use to the City of Redmond as they navigate the design challenge of improving U.S. 97 for safety and economic health.

The city's goals are to increase safety measures and efficiency, instill a sense of district identity and place, as well as aesthetically enhance the corridor. In order to reach these goals, the students and faculty suggest that the city consider purchasing land from property owners in order to install a multi-way boulevard facility. This multi-way boulevard would maintain access to businesses, maximize corridor efficiency, increase safety for drivers, pedestrians and cyclists, and play an integral role in the creation of a Redmond commercial district identity based on a form-based code.

The multi-way boulevard could use consistent materials to create a cohesive sense of place that reflects the city's aesthetics and intentions. Materials such as plants, site furnishings, hardscape materials, and lighting contribute to both the aesthetics and function of the corridor as detailed by the code.

Finally, and most integral to the project, the studio recommends that the city allow development to occur as business owners become ready for change. By doing so the city is identifying that this is a sensitive decision and left to property owners to decide when and if they want to continue their business along the new corridor.

Further Research

In order to produce the best possible design proposal for the US 97 corridor plan, further research and study explorations are recommended centered around traffic control, access, and business owner cooperation.

Studies evaluating each intersection and traffic light are recommended in order to determine the efficiency of the corridor. Stacking, timing, light phasing, and light placement are a few potential areas of study.

Access to the multi-way boulevard from U.S. 97 should be studied in depth. There are multiple access points that include difficult design negotiations especially near railroad tracks and busy streets, if not U.S. 97 itself. Locations where traffic and trains cross are recommended for careful study.

A study about signage placement and way-finding could be done in order to ease business owner anxiety about the potential loss of customers. If the city can prove they are helping customers find their way to businesses perhaps business owners will be more cooperative.

Finally, further conversation may be needed to fully understand what business owners are willing to agree to in terms of the overall plan. Specifically, they may be asked about the form-based code, material choices and changes to create a sense of district identity and what they are most comfortable with regarding parking space changes.

Appendix A

LA 494/594 – A Multi-way Boulevard for Redmond Oregon

Assignment: Expert Directives

Date Assignment Given: Monday, September 28, 2015

Due Date: Students will make presentations in class on **October 9 and 12**

Background: A critical first step of any planning effort is to become familiar with all relevant plans, studies, and resources related to the project topic and setting. Members of a project team are typically assigned different topic areas to research and to become an expert resource for the team. That individual will report key findings to the project team and will serve as an expert on the topic for the duration of the project (and beyond).

Assignment: Each individual student will select or be assigned a different topic (see table for options). You will conduct in-depth research on your topic area, collect resources, and prepare an overview presentation to share with your classmates on **October 9 or 12**. You will become an expert in the topic area and be available to share information and resources with your classmates throughout the duration of the studio. **Most importantly, you must tell your classmates why this information is relevant to our project and how they should be using it as we move forward.** Your presentation should focus on delivering actionable advice (something that is highly relevant that we can act on or do during the studio that will contribute to our project), not just interesting facts, general knowledge, or theory. Here are some categories of actionable advice you can use to structure your presentation:

- A type of analysis to perform
- A type of data to get and use
- A landscape form to include in designs
- A goal or objective to consider adopting or use as guidance
- An existing landscape constraint to deal with
- An existing policy constraint to obey or intentionally modify
- A design precedent to consider in a clear way
- A design standard or rule to adopt or apply
- An approach to optimizing or defeating trade-offs
- Other actionable advice

Research Note: Beware when doing web searches on "Redmond" that you aren't pulling up content from Redmond Washington. That could make for a confusing/embarrassing presentation. Also, the Highway 97 corridor has been through multiple iterations of planning, so try to verify that you are using the most up to date information.

Presentation Content and Format: Each student must prepare overview presentation that is a maximum length of **5 minutes** and give a comprehensive overview of your topic and findings. Your presentation should include an explanation of how it relates to the Redmond project (what will teams need to do and know about the topic as it relates to our project?), key findings, actionable advice, and information on available resources (web links, planning documents, etc.). We will allow **2 minutes** for follow-up questions from the class. PowerPoint format is preferred (other formats may be okayed by instructors).